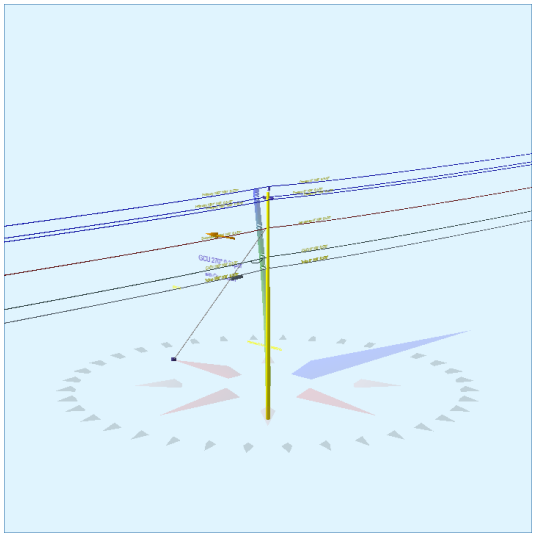
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Pole Num: | **P.4VLOT_116885245** | Pole Length / Class: | **40 / 5** | Code: | **NESC** | Structure Type: | **Guyed Tangent** |
| Aux Data 1 | **Unset** | Species: | **SOUTHERN PINE** | NESC Rule: | **Rule 250B** | Status | **Guy Wires Adequate** |
| Aux Data 2 | **Unset** | Setting Depth (ft): | **6.00** | Construction Grade: | **C** | Pole Strength Factor: | **0.85** |
| Aux Data 3 | **Unset** | G/L Circumference (in): | **31.00** | 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 | **39.9** | 0.0 | 270.0 |
| Groundline | **39.9** | 0.0 | 270.0 |
| Vertical | **1.5** | 20.8 | 90.0 |

| **Pole Moments (ft-lb)** | | **Load Angle (deg)** | **Wind Angle (deg)** |
|---|---|---|---|
| Max Cap Util | **21,078** | 270.0 | 270.0 |
| Groundline | **21,078** | 270.0 | 270.0 |
| GL Allowable | **53,452** | | |

| **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 | 270.0 | | **0.0** | 270.0 | **5.3** | 90.0 |
| EHS 3/8 (Down) | | | 28.0 | **0.0** | 270.0 | **8.4** | 90.0 |
| | | | **System Capacity Summary:** | **Adequate** | | **Adequate** | |

**Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 270.0°**

| | 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 | 299 | 32.2 | **9,567** | 45.4 | **17.9** | **1,217** | 456 | 6 | **1,223** | **18.0** |
| Comms | 245 | 26.4 | **5,134** | 24.4 | **9.6** | **653** | 342 | 4 | **658** | **9.7** |
| GuyBraces | 0 | 0.0 | **0** | 0.0 | **0.0** | **0** | 7 | 0 | **0** | **0.0** |
| Pole | 355 | 38.2 | **5,554** | 26.4 | **10.4** | **707** | 1,364 | 18 | **724** | **10.7** |
| Insulators | 29 | 3.1 | **823** | 3.9 | **1.5** | **105** | 40 | 1 | **105** | **1.5** |
| Pole Load | 929 | 100.0 | **21,078** | 100.0 | **39.4** | **2,682** | 2,209 | 29 | **2,710** | **39.9** |
| Pole Reserve Capacity | | | **32,374** | | **60.6** | **4,119** | | | **4,090** | **60.1** |

**Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 270.0°**

| | 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 | 654 | 70.5 | **15,121** | 71.7 | **28.3** | **1,924** | 1,820 | 24 | **1,947** | **28.6** |
| CATV | 76 | 8.2 | **1,693** | 8.0 | **3.2** | **215** | 114 | 1 | **217** | **3.2** |
| AT&T | 169 | 18.2 | **3,441** | 16.3 | **6.4** | **438** | 228 | 3 | **441** | **6.5** |
| <Undefined> | 29 | 3.1 | **823** | 3.9 | **1.5** | **105** | 47 | 1 | **105** | **1.5** |
| **Totals:** | 929 | 100.0 | **21,078** | 100.0 | **39.4** | **2,682** | 2,209 | 29 | **2,710** | **39.9** |

**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 | 35.03 | 3.02 | 0.5700 | 1.19 | 0.600 | 100.0 | 0.0 | 100.0 | 1,200 | 0 | -14 | 1,310 | 1,296 |
| Primary | FPL | FPL | 35.03 | 3.02 | 0.5700 | 1.19 | 0.600 | 100.0 | 180.0 | 100.0 | 1,200 | 0 | -14 | 1,310 | 1,296 |
| Primary | FPL | FPL | 32.97 | 15.83 | 0.5700 | 1.19 | 0.600 | 100.0 | 0.0 | 100.0 | 1,200 | 0 | -15 | 1,233 | 1,219 |
| Primary | FPL | FPL | 32.97 | 15.83 | 0.5700 | 1.19 | 0.600 | 100.0 | 180.0 | 100.0 | 1,200 | 0 | -15 | 1,233 | 1,219 |
| Primary | FPL | FPL | 32.97 | 15.83 | 0.5700 | 1.19 | 0.600 | 100.0 | 0.0 | 100.0 | 1,200 | 0 | 15 | 1,233 | 1,248 |
| Primary | FPL | FPL | 32.97 | 15.83 | 0.5700 | 1.19 | 0.600 | 100.0 | 180.0 | 100.0 | 1,200 | 0 | 15 | 1,233 | 1,248 |
| Secondary | FPL | FPL | 27.97 | 5.36 | 0.5700 | 1.19 | 0.600 | 100.0 | 0.0 | 100.0 | 1,200 | 0 | -25 | 1,046 | 1,021 |
| Secondary | FPL | FPL | 27.97 | 5.36 | 0.5700 | 1.19 | 0.600 | 100.0 | 180.0 | 100.0 | 1,200 | 0 | -25 | 1,046 | 1,021 |
| | | | | | | | | | | | **Totals:** | **0** | **-79** | **9,646** | **9,567** |

| **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 | 22.97 | 5.64 | 0.5700 | 1.19 | 0.600 | 100.0 | 0.0 | 100.0 | 1,200 | 0 | -27 | 859 | 832 |
| CATV | CATV | CATV | 22.97 | 5.64 | 0.5700 | 1.19 | 0.600 | 100.0 | 180.0 | 100.0 | 1,200 | 0 | -27 | 888 | 861 |
| Telco | AT&T | AT&T | 20.97 | 5.75 | 0.5700 | 1.19 | 0.600 | 100.0 | 0.0 | 100.0 | 1,200 | 0 | -27 | 784 | 757 |
| Telco | AT&T | AT&T | 20.97 | 5.75 | 0.5700 | 1.19 | 0.600 | 100.0 | 180.0 | 100.0 | 1,200 | 0 | -27 | 1,197 | 1,170 |
| Telco | AT&T | AT&T | 20.97 | 5.75 | 0.5700 | 1.19 | 0.600 | 100.0 | 0.0 | 100.0 | 1,200 | 0 | -27 | 784 | 757 |
| Telco | AT&T | AT&T | 20.97 | 5.75 | 0.5700 | 1.19 | 0.600 | 100.0 | 180.0 | 100.0 | 1,200 | 0 | -27 | 784 | 757 |
| | | | | | | | | | | | **Totals:** | **0** | **-163** | **5,297** | **5,134** |

| **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" | | 34.00 | 0.00 | 90.0 | 90.0 | 3.00 | 3.80 | 12.75 | -1 | 180 | 179 |
| Deadend | Deadend 12.75" | | 33.00 | 0.00 | 90.0 | 90.0 | 3.00 | 3.80 | 12.75 | -8 | 175 | 167 |
| Deadend | Deadend 12.75" | | 33.00 | 0.00 | 270.0 | 270.0 | 3.00 | 3.80 | 12.75 | 8 | 175 | 182 |
| Bolt | Deadend 12.75" | | 28.00 | 0.00 | 90.0 | 90.0 | 3.00 | 2.00 | 15.00 | -3 | 92 | 89 |
| Bolt | Deadend 12.75" | | 23.00 | 0.00 | 90.0 | 90.0 | 3.00 | 2.00 | 15.00 | -3 | 75 | 73 |
| Bolt | Deadend 12.75" | | 21.00 | 0.00 | 90.0 | 90.0 | 3.00 | 2.00 | 15.00 | -3 | 69 | 66 |
| Bolt | Deadend 12.75" | | 21.00 | 0.00 | 90.0 | 90.0 | 3.00 | 2.00 | 15.00 | -3 | 69 | 66 |
| | | | | | | | | | **Totals:** | **-12** | **835** | **823** |

| **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 | | 28.00 | 0.00 | 25.00 | 0.375 | 75.00 | 270.0 | 48.1 | 0.273 | 35.85 | 0.00 |

| **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 Tension² (lbs)** | **Applied Tension³ (lbs)** | **Vertical Load (lbs)** | **Shear Load In Guy Dir (lbs)** | **Shear Load At Report Angle (lbs)** | **Moment at GL³ (ft-lb)** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EHS 3/8 | Down | 2.30e+7 | 15,400 | 0.90 | 13,860 | 700 | 1,161 | 1,055 | 0 | 0 | 0 | 0 | 0 |
| | | | | | | | | | **Totals:** | **0** | **0** | **0** | **0** |

| **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 Load² (lbs)** | **Load at Pole MCU³ (lbs)** | **Max Required Capacity² (%)** |
|---|---|---|---|---|---|---|---|---|---|---|
| Single Helix Anchor | | 18.00 | 25.00 | 270.0 | 20,000 | 1.00 | 20,000 | 1,055 | 0 | 5.3 |

**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 | 20.78 | 33.55 | 9.08 | 6.52 | 6.05 | 9.87 | 1.60e+6 | 60.00 | 57.00 | 34.00 | 144,257 | **1472.75** | **66.67** |

**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. | | |