

# DRY 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 | Bar Size (#) | Spacing (in.) |
| WIND ZONE 1 | LIGHT | S26L3                 | 26                | 25                  | 2                          | 11          | 270             | 18                                                                  | 12.5               | 9                        | 8                | 14.5               | 11                   | 10                | 8            | 13       | 4            | 12            |
|             |       | S30L3                 | 30                | 25                  | 2                          | 11          | 300             | 18.5                                                                | 13                 | 9                        | 8                | 15                 | 11.5                 | 10                | 8            | 14       | 4            | 12            |
|             |       | S35L3                 | 35                | 25                  | 3                          | 11          | 320             | 19                                                                  | 13.5               | 9.5                      | 8                | 15                 | 11.5                 | 10.5              | 8            | 15       | 4            | 12            |
|             | HEAVY | S30H3                 | 30                | 29                  | 3                          | 16          | 450             | 23                                                                  | 16                 | 11                       | 8                | 17.5               | 13.5                 | 11.5              | 8            | 18       | 4            | 12            |
|             |       | S35H3                 | 35                | 29                  | 4                          | 16          | 515             | 24.5                                                                | 16.5               | 12                       | 8.5              | 18.5               | 14                   | 12                | 8            | 20       | 4            | 12            |
| WIND ZONE 2 | LIGHT | S26L2                 | 26                | 23                  | 2                          | 10          | 245             | 17                                                                  | 12                 | 8.5                      | 8                | 14                 | 11                   | 9.5               | 8            | 13       | 4            | 12            |
|             |       | S30L2                 | 30                | 23                  | 2                          | 10          | 270             | 18                                                                  | 12.5               | 8.5                      | 8                | 14.5               | 11                   | 10                | 8            | 13       | 4            | 12            |
|             |       | S35L2                 | 35                | 23                  | 3                          | 10          | 300             | 18.5                                                                | 13                 | 9                        | 8                | 14.5               | 11.5                 | 10                | 8            | 14       | 4            | 12            |
|             | HEAVY | S30H2                 | 30                | 29                  | 3                          | 15          | 415             | 22                                                                  | 15                 | 10.5                     | 8                | 17                 | 13                   | 11.5              | 8            | 17       | 4            | 12            |
|             |       | S35H2                 | 35                | 29                  | 4                          | 15          | 475             | 23.5                                                                | 16                 | 11.5                     | 8                | 18                 | 13.5                 | 12                | 8            | 19       | 4            | 12            |
| WIND ZONE 3 | LIGHT | S26L2                 | 26                | 23                  | 2                          | 10          | 245             | 17                                                                  | 12                 | 8.5                      | 8                | 14                 | 11                   | 9.5               | 8            | 13       | 4            | 12            |
|             |       | S30L2                 | 30                | 23                  | 2                          | 10          | 270             | 18                                                                  | 12.5               | 8.5                      | 8                | 14.5               | 11                   | 10                | 8            | 13       | 4            | 12            |
|             |       | S35L2                 | 35                | 23                  | 3                          | 10          | 300             | 18.5                                                                | 13                 | 9                        | 8                | 14.5               | 11.5                 | 10                | 8            | 14       | 4            | 12            |
|             | HEAVY | S30H2                 | 30                | 29                  | 3                          | 15          | 415             | 22                                                                  | 15                 | 10.5                     | 8                | 17                 | 13                   | 11.5              | 8            | 17       | 4            | 12            |
|             |       | S35H2                 | 35                | 29                  | 4                          | 15          | 475             | 23.5                                                                | 16                 | 11.5                     | 8                | 18                 | 13.5                 | 12                | 8            | 19       | 4            | 12            |
| WIND ZONE 4 | LIGHT | S26L1                 | 26                | 22                  | 2                          | 8           | 190             | 15.5                                                                | 10.5               | 8                        | 8                | 13                 | 10                   | 9                 | 8            | 12       | 4            | 12            |
|             |       | S30L1                 | 30                | 22                  | 2                          | 8           | 205             | 15.5                                                                | 11                 | 8                        | 8                | 13                 | 10                   | 9                 | 8            | 12       | 4            | 12            |
|             |       | S35L1                 | 35                | 22                  | 3                          | 8           | 230             | 16.5                                                                | 11.5               | 8                        | 8                | 13.5               | 10.5                 | 9                 | 8            | 12       | 4            | 12            |
|             | HEAVY | S30H1                 | 30                | 25                  | 3                          | 12          | 320             | 19.5                                                                | 13.5               | 9.5                      | 8                | 15                 | 12                   | 10.5              | 8            | 15       | 4            | 12            |
|             |       | S35H1                 | 35                | 25                  | 4                          | 12          | 350             | 20                                                                  | 14                 | 10                       | 8                | 15.5               | 12                   | 10.5              | 8            | 15       | 4            | 12            |
| WIND ZONE 5 | LIGHT | S26L2                 | 26                | 23                  | 2                          | 10          | 245             | 17                                                                  | 12                 | 8.5                      | 8                | 14                 | 11                   | 9.5               | 8            | 13       | 4            | 12            |
|             |       | S30L2                 | 30                | 23                  | 2                          | 10          | 270             | 18                                                                  | 12.5               | 8.5                      | 8                | 14.5               | 11                   | 10                | 8            | 13       | 4            | 12            |
|             |       | S35L2                 | 35                | 23                  | 3                          | 10          | 300             | 18.5                                                                | 13                 | 9                        | 8                | 14.5               | 11.5                 | 10                | 8            | 14       | 4            | 12            |
|             | HEAVY | S30H2                 | 30                | 29                  | 3                          | 15          | 415             | 22                                                                  | 15                 | 10.5                     | 8                | 17                 | 13                   | 11.5              | 8            | 17       | 4            | 12            |
|             |       | S35H2                 | 35                | 29                  | 4                          | 15          | 475             | 23.5                                                                | 16                 | 11.5                     | 8                | 18                 | 13.5                 | 12                | 8            | 19       | 4            | 12            |

### Fabrication Design Notes:


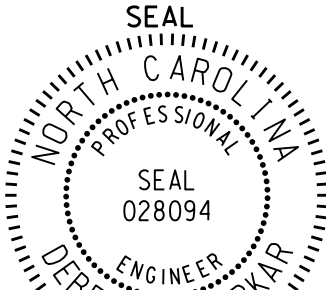
1. Values shown in the "Reactions at the Pole Base" column represent the minimum acceptable capacity allowed for design using a design CSR of 1.00.
2. Min. base plate thickness (T) is 2.0 inches.

### Foundation Selection:

1. Perform a standard penetration test at each proposed foundation site to determine "N" value.
2. Select the appropriate wind zone from M 1 drawing.
3. Select the soil type (Clay or Sand) that best describes the soil characteristics.
4. Get the appropriate standard pole case number from the plans or from the Engineer.
5. Select the appropriate column in the chart based on soil type and "N" value. Select the appropriate row based on the pole load case.  
The foundation depth is the value where the column and the row intersect.
6. Reference Drilled Shafts: Construction Procedures and Design Methods, FHWA -IF-99-025

- S30H1 - Hard Clay-Stirrup Spacing: 6 in. c/c  
- Dense Sand-Stirrup Spacing: 6 in. c/c
- S30H2 - Very Stiff Clay: Stirrup Spacing: 6 in. c/c  
- Hard Clay: Stirrup Spacing: 6 in. c/c  
- Medium Clay: Stirrup Spacing: 6 in. c/c  
- Dense Sand: Stirrup Spacing: 6 in. c/c
- S30H3 - Very Stiff Clay: Stirrup Spacing: 6 in. c/c  
- Hard Clay: Stirrup Spacing: 6 in. c/c  
- Medium Clay: Stirrup Spacing: 6 in. c/c  
- Dense Sand: Stirrup Spacing: 6 in. c/c
- S35H1 - Hard Clay: tirrup Spacing: 6 in. c/c  
- Dense Sand: Stirrup Spacing: 6 in. c/c
- S35H2 - Very Stiff Clay: Stirrup Spacing: 6 in. c/c  
- Hard Clay: Stirrup Spacing: 6 in. c/c  
- Medium Clay: Stirrup Spacing: 6 in. c/c  
- Dense Sand: Stirrup Spacing: 6 in. c/c
- S35H3 - Very Stiff Clay: Stirrup Spacing: 6 in. c/c  
- Hard Clay: Stirrup Spacing: 6 in. c/c  
- Medium Clay: Stirrup Spacing: 6 in. c/c  
- Dense Sand: Stirrup Spacing: 6 in. c/c

48" Dia. Foundations Concrete Volume (cubic yards) = (0.465) x Foundation Depth

|                                                                                       |                                                                                                                                                                                                           |                                                                                       |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  | <p><b>Standard Strain Pole Foundation for Dry Soil Condition</b></p> <p>PLAN DATE: SEPTEMBER 2013    DESIGNED BY: C.B. COGDILL<br/>                 PREPARED BY: N. BITTING    REVIEWED BY: D. SARKAR</p> |  |
| SCALE: 0 NA<br>None                                                                   | REVISIONS:    INIT.    DATE                                                                                                                                                                               | DocuSigned by:<br>Deborah C. Sarkar 3/26/2014<br>44EBE32E147E4C4                      |