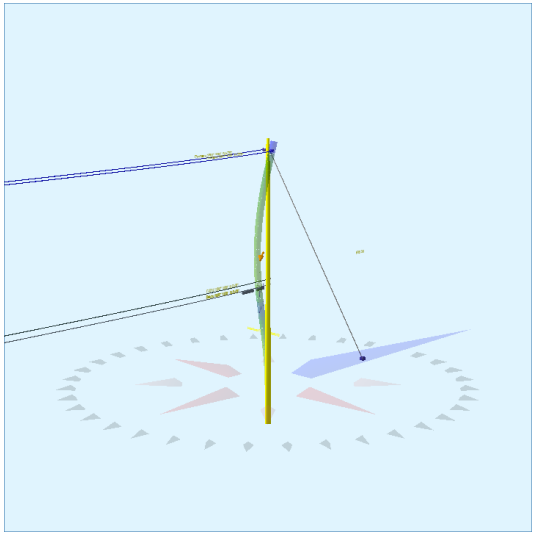
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Pole Num: | **P.F813_116866132** | Pole Length / Class: | **50 / 3** | Code: | **NESC** | Structure Type: | **Deadend** |
| Aux Data 1 | **Unset** | Species: | **SOUTHERN PINE** | NESC Rule: | **Rule 250B** | Status | **Guy Wires Adequate** |
| Aux Data 2 | **Unset** | Setting Depth (ft): | **7.00** | Construction Grade: | **C** | Pole Strength Factor: | **0.85** |
| Aux Data 3 | **Unset** | G/L Circumference (in): | **38.64** | Loading District: | **Light** | Transverse Wind LF: | **1.75** |
| Aux Data 4 | **Unset** | G/L Fiber Stress (psi): | **8,000** | Ice Thickness (in): | **0.00** | Wire Tension LF: | **1.30** |
| Aux Data 5 | **Unset** | Allowable Stress (psi): | **6,800** | Wind Speed (mph): | **59.29** | Vertical LF: | **1.90** |
| Aux Data 6 | **Unset** | Fiber Stress Ht. Reduc: | **No** | Wind Pressure (psf): | **9.00** | | |
| Latitude: | **0.000000 Deg** | Longitude: | | **0.000000 Deg** | | Elevation: | **0 Feet** |



| Pole Capacity Utilization (%) | | Height (ft) | Wind Angle (deg) |
|---|---|---|---|
| Maximum | **57.7** | 0.0 | 140.0 |
| Groundline | **57.7** | 0.0 | 140.0 |
| Vertical | **14.4** | 37.2 | 180.0 |

| Pole Moments (ft-lb) | | Load Angle (deg) | Wind Angle (deg) |
|---|---|---|---|
| Max Cap Util | **58,105** | 168.6 | 140.0 |
| Groundline | **58,105** | 168.6 | 140.0 |
| GL Allowable | **103,482** | | |

| Guy System Component Summary | | | | Load From Worst Wind Angle on Pole | | Individual Maximum Load | |
|---|---|---|---|---|---|---|---|
| **Description** | **Lead Length (ft)** | **Lead Angle (deg)** | **Height (ft)** | **Nominal Capacity (%)** | **Wind Angle (deg)** | **Max Load Capacity (%)** | **Wind Angle (deg)** |
| Single Helix Anchor | 25.0 | 0.0 | | **38.6** | 140.0 | **39.0** | 175.6 |
| EHS 3/8 (Down) | | | 41.0 | **55.7** | 140.0 | **61.9** | 175.6 |
| | | | **System Capacity Summary:** | **Adequate** | | **Adequate** | |

**Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 168.6°**

| | Shear Load* (lbs) | Applied Load (%) | Bending Moment (ft-lb) | Applied Moment (%) | Pole Capacity (%) | Bending Stress (+/- psi) | Vertical Load (lbs) | Vertical Stress (psi) | Total Stress (psi) | Pole Capacity (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Powers | 3,068 | 71.7 | **125,686** | 216.3 | **121.5** | **8,259** | 114 | 1 | **8,260** | **121.5** |
| Comms | 4,606 | 107.7 | **84,316** | 145.1 | **81.5** | **5,541** | 171 | 1 | **5,542** | **81.5** |
| GuyBraces | -3,902 | -91.2 | **-162,006** | -278.8 | **-156.6** | **-10,646** | 9,929 | 84 | **-10,562** | **-155.3** |
| Pole | 486 | 11.4 | **9,567** | 16.5 | **9.3** | **629** | 2,628 | 22 | **651** | **9.6** |
| Insulators | 18 | 0.4 | **542** | 0.9 | **0.5** | **36** | 28 | 0 | **36** | **0.5** |
| Pole Load | 4,276 | 100.0 | **58,105** | 100.0 | **56.2** | **3,818** | 12,870 | 108 | **3,927** | **57.7** |
| Pole Reserve Capacity | | | **45,377** | | **43.9** | **2,982** | | | **2,873** | **42.3** |

**Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 168.6°**

| | Shear Load* (lbs) | Applied Load (%) | Bending Moment (ft-lb) | Applied Moment (%) | Pole Capacity (%) | Bending Stress (+/- psi) | Vertical Load (lbs) | Vertical Stress (psi) | Total Stress (psi) | Pole Capacity (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| FPL | 3,554 | 83.1 | **135,253** | 232.8 | **130.7** | **8,888** | 2,742 | 23 | **8,911** | **131.0** |
| CATV | 1,534 | 35.9 | **29,103** | 50.1 | **28.1** | **1,912** | 57 | 0 | **1,913** | **28.1** |
| AT&T | 3,072 | 71.8 | **55,213** | 95.0 | **53.4** | **3,628** | 114 | 1 | **3,629** | **53.4** |
| <Undefined> | -3,884 | -90.8 | **-161,464** | -277.9 | **-156.0** | **-10,610** | 9,957 | 84 | **-10,526** | **-154.8** |
| **Totals:** | 4,276 | 100.0 | **58,105** | 100.0 | **56.2** | **3,818** | 12,870 | 108 | **3,927** | **57.7** |

**Detailed Load Components:**

| **Power** | | Owner | Height (ft) | Horiz. Offset (in) | Cable Diameter (in) | Sag at Max Temp (ft) | Cable Weight (lbs/ft) | Lead/Span Length (ft) | Span Angle (deg) | Wire Length (ft) | Tension (lbs) | Tension Moment* (ft-lb) | Offset Moment* (ft-lb) | Wind Moment* (ft-lb) | Moment at GL* (ft-lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Primary | FPL | FPL | 40.97 | 16.53 | 0.5700 | 1.19 | 0.600 | 100.0 | 180.0 | 100.0 | 1,200 | 62,649 | 4 | 195 | 62,847 |
| Primary | FPL | FPL | 40.97 | 16.53 | 0.5700 | 1.19 | 0.600 | 100.0 | 180.0 | 100.0 | 1,200 | 62,649 | -4 | 195 | 62,840 |
| | | | | | | | | | | | **Totals:** | **125,297** | **0** | **390** | **125,687** |

| **Comm** | | Owner | Height (ft) | Horiz. Offset (in) | Cable Diameter (in) | Sag at Max Temp (ft) | Cable Weight (lbs/ft) | Lead/Span Length (ft) | Span Angle (deg) | Wire Length (ft) | Tension (lbs) | Tension Moment* (ft-lb) | Offset Moment* (ft-lb) | Wind Moment* (ft-lb) | Moment at GL* (ft-lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CATV | CATV | CATV | 18.97 | 7.05 | 0.5700 | 1.19 | 0.600 | 100.0 | 180.0 | 100.0 | 1,200 | 29,006 | 7 | 90 | 29,103 |
| Telco | AT&T | AT&T | 17.97 | 7.11 | 0.5700 | 1.19 | 0.600 | 100.0 | 180.0 | 100.0 | 1,200 | 27,477 | 7 | 115 | 27,599 |
| Telco | AT&T | AT&T | 17.97 | 7.11 | 0.5700 | 1.19 | 0.600 | 100.0 | 180.0 | 100.0 | 1,200 | 27,477 | 7 | 130 | 27,614 |
| | | | | | | | | | | | **Totals:** | **83,960** | **20** | **336** | **84,316** |

| Insulator | | Owner | Height (ft) | Horiz. Offset (in) | Offset Angle (deg) | Rotate Angle (deg) | Unit Weight (lbs) | Unit Diameter (in) | Unit Length (in) | Offset Moment* (ft-lb) | Wind Moment* (ft-lb) | Moment at GL* (ft-lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Deadend | Deadend 12.75" | | 41.00 | 0.00 | 90.0 | 90.0 | 3.00 | 3.80 | 12.75 | 2 | 191 | 192 |
| Deadend | Deadend 12.75" | | 41.00 | 0.00 | 270.0 | 270.0 | 3.00 | 3.80 | 12.75 | -2 | 191 | 189 |
| Bolt | Deadend 12.75" | | 19.00 | 0.00 | 90.0 | 90.0 | 3.00 | 2.00 | 15.00 | 1 | 55 | 55 |
| Bolt | Deadend 12.75" | | 18.00 | 0.00 | 90.0 | 90.0 | 3.00 | 2.00 | 15.00 | 1 | 52 | 53 |
| Bolt | Deadend 12.75" | | 18.00 | 0.00 | 90.0 | 90.0 | 3.00 | 2.00 | 15.00 | 1 | 52 | 53 |
| | | | | | | | | | **Totals:** | **2** | **540** | **542** |

| Guy Wire and Brace | | Owner | Attach Height (ft) | End Height (ft) | Lead/Span Length (ft) | Wire Diameter (in) | Percent Solid (%) | Lead Angle (deg) | Incline Angle (deg) | Wire Weight (lbs/ft) | Rest Length (ft) | Stretch Length (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EHS 3/8 | Down | | 41.00 | 0.00 | 25.00 | 0.375 | 75.00 | 0.0 | 58.4 | 0.273 | 46.36 | 2.25 |

| Guy Wire and Brace (Loads and Reactions) | | Elastic Modulus (psi) | Rated Tensile Strength (lbs) | Guy Strength Factor | Allowable Tension (lbs) | Initial Tension (lbs) | Loaded Tension*[2] (lbs) | Maximum Tension[2] (lbs) | Applied Tension[3] (lbs) | Vertical Load (lbs) | Shear Load In Guy Dir (lbs) | Shear Load At Report Angle (lbs) | Moment at GL[3] (ft-lb) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EHS 3/8 | Down | 2.30e+7 | 15,400 | 0.90 | 13,860 | 700 | 8,578 | 7,799 | 7,720 | 6,577 | 4,042 | -3,962 | -162,007 |
| | | | | | | | | | **Totals:** | **6,577** | **4,042** | **-3,962** | **-162,007** |

| Anchor/Rod Load Summary | Owner | Rod Length AGL (in) | Lead Length (ft) | Lead Angle (deg) | Strength of Assembly (lbs) | Anchor/Rod Strength Factor | Allowable Load (lbs) | Max Load[2] (lbs) | Load at Pole MCU[3] (lbs) | Max Required Capacity[2] (%) |
|---|---|---|---|---|---|---|---|---|---|---|
| Single Helix Anchor | | 18.00 | 25.00 | 0.0 | 20,000 | 1.00 | 20,000 | 7,798 | 7,720 | 39.0 |

**Pole Buckling**

| Buckling Constant | Buckling Column Height* (ft) | Buckling Section Height (% Buckling Col. Hgt.) | Buckling Section Diameter (in) | Minimum Buckling Diameter at GL (in) | Diameter at Tip (in) | Diameter at GL (in) | Modulus of Elasticity (psi) | Pole Density (pcf) | Ice Density (pcf) | Pole Tip Height (ft) | Buckling Load Capacity at Height (lbs) | Buckling Load Applied at Height (lbs) | Buckling Load Factor of Safety |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.71 | 37.20 | 35.25 | 10.78 | 20.53 | 7.32 | 12.30 | 1.60e+6 | 60.00 | 57.00 | 43.00 | 89,323 | **893.77** | **6.94** |

**Notes**

| Date | Author | Description |
|---|---|---|
| 1/27/2021 | | Power Company Request |
| Power company load data has been requested. Email sent to Elmer Pole | | |
| 1/27/2021 | | General Description |
| General Statement: Non-AT&T facilities may not be accurately identified pending attachment information from attaching party. | | |