

03-SEP-2023 10:48  
S:\1\SSM1\15 Signal\Signal Design Section\Structures\Drawings\2024 Metal Pole Str Drawings for LRF0\2024 Sig.M8 Str. Strain Pole Found.-Saturated Soil Condition.dgn  
Kedur.fgm

SOIL CONDITION

| STANDARD STRAIN POLES |                   |                     |                            |             |                 | STANDARD FOUNDATIONS<br>48" Diameter Drilled Pier Length (L) – Feet |                    |                          |                   |                    |                      |                    | Reinforcement |                |              |               |
|-----------------------|-------------------|---------------------|----------------------------|-------------|-----------------|---------------------------------------------------------------------|--------------------|--------------------------|-------------------|--------------------|----------------------|--------------------|---------------|----------------|--------------|---------------|
| Case No.              | Pole Height (Ft.) | Base Plate BC (In.) | Reactions at the Pole Base |             |                 | Clay                                                                |                    |                          |                   | Sand               |                      |                    | Longitudinal  |                | Stirrups     |               |
|                       |                   |                     | Axial (kip)                | Shear (kip) | Moment (ft–kip) | Medium N–Value 4–8                                                  | Stiff N–Value 9–15 | Very Stiff N–Value 16–30 | Hard N–Value > 30 | Loose N–Value 4–10 | Medium N–Value 11–30 | Dense N–Value > 30 | Bar Size (#)  | Quantity (ea.) | Bar Size (#) | Spacing (in.) |
| S26L1                 | 26                | 22                  | 2                          | 9           | 210             | 19.5                                                                | 12.5               | 9                        | 6.5               | 15.5               | 14.5                 | 13                 | 8             | 12             | 4            | 12            |
| S26L2                 | 26                | 23                  | 2                          | 10          | 240             | 19.5                                                                | 12                 | 9                        | 6.5               | 15.5               | 14.5                 | 13                 | 8             | 12             | 4            | 12            |
| S26L3                 | 26                | 25                  | 2                          | 11          | 260             | 20.5                                                                | 12                 | 10                       | 8                 | 16                 | 15                   | 13                 | 8             | 12             | 4            | 12            |
| S30L1                 | 30                | 22                  | 2                          | 9           | 230             | 19                                                                  | 11                 | 9                        | 7                 | 15.5               | 14                   | 12.5               | 8             | 12             | 4            | 12            |
| S30L2                 | 30                | 23                  | 2                          | 10          | 270             | 20                                                                  | 12                 | 10                       | 8                 | 16                 | 14.5                 | 13                 | 8             | 12             | 4            | 12            |
| S30L3                 | 30                | 25                  | 2                          | 11          | 290             | 21                                                                  | 12                 | 10                       | 8                 | 17                 | 15                   | 13.5               | 8             | 12             | 4            | 12            |
| S30H1                 | 30                | 25                  | 3                          | 13          | 355             | 23                                                                  | 13                 | 11                       | 9                 | 18                 | 16.5                 | 14.5               | 8             | 12             | 4            | 12            |
| S30H2                 | 30                | 29                  | 3                          | 15          | 405             | 25                                                                  | 14                 | 11                       | 9                 | 19                 | 17.5                 | 15.5               | 8             | 14             | 4            | 12            |
| S30H3                 | 30                | 29                  | 3                          | 16          | 430             | 26                                                                  | 15                 | 12                       | 9                 | 20                 | 18                   | 16                 | 8             | 14             | 4            | 6             |
| S35L1                 | 35                | 22                  | 3                          | 8           | 260             | 19.5                                                                | 12                 | 10                       | 8                 | 15.5               | 14.5                 | 13                 | 8             | 12             | 4            | 12            |
| S35L2                 | 35                | 23                  | 3                          | 10          | 300             | 21                                                                  | 12                 | 10                       | 8                 | 16.5               | 15                   | 13.5               | 8             | 12             | 4            | 12            |
| S35L3                 | 35                | 25                  | 3                          | 10          | 320             | 21.5                                                                | 13                 | 10                       | 8                 | 17                 | 15.5                 | 14                 | 8             | 12             | 4            | 12            |
| S35H1                 | 35                | 25                  | 3                          | 12          | 390             | 23.5                                                                | 14                 | 11                       | 9                 | 18                 | 17                   | 15                 | 8             | 14             | 4            | 12            |
| S35H2                 | 35                | 29                  | 4                          | 14          | 460             | 26                                                                  | 15                 | 12                       | 9                 | 20                 | 18                   | 16                 | 8             | 14             | 4            | 6             |
| S35H3                 | 35                | 29                  | 4                          | 16          | 495             | 28.5                                                                | 15                 | 13.5                     | 10                | 21.5               | 19                   | 17                 | 8             | 14             | 4            | 6             |

48" DIAMETER FOUNDATION CONCRETE VOLUME (CUBIC YARDS) = (0.465) x DRILLED PIER LENGTH

|                  |           |
|------------------|-----------|
| PROJECT I.D. NO. | SHEET NO. |
| R-5863           | Sig.M8    |

GENERAL NOTES:

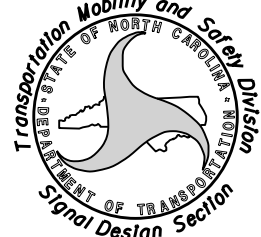
- VALUES SHOWN IN THE "REACTIONS AT THE POLE BASE" COLUMN REPRESENT THE MINIMUM ACCEPTABLE CAPACITY ALLOWED FOR DESIGN USING A COMBINED FORCE RATIO (CFR) OF 1.00.
- USE CHAIRS AND SPACERS TO MAINTAIN PROPER CLEARANCE.
- FOR FOUNDATION, ALWAYS USE AIR-ENTRAINED CONCRETE MIX.

FOUNDATION SELECTION:

- PERFORM A STANDARD PENETRATION TEST AT EACH PROPOSED FOUNDATION SITE TO DETERMINE "N" VALUE.
- SELECT THE APPROPRIATE WIND ZONE FROM M1 DRAWING.
- SELECT THE SOIL TYPE (CLAY OR SAND) THAT BEST DESCRIBES THE SOIL CHARACTERISTICS.
- GET THE APPROPRIATE STANDARD POLE CASE NUMBER FROM THE PLANS OR FROM THE ENGINEER.
- SELECT THE APPROPRIATE COLUMN UNDER "STANDARD FOUNDATIONS" BASED ON SOIL TYPE AND "N" VALUE. SELECT THE APPROPRIATE ROW BASED ON THE POLE LOAD CASE.
- THE FOUNDATION DEPTH IS THE VALUE SHOWN IN THE "STANDARD FOUNDATIONS" CATEGORY WHERE THE COLUMN AND THE ROW INTERSECT.
- USE CONSTRUCTION PROCEDURES AND DESIGN METHODS PRESCRIBED BY FHWA-NHI-10-016 MANUAL FOR DRILLED SHAFTS.

Standard Strain Pole Foundation – All Soil Conditions

Prepared In the Offices of:



750 N.Greenfield Pkwy,Garner,NC 27529

SCALE

0 NA

NONE

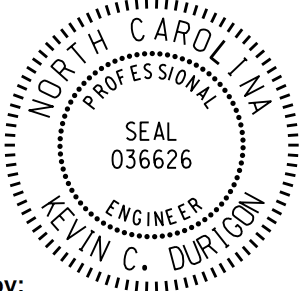
Standard Strain Pole Foundation for All Soil Conditions

PLAN DATE: SEPTEMBER 2023 DESIGNED BY: K.C. DURIGON

PREPARED BY: K.C. DURIGON REVIEWED BY: D.C. SARKAR

| REVISIONS | INIT. | DATE |
|-----------|-------|------|
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|           |       |      |
|           |       |      |

SEAL



DocuSigned by: Kevin Durigon

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09/21/2023

DATE