

## SHORING NOTES

### Shoring Location No. 5

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

DESIGN TEMPORARY SHORING FROM STATION 22+33 +/- -DET-, 22 FT. LT. TO STATION 22+50 +/- -DET-, 19 FT. LT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT OF SOIL ABOVE WATER TABLE,  $\gamma_s = 120$  PCF
- UNIT WEIGHT OF SOIL BELOW WATER TABLE,  $\gamma' = 60$  PCF
- FRICTION ANGLE,  $\phi_f = 30$
- COHESION,  $c = 0$  PSF
- GROUNDWATER ELEVATION = N/A

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

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 22+33 +/- -DET-, 22 FT. LT. TO STATION 22+50 +/- -DET-, 19 FT. LT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

AT THE CONTRACTOR'S OPTION, USE A STANDARD TEMPORARY WALL FOR TEMPORARY SHORING FROM STATION 22+33 +/- -DET-, 22 FT. LT. TO STATION 22+50 +/- -DET-, 19 FT. LT. SEE GEOTECHNICAL STANDARD DETAIL 1801.02 FOR STANDARD TEMPORARY WALLS.

### Shoring Location No. 6

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

DESIGN TEMPORARY SHORING FROM STATION 19+89 +/- -L-, 40 FT. RT. TO STATION 20+35 +/- -L-, 40 FT. RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT OF SOIL ABOVE WATER TABLE,  $\gamma_s = 120$  PCF
- UNIT WEIGHT OF SOIL BELOW WATER TABLE,  $\gamma' = 60$  PCF
- FRICTION ANGLE,  $\phi_f = 30$  (FOR TRIASSIC RESIDUAL SOILS AT ELEVATION 646 OR HIGHER)
- FRICTION ANGLE,  $\phi_f = 40$  (FOR TRIASSIC WEATHERED ROCK AT ELEVATION 646 OR LOWER)
- COHESION,  $c = 0$  PSF
- GROUNDWATER ELEVATION = N/A

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

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 19+89 +/- -L-, 40 FT. RT. TO STATION 20+35 +/- -L-, 40 FT. RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILLING FOR TEMPORARY SHORING FROM STATION 19+89 +/- -L-, 40 FT. RT. TO STATION 20+35 +/- -L-, 40 FT. RT. MAY NOT PENETRATE BELOW ELEVATION 653 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

IT MAY BE PREFERABLE TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION 19+89 +/- -L-, 40 FT. RT. TO STATION 20+35 +/- -L-, 40 FT. RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

### Shoring Location No. 7

FOR TEMPORARY SHORING AND POSITIVE PROTECTION FOR TEMPORARY SHORING, SEE PLANS AND TEMPORARY SHORING PROVISION.

DESIGN TEMPORARY SHORING FROM STATION 21+32 +/- -L-, 40 FT. RT. TO STATION 21+78 +/- -L-, 40 FT. RT, FOR THE FOLLOWING ASSUMED SOIL PARAMETERS AND GROUNDWATER ELEVATION:

- UNIT WEIGHT OF SOIL ABOVE WATER TABLE,  $\gamma_s = 120$  PCF
- UNIT WEIGHT OF SOIL BELOW WATER TABLE,  $\gamma' = 60$  PCF
- FRICTION ANGLE,  $\phi_f = 30$  (FOR TRIASSIC RESIDUAL SOILS AT ELEVATION 644 OR HIGHER)
- FRICTION ANGLE,  $\phi_f = 40$  (FOR TRIASSIC WEATHERED ROCK AT ELEVATION 644 OR LOWER)
- COHESION,  $c = 0$  PSF
- GROUNDWATER ELEVATION = N/A

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

LIMITED SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF TEMPORARY SHORING FROM STATION 21+32 +/- -L-, 40 FT. RT. TO STATION 21+78 +/- -L-, 40 FT. RT. THE INFORMATION PROVIDED FOR TEMPORARY SHORING DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

DRIVEN PILLING FOR TEMPORARY SHORING FROM STATION 21+32 +/- -L-, 40 FT. RT. TO STATION 21+78 +/- -L-, 40 FT. RT. MAY NOT PENETRATE BELOW ELEVATION 650 FT. DUE TO OBSTRUCTIONS, VERY DENSE OR HARD SOIL, BOULDERS OR WEATHERED OR HARD ROCK.

IT MAY BE PREFERABLE TO USE A TEMPORARY SOIL NAIL WALL FOR TEMPORARY SHORING FROM STATION 21+32 +/- -L-, 40 FT. RT. TO STATION 21+78 +/- -L-, 40 FT. RT. FOR TEMPORARY SOIL NAIL WALLS, SEE TEMPORARY SOIL NAIL WALLS PROVISION.

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**moffatt & nichol**  
 4700 FALLS OF NEUSE ROAD, SUITE 300  
 RALEIGH, NORTH CAROLINA 27609  
 (919) 781-4626 VOICE (919) 781-4869 FAX  
 NC License No.: F-0105

APPROVED: *Trist E. Huffman*  
DocuSigned by: Trist E. Huffman 0000516E4527404

DATE: 2/3/2022

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DIVISION OF HIGHWAYS  
 NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 WORK ZONE TRAFFIC CONTROL

TEMPORARY SHORING NOTES