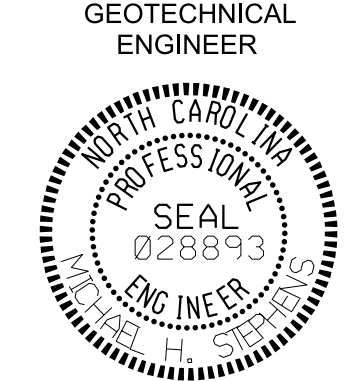
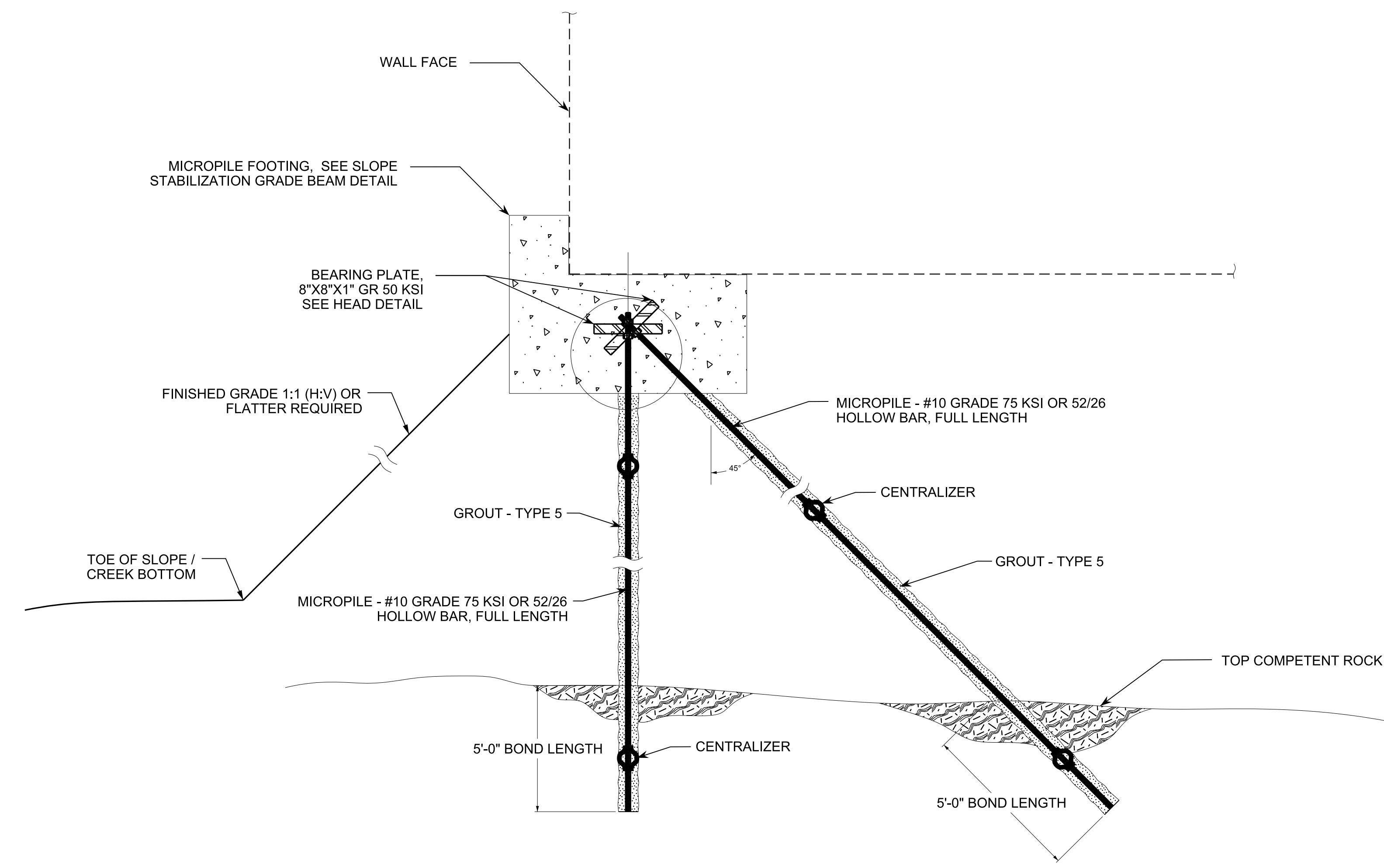


ENGINEER

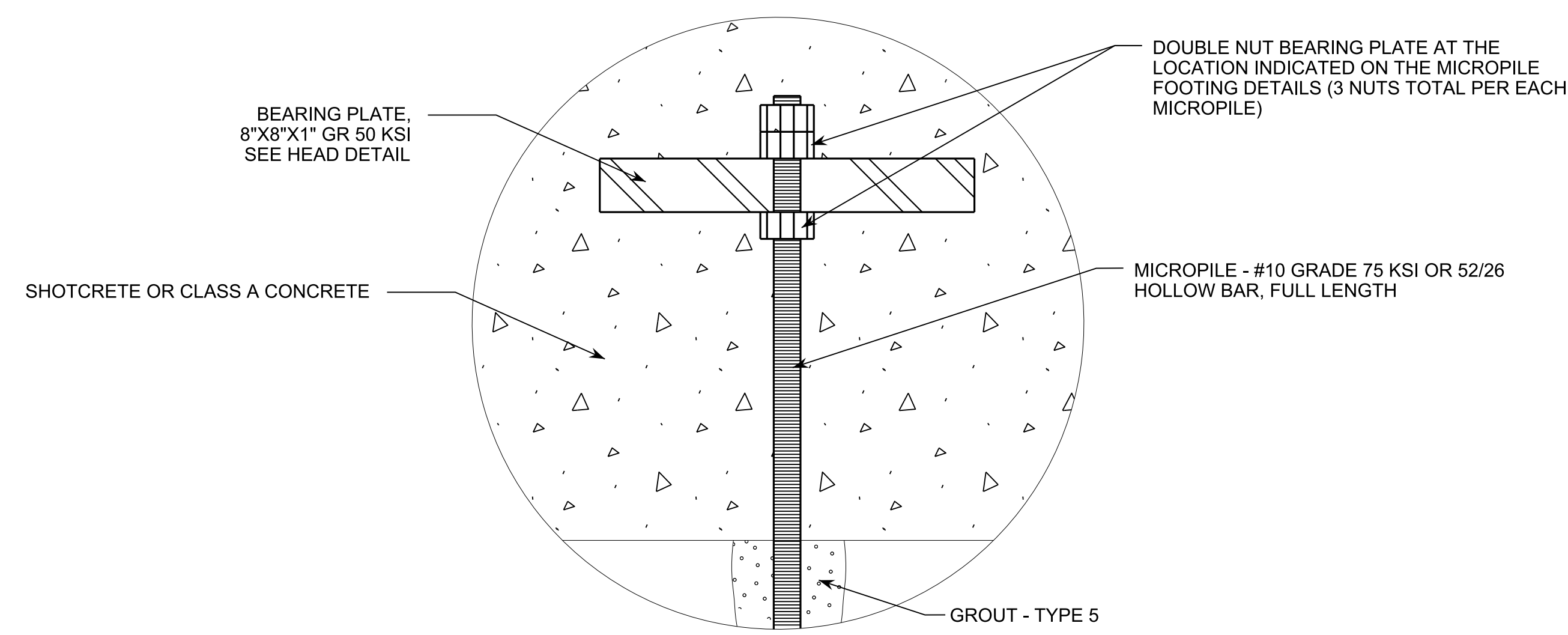


Signed by: *H. Stein* 01/22/2025  
C44768209231400  
 SIGNATURE DATE SIGNATURE DATE

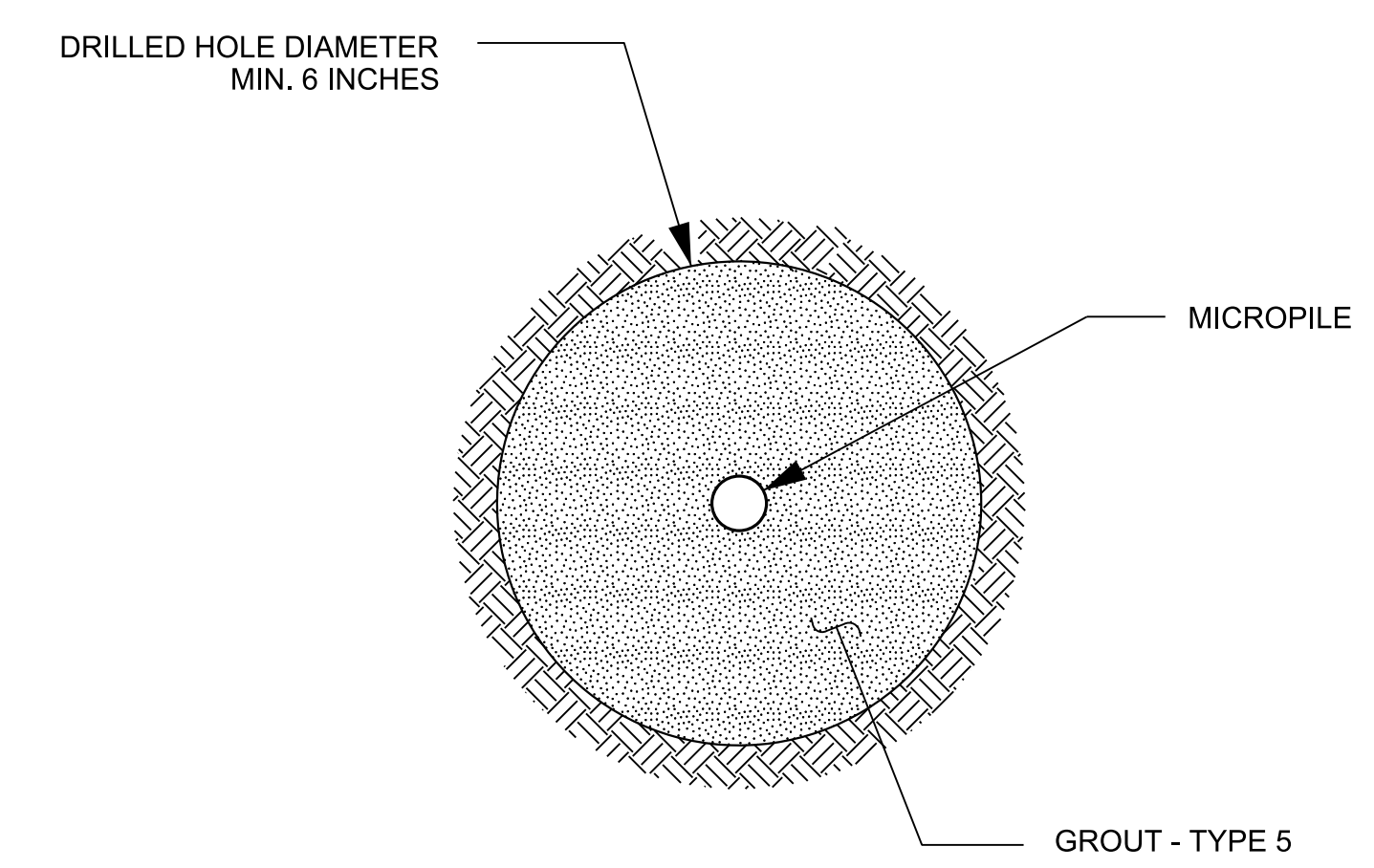
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



MICROPILE DETAIL



MICROPILE HEAD DETAIL



MICROPILE SECTION

## NOTES:

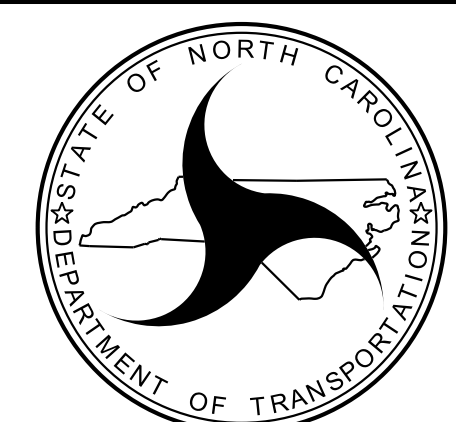
### GENERAL NOTES:

- THE MICROPILES HAVE BEEN DESIGNED IN GENERAL ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS. THE MICROPILE FOUNDATIONS HAVE BEEN DESIGNED TO SUPPORT A LOAD OF 60 KIPS IN COMPRESSION AND TENSION.
- LAYOUT OF THE PILES SHALL BE BY THE GENERAL CONTRACTOR. MICROPILE LAYOUT IS BASED ON PILE LOCATION AT THE BOTTOM OF THE MICROPILE CAP. GENERAL CONTRACTOR SHALL LAY OUT PILES BASED ON DRILLING ELEVATION SUCH THAT THE MICROPILE LOCATION WILL BE AT THE PLANNED LOCATION AT THE BOTTOM OF THE PILE CAP.
- MATERIAL SPECIFICATIONS:**
- FOR MICROPILE USE TYPE 5 GROUT, SEE SECTION 1003 OF THE STANDARD SPECIFICATIONS.
  - PROVIDE STEEL PLATES THAT MEET ASTM A572 GRADE 50 KSI.
  - ALL THREAD MICROPILE REINFORCEMENT SHALL BE MINIMUM GRADE 75 KSI.
  - MICROPILE NUTS WILL BE MANUFACTURED BY THE BAR MANUFACTURER AND COMPATIBLE WITH THE BAR TYPE SPECIFIED.
  - CENTRALIZERS- PLASTIC, STAINLESS STEEL, OR OTHER NON-DELETERIOUS MATERIAL WHICH WILL MAINTAIN SHAPE AND LOCATION TO KEEP REINFORCEMENT BAR IN CENTRAL PORTION OF THE DRILL HOLE.
- TYPICAL MICROPILE CONSTRUCTION SEQUENCE:**
- WHERE POSSIBLE LEVEL AREA OF MICROPILE FOOTING PRIOR TO DRILLING.
  - IF REQUIRED, INSTALL AND TEST PILES IN ACCORDANCE AASHTO GUIDELINES AS DIRECTED BY THE ENGINEER.
  - ROTARY FLUSH TEMPORARY CASING TO TOP OF ROCK USING AIR OR WATER AS FLUSHING MEDIUM. CARE SHALL BE TAKEN SO MINIMAL LOSS OF MATERIALS OUTSIDE THE THE TEMPORARY CASING OCCURS.
  - USE ROTARY PERCUSSIVE DRILLING TO DRILL ROCK SOCKET TO REQUIRED DEPTH. MINIMUM BOND LENGTH IS 5 FEET INTO COMPETENT ROCK, WITH A MINIMUM OVERALL LENGTH OF AT LEAST 10 FT.
  - PLACE GROUT FOR MICROPILES BY TREMIE METHOD FROM BOTTOM OF THE HOLE.
  - FOR SOLID BAR MICROPILES, INSTALL CENTER CORE REINFORCEMENT STEEL (STEEL MAY BE PLACED PRIOR TO OR IMMEDIATELY AFTER GROUTING).
  - CUT TOPS OF PILES TO FINAL ELEVATION AND INSTALL PLATES. FOR MICROPILES AND MICROPILE FOOTING, SEE MICROPILE SLOPE STABILIZATION PROVISION.

CONTRACT NO.: C205062

PREPARED BY: MS	DATE: 10/24
REVIEWED BY:	DATE:

**DO NOT USE THESE DETAILS UNLESS DIRECTED BY THE ENGINEER**



NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

**GEOTECHNICAL  
ENGINEERING UNIT**

**HURRICANE HELENE EMERGENCY REPAIRS**

**MICROPILES**

SHEET NO.  
**2G-4**

REVISIONS					
NO.	BY	DATE	NO.	BY	DATE
1			3		
2			4		