



SAMPLE PROJECT

Project Properties

Project Name: SAMPLE PROJECT	Project Engineer:	General Location:	Client Data File: Cuivre River.client
Address:	Project Date: 09/26/2023	Report Date: 10/09/2023	
Comments:			



Project Analysis Summary

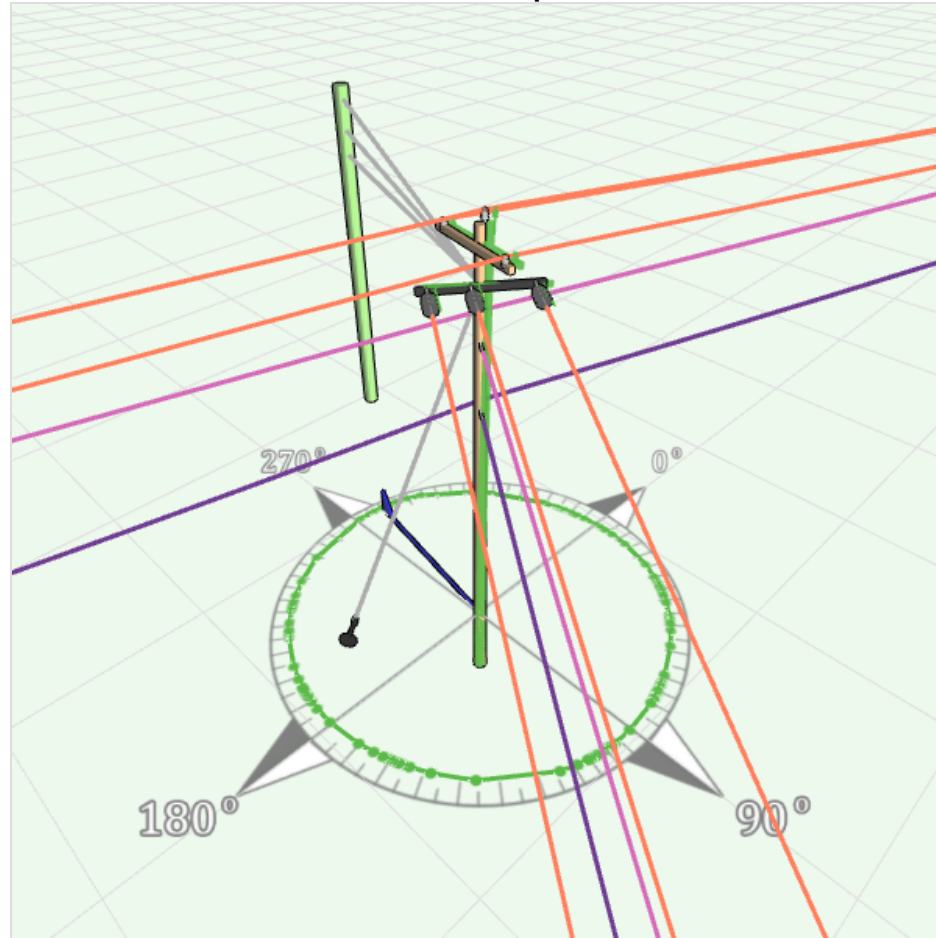
Lead: MO_WA10E_CREC 110-175 Location: U - 112 - 23824

Layer	Pole Length/Class	Maximum Load %									Pole Strength Remaining	Loading Adjusted by Strength?	Clearance Violations Present?
		Pole	Guy	Anchor	Cross Arm	Insulator	Sidewalk Brace	Foundation	Utility Wire	Communication Wire			
Proposed	40'3	56.54 from stress	75.37 (Guy#1)	83.57 (Anchor#1)	60.23 (CrossArm#1)	95.45 (Insulator#6)	No Data	No Data	55.89 (Wire#9)	31.58 (ProposedWire#2)	No Data	N	N
Existing	40'3	109.13 from stress	23.69 (SpanGuy#2)	No Data	60.23 (CrossArm#1)	68.07 (Insulator#4)	No Data	No Data	55.89 (Wire#9)	No Data	No Data	N	N

Lead: MO_WA10E_CREC 110-175 Location: U - 113 - 43786

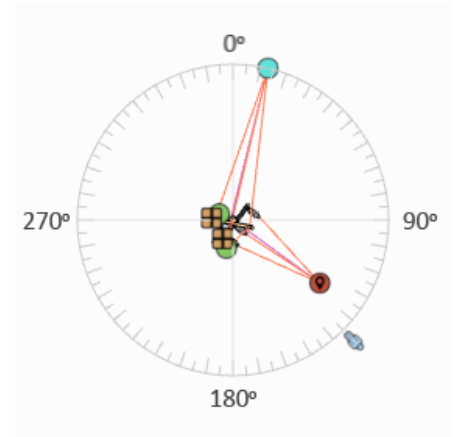
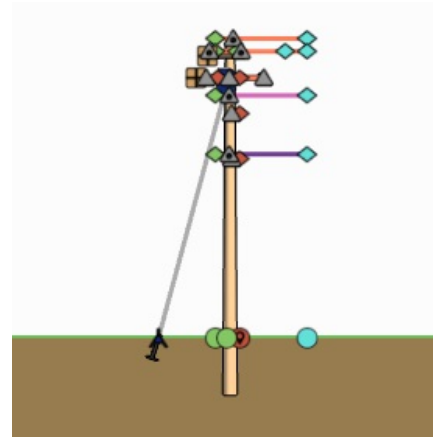
Layer	Pole Length/Class	Maximum Load %									Pole Strength Remaining	Loading Adjusted by Strength?	Clearance Violations Present?
		Pole	Guy	Anchor	Cross Arm	Insulator	Sidewalk Brace	Foundation	Utility Wire	Communication Wire			
Proposed	35'5	74.45 from stress	37.69 (DownGuy#2)	41.79 (Anchor#2)	15.02 (CrossArm#1)	33.11 (Insulator#5)	No Data	No Data	48.06 (Wire#8)	24.63 (ProposedWire#2)	No Data	N	N
Existing	35'5	57.23 from stress	38.35 (DownGuy#1)	42.52 (Anchor#1)	15.02 (CrossArm#1)	22.4 (Insulator#4)	No Data	No Data	48.11 (Wire#8)	No Data	No Data	N	N

Measured: Proposed



Design Properties

Owner: Unset Com Owner
Species: Southern Pine
Length: 40'
Class: 3
AGL: 33' 6"
GLC: 35 3/4"
Foundation: None
Ground Water Level: None
Lean Angle: 0 °
Lean Direction: 0 °
Capacity Adjustment: 100%
Effective Allowable Stress: 8000 lb/in²
GPS Location: 38.73107844393485 , -91.21376932308489
Map Location: 38.73107682893475 , -91.21376406427292



Design Warnings

Type	Description
Analysis Near Capacity	Comm 3 Bolt Clamp [21' 0"] loading for Heavy Grade C - 95.45 %

Load Case Properties

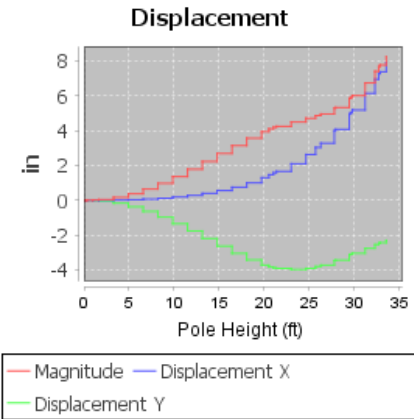
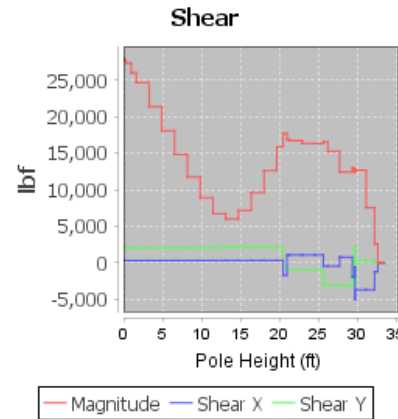
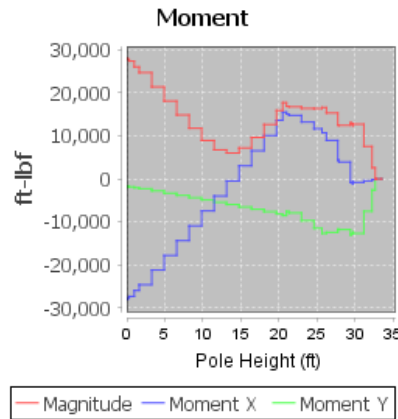
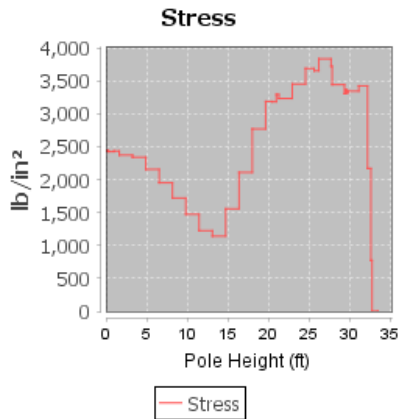
	Heavy Grade C (Governing Case)
LoadCase Type	NESC 2012 Heavy
Construction Grade	C
Construction Type	New
Temperature	0 °F
Wind Pressure	4 lb/ft ²
Ice Thickness	0.5"
Wind	Sweep
Wind Direction	0 °
Wind Increment	1 °
Analysis Method	Basic (Direct Stiffness)
Load Percentage Allowed	100%
Average Length on Main Span	No
Displacement Based Load Changes	None
Analyze Ground Line Only	No
Analyze with Buckling Case	No
Analyze with Deflection Case	No
Analyze with Strength Results	No
Custom	No

Analysis Results

Loading

Component	Heavy Grade C (Governing Case)			Client File Maximum Rating
	Max %	Load (Applied / Allowable)	Wind Direction	
Pole - Stress	56.54 from stress	3845 lb/in ² / 6800 lb/in ²	280 °	8000 lb/in ²
Wood 8 Ft 4 x 5 (SYP) [32' 3"] (CrossArm#1) - Stress	60.23	-3788 lb/in ² / 6290 lb/in ²	283 °	7400 lb/in ²
8' HD Deadend (DA3000-96E2) [29' 9"] (CrossArm#2) - Stress	36.92	31121 lb/in ² / 84300 lb/in ²	36 °	84300 lb/in ²
24.9 kV Pin Type Insulator (Crossarm) [0' 8"] (Insulator#1) - Force	25.57	1279 lbf / 5000 lbf	283 °	5000 lbf
Comm D/E Bolt [20' 6"] (Insulator#10) - Force	51.36	3595 lbf / 7000 lbf	216 °	7000 lbf
24.9 kV Pin Type Insulator (Crossarm) [7' 4"] (Insulator#2) - Force	25.57	1279 lbf / 5000 lbf	283 °	5000 lbf
24.9 kV Dead End Insulator [0' 8"] (Insulator#3) - Force	68.01	3401 lbf / 5000 lbf	36 °	5000 lbf
24.9 kV Dead End Insulator [7' 4"] (Insulator#4) - Force	68.07	3404 lbf / 5000 lbf	36 °	5000 lbf
24.9 kV Dead End Insulator [3' 4"] (Insulator#5) - Force	68.04	3402 lbf / 5000 lbf	36 °	5000 lbf
Comm 3 Bolt Clamp [21' 0"] (Insulator#6) - Force	95.45	2863 lbf / 3000 lbf	103 °	3000 lbf
3" Spool Bolt [27' 9"] (Insulator#7) - Force	42.25	1268 lbf / 3000 lbf	103 °	3000 lbf
24.9 kV Pin Type Insulator (Pole Top) [32' 8"] (Insulator#8) - Force	25.57	1279 lbf / 5000 lbf	283 °	5000 lbf
Neutral - D/E Clamp [25' 8"] (Insulator#9) - Force	39.12	2738 lbf / 7000 lbf	216 °	7000 lbf
Proposed Fiber 1", Full (ProposedWire#2) - Tension	31.58	3537 lbf / 6720 lbf	N/A	11200 lbf
1/0 ACSR, Full (Wire#9) - Tension	55.89	2448 lbf / 2628 lbf	N/A	4380 lbf
3/8" EHS [28' 6"] (Guy#1) - Force	75.37	10446 lbf / 13860 lbf	94 °	15400 lbf
F1-2 [10' 0", 220 °] (Anchor#1) - Force	83.57	10446 lbf / 12500 lbf	94 °	12500 lbf
3/8" EHS [29' 9"] (SpanGuy#1) - Force	24.31	3369 lbf / 13860 lbf	58 °	15400 lbf
3/8" EHS [29' 9"] (SpanGuy#2) - Force	24.75	3430 lbf / 13860 lbf	58 °	15400 lbf
3/8" EHS [29' 9"] (SpanGuy#3) - Force	25	3465 lbf / 13860 lbf	58 °	15400 lbf

Pole Analysis Charts for Governing Load Case: Heavy Grade C

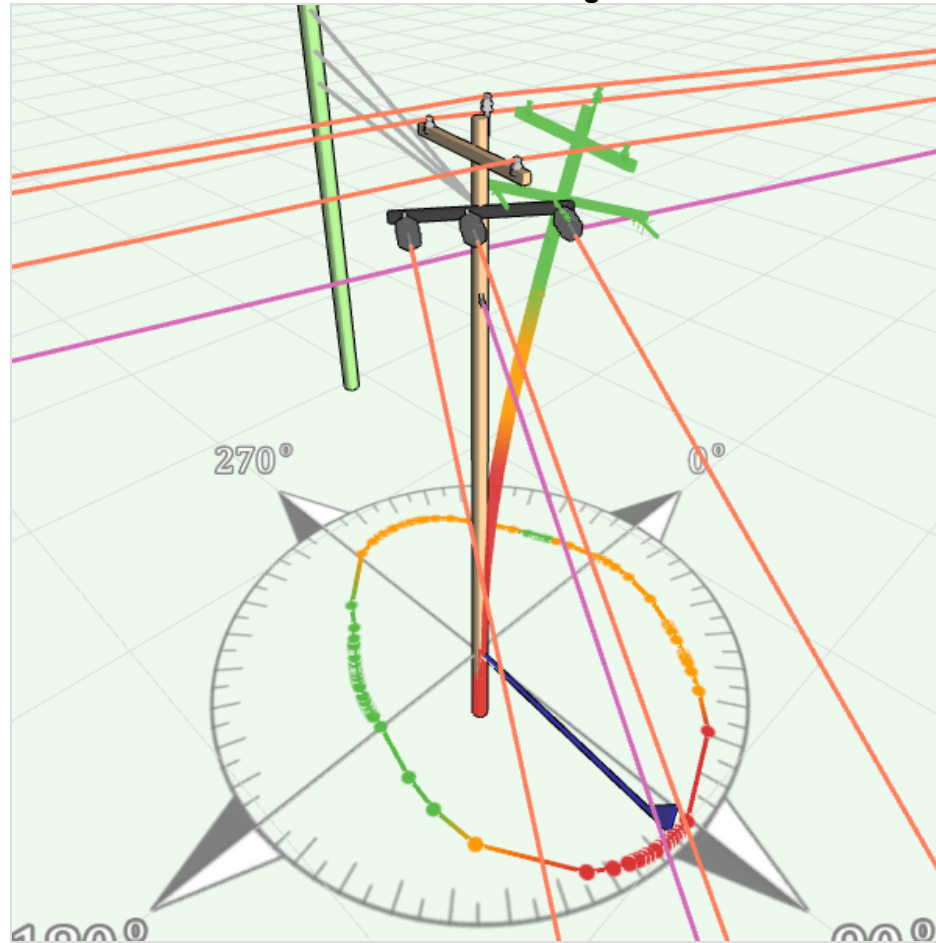


Pole Static Analysis

Heavy Grade C

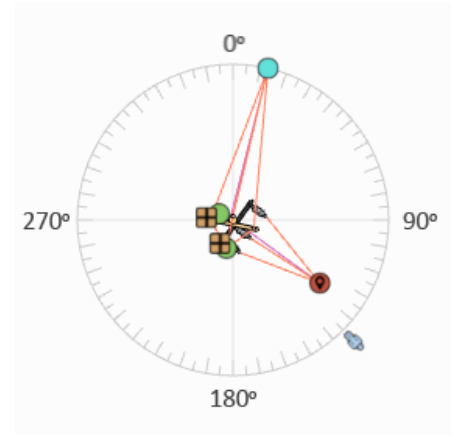
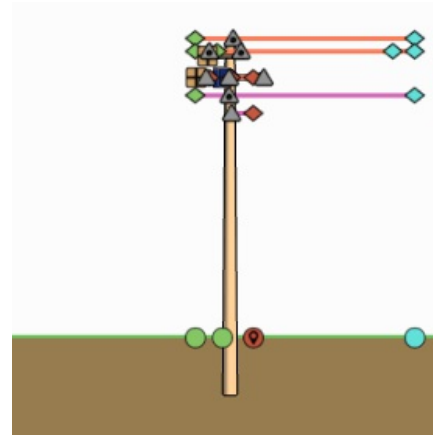
Heights	Stress %	Stress (lb/in ²)	Moment (ft-lbf)			Force (lbf)				Displacement (in)		
			X	Y	Magnitude	X	Y	Shear Magnitude	Axial	X	Y	Magnitude
0' 0"	35.84	2437	-27942	-1752	27997	315	2051	2075	14324	0	0	0
0' 1"	36	2448	-27808	-1773	27864	315	2052	2076	14319	0	0	0
0' 2"	35.94	2444	-27539	-1814	27598	315	2053	2077	14312	0	0	0
0' 4"	35.75	2431	-27269	-1855	27332	316	2055	2079	14291	0	0	0
1' 0"	35.89	2441	-25920	-2062	26002	316	2060	2084	14257	0	0	0
1' 8"	34.98	2378	-24569	-2270	24674	318	2067	2091	14200	0	0	0
3' 3"	34.51	2347	-21178	-2791	21361	319	2077	2102	14119	0	0	0
4' 11"	31.79	2162	-17770	-3315	18077	321	2088	2112	14042	0	0	0
6' 7"	28.77	1956	-14346	-3842	14851	323	2098	2122	13967	0	-1	1
8' 2"	25.37	1725	-10905	-4372	11749	325	2107	2132	13895	0	-1	1
9' 10"	21.72	1477	-7448	-4904	8918	326	2117	2142	13826	0	-1	1
11' 6"	18.06	1228	-3975	-5440	6737	328	2126	2152	13760	0	-2	2
13' 1"	16.82	1144	-487	-5978	5998	330	2136	2161	13696	0	-2	2
14' 9"	22.95	1561	3016	-6519	7183	331	2145	2170	13635	1	-3	3
16' 5"	31.1	2115	6535	-7062	9621	333	2154	2179	13576	1	-3	3
18' 1"	40.84	2777	10067	-7608	12619	334	2162	2188	13520	1	-3	4
19' 8"	47.01	3196	13614	-8157	15871	336	2169	2194	13479	1	-4	4
20' 6"	46.92	3190	15506	-8520	17693	-1691	-563	1783	13044	1	-4	4
21' 0"	48.57	3303	15060	-7551	16847	1084	-960	1448	12471	2	-4	4
21' 4"	47.66	3241	14747	-7903	16731	1085	-955	1445	12441	2	-4	4
23' 0"	50.9	3461	13180	-9682	16354	1086	-947	1441	12392	2	-4	4
24' 7"	54.39	3698	11626	-11464	16327	1087	-941	1438	12353	3	-4	5
25' 8"	53.86	3663	10687	-12659	16567	-449	-3013	3047	12121	3	-4	5
26' 3"	56.54	3845	8939	-12398	15285	-448	-3009	3042	12093	3	-4	5
27' 9"	54.87	3731	4355	-11679	12464	787	-3126	3224	11841	4	-3	5
27' 11"	50.76	3451	3926	-11786	12423	787	-3123	3220	11820	4	-3	5
29' 5"	48.75	3315	-805	-12982	13007	-1890	-868	2080	1978	5	-3	6
29' 6"	49.61	3373	-914	-12746	12779	-1890	-868	2079	1974	5	-3	6
29' 9"	49.13	3341	-1087	-12373	12421	-550	2143	2212	2224	5	-3	6
29' 9"	48.91	3326	-744	-12769	12791	-4972	-2663	5640	1444	5	-3	6
29' 9"	49.3	3352	-802	-12663	12689	-3678	246	3686	1212	5	-3	6
31' 2"	50.49	3434	-459	-7526	7540	-3677	251	3685	1183	6	-3	7
32' 3"	32.01	2177	-171	-2589	2595	-1226	82	1229	376	7	-3	7
32' 8"	11.42	776	1	0	1	-1	-3	3	17	7	-2	8
32' 10"	0.01	1	1	0	1	0	-1	1	8	7	-2	8
33' 6"	0.01	0	0	0	0	0	0	0	0	8	-2	8

Measured: Existing



Design Properties

Owner:	Unset Com Owner
Species:	Southern Pine
Length:	40'
Class:	3
AGL:	33' 6"
GLC:	35 3/4"
Foundation:	None
Ground Water Level:	None
Lean Angle:	0°
Lean Direction:	0°
Capacity Adjustment:	100%
Effective Allowable Stress:	8000 lb/in ²
GPS Location:	38.73107844393485 , -91.21376932308489
Map Location:	38.73107682893475 , -91.21376406427292



Design Warnings

Type	Description
Analysis Over Capacity	Pole loading for Heavy Grade C - 109.13 %

Load Case Properties

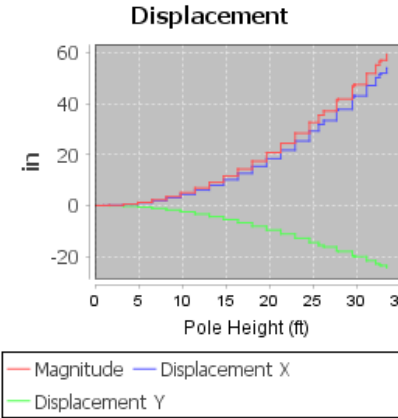
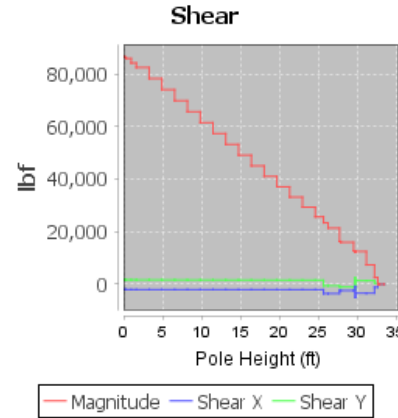
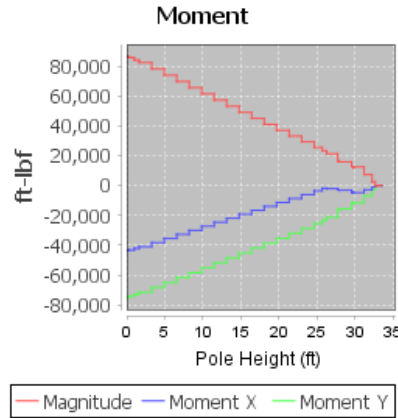
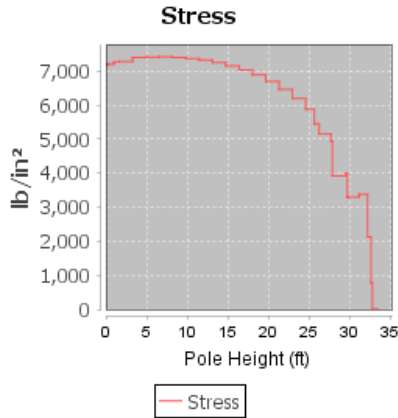
	Heavy Grade C (Governing Case)
LoadCase Type	NESC 2012 Heavy
Construction Grade	C
Construction Type	New
Temperature	0 °F
Wind Pressure	4 lb/ft²
Ice Thickness	0.5"
Wind	Sweep
Wind Direction	0 °
Wind Increment	1 °
Analysis Method	Basic (Direct Stiffness)
Load Percentage Allowed	100%
Average Length on Main Span	No
Displacement Based Load Changes	None
Analyze Ground Line Only	No
Analyze with Buckling Case	No
Analyze with Deflection Case	No
Analyze with Strength Results	No
Custom	No

Analysis Results

Loading

Component	Heavy Grade C (Governing Case)			Client File Maximum Rating
	Max %	Load (Applied / Allowable)	Wind Direction	
Pole - Stress	109.13 from stress	7421 lb/in² / 6800 lb/in²	95 °	8000 lb/in²
Wood 8 Ft 4 x 5 (SYP) [32' 3"] (CrossArm#1) - Stress	60.23	-3788 lb/in² / 6290 lb/in²	283 °	7400 lb/in²
8' HD Deadend (DA3000-96E2) [29' 9"] (CrossArm#2) - Stress	36.92	31121 lb/in² / 84300 lb/in²	36 °	84300 lb/in²
24.9 kV Pin Type Insulator (Crossarm) [0' 8"] (Insulator#1) - Force	25.57	1279 lbf / 5000 lbf	283 °	5000 lbf
24.9 kV Pin Type Insulator (Crossarm) [7' 4"] (Insulator#2) - Force	25.57	1279 lbf / 5000 lbf	283 °	5000 lbf
24.9 kV Dead End Insulator [0' 8"] (Insulator#3) - Force	68.01	3401 lbf / 5000 lbf	36 °	5000 lbf
24.9 kV Dead End Insulator [7' 4"] (Insulator#4) - Force	68.07	3404 lbf / 5000 lbf	36 °	5000 lbf
24.9 kV Dead End Insulator [3' 4"] (Insulator#5) - Force	68.04	3402 lbf / 5000 lbf	36 °	5000 lbf
3" Spool Bolt [27' 9"] (Insulator#6) - Force	42.25	1267 lbf / 3000 lbf	103 °	3000 lbf
24.9 kV Pin Type Insulator (Pole Top) [32' 8"] (Insulator#7) - Force	25.57	1279 lbf / 5000 lbf	283 °	5000 lbf
Neutral - D/E Clamp [25' 8"] (Insulator#8) - Force	39.15	2740 lbf / 7000 lbf	36 °	7000 lbf
1/0 ACSR, Full (Wire#9) - Tension	55.89	2448 lbf / 2628 lbf	N/A	4380 lbf
3/8" EHS [29' 9"] (SpanGuy#1) - Force	23.49	3255 lbf / 13860 lbf	66 °	15400 lbf
3/8" EHS [29' 9"] (SpanGuy#2) - Force	23.69	3284 lbf / 13860 lbf	66 °	15400 lbf
3/8" EHS [29' 9"] (SpanGuy#3) - Force	23.68	3282 lbf / 13860 lbf	65 °	15400 lbf

Pole Analysis Charts for Governing Load Case: Heavy Grade C

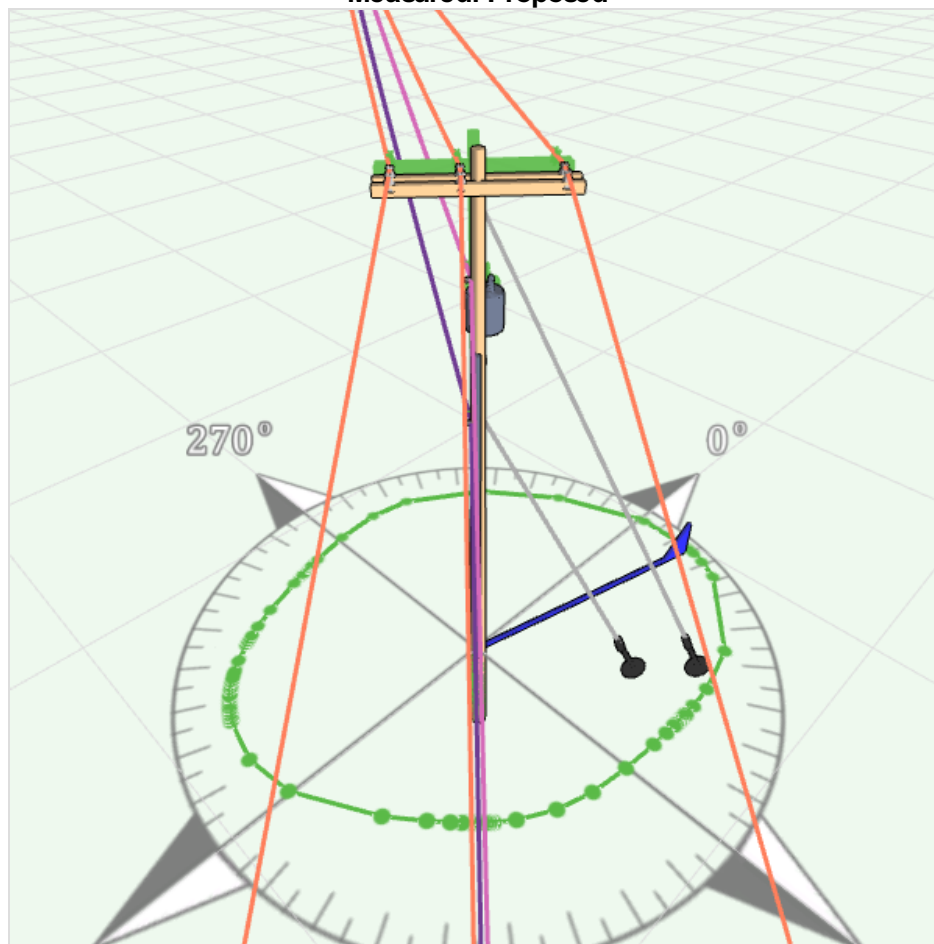


Pole Static Analysis

Heavy Grade C

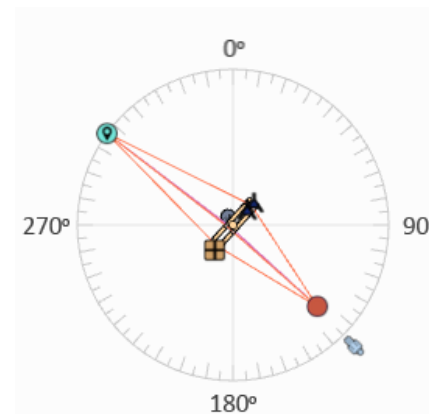
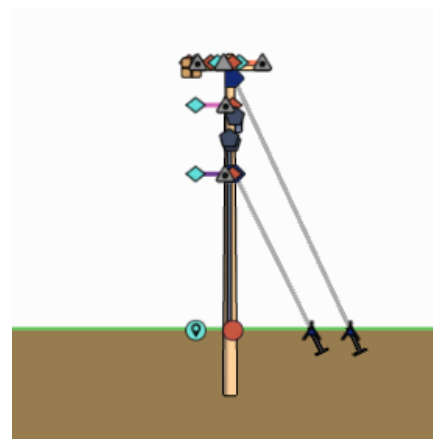
Heights	Stress %	Stress (lb/in²)	Moment (ft-lbf)			Force (lbf)				Displacement (in)		
			X	Y	Magnitude	X	Y	Shear Magnitude	Axial	X	Y	Magnitude
0' 0"	105.63	7183	-43853	-74903	86796	-2004	1715	2638	3488	0	0	0
0' 1"	105.83	7197	-43741	-74771	86625	-2004	1715	2638	3483	0	0	0
0' 2"	105.91	7202	-43516	-74508	86285	-2004	1714	2637	3476	0	0	0
0' 4"	105.92	7202	-43291	-74245	85944	-2004	1711	2636	3456	0	0	0
1' 0"	106.92	7271	-42168	-72930	84243	-2005	1707	2633	3422	0	0	0
1' 8"	107.1	7283	-41048	-71614	82544	-2006	1699	2629	3364	0	0	0
3' 3"	108.87	7403	-38260	-68324	78307	-2006	1689	2623	3284	0	0	1
4' 11"	109.01	7413	-35489	-65033	74086	-2007	1679	2617	3207	1	-1	1
6' 7"	109.13	7421	-32736	-61740	69882	-2008	1669	2611	3132	2	-1	2
8' 2"	108.88	7404	-29999	-58446	65695	-2009	1659	2605	3060	3	-2	3
9' 10"	108.38	7370	-27278	-55150	61527	-2010	1649	2600	2991	4	-2	5
11' 6"	107.76	7328	-24573	-51853	57381	-2011	1639	2594	2925	6	-3	7
13' 1"	106.66	7253	-21884	-48554	53258	-2012	1630	2589	2861	8	-4	9
14' 9"	105.2	7154	-19210	-45255	49163	-2012	1621	2584	2800	10	-6	12
16' 5"	103.49	7038	-16551	-41953	45100	-2013	1612	2579	2741	13	-7	14
18' 1"	101.32	6890	-13907	-38651	41077	-2014	1603	2574	2685	15	-8	17
19' 8"	98.47	6696	-11277	-35347	37103	-2015	1595	2569	2631	18	-10	21
21' 4"	95.05	6463	-8661	-32042	33192	-2015	1586	2565	2580	22	-11	24
23' 0"	91.17	6199	-6059	-28736	29368	-2016	1578	2560	2531	25	-13	28
24' 7"	86.48	5881	-3471	-25429	25665	-2017	1571	2557	2492	29	-14	33
25' 8"	80.14	5450	-1752	-23320	23386	-3519	-547	3562	2297	32	-16	35
26' 3"	75.76	5152	-2068	-21288	21388	-3520	-552	3563	2269	33	-16	37
27' 9"	72.63	4939	-2942	-16056	16323	-2369	-1017	2578	2019	37	-18	41
27' 11"	57.64	3920	-3112	-15660	15966	-2369	-1021	2580	1996	38	-18	42
29' 6"	58.69	3991	-4787	-11773	12709	-2370	-1025	2582	1973	42	-20	47
29' 9"	48.87	3323	-4994	-11300	12354	-830	2431	2569	2261	43	-20	47
29' 9"	48.19	3277	-4650	-11684	12575	-4931	-2048	5339	1481	43	-20	47
29' 9"	48.49	3297	-4696	-11579	12495	-3402	1382	3672	1211	43	-20	47
31' 2"	49.74	3382	-2768	-6835	7374	-3402	1377	3670	1182	47	-22	52
32' 3"	31.32	2130	-916	-2418	2586	-1134	460	1224	376	50	-23	55
32' 8"	11.38	774	-1	0	1	0	3	3	16	51	-23	56
32' 10"	0.01	1	-1	0	1	0	1	1	7	52	-24	57
33' 6"	0.01	0	0	0	0	0	0	0	0	54	-24	59

Measured: Proposed



Design Properties

Owner:	Unset Com Owner
Species:	Southern Pine
Length:	35'
Class:	5
AGL:	28' 4"
GLC:	30 3/4"
Foundation:	None
Ground Water Level:	None
Lean Angle:	0 °
Lean Direction:	0 °
Capacity Adjustment:	100%
Effective Allowable Stress:	8000 lb/in ²
GPS Location:	38.730674695470086 , -91.21305735781789
Map Location:	38.73067253036301 , -91.2130507333995



Load Case Properties

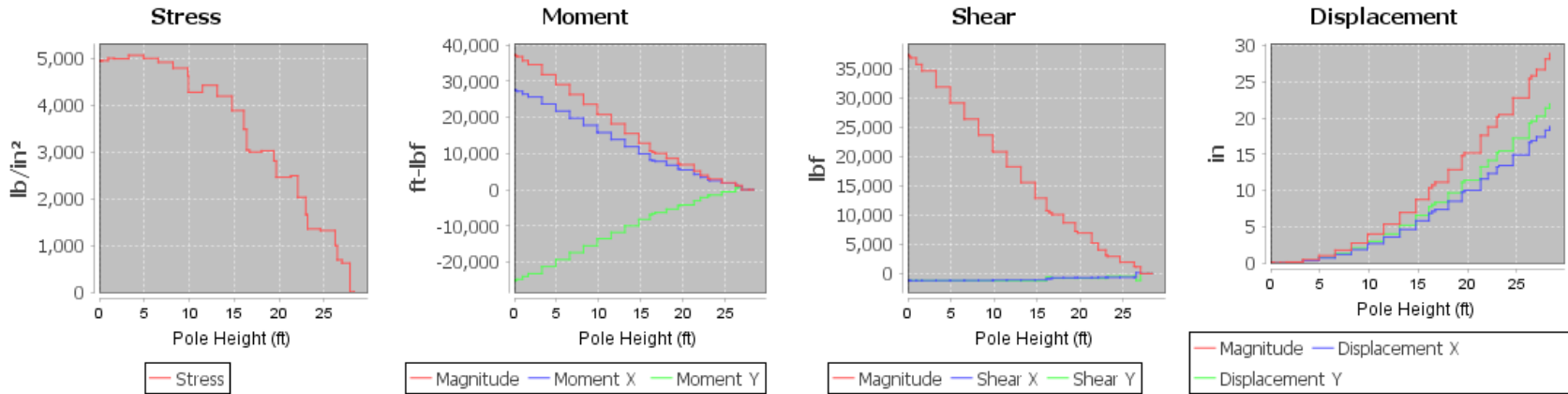
	Heavy Grade C (Governing Case)
LoadCase Type	NESC 2012 Heavy
Construction Grade	C
Construction Type	New
Temperature	0 °F
Wind Pressure	4 lb/ft ²
Ice Thickness	0.5"
Wind	Sweep
Wind Direction	0 °
Wind Increment	1 °
Analysis Method	Basic (Direct Stiffness)
Load Percentage Allowed	100%
Average Length on Main Span	No
Displacement Based Load Changes	None
Analyze Ground Line Only	No
Analyze with Buckling Case	No
Analyze with Deflection Case	No
Analyze with Strength Results	No
Custom	No

Analysis Results

Loading

Component	Heavy Grade C (Governing Case)			Client File Maximum Rating
	Max %	Load (Applied / Allowable)	Wind Direction	
Pole - Stress	74.45 from stress	5062 lb/in ² / 6800 lb/in ²	14 °	8000 lb/in ²
Wood 8 Ft Double 4 x 5 (SYP) [27' 0"] (CrossArm#1) - Stress	15.02	-945 lb/in ² / 6290 lb/in ²	210 °	7400 lb/in ²
24.9 kV Pin Type Insulator (Crossarm) [0' 8"] (Insulator#1) - Force	7.68	768 lbf / 10000 lbf	216 °	5000 lbf
24.9 kV Pin Type Insulator (Crossarm) [7' 4"] (Insulator#2) - Force	7.69	769 lbf / 10000 lbf	216 °	5000 lbf
24.9 kV Pin Type Insulator (Crossarm) [3' 4"] (Insulator#3) - Force	7.34	734 lbf / 10000 lbf	216 °	5000 lbf
3" Spool Bolt [23' 2"] (Insulator#4) - Force	21.42	643 lbf / 3000 lbf	216 °	3000 lbf
Comm 3 Bolt Clamp [16' 1"] (Insulator#5) - Force	33.11	993 lbf / 3000 lbf	214 °	3000 lbf
Proposed Fiber 1", Full (ProposedWire#2) - Tension	24.63	2758 lbf / 6720 lbf	N/A	11200 lbf
1/0 ACSR, Full (Wire#8) - Tension	48.06	2105 lbf / 2628 lbf	N/A	4380 lbf
1/4" EHS [16' 1"] (DownGuy#1) - Force	26.33	1576 lbf / 5985 lbf	219 °	6650 lbf
3/8" EHS [25' 11"] (DownGuy#2) - Force	37.69	5224 lbf / 13860 lbf	218 °	15400 lbf
Proposed Anchor [8' 0", 43 °] (Anchor#1) - Force	22.51	1576 lbf / 7000 lbf	219 °	7000 lbf
F1-2 [12' 0", 43 °] (Anchor#2) - Force	41.79	5224 lbf / 12500 lbf	218 °	12500 lbf

Pole Analysis Charts for Governing Load Case: Heavy Grade C

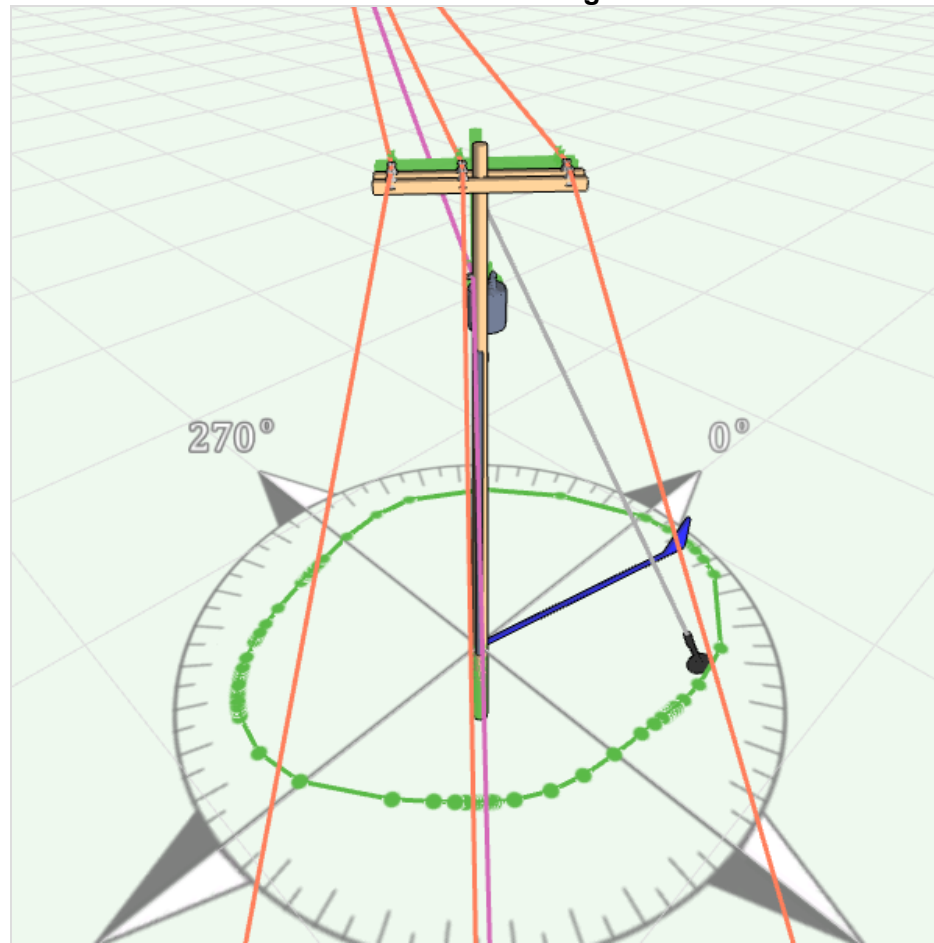


Pole Static Analysis

Heavy Grade C

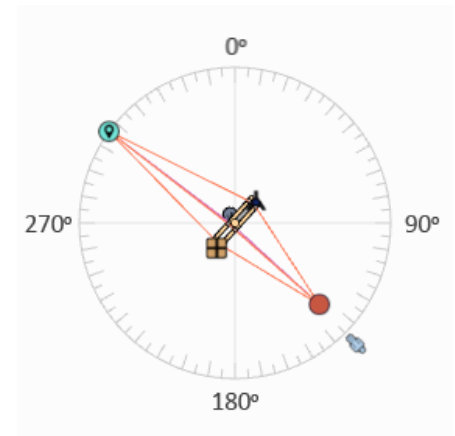
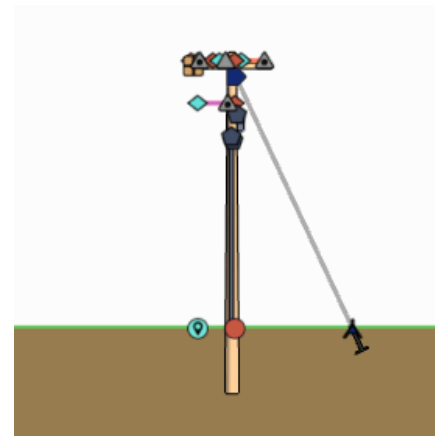
Heights	Stress %	Stress (lb/in²)	Moment (ft-lbf)			Force (lbf)				Displacement (in)		
			X	Y	Magnitude	X	Y	Shear Magnitude	Axial	X	Y	Magnitude
0' 0"	72.54	4933	27592	-25122	37315	-1199	-1186	1687	5626	0	0	0
0' 1"	72.75	4947	27515	-25043	37205	-1199	-1186	1686	5622	0	0	0
0' 2"	72.78	4949	27359	-24886	36984	-1198	-1186	1686	5617	0	0	0
0' 4"	72.72	4945	27203	-24728	36763	-1196	-1187	1685	5602	0	0	0
1' 0"	73.52	4999	26425	-23944	35659	-1192	-1188	1683	5577	0	0	0
1' 8"	73.31	4985	25645	-23162	34556	-1186	-1189	1680	5535	0	0	0
3' 3"	74.45	5062	23694	-21216	31805	-1177	-1191	1675	5477	0	0	0
4' 11"	73.46	4995	21740	-19285	29061	-1169	-1194	1671	5422	1	1	1
6' 7"	72.21	4910	19782	-17367	26324	-1161	-1196	1666	5369	1	1	2
8' 2"	70.39	4786	17821	-15464	23595	-1152	-1198	1662	5319	2	2	3
9' 10"	68.03	4626	15856	-13573	20872	-1148	-1199	1660	5293	3	3	4
9' 11"	62.8	4271	15783	-13507	20773	-1105	-1209	1638	5216	3	3	4
11' 6"	64.97	4418	13889	-11775	18209	-1098	-1211	1635	5172	4	4	5
13' 1"	61.57	4187	11902	-9975	15529	-1090	-1213	1631	5129	5	5	7
14' 9"	57.05	3880	9912	-8186	12855	-1084	-1215	1628	5092	6	7	9
16' 1"	51.17	3480	8229	-6862	10715	-892	-620	1086	4656	7	8	10
16' 5"	44.63	3035	8030	-6576	10379	-891	-620	1086	4648	7	8	11
16' 9"	44.02	2994	7835	-6296	10052	-714	-782	1059	4158	7	8	11
18' 1"	44.41	3020	6798	-5350	8650	-708	-784	1056	4128	9	10	13
19' 5"	41.2	2802	5723	-4378	7205	-705	-785	1055	4111	10	11	15
19' 8"	36.06	2452	5512	-4189	6923	-701	-786	1053	4091	10	11	15
21' 4"	36.56	2486	4224	-3039	5204	-696	-787	1050	4067	12	13	18
22' 1"	29.79	2025	3411	-2137	4025	-654	-797	1031	3634	12	14	19
23' 0"	24.35	1656	2707	-1560	3124	-651	-798	1030	3624	13	15	20
23' 2"	19.83	1348	2507	-1482	2912	-632	-455	778	3372	13	15	20
24' 7"	19.34	1315	1852	-573	1939	-626	-456	775	3345	15	17	23
26' 3"	14.61	993	1104	454	1194	-623	-457	772	3330	17	19	25
26' 6"	10.13	689	997	601	1164	129	-1155	1162	1135	17	20	26
27' 0"	9.09	618	-1	-3	3	-3	1	3	13	17	20	27
27' 11"	0.03	2	0	0	0	-1	0	1	3	18	21	28
28' 4"	0	0	0	0	0	0	0	0	0	19	22	29

Measured: Existing



Design Properties

Owner:	Unset Com Owner
Species:	Southern Pine
Length:	35'
Class:	5
AGL:	28' 4"
GLC:	30 3/4"
Foundation:	None
Ground Water Level:	None
Lean Angle:	0°
Lean Direction:	0°
Capacity Adjustment:	100%
Effective Allowable Stress:	8000 lb/in ²
GPS Location:	38.730674695470086 , -91.21305735781789
Map Location:	38.73067253036301 , -91.2130507333995



Load Case Properties

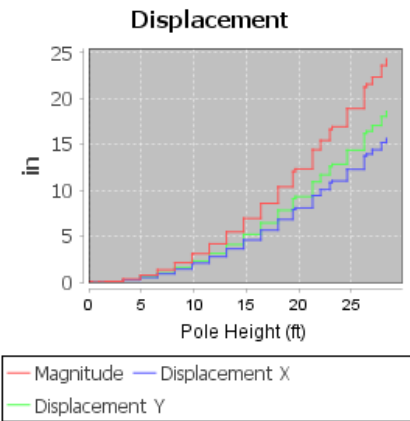
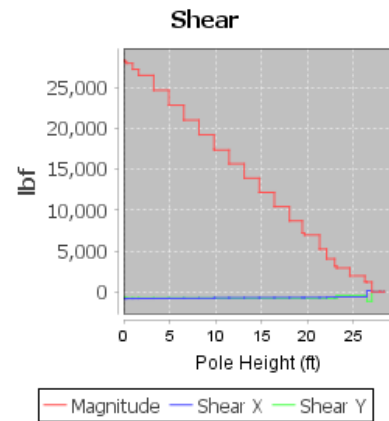
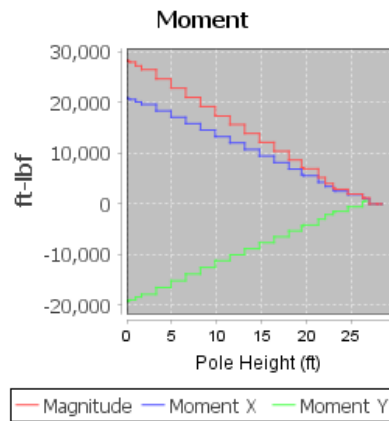
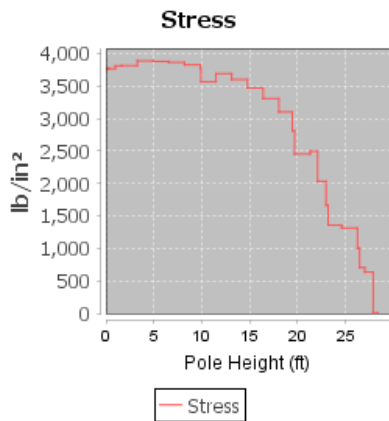
	Heavy Grade C (Governing Case)
LoadCase Type	NESC 2012 Heavy
Construction Grade	C
Construction Type	New
Temperature	0 °F
Wind Pressure	4 lb/ft²
Ice Thickness	0.5"
Wind	Sweep
Wind Direction	0 °
Wind Increment	1 °
Analysis Method	Basic (Direct Stiffness)
Load Percentage Allowed	100%
Average Length on Main Span	No
Displacement Based Load Changes	None
Analyze Ground Line Only	No
Analyze with Buckling Case	No
Analyze with Deflection Case	No
Analyze with Strength Results	No
Custom	No

Analysis Results

Loading

Component	Heavy Grade C (Governing Case)			Client File Maximum Rating
	Max %	Load (Applied / Allowable)	Wind Direction	
Pole - Stress	57.23 from stress	3892 lb/in² / 6800 lb/in²	13 °	8000 lb/in²
Wood 8 Ft Double 4 x 5 (SYP) [27' 0"] (CrossArm#1) - Stress	15.02	-945 lb/in² / 6290 lb/in²	210 °	7400 lb/in²
24.9 kV Pin Type Insulator (Crossarm) [0' 8"] (Insulator#1) - Force	7.68	768 lbf / 10000 lbf	216 °	5000 lbf
24.9 kV Pin Type Insulator (Crossarm) [7' 4"] (Insulator#2) - Force	7.69	769 lbf / 10000 lbf	216 °	5000 lbf
24.9 kV Pin Type Insulator (Crossarm) [3' 4"] (Insulator#3) - Force	7.34	734 lbf / 10000 lbf	216 °	5000 lbf
3" Spool Bolt [23' 2"] (Insulator#4) - Force	22.4	672 lbf / 3000 lbf	216 °	3000 lbf
1/0 ACSR, Full (Wire#8) - Tension	48.11	2107 lbf / 2628 lbf	N/A	4380 lbf
3/8" EHS [25' 11"] (DownGuy#1) - Force	38.35	5315 lbf / 13860 lbf	218 °	15400 lbf
F1-2 [12' 0", 43 °] (Anchor#1) - Force	42.52	5315 lbf / 12500 lbf	218 °	12500 lbf

Pole Analysis Charts for Governing Load Case: Heavy Grade C



Pole Static Analysis

Heavy Grade C

Heights	Stress %	Stress (lb/in ²)	Moment (ft-lbf)			Force (lbf)				Displacement (in)		
			X	Y	Magnitude	X	Y	Shear Magnitude	Axial	X	Y	Magnitude
0' 0"	55.26	3758	20897	-19179	28364	-834	-762	1130	4805	0	0	0
0' 1"	55.4	3767	20847	-19124	28290	-834	-763	1130	4801	0	0	0
0' 2"	55.44	3770	20747	-19015	28142	-833	-763	1129	4796	0	0	0
0' 4"	55.44	3770	20647	-18905	27995	-831	-763	1128	4781	0	0	0
1' 0"	56.09	3814	20146	-18360	27257	-827	-764	1126	4757	0	0	0
1' 8"	56.13	3817	19645	-17817	26521	-821	-765	1123	4715	0	0	0
3' 3"	57.23	3892	18389	-16470	24687	-812	-767	1118	4657	0	0	0
4' 11"	57.1	3883	17130	-15138	22860	-804	-769	1113	4601	1	1	1
6' 7"	56.88	3868	15868	-13819	21042	-796	-771	1108	4549	1	1	1
8' 2"	56.32	3830	14602	-12514	19231	-787	-773	1104	4498	1	2	2
9' 10"	55.49	3773	13334	-11222	17428	-783	-774	1101	4473	2	2	3
9' 11"	52.45	3567	13294	-11185	17373	-740	-784	1078	4395	2	2	3
11' 6"	54.35	3695	12064	-10024	15685	-733	-786	1074	4351	3	3	4
13' 1"	53.01	3604	10775	-8822	13926	-725	-788	1071	4308	4	4	5
14' 9"	51.08	3473	9483	-7633	12173	-718	-789	1067	4267	5	5	7
16' 5"	48.69	3311	8188	-6455	10426	-711	-791	1063	4229	6	6	9
18' 1"	45.63	3103	6890	-5289	8686	-704	-792	1060	4195	7	8	10
19' 5"	41.39	2815	5780	-4303	7206	-701	-793	1058	4177	8	9	12
19' 8"	36.09	2454	5590	-4135	6953	-697	-794	1057	4158	8	9	12
21' 4"	36.74	2498	4287	-2992	5228	-692	-795	1054	4134	9	11	14
22' 1"	29.94	2036	3465	-2089	4046	-650	-805	1035	3700	10	12	15
23' 0"	24.5	1666	2758	-1518	3148	-648	-806	1034	3690	11	13	17
23' 2"	19.99	1360	2530	-1442	2912	-629	-456	777	3378	11	13	17
24' 7"	19.34	1315	1882	-549	1960	-623	-458	773	3352	12	14	19
26' 3"	14.75	1003	1131	473	1226	-620	-458	771	3336	14	16	21
26' 6"	10.36	704	1030	611	1198	134	-1158	1166	1136	14	16	22
27' 0"	9.33	635	-1	-3	3	-3	-1	3	14	14	17	22
27' 11"	0.03	2	0	0	0	-1	0	1	4	15	18	24
28' 4"	0	0	0	0	0	0	0	0	0	16	19	24