

EXHIBIT 4

July 30, 2021



Centerline Communications
750 West Center Street, Suite #301
West Bridgewater, MA 02379

RE: Site Number: CT2018 (LTE 3C/4C/5G/4TXRX)
 FA Number: 10035062
 PACE Number: MRCTB048504
 PT Number: 2051A0WFRJ
 Site Name: GUILFORD NORTH
 Site Address: 500 Cooks Lane
 Guilford, CT 06437

To Whom It May Concern:

Hudson Design Group LLC (HDG) has been authorized by Centerline Communications to perform a mount analysis on the existing AT&T antenna/RRH mounts to determine their capability of supporting the following additional loading:

- (3) 7770 Antennas (55.0"x11.0"x5.0" - Wt. = 35 lbs. /each)
- (2) HPA-65R-BUU-H8 Antennas (92.4"x14.8"x7.4" – Wt. = 68 lbs. /each)
- (1) HPA-65R-BUU-H6 Antenna (72.0"x14.8"x7.4" – Wt. = 51 lbs. /each)
- (6) LGP17201 TMA's (14.4"x13.9"x3.7" – Wt. = 31 lbs. /each)
- (1) Squid Surge Arrestor (24.0"x9.7"Ø – Wt. = 33 lbs.) (tower mounted)
- **(2) OPA65R-BU8DA Antennas (96.0"x20.7"x7.7" – Wt. = 79 lbs. /each)**
- **(1) OPA65R-BU6DA Antenna (71.2"x20.7"x7.7" – Wt. = 64 lbs. /each)**
- **(2) DMP65R-BU8DA Antennas (96.0"x20.7"x7.7" – Wt. = 96 lbs. /each)**
- **(1) DMP65R-BU6DA Antenna (71.2"x20.7"x7.7" – Wt. = 80 lbs. /each)**
- **(3) B2/B66A 8843 RRH's (14.9"x13.2"x10.9" – Wt. = 72 lbs. /each)**
- **(3) B14 4478 RRH's (18.1"x13.4"x8.3" – Wt. = 60 lbs. /each)**
- **(3) B5/B12 4449 RRH's (17.9"x13.2"x9.4" – Wt. = 73 lbs. /each)**
- **(1) Squid Surge Arrestor (24.0"x9.7"Ø – Wt. = 33 lbs.) (tower mounted)**

**Proposed equipment shown in bold*

No original structural design documents or fabrication drawings were available for the existing mounts. HDG conducted a ground audit of the existing AT&T antenna mounts on April 20, 2021. A mount analysis report prepared by Com-Ex Consultants, LLC, dated June 15, 2016, was used to perform this analysis.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2015 with 2018 Connecticut State Building Code, and AT&T Mount Technical Directive – R13.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-H and Appendix N of the Connecticut State Building Code, the max basic wind speed for this site is equal to 130 mph with a max basic wind speed with ice of 50 mph and a max ice thickness of 1.0 in. An escalated ice thickness of 1.17 in was used for this analysis.
- HDG considers this site to be exposure category B; tower is located in an urban/suburban or wooded area with numerous closely spaced obstructions.
- HDG considers this site to be topographic category 1; tower is located on flat terrain or the bottom of a hill or ridge.
- HDG considers this site to have a spectral response acceleration parameter at short periods, S_s , of 0.176 and a spectral response acceleration parameter at a period of 1 second, S_1 , of 0.061.
- The mount has been analyzed with load combinations consisting of 500 lbs live load using a service wind speed of 30 mph wind on the worst case antenna. Analysis performed on each antenna pipe to determine worst case location; worst case location was antenna position 4.
- The mount has been analyzed with load combinations consisting of a 250 lbs live load in a worst case location on the mount.
- The existing mount is secured to the existing tower with bent plates. The connection is considered OK by visual inspection.

Based on our evaluation, we have determined that the existing mounts **ARE NOT CAPABLE** of supporting the proposed installation. HDG recommends the following modifications:

- **Proposed 2" std. (2.38" O.D.) horizontal pipe antenna masts and proposed HSS standoffs (typ. of 2 per sector, total of 6).**
- **Proposed 3x3x3/8" HSS standoffs secured to proposed horizontal pipe and adjacent tower leg (typ. of 4 per sector, total of 12).**

	Component	Controlling Load Case	Stress Ratio	Pass/Fail
Existing (LTE 3C/4C/5G/4TXRX) Mount Rating	1	LC7	110%	FAIL
Modified (LTE 3C/4C/5G/4TXRX) Mount Rating	1	LC1	68%	PASS

Reference Documents:

- Mount Analysis Report prepared by Com-Ex Consultants, LLC.

This determination was based on the following limitations and assumptions:

1. HDG is not responsible for any modifications completed prior to and hereafter which HDG was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. The existing mounts have been adequately secured to the tower structure per the mount manufacturer's specifications.
5. All components pertaining to AT&T's mounts must be tightened and re-plumbed prior to the installation of new appurtenances.
6. HDG performed a localized analysis on the mount itself and not on the supporting tower structure.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
Hudson Design Group LLC



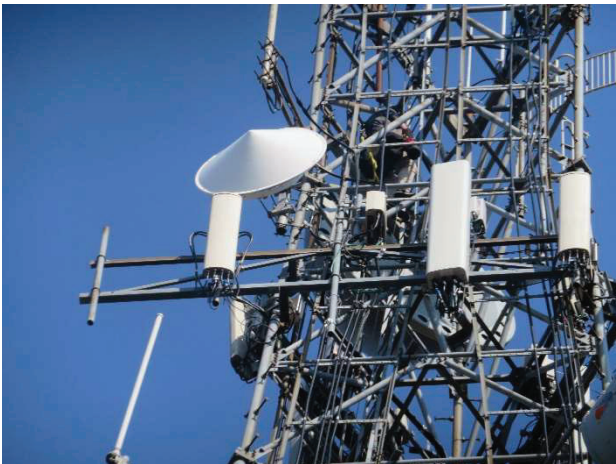
Michael Cabral
Vice President



Daniel P. Hamm, PE
Principal

FIELD PHOTOS:







HUDSON
Design Group LLC

Wind & Ice Calculations

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 Designed By: CL Checked By: MSC



2.6.5.2 Velocity Pressure Coeff:

$K_z = 2.01 (z/z_g)^{2/\alpha}$

$K_z = 1.114$

$z = 152$ (ft)
 $z_g = 1200$ (ft)
 $\alpha = 7.0$

$K_{zmin} \leq K_z \leq 2.01$

Table 2-4

Exposure	Z _g	α	K _{zmin}	K _c
B	1200 ft	7.0	0.70	0.9
C	900 ft	9.5	0.85	1.0
D	700 ft	11.5	1.03	1.1

2.6.6.2 Topographic Factor:

Table 2-5

Topo. Category	K _t	f
2	0.43	1.25
3	0.53	2.0
4	0.72	1.5

$K_{zt} = [1 + (K_c K_t / K_h)]^2$

$K_{zt} = 1$

(If Category 1 then K_{zt} = 1.0)

Category = 1

$K_h = e^{(fz/H)}$

$K_h = 1$
 $K_c = 0.9$ (from Table 2-4)
 $K_t = 0$ (from Table 2-5)
 $f = 0$ (from Table 2-5)
 $z = 152$
 $z_s = 675$ (Mean elevation of base of structure above sea level)
 $H = 0$ (Ht. of the crest above surrounding terrain)
 $K_{zt} = 1.00$ (from 2.6.6.2.1)
 $K_e = 0.98$ (from 2.6.8)

2.6.10 Design Ice Thickness

Max Ice Thickness =

Importance Factor =

$t_i = 1.00$ in
 $I = 1.0$ (from Table 2-3)
 $K_{iz} = 1.17$ (from Sec. 2.6.10)

$t_{iz} = t_i * I * K_{iz} * (K_{zt})^{0.35}$

$t_{iz} = 1.17$ in

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2.6.9 Gust Effect Factor

2.6.9.1 Self Supporting Lattice Structures

$G_h = 1.0$ Latticed Structures > 600 ft

$G_h = 0.85$ Latticed Structures 450 ft or less

$G_h = 0.85 + 0.15 [h/150 - 3.0]$

$h =$ ht. of structure

$h = 199$

$G_h = 0.85$

2.6.9.2 Guyed Masts

$G_h = 0.85$

2.6.9.3 Pole Structures

$G_h = 1.1$

2.6.9 Appurtenances

$G_h = 1.0$

2.6.9.4 Structures Supported on Other Structures

(Cantilevered tubular or latticed spines, pole, structures on buildings ($ht. : width$ ratio > 5))

$G_h = 1.35$

$G_h = 1.00$

2.6.11.2 Design Wind Force on Appurtenances

$F = q_z * G_h * (EPA)_A$

$q_z = 0.00256 * K_z * K_{zt} * K_s * K_e * K_d * V_{max}^2$

$q_z =$	39.97
$q_z (ice) =$	5.91
$q_z (30) =$	2.13

$K_z =$	1.114 (from 2.6.5.2)
$K_{zt} =$	1.0 (from 2.6.6.2.1)
$K_s =$	1.0 (from 2.6.7)
$K_e =$	0.98 (from 2.6.8)
$K_d =$	0.85 (from Table 2-2)
$V_{max} =$	130 mph (Ultimate Wind Speed)
$V_{max (ice)} =$	50 mph
$V_{30} =$	30 mph

Table 2-2

Structure Type	Wind Direction Probability Factor, K_d
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95
Tubular pole structures supporting antennas enclosed within a cylindrical shroud	1.00

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Determine Ca:

Table 2-9

Force Coefficients (Ca) for Appurtenances				
Member Type		Aspect Ratio ≤ 2.5	Aspect Ratio = 7	Aspect Ratio ≥ 25
		Ca	Ca	Ca
Flat		1.2	1.4	2.0
Square/Rectangular HSS		1.2 - 2.8(r _s) ≥ 0.85	1.4 - 4.0(r _s) ≥ 0.90	2.0 - 6.0(r _s) ≥ 1.25
Round	C < 39 (Subcritical)	0.7	0.8	1.2
	39 ≤ C ≤ 78 (Transitional)	4.14/(C ^{0.485})	3.66/(C ^{0.415})	46.8/(C ^{1.0})
	C > 78 (Supercritical)	0.5	0.6	0.6

Aspect Ratio is the overall length/width ratio in the plane normal to the wind direction.
 (Aspect ratio is independent of the spacing between support points of a linear appurtenance,
 Note: Linear interpolation may be used for aspect ratios other than those shown.

Ice Thickness = **1.17 in** Angle = **0 (deg)** Equivalent Angle = **180 (deg)**

Appurtenances	Height	Width	Depth	Flat Area	Aspect Ratio	Ca	Force (lbs)	Force (lbs) (w/ Ice)	Force (lbs) (30 mph)
7770 Antenna	55.0	11.0	5.0	4.20	5.00	1.31	220	41	12
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	6.24	1.37	519	91	28
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	4.86	1.31	386	68	21
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	4.57	1.29	723	122	39
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.39	1.24	514	87	27
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	4.64	1.30	714	120	38
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.44	1.24	508	86	27
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.20	66	13	3
B2/B66A 8843 RRH (Shielded)	14.9	0.0	10.9	0.00	0.00	1.20	0	2	0
B14 4478 RRH	18.1	13.4	8.3	1.68	1.35	1.20	81	16	4
B14 4478 RRH (Shielded)	18.1	0.0	8.3	0.00	0.00	1.20	0	2	0
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.36	1.20	79	15	4
B5/B12 4449 RRH (Shielded)	17.9	0.0	9.4	0.00	0.00	1.20	0	2	0
LGP17201 TMA	14.4	13.9	3.7	1.39	1.04	1.20	67	13	4
LGP17201 TMA (Shielded)	14.4	7.0	3.7	0.70	0.00	1.20	33	8	2
2" Pipe	2.4	12.0		0.20	0.20	0.70	6		
L 2x2 Angle	2.0	12.0		0.17	0.17	0.70	5		
L 3x3 Angle	3.0	12.0		0.25	0.25	0.70	7		
HSS 3x3	3.0	12.0		0.25	0.25	0.70	7		

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WIND LOADS

Angle = **30** (deg) Ice Thickness = **1.17** in. Equivalent Angle = **210** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Aspect Ratio	Aspect Ratio	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	220	117	194
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	519	300	464
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	386	221	345
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	723	328	624
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	514	227	443
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	714	325	617
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	508	224	437
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	54	63
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	33	54	38
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	81	50	73
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	41	50	43
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	79	56	73
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	40	56	44
LGP17201 TMA	14.4	13.9	3.7	1.39	0.37	1.04	3.89	1.20	1.26	67	19	55
LGP17201 TMA (Shielded)	14.4	7.0	3.7	0.70	0.37	2.07	3.89	1.20	1.26	33	19	30

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.31	2.92	4.30	7.82	1.28	1.43	40	25	36
HPA-65R-BUU-H8 Antenna	94.7	17.1	9.7	11.27	6.40	5.53	9.74	1.33	1.49	89	56	81
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.84	5.02	4.34	7.64	1.28	1.42	67	42	61
OPA65R-BU8DA Antenna	98.3	23.3	10.1	15.93	6.92	4.21	9.71	1.28	1.49	120	61	105
OPA65R-BU6DA Antenna	73.5	23.3	10.1	11.91	5.17	3.15	7.26	1.23	1.41	87	43	76
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.73	6.85	4.27	9.80	1.28	1.49	119	60	104
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.76	5.12	3.19	7.33	1.23	1.41	86	43	75
B2/B66A 8843 RRH	17.2	15.5	13.2	1.86	1.58	1.11	1.30	1.20	1.20	13	11	13
B2/B66A 8843 RRH (Shielded)	17.2	7.8	13.2	0.93	1.58	2.22	1.30	1.20	1.20	7	11	8
B14 4478 RRH	20.4	15.7	10.6	2.23	1.51	1.30	1.92	1.20	1.20	16	11	15
B14 4478 RRH (Shielded)	20.4	7.9	10.6	1.12	1.51	2.60	1.92	1.20	1.20	8	11	9
B5/B12 4449 RRH	20.2	15.5	11.7	2.18	1.65	1.30	1.72	1.20	1.20	15	12	15
B5/B12 4449 RRH (Shielded)	20.2	7.8	11.7	1.09	1.65	2.61	1.72	1.20	1.20	8	12	9
LGP17201 TMA	16.7	16.2	6.0	1.89	0.70	1.03	2.77	1.20	1.21	13	5	11
LGP17201 TMA (Shielded)	16.7	8.1	6.0	0.94	0.70	2.06	2.77	1.20	1.21	7	5	6

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	10
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	28	16	25
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	21	12	18
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	39	17	33
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	27	12	24
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	38	17	33
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	27	12	23
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	2	3	2
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	4	3	4
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	2	3	2
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	4	3	4
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	2	3	2
LGP17201 TMA	14.4	13.9	3.7	1.39	0.37	1.04	3.89	1.20	1.26	4	1	3
LGP17201 TMA (Shielded)	14.4	7.0	3.7	0.70	0.37	2.07	3.89	1.20	1.26	2	1	2

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WIND LOADS

Angle = **60** (deg) Ice Thickness = **1.17** in. Equivalent Angle = **240** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	220	117	143
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	519	300	355
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	386	221	262
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	723	328	427
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	514	227	299
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	714	325	422
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	508	224	295
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	54	57
B2/B66A 8843 RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	49	54	53
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	81	50	58
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	61	50	53
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	79	56	62
B5/B12 4449 RRH (Shielded)	17.9	9.9	9.4	1.23	1.17	1.81	1.90	1.20	1.20	59	56	57
LGP17201 TMA	14.4	13.9	3.7	1.39	0.37	1.04	3.89	1.20	1.26	67	19	31
LGP17201 TMA (Shielded)	14.4	10.4	3.7	1.04	0.37	1.38	3.89	1.20	1.26	50	19	26

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.31	2.92	4.30	7.82	1.28	1.43	40	25	29
HPA-65R-BUU-H8 Antenna	94.7	17.1	9.7	11.27	6.40	5.53	9.74	1.33	1.49	89	56	65
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.84	5.02	4.34	7.64	1.28	1.42	67	42	48
OPA65R-BU8DA Antenna	98.3	23.3	10.1	15.93	6.92	4.21	9.71	1.28	1.49	120	61	76
OPA65R-BU6DA Antenna	73.5	23.3	10.1	11.91	5.17	3.15	7.26	1.23	1.41	87	43	54
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.73	6.85	4.27	9.80	1.28	1.49	119	60	75
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.76	5.12	3.19	7.33	1.23	1.41	86	43	53
B2/B66A 8843 RRH	17.2	15.5	13.2	1.86	1.58	1.11	1.30	1.20	1.20	13	11	12
B2/B66A 8843 RRH (Shielded)	17.2	11.6	13.2	1.39	1.58	1.48	1.30	1.20	1.20	10	11	11
B14 4478 RRH	20.4	15.7	10.6	2.23	1.51	1.30	1.92	1.20	1.20	16	11	12
B14 4478 RRH (Shielded)	20.4	11.8	10.6	1.67	1.51	1.73	1.92	1.20	1.20	12	11	11
B5/B12 4449 RRH	20.2	15.5	11.7	2.18	1.65	1.30	1.72	1.20	1.20	15	12	13
B5/B12 4449 RRH (Shielded)	20.2	11.6	11.7	1.64	1.65	1.74	1.72	1.20	1.20	12	12	12
LGP17201 TMA	16.7	16.2	6.0	1.89	0.70	1.03	2.77	1.20	1.21	13	5	7
LGP17201 TMA (Shielded)	16.7	12.2	6.0	1.41	0.70	1.37	2.77	1.20	1.21	10	5	6

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	8
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	28	16	19
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	21	12	14
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	39	17	23
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	27	12	16
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	38	17	22
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	27	12	16
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
B2/B66A 8843 RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	3	3	3
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	4	3	3
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	3	3	3
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	4	3	3
B5/B12 4449 RRH (Shielded)	17.9	9.9	9.4	1.23	1.17	1.81	1.90	1.20	1.20	3	3	3
LGP17201 TMA	14.4	13.9	3.7	1.39	0.37	1.04	3.89	1.20	1.26	4	1	2
LGP17201 TMA (Shielded)	14.4	10.4	3.7	1.04	0.37	1.38	3.89	1.20	1.26	3	1	1

Date: 7/30/2021
 Project Name: GUILFORD NORTH
 Project No.: CT2018
 Designed By: CL Checked By: MSC



WIND LOADS

Angle = **90** (deg) Ice Thickness = **1.17** in. Equivalent Angle = **270** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	220	117	117
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	519	300	300
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	386	221	221
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	723	328	328
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	514	227	227
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	714	325	325
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	508	224	224
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	54	54
B2/B66A 8843 RRH (Shielded)	14.9	0.0	10.9	0.00	1.13	0.00	1.37	1.20	1.20	0	54	54
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	81	50	50
B14 4478 RRH (Shielded)	18.1	0.0	8.3	0.00	1.04	0.00	2.18	1.20	1.20	0	50	50
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	79	56	56
B5/B12 4449 RRH (Shielded)	17.9	0.0	9.4	0.00	1.17	0.00	1.90	1.20	1.20	0	56	56
LGP17201 TMA	14.4	13.9	3.7	1.39	0.37	1.04	3.89	1.20	1.26	67	19	19
LGP17201 TMA (Shielded)	14.4	7.0	3.7	0.70	0.37	2.07	3.89	1.20	1.26	33	19	19

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.31	2.92	4.30	7.82	1.28	1.43	40	25	25
HPA-65R-BUU-H8 Antenna	94.7	17.1	9.7	11.27	6.40	5.53	9.74	1.33	1.49	89	56	56
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.84	5.02	4.34	7.64	1.28	1.42	67	42	42
OPA65R-BU8DA Antenna	98.3	23.3	10.1	15.93	6.92	4.21	9.71	1.28	1.49	120	61	61
OPA65R-BU6DA Antenna	73.5	23.3	10.1	11.91	5.17	3.15	7.26	1.23	1.41	87	43	43
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.73	6.85	4.27	9.80	1.28	1.49	119	60	60
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.76	5.12	3.19	7.33	1.23	1.41	86	43	43
B2/B66A 8843 RRH	17.2	15.5	13.2	1.86	1.58	1.11	1.30	1.20	1.20	13	11	11
B2/B66A 8843 RRH (Shielded)	17.2	2.3	13.2	0.28	1.58	7.39	1.30	1.41	1.20	2	11	11
B14 4478 RRH	20.4	15.7	10.6	2.23	1.51	1.30	1.92	1.20	1.20	16	11	11
B14 4478 RRH (Shielded)	20.4	2.3	10.6	0.33	1.51	8.77	1.92	1.46	1.20	3	11	11
B5/B12 4449 RRH	20.2	15.5	11.7	2.18	1.65	1.30	1.72	1.20	1.20	15	12	12
B5/B12 4449 RRH (Shielded)	20.2	2.3	11.7	0.33	1.65	8.68	1.72	1.46	1.20	3	12	12
LGP17201 TMA	16.7	16.2	6.0	1.89	0.70	1.03	2.77	1.20	1.21	13	5	5
LGP17201 TMA (Shielded)	16.7	9.3	6.0	1.08	0.70	1.80	2.77	1.20	1.21	8	5	5

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	6
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	28	16	16
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	21	12	12
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	39	17	17
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	27	12	12
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	38	17	17
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	27	12	12
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
B2/B66A 8843 RRH (Shielded)	14.9	0.0	10.9	0.00	1.13	0.00	1.37	1.20	1.20	0	3	3
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	4	3	3
B14 4478 RRH (Shielded)	18.1	0.0	8.3	0.00	1.04	0.00	2.18	1.20	1.20	0	3	3
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	4	3	3
B5/B12 4449 RRH (Shielded)	17.9	0.0	9.4	0.00	1.17	0.00	1.90	1.20	1.20	0	3	3
LGP17201 TMA	14.4	13.9	3.7	1.39	0.37	1.04	3.89	1.20	1.26	4	1	1
LGP17201 TMA (Shielded)	14.4	7.0	3.7	0.70	0.37	2.07	3.89	1.20	1.26	2	1	1

Date: 7/30/2021
 Project Name: GUILFORD NORTH
 Project No.: CT2018
 Designed By: CL Checked By: MSC



WIND LOADS

Angle = **120** (deg) Ice Thickness = **1.17** in. Equivalent Angle = **300** (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	220	117	143
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	519	300	355
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	386	221	262
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	723	328	427
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	514	227	299
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	714	325	422
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	508	224	295
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	54	57
B2/B66A 8843 RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	49	54	53
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	81	50	58
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	61	50	53
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	79	56	62
B5/B12 4449 RRH (Shielded)	17.9	9.9	9.4	1.23	1.17	1.81	1.90	1.20	1.20	59	56	57
LGP17201 TMA	14.4	13.9	3.7	1.39	0.37	1.04	3.89	1.20	1.26	67	19	31
LGP17201 TMA (Shielded)	14.4	10.4	3.7	1.04	0.37	1.38	3.89	1.20	1.26	50	19	26

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.31	2.92	4.30	7.82	1.28	1.43	40	25	29
HPA-65R-BUU-H8 Antenna	94.7	17.1	9.7	11.27	6.40	5.53	9.74	1.33	1.49	89	56	65
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.84	5.02	4.34	7.64	1.28	1.42	67	42	48
OPA65R-BU8DA Antenna	98.3	23.3	10.1	15.93	6.92	4.21	9.71	1.28	1.49	120	61	76
OPA65R-BU6DA Antenna	73.5	23.3	10.1	11.91	5.17	3.15	7.26	1.23	1.41	87	43	54
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.73	6.85	4.27	9.80	1.28	1.49	119	60	75
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.76	5.12	3.19	7.33	1.23	1.41	86	43	53
B2/B66A 8843 RRH	17.2	15.5	13.2	1.86	1.58	1.11	1.30	1.20	1.20	13	11	12
B2/B66A 8843 RRH (Shielded)	17.2	11.6	13.2	1.39	1.58	1.48	1.30	1.20	1.20	10	11	11
B14 4478 RRH	20.4	15.7	10.6	2.23	1.51	1.30	1.92	1.20	1.20	16	11	12
B14 4478 RRH (Shielded)	20.4	11.8	10.6	1.67	1.51	1.73	1.92	1.20	1.20	12	11	11
B5/B12 4449 RRH	20.2	15.5	11.7	2.18	1.65	1.30	1.72	1.20	1.20	15	12	13
B5/B12 4449 RRH (Shielded)	20.2	11.6	11.7	1.64	1.65	1.74	1.72	1.20	1.20	12	12	12
LGP17201 TMA	16.7	16.2	6.0	1.89	0.70	1.03	2.77	1.20	1.21	13	5	7
LGP17201 TMA (Shielded)	16.7	12.2	6.0	1.41	0.70	1.37	2.77	1.20	1.21	10	5	6

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	8
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	28	16	19
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	21	12	14
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	39	17	23
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	27	12	16
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	38	17	22
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	27	12	16
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
B2/B66A 8843 RRH (Shielded)	14.9	9.9	10.9	1.02	1.13	1.51	1.37	1.20	1.20	3	3	3
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	4	3	3
B14 4478 RRH (Shielded)	18.1	10.1	8.3	1.26	1.04	1.80	2.18	1.20	1.20	3	3	3
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	4	3	3
B5/B12 4449 RRH (Shielded)	17.9	9.9	9.4	1.23	1.17	1.81	1.90	1.20	1.20	3	3	3
LGP17201 TMA	14.4	13.9	3.7	1.39	0.37	1.04	3.89	1.20	1.26	4	1	2
LGP17201 TMA (Shielded)	14.4	10.4	3.7	1.04	0.37	1.38	3.89	1.20	1.26	3	1	1

Date: 7/30/2021
 Project Name: GUILFORD NORTH
 Project No.: CT2018
 Designed By: CL Checked By: MSC



WIND LOADS

Angle = 150 (deg) Ice Thickness = 1.17 in. Equivalent Angle = 330 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Ca (normal)	Ca (side)	Force (lbs)	Force (lbs)	Force (lbs)
7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	220	117	194
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	519	300	464
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	386	221	345
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	723	328	624
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	514	227	443
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	714	325	617
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	508	224	437
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	66	54	63
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	33	54	38
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	81	50	73
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	41	50	43
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	79	56	73
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	40	56	44
LGP17201 TMA	14.4	13.9	3.7	1.39	0.37	1.04	3.89	1.20	1.26	67	19	55
LGP17201 TMA (Shielded)	14.4	7.0	3.7	0.70	0.37	2.07	3.89	1.20	1.26	33	19	30

WIND LOADS WITH ICE:

7770 Antenna	57.3	13.3	7.3	5.31	2.92	4.30	7.82	1.28	1.43	40	25	36
HPA-65R-BUU-H8 Antenna	94.7	17.1	9.7	11.27	6.40	5.53	9.74	1.33	1.49	89	56	81
HPA-65R-BUU-H6 Antenna	74.3	17.1	9.7	8.84	5.02	4.34	7.64	1.28	1.42	67	42	61
OPA65R-BU8DA Antenna	98.3	23.3	10.1	15.93	6.92	4.21	9.71	1.28	1.49	120	61	105
OPA65R-BU6DA Antenna	73.5	23.3	10.1	11.91	5.17	3.15	7.26	1.23	1.41	87	43	76
DMP65R-BU8DA Antenna	98.3	23.0	10.0	15.73	6.85	4.27	9.80	1.28	1.49	119	60	104
DMP65R-BU6DA Antenna	73.5	23.0	10.0	11.76	5.12	3.19	7.33	1.23	1.41	86	43	75
B2/B66A 8843 RRH	17.2	15.5	13.2	1.86	1.58	1.11	1.30	1.20	1.20	13	11	13
B2/B66A 8843 RRH (Shielded)	17.2	7.8	13.2	0.93	1.58	2.22	1.30	1.20	1.20	7	11	8
B14 4478 RRH	20.4	15.7	10.6	2.23	1.51	1.30	1.92	1.20	1.20	16	11	15
B14 4478 RRH (Shielded)	20.4	7.9	10.6	1.12	1.51	2.60	1.92	1.20	1.20	8	11	9
B5/B12 4449 RRH	20.2	15.5	11.7	2.18	1.65	1.30	1.72	1.20	1.20	15	12	15
B5/B12 4449 RRH (Shielded)	20.2	7.8	11.7	1.09	1.65	2.61	1.72	1.20	1.20	8	12	9
LGP17201 TMA	16.7	16.2	6.0	1.89	0.70	1.03	2.77	1.20	1.21	13	5	11
LGP17201 TMA (Shielded)	16.7	8.1	6.0	0.94	0.70	2.06	2.77	1.20	1.21	7	5	6

WIND LOADS AT 30 MPH:

7770 Antenna	55.0	11.0	5.0	4.20	1.91	5.00	11.00	1.31	1.53	12	6	10
HPA-65R-BUU-H8 Antenna	92.4	14.8	7.4	9.50	4.75	6.24	12.49	1.37	1.58	28	16	25
HPA-65R-BUU-H6 Antenna	72.0	14.8	7.4	7.40	3.70	4.86	9.73	1.31	1.49	21	12	18
OPA65R-BU8DA Antenna	96.0	21.0	7.8	14.00	5.20	4.57	12.31	1.29	1.58	39	17	33
OPA65R-BU6DA Antenna	71.2	21.0	7.8	10.38	3.86	3.39	9.13	1.24	1.47	27	12	24
DMP65R-BU8DA Antenna	96.0	20.7	7.7	13.80	5.13	4.64	12.47	1.30	1.58	38	17	33
DMP65R-BU6DA Antenna	71.2	20.7	7.7	10.24	3.81	3.44	9.25	1.24	1.47	27	12	23
B2/B66A 8843 RRH	14.9	13.2	10.9	1.37	1.13	1.13	1.37	1.20	1.20	3	3	3
B2/B66A 8843 RRH (Shielded)	14.9	6.6	10.9	0.68	1.13	2.26	1.37	1.20	1.20	2	3	2
B14 4478 RRH	18.1	13.4	8.3	1.68	1.04	1.35	2.18	1.20	1.20	4	3	4
B14 4478 RRH (Shielded)	18.1	6.7	8.3	0.84	1.04	2.70	2.18	1.21	1.20	2	3	2
B5/B12 4449 RRH	17.9	13.2	9.4	1.64	1.17	1.36	1.90	1.20	1.20	4	3	4
B5/B12 4449 RRH (Shielded)	17.9	6.6	9.4	0.82	1.17	2.71	1.90	1.21	1.20	2	3	2
LGP17201 TMA	14.4	13.9	3.7	1.39	0.37	1.04	3.89	1.20	1.26	4	1	3
LGP17201 TMA (Shielded)	14.4	7.0	3.7	0.70	0.37	2.07	3.89	1.20	1.26	2	1	2

Date: 7/30/2021

Project Name: GUILFORD NORTH

Project No.: CT2018

Designed By: CL Checked By: MSC



ICE WEIGHT CALCULATIONS

Thickness of ice: 1.17 in.
Density of ice: 56 pcf

7770 Antenna

Weight of ice based on total radial SF area:
Height (in): 55.0
Width (in): 11.0
Depth (in): 5.0
Total weight of ice on object: 87 lbs
Weight of object: 35.0 lbs
Combined weight of ice and object: 122 lbs

HPA-65R-BUU-H8 Antenna

Weight of ice based on total radial SF area:
Height (in): 92.4
Width (in): 14.8
Depth (in): 7.4
Total weight of ice on object: 195 lbs
Weight of object: 68.0 lbs
Combined weight of ice and object: 263 lbs

HPA-65R-BUU-H6 Antenna

Weight of ice based on total radial SF area:
Height (in): 72.0
Width (in): 14.8
Depth (in): 7.4
Total weight of ice on object: 152 lbs
Weight of object: 51.0 lbs
Combined weight of ice and object: 203 lbs

OPA65R-BU8DA Antenna

Weight of ice based on total radial SF area:
Height (in): 96.0
Width (in): 20.7
Depth (in): 7.7
Total weight of ice on object: 266 lbs
Weight of object: 79.0 lbs
Combined weight of ice and object: 345 lbs

OPA65R-BU6DA Antenna

Weight of ice based on total radial SF area:
Height (in): 71.2
Width (in): 20.7
Depth (in): 7.7
Total weight of ice on object: 197 lbs
Weight of object: 64.0 lbs
Combined weight of ice and object: 261 lbs

DMP65R-BU8DA Antenna

Weight of ice based on total radial SF area:
Height (in): 96.0
Width (in): 20.7
Depth (in): 7.7
Total weight of ice on object: 266 lbs
Weight of object: 96.0 lbs
Combined weight of ice and object: 362 lbs

DMP65R-BU6DA Antenna

Weight of ice based on total radial SF area:
Height (in): 71.2
Width (in): 20.7
Depth (in): 7.7
Total weight of ice on object: 197 lbs
Weight of object: 80.0 lbs
Combined weight of ice and object: 277 lbs

B2/B66A 8843 RRH

Weight of ice based on total radial SF area:
Height (in): 14.9
Width (in): 13.2
Depth (in): 10.9
Total weight of ice on object: 32 lbs
Weight of object: 72.0 lbs
Combined weight of ice and object: 104 lbs

B14 4478 RRH

Weight of ice based on total radial SF area:
Height (in): 18.1
Width (in): 13.4
Depth (in): 8.3
Total weight of ice on object: 37 lbs
Weight of object: 60.0 lbs
Combined weight of ice and object: 97 lbs

B5/B12 4449 RRH

Weight of ice based on total radial SF area:
Height (in): 17.9
Width (in): 13.2
Depth (in): 9.4
Total weight of ice on object: 37 lbs
Weight of object: 73.0 lbs
Combined weight of ice and object: 110 lbs

LGP17201 TMA

Weight of ice based on total radial SF area:
Height (in): 14.4
Width (in): 13.9
Depth (in): 3.7
Total weight of ice on object: 27 lbs
Weight of object: 31.0 lbs
Combined weight of ice and object: 58 lbs

Squid Surge Arrestor

Weight of ice based on total radial SF area:
Depth (in): 24.0
Diameter(in): 9.7
Total weight of ice on object: 31 lbs
Weight of object: 33 lbs
Combined weight of ice and object: 64 lbs

2" Pipe

Per foot weight of ice:
diameter (in): 2.38
Per foot weight of ice on object: 5 plf

L 2x2 Angles

Weight of ice based on total radial SF area:
Height (in): 2
Width (in): 2
Per foot weight of ice on object: 6 plf

L 3x3 Angles

Weight of ice based on total radial SF area:
Height (in): 3
Width (in): 3
Per foot weight of ice on object: 8 plf

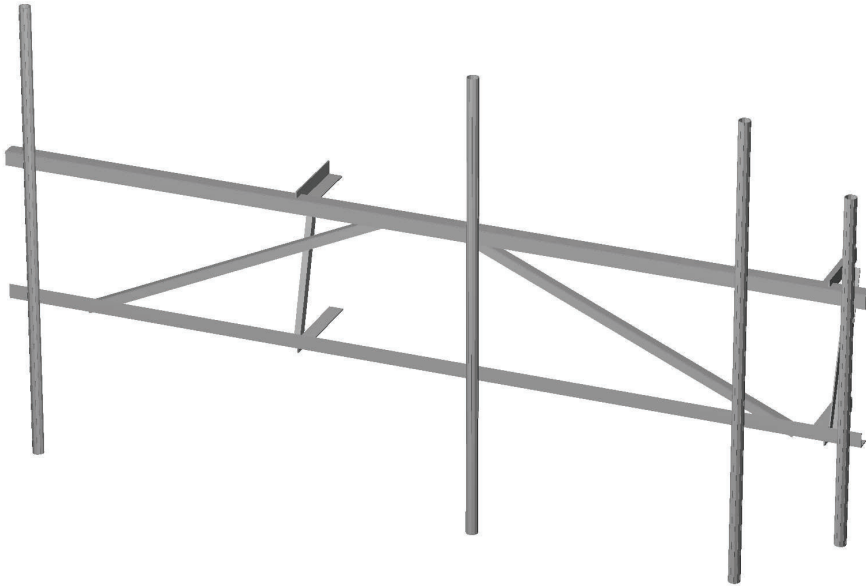
HSS 3x3

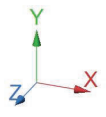
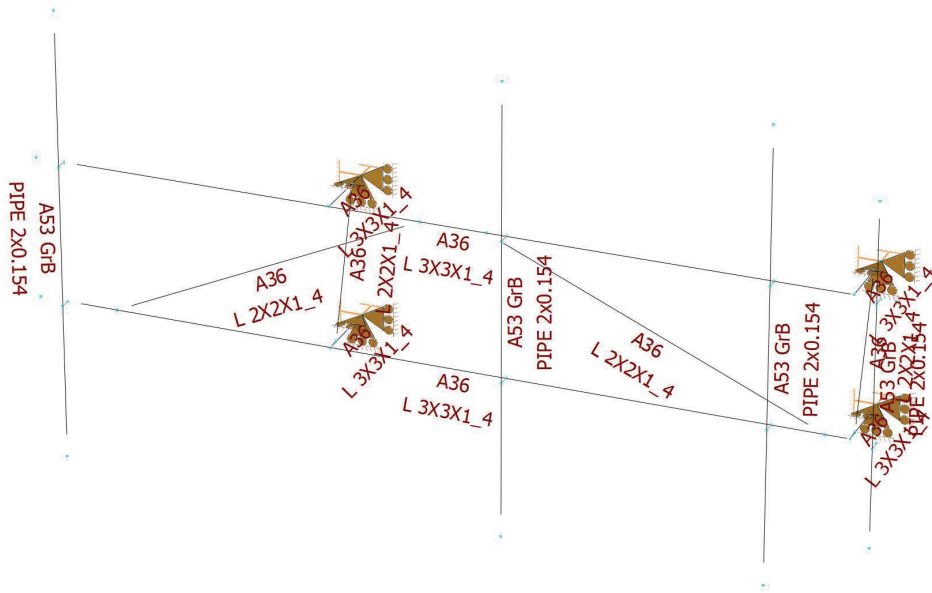
Weight of ice based on total radial SF area:
Height (in): 3
Width (in): 3
Per foot weight of ice on object: 8 plf



HUDSON
Design Group LLC

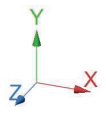
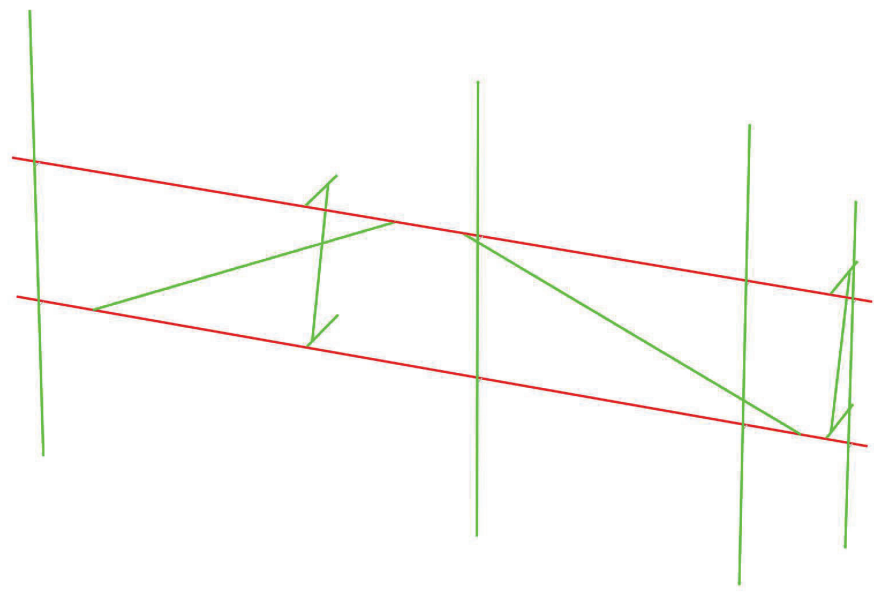
**Mount Calculations
(Existing Conditions)**

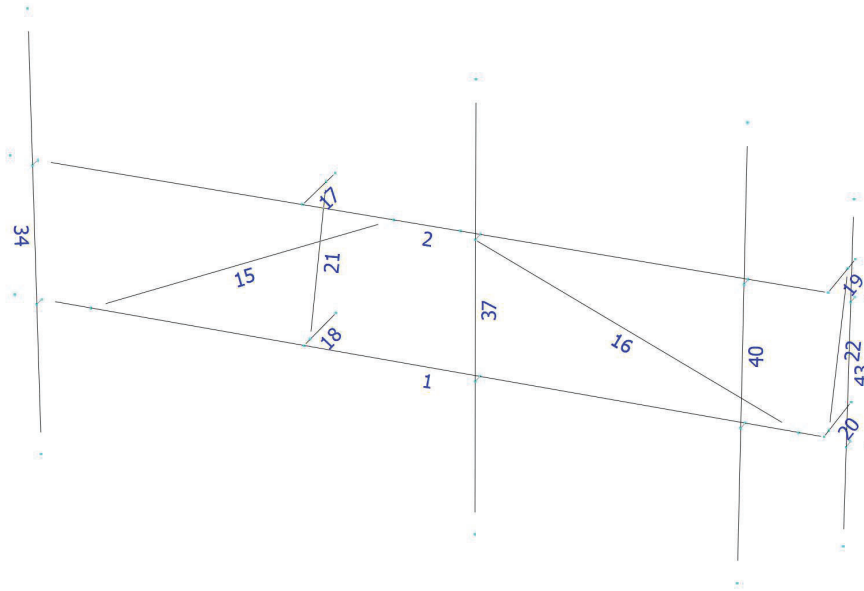




Design status

- Not designed
- Error on design
- Design O.K.
- With warnings





Current Date: 7/30/2021 10:40 AM

Units system: English

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Load data

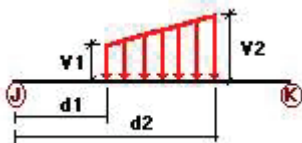
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category
D	Dead Load	No	DL
Wo	Wind Load (NO ICE)	No	WIND
W30	WL 30deg	No	WIND
W60	WL 60deg	No	WIND
W90	WL 90deg	No	WIND
W120	WL 120deg	No	WIND
W150	WL 150deg	No	WIND
Di	Ice Load	No	LL
WI0	WL ICE 0deg	No	WIND
WI30	WL ICE 30deg	No	WIND
WI60	WL ICE 60deg	No	WIND
WI90	WL ICE 90deg	No	WIND
WI120	WL ICE 120deg	No </tbody	

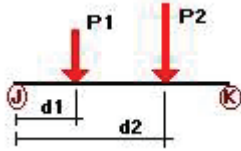
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	1	z	-0.007	-0.007	0.00	No	100.00	Yes
	2	z	-0.007	-0.007	0.00	No	100.00	Yes
	15	z	-0.005	-0.005	0.00	No	100.00	Yes
	16	z	-0.005	-0.005	0.00	No	100.00	Yes
	21	z	-0.005	-0.005	0.00	No	100.00	Yes
W30	22	z	-0.005	-0.005	0.00	No	100.00	Yes
	1	z	-0.007	-0.007	0.00	No	100.00	Yes
	2	z	-0.007	-0.007	0.00	No	100.00	Yes
	15	z	-0.005	-0.005	0.00	No	100.00	Yes
	16	z	-0.005	-0.005	0.00	No	100.00	Yes
W60	21	z	-0.005	-0.005	0.00	No	100.00	Yes
	22	z	-0.005	-0.005	0.00	No	100.00	Yes
	15	x	-0.005	-0.005	0.00	No	100.00	Yes
	16	x	-0.005	-0.005	0.00	No	100.00	Yes
	17	x	-0.007	-0.007	0.00	No	100.00	Yes
	18	x	-0.007	-0.007	0.00	No	100.00	Yes
	19	x	-0.007	-0.007	0.00	No	100.00	Yes
	20	x	-0.007	-0.007	0.00	No	100.00	Yes
	21	x	-0.005	-0.005	0.00	No	100.00	Yes
	22	x	-0.005	-0.005	0.00	No	100.00	Yes
W90	34	x	-0.006	-0.006	0.00	No	100.00	Yes
	37	x	-0.006	-0.006	0.00	No	100.00	Yes
	40	x	-0.006	-0.006	0.00	No	100.00	Yes
	43	x	-0.006	-0.006	0.00	No	100.00	Yes
	15	x	-0.005	-0.005	0.00	No	100.00	Yes
	16	x	-0.005	-0.005	0.00	No	100.00	Yes
	17	x	-0.007	-0.007	0.00	No	100.00	Yes
	18	x	-0.007	-0.007	0.00	No	100.00	Yes
	19	x	-0.007	-0.007	0.00	No	100.00	Yes
	20	x	-0.007	-0.007	0.00	No	100.00	Yes
W120	21	x	-0.005	-0.005	0.00	No	100.00	Yes
	22	x	-0.005	-0.005	0.00	No	100.00	Yes
	34	x	-0.006	-0.006	0.00	No	100.00	Yes
	37	x	-0.006	-0.006	0.00	No	100.00	Yes
	40	x	-0.006	-0.006	0.00	No	100.00	Yes
	43	x	-0.006	-0.006	0.00	No	100.00	Yes
	15	x	-0.005	-0.005	0.00	No	100.00	Yes
	16	x	-0.005	-0.005	0.00	No	100.00	Yes
	17	x	-0.007	-0.007	0.00	No	100.00	Yes
	18	x	-0.007	-0.007	0.00	No	100.00	Yes
W150	19	x	-0.007	-0.007	0.00	No	100.00	Yes
	20	x	-0.007	-0.007	0.00	No	100.00	Yes
	21	x	-0.005	-0.005	0.00	No	100.00	Yes
	22	x	-0.005	-0.005	0.00	No	100.00	Yes
	34	x	-0.006	-0.006	0.00	No	100.00	Yes
	37	x	-0.006	-0.006	0.00	No	100.00	Yes
	40	x	-0.006	-0.006	0.00	No	100.00	Yes
	43	x	-0.006	-0.006	0.00	No	100.00	Yes
	1	z	0.007	0.007	0.00	No	100.00	Yes
	2	z	0.007	0.007	0.00	No	100.00	Yes
Di	15	z	0.005	0.005	0.00	No	100.00	Yes
	16	z	0.005	0.005	0.00	No	100.00	Yes
	21	z	0.005	0.005	0.00	No	100.00	Yes
	22	z	0.005	0.005	0.00	No	100.00	Yes
	34	z	0.006	0.006	0.00	No	100.00	Yes
	37	z	0.006	0.006	0.00	No	100.00	Yes
	40	z	0.006	0.006	0.00	No	100.00	Yes
	43	z	0.006	0.006	0.00	No	100.00	Yes
1	y	-0.008	-0.008	0.00	No	100.00	Yes	
2	y	-0.008	-0.008	0.00	No	100.00	Yes	

15	y	-0.006	-0.006	0.00	No	100.00	Yes
16	y	-0.006	-0.006	0.00	No	100.00	Yes
17	y	-0.008	-0.008	0.00	No	100.00	Yes
18	y	-0.008	-0.008	0.00	No	100.00	Yes
19	y	-0.008	-0.008	0.00	No	100.00	Yes
20	y	-0.008	-0.008	0.00	No	100.00	Yes
21	y	-0.006	-0.006	0.00	No	100.00	Yes
22	y	-0.006	-0.006	0.00	No	100.00	Yes
34	y	-0.005	-0.005	0.00	No	100.00	Yes
37	y	-0.005	-0.005	0.00	No	100.00	Yes
40	y	-0.005	-0.005	0.00	No	100.00	Yes
43	y	-0.005	-0.005	0.00	No	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	34	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.073	2.00	No
	37	y	-0.04	0.50	No
		y	-0.04	7.50	No
		y	-0.06	2.00	No
	40	y	-0.034	0.50	No
		y	-0.034	7.50	No
		y	-0.072	2.00	No
	43	y	-0.018	1.00	No
		y	-0.018	5.00	No
		y	-0.031	3.00	No
Wo	34	z	-0.357	0.50	No
		z	-0.357	7.50	No
	37	z	-0.357	0.50	No
		z	-0.357	7.50	No
	40	z	-0.26	0.50	No
		z	-0.26	7.50	No
W30	34	3	-0.309	0.50	No
		3	-0.309	7.50	No
		3	-0.044	2.00	No
	37	3	-0.309	0.50	No
		3	-0.309	7.50	No
		3	-0.043	2.00	No
40	3	-0.232	0.50	No	
	3	-0.232	7.50	No	
	3	-0.038	2.00	No	
43	3	-0.097	1.00	No	
	3	-0.097	5.00	No	
	3	-0.03	3.00	No	

W60	34	3	-0.211	0.50	No
		3	-0.211	7.50	No
		3	-0.057	2.00	No
	37	3	-0.211	0.50	No
		3	-0.211	7.50	No
		3	-0.053	2.00	No
	40	3	-0.178	0.50	No
		3	-0.178	7.50	No
		3	-0.053	2.00	No
	43	3	-0.072	1.00	No
		3	-0.072	5.00	No
		3	-0.026	3.00	No
W90	34	x	-0.163	0.50	No
		x	-0.163	7.50	No
		x	-0.056	2.00	No
	37	x	-0.163	0.50	No
		x	-0.163	7.50	No
		x	-0.05	2.00	No
	40	x	-0.15	0.50	No
		x	-0.15	7.50	No
		x	-0.054	2.00	No
	43	x	-0.059	1.00	No
		x	-0.059	5.00	No
		x	-0.019	3.00	No
W120	34	2	-0.211	0.50	No
		2	-0.211	7.50	No
		2	-0.057	2.00	No
	37	2	-0.211	0.50	No
		2	-0.211	7.50	No
		2	-0.053	2.00	No
	40	2	-0.178	0.50	No
		2	-0.178	7.50	No
		2	-0.053	2.00	No
	43	2	-0.072	1.00	No
		2	-0.072	5.00	No
		2	-0.026	3.00	No
W150	34	2	-0.309	0.50	No
		2	-0.309	7.50	No
		2	-0.044	2.00	No
	37	2	-0.309	0.50	No
		2	-0.309	7.50	No
		2	-0.043	2.00	No
	40	2	-0.232	0.50	No
		2	-0.232	7.50	No
		2	-0.038	2.00	No
	43	2	-0.097	1.00	No
		2	-0.097	5.00	No
		2	-0.03	3.00	No
Di	34	y	-0.133	0.50	No
		y	-0.133	7.50	No
		y	-0.037	2.00	No
	37	y	-0.133	0.50	No
		y	-0.133	7.50	No
		y	-0.037	2.00	No
	40	y	-0.098	0.50	No
		y	-0.098	7.50	No
		y	-0.032	2.00	No
	43	y	-0.044	1.00	No
		y	-0.044	5.00	No
		y	-0.027	3.00	No

		y	-0.027	3.00	No
WI0	34	z	-0.06	0.50	No
		z	-0.06	7.50	No
	37	z	-0.06	0.50	No
		z	-0.06	7.50	No
	40	z	-0.046	0.50	No
		z	-0.046	7.50	No
	43	z	-0.021	1.00	No
		z	-0.021	5.00	No
WI30	34	3	-0.052	0.50	No
		3	-0.052	7.50	No
		3	-0.009	2.00	No
	37	3	-0.052	0.50	No
		3	-0.052	7.50	No
		3	-0.009	2.00	No
	40	3	-0.041	0.50	No
		3	-0.041	7.50	No
		3	-0.008	2.00	No
	43	3	-0.018	1.00	No
		3	-0.018	5.00	No
		3	-0.006	3.00	No
WI60	34	3	-0.038	0.50	No
		3	-0.038	7.50	No
		3	-0.012	2.00	No
	37	3	-0.038	0.50	No
		3	-0.038	7.50	No
		3	-0.011	2.00	No
	40	3	-0.033	0.50	No
		3	-0.033	7.50	No
		3	-0.011	2.00	No
	43	3	-0.015	1.00	No
		3	-0.015	5.00	No
		3	-0.006	3.00	No
WI90	34	x	-0.03	0.50	No
		x	-0.03	7.50	No
		x	-0.012	2.00	No
	37	x	-0.03	0.50	No
		x	-0.03	7.50	No
		x	-0.011	2.00	No
	40	x	-0.028	0.50	No
		x	-0.028	7.50	No
		x	-0.011	2.00	No
	43	x	-0.013	1.00	No
		x	-0.013	5.00	No
		x	-0.005	3.00	No
WI120	34	2	-0.038	0.50	No
		2	-0.038	7.50	No
		2	-0.012	2.00	No
	37	2	-0.038	0.50	No
		2	-0.038	7.50	No
		2	-0.011	2.00	No
	40	2	-0.033	0.50	No
		2	-0.033	7.50	No
		2	-0.011	2.00	No
	43	2	-0.015	1.00	No
		2	-0.015	5.00	No
		2	-0.006	3.00	No
WI150	34	2	-0.052	0.50	No
		2	-0.052	7.50	No
		2	-0.009	2.00	No

	37	2	-0.052	0.50	No
		2	-0.052	7.50	No
		2	-0.009	2.00	No
	40	2	-0.041	0.50	No
		2	-0.041	7.50	No
		2	-0.008	2.00	No
	43	2	-0.018	1.00	No
		2	-0.018	5.00	No
		2	-0.006	3.00	No
WL0	34	z	-0.019	0.50	No
		z	-0.019	7.50	No
	37	z	-0.019	0.50	No
		z	-0.019	7.50	No
	40	z	-0.014	0.50	No
		z	-0.014	7.50	No
	43	z	-0.006	1.00	No
		z	-0.006	5.00	No
WL30	34	3	-0.017	0.50	No
		3	-0.017	7.50	No
		3	-0.002	2.00	No
	37	3	-0.017	0.50	No
		3	-0.017	7.50	No
		3	-0.002	2.00	No
	40	3	-0.013	0.50	No
		3	-0.013	7.50	No
		3	-0.002	2.00	No
	43	3	-0.013	1.00	No
		3	-0.013	5.00	No
		3	-0.002	3.00	No
WL60	34	3	-0.011	0.50	No
		3	-0.011	7.50	No
		3	-0.003	2.00	No
	37	3	-0.011	0.50	No
		3	-0.011	7.50	No
		3	-0.003	2.00	No
	40	3	-0.01	0.50	No
		3	-0.01	7.50	No
		3	-0.003	2.00	No
	43	3	-0.004	1.00	No
		3	-0.004	5.00	No
		3	-0.001	3.00	No
WL90	34	x	-0.009	0.50	No
		x	-0.009	7.50	No
		x	-0.003	2.00	No
	37	x	-0.009	0.50	No
		x	-0.009	7.50	No
		x	-0.003	2.00	No
	40	x	-0.008	0.50	No
		x	-0.008	7.50	No
		x	-0.003	2.00	No
	43	x	-0.003	1.00	No
		x	-0.003	5.00	No
		x	-0.001	3.00	No
WL120	34	2	-0.011	0.50	No
		2	-0.011	7.50	No
		2	-0.003	2.00	No
	37	2	-0.011	0.50	No
		2	-0.011	7.50	No
		2	-0.003	2.00	No
	40	2	-0.01	0.50	No

		2	-0.01	7.50	No
		2	-0.003	2.00	No
	43	2	-0.004	1.00	No
		2	-0.004	5.00	No
		2	-0.001	3.00	No
WL150	34	2	-0.017	0.50	No
		2	-0.017	7.50	No
		2	-0.002	2.00	No
	37	2	-0.017	0.50	No
		2	-0.017	7.50	No
		2	-0.002	2.00	No
	40	2	-0.013	0.50	No
		2	-0.013	7.50	No
		2	-0.002	2.00	No
	43	2	-0.013	1.00	No
		2	-0.013	5.00	No
		2	-0.002	3.00	No
LL1	1	y	-0.25	50.00	Yes
LL2	1	y	-0.25	100.00	Yes
LL3	1	y	-0.25	0.00	Yes
LLa1	43	y	-0.50	50.00	Yes
LLa2	40	y	-0.50	50.00	Yes
LLa3	37	y	-0.50	50.00	Yes
LLa4	34	y	-0.50	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
D	Dead Load	No	0.00	-1.00	0.00
Wo	Wind Load (NO ICE)	No	0.00	0.00	0.00
W30	WL 30deg	No	0.00	0.00	0.00
W60	WL 60deg	No	0.00	0.00	0.00
W90	WL 90deg	No	0.00	0.00	0.00
W120	WL 120deg	No	0.00	0.00	0.00
W150	WL 150deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00
WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00
WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00
WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load Right End of Mount	No	0.00	0.00	0.00
LL3	250 lb Live Load Left End of Mount	No	0.00	0.00	0.00
LLa1	500 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load Antenna 3	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
D	0.00	0.00	0.00
Wo	0.00	0.00	0.00
W30	0.00	0.00	0.00
W60	0.00	0.00	0.00
W90	0.00	0.00	0.00
W120	0.00	0.00	0.00
W150	0.00	0.00	0.00
Di	0.00	0.00	0.00
WI0	0.00	0.00	0.00
WI30	0.00	0.00	0.00
WI60	0.00	0.00	0.00
WI90	0.00	0.00	0.00
WI120	0.00	0.00	0.00
WI150	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
WL60	0.00	0.00	0.00
WL90	0.00	0.00	0.00
WL120	0.00	0.00	0.00
WL150	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LL3	0.00	0.00	0.00
LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00



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Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2D+Wo
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-Wo
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+Wo
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-Wo
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+W10
LC26=1.2D+Di+W130
LC27=1.2D+Di+W160
LC28=1.2D+Di+W190
LC29=1.2D+Di+W120
LC30=1.2D+Di+W150
LC31=1.2D+Di-W10
LC32=1.2D+Di-W130
LC33=1.2D+Di-W160
LC34=1.2D+Di-W190
LC35=1.2D+Di-W120
LC36=1.2D+Di-W150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+W10+1.6LLa1
LC41=1.2D+W130+1.6LLa1
LC42=1.2D+W160+1.6LLa1
LC43=1.2D+W190+1.6LLa1
LC44=1.2D+W120+1.6LLa1
LC45=1.2D+W150+1.6LLa1
LC46=1.2D-W10+1.6LLa1
LC47=1.2D-W130+1.6LLa1
LC48=1.2D-W160+1.6LLa1
LC49=1.2D-W190+1.6LLa1
LC50=1.2D-W120+1.6LLa1
LC51=1.2D-W150+1.6LLa1
LC52=1.2D+W10+1.6LLa2

LC53=1.2D+WL30+1.6LLa2
 LC54=1.2D+WL60+1.6LLa2
 LC55=1.2D+WL90+1.6LLa2
 LC56=1.2D+WL120+1.6LLa2
 LC57=1.2D+WL150+1.6LLa2
 LC58=1.2D-WL0+1.6LLa2
 LC59=1.2D-WL30+1.6LLa2
 LC60=1.2D-WL60+1.6LLa2
 LC61=1.2D-WL90+1.6LLa2
 LC62=1.2D-WL120+1.6LLa2
 LC63=1.2D-WL150+1.6LLa2
 LC64=1.2D+WL0+1.6LLa3
 LC65=1.2D+WL30+1.6LLa3
 LC66=1.2D+WL60+1.6LLa3
 LC67=1.2D+WL90+1.6LLa3
 LC68=1.2D+WL120+1.6LLa3
 LC69=1.2D+WL150+1.6LLa3
 LC70=1.2D-WL0+1.6LLa3
 LC71=1.2D-WL30+1.6LLa3
 LC72=1.2D-WL60+1.6LLa3
 LC73=1.2D-WL90+1.6LLa3
 LC74=1.2D-WL120+1.6LLa3
 LC75=1.2D-WL150+1.6LLa3
 LC76=1.2D+WL0+1.6LLa4
 LC77=1.2D+WL30+1.6LLa4
 LC78=1.2D+WL60+1.6LLa4
 LC79=1.2D+WL90+1.6LLa4
 LC80=1.2D+WL120+1.6LLa4
 LC81=1.2D+WL150+1.6LLa4
 LC82=1.2D-WL0+1.6LLa4
 LC83=1.2D-WL30+1.6LLa4
 LC84=1.2D-WL60+1.6LLa4
 LC85=1.2D-WL90+1.6LLa4
 LC86=1.2D-WL120+1.6LLa4
 LC87=1.2D-WL150+1.6LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	<i>L 2X2X1_4</i>	15	LC82 at 50.00%	0.06	OK	
		16	LC31 at 50.00%	0.08	OK	
		21	LC1 at 50.00%	0.02	OK	
		22	LC45 at 56.25%	0.02	OK	
	<i>L 3X3X1_4</i>	1	LC7 at 34.72%	1.10	N.G.	
		2	LC7 at 34.72%	1.07	N.G.	
		17	LC82 at 0.00%	0.91	OK	
		18	LC12 at 100.00%	0.45	OK	
		19	LC51 at 0.00%	0.42	OK	
		20	LC8 at 100.00%	0.41	OK	
	<i>PIPE 2x0.154</i>	34	LC1 at 64.58%	0.66	OK	
		37	LC1 at 64.58%	0.66	OK	
		40	LC1 at 64.58%	0.48	OK	
		43	LC53 at 29.17%	0.16	OK	



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Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	-7.375	0.00	0.00	0
2	7.375	0.00	0.00	0
3	-7.375	2.50	0.00	0
4	7.375	2.50	0.00	0
11	-5.99	0.00	0.00	0
30	6.6875	2.50	0.00	0
31	-0.61	2.50	0.00	0
32	0.535	2.50	0.00	0
33	6.275	0.00	0.00	0
34	-2.1875	2.50	0.00	0
35	-2.1875	0.00	0.00	0
36	-2.1875	2.50	-1.333	0
37	-2.1875	0.00	-1.333	0
38	6.6875	0.00	0.00	0
39	6.6875	2.50	-1.333	0
40	6.6875	0.00	-1.333	0
41	-2.1875	0.00	-0.25	0
42	-2.1875	2.50	-0.9665	0
43	6.6875	0.00	-0.25	0
44	6.6875	2.50	-0.9665	0
64	-6.875	0.00	0.00	0

65	-6.875	2.50	0.00	0
66	-6.875	0.00	0.20	0
67	-6.875	2.50	0.20	0
68	-6.875	5.25	0.20	0
69	-6.875	-2.75	0.20	0
71	0.875	0.00	0.00	0
72	0.875	2.50	0.00	0
73	0.875	0.00	0.20	0
74	0.875	2.50	0.20	0
75	0.875	5.25	0.20	0
76	0.875	-2.75	0.20	0
77	5.375	0.00	0.00	0
78	5.375	2.50	0.00	0
79	5.375	0.00	0.20	0
80	5.375	2.50	0.20	0
81	5.375	5.25	0.20	0
82	5.375	-2.75	0.20	0
83	7.125	0.00	0.00	0
84	7.125	2.50	0.00	0
85	7.125	0.00	0.20	0
86	7.125	2.50	0.20	0
87	7.125	4.25	0.20	0
88	7.125	-1.75	0.20	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
36	1	1	1	1	0	1
37	1	1	1	1	0	1
39	1	1	1	1	0	1
40	1	1	1	1	0	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
1	1	2		L 3X3X1_4	A36	0.00	0.00	0.00
2	3	4		L 3X3X1_4	A36	0.00	0.00	0.00
15	11	31		L 2X2X1_4	A36	0.00	0.00	0.00
16	33	32		L 2X2X1_4	A36	0.00	0.00	0.00
17	36	34		L 3X3X1_4	A36	0.00	0.00	0.00
18	37	35		L 3X3X1_4	A36	0.00	0.00	0.00
19	39	30		L 3X3X1_4	A36	0.00	0.00	0.00
20	40	38		L 3X3X1_4	A36	0.00	0.00	0.00
21	41	42		L 2X2X1_4	A36	0.00	0.00	0.00
22	43	44		L 2X2X1_4	A36	0.00	0.00	0.00
34	68	69		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
37	75	76		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
40	81	82		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
43	87	88		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
1	270.00	0	0.00	0.00	0.00
2	180.00	0	0.00	0.00	0.00
15	180.00	0	0.00	0.00	0.00
16	90.00	0	0.00	0.00	0.00
17	270.00	0	0.00	0.00	0.00
18	180.00	0	0.00	0.00	0.00
20	90.00	0	0.00	0.00	0.00
21	270.00	0	0.00	0.00	0.00
34	315.00	0	0.00	0.00	0.00
37	315.00	0	0.00	0.00	0.00
40	315.00	0	0.00	0.00	0.00
43	315.00	0	0.00	0.00	0.00

Rigid end offsets

Member	DJX [in]	DJY [in]	DJZ [in]	DKX [in]	DKY [in]	DKZ [in]
21	-1.50	0.00	0.00	-1.50	0.00	0.00
22	1.50	0.00	0.00	1.50	0.00	0.00

Hinges

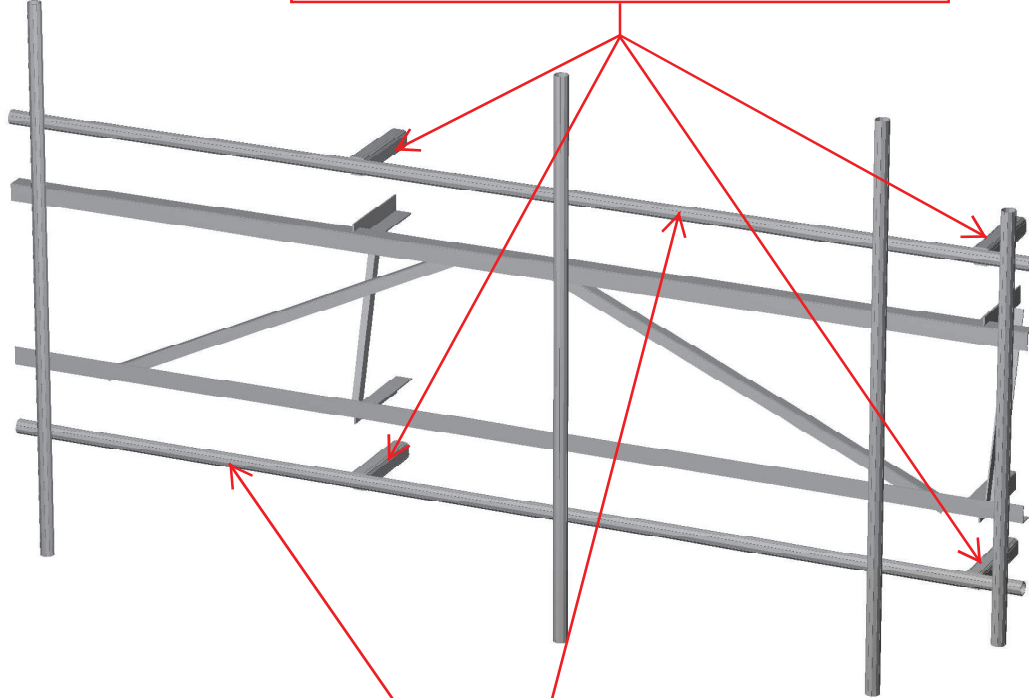
Member	Node-J				Node-K				TOR	AXL	Axial rigidity
	M33	M22	V3	V2	M33	M22	V3	V2			
15	1	1	0	0	1	1	0	0	0	0	Full
16	1	1	0	0	1	1	0	0	0	0	Full
21	1	1	0	0	1	1	0	0	0	0	Full
22	1	1	0	0	1	1	0	0	0	0	Full



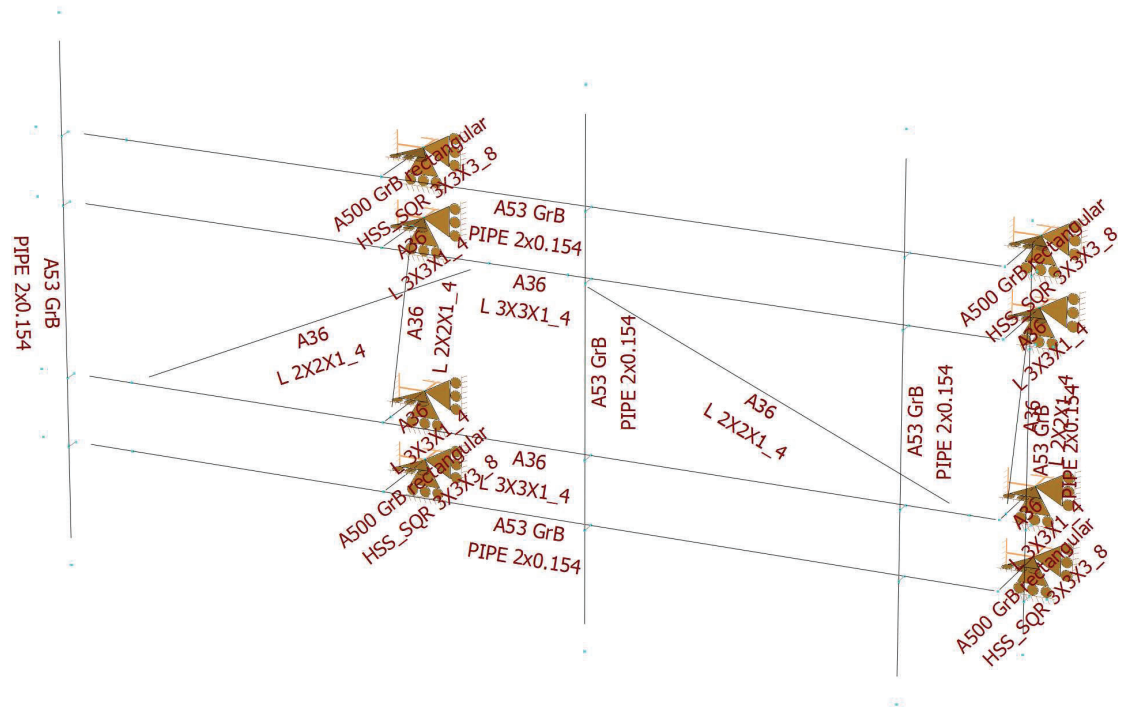
HUDSON
Design Group LLC

**Mount Calculations
(Modified Conditions)**

Proposed 3x3x3/8 HSS standoffs secured to proposed horizontal pipe and adjacent tower leg (typ. of 4 per sector, total of 12).

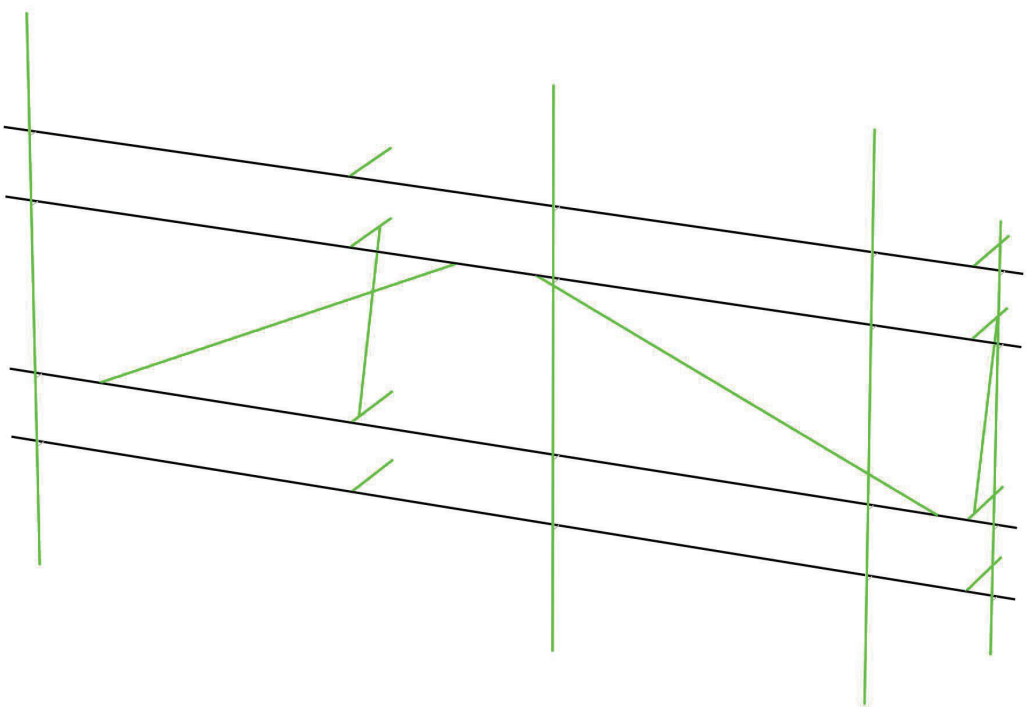


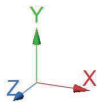
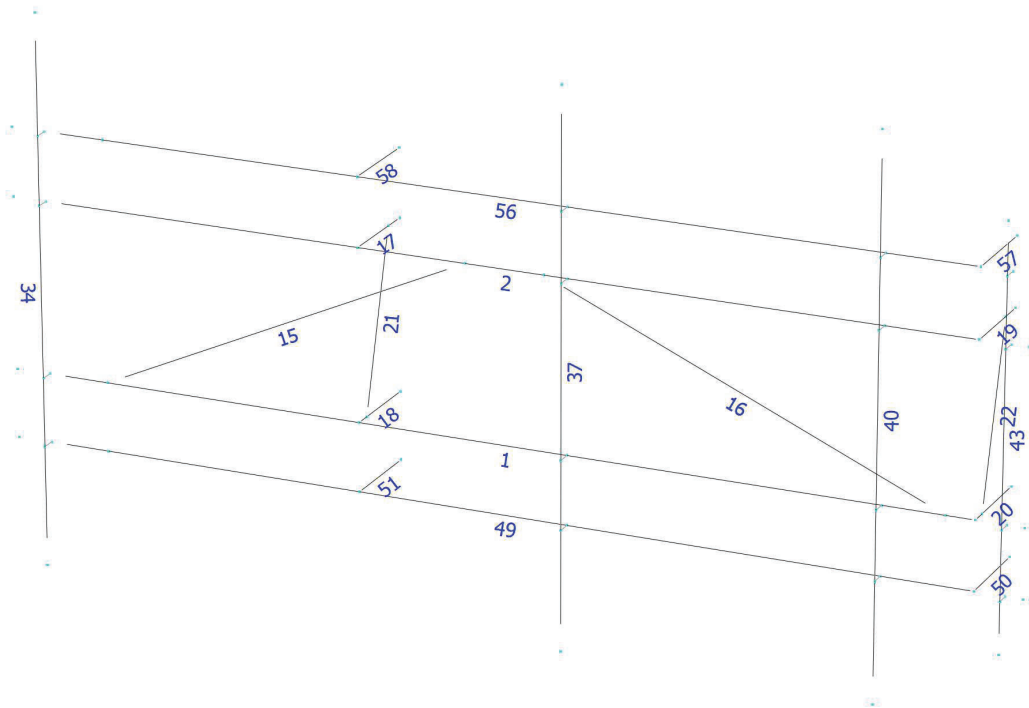
Proposed 2" std. (2.38" O.D.) horizontal pipe secured to antenna masts and proposed HSS standoffs (typ. of 2 per sector, total of 6).



Design status

- Not designed
- Error on design
- Design O.K.
- With warnings





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Load data

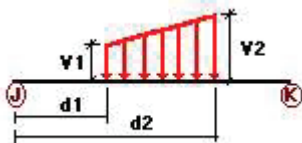
GLOSSARY

Comb : Indicates if load condition is a load combination

Load Conditions

Condition	Description	Comb.	Category																																																							
D	Dead Load	No	DL																																																							
Wo	Wind Load (NO ICE)	No	WIND																																																							
W30	WL 30deg	No	WIND																																																							
W60	WL 60deg	No	WIND																																																							
W90	WL 90deg	No	WIND																																																							
W120	WL 120deg	No	WIND																																																							
W150	WL 150deg	No	WIND																																																							
Di	Ice Load	No	LL																																																							
WI0	WL ICE 0deg	No	WIND																																																							
WI30	WL ICE 30deg	No	WIND																																																							
WI60	WL ICE 60deg	No	WIND																																																							
WI90	WL ICE 90deg	No	WIND																																																							
WI120	WL ICE 120deg	No </tr <tr> <td>WI150</td> <td>WL ICE 150deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>WL0</td> <td>WL 30 mph 0deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>WL30</td> <td>WL 30 mph 30deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>WL60</td> <td>WL 30 mph 60deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>WL90</td> <td>WL 30 mph 90deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>WL120</td> <td>WL 30 mph 120deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>WL150</td> <td>WL 30 mph 150deg</td> <td>No</td> <td>WIND</td> </tr> <tr> <td>LL1</td> <td>250 lb Live Load Center of Mount</td> <td>No</td> <td>LL</td> </tr> <tr> <td>LL2</td> <td>250 lb Live Load Right End of Mount</td> <td>No</td> <td>LL</td> </tr> <tr> <td>LL3</td> <td>250 lb Live Load Left End of Mount</td> <td>No</td> <td>LL</td> </tr> <tr> <td>LLa1</td> <td>500 lb Live Load Antenna 1</td> <td>No</td> <td>LL</td> </tr> <tr> <td>LLa2</td> <td>500 lb Live Load Antenna 2</td> <td>No</td> <td>LL</td> </tr> <tr> <td>LLa3</td> <td>500 lb Live Load Antenna 3</td> <td>No</td> <td>LL</td> </tr> <tr> <td>LLa4</td> <td>500 lb Live Load Antenna 4</td> <td>No</td> <td>LL</td> </tr>	WI150	WL ICE 150deg	No	WIND	WL0	WL 30 mph 0deg	No	WIND	WL30	WL 30 mph 30deg	No	WIND	WL60	WL 30 mph 60deg	No	WIND	WL90	WL 30 mph 90deg	No	WIND	WL120	WL 30 mph 120deg	No	WIND	WL150	WL 30 mph 150deg	No	WIND	LL1	250 lb Live Load Center of Mount	No	LL	LL2	250 lb Live Load Right End of Mount	No	LL	LL3	250 lb Live Load Left End of Mount	No	LL	LLa1	500 lb Live Load Antenna 1	No	LL	LLa2	500 lb Live Load Antenna 2	No	LL	LLa3	500 lb Live Load Antenna 3	No	LL	LLa4	500 lb Live Load Antenna 4	No	LL
WI150	WL ICE 150deg	No	WIND																																																							
WL0	WL 30 mph 0deg	No	WIND																																																							
WL30	WL 30 mph 30deg	No	WIND																																																							
WL60	WL 30 mph 60deg	No	WIND																																																							
WL90	WL 30 mph 90deg	No	WIND																																																							
WL120	WL 30 mph 120deg	No	WIND																																																							
WL150	WL 30 mph 150deg	No	WIND																																																							
LL1	250 lb Live Load Center of Mount	No	LL																																																							
LL2	250 lb Live Load Right End of Mount	No	LL																																																							
LL3	250 lb Live Load Left End of Mount	No	LL																																																							
LLa1	500 lb Live Load Antenna 1	No	LL																																																							
LLa2	500 lb Live Load Antenna 2	No	LL																																																							
LLa3	500 lb Live Load Antenna 3	No	LL																																																							
LLa4	500 lb Live Load Antenna 4	No	LL																																																							

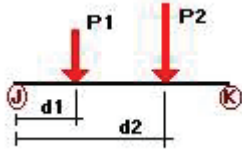
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	1	z	-0.007	-0.007	0.00	No	100.00	Yes
	2	z	-0.007	-0.007	0.00	No	100.00	Yes
	15	z	-0.005	-0.005	0.00	No	100.00	Yes
	16	z	-0.005	-0.005	0.00	No	100.00	Yes
	21	z	-0.005	-0.005	0.00	No	100.00	Yes
	22	z	-0.005	-0.005	0.00	No	100.00	Yes
	49	z	-0.006	-0.006	0.00	No	100.00	Yes
W30	56	z	-0.006	-0.006	0.00	No	100.00	Yes
	1	z	-0.007	-0.007	0.00	No	100.00	Yes
	2	z	-0.007	-0.007	0.00	No	100.00	Yes
	15	z	-0.005	-0.005	0.00	No	100.00	Yes
	16	z	-0.005	-0.005	0.00	No	100.00	Yes
	21	z	-0.005	-0.005	0.00	No	100.00	Yes
	22	z	-0.005	-0.005	0.00	No	100.00	Yes
W60	49	z	-0.006	-0.006	0.00	No	100.00	Yes
	56	z	-0.006	-0.006	0.00	No	100.00	Yes
	15	x	-0.005	-0.005	0.00	No	100.00	Yes
	16	x	-0.005	-0.005	0.00	No	100.00	Yes
	17	x	-0.007	-0.007	0.00	No	100.00	Yes
	18	x	-0.007	-0.007	0.00	No	100.00	Yes
	19	x	-0.007	-0.007	0.00	No	100.00	Yes
	20	x	-0.007	-0.007	0.00	No	100.00	Yes
	21	x	-0.005	-0.005	0.00	No	100.00	Yes
	22	x	-0.005	-0.005	0.00	No	100.00	Yes
	34	x	-0.006	-0.006	0.00	No	100.00	Yes
	37	x	-0.006	-0.006	0.00	No	100.00	Yes
	40	x	-0.006	-0.006	0.00	No	100.00	Yes
	43	x	-0.006	-0.006	0.00	No	100.00	Yes
W90	50	x	-0.007	-0.007	0.00	No	100.00	Yes
	51	x	-0.007	-0.007	0.00	No	100.00	Yes
	57	x	-0.007	-0.007	0.00	No	100.00	Yes
	58	x	-0.007	-0.007	0.00	No	100.00	Yes
	15	x	-0.005	-0.005	0.00	No	100.00	Yes
	16	x	-0.005	-0.005	0.00	No	100.00	Yes
	17	x	-0.007	-0.007	0.00	No	100.00	Yes
	18	x	-0.007	-0.007	0.00	No	100.00	Yes
	19	x	-0.007	-0.007	0.00	No	100.00	Yes
	20	x	-0.007	-0.007	0.00	No	100.00	Yes
	21	x	-0.005	-0.005	0.00	No	100.00	Yes
	22	x	-0.005	-0.005	0.00	No	100.00	Yes
	34	x	-0.006	-0.006	0.00	No	100.00	Yes
	37	x	-0.006	-0.006	0.00	No	100.00	Yes
W120	40	x	-0.006	-0.006	0.00	No	100.00	Yes
	43	x	-0.006	-0.006	0.00	No	100.00	Yes
	50	x	-0.007	-0.007	0.00	No	100.00	Yes
	51	x	-0.007	-0.007	0.00	No	100.00	Yes
	57	x	-0.007	-0.007	0.00	No	100.00	Yes
	58	x	-0.007	-0.007	0.00	No	100.00	Yes
	15	x	-0.005	-0.005	0.00	No	100.00	Yes
	16	x	-0.005	-0.005	0.00	No	100.00	Yes
	17	x	-0.007	-0.007	0.00	No	100.00	Yes
	18	x	-0.007	-0.007	0.00	No	100.00	Yes
	19	x	-0.007	-0.007	0.00	No	100.00	Yes
	20	x	-0.007	-0.007	0.00	No	100.00	Yes
	21	x	-0.005	-0.005	0.00	No	100.00	Yes
	22	x	-0.005	-0.005	0.00	No	100.00	Yes
34	x	-0.006	-0.006	0.00	No	100.00	Yes	
37	x	-0.006	-0.006	0.00	No	100.00	Yes	
40	x	-0.006	-0.006	0.00	No	100.00	Yes	
43	x	-0.006	-0.006	0.00	No	100.00	Yes	

	50	x	-0.007	-0.007	0.00	No	100.00	Yes
	51	x	-0.007	-0.007	0.00	No	100.00	Yes
	57	x	-0.007	-0.007	0.00	No	100.00	Yes
	58	x	-0.007	-0.007	0.00	No	100.00	Yes
W150	1	z	0.007	0.007	0.00	No	100.00	Yes
	2	z	0.007	0.007	0.00	No	100.00	Yes
	15	z	0.005	0.005	0.00	No	100.00	Yes
	16	z	0.005	0.005	0.00	No	100.00	Yes
	21	z	0.005	0.005	0.00	No	100.00	Yes
	22	z	0.005	0.005	0.00	No	100.00	Yes
	34	z	0.006	0.006	0.00	No	100.00	Yes
	37	z	0.006	0.006	0.00	No	100.00	Yes
	40	z	0.006	0.006	0.00	No	100.00	Yes
	43	z	0.006	0.006	0.00	No	100.00	Yes
	49	z	0.006	0.006	0.00	No	100.00	Yes
Di	56	z	0.006	0.006	0.00	No	100.00	Yes
	1	y	-0.008	-0.008	0.00	No	100.00	Yes
	2	y	-0.008	-0.008	0.00	No	100.00	Yes
	15	y	-0.006	-0.006	0.00	No	100.00	Yes
	16	y	-0.006	-0.006	0.00	No	100.00	Yes
	17	y	-0.008	-0.008	0.00	No	100.00	Yes
	18	y	-0.008	-0.008	0.00	No	100.00	Yes
	19	y	-0.008	-0.008	0.00	No	100.00	Yes
	20	y	-0.008	-0.008	0.00	No	100.00	Yes
	21	y	-0.006	-0.006	0.00	No	100.00	Yes
	22	y	-0.006	-0.006	0.00	No	100.00	Yes
	34	y	-0.005	-0.005	0.00	No	100.00	Yes
	37	y	-0.005	-0.005	0.00	No	100.00	Yes
	40	y	-0.005	-0.005	0.00	No	100.00	Yes
	43	y	-0.005	-0.005	0.00	No	100.00	Yes
	49	y	-0.005	-0.005	0.00	No	100.00	Yes
	50	y	-0.008	-0.008	0.00	No	100.00	Yes
	51	y	-0.008	-0.008	0.00	No	100.00	Yes
	56	y	-0.005	-0.005	0.00	No	100.00	Yes
	57	y	-0.008	-0.008	0.00	No	100.00	Yes
	58	y	-0.008	-0.008	0.00	No	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	34	y	-0.048	0.50	No
		y	-0.048	7.50	No
		y	-0.073	2.00	No
	37	y	-0.04	0.50	No
		y	-0.04	7.50	No
		y	-0.06	2.00	No
	40	y	-0.034	0.50	No
		y	-0.034	7.50	No
		y	-0.072	2.00	No

	43	y	-0.018	1.00	No
		y	-0.018	5.00	No
		y	-0.031	3.00	No
Wo	34	y	-0.031	3.00	No
		z	-0.357	0.50	No
		z	-0.357	7.50	No
	37	z	-0.357	0.50	No
		z	-0.357	7.50	No
	40	z	-0.26	0.50	No
		z	-0.26	7.50	No
	43	z	-0.11	1.00	No
		z	-0.11	5.00	No
W30	34	3	-0.309	0.50	No
		3	-0.309	7.50	No
		3	-0.044	2.00	No
	37	3	-0.309	0.50	No
		3	-0.309	7.50	No
		3	-0.043	2.00	No
	40	3	-0.232	0.50	No
		3	-0.232	7.50	No
		3	-0.038	2.00	No
	43	3	-0.097	1.00	No
		3	-0.097	5.00	No
		3	-0.03	3.00	No
W60	34	3	-0.211	0.50	No
		3	-0.211	7.50	No
		3	-0.057	2.00	No
	37	3	-0.211	0.50	No
		3	-0.211	7.50	No
		3	-0.053	2.00	No
	40	3	-0.178	0.50	No
		3	-0.178	7.50	No
		3	-0.053	2.00	No
	43	3	-0.072	1.00	No
		3	-0.072	5.00	No
		3	-0.026	3.00	No
W90	34	x	-0.163	0.50	No
		x	-0.163	7.50	No
		x	-0.056	2.00	No
	37	x	-0.163	0.50	No
		x	-0.163	7.50	No
		x	-0.05	2.00	No
	40	x	-0.15	0.50	No
		x	-0.15	7.50	No
		x	-0.054	2.00	No
	43	x	-0.059	1.00	No
		x	-0.059	5.00	No
		x	-0.019	3.00	No
W120	34	2	-0.211	0.50	No
		2	-0.211	7.50	No
		2	-0.057	2.00	No
	37	2	-0.211	0.50	No
		2	-0.211	7.50	No
		2	-0.053	2.00	No
	40	2	-0.178	0.50	No
		2	-0.178	7.50	No
		2	-0.053	2.00	No
	43	2	-0.072	1.00	No
		2	-0.072	5.00	No
		2	-0.026	3.00	No

W150	34	2	-0.309	0.50	No		
		2	-0.309	7.50	No		
		2	-0.044	2.00	No		
	37	2	-0.309	0.50	No		
		2	-0.309	7.50	No		
		2	-0.043	2.00	No		
	40	2	-0.232	0.50	No		
		2	-0.232	7.50	No		
		2	-0.038	2.00	No		
	43	2	-0.097	1.00	No		
		2	-0.097	5.00	No		
		2	-0.03	3.00	No		
Di	34	y	-0.133	0.50	No		
		y	-0.133	7.50	No		
		y	-0.037	2.00	No		
	37	y	-0.133	0.50	No		
		y	-0.133	7.50	No		
		y	-0.037	2.00	No		
	40	y	-0.098	0.50	No		
		y	-0.098	7.50	No		
		y	-0.032	2.00	No		
	43	y	-0.044	1.00	No		
		y	-0.044	5.00	No		
		y	-0.027	3.00	No		
W10	34	z	-0.06	0.50	No		
		z	-0.06	7.50	No		
		z	-0.06	0.50	No		
	37	z	-0.06	7.50	No		
		z	-0.06	0.50	No		
		z	-0.046	7.50	No		
	40	z	-0.046	0.50	No		
		z	-0.046	7.50	No		
		z	-0.021	1.00	No		
	43	z	-0.021	5.00	No		
		W130	34	3	-0.052	0.50	No
				3	-0.052	7.50	No
3	-0.009			2.00	No		
37	3		-0.052	0.50	No		
	3		-0.052	7.50	No		
	3		-0.009	2.00	No		
40	3	-0.041	0.50	No			
	3	-0.041	7.50	No			
	3	-0.008	2.00	No			
43	3	-0.018	1.00	No			
	3	-0.018	5.00	No			
	3	-0.006	3.00	No			
W160	34	3	-0.038	0.50	No		
		3	-0.038	7.50	No		
		3	-0.012	2.00	No		
	37	3	-0.038	0.50	No		
		3	-0.038	7.50	No		
		3	-0.011	2.00	No		
	40	3	-0.033	0.50	No		
		3	-0.033	7.50	No		
		3	-0.011	2.00	No		
	43	3	-0.015	1.00	No		
		3	-0.015	5.00	No		
		3	-0.006	3.00	No		
W190	34	x	-0.03	0.50	No		
		x	-0.03	7.50	No		
		x	-0.012	2.00	No		

	37	x	-0.03	0.50	No
		x	-0.03	7.50	No
		x	-0.011	2.00	No
	40	x	-0.028	0.50	No
		x	-0.028	7.50	No
		x	-0.011	2.00	No
	43	x	-0.013	1.00	No
		x	-0.013	5.00	No
		x	-0.005	3.00	No
WI120	34	2	-0.038	0.50	No
		2	-0.038	7.50	No
		2	-0.012	2.00	No
	37	2	-0.038	0.50	No
		2	-0.038	7.50	No
		2	-0.011	2.00	No
	40	2	-0.033	0.50	No
		2	-0.033	7.50	No
		2	-0.011	2.00	No
	43	2	-0.015	1.00	No
		2	-0.015	5.00	No
		2	-0.006	3.00	No
WI150	34	2	-0.052	0.50	No
		2	-0.052	7.50	No
		2	-0.009	2.00	No
	37	2	-0.052	0.50	No
		2	-0.052	7.50	No
		2	-0.009	2.00	No
	40	2	-0.041	0.50	No
		2	-0.041	7.50	No
		2	-0.008	2.00	No
	43	2	-0.018	1.00	No
		2	-0.018	5.00	No
		2	-0.006	3.00	No
WLO	34	z	-0.019	0.50	No
		z	-0.019	7.50	No
	37	z	-0.019	0.50	No
		z	-0.019	7.50	No
	40	z	-0.014	0.50	No
		z	-0.014	7.50	No
	43	z	-0.006	1.00	No
		z	-0.006	5.00	No
WL30	34	3	-0.017	0.50	No
		3	-0.017	7.50	No
		3	-0.002	2.00	No
	37	3	-0.017	0.50	No
		3	-0.017	7.50	No
		3	-0.002	2.00	No
	40	3	-0.013	0.50	No
		3	-0.013	7.50	No
		3	-0.002	2.00	No
	43	3	-0.013	1.00	No
		3	-0.013	5.00	No
		3	-0.002	3.00	No
WL60	34	3	-0.011	0.50	No
		3	-0.011	7.50	No
		3	-0.003	2.00	No
	37	3	-0.011	0.50	No
		3	-0.011	7.50	No
		3	-0.003	2.00	No
	40	3	-0.01	0.50	No

		3	-0.01	7.50	No
		3	-0.003	2.00	No
	43	3	-0.004	1.00	No
		3	-0.004	5.00	No
		3	-0.001	3.00	No
WL90	34	x	-0.009	0.50	No
		x	-0.009	7.50	No
		x	-0.003	2.00	No
	37	x	-0.009	0.50	No
		x	-0.009	7.50	No
		x	-0.003	2.00	No
	40	x	-0.008	0.50	No
		x	-0.008	7.50	No
		x	-0.003	2.00	No
	43	x	-0.003	1.00	No
		x	-0.003	5.00	No
		x	-0.001	3.00	No
WL120	34	2	-0.011	0.50	No
		2	-0.011	7.50	No
		2	-0.003	2.00	No
	37	2	-0.011	0.50	No
		2	-0.011	7.50	No
		2	-0.003	2.00	No
	40	2	-0.01	0.50	No
		2	-0.01	7.50	No
		2	-0.003	2.00	No
	43	2	-0.004	1.00	No
		2	-0.004	5.00	No
		2	-0.001	3.00	No
WL150	34	2	-0.017	0.50	No
		2	-0.017	7.50	No
		2	-0.002	2.00	No
	37	2	-0.017	0.50	No
		2	-0.017	7.50	No
		2	-0.002	2.00	No
	40	2	-0.013	0.50	No
		2	-0.013	7.50	No
		2	-0.002	2.00	No
	43	2	-0.013	1.00	No
		2	-0.013	5.00	No
		2	-0.002	3.00	No
LL1	1	y	-0.25	50.00	Yes
LL2	1	y	-0.25	100.00	Yes
LL3	1	y	-0.25	0.00	Yes
LLa1	43	y	-0.50	50.00	Yes
LLa2	40	y	-0.50	50.00	Yes
LLa3	37	y	-0.50	50.00	Yes
LLa4	34	y	-0.50	50.00	Yes

Self weight multipliers for load conditions

Condition	Description	Self weight multiplier			
		Comb.	MultX	MultY	MultZ
D	Dead Load	No	0.00	-1.00	0.00
Wo	Wind Load (NO ICE)	No	0.00	0.00	0.00
W30	WL 30deg	No	0.00	0.00	0.00
W60	WL 60deg	No	0.00	0.00	0.00
W90	WL 90deg	No	0.00	0.00	0.00
W120	WL 120deg	No	0.00	0.00	0.00
W150	WL 150deg	No	0.00	0.00	0.00
Di	Ice Load	No	0.00	0.00	0.00
WI0	WL ICE 0deg	No	0.00	0.00	0.00
WI30	WL ICE 30deg	No	0.00	0.00	0.00
WI60	WL ICE 60deg	No	0.00	0.00	0.00
WI90	WL ICE 90deg	No	0.00	0.00	0.00
WI120	WL ICE 120deg	No	0.00	0.00	0.00
WI150	WL ICE 150deg	No	0.00	0.00	0.00
WL0	WL 30 mph 0deg	No	0.00	0.00	0.00
WL30	WL 30 mph 30deg	No	0.00	0.00	0.00
WL60	WL 30 mph 60deg	No	0.00	0.00	0.00
WL90	WL 30 mph 90deg	No	0.00	0.00	0.00
WL120	WL 30 mph 120deg	No	0.00	0.00	0.00
WL150	WL 30 mph 150deg	No	0.00	0.00	0.00
LL1	250 lb Live Load Center of Mount	No	0.00	0.00	0.00
LL2	250 lb Live Load Right End of Mount	No	0.00	0.00	0.00
LL3	250 lb Live Load Left End of Mount	No	0.00	0.00	0.00
LLa1	500 lb Live Load Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load Antenna 3	No	0.00	0.00	0.00
LLa4	500 lb Live Load Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

Condition	a/g	Ang. [Deg]	Damp. [%]
D	0.00	0.00	0.00
Wo	0.00	0.00	0.00
W30	0.00	0.00	0.00
W60	0.00	0.00	0.00
W90	0.00	0.00	0.00
W120	0.00	0.00	0.00
W150	0.00	0.00	0.00
Di	0.00	0.00	0.00
WI0	0.00	0.00	0.00
WI30	0.00	0.00	0.00
WI60	0.00	0.00	0.00
WI90	0.00	0.00	0.00
WI120	0.00	0.00	0.00
WI150	0.00	0.00	0.00
WL0	0.00	0.00	0.00
WL30	0.00	0.00	0.00
WL60	0.00	0.00	0.00
WL90	0.00	0.00	0.00
WL120	0.00	0.00	0.00
WL150	0.00	0.00	0.00
LL1	0.00	0.00	0.00
LL2	0.00	0.00	0.00
LL3	0.00	0.00	0.00

LLa1	0.00	0.00	0.00
LLa2	0.00	0.00	0.00
LLa3	0.00	0.00	0.00
LLa4	0.00	0.00	0.00



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Steel Code Check

Report: Summary - Group by member

Load conditions to be included in design :

LC1=1.2D+Wo
LC2=1.2D+W30
LC3=1.2D+W60
LC4=1.2D+W90
LC5=1.2D+W120
LC6=1.2D+W150
LC7=1.2D-Wo
LC8=1.2D-W30
LC9=1.2D-W60
LC10=1.2D-W90
LC11=1.2D-W120
LC12=1.2D-W150
LC13=0.9D+Wo
LC14=0.9D+W30
LC15=0.9D+W60
LC16=0.9D+W90
LC17=0.9D+W120
LC18=0.9D+W150
LC19=0.9D-Wo
LC20=0.9D-W30
LC21=0.9D-W60
LC22=0.9D-W90
LC23=0.9D-W120
LC24=0.9D-W150
LC25=1.2D+Di+W10
LC26=1.2D+Di+W130
LC27=1.2D+Di+W160
LC28=1.2D+Di+W190
LC29=1.2D+Di+W120
LC30=1.2D+Di+W150
LC31=1.2D+Di-W10
LC32=1.2D+Di-W130
LC33=1.2D+Di-W160
LC34=1.2D+Di-W190
LC35=1.2D+Di-W120
LC36=1.2D+Di-W150
LC37=1.2D+1.6LL1
LC38=1.2D+1.6LL2
LC39=1.2D+1.6LL3
LC40=1.2D+W10+1.6LLa1
LC41=1.2D+W130+1.6LLa1
LC42=1.2D+W160+1.6LLa1
LC43=1.2D+W190+1.6LLa1
LC44=1.2D+W120+1.6LLa1
LC45=1.2D+W150+1.6LLa1
LC46=1.2D-W10+1.6LLa1
LC47=1.2D-W130+1.6LLa1
LC48=1.2D-W160+1.6LLa1
LC49=1.2D-W190+1.6LLa1
LC50=1.2D-W120+1.6LLa1
LC51=1.2D-W150+1.6LLa1
LC52=1.2D+W10+1.6LLa2

LC53=1.2D+WL30+1.6LLa2
 LC54=1.2D+WL60+1.6LLa2
 LC55=1.2D+WL90+1.6LLa2
 LC56=1.2D+WL120+1.6LLa2
 LC57=1.2D+WL150+1.6LLa2
 LC58=1.2D-WL0+1.6LLa2
 LC59=1.2D-WL30+1.6LLa2
 LC60=1.2D-WL60+1.6LLa2
 LC61=1.2D-WL90+1.6LLa2
 LC62=1.2D-WL120+1.6LLa2
 LC63=1.2D-WL150+1.6LLa2
 LC64=1.2D+WL0+1.6LLa3
 LC65=1.2D+WL30+1.6LLa3
 LC66=1.2D+WL60+1.6LLa3
 LC67=1.2D+WL90+1.6LLa3
 LC68=1.2D+WL120+1.6LLa3
 LC69=1.2D+WL150+1.6LLa3
 LC70=1.2D-WL0+1.6LLa3
 LC71=1.2D-WL30+1.6LLa3
 LC72=1.2D-WL60+1.6LLa3
 LC73=1.2D-WL90+1.6LLa3
 LC74=1.2D-WL120+1.6LLa3
 LC75=1.2D-WL150+1.6LLa3
 LC76=1.2D+WL0+1.6LLa4
 LC77=1.2D+WL30+1.6LLa4
 LC78=1.2D+WL60+1.6LLa4
 LC79=1.2D+WL90+1.6LLa4
 LC80=1.2D+WL120+1.6LLa4
 LC81=1.2D+WL150+1.6LLa4
 LC82=1.2D-WL0+1.6LLa4
 LC83=1.2D-WL30+1.6LLa4
 LC84=1.2D-WL60+1.6LLa4
 LC85=1.2D-WL90+1.6LLa4
 LC86=1.2D-WL120+1.6LLa4
 LC87=1.2D-WL150+1.6LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	HSS_SQR 3X3X3_8	50	LC46 at 100.00%	0.05	OK	
		51	LC12 at 100.00%	0.06	OK	
		57	LC40 at 100.00%	0.05	OK	
		58	LC6 at 100.00%	0.06	OK	
	L 2X2X1_4	15	LC82 at 50.00%	0.05	OK	
		16	LC64 at 50.00%	0.07	OK	
		21	LC1 at 50.00%	0.01	OK	
		22	LC1 at 50.00%	0.01	OK	
	L 3X3X1_4	1	LC1 at 34.72%	0.68	With warnings	
		2	LC7 at 34.72%	0.67	With warnings	
		17	LC82 at 0.00%	0.58	OK	
		18	LC12 at 100.00%	0.22	OK	
		19	LC2 at 100.00%	0.22	OK	
		20	LC8 at 100.00%	0.22	OK	
	PIPE 2x0.154	34	LC1 at 65.00%	0.41	OK	
		37	LC7 at 21.25%	0.33	OK	
		40	LC1 at 21.25%	0.24	OK	
		43	LC2 at 12.50%	0.09	OK	
		49	LC7 at 35.16%	0.54	With warnings	
		56	LC2 at 35.94%	0.52	OK	



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Geometry data

GLOSSARY

Cb22, Cb33	: Moment gradient coefficients
Cm22, Cm33	: Coefficients applied to bending term in interaction formula
d0	: Tapered member section depth at J end of member
DJX	: Rigid end offset distance measured from J node in axis X
DJY	: Rigid end offset distance measured from J node in axis Y
DJZ	: Rigid end offset distance measured from J node in axis Z
DKX	: Rigid end offset distance measured from K node in axis X
DKY	: Rigid end offset distance measured from K node in axis Y
DKZ	: Rigid end offset distance measured from K node in axis Z
dL	: Tapered member section depth at K end of member
Ig factor	: Inertia reduction factor (Effective Inertia/Gross Inertia) for reinforced concrete members
K22	: Effective length factor about axis 2
K33	: Effective length factor about axis 3
L22	: Member length for calculation of axial capacity
L33	: Member length for calculation of axial capacity
LB pos	: Lateral unbraced length of the compression flange in the positive side of local axis 2
LB neg	: Lateral unbraced length of the compression flange in the negative side of local axis 2
RX	: Rotation about X
RY	: Rotation about Y
RZ	: Rotation about Z
TO	: 1 = Tension only member 0 = Normal member
TX	: Translation in X
TY	: Translation in Y
TZ	: Translation in Z

Nodes

Node	X [ft]	Y [ft]	Z [ft]	Rigid Floor
1	-7.375	0.00	0.00	0
2	7.375	0.00	0.00	0
3	-7.375	2.50	0.00	0
4	7.375	2.50	0.00	0
11	-5.99	0.00	0.00	0
30	6.6875	2.50	0.00	0
31	-0.61	2.50	0.00	0
32	0.535	2.50	0.00	0
33	6.275	0.00	0.00	0
34	-2.1875	2.50	0.00	0
35	-2.1875	0.00	0.00	0
36	-2.1875	2.50	-1.333	0
37	-2.1875	0.00	-1.333	0
38	6.6875	0.00	0.00	0
39	6.6875	2.50	-1.333	0
40	6.6875	0.00	-1.333	0
41	-2.1875	0.00	-0.25	0
42	-2.1875	2.50	-0.9665	0
43	6.6875	0.00	-0.25	0
44	6.6875	2.50	-0.9665	0
64	-6.875	0.00	0.00	0

65	-6.875	2.50	0.00	0
66	-6.875	0.00	0.20	0
67	-6.875	2.50	0.20	0
68	-6.875	5.25	0.20	0
69	-6.875	-2.75	0.20	0
71	0.875	0.00	0.00	0
72	0.875	2.50	0.00	0
73	0.875	0.00	0.20	0
74	0.875	2.50	0.20	0
75	0.875	5.25	0.20	0
76	0.875	-2.75	0.20	0
77	5.375	0.00	0.00	0
78	5.375	2.50	0.00	0
79	5.375	0.00	0.20	0
80	5.375	2.50	0.20	0
81	5.375	5.25	0.20	0
82	5.375	-2.75	0.20	0
83	7.125	0.00	0.00	0
84	7.125	2.50	0.00	0
85	7.125	0.00	0.20	0
86	7.125	2.50	0.20	0
87	7.125	4.25	0.20	0
88	7.125	-1.75	0.20	0
91	-7.375	-1.00	0.00	0
92	7.125	-1.00	0.00	0
93	7.125	-1.00	0.20	0
94	7.375	-1.00	0.00	0
95	5.375	-1.00	0.00	0
96	5.375	-1.00	0.20	0
97	0.875	-1.00	0.00	0
98	0.875	-1.00	0.20	0
99	-6.875	-1.00	0.00	0
100	-6.875	-1.00	0.20	0
101	-5.99	-1.00	0.00	0
102	6.6875	-1.00	0.00	0
103	-2.1875	-1.00	-1.333	0
104	6.6875	-1.00	-1.333	0
105	-2.1875	-1.00	0.00	0
107	-7.375	3.50	0.00	0
108	7.125	3.50	0.00	0
109	7.125	3.50	0.20	0
110	7.375	3.50	0.00	0
111	5.375	3.50	0.00	0
112	5.375	3.50	0.20	0
113	0.875	3.50	0.00	0
114	0.875	3.50	0.20	0
115	-6.875	3.50	0.00	0
116	-6.875	3.50	0.20	0
117	-5.99	3.50	0.00	0
118	6.6875	3.50	0.00	0
119	-2.1875	3.50	-1.333	0
120	6.6875	3.50	-1.333	0
121	-2.1875	3.50	0.00	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
36	1	1	1	1	0	1
37	1	1	1	1	0	1
39	1	1	1	1	0	1
40	1	1	1	1	0	1
103	1	1	1	1	0	1
104	1	1	1	1	0	1
119	1	1	1	1	0	1
120	1	1	1	1	0	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
1	1	2		L 3X3X1_4	A36	0.00	0.00	0.00
2	3	4		L 3X3X1_4	A36	0.00	0.00	0.00
15	11	31		L 2X2X1_4	A36	0.00	0.00	0.00
16	33	32		L 2X2X1_4	A36	0.00	0.00	0.00
17	36	34		L 3X3X1_4	A36	0.00	0.00	0.00
18	37	35		L 3X3X1_4	A36	0.00	0.00	0.00
19	39	30		L 3X3X1_4	A36	0.00	0.00	0.00
20	40	38		L 3X3X1_4	A36	0.00	0.00	0.00
21	41	42		L 2X2X1_4	A36	0.00	0.00	0.00
22	43	44		L 2X2X1_4	A36	0.00	0.00	0.00
34	68	69		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
37	75	76		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
40	81	82		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
43	87	88		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
49	91	94		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
50	102	104		HSS_SQR 3X3X3_8	A500 GrB rectangular	0.00	0.00	0.00
51	103	105		HSS_SQR 3X3X3_8	A500 GrB rectangular	0.00	0.00	0.00
56	107	110		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
57	118	120		HSS_SQR 3X3X3_8	A500 GrB rectangular	0.00	0.00	0.00
58	119	121		HSS_SQR 3X3X3_8	A500 GrB rectangular	0.00	0.00	0.00

Orientation of local axes

Member	Rotation [Deg]	Axes23	NX	NY	NZ
1	270.00	0	0.00	0.00	0.00
2	180.00	0	0.00	0.00	0.00
15	180.00	0	0.00	0.00	0.00
16	90.00	0	0.00	0.00	0.00
17	270.00	0	0.00	0.00	0.00
18	180.00	0	0.00	0.00	0.00
20	90.00	0	0.00	0.00	0.00
21	270.00	0	0.00	0.00	0.00
34	315.00	0	0.00	0.00	0.00
37	315.00	0	0.00	0.00	0.00
40	315.00	0	0.00	0.00	0.00
43	315.00	0	0.00	0.00	0.00

Rigid end offsets

Member	DJX	DJY	DJZ	DKX	DKY	DKZ
	[in]	[in]	[in]	[in]	[in]	[in]
21	-1.50	0.00	0.00	-1.50	0.00	0.00
22	1.50	0.00	0.00	1.50	0.00	0.00

Hinges

Member	Node-J				Node-K				TOR	AXL	Axial rigidity
	M33	M22	V3	V2	M33	M22	V3	V2			
15	1	1	0	0	1	1	0	0	0	0	Full
16	1	1	0	0	1	1	0	0	0	0	Full
21	1	1	0	0	1	1	0	0	0	0	Full
22	1	1	0	0	1	1	0	0	0	0	Full

EXHIBIT 5



Radio Frequency Exposure Analysis Report

September 9, 2022

Centerline on behalf of AT&T
Centerline Communications Project Number: Internal

AT&T Site Name: GUILFORD NORTH
Site Number: CTL02018
FA#: 10035062
USID: 61161

Site Address: 500 COOKS LANE, GUILFORD, CT 06437

Site Compliance Summary

AT&T Compliance Status:	Compliant
Cumulative Calculated Power Density (Ground Level):	0.75106 $\mu\text{W}/\text{cm}^2$
Cumulative General Population % MPE (Ground Level):	0.13683999999999999%



September 9, 2022

Centerline
Attn: Jennifer Iliades, Project Manager
750 W Center St, Suite 301
West Bridgewater, MA 02379

RF Exposure Analysis for Site: **GUILFORD NORTH**

Centerline Communications, LLC (“Centerline”) was contracted to analyze the proposed AT&T facility at **500 COOKS LANE, GUILFORD, CT 06437** for the purpose of determining whether the predictive exposure from the proposed facility is within specified federal limits.

All information used in this report was analyzed as a percentage of the Maximum Permissible Exposure (% MPE) limits as detailed in 47 CFR § 1.1310 as well as Federal Communications Commission (FCC) OET Bulletin 65 Edition 97-01. The FCC MPE limits are typically expressed in units of milliwatts per square centimeter (mW/cm^2) or microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The exposure limits vary depending upon the frequencies being utilized. The General Population/Uncontrolled MPE limit (in mW/cm^2) for frequencies between 300 and 1500 is defined as frequency (in MHz) divided by 1500 ($f_{\text{MHz}}/1500$). Frequencies between 1500 and 100,000 MHz have a General Population/Uncontrolled MPE limit of $1 \text{ mW}/\text{cm}^2$ ($1000 \mu\text{W}/\text{cm}^2$). The calculated power density at each sample point divided by the limit at each calculated frequency provides a result in % MPE. Summing the calculated % MPE from all contributors provides a cumulative % MPE at a particular sample point. Wireless carriers use different frequency bands with varying MPE limits; therefore, it is useful to report results in terms of % MPE as opposed to power density.

All results were compared to the FCC radio frequency exposure rules as detailed in 47 CFR § 1.1307(b) to determine compliance with the MPE limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.



Calculation Methodology

Centerline Communications, LLC has performed theoretical modeling of the site using a software tool, RoofMaster®, which incorporates calculation methodologies detailed in FCC OET 65. RoofMaster® uses a cylindrical model for conservative power density predictions within the near field of the antenna where the antenna pattern has not truly formed yet. Within this area power density values tend to decrease based upon an inverse distance function. At the point where it is appropriate for modeling to change from near-field calculations to far-field calculations, the power decreases inversely with the square of the distance. The modeling is based on worst-case assumptions in terms of transmitter power and duty cycle. No losses were included in the power calculations unless they were specifically provided for the project.

In OET 65, a far field model is presented to calculate the spatial peak power density. The RoofMaster® implementation of this model incorporates antenna manufacturer's horizontal and vertical pattern data to determine the power density in all directions. This model yields the power density at a single point in space. In order to determine the spatial power density for comparison to the FCC limits, the average of several points calculated within the human profile (0-6') must be conducted. RoofMaster® calculates seven power density values between 0-6' above the specified study plane and performs a linear spatial average.



Data & Results

The following table details the antennas and operating parameters for the AT&T antenna system as well as any other antenna systems at the site. This is based on antenna information provided by the client and data compiled from other sources where necessary. The data below was input into Roofmaster® to perform the theoretical exposure calculations at the ground level.

The theoretical calculations performed in Roofmaster® determine the cumulative exposure at all sample points at ground level (0-6' spatial average). The results from highest cumulative sample point at ground level surrounding the site are displayed in the table below. The contribution from directional antennas to the maximum cumulative totals varies greatly depending on location; therefore, the contribution from one antenna sector at the highest calculated exposure point may be greater or less than other sectors since sectorized directional antennas are pointed in different directions and there is not much overlapping exposure.

The contribution to the cumulative power density and % MPE for each antenna/frequency band is listed in the table. The cumulative power density and cumulative % MPE are displayed at the bottom of the table.



Maximum Calculated Cumulative Power Density (Location: approximately 10' west of site)

Antenna ID	Make / Model	Frequency Band (MHz)	Antenna Gain (dBd)	Antenna Centerline (ft)	Channel Count	TX Power/Channel (watts)	ERP (watts)	Calculated Power Density ($\mu\text{W}/\text{cm}^2$)	General Population MPE Limit ($\mu\text{W}/\text{cm}^2$)	General Population % MPE
AT&T A 1	POWERWAVE 7770	850	11.35	152.00	2.00	22.50	614.06	0.00022	566.67	0.00004
AT&T A 2	CCI HPA-65R-BUU-H8	1900	15.05	152.00	4.00	30.00	3838.67	0.00003	1000.00	0.00000
AT&T A 3	CCI OPA65R-BU8D	700	13.15	152.00	4.00	30.00	2478.46	0.00001	466.67	0.00000
AT&T A 4	CCI DMP65R-BU8D	700	12.25	152.00	4.00	30.00	2014.56	0.00002	466.67	0.00000
AT&T A 4	CCI DMP65R-BU8D	850	12.55	152.00	4.00	30.00	2158.65	0.00001	566.67	0.00000
AT&T A 4	CCI DMP65R-BU8D	2100	15.55	152.00	4.00	30.00	4307.06	0.00002	1000.00	0.00000
AT&T B 5	POWERWAVE 7770	850	11.35	152.00	2.00	22.50	614.06	0.00026	566.67	0.00005
AT&T B 6	CCI HPA-65R-BUU-H8	1900	15.05	152.00	4.00	30.00	3838.67	0.00002	1000.00	0.00000
AT&T B 7	CCI OPA65R-BU8D	700	12.95	152.00	4.00	30.00	2366.91	0.00001	466.67	0.00000
AT&T B 8	CCI DMP65R-BU8D	700	12.25	152.00	4.00	30.00	2014.56	0.00001	466.67	0.00000
AT&T B 8	CCI DMP65R-BU8D	850	12.75	152.00	4.00	30.00	2260.38	0.00004	566.67	0.00001
AT&T B 8	CCI DMP65R-BU8D	2100	15.35	152.00	4.00	30.00	4113.21	0.00003	1000.00	0.00000
AT&T C 9	POWERWAVE 7770	850	11.35	152.00	2.00	22.50	614.06	0.02247	566.67	0.00397
AT&T C 10	CCI HPA-65R-BUU-H6	1900	14.86	152.00	4.00	30.00	3674.36	0.06527	1000.00	0.00653
AT&T C 11	CCI OPA65R-BU6D	700	11.35	152.00	4.00	30.00	1637.50	0.06307	466.67	0.01351
AT&T C 12	CCI DMP65R-BU6D	700	11.35	152.00	4.00	30.00	1637.50	0.06363	466.67	0.01363
AT&T C 12	CCI DMP65R-BU6D	850	11.35	152.00	4.00	30.00	1637.50	0.05740	566.67	0.01013
AT&T C 12	CCI DMP65R-BU6D	2100	15.25	152.00	4.00	30.00	4019.59	0.05547	1000.00	0.00555
Unknown 13	GENERIC OMNI 12FT	850	8.96	186.00	1.00	12.70	99.95	0.00039	566.67	0.00007
Unknown 14	GENERIC OMNI 9.5FT	450	5.96	185.00	1.00	25.00	98.61	0.00097	300.00	0.00032
Unknown 15	GENERIC OMNI 9.5FT	450	5.96	185.00	1.00	25.00	98.61	0.00097	300.00	0.00032
Unknown 16	GENERIC OMNI 9.5FT	450	5.96	184.00	1.00	25.00	98.61	0.00098	300.00	0.00033
Unknown 17	GENERIC OMNI 9.5FT	450	5.96	184.00	1.00	25.00	98.61	0.00098	300.00	0.00033
Unknown 18	GENERIC OMNI 9.5FT	450	5.96	184.00	1.00	25.00	98.61	0.00098	300.00	0.00033
Unknown 19	GENERIC OMNI 9.5FT	450	5.96	184.00	1.00	25.00	98.61	0.00098	300.00	0.00033
Unknown 20	GENERIC MICROWAVE 8FT	10000	41.35	172.00	1.00	0.10	1364.58	0.00003	1000.00	0.00000
Unknown 21	GENERIC MICROWAVE 6FT	6000	38.65	173.00	1.00	0.10	732.82	0.00000	1000.00	0.00000
Unknown 22	GENERIC OMNI 9.5FT	450	5.96	166.00	1.00	25.00	98.61	0.00122	300.00	0.00041
Unknown 23	GENERIC OMNI 12FT	850	8.96	170.00	1.00	12.70	99.95	0.00047	566.67	0.00008
Unknown 24	RFS SP4-107BB	10000	29.35	158.00	1.00	0.10	86.10	0.00000	1000.00	0.00000
Dish A 25	JMA MX08FRO665-21	700	12.05	142.00	4.00	40.00	2565.19	0.00029	466.67	0.00006
Dish A 25	JMA MX08FRO665-21	2000	15.75	142.00	4.00	40.00	6013.40	0.00001	1000.00	0.00000
Dish A 25	JMA MX08FRO665-21	2100	16.75	142.00	4.00	40.00	7570.42	0.00000	1000.00	0.00000



Dish B 26	JMA MX08FRO665-21	700	12.05	142.00	4.00	40.00	2565.19	0.00013	466.67	0.00003
Dish B 26	JMA MX08FRO665-21	2000	15.75	142.00	4.00	40.00	6013.40	0.00002	1000.00	0.00000
Dish B 26	JMA MX08FRO665-21	2100	16.75	142.00	4.00	40.00	7570.42	0.00005	1000.00	0.00001
Dish C 27	JMA MX08FRO665-21	700	12.05	142.00	4.00	40.00	2565.19	0.11673	466.67	0.02501
Dish C 27	JMA MX08FRO665-21	2000	15.75	142.00	4.00	40.00	6013.40	0.09134	1000.00	0.00913
Dish C 27	JMA MX08FRO665-21	2100	16.75	142.00	4.00	40.00	7570.42	0.08534	1000.00	0.00853
Unknown 28	GENERIC OMNI 12FT	850	8.96	145.00	1.00	12.70	99.95	0.00067	566.67	0.00012
Unknown 29	GENERIC OMNI 12FT	850	8.96	142.00	1.00	12.70	99.95	0.00070	566.67	0.00012
Unknown 30	GENERIC OMNI 12FT	850	8.96	140.00	1.00	12.70	99.95	0.00072	566.67	0.00013
Unknown 31	GENERIC MICROWAVE 6FT	6000	38.65	130.00	1.00	0.10	732.82	0.00000	1000.00	0.00000
Unknown 32	GENERIC MICROWAVE 6FT	6000	38.65	124.00	1.00	0.10	732.82	0.00009	1000.00	0.00001
Unknown 33	RFS UXA6-107BC	11000	41.65	124.00	1.00	0.10	1462.18	0.00000	1000.00	0.00000
Unknown 34	GENERIC MICROWAVE 2FT	18000	36.95	115.00	1.00	0.10	495.45	0.00000	1000.00	0.00000
Unknown 35	GENERIC MICROWAVE 4FT	18000	42.95	115.00	1.00	0.10	1972.42	0.00000	1000.00	0.00000
Unknown 36	GENERIC WIFI_2400_	2400	14.70	115.00	1.00	20.00	590.24	0.00066	1000.00	0.00007
Unknown 37	GENERIC WIFI_2400_	2400	14.70	115.00	1.00	20.00	590.24	0.00024	1000.00	0.00002
Unknown 38	GENERIC MICROWAVE 3FT	11000	38.65	112.00	1.00	0.10	732.82	0.00000	1000.00	0.00000
Unknown 39	GENERIC OMNI 12FT	850	8.96	118.00	1.00	12.70	99.95	0.00104	566.67	0.00018
Unknown 40	GENERIC OMNI 9.5FT	450	5.96	112.00	1.00	25.00	98.61	0.00280	300.00	0.00093
Unknown 41	GENERIC OMNI 9.5FT	450	5.96	100.00	1.00	25.00	98.61	0.00358	300.00	0.00119
Unknown 42	GENERIC MICROWAVE 6FT	6000	38.65	108.00	1.00	0.10	732.82	0.00000	1000.00	0.00000
Unknown 43	GENERIC MICROWAVE 6FT	6000	38.65	102.00	1.00	0.10	732.82	0.00013	1000.00	0.00001
Unknown 44	GENERIC OMNI 6FT	850	5.96	106.00	1.00	25.00	98.61	0.00482	566.67	0.00085
Unknown 45	GENERIC OMNI 9.5FT	450	5.96	89.00	1.00	25.00	98.61	0.00463	300.00	0.00154
Unknown 46	GENERIC OMNI 9.5FT	450	5.96	89.00	1.00	25.00	98.61	0.00463	300.00	0.00154
Unknown 47	GENERIC OMNI 9.5FT	450	5.96	98.00	1.00	25.00	98.61	0.00374	300.00	0.00125
Unknown 48	GENERIC OMNI 9.5FT	450	5.96	94.00	1.00	25.00	98.61	0.00410	300.00	0.00137
Unknown 49	GENERIC OMNI 9.5FT	450	5.96	86.00	1.00	25.00	98.61	0.00500	300.00	0.00167
Unknown 50	GENERIC YAGI 3.5FT	450	12.10	81.00	1.00	10.00	162.18	0.01932	300.00	0.00644
Unknown 51	GENERIC OMNI 9.5FT	450	5.96	83.00	1.00	25.00	98.61	0.00541	300.00	0.00180
Unknown 52	GENERIC OMNI 9.5FT	450	5.96	69.00	1.00	25.00	98.61	0.00821	300.00	0.00274
Unknown 53	GENERIC OMNI 9.5FT	450	5.96	69.00	1.00	25.00	98.61	0.00821	300.00	0.00274
Unknown 54	GENERIC MICROWAVE 6FT	6000	38.65	72.00	1.00	0.10	732.82	0.00000	1000.00	0.00000
Unknown 55	GENERIC YAGI 3.5FT	450	12.10	68.00	1.00	10.00	162.18	0.00056	300.00	0.00019
Unknown 56	GENERIC YAGI 3.5FT	450	12.10	68.00	1.00	10.00	162.18	0.01953	300.00	0.00651



Unknown 57	GENERIC OMNI 9.5FT	450	5.96	65.00	1.00	25.00	98.61	0.00941	300.00	0.00314
Unknown 58	GENERIC OMNI 12FT	850	8.96	59.00	1.00	12.70	99.95	0.00497	566.67	0.00088
Unknown 59	GENERIC YAGI 3.5FT	450	12.10	43.00	1.00	10.00	162.18	0.00805	300.00	0.00269
							Cumulative Power Density:	0.75106 $\mu\text{W}/\text{cm}^2$	Cumulative % MPE:	0.13684%



Summary

The theoretical calculations performed for this analysis yielded cumulative power density totals in all areas at ground level that are within the allowable federal limits for public exposure to RF energy. Therefore, the site is **Compliant** with FCC rules and regulations.

A handwritten signature in black ink, appearing to read "Katrina Styx", with a long horizontal flourish extending to the right.

Katrina Styx
RF EME Technical Writer
Centerline Communications, LLC

EXHIBIT 6

TOWN OF GUILFORD
BUILDING PERMIT — ZONING COMPLIANCE PERMIT
SEWAGE DISCHARGE PERMIT — INLAND WETLANDS PERMIT

Permit No. 91-09915
Fee Paid \$210.00
Date Issued 7/11/91

This building permit is issued pursuant to the Connecticut Building codes and is subject-to-the provisions thereof. It is issued on the basis of the application submitted and approved and is valid only for the work indicated in Item 4.

1. LOCATION Street: Cocks Lane Street No. 500
Assessor's Map No. 127 Assessor's Lot No. 1
Subdivision Name _____ Lot No. _____

2. OWNER: Name: Bartlett Land Corp.
Mailing Address: 564 Great Hill Road, Guilford, CT. 457-0314

3. TYPE OF CONSTRUCTION: NATURE OF WORK:
1: 2: 3: 4: 5
OCCUPANCY LOAD 0 New Construction _____ Repair _____ Rehabilitation
USE GROUP Commercial _____ Addition _____ Moving of Structure
_____ Alteration _____ Demolition _____ Other

4. TYPE OF WORK: (This permit is valid only for boxes checked.)
 Structural _____ Oil Burner
_____ Electrical _____ Sewage Disposal (In accordance with Conn.
_____ Heating and Ventilation State Public Health Code)
_____ Plumbing _____ gal. septic tank required.
_____ Swimming Pool _____ sq. ft. leaching area required.
_____ Other _____ (Reserve seepage area equal to area used is required)
_____ Insulation _____ Water Conditioning
45'x20' & 20'x25' Radio Building
1,400 sq.ft.

Required building inspections are 1) temporary electrical service 2) footings 3) rough electrical, H.V.A.C., plumbing and framing 4) insulation 5) permanent electrical 6) final. Required sewage disposal inspections are 1) deep test pits 2) site preparation 3) leaching system inspection (upon receipt of an acceptable "as-built" plan.) Call 453-8029 to schedule inspections. 24 hour advance notice is required. There is an additional charge for the certificate of occupancy. \$10.00 payment must be made at the time request is made.

The following special condntions must be met:
To be constructed in accordance with ZSA approval 8/22/90 - M.W.McAvoy Zoning Officer

This Permit is issued with a red field card which must be conspicuously posted on the site. Neither the Town of Guilford nor any authorized agents assume any responsibility for the construction or maintenance of any facility built under this permit.

Frank Esposito James A. Portley M. McAvoy
Building Official *Town Engineer* *Zoning Enforcement Officer*
Inland Wetlands Officer

BARTLETT LAND CORP.
500 Cocks Lane
Map No. 127 Lot No. 1

TOWN OF GUILFORD
BUILDING PERMIT — ZONING COMPLIANCE PERMIT
SEWAGE DISCHARGE PERMIT — INLAND WETLANDS PERMIT

Permit No. 91-10147
 Fee Paid \$480.00
 Date Issued 10/10/91

This building permit is issued pursuant to the Connecticut Building codes and is subject to the provisions thereof. It is issued on the basis of the application submitted and approved and is valid only for the work indicated in Item 4.

1. LOCATION Street: Cooks Lane Street No. 500
 Assessor's Map No. 127 Assessor's Lot No. 1
 Subdivision Name _____ Lot No. _____

2. OWNER: Name: Bartlett Land Corp.
 Mailing Address: 564 Great Hill Road, Guilford, CT. (457-0314)

3. TYPE OF CONSTRUCTION: NATURE OF WORK:
 1: 2: 3: 4: 5
 OCCUPANCY LOAD _____
 USE GROUP _____
 New Construction
 Addition
 Alteration
 Repair
 Rehabilitation
 Moving of Structure
 Demolition
 Other

4. TYPE OF WORK: (This permit is valid only for boxes checked.)
 Structural
 Electrical
 Heating and Ventilation
 Plumbing
 Swimming Pool
 Other _____
 Insulation
 Oil Burner
 Sewage Disposal (In accordance with Conn. State Public Health Code)
 _____ gal. septic tank required.
 _____ sq. ft. leaching area required.
 (Reserve seepage area equal to area used is required)
 Water Conditioning
Radio tower 180 ft. high

Required building inspections are 1) temporary electrical service 2) footings 3) rough electrical, H.V.A.C., plumbing and framing 4) insulation 5) permanent electrical 6) final. Required sewage disposal inspections are 1) deep test pits 2) site preparation 3) leaching system inspection (upon receipt of an acceptable "as-built" plan.) Call 453-8029 to schedule inspections. 24 hour advance notice is required. There is an additional charge for the certificate of occupancy. \$10.00 payment must be made at the time request is made.

The following special conditions must be met:

This Permit is issued with a red field card which must be conspicuously posted on the site. Neither the Town of Guilford nor any authorized agents assume any responsibility for the construction or maintenance of any facility built under this permit.

Frank Esposito
 Building Official

Mark Damiani, Assistant
 Town Engineer

M. W. McAvoy
 Zoning Enforcement Officer
 Inland Wetlands Officer

BARTLETT LAND CORP.
 500 Cooks Lane
 Map No. 127 Lot No. 1

EXHIBIT 7

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z9Y45030307768771

Weight

1.00 LBS

Service

UPS Ground

Shipped / Billed On

09/12/2022

Delivered On

10/11/2022 10:06 A.M.

Delivered To

31 PARK ST
GUILFORD, CT, 06437, US

Received By

DiANE

Left At

Reception

Reference Number(s)

CT2018- CSC_FIRST SELECTMAN

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 10/12/2022 10:35 A.M. EST

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z9Y45030301525785

Weight

1.00 LBS

Service

UPS Ground

Shipped / Billed On

09/12/2022

Delivered On

10/11/2022 12:15 P.M.

Delivered To

50 BOSTON ST
GUILFORD, CT, 06437, US

Received By

NANCY

Left At

Reception

Reference Number(s)

CT2018-CSC_TOWN PLANNER

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 10/12/2022 10:37 A.M. EST

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1Z9Y45030338308165

Weight

1.00 LBS

Service

UPS Ground

Shipped / Billed On

09/12/2022

Delivered On

10/11/2022 12:15 P.M.

Delivered To

50 BOSTON ST
GUILFORD, CT, 06437, US

Received By

NANCY

Left At

Reception

Reference Number(s)

CT2018-CSC_ZEO

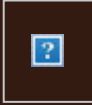
Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 10/12/2022 10:38 A.M. EST

From: [UPS](#)
To: [Evan Renwick](#)
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030304367585
Date: Tuesday, October 11, 2022 11:43:08 AM



Hello, your package has been delivered.

Delivery Date: Tuesday, 10/11/2022

Delivery Time: 11:42 AM

Left At: FRONT DESK

Signed by: ANCRI

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030304367585
Ship To:	AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN, MA 018011053 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CT2018-CSC_AMERICAN TOWER

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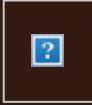
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From: [UPS](#)
To: [Evan Renwick](#)
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030338133353
Date: Tuesday, October 11, 2022 4:22:03 PM



Hello, your package has been delivered.

Delivery Date: Tuesday, 10/11/2022

Delivery Time: 4:20 PM

Left At: MET CUST BOY



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[Manage Preferences](#)

[View My Packages](#)

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030338133353
Ship To:	BARTLETT LAND CORPORATION 700 GREAT HILL RD GUILFORD, CT 064373629 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CT2018-CSC_BARTLETT LAND CORP



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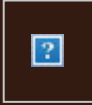
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To: [Evan Renwick](#)
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030331507962
Date: Wednesday, October 12, 2022 10:02:31 AM



Hello, your package has been delivered.

Delivery Date: Wednesday, 10/12/2022

Delivery Time: 10:01 AM

Signed by: PRENTICE

CENTERLINE SITE ACQUISITION

Tracking Number:	1Z9Y45030331507962
Ship To:	K2 TOWERS II, LLC 57 E WASHINGTON ST CHAGRIN FALLS, OH 440223044 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CT2018-CSC_K2 TOWERS

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