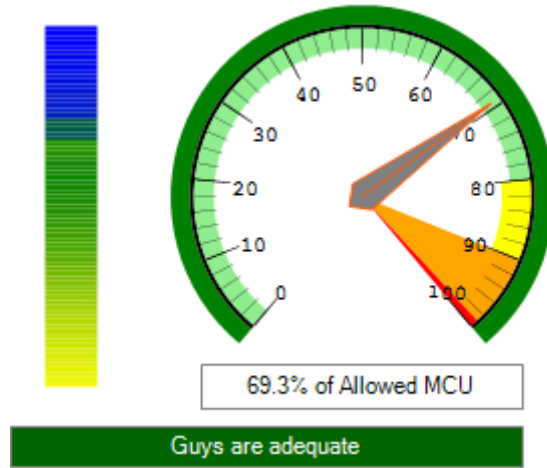


O-Calc® Pro Capacity Summary Info

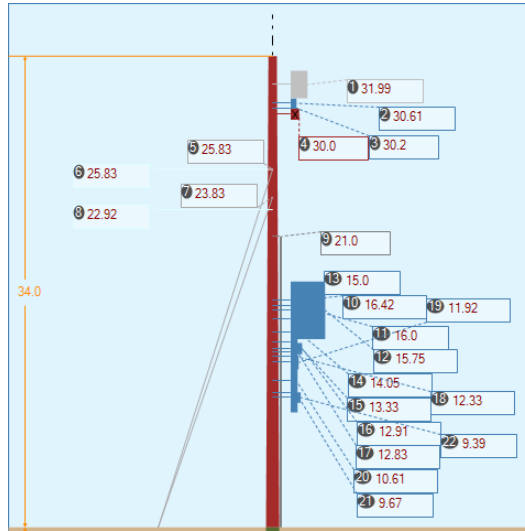
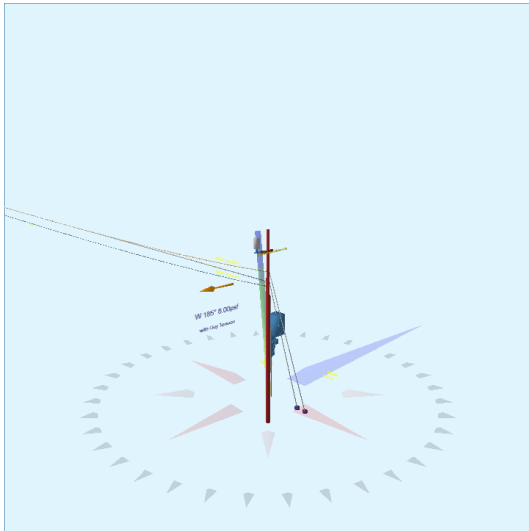
Pole Identification: 29995Y

Report Created: 7/26/2023

File: SCL CULVER_013_OCalcs_20230726_REV_pplx.pplx



Pole Num:	29995Y	Pole Length / Class:	40 / 3	Code:	GO 95	Structure Type:	Deadend
Job Site	SCL CULVER 13	Species:	DOUGLAS FIR	GO 95 Rule:	At Installation (New)	Pole Strength Factor:	0.25
Address	4520 Sepulveda Blvd	Setting Depth (ft):	6.0	Construction Grade:	A	Transverse Wind LF:	1.00
City	CULVER CITY	G/L Circumference (in):	36.00	Loading District:	Light	Wire Tension LF:	1.00
State	CA	G/L Fiber Stress (psi):	8,000	Ice Thickness (in):	0.00	Vertical LF:	1.00
Zip Code	90230	Allowable Stress (psi):	1,943	Wind Speed (mph):	55.90	Pole Factor of Safety:	5.77
Aux Data 6	Unset	Fiber Stress Ht. Reduc:	No	Wind Pressure (psf):	8.00	Vertical Factor of Safety:	32.79
Latitude:	34.001844	Longitude:	-118.404717	Elevation:	36' 0"	Bending Factor of Safety:	6.15



Pole Capacity Utilization (%)	Height (ft)	Wind Angle (deg)
Crossarm allowance 300 lbs		
Maximum	69.3	184.9
Groundline	69.3	184.9
Vertical	12.2	270.0

Pole Moments (ft-lb)	Load Angle (deg)	Wind Angle (deg)
Crossarm allowance 300 lbs		
Max Cap Util	15,556	203.4
Groundline	15,556	203.4
GL Allowable	23,921	

Guy System Component Summary				Load From Worst Wind Angle on Pole		Individual Maximum Load With Overload Applied	
Description	Lead Length (ft)	Lead Angle (deg)	Height (ft)	Nominal Capacity (%)	Wind Angle (deg)	Max* Load Capacity (%)	Wind Angle (deg)
NEW Single Helix Anchor	10.0	90.0		21.7	184.9	24.2	270.0
NEW 16M (Down)			25.8	37.5	184.9	41.8	270.0
Single Helix Anchor	8.0	90.0		19.1	184.9	21.5	270.0
EHS 3/8 (Down)			23.8	33.1	184.9	37.2	270.0
Anchor	178.0	270.0		0.0	184.9	0.0	0.0
EHS 3/8 (Span/Head)			23.8	0.0	184.9	0.0	0.0
System Capacity Summary:				Adequate		Adequate	

Groundline Load Summary - Reporting Angle Mode: Load - Reporting Angle: 203.4°										
	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 (%)
Comms	1,132	116.8	23,018	148.0	96.2	2,243	98	1	2,244	115.5
GuyBraces	-684	-70.5	-14,242	-91.6	-59.5	-1,388	5,165	50	-1,338	-68.9
GenericEquipments	271	28.0	3,490	22.4	14.6	340	1,021	10	350	18.0
Pole	202	20.8	2,912	18.7	12.2	284	997	10	293	15.1
Crossarms	2	0.2	45	0.3	0.2	4	25	0	5	0.2
Risers	46	4.7	332	2.1	1.4	32	1,260	12	45	2.3
Insulators	0	0.0	1	0.0	0.0	0	15	0	0	0.0
Pole Load	970	100.0	15,556	100.0	65.0	1,516	8,580	83	1,599	82.3
Pole Reserve Capacity			8,365		35.0	427			344	17.7

Load Summary by Owner - Reporting Angle Mode: Load - Reporting Angle: 203.4°										
	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 (%)
CCI	487	50.2	7,488	48.1	31.3	730	5,080	49	779	40.1
TELCO	566	58.4	10,820	69.6	45.2	1,055	50	0	1,055	54.3
UNK	-285	-29.4	-5,664	-36.4	-23.7	-552	2,453	24	-528	-27.2
Pole	202	20.8	2,912	18.7	12.2	284	997	10	293	15.1
Totals:	970	100.0	15,556	100.0	65.0	1,516	8,580	83	1,599	82.3

Detailed Load Components:

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)
Overlashed Bundle	6M	CCI	25.83	6.66	0.2420	2.38	0.104	178.0	270.0	178.1	1,200	5,362	1	334	5,697
Fiber	NEW Fiber 90° 141.0 1.030" Voff=-0.6 (NEW BELOPTIX AT864 - 864 FIBERS - ARMORED (1.03))	CCI	25.75	6.66	1.0300		0.376	178.0	270.0	178.1			3	333	337
Fiber	NEW Fiber .625 Low Voltage	CCI	25.75	6.66	0.6850		0.114	178.0	270.0	178.1			1	333	334
Overlashed Bundle	6M	TELCO	22.92	6.83	0.2420	3.47	0.104	178.0	270.0	178.1	1,200	4,758	1	444	5,203
Telco	TELCO 1.0	TELCO	22.84	6.83	1.0000		0.400	178.0	270.0	178.1			4	442	446
											Totals:	10,120	9	1,887	12,017

GenericEquipment		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Cylinder	NEW CANISTER ANTENNA	CCI	31.99	40.92	0.0	0.0	95.00	24.00	--	14.60	--	123	241	364
Cylinder	2C4U6VT360X06Fwxys5 NEW ANTENNA MOUNT	CCI	30.61	39.73	180.0	0.0	5.00	8.00	--	5.00	--	6	28	34
Box	NEW NYM ANTENNA MOUNTING BRACKET	CCI	30.20	31.29	180.0	0.0	70.00	2.00	26.00	--	6.50	68	16	84
Box	NEW 4G 8843 RADIO	CCI	16.42	19.33	75.0	0.0	75.00	14.96	13.20	--	11.10	-33	115	82
Box	NEW 5G 8863 RADIO	CCI	16.42	20.11	110.0	0.0	55.00	18.81	14.76	--	6.22	-2	169	166
Box	NEW RRU SHROUD	CCI	15.75	26.27	90.0	0.0	395.00	50.00	27.00	--	30.00	-150	783	634
Box	NEW PSU	CCI	15.00	16.36	80.0	0.0	11.50	10.79	7.09	--	2.72	-4	38	34
Box	NEW PSU	CCI	15.00	16.36	100.0	0.0	11.50	10.79	7.09	--	2.72	-2	43	41
Box	NEW PSU	CCI	15.00	16.36	90.0	0.0	11.50	10.79	7.09	--	2.72	-3	41	38
Box	NEW FRONTHAUL	CCI	14.05	15.23	90.0	0.0	7.70	9.05	4.72	--	7.67	-2	23	21
Box	NEW Load Center	CCI	12.91	15.94	90.0	0.0	5.50	9.76	6.00	--	10.00	-1	28	27
Box	Equipment Rack C Channel (104")	CCI	12.83	11.95	90.0	0.0	130.00	104.00	2.00	--	6.00	-22	105	83
Box	6" Bracket	CCI	16.00	7.70	90.0	0.0	5.00	3.50	7.50	--	5.00	-1	12	12
Box	6" Bracket	CCI	13.33	7.70	90.0	0.0	5.00	3.50	7.50	--	5.00	-1	12	12
Box	6" Bracket	CCI	12.33	7.70	90.0	0.0	5.00	3.50	7.50	--	5.00	-1	12	12
Box	6" Bracket	CCI	9.67	7.70	90.0	0.0	5.00	3.50	7.50	--	5.00	-1	12	12
Box	NEW B-Line Box	CCI	11.92	19.00	75.0	0.0	25.00	12.00	12.00	--	7.00	-11	57	46
Box	NEW B-Line Box	CCI	11.92	19.00	105.0	0.0	25.00	12.00	12.00	--	7.00	-3	64	61
Box	NEW Dongan Buck Boost Transformer	CCI	10.61	15.73	80.0	0.0	28.00	15.25	5.30	--	4.90	-9	31	22
Box	NEW Dongan Buck Boost Transformer	CCI	10.61	15.73	100.0	0.0	28.00	15.25	5.30	--	4.90	-4	32	28
Box	NEW DISCONNECT SWITCH	CCI	9.39	15.41	90.0	0.0	22.05	9.25	4.50	--	8.80	-5	15	10
											Totals:	-54	1,876	1,822

Crossarm		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
Normal	NEW Canister Antenna Arm	CCI	30.00	5.78	90.0	90.0	25.00	4.75	3.75	36.00	-2	26	24
Totals:											-2	26	24

Riser		Owner	Height (ft)	Horiz. Offset (in)	Offset Angle (deg)	Rotate Angle (deg)	Unit Weight (lbs)	Unit Height (in)	Unit Depth (in)	Unit Diameter (in)	Unit Length (in)	Offset Moment* (ft-lb)	Wind Moment* (ft-lb)	Moment at GL* (ft-lb)
NEW 2" POWER RISER 60.0° H:21.0	NEW 2" POWER RISER	CCI	21.00	5.85	60.0	60.0	630.00	252.00	2.00	2.00	252.00	-123	133	9
NEW 2" POWER RISER 120.0° H:21.0	NEW 2" POWER RISER	CCI	21.00	5.85	120.0	120.0	630.00	252.00	2.00	2.00	252.00	18	147	164
Totals:											-106	279	173	

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)	
Bolt	Single Bolt	CCI	30.20	0.00	90.0	180.0	5.00	1.00	0.10	0	0	0	
Bolt	NEW Bolt CCI H:25.83	CCI	25.83	0.00	270.0	270.0	5.00	3.00	0.10	0	0	0	
Bolt	Single Bolt	TELCO	22.92	0.00	270.0	180.0	5.00	3.00	0.10	0	0	0	
Totals:											0	0	0

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)
NEW 16M	Down	CCI	25.83	0.00	10.00	0.386	75.00	90.0	68.6	0.273	31.76	0.55
EHS 3/8	Down	UNK	23.83	0.00	8.00	0.375	75.00	90.0	71.2	0.273	29.29	0.47
EHS 3/8	Span/Head	UNK	23.83	23.83	178.00	0.375	75.00	270.0	0.0	0.273	175.25	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 Tension ² (lbs)	Applied Tension ³ (lbs)	Vertical Load (lbs)	Shear Load In Guy Dir (lbs)	Shear Load At Report Angle (lbs)	Proportional Moment at GL ³ (ft-lb)
NEW 16M	Down	2.30e+7	15,400	0.50	7,700	700	3,220	3,220	2,888	2,689	1,055	-419	-8,578
EHS 3/8	Down	2.30e+7	15,400	0.50	7,700	700	2,864	2,864	2,545	2,409	821	-326	-6,075
EHS 3/8	Span/Head	2.30e+7	15,400	0.50	7,700	700	0	0	0	0	0	0	411
Totals:										5,098	1,875	-746	-14,242

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 (%)
NEW Single Helix Anchor	CCI	18.00	10.00	90.0	20,000	0.67	13,333	3,220	2,888	24.1
Single Helix Anchor	UNK	18.00	8.00	90.0	20,000	0.67	13,333	2,864	2,545	21.5
Anchor	UNK	30.00	178.00	270.0	20,000	0.67	13,333	0	0	0.0

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	21.83	33.48	10.57	6.78	7.32	11.46	1.60e+6	60.00	57.00	34.00	70,139	703.27	8.20

O-Calc® Pro Applied Loads Summary

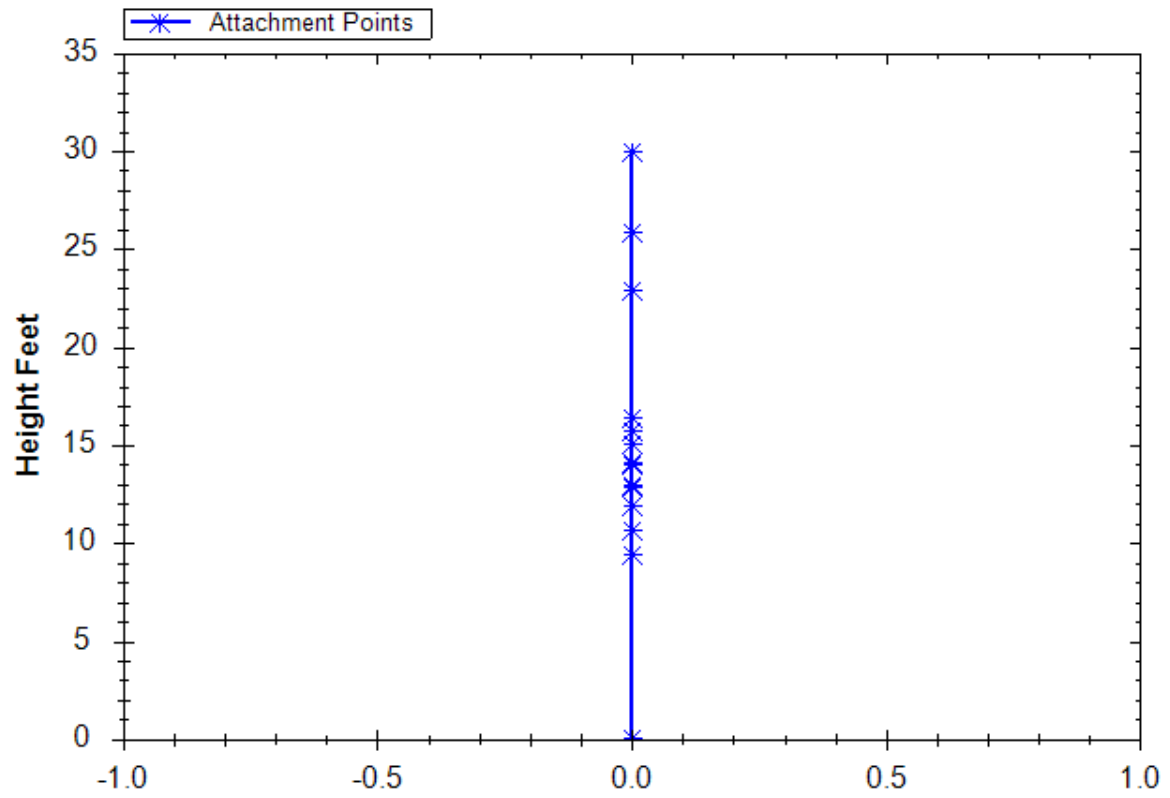
Pole Identification: 29995Y

Report Created: 7/26/2023

File: SCL_CULVER_013_OCalcs_20230726_REV_pplx.pplx

LoadCase	GO 95 Light Grade A At Installation (W:8psf)		
Wind Pressure (psf)	8.00		
Wind Angle (degrees)	184.92		
Load Height (ft)	Force Perpendicular to Wind (lbs)	Force Parallel to Wind (lbs)	Force Vertical (lbs)
30	1.46	24.56	200
25.83	1187.23	199.89	57.82
22.92	1187.25	199.64	49.86
16.42	0.89	17.23	75
16.42	3.59	23.71	55
15.75	1.14	120.1	395
15	0.36	6.77	11.5
15	1.04	6.52	11.5
15	0.37	6.77	11.5
14.05	0.2	3.81	7.7
14	0	22.96	630
14	0	25.36	630
12.91	0.3	5.23	5.5
12.83	2.89	28.07	150
11.92	1.71	12.18	25
11.92	0.92	12.64	25
10.61	0.13	7.15	28
10.61	0.05	7.18	28
9.39	0.3	3.73	22.05
0	0.33	3.82	5.6
0	0.37	4.25	6.05
0	1.9	22.05	24.26

Load Heights

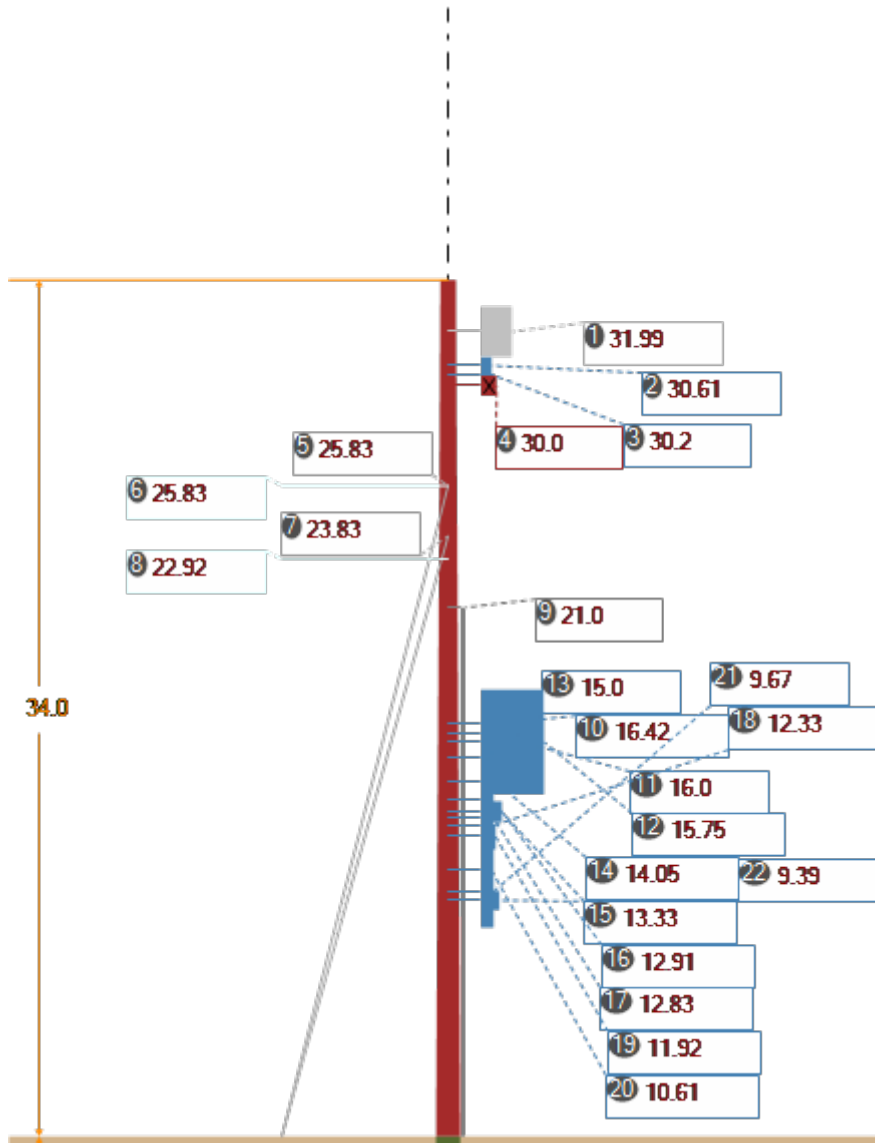


O-Calc® Pro Schematic View

Pole Identification: 29995Y

Report Created: 7/26/2023

File: SCL CULVER_013_OCalcs_20230726_REV_pplx.pplx



1 - 31.99	NEW CANISTER ANTENNA 2C4U6VT360X06Fwxys5
2 - 30.61	NEW ANTENNA MOUNT
3 - 30.2	STEEL PLATE
4 - 30.0	Normal 3ft H:30.0
5 - 25.83	NEW 16M Down Guy 25.8 ft hgt, 68.8° angle
6 - 25.83	6M 270° 178.0 D:1.65"
7 - 23.83	EHS 3/8 Down Guy 23.8 ft hgt, 71.4° angle EHS 3/8 Span/Head Guy 23.8 ft hgt

8 - 22.92	6M 270° 178.0 D:1.64"
9 - 21.0	NEW 2" POWER RISER 60.0° H:21.0 NEW 2" POWER RISER 120.0° H:21.0
10 - 16.42	NEW 4G 8843 RADIO H:16.42 NEW 5G 8863 RADIO H:16.42
11 - 16.0	6" Bracket
12 - 15.75	NEW RRU SHROUD H:15.75
13 - 15.0	NEW PSU H:15.0 NEW PSU H:15.0 NEW PSU H:15.0
14 - 14.05	NEW FRONTHAUL H:14.05
15 - 13.33	6" Bracket
16 - 12.91	NEW Load Center H:12.91
17 - 12.83	Equipment Rack C Channel H:12.83
18 - 12.33	6" Bracket
19 - 11.92	NEW B-Line Box H:11.92 NEW B-Line Box H:11.92
20 - 10.61	NEW Dongan Buck Boost Transformer H:10.61 NEW Dongan Buck Boost Transformer H:10.61
21 - 9.67	6" Bracket
22 - 9.39	NEW DISCONNECT SWITCH H:9.39

29995Y

