

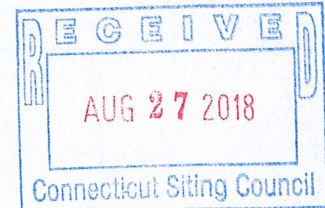


Aaron Meyers, Site Acquisition
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
750 W. Center St., Floor 3
West Bridgewater, MA 02379
Mobile: (774) 420-4202
ameyers@clinellc.com

DATE August 24, 2018

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

EM-CING-060-180827



**RE: Notice of Exempt Modification // Site Number: CT2017
10 Tanner Marsh Road Guilford, CT 06437 (Site Name: Guilford)
N 41.2.88600 // W -72.658300**

ORIGINAL

Dear Ms. Bachman:

New Cingular Wireless, PCS, LLC ("AT&T") currently maintains nine (9) antennas at the 166-foot level of the existing 166-foot Monopole tower at 10 Tanner Marsh Road, Guilford, CT 06437. The tower is owned by American Tower Corp.. The property is owned by The Town of Guilford, CT. AT&T now intends to add three (3) Antennas and three (3) Remote Radio Units for its LTE upgrade. These Antennas and Remote Radio Units would be installed at the 166-foot level of the tower.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Matthew T. Hoey III, First Selectman, as well as the tower owner, American Tower Corp., and the ground owner, Anna Dwyer, Town Clerk.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

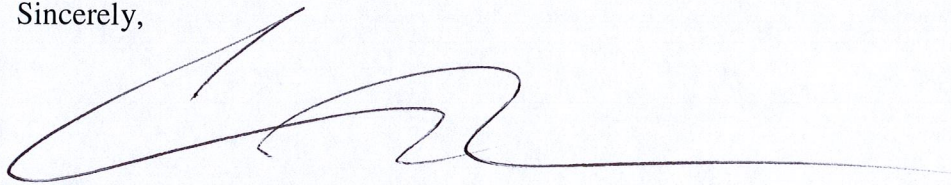
Attached to accommodate this filing are construction drawings dated August 20, 2018 by Hudson Design Group, LLC, a structural analysis dated August 3, 2018 by American Tower Corp., a mount analysis dated August 13, 2018 by Hudson Design Group, LLC, and an Emissions Analysis Report dated August 20, 2018 by Centerline Communications, LLC.

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading as shown in the attached structural analysis by American Tower Corporation, dated August 3, 2018

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,



Aaron Meyers, Site Acquisition
c/o New Cingular Wireless, PCS LLC (AT&T)
Centerline Communications, LLC
750 W. Center St., Floor 3
West Bridgewater, MA 02379
Mobile: (774) 420-4202
ameyers@centerlincommunications.com

Attachments

cc: Matthew T. Holley III, First Selectman - as elected official
American Tower Corp. – as tower owner
Anna Dwyer, Town Clerk – as property owner
George Kral – as town Planner

AARON MEYERS

7744204202

CENTERLINE COMMUNICATIONS, LLC

750 WEST CENTER STREET

WEST BRIDGEWATER MA 023791518

1 LBS

1 OF 1

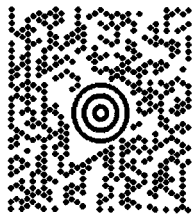
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MATTHEW T. HOLLEY III

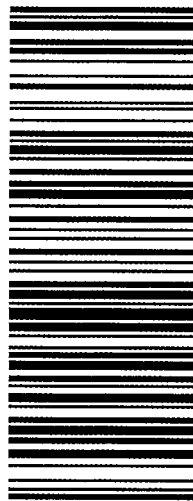
TOWN OF GUILFORD

31 PARK STREET

GUILFORD CT 06437

**CT 065 2-03****UPS GROUND**

TRACKING #: 1Z 9Y4 503 03 1650 3664



BILLING: P/P



X01 18.07.27 NY45 03.04.07/2018

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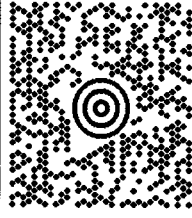
AARON MEYERS
7744204202
CENTERLINE COMMUNICATIONS, LLC
750 WEST CENTER STREET
WEST BRIDGEWATER MA 023791518

1 LBS

1 OF 1

SHIP TO:

GEORGE KRAL
TOWN OF GUILFORD
50 BOSTON STREET
GUILFORD CT 06437

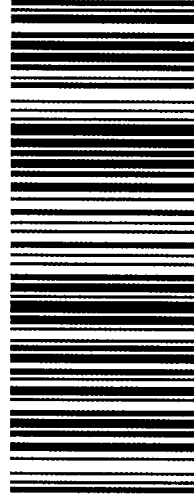


CT 065 2-03



UPS GROUND

TRACKING #: 1Z 9Y4 503 03 1723 8673



BILLING: P/P



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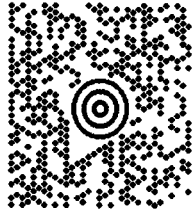
AARON MEYERS
7744204202
CENTERLINE COMMUNICATIONS, LLC
750 WEST CENTER STREET
WEST BRIDGEWATER MA 023791518

1 LBS

1 OF 1

SHIP TO:

ANNA DWYER
TOWN OF GUILFORD
31 PARK STREET
GUILFORD CT 06437

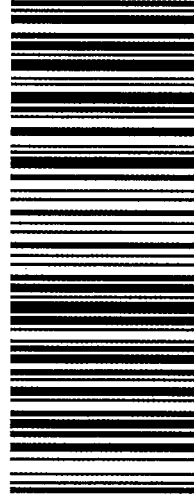


CT 065 2-03



UPS GROUND

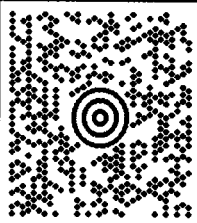
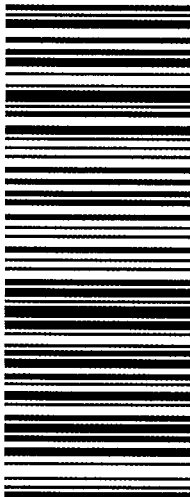
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BILLING: P/P



XOL 18.07.27 NY45 03.0A.07/2018

AARON MEYERS 7744204202 CENTERLINE COMMUNICATIONS, LLC 750 WEST CENTER STREET WEST BRIDGEWATER MA 023791518		1 LBS	1 OF 1
SHIP TO: CONTRACT MANAGER AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBBURN MA 01801-1053			
		MA 018 9-04 	
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BILLING: P/P			
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XOL 18 07 27		NY4S 03 0A 07/2018	



Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT2017

FA#: 10034980

Guilford
10 Tanner Marsh Road
Guilford, CT 06437

August 20, 2018

Centerline Communications Project Number: 950012-148

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	69.53 %



August 20, 2018

AT&T Mobility – New England
Attn: John Benedetto, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT2017 – Guilford**

Centerline Communications, LLC (“Centerline”) was directed to analyze the proposed AT&T facility located at **10 Tanner Marsh Road, Guilford, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (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.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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 (see below), 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.



CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **10 Tanner Marsh Road, Guilford, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE	700 MHz	2	40
LTE	2100 MHz (AWS)	4	30
LTE	850 MHz	2	40
LTE	700 MHz (Band 14)	4	40
LTE	2300 MHz (WCS)	4	30
5G	850 MHz	2	40
LTE	1900 MHz (PCS)	4	40
UMTS	850 MHz	2	30

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	CCI OPA-65R-LCUU-H4	167
A	2	Commscope SBNHH-1D65A	166
A	3	CCI HPA-65R-BUU-H4	167
A	4	Powerwave 7770	167
B	1	CCI OPA-65R-LCUU-H4	167
B	2	Commscope SBNHH-1D65A	166
B	3	CCI HPA-65R-BUU-H4	167
B	4	Powerwave 7770	167
C	1	CCI OPA-65R-LCUU-H4	167
C	2	Commscope SBNHH-1D65A	166
C	3	CCI HPA-65R-BUU-H4	167
C	4	Powerwave 7770	167

Table 2: Antenna Data

All calculations were done with respect to uncontrolled / general population threshold limits.



RESULTS

Per the calculations completed for the proposed AT&T configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	CCI OPA-65R-LCUU-H4	700 MHz / 2100 MHz (AWS)	10.55 / 14.25	6	200	4,100.88	0.71
Antenna A2	Commscope SBNHH-1D65A	850 MHz / 700 MHz (Band 14) / 2300 MHz (WCS)	10.65 / 10.85 / 15.85	12	440	8,419.32	1.69
Antenna A3	CCI HPA-65R-BUU-H4	1900 MHz (PCS)	13.45	4	160	3,540.95	0.49
Antenna A4	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.20
Sector A Composite MPE%							3.10
Antenna B1	CCI OPA-65R-LCUU-H4	700 MHz / 2100 MHz (AWS)	10.55 / 14.25	6	200	4,100.88	0.71
Antenna B2	Commscope SBNHH-1D65A	850 MHz / 700 MHz (Band 14) / 2300 MHz (WCS)	10.65 / 10.85 / 15.85	12	440	8,419.32	1.69
Antenna B3	CCI HPA-65R-BUU-H4	1900 MHz (PCS)	13.45	4	160	3,540.95	0.49
Antenna B4	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.20
Sector B Composite MPE%							3.10
Antenna C1	CCI OPA-65R-LCUU-H4	700 MHz / 2100 MHz (AWS)	10.55 / 14.25	6	200	4,100.88	0.71
Antenna C2	Commscope SBNHH-1D65A	850 MHz / 700 MHz (Band 14) / 2300 MHz (WCS)	10.65 / 10.85 / 15.85	12	440	8,419.32	1.69
Antenna C3	CCI HPA-65R-BUU-H4	1900 MHz (PCS)	13.45	4	160	3,540.95	0.49
Antenna C4	Powerwave 7770	850 MHz	11.4	2	60	828.23	0.20
Sector C Composite MPE%							3.10

Table 3: AT&T Emissions Levels



The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum AT&T MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each AT&T Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
AT&T – Max Sector Value	3.10 %
MetroPCS	0.26 %
Town of Guilford	8.71 %
USA Mobility	0.28 %
WGRS-Town of Monroe	7.18 %
WMNR	44.95 %
Enertrac (Receive Only)	0.00 %
T-Mobile	1.41 %
Sprint (Adjacent Tower)	0.57 %
TCI (Adjacent Tower)	0.01 %
Verizon Wireless (Adjacent Tower)	3.06 %
Site Total MPE %:	69.53 %

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	3.10 %
AT&T Sector B Total:	3.10 %
AT&T Sector C Total:	3.10 %
Site Total:	69.53 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

AT&T _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 700 MHz LTE – Antenna 1	2	454.00	167	1.26	700 MHz	467	0.27%
AT&T 2100 MHz (AWS) LTE – Antenna 1	4	798.22	167	4.43	2100 MHz (AWS)	1000	0.44%
AT&T 850 MHz LTE– Antenna 2	2	464.58	166	1.30	850 MHz	567	0.23%
AT&T 700 MHz LTE– Antenna 2	4	486.47	166	2.73	700 MHz	467	0.59%
AT&T 2300 MHz (WCS) LTE– Antenna 2	4	1,153.78	166	6.48	2300 MHz (WCS)	1000	0.65%
AT&T 850 MHz 5G– Antenna 2	2	464.58	166	1.30	850 MHz	567	0.23%
AT&T 1900 MHz (PCS) LTE– Antenna 3	4	885.24	167	4.91	1900 MHz (PCS)	1000	0.49%
AT&T 850 MHz UMTS– Antenna 4	2	414.12	167	1.15	850 MHz	567	0.20%
						Total:	3.10%

Table 6: AT&T Maximum Sector MPE Power Values



Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the AT&T facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

AT&T Sector	Power Density Value (%)
Sector A:	3.10 %
Sector B:	3.10 %
Sector C:	3.10 %
AT&T Maximum Total (per sector):	3.10 %
Site Total:	69.53 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **69.53 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

A handwritten signature in dark ink, appearing to read "Scott Heffernan", is positioned above the printed name.

Scott Heffernan

RF Engineering Director

Centerline Communications, LLC

95 Ryan Drive, Suite 1

Raynham, MA 02767



August 13, 2018



Centerline Communications
95 Ryan Drive
Raynham, MA 02767

RE: Site Number: CT2017 (LTE 5C/6C)
 FA Number: 10034980
 PACE Number: MRCTB032223
 PTN Number: 2051A0GWGT
 Site Name: GUILFORD
 Site Address: 10 Tanner Marsh Road
 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 mounts to determine their capability of supporting the following equipment loading:

- (3) 7770 Antennas (55.0"x11.0"x5.0" – Wt. = 35 lbs. /each)
- (3) SBNHH-1D65A Antennas (55.6"x11.9"x7.1" – Wt. = 34 lbs. /each)
- (3) OPA-65R-LCUU-H4 Antennas (48.0"x14.4"x7.3" – Wt. = 64 lbs. /each)
- (3) RRUS-11 RRH's (19.7"x17.0"x7.2" – Wt. = 51 lbs. /each)
- (3) RRUS-32 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (3) RRUS-32 B2 RRH's (27.2"x12.1"x7.0" – Wt. = 60 lbs. /each)
- (6) LGP 21401 TMA's (14.0"x9.0"x2.7" – Wt. = 19 lbs. / each)
- (2) Squid Surge Arrestors (24.0"x9.7" Ø – Wt. = 33 lbs. /each) (Tower Mounted)
- **(3) HPA-65R-BUU-H4 Antennas (48.0"x14.8"x7.4" – Wt. = 39 lbs. /each)**
- **(3) 4426 B66 RRH's (15.0"x13.2"x5.8" – Wt. = 49 lbs. /each)**

**Proposed Loading Shown in Bold.*

No original structural design documents or fabrication drawings were available for the existing mounts. HDG's subconsultant, ProVertic LLC, conducted a survey climb and mapping of the existing AT&T antenna mounts on February 5, 2015. A ground audit was performed on July 10, 2017.

Mount Analysis Methods:

- This analysis was conducted in accordance with EIA/TIA-222-G, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, the International Building Code 2012 with 2005 Connecticut Supplement with 2016 Amendments, and AT&T Mount Technical Directive – R7.
- HDG considers this mount to be asymmetrical and has applied wind loads in 30 degree increments all around the mount. Per TIA-222-G Annex B, the max basic wind speed for this site is equal to 115 mph with a max basic wind speed with ice of 50 mph. Per the AT&T Mount Technical Directive and Appendix N of the Connecticut State Building Code, an ultimate wind speed of 130 mph converted to a nominal wind speed of 101 mph 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.
- 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 1.
- The mount has been analyzed with load combinations consisting of a 250 lbs. live load in a worst case location on the mount.

Based on our analysis, we have determined that the existing antenna mounts **ARE CAPABLE** of supporting the proposed antenna installation.

	Member	Controlling Load Case	Stress Ratio	Pass/Fail
Existing LTE 5C/6C Mount Rating	8	LC36	74%	PASS

Reference Documents:

- Mount mapping report prepared by ProVertic LLC dated February 9, 2015.

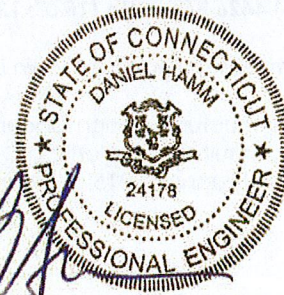
This determination was based on the following limitations and assumptions:

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 mount has 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.

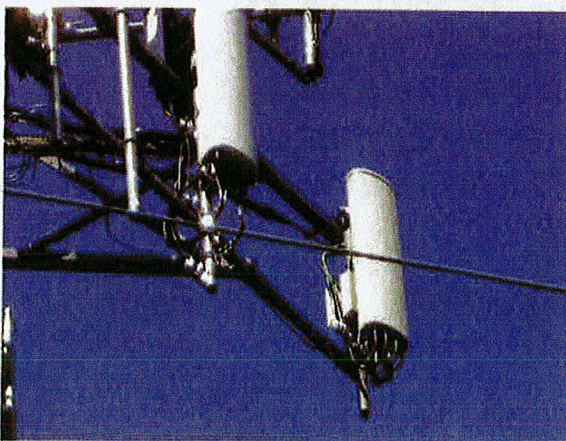
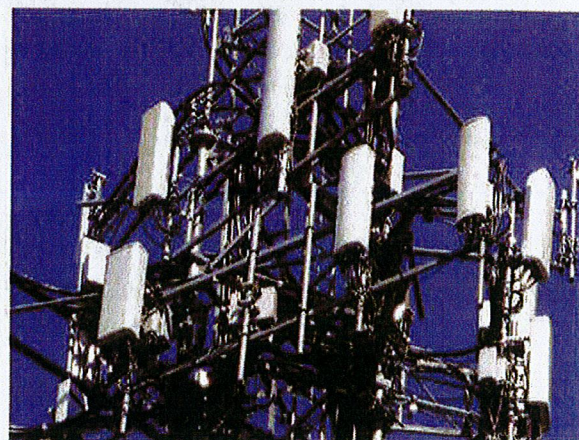
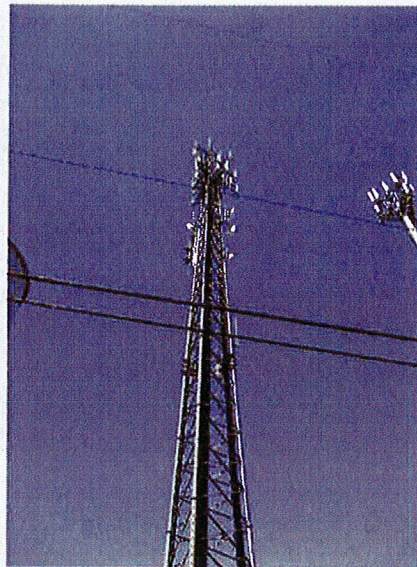
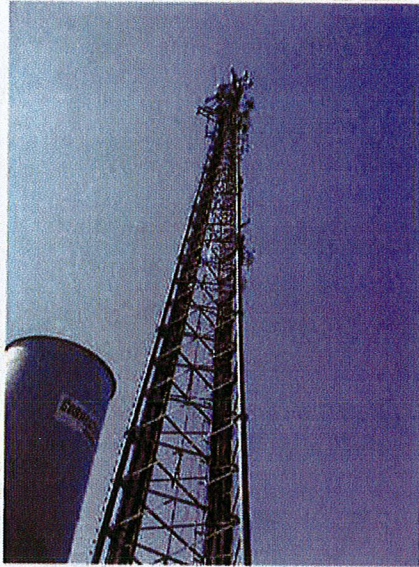
Respectfully Submitted,
Hudson Design Group LLC

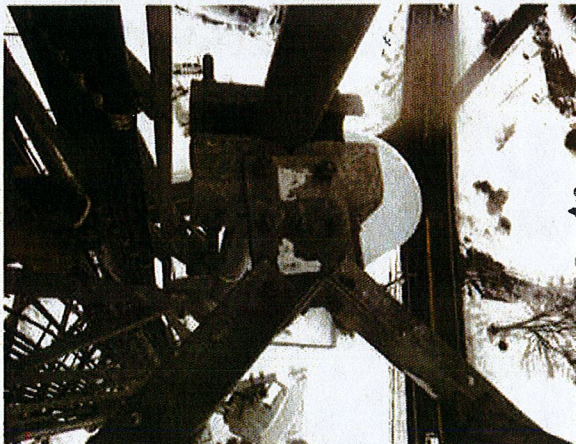
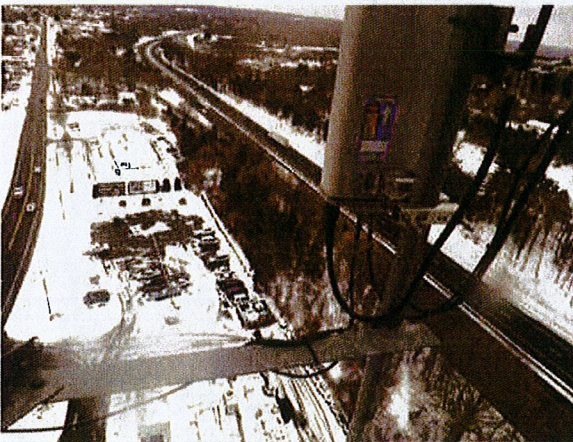
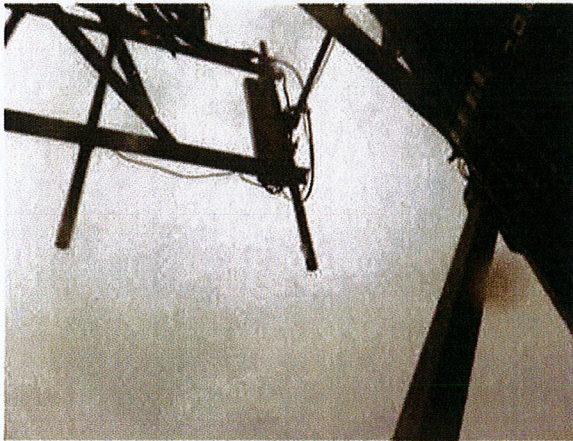
Michael Cabral
Structural Dept. Head



Daniel P. Hamm, PE
Principal

FIELD PHOTOS:







HUDSON
Design Group LLC

Wind & Ice Calculations

Date: 8/13/2018
 Project Name: GUILFORD
 Project Number: CT2017
 Designed By: BD Checked By: MSC



HUDSON
 Design Group LLC

2.6.5.2 Velocity Pressure Coeff:

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

$K_z = 1.144$
 $z = 167 \text{ (ft)}$
 $z_g = 1200 \text{ (ft)}$
 $\alpha = 7.0$

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

Table 2-4

Exposure	Z_g	α	K_{zmin}	K_e
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

2.6.6.4 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

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

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

$$K_{zt} = \text{\#DIV/0!}$$

$$K_h = \text{\#DIV/0!}$$

$$K_e = 0 \text{ (from Table 2-4)}$$

$$K_t = 0 \text{ (from Table 2-5)}$$

$$f = 0 \text{ (from Table 2-5)}$$

$$z = 167$$

$$H = 0 \text{ (Ht. of the crest above surrounding terrain)}$$

$$K_{zt} = 1.00$$

$$K_{iz} = 1.18 \text{ (from Sec. 2.6.8)}$$

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

Category= 1

2.6.8 Design Ice Thickness

Max Ice Thickness =

$$t_i = 0.75 \text{ in}$$

$$t_{iz} = 2.0 * t_i * I * K_{iz} * (K_{zt})^{0.35}$$

$$t_{iz} = 1.76 \text{ in}$$

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2.6.7 Gust Effect Factor

2.6.7.1 Self Supporting Lattice Structures

Gh = 1.0 Latticed Structures > 600 ft

Gh = 0.85 Latticed Structures 450 ft or less

Gh = 0.85 + 0.15 [h/150 - 3.0] h = ht. of structure

h = 191 Gh = 0.85

2.6.7.2 Guyed Masts

Gh = 0.85

2.6.7.3 Pole Structures

Gh = 1.1

2.6.9 Appurtenances

Gh = 1.0

2.6.7.4 Structures Supported on Other Structures

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

Gh = 1.35 Gh = 1.00

2.6.9.2 Design Wind Force on Appurtenances

State Code Ultimate Design Wind Speed: $V_{ult} = 130$ mph

Nomial Design Wind Speed, $V_{asd} = V_{ult} \sqrt{0.6}$ $V_{asd} = 101$ mph

V_{asd} per the AT&T Mount Technical Directive and Connecticut State Building Code, Latest Edition.

Per TIA-222-G, $V_{min} = 95$ mph $V_{max} = 115$ mph

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

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

$$K_z = 1.144$$

$$K_{zt} = 1.0$$

$$K_d = 0.85$$

$$V_{asd} = 101 \text{ mph}$$

$$q_z (ice) = 6.22$$

$$V_{max (ice)} = 50 \text{ mph}$$

$$q_z (30) = 2.24$$

$$V_{30} = 30 \text{ mph}$$

$$I = 1.0$$

Table 2-2

Structure Type	Wind Direction Probability Factor, Kd
Latticed structures with triangular, square or rectangular cross sections	0.85
Tubular pole structures, latticed structures with other cross sections, appurtenances	0.95

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Determine Ca:

Table 2-8

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
Round	C < 32 (Subcritical)	0.7	0.8	1.2
	32 ≤ C ≤ 64 (Transitional)	$3.76/(C^{0.485})$	$3.37/(C^{0.415})$	$38.4/(C^{1.0})$
	C > 64 (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 = 1.76 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	139	48	12
HPA-65R-BUU-H4 Antenna	48.0	14.8	7.4	4.93	3.24	1.23	154	50	14
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	4.67	1.30	150	51	13
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	3.33	1.24	150	49	13
RRUS-11 RRH	19.7	17.0	7.2	2.33	1.16	1.20	70	25	6
RRUS-11 RRH (Shielded)	19.7	2.6	7.2	0.36	7.58	1.42	13	9	1
RRUS-32 RRH	27.2	12.1	7.0	2.29	2.25	1.20	69	25	6
RRUS-32 RRH (Shielded)	27.2	0.2	7.0	0.04	136.00	5.70	5	28	0
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	2.25	1.20	69	25	6
RRUS-32 B2 RRH (Shielded)	27.2	0.0	7.0	0.00	0.00	1.20	0	0	0
4426 B66 RRH	15.0	13.2	5.8	1.38	1.14	1.20	42	16	4
4426 B66 RRH (Shielded)	15.0	0.0	5.8	0.00	0.00	1.20	0	0	0
LGP 21401 TMA	14.4	9.0	2.7	0.90	1.60	1.20	27	12	2
Surge Arrestor	24.0	9.7	9.7	1.62	2.47	0.70	29	11	3
2" Pipe	2.4	12.0		0.20	0.20	1.20	6	5	1
L 3x3x1/4 Angle	3.0	12.0		0.25	0.25	2.00	13	9	1
L 3-1/2x3-1/2x1/4 Angle	3.5	12.0		0.29	0.29	2.00	15	9	1

Date: 8/13/2018

Project Name: GUILFORD

Project Number: C12017

Designed By: BD Checked By: MSC

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WIND LOADS

Angle = 30 (deg)

Ice Thickness = 1.76 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	139	74	123
HPA-65R-BUU-H4 Antenna	48.0	14.8	7.4	4.93	2.47	3.24	6.49	1.23	1.38	154	86	137
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	150	99	137
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	150	85	134
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	70	30	60
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	35	30	34
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	69	42	62
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	37	42	38
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	69	42	62
RRUS-32 B2 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	37	42	38
4426 B66 RRH	15.0	13.2	5.8	1.38	0.60	1.14	2.59	1.20	1.20	42	18	36
4426 B66 RRH (Shielded)	15.0	6.6	5.8	0.69	0.60	2.27	2.59	1.20	1.20	21	18	20
LGP 21401 TMA	14.4	9.0	2.7	0.90	0.27	1.60	5.33	1.20	1.33	27	9	23

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.90	3.47	4.03	6.86	1.27	1.39	47	30	42
HPA-65R-BUU-H4 Antenna	51.5	18.3	10.9	6.56	3.91	2.81	4.72	1.21	1.30	50	32	45
SBNHH-1D65A Antenna	59.1	15.4	10.6	6.33	4.36	3.83	5.56	1.26	1.34	50	36	46
OPA-65R-LCUU-H4 Antenna	51.5	17.9	10.8	6.42	3.87	2.87	4.76	1.22	1.30	49	31	44
RRUS-11 RRH	23.2	20.5	10.7	3.31	1.73	1.13	2.17	1.20	1.20	25	13	22
RRUS-11 RRH (Shielded)	23.2	10.3	10.7	1.66	1.73	2.26	2.17	1.20	1.20	12	13	13
RRUS-32 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	25	17	23
RRUS-32 RRH (Shielded)	30.7	7.8	10.5	1.67	2.25	3.93	2.92	1.26	1.22	13	17	14
RRUS-32 B2 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	25	17	23
RRUS-32 B2 RRH (Shielded)	30.7	7.8	10.5	1.67	2.25	3.93	2.92	1.26	1.22	13	17	14
4426 B66 RRH	18.5	16.7	9.3	2.15	1.20	1.11	1.99	1.20	1.20	16	9	14
4426 B66 RRH (Shielded)	18.5	8.4	9.3	1.08	1.20	2.22	1.99	1.20	1.20	8	9	8
LGP 21401 TMA	17.9	12.5	6.2	1.56	0.78	1.43	2.88	1.20	1.22	12	6	10

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	7	11
HPA-65R-BUU-H4 Antenna	48.0	14.8	7.4	4.93	2.47	3.24	6.49	1.23	1.38	14	8	12
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	13	9	12
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	13	8	12
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	5
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	3	3	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	3	4	3
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-32 B2 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	3	4	3
4426 B66 RRH	15.0	13.2	5.8	1.38	0.60	1.14	2.59	1.20	1.20	4	2	3
4426 B66 RRH (Shielded)	15.0	6.6	5.8	0.69	0.60	2.27	2.59	1.20	1.20	2	2	2
LGP 21401 TMA	14.4	9.0	2.7	0.90	0.27	1.60	5.33	1.20	1.33	2	1	2

Date: 8/13/2018

Project Name: GUILFORD

Project Number: CT2017

Designed By: BD Checked By: MSC

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WIND LOADS

Angle = 60 (deg)

Ice Thickness = 1.76 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	139	74	90
HPA-65R-BUU-H4 Antenna	48.0	14.8	7.4	4.93	2.47	3.24	6.49	1.23	1.38	154	86	103
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	150	99	112
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	150	85	101
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	70	30	40
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	53	30	36
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	69	42	49
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	53	42	45
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	69	42	49
RRUS-32 B2 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	53	42	45
4426 B66 RRH	15.0	13.2	5.8	1.38	0.60	1.14	2.59	1.20	1.20	42	18	24
4426 B66 RRH (Shielded)	15.0	9.9	5.8	1.03	0.60	1.52	2.59	1.20	1.20	31	18	22
LGP 21401 TMA	14.4	9.0	2.7	0.90	0.27	1.60	5.33	1.20	1.33	27	9	14

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.90	3.47	4.03	6.86	1.27	1.39	47	30	34
HPA-65R-BUU-H4 Antenna	51.5	18.3	10.9	6.56	3.91	2.81	4.72	1.21	1.30	50	32	36
SBNHH-1D65A Antenna	59.1	15.4	10.6	6.33	4.36	3.83	5.56	1.26	1.34	50	36	40
OPA-65R-LCUU-H4 Antenna	51.5	17.9	10.8	6.42	3.87	2.87	4.76	1.22	1.30	49	31	36
RRUS-11 RRH	23.2	20.5	10.7	3.31	1.73	1.13	2.17	1.20	1.20	25	13	16
RRUS-11 RRH (Shielded)	23.2	15.4	10.7	2.48	1.73	1.51	2.17	1.20	1.20	19	13	14
RRUS-32 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	25	17	19
RRUS-32 RRH (Shielded)	30.7	11.7	10.5	2.50	2.25	2.62	2.92	1.21	1.22	19	17	17
RRUS-32 B2 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	25	17	19
RRUS-32 B2 RRH (Shielded)	30.7	11.7	10.5	2.50	2.25	2.62	2.92	1.21	1.22	19	17	17
4426 B66 RRH	18.5	16.7	9.3	2.15	1.20	1.11	1.99	1.20	1.20	16	9	11
4426 B66 RRH (Shielded)	18.5	12.5	9.3	1.61	1.20	1.48	1.99	1.20	1.20	12	9	10
LGP 21401 TMA	17.9	12.5	6.2	1.56	0.78	1.43	2.88	1.20	1.22	12	6	7

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	7	8
HPA-65R-BUU-H4 Antenna	48.0	14.8	7.4	4.93	2.47	3.24	6.49	1.23	1.38	14	8	9
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	13	9	10
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	13	8	9
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	4
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 B2 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
4426 B66 RRH	15.0	13.2	5.8	1.38	0.60	1.14	2.59	1.20	1.20	4	2	2
4426 B66 RRH (Shielded)	15.0	9.9	5.8	1.03	0.60	1.52	2.59	1.20	1.20	3	2	2
LGP 21401 TMA	14.4	9.0	2.7	0.90	0.27	1.60	5.33	1.20	1.33	2	1	1

Date: 8/13/2018

Project Name: GUILFORD

Project Number: CT2017

Designed By: BD Checked By: MSC

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WIND LOADS

Angle = 90 (deg)

Ice Thickness = 1.76 in.

Equivalent Angle = 270 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	Cd (normal)	Cd (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	139	74	74
HPA-65R-BUU-H4 Antenna	48.0	14.8	7.4	4.93	2.47	3.24	6.49	1.23	1.38	154	86	86
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	150	99	99
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	150	85	85
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	70	30	30
RRUS-11 RRH (Shielded)	19.7	2.6	7.2	0.36	0.99	7.58	2.74	1.42	1.21	13	30	30
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	69	42	42
RRUS-32 RRH (Shielded)	27.2	0.2	7.0	0.04	1.32	136.00	3.89	5.70	1.26	5	42	42
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	69	42	42
RRUS-32 B2 RRH (Shielded)	27.2	0.0	7.0	0.00	1.32	0.00	3.89	1.20	1.26	0	42	42
4426 B66 RRH	15.0	13.2	5.8	1.38	0.60	1.14	2.59	1.20	1.20	42	18	18
4426 B66 RRH (Shielded)	15.0	0.0	5.8	0.00	0.60	0.00	2.59	1.20	1.20	0	18	18
LGP 21401 TMA	14.4	9.0	2.7	0.90	0.27	1.60	5.33	1.20	1.33	27	9	9

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.90	3.47	4.03	6.86	1.27	1.39	47	30	30
HPA-65R-BUU-H4 Antenna	51.5	18.3	10.9	6.56	3.91	2.81	4.72	1.21	1.30	50	32	32
SBNHH-1D65A Antenna	59.1	15.4	10.6	6.33	4.36	3.83	5.56	1.26	1.34	50	36	36
OPA-65R-LCUU-H4 Antenna	51.5	17.9	10.8	6.42	3.87	2.87	4.76	1.22	1.30	49	31	31
RRUS-11 RRH	23.2	20.5	10.7	3.31	1.73	1.13	2.17	1.20	1.20	25	13	13
RRUS-11 RRH (Shielded)	23.2	6.1	10.7	0.99	1.73	3.79	2.17	1.26	1.20	8	13	13
RRUS-32 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	25	17	17
RRUS-32 RRH (Shielded)	30.7	3.7	10.5	0.80	2.25	8.24	2.92	1.44	1.22	7	17	17
RRUS-32 B2 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	25	17	17
RRUS-32 B2 RRH (Shielded)	30.7	3.5	10.5	0.75	2.25	8.71	2.92	1.46	1.22	7	17	17
4426 B66 RRH	18.5	16.7	9.3	2.15	1.20	1.11	1.99	1.20	1.20	16	9	9
4426 B66 RRH (Shielded)	18.5	3.5	9.3	0.45	1.20	5.25	1.99	1.32	1.20	4	9	9
LGP 21401 TMA	17.9	12.5	6.2	1.56	0.78	1.43	2.88	1.20	1.22	12	6	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	7	7
HPA-65R-BUU-H4 Antenna	48.0	14.8	7.4	4.93	2.47	3.24	6.49	1.23	1.38	14	8	8
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	13	9	9
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	13	8	8
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	3
RRUS-11 RRH (Shielded)	19.7	2.6	7.2	0.36	0.99	7.58	2.74	1.42	1.21	1	3	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 RRH (Shielded)	27.2	0.2	7.0	0.04	1.32	136.00	3.89	5.70	1.26	0	4	4
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 B2 RRH (Shielded)	27.2	0.0	7.0	0.00	1.32	0.00	3.89	1.20	1.26	0	4	4
4426 B66 RRH	15.0	13.2	5.8	1.38	0.60	1.14	2.59	1.20	1.20	4	2	2
4426 B66 RRH (Shielded)	15.0	0.0	5.8	0.00	0.60	0.00	2.59	1.20	1.20	0	2	2
LGP 21401 TMA	14.4	9.0	2.7	0.90	0.27	1.60	5.33	1.20	1.33	2	1	1

Date: 8/13/2018
 Project Name: GUILFORD
 Project Number: C12017
 Designed By: BD Checked By: MSC



WIND LOADS

Angle = 120 (deg)

Ice Thickness = 1.76 in.

Equivalent Angle = 900 (deg)

WIND LOADS WITH NO ICE:

Appurtenances	Height	Width	Depth	Flat Area (normal)	Flat Area (side)	Ratio (normal)	Ratio (side)	C _a (normal)	C _a (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	139	74	90
HPA-65R-BUU-H4 Antenna	48.0	14.8	7.4	4.93	2.47	9.24	6.49	1.23	1.38	154	86	103
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	150	99	112
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.9	4.80	2.43	9.33	6.58	1.24	1.38	150	85	101
RRUS-11 RRH	19.7	17.0	7.2	2.99	0.99	1.16	2.74	1.20	1.21	70	30	40
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	53	30	36
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	69	42	49
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	53	42	45
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	69	42	49
RRUS-32 B2 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	53	42	45
4426 B66 RRH	15.0	13.2	5.8	1.38	0.60	1.14	2.59	1.20	1.20	42	18	24
4426 B66 RRH (Shielded)	15.0	9.9	5.8	1.03	0.60	1.52	2.59	1.20	1.20	31	18	22
LGP 21401 TMA	14.4	9.0	2.7	0.90	0.27	1.60	5.33	1.20	1.33	27	9	14

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.90	3.47	4.03	6.86	1.27	1.39	47	30	34
HPA-65R-BUU-H4 Antenna	51.5	18.9	10.9	6.56	3.91	2.81	4.72	1.21	1.30	50	32	36
SBNHH-1D65A Antenna	59.1	15.4	10.6	6.33	4.36	3.83	5.56	1.26	1.34	50	36	40
OPA-65R-LCUU-H4 Antenna	51.5	17.9	10.8	6.42	3.87	2.87	4.76	1.22	1.30	49	31	36
RRUS-11 RRH	23.2	20.5	10.7	3.31	1.79	1.13	2.17	1.20	1.20	25	13	16
RRUS-11 RRH (Shielded)	23.2	15.4	10.7	2.48	1.79	1.51	2.17	1.20	1.20	19	13	14
RRUS-32 RRH	30.7	15.6	10.5	3.39	2.25	1.97	2.92	1.20	1.22	25	17	19
RRUS-32 RRH (Shielded)	30.7	11.7	10.5	2.50	2.25	2.62	2.92	1.21	1.22	19	17	17
RRUS-32 B2 RRH	30.7	15.6	10.5	3.39	2.25	1.97	2.92	1.20	1.22	25	17	19
RRUS-32 B2 RRH (Shielded)	30.7	11.7	10.5	2.50	2.25	2.62	2.92	1.21	1.22	19	17	17
4426 B66 RRH	18.5	16.7	9.3	2.15	1.20	1.11	1.99	1.20	1.20	16	9	11
4426 B66 RRH (Shielded)	18.5	12.5	9.3	1.61	1.20	1.48	1.99	1.20	1.20	12	9	10
LGP 21401 TMA	17.9	12.5	6.2	1.56	0.78	1.43	2.88	1.20	1.22	12	6	7

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	7	8
HPA-65R-BUU-H4 Antenna	48.0	14.8	7.4	4.93	2.47	9.24	6.49	1.23	1.38	14	8	9
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	13	9	10
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.9	4.80	2.43	9.33	6.58	1.24	1.38	13	8	9
RRUS-11 RRH	19.7	17.0	7.2	2.99	0.99	1.16	2.74	1.20	1.21	6	3	4
RRUS-11 RRH (Shielded)	19.7	12.8	7.2	1.74	0.99	1.55	2.74	1.20	1.21	5	3	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	4
RRUS-32 B2 RRH (Shielded)	27.2	9.1	7.0	1.71	1.32	3.00	3.89	1.22	1.26	5	4	4
4426 B66 RRH	15.0	13.2	5.8	1.38	0.60	1.14	2.59	1.20	1.20	4	2	2
4426 B66 RRH (Shielded)	15.0	9.9	5.8	1.03	0.60	1.52	2.59	1.20	1.20	3	2	2
LGP 21401 TMA	14.4	9.0	2.7	0.90	0.27	1.60	5.33	1.20	1.33	2	1	1

Date: 8/13/2018
 Project Name: GUILFORD
 Project Number: C12017
 Designed By: BD Checked By: MSC



WIND LOADS

Angle = 150 (deg)

Ice Thickness = 1.76 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	139	74	123
HPA-65R-BUU-H4 Antenna	48.0	14.8	7.4	4.93	2.47	3.24	6.49	1.23	1.38	154	86	137
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	150	99	137
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	150	85	134
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	70	30	60
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	35	30	34
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	69	42	62
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	37	42	38
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	69	42	62
RRUS-32 B2 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	37	42	38
4426 B66 RRH	15.0	13.2	5.8	1.38	0.60	1.14	2.59	1.20	1.20	42	18	36
4426 B66 RRH (Shielded)	15.0	6.6	5.8	0.69	0.60	2.27	2.59	1.20	1.20	21	18	20
LGP 21401 TMA	14.4	9.0	2.7	0.90	0.27	1.60	5.33	1.20	1.33	27	9	23

WIND LOADS WITH ICE:

7770 Antenna	58.5	14.5	8.5	5.90	3.47	4.03	6.86	1.27	1.39	47	30	42
HPA-65R-BUU-H4 Antenna	51.5	18.3	10.9	6.56	3.91	2.81	4.72	1.21	1.30	50	32	45
SBNHH-1D65A Antenna	59.1	15.4	10.6	6.33	4.36	3.83	5.56	1.26	1.34	50	36	46
OPA-65R-LCUU-H4 Antenna	51.5	17.9	10.8	6.42	3.87	2.87	4.76	1.22	1.30	49	31	44
RRUS-11 RRH	23.2	20.5	10.7	3.31	1.73	1.13	2.17	1.20	1.20	25	13	22
RRUS-11 RRH (Shielded)	23.2	10.3	10.7	1.66	1.73	2.26	2.17	1.20	1.20	12	13	13
RRUS-32 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	25	17	23
RRUS-32 RRH (Shielded)	30.7	7.8	10.5	1.67	2.25	3.93	2.92	1.26	1.22	13	17	14
RRUS-32 B2 RRH	30.7	15.6	10.5	3.33	2.25	1.97	2.92	1.20	1.22	25	17	23
RRUS-32 B2 RRH (Shielded)	30.7	7.8	10.5	1.67	2.25	3.93	2.92	1.26	1.22	13	17	14
4426 B66 RRH	18.5	16.7	9.3	2.15	1.20	1.11	1.99	1.20	1.20	16	9	14
4426 B66 RRH (Shielded)	18.5	8.4	9.3	1.08	1.20	2.22	1.99	1.20	1.20	8	9	8
LGP 21401 TMA	17.9	12.5	6.2	1.56	0.78	1.43	2.88	1.20	1.22	12	6	10

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	7	11
HPA-65R-BUU-H4 Antenna	48.0	14.8	7.4	4.93	2.47	3.24	6.49	1.23	1.38	14	8	12
SBNHH-1D65A Antenna	55.6	11.9	7.1	4.59	2.74	4.67	7.83	1.30	1.43	13	9	12
OPA-65R-LCUU-H4 Antenna	48.0	14.4	7.3	4.80	2.43	3.33	6.58	1.24	1.38	13	8	12
RRUS-11 RRH	19.7	17.0	7.2	2.33	0.99	1.16	2.74	1.20	1.21	6	3	5
RRUS-11 RRH (Shielded)	19.7	8.5	7.2	1.16	0.99	2.32	2.74	1.20	1.21	3	3	3
RRUS-32 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-32 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	3	4	3
RRUS-32 B2 RRH	27.2	12.1	7.0	2.29	1.32	2.25	3.89	1.20	1.26	6	4	6
RRUS-32 B2 RRH (Shielded)	27.2	6.1	7.0	1.14	1.32	4.50	3.89	1.29	1.26	3	4	3
4426 B66 RRH	15.0	13.2	5.8	1.38	0.60	1.14	2.59	1.20	1.20	4	2	3
4426 B66 RRH (Shielded)	15.0	6.6	5.8	0.69	0.60	2.27	2.59	1.20	1.20	2	2	2
LGP 21401 TMA	14.4	9.0	2.7	0.90	0.27	1.60	5.33	1.20	1.33	2	1	2

Date: 8/13/2018
 Project Name: GUILFORD
 Project Number: CT2017
 Designed By: BD Checked By: MSC



ICE WEIGHT CALCULATIONS

Thickness of ice: 1.76 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: 136 lbs
 Weight of object: 35 lbs

Combined weight of ice and object: 171 lbs

OPA-65R-LCUU-H4 Antenna

Weight of ice based on total radial SF area:
 Height (in): 48.0
 Width (in): 14.4
 Depth (in): 7.3
 Total weight of ice on object: 154 lbs
 Weight of object: 64 lbs

Combined weight of ice and object: 218 lbs

RRUS-11 RRH

Weight of ice based on total radial SF area:
 Height (in): 19.7
 Width (in): 17.0
 Depth (in): 7.2
 Total weight of ice on object: 71 lbs
 Weight of object: 51 lbs

Combined weight of ice and object: 122 lbs

RRUS-32 B2 RRH

Weight of ice based on total radial SF area:
 Height (in): 27.2
 Width (in): 12.1
 Depth (in): 7.0
 Total weight of ice on object: 77 lbs
 Weight of object: 60 lbs

Combined weight of ice and object: 137 lbs

LGP 21401 TMA

Weight of ice based on total radial SF area:
 Height (in): 14.4
 Width (in): 9.0
 Depth (in): 2.7
 Total weight of ice on object: 29 lbs
 Weight of object: 19 lbs

Combined weight of ice and object: 48 lbs

2" pipe

Per foot weight of ice:
 diameter (in): 2.38
 Per foot weight of ice on object: 9 plf

L 3-1/2x3-1/2x1/4 Angles

Weight of ice based on total radial SF area:
 Height (in): 3.5
 Width (in): 3.5
 Per foot weight of ice on object: 14 plf

SBNHH-1D65A Antenna

Weight of ice based on total radial SF area:
 Height (in): 55.6
 Width (in): 11.9
 Depth (in): 7.1
 Total weight of ice on object: 156 lbs
 Weight of object: 34 lbs

Combined weight of ice and object: 190 lbs

HPA-65R-BUU-H4 Antenna

Weight of ice based on total radial SF area:
 Height (in): 48.0
 Width (in): 14.8
 Depth (in): 7.4
 Total weight of ice on object: 157 lbs
 Weight of object: 39 lbs

Combined weight of ice and object: 196 lbs

RRUS-32 RRH

Weight of ice based on total radial SF area:
 Height (in): 27.2
 Width (in): 12.1
 Depth (in): 7.0
 Total weight of ice on object: 77 lbs
 Weight of object: 60 lbs

Combined weight of ice and object: 137 lbs

4426 B66 RRH

Weight of ice based on total radial SF area:
 Height (in): 15.0
 Width (in): 13.2
 Depth (in): 5.8
 Total weight of ice on object: 43 lbs
 Weight of object: 49 lbs

Combined weight of ice and object: 92 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: 49 lbs
 Weight of object: 33 lbs

Combined weight of ice and object: 82 lbs

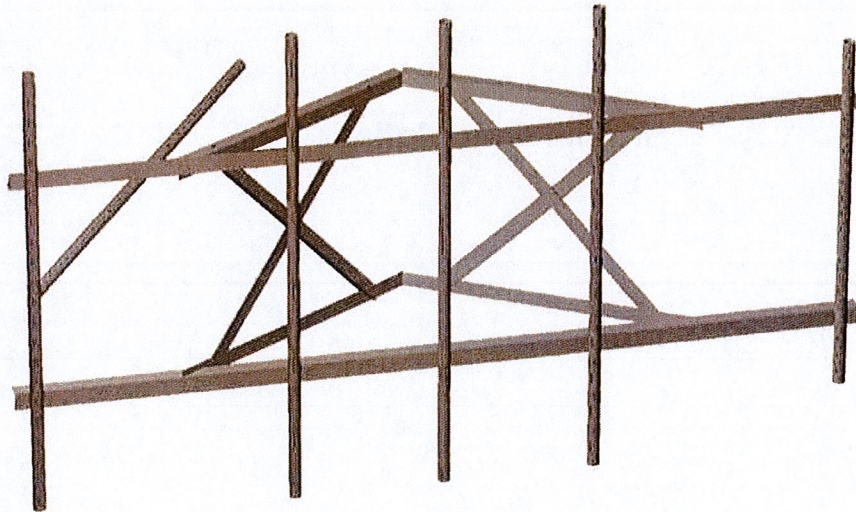
L 3x3x1/4 Angles

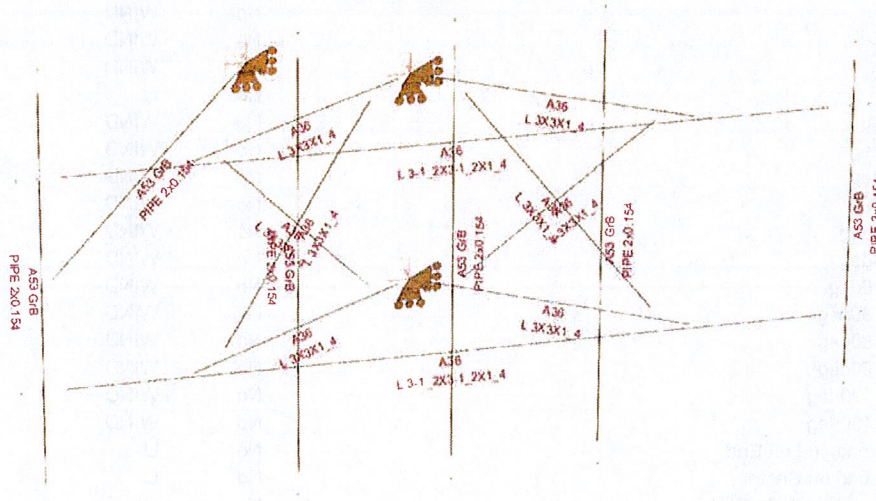
Weight of ice based on total radial SF area:
 Height (in): 3
 Width (in): 3
 Per foot weight of ice on object: 13 plf



HUDSON
Design Group LLC

Mount Calculations





Current Date: 8/13/2018 11:35 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2017\Centerline\CT2017 (LTE 5C-6C).etzl

Load data

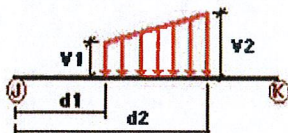
GLOSSARY

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	WIND
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 on Left End	No	LL
LL2	250 lb Live Load on Center	No	LL
LL3	250 lb Live Load on Right End	No	LL
LLa1	500 lb Live Load on Antenna 1	No	LL
LLa2	500 lb Live Load on Antenna 2	No	LL
LLa3	500 lb Live Load on Antenna 3	No	LL
LLa4	500 lb Live Load on Antenna 4	No	LL

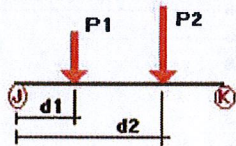
Distributed force on members



Condition	Member	Dir1	Val1 [Kip/ft]	Val2 [Kip/ft]	Dist1 [ft]	%	Dist2 [ft]	%
Wo	1	Z	-0.015	-0.015	0.00	Yes	100.00	Yes
	2	Z	-0.015	-0.015	0.00	Yes	100.00	Yes
	8	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	9	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	10	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	11	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	12	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	13	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	14	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	15	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	16	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
W30	1	Z	-0.015	-0.015	0.00	Yes	100.00	Yes
	2	Z	-0.015	-0.015	0.00	Yes	100.00	Yes
	8	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	9	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	10	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	11	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	12	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	13	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	14	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	15	Z	-0.013	-0.013	0.00	Yes	100.00	Yes
	16	Z	-0.006	-0.006	0.00	Yes	100.00	Yes
W60	3	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	4	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	5	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	6	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	9	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	10	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	11	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	12	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	13	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	14	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	15	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	16	X	-0.006	-0.006	0.00	Yes	100.00	Yes
W90	3	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	4	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	5	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	6	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	9	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	10	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	11	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	12	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	13	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	14	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	15	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	16	X	-0.006	-0.006	0.00	Yes	100.00	Yes
W120	3	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	4	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	5	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	6	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	7	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	8	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	9	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	10	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	11	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	12	X	-0.013	-0.013	0.00	Yes	100.00	Yes

W150	13	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	14	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	15	X	-0.013	-0.013	0.00	Yes	100.00	Yes
	16	X	-0.006	-0.006	0.00	Yes	100.00	Yes
	1	Z	0.015	0.015	0.00	Yes	100.00	Yes
	2	Z	0.015	0.015	0.00	Yes	100.00	Yes
	8	Z	0.013	0.013	0.00	Yes	100.00	Yes
	9	Z	0.013	0.013	0.00	Yes	100.00	Yes
	10	Z	0.013	0.013	0.00	Yes	100.00	Yes
	11	Z	0.013	0.013	0.00	Yes	100.00	Yes
	12	Z	0.013	0.013	0.00	Yes	100.00	Yes
	13	Z	0.013	0.013	0.00	Yes	100.00	Yes
	14	Z	0.013	0.013	0.00	Yes	100.00	Yes
	15	Z	0.013	0.013	0.00	Yes	100.00	Yes
	16	Z	0.006	0.006	0.00	Yes	100.00	Yes
Di	1	Y	-0.014	-0.014	0.00	Yes	100.00	Yes
	2	Y	-0.014	-0.014	0.00	Yes	100.00	Yes
	3	Y	-0.009	-0.009	0.00	Yes	100.00	Yes
	4	Y	-0.009	-0.009	0.00	Yes	100.00	Yes
	5	Y	-0.009	-0.009	0.00	Yes	100.00	Yes
	6	Y	-0.009	-0.009	0.00	Yes	100.00	Yes
	7	Y	-0.009	-0.009	0.00	Yes	100.00	Yes
	8	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	9	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	10	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	11	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	12	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	13	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	14	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	15	Y	-0.013	-0.013	0.00	Yes	100.00	Yes
	16	Y	-0.009	-0.009	0.00	Yes	100.00	Yes

Concentrated forces on members



Condition	Member	Dir1	Value1 [Kip]	Dist1 [ft]	%
D	3	y	-0.018	0.50	No
		y	-0.018	5.08	No
		y	-0.038	3.00	No
	4	y	-0.02	1.00	No
		y	-0.02	5.00	No
		y	-0.06	4.00	No
	6	y	-0.017	0.50	No
		y	-0.017	5.13	No
		y	-0.06	1.50	No
	7	y	-0.032	0.00	No
		y	-0.032	4.00	No
		y	-0.051	0.50	No
Wo	3	y	-0.049	3.00	No
		z	-0.07	0.50	No

		z	-0.07	5.08	No
	4	z	-0.077	1.00	No
		z	-0.077	5.00	No
	6	z	-0.075	0.50	No
		z	-0.075	5.13	No
		z	-0.005	1.50	No
	7	z	-0.075	0.00	No
		z	-0.075	4.00	No
		z	-0.013	0.50	No
W30	3	2	-0.062	0.50	No
		2	-0.062	5.08	No
		2	-0.023	3.00	No
	4	2	-0.069	1.00	No
		2	-0.069	5.00	No
		2	-0.038	4.00	No
	6	2	-0.069	0.50	No
		2	-0.069	5.13	No
		2	-0.038	1.50	No
	7	2	-0.067	0.00	No
		2	-0.067	4.00	No
		2	-0.034	0.50	No
		2	-0.02	3.00	No
W60	3	2	-0.045	0.50	No
		2	-0.045	5.08	No
		2	-0.014	3.00	No
	4	2	-0.052	1.00	No
		2	-0.052	5.00	No
		2	-0.045	4.00	No
	6	2	-0.056	0.50	No
		2	-0.056	5.13	No
		2	-0.045	1.50	No
	7	2	-0.051	0.00	No
		2	-0.051	4.00	No
		2	-0.036	0.50	No
		2	-0.022	3.00	No
W90	3	x	-0.037	0.50	No
		x	-0.037	5.08	No
		x	-0.009	3.00	No
	4	x	-0.043	1.00	No
		x	-0.043	5.00	No
		x	-0.042	4.00	No
	6	x	-0.05	0.50	No
		x	-0.05	5.13	No
		x	-0.042	1.50	No
	7	x	-0.043	0.00	No
		x	-0.043	4.00	No
		x	-0.03	0.50	No
		x	-0.018	3.00	No
W120	3	3	0.045	0.50	No
		3	0.045	5.08	No
		3	0.014	3.00	No
	4	3	0.052	1.00	No
		3	0.052	5.00	No
		3	0.045	4.00	No
	6	3	0.056	0.50	No
		3	0.056	5.13	No
		3	0.045	1.50	No
	7	3	0.051	0.00	No
		3	0.051	4.00	No
		3	0.036	0.50	No

W150	3	3	0.022	3.00	No
		3	0.062	0.50	No
		3	0.062	5.08	No
	4	3	0.023	3.00	No
		3	0.069	1.00	No
		3	0.069	5.00	No
	6	3	0.038	4.00	No
		3	0.069	0.50	No
		3	0.069	5.13	No
	7	3	0.038	1.50	No
		3	0.067	0.00	No
		3	0.067	4.00	No
Di	3	3	0.034	0.50	No
		3	0.02	3.00	No
		y	-0.068	0.50	No
	4	y	-0.068	5.08	No
		y	-0.058	3.00	No
		y	-0.079	1.00	No
	6	y	-0.079	5.00	No
		y	-0.077	4.00	No
		y	-0.078	0.50	No
	7	y	-0.078	5.13	No
		y	-0.077	1.50	No
		y	-0.077	0.00	No
W10	3	y	-0.077	4.00	No
		y	-0.071	0.50	No
		y	-0.043	3.00	No
	4	z	-0.024	0.50	No
		z	-0.024	5.08	No
		z	-0.025	1.00	No
	6	z	-0.025	5.00	No
		z	-0.026	0.50	No
		z	-0.026	5.13	No
	7	z	-0.028	1.50	No
		z	-0.025	0.00	No
		z	-0.025	4.00	No
W130	3	z	-0.009	0.50	No
		2	-0.021	0.50	No
		2	-0.021	5.08	No
	4	2	-0.01	3.00	No
		2	-0.023	1.00	No
		2	-0.023	5.00	No
	6	2	-0.014	4.00	No
		2	-0.023	0.50	No
		2	-0.023	5.13	No
	7	2	-0.014	1.50	No
		2	-0.022	0.00	No
		2	-0.022	4.00	No
W160	3	2	-0.013	0.50	No
		2	-0.008	3.00	No
		2	-0.017	0.50	No
	4	2	-0.017	5.08	No
		2	-0.007	3.00	No
		2	-0.018	1.00	No
	6	2	-0.018	5.00	No
		2	-0.017	4.00	No
		2	-0.02	0.50	No
	7	2	-0.02	5.13	No
		2	-0.017	1.50	No
		2	-0.018	0.00	No

		2	-0.018	4.00	No
		2	-0.014	0.50	No
		2	-0.01	3.00	No
WI90	3	x	-0.015	0.50	No
		x	-0.015	5.08	No
		x	-0.006	3.00	No
	4	x	-0.016	1.00	No
		x	-0.016	5.00	No
		x	-0.017	4.00	No
	6	x	-0.018	0.50	No
		x	-0.018	5.13	No
		x	-0.017	1.50	No
	7	x	-0.016	0.00	No
		x	-0.016	4.00	No
		x	-0.013	0.50	No
		x	-0.009	3.00	No
WI120	3	3	0.017	0.50	No
		3	0.017	5.08	No
		3	0.007	3.00	No
	4	3	0.018	1.00	No
		3	0.018	5.00	No
		3	0.017	4.00	No
	6	3	0.02	0.50	No
		3	0.02	5.13	No
		3	0.017	1.50	No
	7	3	0.018	0.00	No
		3	0.018	4.00	No
		3	0.014	0.50	No
		3	0.01	3.00	No
WI150	3	3	0.021	0.50	No
		3	0.021	5.08	No
		3	0.01	3.00	No
	4	3	0.023	1.00	No
		3	0.023	5.00	No
		3	0.014	4.00	No
	6	3	0.023	0.50	No
		3	0.023	5.13	No
		3	0.014	1.50	No
	7	3	0.022	0.00	No
		3	0.022	4.00	No
		3	0.013	0.50	No
		3	0.008	3.00	No
WLO	3	z	-0.006	0.50	No
		z	-0.006	5.08	No
	4	z	-0.007	1.00	No
		z	-0.007	5.00	No
	6	z	-0.007	0.50	No
		z	-0.007	5.13	No
		z	-0.001	1.50	No
	7	z	-0.007	0.00	No
		z	-0.007	4.00	No
		z	-0.001	0.50	No
WL30	3	2	-0.006	0.50	No
		2	-0.006	5.08	No
		2	-0.002	3.00	No
	4	2	-0.006	1.00	No
		2	-0.006	5.00	No
		2	-0.003	4.00	No
	6	2	-0.006	0.50	No
		2	-0.006	5.13	No

		2	-0.003	1.50	No
	7	2	-0.006	0.00	No
		2	-0.006	4.00	No
		2	-0.003	0.50	No
		2	-0.002	3.00	No
WL60	3	2	-0.004	0.50	No
		2	-0.004	5.08	No
		2	-0.001	3.00	No
	4	2	-0.005	1.00	No
		2	-0.005	5.00	No
		2	-0.004	4.00	No
	6	2	-0.005	0.50	No
		2	-0.005	5.13	No
		2	-0.004	1.50	No
	7	2	-0.005	0.00	No
		2	-0.005	4.00	No
		2	-0.003	0.50	No
		2	-0.002	3.00	No
WL90	3	x	-0.004	0.50	No
		x	-0.004	5.08	No
		x	-0.001	3.00	No
	4	x	-0.004	1.00	No
		x	-0.004	5.00	No
		x	-0.004	4.00	No
	6	x	-0.005	0.50	No
		x	-0.005	5.13	No
		x	-0.004	1.50	No
	7	x	-0.004	0.00	No
		x	-0.004	4.00	No
		x	-0.003	0.50	No
		x	-0.002	3.00	No
WL120	3	3	0.004	0.50	No
		3	0.004	5.08	No
		3	0.001	3.00	No
	4	3	0.005	1.00	No
		3	0.005	5.00	No
		3	0.004	4.00	No
	6	3	0.005	0.50	No
		3	0.005	5.13	No
		3	0.004	1.50	No
	7	3	0.005	0.00	No
		3	0.005	4.00	No
		3	0.003	0.50	No
		3	0.002	3.00	No
WL150	3	3	0.006	0.50	No
		3	0.006	5.08	No
		3	0.002	3.00	No
	4	3	0.006	1.00	No
		3	0.006	5.00	No
		3	0.003	4.00	No
	6	3	0.006	0.50	No
		3	0.006	5.13	No
		3	0.003	1.50	No
	7	3	0.006	0.00	No
		3	0.006	4.00	No
		3	0.003	0.50	No
		3	0.002	3.00	No
LL1	1	y	-0.25	0.00	No
LL2	1	y	-0.25	7.00	No
LL3	1	y	-0.25	14.00	No

LLa1	7	y	-0.50	3.00	No
LLa2	6	y	-0.50	4.00	No
LLa3	4	y	-0.50	4.00	No
LLa4	3	y	-0.50	3.75	No

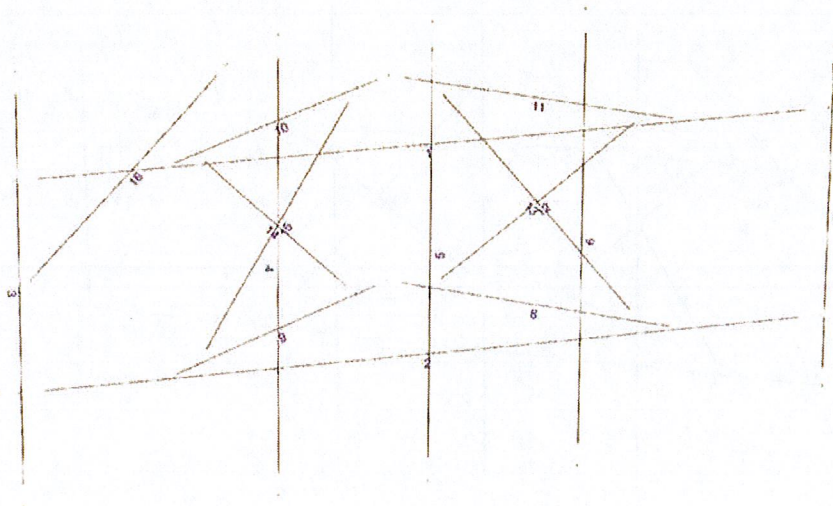
Self weight multipliers for load conditions

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 on Left End	No	0.00	0.00	0.00
LL2	250 lb Live Load on Center	No	0.00	0.00	0.00
LL3	250 lb Live Load on Right End	No	0.00	0.00	0.00
LLa1	500 lb Live Load on Antenna 1	No	0.00	0.00	0.00
LLa2	500 lb Live Load on Antenna 2	No	0.00	0.00	0.00
LLa3	500 lb Live Load on Antenna 3	No	0.00	0.00	0.00
LLa4	500 lb Live Load on Antenna 4	No	0.00	0.00	0.00

Earthquake (Dynamic analysis only)

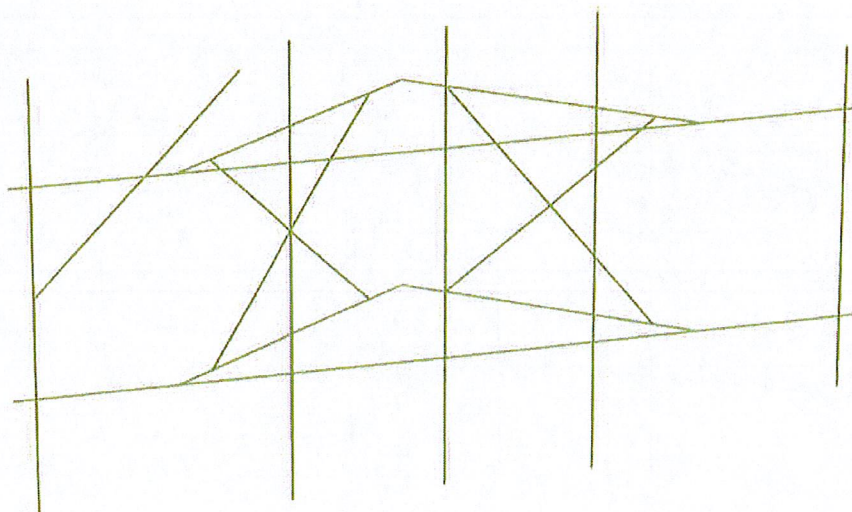
Condition	a/g	Ang. [Deg]	Damp. [%]
D	0.00	0.00	0.00
Wo	0.00	0.00	0.00
W30	0.00	0.00	0.00
W60	0.00	0.00	0.00
W90	0.00	0.00	0.00
W120	0.00	0.00	0.00
W150	0.00	0.00	0.00
Di	0.00	0.00	0.00
WI0	0.00	0.00	0.00
WI30	0.00	0.00	0.00

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



Design status

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



Current Date: 8/13/2018 11:36 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CTCT2017\Centerline\CT2017 (LTE 5C-6C).etz\

Steel Code Check

Report: Summary - For all selected load conditions

Load conditions to be included in design :

W180=-Wo
W210=-W30
W240=-W60
W270=-W90
W300=-W120
W330=-W150
WI180=-WI0
WI210=-WI30
WI240=-WI60
WI270=-WI90
WI300=-WI120
WI330=-WI150
WL180=-WL0
WL210=-WL30
WL240=-WL60
WL270=-WL90
WL300=-WL120
WL330=-WL150
LC1=1.2D+1.6Wo
LC2=1.2D+1.6W30
LC3=1.2D+1.6W60
LC4=1.2D+1.6W90
LC5=1.2D+1.6W120
LC6=1.2D+1.6W150
LC7=1.2D-1.6Wo
LC8=1.2D-1.6W30
LC9=1.2D-1.6W60
LC10=1.2D-1.6W90
LC11=1.2D-1.6W120
LC12=1.2D-1.6W150
LC13=0.9D+1.6Wo
LC14=0.9D+1.6W30
LC15=0.9D+1.6W60
LC16=0.9D+1.6W90
LC17=0.9D+1.6W120
LC18=0.9D+1.6W150
LC19=0.9D-1.6Wo
LC20=0.9D-1.6W30
LC21=0.9D-1.6W60
LC22=0.9D-1.6W90
LC23=0.9D-1.6W120
LC24=0.9D-1.6W150
LC25=1.2D+Di+WI0
LC26=1.2D+Di+WI30
LC27=1.2D+Di+WI60
LC28=1.2D+Di+WI90
LC29=1.2D+Di+WI120
LC30=1.2D+Di+WI150
LC31=1.2D+Di-WI0
LC32=1.2D+Di-WI30
LC33=1.2D+Di-WI60
LC34=1.2D+Di-WI90

LC35=1.2D+Di-WI120
 LC36=1.2D+Di-WI150
 LC37=0.9D
 LC38=1.2D+1.6LL1
 LC39=1.2D+1.6LL2
 LC40=1.2D+1.6LL3
 LC41=1.2D+WL0+LLa1
 LC42=1.2D+WL30+LLa1
 LC43=1.2D+WL60+LLa1
 LC44=1.2D+WL90+LLa1
 LC45=1.2D+WL120+LLa1
 LC46=1.2D+WL150+LLa1
 LC47=1.2D-WL0+LLa1
 LC48=1.2D-WL30+LLa1
 LC49=1.2D-WL60+LLa1
 LC50=1.2D-WL90+LLa1
 LC51=1.2D-WL120+LLa1
 LC52=1.2D-WL150+LLa1
 LC53=1.2D+WL0+LLa2
 LC54=1.2D+WL30+LLa2
 LC55=1.2D+WL60+LLa2
 LC56=1.2D+WL90+LLa2
 LC57=1.2D+WL120+LLa2
 LC58=1.2D+WL150+LLa2
 LC59=1.2D-WL0+LLa2
 LC60=1.2D-WL30+LLa2
 LC61=1.2D-WL60+LLa2
 LC62=1.2D-WL90+LLa2
 LC63=1.2D-WL120+LLa2
 LC64=1.2D-WL150+LLa2
 LC65=1.2D+WL0+LLa3
 LC66=1.2D+WL30+LLa3
 LC67=1.2D+WL60+LLa3
 LC68=1.2D+WL90+LLa3
 LC69=1.2D+WL120+LLa3
 LC70=1.2D+WL150+LLa3
 LC71=1.2D-WL0+LLa3
 LC72=1.2D-WL30+LLa3
 LC73=1.2D-WL60+LLa3
 LC74=1.2D-WL90+LLa3
 LC75=1.2D-WL120+LLa3
 LC76=1.2D-WL150+LLa3
 LC77=1.2D+WL0+LLa4
 LC78=1.2D+WL30+LLa4
 LC79=1.2D+WL60+LLa4
 LC80=1.2D+WL90+LLa4
 LC81=1.2D+WL120+LLa4
 LC82=1.2D+WL150+LLa4
 LC83=1.2D-WL0+LLa4
 LC84=1.2D-WL30+LLa4
 LC85=1.2D-WL60+LLa4
 LC86=1.2D-WL90+LLa4
 LC87=1.2D-WL120+LLa4
 LC88=1.2D-WL150+LLa4

Description	Section	Member	Ctrl Eq.	Ratio	Status	Reference
	L 3-1_2X3-1_2X1_4	1	LC1 at 81.25%	0.35	OK	Sec. F1
			LC10 at 18.75%	0.42	OK	
			LC11 at 18.75%	0.54	OK	
			LC12 at 18.75%	0.45	OK	
			LC13 at 81.25%	0.36	OK	
			LC14 at 81.25%	0.30	OK	
			LC15 at 18.75%	0.22	OK	
			LC16 at 18.75%	0.42	OK	

LC17 at 18.75%	0.54	OK	
LC18 at 18.75%	0.47	OK	
LC19 at 80.47%	0.48	OK	
LC2 at 81.25%	0.30	OK	
LC20 at 80.47%	0.38	OK	
LC21 at 81.25%	0.23	OK	
LC22 at 18.75%	0.42	OK	
LC23 at 18.75%	0.55	OK	Eq. H2-1
LC24 at 18.75%	0.46	OK	
LC25 at 80.47%	0.37	OK	
LC26 at 80.47%	0.37	OK	
LC27 at 80.47%	0.36	OK	
LC28 at 80.47%	0.35	OK	
LC29 at 80.47%	0.36	OK	
LC3 at 18.75%	0.22	OK	
LC30 at 80.47%	0.36	OK	
LC31 at 80.47%	0.37	OK	
LC32 at 80.47%	0.37	OK	
LC33 at 80.47%	0.37	OK	
LC34 at 81.25%	0.37	OK	
LC35 at 80.47%	0.37	OK	
LC36 at 80.47%	0.38	OK	Eq. H2-1
LC37 at 81.25%	0.10	OK	
LC38 at 18.75%	0.31	OK	
LC39 at 50.00%	0.23	OK	
LC4 at 18.75%	0.42	OK	
LC40 at 81.25%	0.36	OK	
LC41 at 81.25%	0.38	OK	
LC42 at 81.25%	0.37	OK	
LC43 at 81.25%	0.37	OK	
LC44 at 81.25%	0.37	OK	
LC45 at 81.25%	0.37	OK	
LC46 at 81.25%	0.37	OK	
LC47 at 81.25%	0.37	OK	
LC48 at 81.25%	0.37	OK	
LC49 at 81.25%	0.37	OK	
LC5 at 18.75%	0.55	OK	Eq. H2-1
LC50 at 81.25%	0.38	OK	
LC51 at 81.25%	0.38	OK	
LC52 at 81.25%	0.38	OK	
LC53 at 80.47%	0.26	OK	
LC54 at 80.47%	0.26	OK	
LC55 at 80.47%	0.26	OK	
LC56 at 80.47%	0.25	OK	
LC57 at 80.47%	0.25	OK	
LC58 at 80.47%	0.25	OK	
LC59 at 80.47%	0.25	OK	
LC6 at 18.75%	0.47	OK	
LC60 at 80.47%	0.25	OK	
LC61 at 80.47%	0.25	OK	
LC62 at 80.47%	0.26	OK	
LC63 at 80.47%	0.26	OK	
LC64 at 80.47%	0.26	OK	
LC65 at 19.53%	0.25	OK	
LC66 at 19.53%	0.25	OK	
LC67 at 19.53%	0.25	OK	
LC68 at 19.53%	0.25	OK	
LC69 at 19.53%	0.25	OK	
LC7 at 80.47%	0.48	OK	Eq. H2-1
LC70 at 19.53%	0.25	OK	
LC71 at 19.53%	0.25	OK	
LC72 at 19.53%	0.25	OK	
LC73 at 19.53%	0.25	OK	
LC74 at 19.53%	0.25	OK	

LC75 at 19.53%	0.25	OK
LC76 at 19.53%	0.25	OK
LC77 at 18.75%	0.33	OK
LC78 at 18.75%	0.33	OK
LC79 at 18.75%	0.33	OK
LC8 at 80.47%	0.38	OK
LC80 at 18.75%	0.33	OK
LC81 at 18.75%	0.33	OK
LC82 at 18.75%	0.33	OK
LC83 at 18.75%	0.33	OK
LC84 at 18.75%	0.33	OK
LC85 at 18.75%	0.33	OK
LC86 at 18.75%	0.33	OK
LC87 at 18.75%	0.33	OK
LC88 at 18.75%	0.33	OK
LC9 at 81.25%	0.24	OK
W180 at 80.47%	0.29	OK
W210 at 80.47%	0.23	OK
W240 at 18.75%	0.15	OK
W270 at 18.75%	0.28	OK
W300 at 18.75%	0.35	OK
W330 at 18.75%	0.30	OK
WI180 at 80.47%	0.10	OK
WI210 at 80.47%	0.05	OK
WI240 at 80.47%	0.05	OK
WI270 at 18.75%	0.06	OK
WI300 at 18.75%	0.08	OK
WI330 at 18.75%	0.09	OK
WL180 at 80.47%	0.02	OK
WL210 at 80.47%	0.01	OK
WL240 at 80.47%	0.01	OK
WL270 at 18.75%	0.01	OK
WL300 at 18.75%	0.02	OK
WL330 at 18.75%	0.02	OK

2

LC1 at 81.25%	0.18	OK
LC10 at 18.75%	0.43	OK
LC11 at 18.75%	0.47	OK
LC12 at 18.75%	0.35	OK
LC13 at 81.25%	0.17	OK
LC14 at 81.25%	0.15	OK
LC15 at 18.75%	0.26	OK
LC16 at 18.75%	0.36	OK
LC17 at 18.75%	0.39	OK
LC18 at 18.75%	0.29	OK
LC19 at 80.47%	0.25	OK
LC2 at 81.25%	0.16	OK
LC20 at 80.47%	0.25	OK
LC21 at 18.75%	0.32	OK
LC22 at 18.75%	0.43	OK
LC23 at 18.75%	0.46	OK
LC24 at 18.75%	0.34	OK
LC25 at 81.25%	0.36	OK
LC26 at 81.25%	0.36	OK
LC27 at 81.25%	0.36	OK
LC28 at 81.25%	0.37	OK
LC29 at 81.25%	0.38	OK
LC3 at 18.75%	0.25	OK
LC30 at 81.25%	0.38	OK
LC31 at 81.25%	0.38	OK
LC32 at 81.25%	0.38	OK
LC33 at 81.25%	0.38	OK
LC34 at 81.25%	0.37	OK
LC35 at 81.25%	0.37	OK

Eq. H2-1

LC36 at 81.25%	0.37	OK	
LC37 at 81.25%	0.11	OK	
LC38 at 18.75%	0.32	OK	
LC39 at 50.00%	0.19	OK	Eq. H2-1
LC4 at 18.75%	0.35	OK	
LC40 at 81.25%	0.37	OK	
LC41 at 81.25%	0.39	OK	
LC42 at 81.25%	0.39	OK	
LC43 at 81.25%	0.39	OK	
LC44 at 81.25%	0.40	OK	
LC45 at 81.25%	0.40	OK	
LC46 at 81.25%	0.40	OK	
LC47 at 81.25%	0.40	OK	Eq. H2-1
LC48 at 81.25%	0.40	OK	
LC49 at 81.25%	0.40	OK	
LC5 at 18.75%	0.39	OK	
LC50 at 81.25%	0.40	OK	
LC51 at 81.25%	0.40	OK	
LC52 at 81.25%	0.40	OK	
LC53 at 80.47%	0.20	OK	
LC54 at 80.47%	0.20	OK	
LC55 at 80.47%	0.20	OK	
LC56 at 80.47%	0.20	OK	
LC57 at 80.47%	0.20	OK	
LC58 at 80.47%	0.20	OK	
LC59 at 80.47%	0.20	OK	
LC6 at 19.53%	0.30	OK	
LC60 at 80.47%	0.20	OK	
LC61 at 80.47%	0.20	OK	
LC62 at 80.47%	0.20	OK	
LC63 at 80.47%	0.20	OK	
LC64 at 80.47%	0.20	OK	
LC65 at 32.03%	0.22	OK	
LC66 at 32.03%	0.22	OK	
LC67 at 32.03%	0.22	OK	
LC68 at 32.03%	0.21	OK	
LC69 at 32.03%	0.21	OK	
LC7 at 80.47%	0.29	OK	
LC70 at 32.03%	0.21	OK	
LC71 at 32.03%	0.22	OK	
LC72 at 32.03%	0.22	OK	
LC73 at 32.03%	0.22	OK	
LC74 at 32.03%	0.22	OK	
LC75 at 32.03%	0.22	OK	
LC76 at 32.03%	0.22	OK	Eq. H2-1
LC77 at 18.75%	0.35	OK	
LC78 at 18.75%	0.35	OK	
LC79 at 18.75%	0.35	OK	
LC8 at 80.47%	0.29	OK	
LC80 at 18.75%	0.35	OK	
LC81 at 18.75%	0.35	OK	
LC82 at 18.75%	0.35	OK	
LC83 at 18.75%	0.35	OK	
LC84 at 18.75%	0.35	OK	
LC85 at 18.75%	0.35	OK	
LC86 at 18.75%	0.35	OK	
LC87 at 18.75%	0.35	OK	
LC88 at 18.75%	0.35	OK	
LC9 at 18.75%	0.33	OK	
W180 at 80.47%	0.14	OK	
W210 at 80.47%	0.11	OK	
W240 at 18.75%	0.19	OK	
W270 at 18.75%	0.25	OK	
W300 at 18.75%	0.28	OK	

W330 at 18.75%	0.20	OK
W180 at 18.75%	0.02	OK
W1210 at 18.75%	0.03	OK
W1240 at 18.75%	0.02	OK
W1270 at 18.75%	0.05	OK
W1300 at 18.75%	0.06	OK
W1330 at 18.75%	0.06	OK
W180 at 80.47%	0.01	OK
W1210 at 18.75%	0.01	OK
W1240 at 18.75%	0.01	OK
W1270 at 18.75%	0.01	OK
W1300 at 18.75%	0.01	OK
W1330 at 18.75%	0.02	OK

L 3X3X1_4

8

LC1 at 0.00%	0.43	OK
LC10 at 0.00%	0.35	OK
LC11 at 0.00%	0.42	OK
LC12 at 0.00%	0.49	OK
LC13 at 0.00%	0.36	OK
LC14 at 0.00%	0.28	OK
LC15 at 0.00%	0.35	OK
LC16 at 0.00%	0.35	OK
LC17 at 0.00%	0.33	OK
LC18 at 87.50%	0.22	OK
LC19 at 87.50%	0.24	OK
LC2 at 0.00%	0.34	OK
LC20 at 87.50%	0.24	OK
LC21 at 0.00%	0.28	OK
LC22 at 0.00%	0.32	OK
LC23 at 0.00%	0.36	OK
LC24 at 0.00%	0.42	OK
LC25 at 0.00%	0.73	OK
LC26 at 0.00%	0.70	OK
LC27 at 0.00%	0.71	OK
LC28 at 0.00%	0.68	OK
LC29 at 0.00%	0.67	OK
LC3 at 0.00%	0.37	OK
LC30 at 0.00%	0.67	OK
LC31 at 0.00%	0.67	OK
LC32 at 0.00%	0.70	OK
LC33 at 0.00%	0.70	OK
LC34 at 0.00%	0.72	OK
LC35 at 0.00%	0.73	OK
LC36 at 0.00%	0.74	OK
LC37 at 0.00%	0.19	OK
LC38 at 0.00%	0.21	OK
LC39 at 0.00%	0.32	OK
LC4 at 0.00%	0.37	OK
LC40 at 0.00%	0.44	OK
LC41 at 0.00%	0.50	OK
LC42 at 0.00%	0.49	OK
LC43 at 0.00%	0.49	OK
LC44 at 0.00%	0.48	OK
LC45 at 0.00%	0.48	OK
LC46 at 0.00%	0.48	OK
LC47 at 0.00%	0.48	OK
LC48 at 0.00%	0.49	OK
LC49 at 0.00%	0.49	OK
LC5 at 0.00%	0.35	OK
LC50 at 0.00%	0.49	OK
LC51 at 0.00%	0.50	OK
LC52 at 0.00%	0.50	OK
LC53 at 0.00%	0.41	OK
LC54 at 0.00%	0.40	OK

Eq. H3-8

LC55 at 0.00%	0.41	OK
LC56 at 0.00%	0.40	OK
LC57 at 0.00%	0.40	OK
LC58 at 0.00%	0.40	OK
LC59 at 0.00%	0.40	OK
LC6 at 87.50%	0.26	OK
LC60 at 0.00%	0.40	OK
LC61 at 0.00%	0.40	OK
LC62 at 0.00%	0.41	OK
LC63 at 0.00%	0.41	OK
LC64 at 0.00%	0.41	OK
LC65 at 0.00%	0.30	OK
LC66 at 0.00%	0.29	OK
LC67 at 0.00%	0.29	OK
LC68 at 0.00%	0.29	OK
LC69 at 0.00%	0.28	OK
LC7 at 87.50%	0.29	OK
LC70 at 0.00%	0.28	OK
LC71 at 0.00%	0.28	OK
LC72 at 0.00%	0.29	OK
LC73 at 0.00%	0.29	OK
LC74 at 0.00%	0.30	OK
LC75 at 0.00%	0.30	OK
LC76 at 0.00%	0.30	OK
LC77 at 0.00%	0.22	OK
LC78 at 0.00%	0.22	OK
LC79 at 0.00%	0.22	OK
LC8 at 87.50%	0.29	OK
LC80 at 0.00%	0.21	OK
LC81 at 0.00%	0.21	OK
LC82 at 0.00%	0.21	OK
LC83 at 0.00%	0.21	OK
LC84 at 0.00%	0.21	OK
LC85 at 0.00%	0.21	OK
LC86 at 0.00%	0.22	OK
LC87 at 0.00%	0.22	OK
LC88 at 0.00%	0.22	OK
LC9 at 0.00%	0.28	OK
W180 at 0.00%	0.11	OK
W210 at 100.00%	0.07	OK
W240 at 0.00%	0.18	OK
W270 at 0.00%	0.20	OK
W300 at 0.00%	0.19	OK
W330 at 0.00%	0.15	OK
WI180 at 0.00%	0.03	OK
WI210 at 0.00%	0.02	OK
WI240 at 0.00%	0.02	OK
WI270 at 0.00%	0.03	OK
WI300 at 0.00%	0.03	OK
WI330 at 0.00%	0.04	OK
WL180 at 0.00%	0.01	OK
WL210 at 0.00%	0.01	OK
WL240 at 0.00%	0.00	OK
WL270 at 0.00%	0.01	OK
WL300 at 0.00%	0.01	OK
WL330 at 0.00%	0.01	OK

9

LC1 at 0.00%	0.26	OK
LC10 at 0.00%	0.51	OK
LC11 at 0.00%	0.53	OK
LC12 at 0.00%	0.23	OK
LC13 at 0.00%	0.22	OK
LC14 at 0.00%	0.28	OK
LC15 at 0.00%	0.39	OK

Eq. H2-1

LC16 at 0.00%	0.47	OK
LC17 at 0.00%	0.47	OK
LC18 at 87.50%	0.20	OK
LC19 at 87.50%	0.16	OK
LC2 at 0.00%	0.31	OK
LC20 at 0.00%	0.25	OK
LC21 at 0.00%	0.42	OK
LC22 at 0.00%	0.50	OK
LC23 at 0.00%	0.51	OK
LC24 at 100.00%	0.22	OK
LC25 at 0.00%	0.48	OK
LC26 at 0.00%	0.50	OK
LC27 at 0.00%	0.49	OK
LC28 at 0.00%	0.49	OK
LC29 at 0.00%	0.49	OK
LC3 at 0.00%	0.39	OK
LC30 at 0.00%	0.49	OK
LC31 at 0.00%	0.47	OK
LC32 at 0.00%	0.46	OK
LC33 at 0.00%	0.47	OK
LC34 at 0.00%	0.46	OK
LC35 at 0.00%	0.47	OK
LC36 at 0.00%	0.47	OK
LC37 at 0.00%	0.11	OK
LC38 at 0.00%	0.29	OK
LC39 at 0.00%	0.21	OK
LC4 at 0.00%	0.47	OK
LC40 at 0.00%	0.13	OK
LC41 at 0.00%	0.13	OK
LC42 at 0.00%	0.13	OK
LC43 at 0.00%	0.13	OK
LC44 at 0.00%	0.13	OK
LC45 at 0.00%	0.13	OK
LC46 at 0.00%	0.13	OK
LC47 at 0.00%	0.12	OK
LC48 at 0.00%	0.12	OK
LC49 at 0.00%	0.12	OK
LC5 at 0.00%	0.48	OK
LC50 at 0.00%	0.12	OK
LC51 at 0.00%	0.12	OK
LC52 at 0.00%	0.12	OK
LC53 at 0.00%	0.19	OK
LC54 at 0.00%	0.19	OK
LC55 at 0.00%	0.19	OK
LC56 at 0.00%	0.19	OK
LC57 at 0.00%	0.19	OK
LC58 at 0.00%	0.19	OK
LC59 at 0.00%	0.18	OK
LC6 at 87.50%	0.22	OK
LC60 at 0.00%	0.18	OK
LC61 at 0.00%	0.18	OK
LC62 at 0.00%	0.18	OK
LC63 at 0.00%	0.18	OK
LC64 at 0.00%	0.18	OK
LC65 at 0.00%	0.27	OK
LC66 at 0.00%	0.28	OK
LC67 at 0.00%	0.28	OK
LC68 at 0.00%	0.28	OK
LC69 at 0.00%	0.28	OK
LC7 at 87.50%	0.19	OK
LC70 at 0.00%	0.28	OK
LC71 at 0.00%	0.27	OK
LC72 at 0.00%	0.27	OK
LC73 at 0.00%	0.27	OK

Sec. F1

LC74 at 0.00%	0.27	OK
LC75 at 0.00%	0.27	OK
LC76 at 0.00%	0.27	OK
LC77 at 0.00%	0.33	OK
LC78 at 0.00%	0.33	OK
LC79 at 0.00%	0.33	OK
LC8 at 0.00%	0.25	OK
LC80 at 0.00%	0.33	OK
LC81 at 0.00%	0.33	OK
LC82 at 0.00%	0.33	OK
LC83 at 0.00%	0.33	OK
LC84 at 0.00%	0.32	OK
LC85 at 0.00%	0.32	OK
LC86 at 0.00%	0.32	OK
LC87 at 0.00%	0.33	OK
LC88 at 0.00%	0.33	OK
LC9 at 0.00%	0.43	OK
W180 at 0.00%	0.06	OK
W210 at 0.00%	0.16	OK
W240 at 0.00%	0.24	OK
W270 at 0.00%	0.29	OK
W300 at 0.00%	0.29	OK
W330 at 100.00%	0.13	OK
WI180 at 0.00%	0.02	OK
WI210 at 0.00%	0.03	OK
WI240 at 0.00%	0.03	OK
WI270 at 0.00%	0.05	OK
WI300 at 0.00%	0.05	OK
WI330 at 0.00%	0.05	OK
WL180 at 0.00%	0.00	OK
WL210 at 0.00%	0.01	OK
WL240 at 0.00%	0.01	OK
WL270 at 0.00%	0.01	OK
WL300 at 0.00%	0.01	OK
WL330 at 0.00%	0.01	OK

10

LC1 at 12.50%	0.24	OK
LC10 at 100.00%	0.55	OK
LC11 at 100.00%	0.58	OK
LC12 at 0.00%	0.31	OK
LC13 at 12.50%	0.21	OK
LC14 at 100.00%	0.29	OK
LC15 at 100.00%	0.41	OK
LC16 at 100.00%	0.55	OK
LC17 at 100.00%	0.60	OK
LC18 at 100.00%	0.31	OK
LC19 at 100.00%	0.20	OK
LC2 at 100.00%	0.29	OK
LC20 at 100.00%	0.31	OK
LC21 at 100.00%	0.42	OK
LC22 at 100.00%	0.55	OK
LC23 at 100.00%	0.58	OK
LC24 at 0.00%	0.32	OK
LC25 at 100.00%	0.41	OK
LC26 at 100.00%	0.40	OK
LC27 at 100.00%	0.41	OK
LC28 at 100.00%	0.41	OK
LC29 at 100.00%	0.42	OK
LC3 at 100.00%	0.42	OK
LC30 at 100.00%	0.42	OK
LC31 at 100.00%	0.43	OK
LC32 at 100.00%	0.44	OK
LC33 at 100.00%	0.43	OK
LC34 at 100.00%	0.43	OK

Sec. F1

LC35 at 100.00%	0.43	OK
LC36 at 100.00%	0.43	OK
LC37 at 100.00%	0.10	OK
LC38 at 100.00%	0.26	OK
LC39 at 100.00%	0.19	OK
LC4 at 100.00%	0.56	OK
LC40 at 100.00%	0.11	OK
LC41 at 100.00%	0.11	OK
LC42 at 100.00%	0.11	OK
LC43 at 100.00%	0.11	OK
LC44 at 100.00%	0.11	OK
LC45 at 100.00%	0.11	OK
LC46 at 100.00%	0.11	OK
LC47 at 100.00%	0.11	OK
LC48 at 100.00%	0.12	OK
LC49 at 100.00%	0.11	OK
LC5 at 100.00%	0.61	OK
LC50 at 100.00%	0.11	OK
LC51 at 100.00%	0.11	OK
LC52 at 100.00%	0.11	OK
LC53 at 100.00%	0.16	OK
LC54 at 100.00%	0.16	OK
LC55 at 100.00%	0.16	OK
LC56 at 100.00%	0.16	OK
LC57 at 100.00%	0.16	OK
LC58 at 100.00%	0.16	OK
LC59 at 100.00%	0.16	OK
LC6 at 100.00%	0.33	OK
LC60 at 100.00%	0.17	OK
LC61 at 100.00%	0.17	OK
LC62 at 100.00%	0.16	OK
LC63 at 100.00%	0.16	OK
LC64 at 100.00%	0.16	OK
LC65 at 100.00%	0.24	OK
LC66 at 100.00%	0.23	OK
LC67 at 100.00%	0.24	OK
LC68 at 100.00%	0.24	OK
LC69 at 100.00%	0.24	OK
LC7 at 100.00%	0.24	OK
LC70 at 100.00%	0.24	OK
LC71 at 100.00%	0.24	OK
LC72 at 100.00%	0.24	OK
LC73 at 100.00%	0.24	OK
LC74 at 100.00%	0.24	OK
LC75 at 100.00%	0.24	OK
LC76 at 100.00%	0.24	OK
LC77 at 100.00%	0.28	OK
LC78 at 100.00%	0.28	OK
LC79 at 100.00%	0.28	OK
LC8 at 100.00%	0.31	OK
LC80 at 100.00%	0.28	OK
LC81 at 100.00%	0.28	OK
LC82 at 100.00%	0.28	OK
LC83 at 100.00%	0.28	OK
LC84 at 100.00%	0.29	OK
LC85 at 100.00%	0.29	OK
LC86 at 100.00%	0.29	OK
LC87 at 100.00%	0.28	OK
LC88 at 100.00%	0.28	OK
LC9 at 100.00%	0.42	OK
W180 at 12.50%	0.06	OK
W210 at 100.00%	0.19	OK
W240 at 100.00%	0.26	OK
W270 at 100.00%	0.34	OK

Eq. H2-1

W300 at 100.00%	0.38	OK
W330 at 100.00%	0.21	OK
W180 at 100.00%	0.03	OK
W1210 at 100.00%	0.04	OK
W1240 at 100.00%	0.03	OK
W1270 at 100.00%	0.07	OK
W1300 at 100.00%	0.08	OK
W1330 at 100.00%	0.08	OK
WL180 at 100.00%	0.01	OK
WL210 at 100.00%	0.01	OK
WL240 at 100.00%	0.01	OK
WL270 at 100.00%	0.02	OK
WL300 at 100.00%	0.02	OK
WL330 at 100.00%	0.02	OK

11

LC1 at 87.50%	0.28	OK
LC10 at 0.00%	0.43	OK
LC11 at 0.00%	0.42	OK
LC12 at 0.00%	0.32	OK
LC13 at 87.50%	0.25	OK
LC14 at 87.50%	0.23	OK
LC15 at 0.00%	0.31	OK
LC16 at 0.00%	0.39	OK
LC17 at 0.00%	0.41	OK
LC18 at 0.00%	0.31	OK
LC19 at 0.00%	0.25	OK
LC2 at 87.50%	0.26	OK
LC20 at 0.00%	0.20	OK
LC21 at 0.00%	0.37	OK
LC22 at 0.00%	0.42	OK
LC23 at 0.00%	0.41	OK
LC24 at 0.00%	0.32	OK
LC25 at 0.00%	0.43	OK
LC26 at 0.00%	0.45	OK
LC27 at 0.00%	0.45	OK
LC28 at 0.00%	0.47	OK
LC29 at 0.00%	0.48	OK
LC3 at 0.00%	0.31	OK
LC30 at 0.00%	0.48	OK
LC31 at 0.00%	0.48	OK
LC32 at 0.00%	0.46	OK
LC33 at 0.00%	0.46	OK
LC34 at 0.00%	0.45	OK
LC35 at 0.00%	0.43	OK
LC36 at 0.00%	0.43	OK
LC37 at 0.00%	0.12	OK
LC38 at 0.00%	0.14	OK
LC39 at 0.00%	0.22	OK
LC4 at 0.00%	0.39	OK
LC40 at 0.00%	0.29	OK
LC41 at 0.00%	0.31	OK
LC42 at 0.00%	0.31	OK
LC43 at 0.00%	0.31	OK
LC44 at 0.00%	0.31	OK
LC45 at 0.00%	0.32	OK
LC46 at 0.00%	0.32	OK
LC47 at 0.00%	0.32	OK
LC48 at 0.00%	0.31	OK
LC49 at 0.00%	0.31	OK
LC5 at 0.00%	0.41	OK
LC50 at 0.00%	0.31	OK
LC51 at 0.00%	0.31	OK
LC52 at 0.00%	0.31	OK
LC53 at 0.00%	0.26	OK

Eq. H2-1

LC54 at 0.00%	0.26	OK
LC55 at 0.00%	0.26	OK
LC56 at 0.00%	0.27	OK
LC57 at 0.00%	0.27	OK
LC58 at 0.00%	0.27	OK
LC59 at 0.00%	0.27	OK
LC6 at 0.00%	0.34	OK
LC60 at 0.00%	0.27	OK
LC61 at 0.00%	0.27	OK
LC62 at 0.00%	0.26	OK
LC63 at 0.00%	0.26	OK
LC64 at 0.00%	0.26	OK
LC65 at 0.00%	0.18	OK
LC66 at 0.00%	0.19	OK
LC67 at 0.00%	0.19	OK
LC68 at 0.00%	0.19	OK
LC69 at 0.00%	0.19	OK
LC7 at 0.00%	0.29	OK
LC70 at 0.00%	0.20	OK
LC71 at 0.00%	0.19	OK
LC72 at 0.00%	0.19	OK
LC73 at 0.00%	0.19	OK
LC74 at 0.00%	0.19	OK
LC75 at 0.00%	0.18	OK
LC76 at 0.00%	0.18	OK
LC77 at 0.00%	0.14	OK
LC78 at 0.00%	0.14	OK
LC79 at 0.00%	0.14	OK
LC8 at 0.00%	0.24	OK
LC80 at 0.00%	0.14	OK
LC81 at 0.00%	0.15	OK
LC82 at 0.00%	0.15	OK
LC83 at 0.00%	0.15	OK
LC84 at 0.00%	0.14	OK
LC85 at 0.00%	0.14	OK
LC86 at 0.00%	0.14	OK
LC87 at 0.00%	0.14	OK
LC88 at 0.00%	0.13	OK
LC9 at 0.00%	0.39	OK
W180 at 0.00%	0.08	OK
W210 at 27.08%	0.08	OK
W240 at 0.00%	0.20	OK
W270 at 0.00%	0.25	OK
W300 at 0.00%	0.26	OK
W330 at 0.00%	0.20	OK
WI180 at 0.00%	0.02	OK
WI210 at 0.00%	0.04	OK
WI240 at 0.00%	0.03	OK
WI270 at 0.00%	0.05	OK
WI300 at 0.00%	0.05	OK
WI330 at 0.00%	0.05	OK
WL180 at 0.00%	0.01	OK
WL210 at 0.00%	0.01	OK
WL240 at 0.00%	0.01	OK
WL270 at 0.00%	0.01	OK
WL300 at 0.00%	0.01	OK
WL330 at 0.00%	0.01	OK

12

LC1 at 0.00%	0.17	OK
LC10 at 0.00%	0.12	OK
LC11 at 0.00%	0.17	OK
LC12 at 0.00%	0.17	OK
LC13 at 0.00%	0.14	OK
LC14 at 0.00%	0.12	OK

LC15 at 0.00%	0.10	OK
LC16 at 0.00%	0.05	OK
LC17 at 50.00%	0.05	OK
LC18 at 50.00%	0.03	OK
LC19 at 50.00%	0.04	OK
LC2 at 0.00%	0.14	OK
LC20 at 46.88%	0.07	OK
LC21 at 0.00%	0.05	OK
LC22 at 0.00%	0.10	OK
LC23 at 0.00%	0.14	OK
LC24 at 0.00%	0.15	OK
LC25 at 0.00%	0.29	OK
LC26 at 0.00%	0.28	OK
LC27 at 0.00%	0.28	OK
LC28 at 0.00%	0.27	OK
LC29 at 0.00%	0.26	OK
LC3 at 0.00%	0.12	OK
LC30 at 0.00%	0.26	OK
LC31 at 0.00%	0.26	OK
LC32 at 0.00%	0.26	OK
LC33 at 0.00%	0.26	OK
LC34 at 0.00%	0.28	OK
LC35 at 0.00%	0.29	OK
LC36 at 0.00%	0.29	OK
LC37 at 0.00%	0.07	OK
LC38 at 0.00%	0.09	OK
LC39 at 0.00%	0.14	OK
LC4 at 0.00%	0.08	OK
LC40 at 0.00%	0.19	OK
LC41 at 0.00%	0.22	OK
LC42 at 0.00%	0.22	OK
LC43 at 0.00%	0.22	OK
LC44 at 0.00%	0.21	OK
LC45 at 0.00%	0.21	OK
LC46 at 0.00%	0.21	OK
LC47 at 0.00%	0.21	OK
LC48 at 0.00%	0.21	OK
LC49 at 0.00%	0.21	OK
LC5 at 50.00%	0.06	OK
LC50 at 0.00%	0.22	OK
LC51 at 0.00%	0.22	OK
LC52 at 0.00%	0.22	OK
LC53 at 0.00%	0.19	OK
LC54 at 0.00%	0.19	OK
LC55 at 0.00%	0.19	OK
LC56 at 0.00%	0.18	OK
LC57 at 0.00%	0.18	OK
LC58 at 0.00%	0.18	OK
LC59 at 0.00%	0.18	OK
LC6 at 50.00%	0.04	OK
LC60 at 0.00%	0.18	OK
LC61 at 0.00%	0.18	OK
LC62 at 0.00%	0.19	OK
LC63 at 0.00%	0.19	OK
LC64 at 0.00%	0.19	OK
LC65 at 0.00%	0.12	OK
LC66 at 0.00%	0.12	OK
LC67 at 0.00%	0.12	OK
LC68 at 0.00%	0.12	OK
LC69 at 0.00%	0.12	OK
LC7 at 50.00%	0.04	OK
LC70 at 0.00%	0.12	OK
LC71 at 0.00%	0.12	OK
LC72 at 0.00%	0.12	OK

Eq. H2-1

LC73 at 0.00%	0.12	OK
LC74 at 0.00%	0.12	OK
LC75 at 0.00%	0.12	OK
LC76 at 0.00%	0.12	OK
LC77 at 0.00%	0.09	OK
LC78 at 0.00%	0.09	OK
LC79 at 0.00%	0.09	OK
LC8 at 46.88%	0.07	OK
LC80 at 0.00%	0.08	OK
LC81 at 0.00%	0.08	OK
LC82 at 0.00%	0.08	OK
LC83 at 0.00%	0.08	OK
LC84 at 0.00%	0.08	OK
LC85 at 0.00%	0.08	OK
LC86 at 0.00%	0.09	OK
LC87 at 0.00%	0.09	OK
LC88 at 0.00%	0.09	OK
LC9 at 0.00%	0.08	OK
W180 at 0.00%	0.04	OK
W210 at 46.88%	0.04	OK
W240 at 100.00%	0.02	OK
W270 at 100.00%	0.02	OK
W300 at 0.00%	0.04	OK
W330 at 0.00%	0.05	OK
WI180 at 0.00%	0.01	OK
WI210 at 0.00%	0.01	OK
WI240 at 0.00%	0.01	OK
WI270 at 50.00%	0.01	OK
WI300 at 50.00%	0.02	OK
WI330 at 50.00%	0.02	OK
WL180 at 0.00%	0.00	OK
WL210 at 0.00%	0.00	OK
WL240 at 0.00%	0.00	OK
WL270 at 50.00%	0.00	OK
WL300 at 50.00%	0.00	OK
WL330 at 50.00%	0.00	OK

13

LC1 at 50.00%	0.06	OK
LC10 at 0.00%	0.09	OK
LC11 at 50.00%	0.07	OK
LC12 at 50.00%	0.09	OK
LC13 at 50.00%	0.06	OK
LC14 at 50.00%	0.04	OK
LC15 at 50.00%	0.05	OK
LC16 at 50.00%	0.08	OK
LC17 at 0.00%	0.10	OK
LC18 at 46.88%	0.12	OK
LC19 at 0.00%	0.12	OK
LC2 at 0.00%	0.04	OK
LC20 at 0.00%	0.11	OK
LC21 at 0.00%	0.09	OK
LC22 at 0.00%	0.06	OK
LC23 at 50.00%	0.07	OK
LC24 at 50.00%	0.10	OK
LC25 at 0.00%	0.22	OK
LC26 at 0.00%	0.22	OK
LC27 at 0.00%	0.22	OK
LC28 at 0.00%	0.23	OK
LC29 at 0.00%	0.24	OK
LC3 at 50.00%	0.06	OK
LC30 at 0.00%	0.24	OK
LC31 at 0.00%	0.24	OK
LC32 at 0.00%	0.24	OK
LC33 at 0.00%	0.24	OK

Eq. H2-1

LC34 at 0.00%	0.23	OK
LC35 at 0.00%	0.22	OK
LC36 at 0.00%	0.22	OK
LC37 at 0.00%	0.06	OK
LC38 at 0.00%	0.07	OK
LC39 at 0.00%	0.12	OK
LC4 at 0.00%	0.09	OK
LC40 at 0.00%	0.18	OK
LC41 at 0.00%	0.18	OK
LC42 at 0.00%	0.18	OK
LC43 at 0.00%	0.18	OK
LC44 at 0.00%	0.18	OK
LC45 at 0.00%	0.18	OK
LC46 at 0.00%	0.18	OK
LC47 at 0.00%	0.18	OK
LC48 at 0.00%	0.18	OK
LC49 at 0.00%	0.18	OK
LC5 at 0.00%	0.12	OK
LC50 at 0.00%	0.18	OK
LC51 at 0.00%	0.18	OK
LC52 at 0.00%	0.18	OK
LC53 at 0.00%	0.16	OK
LC54 at 0.00%	0.16	OK
LC55 at 0.00%	0.16	OK
LC56 at 0.00%	0.16	OK
LC57 at 0.00%	0.16	OK
LC58 at 0.00%	0.16	OK
LC59 at 0.00%	0.16	OK
LC6 at 46.88%	0.12	OK
LC60 at 0.00%	0.16	OK
LC61 at 0.00%	0.16	OK
LC62 at 0.00%	0.16	OK
LC63 at 0.00%	0.16	OK
LC64 at 0.00%	0.16	OK
LC65 at 0.00%	0.10	OK
LC66 at 0.00%	0.10	OK
LC67 at 0.00%	0.10	OK
LC68 at 0.00%	0.10	OK
LC69 at 0.00%	0.10	OK
LC7 at 0.00%	0.14	OK
LC70 at 0.00%	0.10	OK
LC71 at 0.00%	0.11	OK
LC72 at 0.00%	0.11	OK
LC73 at 0.00%	0.10	OK
LC74 at 0.00%	0.10	OK
LC75 at 0.00%	0.10	OK
LC76 at 0.00%	0.10	OK
LC77 at 0.00%	0.07	OK
LC78 at 0.00%	0.07	OK
LC79 at 0.00%	0.07	OK
LC8 at 0.00%	0.13	OK
LC80 at 0.00%	0.07	OK
LC81 at 0.00%	0.07	OK
LC82 at 0.00%	0.07	OK
LC83 at 0.00%	0.08	OK
LC84 at 0.00%	0.08	OK
LC85 at 0.00%	0.08	OK
LC86 at 0.00%	0.07	OK
LC87 at 0.00%	0.07	OK
LC88 at 0.00%	0.07	OK
LC9 at 0.00%	0.12	OK
W180 at 46.88%	0.04	OK
W210 at 0.00%	0.03	OK
W240 at 100.00%	0.03	OK

Eq. H2-1

W270 at 50.00%	0.04	OK
W300 at 50.00%	0.05	OK
W330 at 50.00%	0.06	OK
WI180 at 0.00%	0.01	OK
WI210 at 0.00%	0.01	OK
WI240 at 0.00%	0.01	OK
WI270 at 50.00%	0.01	OK
WI300 at 50.00%	0.01	OK
WI330 at 50.00%	0.01	OK
WL180 at 0.00%	0.00	OK
WL210 at 0.00%	0.00	OK
WL240 at 0.00%	0.00	OK
WL270 at 50.00%	0.00	OK
WL300 at 50.00%	0.00	OK
WL330 at 50.00%	0.00	OK

14

LC1 at 100.00%	0.13	OK
LC10 at 100.00%	0.12	OK
LC11 at 100.00%	0.14	OK
LC12 at 50.00%	0.15	OK
LC13 at 100.00%	0.11	OK
LC14 at 100.00%	0.08	OK
LC15 at 50.00%	0.07	OK
LC16 at 50.00%	0.07	OK
LC17 at 50.00%	0.08	OK
LC18 at 50.00%	0.11	OK
LC19 at 50.00%	0.05	OK
LC2 at 100.00%	0.10	OK
LC20 at 100.00%	0.04	OK
LC21 at 100.00%	0.07	OK
LC22 at 100.00%	0.10	OK
LC23 at 100.00%	0.12	OK
LC24 at 50.00%	0.14	OK
LC25 at 100.00%	0.26	OK
LC26 at 100.00%	0.25	OK
LC27 at 100.00%	0.25	OK
LC28 at 100.00%	0.24	OK
LC29 at 100.00%	0.24	OK
LC3 at 50.00%	0.07	OK
LC30 at 100.00%	0.24	OK
LC31 at 100.00%	0.24	OK
LC32 at 100.00%	0.25	OK
LC33 at 100.00%	0.25	OK
LC34 at 100.00%	0.25	OK
LC35 at 100.00%	0.26	OK
LC36 at 100.00%	0.26	OK
LC37 at 100.00%	0.06	OK
LC38 at 100.00%	0.17	OK
LC39 at 100.00%	0.12	OK
LC4 at 50.00%	0.08	OK
LC40 at 100.00%	0.07	OK
LC41 at 100.00%	0.07	OK
LC42 at 100.00%	0.07	OK
LC43 at 100.00%	0.07	OK
LC44 at 100.00%	0.06	OK
LC45 at 100.00%	0.06	OK
LC46 at 100.00%	0.06	OK
LC47 at 100.00%	0.06	OK
LC48 at 100.00%	0.06	OK
LC49 at 100.00%	0.07	OK
LC5 at 50.00%	0.08	OK
LC50 at 100.00%	0.07	OK
LC51 at 100.00%	0.07	OK
LC52 at 100.00%	0.07	OK

Eq. H2-1

Eq. H2-1

LC53 at 100.00%	0.10	OK
LC54 at 100.00%	0.10	OK
LC55 at 100.00%	0.10	OK
LC56 at 100.00%	0.10	OK
LC57 at 100.00%	0.10	OK
LC58 at 100.00%	0.10	OK
LC59 at 100.00%	0.10	OK
LC6 at 50.00%	0.12	OK
LC60 at 100.00%	0.10	OK
LC61 at 100.00%	0.10	OK
LC62 at 100.00%	0.10	OK
LC63 at 100.00%	0.10	OK
LC64 at 100.00%	0.10	OK
LC65 at 100.00%	0.17	OK
LC66 at 100.00%	0.16	OK
LC67 at 100.00%	0.16	OK
LC68 at 100.00%	0.16	OK
LC69 at 100.00%	0.16	OK
LC7 at 50.00%	0.06	OK
LC70 at 100.00%	0.16	OK
LC71 at 100.00%	0.16	OK
LC72 at 100.00%	0.16	OK
LC73 at 100.00%	0.16	OK
LC74 at 100.00%	0.17	OK
LC75 at 100.00%	0.17	OK
LC76 at 100.00%	0.17	OK
LC77 at 100.00%	0.19	OK
LC78 at 100.00%	0.19	OK
LC79 at 100.00%	0.19	OK
LC8 at 100.00%	0.06	OK
LC80 at 100.00%	0.19	OK
LC81 at 100.00%	0.19	OK
LC82 at 100.00%	0.19	OK
LC83 at 100.00%	0.19	OK
LC84 at 100.00%	0.19	OK
LC85 at 100.00%	0.19	OK
LC86 at 100.00%	0.19	OK
LC87 at 100.00%	0.19	OK
LC88 at 100.00%	0.19	OK
LC9 at 100.00%	0.09	OK
W180 at 50.00%	0.04	OK
W210 at 65.63%	0.02	OK
W240 at 50.00%	0.03	OK
W270 at 100.00%	0.04	OK
W300 at 100.00%	0.05	OK
W330 at 50.00%	0.07	OK
WI180 at 100.00%	0.01	OK
WI210 at 50.00%	0.01	OK
WI240 at 50.00%	0.00	OK
WI270 at 50.00%	0.01	OK
WI300 at 50.00%	0.01	OK
WI330 at 50.00%	0.01	OK
WL180 at 100.00%	0.00	OK
WL210 at 50.00%	0.00	OK
WL240 at 50.00%	0.00	OK
WL270 at 50.00%	0.00	OK
WL300 at 50.00%	0.00	OK
WL330 at 50.00%	0.00	OK

15

LC1 at 50.00%	0.04	OK
LC10 at 50.00%	0.08	OK
LC11 at 50.00%	0.10	OK
LC12 at 46.88%	0.03	OK
LC13 at 50.00%	0.04	OK

Eq. H2-1

LC14 at 50.00%	0.06	OK
LC15 at 0.00%	0.08	OK
LC16 at 0.00%	0.11	OK
LC17 at 0.00%	0.13	OK
LC18 at 0.00%	0.12	OK
LC19 at 0.00%	0.10	OK
LC2 at 0.00%	0.07	OK
LC20 at 50.00%	0.08	OK
LC21 at 50.00%	0.05	OK
LC22 at 50.00%	0.08	OK
LC23 at 50.00%	0.09	OK
LC24 at 46.88%	0.03	OK
LC25 at 0.00%	0.20	OK
LC26 at 0.00%	0.21	OK
LC27 at 0.00%	0.21	OK
LC28 at 0.00%	0.22	OK
LC29 at 0.00%	0.22	OK
LC3 at 0.00%	0.10	OK
LC30 at 0.00%	0.22	OK
LC31 at 0.00%	0.22	OK
LC32 at 0.00%	0.21	OK
LC33 at 0.00%	0.21	OK
LC34 at 0.00%	0.20	OK
LC35 at 0.00%	0.20	OK
LC36 at 0.00%	0.20	OK
LC37 at 0.00%	0.05	OK
LC38 at 0.00%	0.15	OK
LC39 at 0.00%	0.10	OK
LC4 at 0.00%	0.13	OK
LC40 at 0.00%	0.06	OK
LC41 at 0.00%	0.05	OK
LC42 at 0.00%	0.06	OK
LC43 at 0.00%	0.06	OK
LC44 at 0.00%	0.06	OK
LC45 at 0.00%	0.06	OK
LC46 at 0.00%	0.06	OK
LC47 at 0.00%	0.06	OK
LC48 at 0.00%	0.06	OK
LC49 at 0.00%	0.06	OK
LC5 at 0.00%	0.15	OK
LC50 at 0.00%	0.05	OK
LC51 at 0.00%	0.05	OK
LC52 at 0.00%	0.05	OK
LC53 at 0.00%	0.08	OK
LC54 at 0.00%	0.09	OK
LC55 at 0.00%	0.09	OK
LC56 at 0.00%	0.09	OK
LC57 at 0.00%	0.09	OK
LC58 at 0.00%	0.09	OK
LC59 at 0.00%	0.09	OK
LC6 at 0.00%	0.14	OK
LC60 at 0.00%	0.09	OK
LC61 at 0.00%	0.09	OK
LC62 at 0.00%	0.08	OK
LC63 at 0.00%	0.08	OK
LC64 at 0.00%	0.08	OK
LC65 at 0.00%	0.14	OK
LC66 at 0.00%	0.14	OK
LC67 at 0.00%	0.14	OK
LC68 at 0.00%	0.14	OK
LC69 at 0.00%	0.15	OK
LC7 at 0.00%	0.12	OK
LC70 at 0.00%	0.15	OK
LC71 at 0.00%	0.14	OK

Eq. H2-1

LC72 at 0.00%	0.14	OK
LC73 at 0.00%	0.14	OK
LC74 at 0.00%	0.14	OK
LC75 at 0.00%	0.14	OK
LC76 at 0.00%	0.14	OK
LC77 at 0.00%	0.16	OK
LC78 at 0.00%	0.16	OK
LC79 at 0.00%	0.16	OK
LC8 at 50.00%	0.09	OK
LC80 at 0.00%	0.16	OK
LC81 at 0.00%	0.16	OK
LC82 at 0.00%	0.17	OK
LC83 at 0.00%	0.16	OK
LC84 at 0.00%	0.16	OK
LC85 at 0.00%	0.16	OK
LC86 at 0.00%	0.16	OK
LC87 at 0.00%	0.16	OK
LC88 at 0.00%	0.16	OK
LC9 at 50.00%	0.06	OK
W180 at 0.00%	0.03	OK
W210 at 50.00%	0.04	OK
W240 at 46.88%	0.03	OK
W270 at 46.88%	0.05	OK
W300 at 46.88%	0.05	OK
W330 at 0.00%	0.05	OK
WI180 at 0.00%	0.01	OK
WI210 at 50.00%	0.00	OK
WI240 at 50.00%	0.00	OK
WI270 at 50.00%	0.01	OK
WI300 at 0.00%	0.01	OK
WI330 at 0.00%	0.01	OK
WL180 at 0.00%	0.00	OK
WL210 at 50.00%	0.00	OK
WL240 at 50.00%	0.00	OK
WL270 at 50.00%	0.00	OK
WL300 at 0.00%	0.00	OK
WL330 at 0.00%	0.00	OK

PIPE 2x0.154

3

LC1 at 25.00%	0.18	OK	Eq. H1-1b
LC10 at 48.44%	0.55	OK	Eq. H1-1b
LC11 at 48.44%	0.53	OK	
LC12 at 48.44%	0.31	OK	
LC13 at 25.00%	0.18	OK	
LC14 at 50.00%	0.28	OK	
LC15 at 50.00%	0.48	OK	
LC16 at 50.00%	0.55	OK	
LC17 at 50.00%	0.54	OK	
LC18 at 50.00%	0.31	OK	
LC19 at 25.00%	0.18	OK	
LC2 at 50.00%	0.28	OK	
LC20 at 48.44%	0.29	OK	
LC21 at 50.00%	0.47	OK	
LC22 at 48.44%	0.55	OK	
LC23 at 48.44%	0.53	OK	
LC24 at 48.44%	0.31	OK	
LC25 at 73.44%	0.16	OK	
LC26 at 26.56%	0.18	OK	
LC27 at 26.56%	0.17	OK	
LC28 at 26.56%	0.18	OK	
LC29 at 26.56%	0.18	OK	
LC3 at 50.00%	0.48	OK	
LC30 at 26.56%	0.18	OK	
LC31 at 26.56%	0.15	OK	
LC32 at 73.44%	0.17	OK	

LC33 at 73.44%	0.17	OK
LC34 at 73.44%	0.18	OK
LC35 at 73.44%	0.18	OK
LC36 at 73.44%	0.18	OK
LC37 at 73.44%	0.04	OK
LC38 at 26.56%	0.31	OK
LC39 at 26.56%	0.02	OK
LC4 at 50.00%	0.56	OK
LC40 at 73.44%	0.09	OK
LC41 at 73.44%	0.08	OK
LC42 at 26.56%	0.09	OK
LC43 at 26.56%	0.09	OK
LC44 at 26.56%	0.09	OK
LC45 at 26.56%	0.09	OK
LC46 at 26.56%	0.09	OK
LC47 at 73.44%	0.08	OK
LC48 at 73.44%	0.09	OK
LC49 at 73.44%	0.09	OK
LC5 at 50.00%	0.54	OK
LC50 at 73.44%	0.09	OK
LC51 at 73.44%	0.09	OK
LC52 at 73.44%	0.09	OK
LC53 at 73.44%	0.02	OK
LC54 at 50.00%	0.03	OK
LC55 at 50.00%	0.02	OK
LC56 at 50.00%	0.03	OK
LC57 at 50.00%	0.03	OK
LC58 at 50.00%	0.03	OK
LC59 at 26.56%	0.03	OK
LC6 at 50.00%	0.31	OK
LC60 at 48.44%	0.03	OK
LC61 at 26.56%	0.02	OK
LC62 at 48.44%	0.03	OK
LC63 at 48.44%	0.03	OK
LC64 at 48.44%	0.03	OK
LC65 at 73.44%	0.02	OK
LC66 at 50.00%	0.03	OK
LC67 at 73.44%	0.02	OK
LC68 at 50.00%	0.03	OK
LC69 at 26.56%	0.03	OK
LC7 at 26.56%	0.18	OK
LC70 at 26.56%	0.03	OK
LC71 at 26.56%	0.03	OK
LC72 at 26.56%	0.03	OK
LC73 at 26.56%	0.03	OK
LC74 at 48.44%	0.03	OK
LC75 at 48.44%	0.03	OK
LC76 at 26.56%	0.03	OK
LC77 at 73.44%	0.33	OK
LC78 at 26.56%	0.33	OK
LC79 at 26.56%	0.32	OK
LC8 at 48.44%	0.29	OK
LC80 at 26.56%	0.33	OK
LC81 at 26.56%	0.33	OK
LC82 at 26.56%	0.33	OK
LC83 at 73.44%	0.33	OK
LC84 at 73.44%	0.33	OK
LC85 at 73.44%	0.33	OK
LC86 at 73.44%	0.33	OK
LC87 at 73.44%	0.33	OK
LC88 at 73.44%	0.33	OK
LC9 at 48.44%	0.47	OK
W180 at 25.00%	0.11	OK
W210 at 48.44%	0.18	OK

Eq. H1-1b

Eq. H1-1b

Eq. H1-1b

W240 at 50.00%	0.29	OK
W270 at 50.00%	0.34	OK
W300 at 50.00%	0.33	OK
W330 at 48.44%	0.19	OK
WI180 at 25.00%	0.04	OK
WI210 at 48.44%	0.06	OK
WI240 at 48.44%	0.05	OK
WI270 at 48.44%	0.07	OK
WI300 at 48.44%	0.06	OK
WI330 at 48.44%	0.06	OK
WL180 at 25.00%	0.01	OK
WL210 at 48.44%	0.02	OK
WL240 at 48.44%	0.01	OK
WL270 at 48.44%	0.02	OK
WL300 at 48.44%	0.02	OK
WL330 at 48.44%	0.02	OK

4

LC1 at 27.08%	0.16	OK
LC10 at 27.08%	0.12	OK
LC11 at 27.08%	0.11	OK
LC12 at 27.08%	0.11	OK
LC13 at 27.08%	0.16	OK
LC14 at 27.08%	0.10	OK
LC15 at 27.08%	0.10	OK
LC16 at 27.08%	0.12	OK
LC17 at 27.08%	0.10	OK
LC18 at 27.08%	0.10	OK
LC19 at 27.08%	0.16	OK
LC2 at 27.08%	0.11	OK
LC20 at 27.08%	0.10	OK
LC21 at 27.08%	0.10	OK
LC22 at 27.08%	0.12	OK
LC23 at 27.08%	0.10	OK
LC24 at 27.08%	0.10	OK
LC25 at 70.83%	0.10	OK
LC26 at 70.83%	0.11	OK
LC27 at 70.83%	0.11	OK
LC28 at 70.83%	0.12	OK
LC29 at 70.83%	0.12	OK
LC3 at 27.08%	0.10	OK
LC30 at 70.83%	0.12	OK
LC31 at 29.17%	0.12	OK
LC32 at 29.17%	0.12	OK
LC33 at 29.17%	0.12	OK
LC34 at 29.17%	0.11	OK
LC35 at 29.17%	0.11	OK
LC36 at 29.17%	0.11	OK
LC37 at 29.17%	0.02	OK
LC38 at 29.17%	0.02	OK
LC39 at 29.17%	0.14	OK
LC4 at 27.08%	0.12	OK
LC40 at 70.83%	0.04	OK
LC41 at 70.83%	0.03	OK
LC42 at 29.17%	0.03	OK
LC43 at 29.17%	0.03	OK
LC44 at 29.17%	0.03	OK
LC45 at 29.17%	0.03	OK
LC46 at 29.17%	0.03	OK
LC47 at 70.83%	0.03	OK
LC48 at 70.83%	0.03	OK
LC49 at 70.83%	0.03	OK
LC5 at 70.83%	0.11	OK
LC50 at 70.83%	0.03	OK
LC51 at 70.83%	0.03	OK

Eq. H1-1b

LC52 at 70.83%	0.03	OK
LC53 at 29.17%	0.11	OK
LC54 at 70.83%	0.11	OK
LC55 at 70.83%	0.11	OK
LC56 at 70.83%	0.11	OK
LC57 at 70.83%	0.11	OK
LC58 at 70.83%	0.11	OK
LC59 at 29.17%	0.11	OK
LC6 at 70.83%	0.11	OK
LC60 at 29.17%	0.11	OK
LC61 at 29.17%	0.11	OK
LC62 at 29.17%	0.11	OK
LC63 at 29.17%	0.11	OK
LC64 at 29.17%	0.11	OK
LC65 at 29.17%	0.11	OK
LC66 at 29.17%	0.11	OK
LC67 at 29.17%	0.11	OK
LC68 at 29.17%	0.11	OK
LC69 at 29.17%	0.12	OK
LC7 at 27.08%	0.16	OK
LC70 at 29.17%	0.12	OK
LC71 at 29.17%	0.12	OK
LC72 at 29.17%	0.12	OK
LC73 at 29.17%	0.12	OK
LC74 at 29.17%	0.12	OK
LC75 at 29.17%	0.11	OK
LC76 at 29.17%	0.11	OK
LC77 at 70.83%	0.02	OK
LC78 at 29.17%	0.02	OK
LC79 at 29.17%	0.02	OK
LC8 at 27.08%	0.11	OK
LC80 at 29.17%	0.02	OK
LC81 at 29.17%	0.02	OK
LC82 at 29.17%	0.02	OK
LC83 at 29.17%	0.02	OK
LC84 at 70.83%	0.02	OK
LC85 at 70.83%	0.02	OK
LC86 at 70.83%	0.03	OK
LC87 at 70.83%	0.03	OK
LC88 at 70.83%	0.03	OK
LC9 at 27.08%	0.10	OK
W180 at 27.08%	0.10	OK
W210 at 27.08%	0.06	OK
W240 at 27.08%	0.06	OK
W270 at 27.08%	0.07	OK
W300 at 27.08%	0.06	OK
W330 at 27.08%	0.06	OK
WI180 at 27.08%	0.03	OK
WI210 at 27.08%	0.02	OK
WI240 at 27.08%	0.02	OK
WI270 at 27.08%	0.02	OK
WI300 at 27.08%	0.02	OK
WI330 at 27.08%	0.02	OK
WL180 at 27.08%	0.01	OK
WL210 at 27.08%	0.01	OK
WL240 at 27.08%	0.00	OK
WL270 at 27.08%	0.01	OK
WL300 at 27.08%	0.00	OK
WL330 at 27.08%	0.01	OK

5

LC1 at 29.17%	0.02	OK
LC10 at 70.83%	0.05	OK
LC11 at 70.83%	0.06	OK
LC12 at 29.17%	0.06	OK

Eq. H1-1b
Eq. H1-1b

LC13 at 29.17%	0.02	OK
LC14 at 29.17%	0.02	OK
LC15 at 27.08%	0.02	OK
LC16 at 70.83%	0.04	OK
LC17 at 70.83%	0.06	OK
LC18 at 70.83%	0.05	OK
LC19 at 70.83%	0.02	OK
LC2 at 29.17%	0.02	OK
LC20 at 70.83%	0.02	OK
LC21 at 70.83%	0.02	OK
LC22 at 70.83%	0.05	OK
LC23 at 70.83%	0.06	OK
LC24 at 70.83%	0.06	OK
LC25 at 70.83%	0.02	OK
LC26 at 70.83%	0.01	OK
LC27 at 70.83%	0.01	OK
LC28 at 70.83%	0.01	OK
LC29 at 70.83%	0.02	OK
LC3 at 27.08%	0.02	OK
LC30 at 70.83%	0.02	OK
LC31 at 70.83%	0.01	OK
LC32 at 29.17%	0.01	OK
LC33 at 29.17%	0.01	OK
LC34 at 29.17%	0.02	OK
LC35 at 29.17%	0.02	OK
LC36 at 29.17%	0.02	OK
LC37 at 29.17%	0.00	OK
LC38 at 70.83%	0.03	OK
LC39 at 70.83%	0.04	OK
LC4 at 70.83%	0.04	OK
LC40 at 70.83%	0.04	OK
LC41 at 70.83%	0.03	OK
LC42 at 70.83%	0.03	OK
LC43 at 70.83%	0.03	OK
LC44 at 70.83%	0.03	OK
LC45 at 70.83%	0.03	OK
LC46 at 70.83%	0.03	OK
LC47 at 29.17%	0.03	OK
LC48 at 29.17%	0.03	OK
LC49 at 29.17%	0.03	OK
LC5 at 70.83%	0.05	OK
LC50 at 29.17%	0.03	OK
LC51 at 29.17%	0.03	OK
LC52 at 29.17%	0.03	OK
LC53 at 29.17%	0.03	OK
LC54 at 29.17%	0.03	OK
LC55 at 29.17%	0.03	OK
LC56 at 70.83%	0.03	OK
LC57 at 70.83%	0.03	OK
LC58 at 70.83%	0.03	OK
LC59 at 70.83%	0.03	OK
LC6 at 70.83%	0.05	OK
LC60 at 29.17%	0.03	OK
LC61 at 29.17%	0.03	OK
LC62 at 29.17%	0.03	OK
LC63 at 29.17%	0.03	OK
LC64 at 29.17%	0.03	OK
LC65 at 70.83%	0.04	OK
LC66 at 70.83%	0.04	OK
LC67 at 70.83%	0.04	OK
LC68 at 70.83%	0.04	OK
LC69 at 70.83%	0.04	OK
LC7 at 70.83%	0.02	OK
LC70 at 70.83%	0.04	OK

LC71 at 29.17%	0.04	OK
LC72 at 29.17%	0.04	OK
LC73 at 29.17%	0.04	OK
LC74 at 29.17%	0.04	OK
LC75 at 29.17%	0.04	OK
LC76 at 29.17%	0.04	OK
LC77 at 29.17%	0.02	OK
LC78 at 29.17%	0.02	OK
LC79 at 29.17%	0.02	OK
LC8 at 70.83%	0.02	OK
LC80 at 70.83%	0.02	OK
LC81 at 70.83%	0.02	OK
LC82 at 70.83%	0.02	OK
LC83 at 70.83%	0.02	OK
LC84 at 29.17%	0.02	OK
LC85 at 29.17%	0.02	OK
LC86 at 29.17%	0.02	OK
LC87 at 29.17%	0.02	OK
LC88 at 29.17%	0.02	OK
LC9 at 70.83%	0.02	OK
W180 at 70.83%	0.01	OK
W210 at 29.17%	0.01	OK
W240 at 70.83%	0.01	OK
W270 at 70.83%	0.03	OK
W300 at 70.83%	0.04	OK
W330 at 70.83%	0.03	OK
WI180 at 70.83%	0.01	OK
WI210 at 29.17%	0.00	OK
WI240 at 29.17%	0.00	OK
WI270 at 70.83%	0.01	OK
WI300 at 70.83%	0.01	OK
WI330 at 70.83%	0.01	OK
WL180 at 70.83%	0.00	OK
WL210 at 29.17%	0.00	OK
WL240 at 29.17%	0.00	OK
WL270 at 70.83%	0.00	OK
WL300 at 70.83%	0.00	OK
WL330 at 70.83%	0.00	OK

6

LC1 at 27.08%	0.24	OK
LC10 at 27.08%	0.23	OK
LC11 at 27.08%	0.19	OK
LC12 at 27.08%	0.19	OK
LC13 at 27.08%	0.24	OK
LC14 at 27.08%	0.18	OK
LC15 at 27.08%	0.18	OK
LC16 at 27.08%	0.23	OK
LC17 at 27.08%	0.19	OK
LC18 at 27.08%	0.18	OK
LC19 at 27.08%	0.24	OK
LC2 at 27.08%	0.19	OK
LC20 at 27.08%	0.18	OK
LC21 at 27.08%	0.19	OK
LC22 at 27.08%	0.23	OK
LC23 at 27.08%	0.19	OK
LC24 at 27.08%	0.18	OK
LC25 at 70.83%	0.11	OK
LC26 at 29.17%	0.11	OK
LC27 at 29.17%	0.12	OK
LC28 at 29.17%	0.12	OK
LC29 at 29.17%	0.11	OK
LC3 at 27.08%	0.18	OK
LC30 at 29.17%	0.12	OK
LC31 at 29.17%	0.11	OK

LC32 at 70.83%	0.12	OK
LC33 at 70.83%	0.11	OK
LC34 at 70.83%	0.12	OK
LC35 at 70.83%	0.12	OK
LC36 at 70.83%	0.12	OK
LC37 at 70.83%	0.03	OK
LC38 at 70.83%	0.03	OK
LC39 at 29.17%	0.14	OK
LC4 at 27.08%	0.23	OK
LC40 at 29.17%	0.02	OK
LC41 at 29.17%	0.02	OK
LC42 at 70.83%	0.02	OK
LC43 at 70.83%	0.02	OK
LC44 at 70.83%	0.02	OK
LC45 at 70.83%	0.02	OK
LC46 at 70.83%	0.02	OK
LC47 at 29.17%	0.03	OK
LC48 at 29.17%	0.02	OK
LC49 at 29.17%	0.02	OK
LC5 at 27.08%	0.19	OK
LC50 at 29.17%	0.02	OK
LC51 at 29.17%	0.02	OK
LC52 at 29.17%	0.02	OK
LC53 at 70.83%	0.12	OK
LC54 at 70.83%	0.12	OK
LC55 at 70.83%	0.12	OK
LC56 at 70.83%	0.12	OK
LC57 at 70.83%	0.12	OK
LC58 at 70.83%	0.12	OK
LC59 at 70.83%	0.12	OK
LC6 at 27.08%	0.19	OK
LC60 at 70.83%	0.12	OK
LC61 at 70.83%	0.12	OK
LC62 at 70.83%	0.12	OK
LC63 at 70.83%	0.12	OK
LC64 at 70.83%	0.12	OK
LC65 at 70.83%	0.11	OK
LC66 at 29.17%	0.11	OK
LC67 at 29.17%	0.11	OK
LC68 at 29.17%	0.11	OK
LC69 at 29.17%	0.11	OK
LC7 at 27.08%	0.24	OK
LC70 at 29.17%	0.11	OK
LC71 at 70.83%	0.11	OK
LC72 at 70.83%	0.11	OK
LC73 at 70.83%	0.11	OK
LC74 at 70.83%	0.11	OK
LC75 at 70.83%	0.11	OK
LC76 at 70.83%	0.11	OK
LC77 at 29.17%	0.03	OK
LC78 at 70.83%	0.03	OK
LC79 at 70.83%	0.03	OK
LC8 at 27.08%	0.19	OK
LC80 at 70.83%	0.03	OK
LC81 at 70.83%	0.03	OK
LC82 at 70.83%	0.03	OK
LC83 at 29.17%	0.03	OK
LC84 at 29.17%	0.03	OK
LC85 at 29.17%	0.03	OK
LC86 at 29.17%	0.03	OK
LC87 at 29.17%	0.03	OK
LC88 at 29.17%	0.03	OK
LC9 at 27.08%	0.19	OK
W180 at 27.08%	0.15	OK

Eq. H1-1b

	W210 at 27.08%	0.11	OK	
	W240 at 27.08%	0.12	OK	
	W270 at 27.08%	0.14	OK	
	W300 at 27.08%	0.12	OK	
	W330 at 27.08%	0.11	OK	
	WI180 at 27.08%	0.07	OK	
	WI210 at 27.08%	0.04	OK	
	WI240 at 27.08%	0.04	OK	
	WI270 at 27.08%	0.05	OK	
	WI300 at 27.08%	0.04	OK	
	WI330 at 27.08%	0.04	OK	
	WL180 at 27.08%	0.01	OK	
	WL210 at 27.08%	0.01	OK	
	WL240 at 27.08%	0.01	OK	
	WL270 at 27.08%	0.01	OK	
	WL300 at 27.08%	0.01	OK	
	WL330 at 27.08%	0.01	OK	
7	LC1 at 18.75%	0.17	OK	Eq. H1-1b
	LC10 at 20.83%	0.17	OK	
	LC11 at 20.83%	0.13	OK	
	LC12 at 18.75%	0.13	OK	
	LC13 at 18.75%	0.17	OK	
	LC14 at 18.75%	0.13	OK	
	LC15 at 18.75%	0.11	OK	
	LC16 at 18.75%	0.13	OK	
	LC17 at 18.75%	0.11	OK	
	LC18 at 20.83%	0.13	OK	
	LC19 at 20.83%	0.17	OK	
	LC2 at 18.75%	0.13	OK	
	LC20 at 20.83%	0.17	OK	
	LC21 at 20.83%	0.17	OK	
	LC22 at 20.83%	0.15	OK	
	LC23 at 18.75%	0.11	OK	
	LC24 at 18.75%	0.13	OK	
	LC25 at 79.17%	0.21	OK	
	LC26 at 79.17%	0.22	OK	
	LC27 at 79.17%	0.22	OK	
	LC28 at 79.17%	0.22	OK	
	LC29 at 79.17%	0.22	OK	
	LC3 at 18.75%	0.11	OK	
	LC30 at 79.17%	0.22	OK	
	LC31 at 79.17%	0.22	OK	
	LC32 at 20.83%	0.23	OK	
	LC33 at 20.83%	0.23	OK	
	LC34 at 20.83%	0.23	OK	
	LC35 at 20.83%	0.21	OK	
	LC36 at 20.83%	0.22	OK	
	LC37 at 20.83%	0.07	OK	
	LC38 at 79.17%	0.13	OK	
	LC39 at 20.83%	0.04	OK	
	LC4 at 18.75%	0.13	OK	
	LC40 at 20.83%	0.36	OK	
	LC41 at 79.17%	0.37	OK	
	LC42 at 79.17%	0.37	OK	
	LC43 at 79.17%	0.37	OK	
	LC44 at 79.17%	0.37	OK	
	LC45 at 79.17%	0.37	OK	
	LC46 at 79.17%	0.37	OK	Eq. H1-1b
	LC47 at 79.17%	0.37	OK	
	LC48 at 79.17%	0.37	OK	
	LC49 at 79.17%	0.37	OK	
	LC5 at 79.17%	0.13	OK	
	LC50 at 79.17%	0.37	OK	

LC51 at 79.17%	0.37	OK
LC52 at 79.17%	0.37	OK
LC53 at 79.17%	0.03	OK
LC54 at 79.17%	0.03	OK
LC55 at 79.17%	0.03	OK
LC56 at 79.17%	0.03	OK
LC57 at 20.83%	0.04	OK
LC58 at 20.83%	0.04	OK
LC59 at 20.83%	0.04	OK
LC6 at 20.83%	0.13	OK
LC60 at 20.83%	0.04	OK
LC61 at 20.83%	0.04	OK
LC62 at 79.17%	0.03	OK
LC63 at 79.17%	0.03	OK
LC64 at 79.17%	0.03	OK
LC65 at 79.17%	0.05	OK
LC66 at 79.17%	0.05	OK
LC67 at 79.17%	0.05	OK
LC68 at 79.17%	0.06	OK
LC69 at 79.17%	0.06	OK
LC7 at 20.83%	0.18	OK
LC70 at 79.17%	0.06	OK
LC71 at 20.83%	0.06	OK
LC72 at 20.83%	0.06	OK
LC73 at 20.83%	0.06	OK
LC74 at 20.83%	0.06	OK
LC75 at 20.83%	0.06	OK
LC76 at 20.83%	0.06	OK
LC77 at 79.17%	0.12	OK
LC78 at 79.17%	0.12	OK
LC79 at 79.17%	0.12	OK
LC8 at 20.83%	0.20	OK
LC80 at 79.17%	0.12	OK
LC81 at 79.17%	0.12	OK
LC82 at 79.17%	0.12	OK
LC83 at 20.83%	0.12	OK
LC84 at 20.83%	0.13	OK
LC85 at 20.83%	0.13	OK
LC86 at 20.83%	0.13	OK
LC87 at 79.17%	0.12	OK
LC88 at 79.17%	0.12	OK
LC9 at 20.83%	0.19	OK
W180 at 18.75%	0.11	OK
W210 at 18.75%	0.08	OK
W240 at 18.75%	0.07	OK
W270 at 18.75%	0.08	OK
W300 at 18.75%	0.07	OK
W330 at 18.75%	0.08	OK
WI180 at 18.75%	0.04	OK
WI210 at 18.75%	0.03	OK
WI240 at 18.75%	0.02	OK
WI270 at 18.75%	0.03	OK
WI300 at 18.75%	0.02	OK
WI330 at 18.75%	0.03	OK
WL180 at 18.75%	0.01	OK
WL210 at 18.75%	0.01	OK
WL240 at 18.75%	0.01	OK
WL270 at 18.75%	0.01	OK
WL300 at 18.75%	0.01	OK
WL330 at 18.75%	0.01	OK

16

LC1 at 100.00%	0.07	OK
LC10 at 100.00%	0.16	OK
LC11 at 100.00%	0.16	OK

LC12 at 0.00%	0.10	OK	Eq. H1-1b
LC13 at 100.00%	0.06	OK	
LC14 at 100.00%	0.12	OK	
LC15 at 100.00%	0.17	OK	
LC16 at 100.00%	0.20	OK	
LC17 at 100.00%	0.21	OK	Eq. H1-1b
LC18 at 0.00%	0.10	OK	
LC19 at 100.00%	0.06	OK	
LC2 at 100.00%	0.13	OK	
LC20 at 100.00%	0.09	OK	
LC21 at 100.00%	0.14	OK	Eq. H1-1b
LC22 at 100.00%	0.15	OK	
LC23 at 100.00%	0.15	OK	
LC24 at 0.00%	0.10	OK	
LC25 at 100.00%	0.12	OK	
LC26 at 100.00%	0.12	OK	Eq. H1-1b
LC27 at 100.00%	0.12	OK	
LC28 at 100.00%	0.13	OK	
LC29 at 100.00%	0.13	OK	
LC3 at 100.00%	0.18	OK	
LC30 at 100.00%	0.13	OK	Eq. H1-1b
LC31 at 100.00%	0.12	OK	
LC32 at 100.00%	0.12	OK	
LC33 at 100.00%	0.12	OK	
LC34 at 100.00%	0.12	OK	
LC35 at 100.00%	0.12	OK	Eq. H1-1b
LC36 at 100.00%	0.12	OK	
LC37 at 100.00%	0.03	OK	
LC38 at 100.00%	0.08	OK	
LC39 at 100.00%	0.03	OK	
LC4 at 100.00%	0.21	OK	Eq. H1-1b
LC40 at 100.00%	0.04	OK	
LC41 at 100.00%	0.04	OK	
LC42 at 100.00%	0.04	OK	
LC43 at 100.00%	0.04	OK	
LC44 at 100.00%	0.04	OK	Eq. H1-1b
LC45 at 100.00%	0.04	OK	
LC46 at 100.00%	0.04	OK	
LC47 at 100.00%	0.04	OK	
LC48 at 100.00%	0.04	OK	
LC49 at 100.00%	0.04	OK	Eq. H1-1b
LC5 at 100.00%	0.22	OK	
LC50 at 100.00%	0.04	OK	
LC51 at 100.00%	0.04	OK	
LC52 at 100.00%	0.04	OK	
LC53 at 100.00%	0.03	OK	Eq. H1-1b
LC54 at 100.00%	0.03	OK	
LC55 at 100.00%	0.03	OK	
LC56 at 100.00%	0.03	OK	
LC57 at 100.00%	0.03	OK	
LC58 at 100.00%	0.03	OK	Eq. H1-1b
LC59 at 100.00%	0.03	OK	
LC6 at 0.00%	0.09	OK	
LC60 at 100.00%	0.03	OK	
LC61 at 100.00%	0.03	OK	
LC62 at 100.00%	0.03	OK	Eq. H1-1b
LC63 at 100.00%	0.03	OK	
LC64 at 100.00%	0.03	OK	
LC65 at 100.00%	0.03	OK	
LC66 at 100.00%	0.03	OK	
LC67 at 100.00%	0.03	OK	Eq. H1-1b
LC68 at 100.00%	0.03	OK	
LC69 at 100.00%	0.03	OK	
LC7 at 100.00%	0.07	OK	

LC70 at 100.00%	0.03	OK
LC71 at 100.00%	0.03	OK
LC72 at 100.00%	0.03	OK
LC73 at 100.00%	0.03	OK
LC74 at 100.00%	0.03	OK
LC75 at 100.00%	0.03	OK
LC76 at 100.00%	0.03	OK
LC77 at 100.00%	0.08	OK
LC78 at 100.00%	0.08	OK
LC79 at 100.00%	0.08	OK
LC8 at 100.00%	0.10	OK
LC80 at 100.00%	0.08	OK
LC81 at 100.00%	0.08	OK
LC82 at 100.00%	0.08	OK
LC83 at 100.00%	0.08	OK
LC84 at 100.00%	0.08	OK
LC85 at 100.00%	0.08	OK
LC86 at 100.00%	0.08	OK
LC87 at 100.00%	0.08	OK
LC88 at 100.00%	0.08	OK
LC9 at 100.00%	0.15	OK
W180 at 0.00%	0.03	OK
W210 at 100.00%	0.05	OK
W240 at 100.00%	0.07	OK
W270 at 100.00%	0.09	OK
W300 at 100.00%	0.10	OK
W330 at 0.00%	0.06	OK
WI180 at 0.00%	0.01	OK
WI210 at 100.00%	0.01	OK
WI240 at 100.00%	0.01	OK
WI270 at 0.00%	0.01	OK
WI300 at 0.00%	0.02	OK
WI330 at 0.00%	0.02	OK
WL180 at 0.00%	0.00	OK
WL210 at 100.00%	0.00	OK
WL240 at 100.00%	0.00	OK
WL270 at 0.00%	0.00	OK
WL300 at 0.00%	0.00	OK
WL330 at 0.00%	0.00	OK

Current Date: 8/13/2018 11:36 AM

Units system: English

File name: W:\STRUCTURAL DEPARTMENT\ANALYSIS SOFTWARE\RAM Elements\RAM Projects\AT&T\CT\CT2017\Centerline\CT2017 (LTE 5C-6C).etx

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	0.00	5.83	0.00	0
2	14.00	5.83	0.00	0
3	0.00	2.17	0.00	0
4	14.00	2.17	0.00	0
5	0.33	7.75	0.20	0
6	0.33	0.25	0.20	0
7	4.50	8.00	0.20	0
8	4.50	0.00	0.20	0
9	7.00	8.00	0.20	0
10	7.00	0.00	0.20	0
11	9.50	8.00	0.20	0
12	9.50	0.00	0.20	0
13	13.66	7.00	0.20	0
14	13.66	1.00	0.20	0
15	2.66	5.83	0.00	0
16	3.29	5.83	-0.41	0
17	6.37	5.83	-2.40	0
18	7.00	5.83	-2.81	0
19	11.33	5.83	0.00	0
20	10.70	5.83	-0.41	0
21	7.63	5.83	-2.40	0

22	11.33	2.17	0.00	0
23	10.70	2.17	-0.41	0
24	6.37	2.17	-2.40	0
25	7.00	2.17	-2.81	0
26	7.63	2.17	-2.40	0
27	2.66	2.17	0.00	0
28	3.29	2.17	-0.41	0
29	0.33	4.00	0.20	0
30	5.33	4.00	-8.00	0
31	0.33	5.83	0.00	0
32	0.33	2.17	0.00	0
33	4.50	5.83	0.00	0
34	4.50	2.17	0.00	0
35	7.00	5.83	0.00	0
36	7.00	2.17	0.00	0
37	9.50	5.83	0.00	0
38	9.50	2.17	0.00	0
39	13.66	5.83	0.00	0
40	13.66	2.17	0.00	0
41	13.66	5.83	0.20	0
42	13.66	2.17	0.20	0
43	9.50	5.83	0.20	0
44	9.50	2.17	0.20	0
45	7.00	2.17	0.20	0
46	7.00	5.83	0.20	0
47	4.50	5.83	0.20	0
48	4.50	2.17	0.20	0
49	0.33	5.83	0.20	0
50	0.33	2.17	0.20	0

Restraints

Node	TX	TY	TZ	RX	RY	RZ
18	1	1	1	1	1	1
25	1	1	1	1	1	1
30	1	1	1	1	1	1

Members

Member	NJ	NK	Description	Section	Material	d0 [in]	dL [in]	Ig factor
1	1	2		L 3-1_2X3-1_2X1_4	A36	0.00	0.00	0.00
2	3	4		L 3-1_2X3-1_2X1_4	A36	0.00	0.00	0.00
3	5	6		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
4	7	8		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
5	9	10		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
6	11	12		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
7	13	14		PIPE 2x0.154	A53 GrB	0.00	0.00	0.00
8	25	22		L 3X3X1_4	A36	0.00	0.00	0.00
9	25	27		L 3X3X1_4	A36	0.00	0.00	0.00
10	15	18		L 3X3X1_4	A36	0.00	0.00	0.00

11	18	19	L 3X3X1_4	A36	0.00	0.00	0.00
12	20	26	L 3X3X1_4	A36	0.00	0.00	0.00
13	23	21	L 3X3X1_4	A36	0.00	0.00	0.00
14	24	16	L 3X3X1_4	A36	0.00	0.00	0.00
15	28	17	L 3X3X1_4	A36	0.00	0.00	0.00
16	29	30	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
3	45.00	0	0.00	0.00	0.00
4	45.00	0	0.00	0.00	0.00
6	45.00	0	0.00	0.00	0.00
7	45.00	0	0.00	0.00	0.00
8	270.00	0	0.00	0.00	0.00
10	180.00	0	0.00	0.00	0.00
11	180.00	0	0.00	0.00	0.00
12	270.00	0	0.00	0.00	0.00
14	270.00	0	0.00	0.00	0.00
15	270.00	0	0.00	0.00	0.00



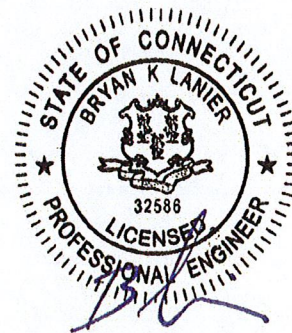
AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 190.6 ft Self Supported Tower
ATC Site Name : Glfd-Guilford Rebuild CT, CT
ATC Site Number : 311305
Engineering Number : OAA737984_C3_01
Proposed Carrier : AT&T Mobility
Carrier Site Name : Guilford
Carrier Site Number : CT2017
Site Location : 10 Tanner Marsh Road
Guilford, CT 06437-2942
41.288600,-72.658300
County : New Haven
Date : August 3, 2018
Max Usage : 90%
Result : Pass

Prepared By:
Annika A. Venning, E.I.
Structural Engineer II

Reviewed By:



Authorized by "EOR"
Aug 6 2018 5:49 PM

cosign

COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 190.6 ft self supported tower to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Nello Job #RFQ34841, dated April 8, 2011 Inspection by A.R. Wireless, dated August 24, 2013
Foundation Drawing	ATC Job #47517572B, dated June 15, 2011
Geotechnical Report	GEOservices Project #21-07254, dated March 11, 2008

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	101 mph (3-Second Gust, V_{ASD}) / 130 mph (3-Second Gust, V_{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
Structure Class:	II
Exposure Category:	C
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	$S_s = 0.17$, $S_1 = 0.06$
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
189.0	190.0	2	6' Omni	Leg	(2) 1/2" Coax	Other
187.0	190.0	3	12' Dipole	Leg	(3) 7/8" Coax	Town Of Guilford CT
183.0	183.0	3	RCU (Remote Control Unit)	Side Arms	(6) 1 5/8" Coax (1) 3/8" Coax	Metro PCS
		3	RFS APXV18-206517S-C			
175.0	175.0	3	Andrew LNX-6515DS-VTM	Sector Frames	(12) 1 5/8" Coax (1) 1 1/4" Hybriflex	T-Mobile
		3	Ericsson RRUS 11 B12			
		3	Ericsson AIR 21 B4A B2P			
		3	Ericsson AIR 21, 1.3 M, B2A B4P, AWS - 1700/2100			
		3	Ericsson KRY 112 144/1			
166.0	167.0	3	CCI OPA-65R-LCUU-H4 (14.4" width)	Sector Frames	(12) 1 5/8" Coax (2) 0.74" 8 AWG 7 (2) 0.39" Fiber Trunk (2) 0.78" 8 AWG 6 (6) 3/8" RET Control Cable (1) 1/2" Coax (1) 2" conduit	AT&T Mobility
		3	Powerwave 7770.00			
		3	Ericsson RRUS 32 B30 (60 lbs)			
		6	Powerwave LGP21401			
	166.0	6	Powerwave 7020			
		3	Commscope SBNHH-1D65A			
		3	Ericsson RRUS-11 (19.7" x 19.7")			
		3	Ericsson RRUS 32 B2			
		2	Raycap DC6-48-60-18-8F			
135.0	140.0	1	10' Dipole	Side Arms	(4) 7/8" Coax (3) 1 1/4" Coax	Town Of Guilford CT
	135.0	4	4' Dish w/ Radome			
125.0	137.0	2	6' FM antenna	Side Arms	(2) 7/8" Coax (1) 1 5/8" Coax	Monroe Board Of Education
	127.0	1	Harris FML-4E			
	125.0	1	Scala PR-950			
87.0	91.0	1	Antel BCD-87010 ____ 4"	Stand-Off	(1) 1 5/8" Coax	Spok Holdings
80.0	80.0	2	4' Dish w/ Radome	Leg	(2) 7/8" Coax	Town Of Guilford CT
17.0	-	-	-	-	(2) 0.28" RG-6	Spok Holdings
16.0	16.0	1	Channel Master Type 120	Leg	-	

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
No loading considered as to be removed						

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
166.0	166.0	3	CCI HPA-65R-BUU-H4	Sector Frames	-	AT&T Mobility
		3	Ericsson RRUS 4426 B66			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	79%	Pass
Diagonals	90%	Pass
Horizontals	7%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Uplift (Kips)	434.0	585.9	413.1	71%
Axial (Kips)	488.3	659.2	462.7	70%
Shear (Kips)	49.5	66.8	45.4	68%

* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
166.0	Ericsson RRUS 4426 B66	AT&T Mobility	0.358	0.030	0.250
	CCI HPA-65R-BUU-H4				
135.0	4' Dish w/ Radome	Town Of Guilford Ct	0.231		0.193
125.0	Scala PR-950	Monroe Board Of Educ	0.209	0.029	0.196
80.0	4' Dish w/ Radome	Town Of Guilford Ct	0.085	0.013	0.121
16.0	Channel Master Type 120	Spok Holdings, Inc.	0.004	0.002	0.024

*Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

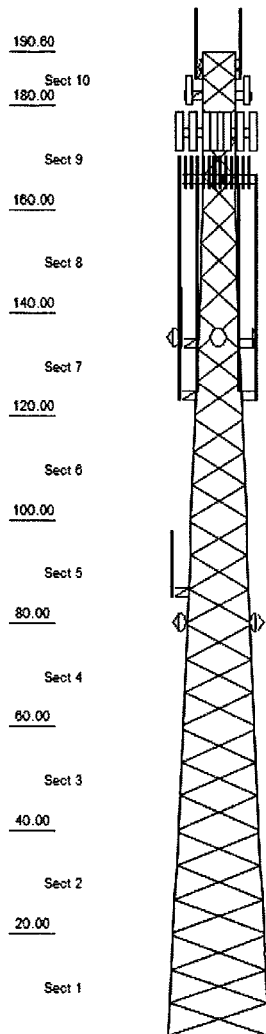
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



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Loads: 101 mph no ice
50 mph w/ 3/4" radial ice
Site Class: D Ss: 0.17 S1: 0.06
60 mph Serviceability

Job Information

Tower : 311305 Location : GLFD-GUILFORD Base Width : 20.00 ft
Client : AT&T MOBILITY Top Width : 6.50 ft
Code : ANSI/TIA-222-G Tower Ht : 190.60 ft
Shape : Triangle

Sections Properties

Section	Leg Members	Diagonal Members	Horizontal Members
1	PST 50 ksi 12" DIA PIPE	SAE 50 ksi 4X4X0.25	
2	PST 50 ksi 10" DIA PIPE	SAE 50 ksi 3.5X3.5X0.25	
3 - 4	PST 50 ksi 10" DIA PIPE	SAE 50 ksi 3X3X0.25	
5 - 6	PST 50 ksi 8" DIA PIPE	SAE 50 ksi 3X3X0.1875	
7	PST 50 ksi 6" DIA PIPE	SAE 50 ksi 3X3X0.1875	
8	PST 50 ksi 5" DIA PIPE	SAE 50 ksi 2.5X2.5X0.1875	
9	PST 50 ksi 3" DIA PIPE	SAE 50 ksi 2.5X2.5X0.1875	
10	PST 50 ksi 2" DIA PIPE	SAE 50 ksi 2X2X0.1875	SAE 36 ksi 2X2X0.125

Discrete Appurtenance

Elev (ft)	Type	Qty	Description
189.00	Whip	2	6' Omni
187.00	Whip	3	12' Dipole
183.00		3	RCU (Remote Control Unit)
183.00	Panel	3	RFS APXV18-206517S-C
183.00	Straight Arm	3	Round Side Arm
175.00	Panel	3	Andrew LNX-6515DS-VTM
175.00	Panel	3	Ericsson RRUS 11 B12
175.00	Panel	3	Ericsson AIR 21 B4A B2P
175.00	Panel	3	Ericsson AIR 21, 1.3 M, B2A B4
175.00		3	Ericsson KRY 112 144/1
175.00	Mounting Frame	3	Flat Light Sector Frame
166.00	Panel	3	CCI HPA-65R-BUU-H4
166.00	Panel	3	Ericsson RRUS 4426 B66
166.00	Panel	3	Commscope SBNHH-1D65A
166.00	Mounting Frame	3	Flat Light Sector Frame
166.00	Panel	3	CCI OPA-65R-LCUU-H4 (14.4" wid
166.00	Panel	3	Powerwave Allgon 7770.00
166.00		3	Ericsson RRUS-11 (19.7")
166.00	Panel	3	Ericsson RRUS 32 B2
166.00	Panel	3	Ericsson RRUS 32 B30 (60 lbs)
166.00		2	Raycap DC6-48-60-18-8F
166.00		6	Powerwave Allgon LGP21401
166.00		6	Powerwave Allgon 7020
135.00	Mounting Frame	1	Round Sector Frame
135.00	Dish	4	4' Dish w/ Radome
135.00	Straight Arm	4	Round Side Arm
135.00	Whip	1	10' Dipole
125.00	Straight Arm	2	Round Side Arm
125.00	Whip	1	Harris FML-4E
125.00	Whip	2	6' FM antenna
125.00	Dish	1	Scala PR-950
87.00	Whip	1	Antel BCD-87010 ____ 4°
87.00	Straight Arm	1	Stand-Off
80.00	Dish	2	4' Dish w/ Radome
16.00	Dish	1	Channel Master Type 120

Linear Appurtenance

Elev (ft)	From	To	Qty	Description
0.00	190.50	1	1	Climbing Ladder
0.00	189.00	2	2	1/2" Coax
0.00	187.00	3	3	7/8" Coax
0.00	183.00	1	1	Waveguide

Job Information		
Tower : 311305	Location : GLFD-GUILFORD	Base Width : 20.00 ft
Client : AT&T MOBILITY		Top Width : 6.50 ft
Code : ANSI/TIA-222-G		Tower Ht : 190.60 ft
		Shape : Triangle

0.00	183.00	1	3/8" Coax
0.00	183.00	6	1 5/8" Coax
0.00	175.00	1	Waveguide
0.00	175.00	12	1 5/8" Coax
0.00	175.00	1	1 1/4" Hybriflex Cab
0.00	166.00	1	Waveguide
0.00	166.00	6	3/8" (0.38"- 9.5mm)
0.00	166.00	1	2" conduit
0.00	166.00	1	1/2" Coax
0.00	166.00	12	1 5/8" Coax
0.00	166.00	2	0.78" (19.7mm) 8 AWG
0.00	166.00	2	0.74" (18.7mm) 8 AWG
0.00	166.00	1	0.39" (10mm) Fiber T
0.00	166.00	1	0.39" (10mm) Fiber T
0.00	135.00	4	7/8" Coax
0.00	135.00	3	1 1/4" Coax
0.00	125.00	2	7/8" Coax
0.00	125.00	1	1 5/8" Coax
0.00	87.00	1	1 5/8" Coax
0.00	80.00	2	7/8" Coax
0.00	17.00	2	0.28" (7mm) RG-6

Global Base Foundation Design Loads			
Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	7,696.30	55.11	75.57
DL + WL + IL	2,115.27	145.42	20.44

Individual Base Foundation Design Loads		
Vertical (kip)	Uplift (kip)	Horizontal (kip)
462.72	413.14	45.35

Site Number: 311305

Code: ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Analysis Parameters

Location:	NEW HAVEN County, CT	Height (ft):	190.5999
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Triangle	Bottom Face Width (ft):	20.00
Tower Manufacturer:	Nello Corp	Top Face Width (ft):	6.50
Tower Type:	Self Support	Anchor Bolt Detail Type	c
Kd:			
Ke:			

Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	101 mph
Exposure Category:	C	Design Windspeed With Ice:	50 mph
Topographic Category:	1	Operational Windspeed:	60 mph
Crest Height:	0 ft	Design Ice Thickness:	0.75 in

Seismic Parameters

Analysis Method: Equivalent Modal Analysis & Equivalent Lateral Force Methods

Site Class: D - Stiff Soil

Period Based on Rayleigh Method (sec): 0.86

T_L (sec):	6	p:	1.3	C_s :	0.037
S_s :	0.173	S_1 :	0.060	$C_{s, \text{Max}}$:	0.037
F_a :	1.600	F_v :	2.400	$C_{s, \text{Min}}$:	0.030
S_{ds} :	0.185	S_{d1} :	0.096		

Load Cases

1.2D + 1.6W Normal	101 mph Normal with No Ice
1.2D + 1.6W 60 deg	101 mph 60 degree with No Ice
1.2D + 1.6W 90 deg	101 mph 90 degree with No Ice
1.2D + 1.6W 120 deg	101 mph 120 degree with No Ice
1.2D + 1.6W 180 deg	101 mph 180 degree with No Ice
1.2D + 1.6W 210 deg	101 mph 210 degree with No Ice
1.2D + 1.6W 240 deg	101 mph 240 degree with No Ice
1.2D + 1.6W 300 deg	101 mph 300 degree with No Ice
1.2D + 1.6W 330 deg	101 mph 330 degree with No Ice
0.9D + 1.6W Normal	101 mph Normal with No Ice (Reduced DL)
0.9D + 1.6W 60 deg	101 mph 60 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	101 mph 90 deg with No Ice (Reduced DL)
0.9D + 1.6W 120 deg	101 mph 120 deg with No Ice (Reduced DL)
0.9D + 1.6W 180 deg	101 mph 180 deg with No Ice (Reduced DL)
0.9D + 1.6W 210 deg	101 mph 210 deg with No Ice (Reduced DL)
0.9D + 1.6W 240 deg	101 mph 240 deg with No Ice (Reduced DL)
0.9D + 1.6W 300 deg	101 mph 300 deg with No Ice (Reduced DL)
0.9D + 1.6W 330 deg	101 mph 330 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	50 mph Normal with 0.75 in Radial Ice

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Analysis Parameters

1.2D + 1.0Di + 1.0Wi 60 deg	50 mph 60 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	50 mph 90 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 120 deg	50 mph 120 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 180 deg	50 mph 180 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 210 deg	50 mph 210 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 240 deg	50 mph 240 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 300 deg	50 mph 300 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 330 deg	50 mph 330 deg with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E Normal	Seismic Normal
(1.2 + 0.2Sds) * DL + E 60 deg	Seismic 60 deg
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 deg
(1.2 + 0.2Sds) * DL + E 120 deg	Seismic 120 deg
(1.2 + 0.2Sds) * DL + E 180 deg	Seismic 180 deg
(1.2 + 0.2Sds) * DL + E 210 deg	Seismic 210 deg
(1.2 + 0.2Sds) * DL + E 240 deg	Seismic 240 deg
(1.2 + 0.2Sds) * DL + E 300 deg	Seismic 300 deg
(1.2 + 0.2Sds) * DL + E 330 deg	Seismic 330 deg
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 60 deg	Seismic (Reduced DL) 60 deg
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 deg
(0.9 - 0.2Sds) * DL + E 120 deg	Seismic (Reduced DL) 120 deg
(0.9 - 0.2Sds) * DL + E 180 deg	Seismic (Reduced DL) 180 deg
(0.9 - 0.2Sds) * DL + E 210 deg	Seismic (Reduced DL) 210 deg
(0.9 - 0.2Sds) * DL + E 240 deg	Seismic (Reduced DL) 240 deg
(0.9 - 0.2Sds) * DL + E 300 deg	Seismic (Reduced DL) 300 deg
(0.9 - 0.2Sds) * DL + E 330 deg	Seismic (Reduced DL) 330 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 60 deg	Serviceability - 60 mph Wind 60 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg
1.0D + 1.0W Service 120 deg	Serviceability - 60 mph Wind 120 deg
1.0D + 1.0W Service 180 deg	Serviceability - 60 mph Wind 180 deg
1.0D + 1.0W Service 210 deg	Serviceability - 60 mph Wind 210 deg
1.0D + 1.0W Service 240 deg	Serviceability - 60 mph Wind 240 deg
1.0D + 1.0W Service 300 deg	Serviceability - 60 mph Wind 300 deg
1.0D + 1.0W Service 330 deg	Serviceability - 60 mph Wind 330 deg

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Tower Loading**Discrete Appurtenance Properties 1.2D + 1.6W**

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
189.0	6' Omni	2	25	1.8	6.0	3.0	3.0	1.00	1.00	1.0	153.9	32.16	154	60
187.0	12' Dipole	3	40	4.5	12.0	3.0	3.0	1.00	1.00	3.0	1775.2	32.16	592	144
183.0	RCU (Remote	3	1	0.2	0.7	2.0	2.0	0.80	0.50	0.0	0.0	31.90	8	4
183.0	RFS APXV18-	3	26	5.2	6.0	6.8	3.2	0.80	0.68	0.0	0.0	31.90	366	95
183.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	31.90	454	540
175.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	0.0	0.0	31.61	21	40
175.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.67	0.0	0.0	31.61	193	183
175.0	Ericsson AIR 21 B4A	3	90	5.8	4.5	12.0	8.0	0.80	0.71	0.0	0.0	31.61	425	324
175.0	Ericsson AIR 21, 1.3	3	90	5.8	4.5	12.0	8.0	0.80	0.71	0.0	0.0	31.61	425	324
175.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	31.61	825	185
175.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	31.61	1298	1440
166.0	Powerwave Allgon	6	2	0.4	0.4	8.3	2.4	0.80	0.50	1.0	40.9	31.30	41	16
166.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	1.0	112.4	31.30	112	102
166.0	Raycap DC6-48-60-	2	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	31.26	75	48
166.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	31.26	84	174
166.0	Ericsson RRUS 32	3	60	2.7	2.2	12.1	6.7	0.80	0.67	1.0	184.1	31.30	184	216
166.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	0.0	0.0	31.26	187	191
166.0	Ericsson RRUS-11	3	51	2.8	1.6	17.0	8.0	0.80	0.67	0.0	0.0	31.26	191	184
166.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	1.0	365.9	31.30	366	126
166.0	Commscope SBNHH-	3	34	5.9	4.6	11.9	7.1	0.80	0.69	0.0	0.0	31.26	414	121
166.0	CCI OPA-65R-LCUU-	3	57	5.9	4.0	14.4	7.3	0.80	0.66	1.0	400.5	31.30	400	205
166.0	CCI HPA-65R-BUU-H4	3	34	6.1	4.0	14.8	9.0	0.80	0.69	0.0	0.0	31.26	428	122
166.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	31.26	1147	1440
135.0	10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	5.0	771.0	30.16	154	36
135.0	Round Side Arm	4	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	29.93	847	720
135.0	4' Dish w/ Radome	4	120	10.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	29.93	1766	576
135.0	Round Sector Frame	1	300	14.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	29.93	586	360
125.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	29.44	416	360
125.0	Scala PR-950	1	38	10.1	5.7	36.0	36.0	1.00	1.00	0.0	0.0	29.44	404	46
125.0	Harris FML-4E	1	227	12.8	40.0	24.0	24.0	1.00	1.00	2.0	1031.0	29.54	515	272
125.0	6' FM antenna	2	30	13.4	6.0	6.0	6.0	1.00	1.00	12.0	13178.3	30.02	1098	72
87.00	Stand-Off	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	27.28	93	90
87.00	Antel BCD-87010	1	27	2.9	11.2	2.6	2.6	1.00	1.00	4.0	434.5	27.54	109	32
80.00	4' Dish w/ Radome	2	120	10.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	26.80	791	288
16.00	Channel Master	1	126	20.2	3.9	47.2	0.0	1.00	1.00	0.0	0.0	19.10	524	151
Totals		94	7737	535.7									15696	9285

Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
189.0	6' Omni	2	25	1.8	6.0	3.0	3.0	1.00	1.00	1.0	153.9	32.16	154	45
187.0	12' Dipole	3	40	4.5	12.0	3.0	3.0	1.00	1.00	3.0	1775.2	32.16	592	108
183.0	RCU (Remote	3	1	0.2	0.7	2.0	2.0	0.80	0.50	0.0	0.0	31.90	8	3
183.0	RFS APXV18-	3	26	5.2	6.0	6.8	3.2	0.80	0.68	0.0	0.0	31.90	366	71
183.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	31.90	454	405
175.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	0.0	0.0	31.61	21	30
175.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.67	0.0	0.0	31.61	193	137
175.0	Ericsson AIR 21 B4A	3	90	5.8	4.5	12.0	8.0	0.80	0.71	0.0	0.0	31.61	425	243
175.0	Ericsson AIR 21, 1.3	3	90	5.8	4.5	12.0	8.0	0.80	0.71	0.0	0.0	31.61	425	243
175.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	31.61	825	139
175.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	31.61	1298	1080

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Tower Loading

166.0 Powerwave Allgon	6	2	0.4	0.4	8.3	2.4	0.80	0.50	1.0	40.9	31.30	41	12
166.0 Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	1.0	112.4	31.30	112	76
166.0 Raycap DC6-48-60-	2	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	31.26	75	36
166.0 Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	31.26	84	131
166.0 Ericsson RRUS 32	3	60	2.7	2.2	12.1	6.7	0.80	0.67	1.0	184.1	31.30	184	162
166.0 Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	0.0	0.0	31.26	187	143
166.0 Ericsson RRUS-11	3	51	2.8	1.6	17.0	8.0	0.80	0.67	0.0	0.0	31.26	191	138
166.0 Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	1.0	365.9	31.30	366	95
166.0 Commscope SBNHH-	3	34	5.9	4.6	11.9	7.1	0.80	0.69	0.0	0.0	31.26	414	90
166.0 CCI OPA-65R-LCUU-	3	57	5.9	4.0	14.4	7.3	0.80	0.66	1.0	400.5	31.30	400	154
166.0 CCI HPA-65R-BUU-H4	3	34	6.1	4.0	14.8	9.0	0.80	0.69	0.0	0.0	31.26	428	92
166.0 Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	31.26	1147	1080
135.0 10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	5.0	771.0	30.16	154	27
135.0 Round Side Arm	4	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	29.93	847	540
135.0 4' Dish w/ Radome	4	120	10.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	29.93	1766	432
135.0 Round Sector Frame	1	300	14.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	29.93	586	270
125.0 Round Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	29.44	416	270
125.0 Scala PR-950	1	38	10.1	5.7	36.0	36.0	1.00	1.00	0.0	0.0	29.44	404	34
125.0 Harris FML-4E	1	227	12.8	40.0	24.0	24.0	1.00	1.00	2.0	1031.0	29.54	515	204
125.0 6' FM antenna	2	30	13.4	6.0	6.0	6.0	1.00	1.00	12.0	13178.3	30.02	1098	54
87.00 Stand-Off	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	27.28	93	68
87.00 Antel BCD-87010	1	27	2.9	11.2	2.6	2.6	1.00	1.00	4.0	434.5	27.54	109	24
80.00 4' Dish w/ Radome	2	120	10.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	26.80	791	216
16.00 Channel Master	1	126	20.2	3.9	47.2	0.0	1.00	1.00	0.0	0.0	19.10	524	113
Totals	94	7737	535.7									15696	6963

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
189.0	6' Omni	2	43	3.0	6.0	3.0	3.0	1.00	1.00	1.0	40.4	7.88	40	96
187.0	12' Dipole	3	192	11.9	12.0	3.0	3.0	1.00	1.00	3.0	715.1	7.88	238	600
183.0	RCU (Remote	3	7	0.6	0.7	2.0	2.0	0.80	0.50	0.0	0.0	7.82	4	21
183.0	RFS APXV18-	3	121	7.6	6.0	6.8	3.2	0.80	0.68	0.0	0.0	7.82	82	380
183.0	Round Side Arm	3	225	8.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	7.82	107	765
175.0	Ericsson KRY 112	3	22	0.9	0.6	6.1	2.7	0.80	0.50	0.0	0.0	7.75	7	72
175.0	Ericsson RRUS 11	3	138	3.5	1.6	17.0	7.2	0.80	0.67	0.0	0.0	7.75	37	446
175.0	Ericsson AIR 21 B4A	3	233	7.9	4.5	12.0	8.0	0.80	0.71	0.0	0.0	7.75	89	754
175.0	Ericsson AIR 21, 1.3	3	233	7.9	4.5	12.0	8.0	0.80	0.71	0.0	0.0	7.75	89	754
175.0	Andrew LNX-	3	319	13.1	8.0	11.9	7.1	0.80	0.70	0.0	0.0	7.75	145	987
175.0	Flat Light Sector	3	705	33.2	0.0	0.0	0.0	0.75	0.75	0.0	0.0	7.75	369	2356
166.0	Powerwave Allgon	6	13	0.9	0.4	8.3	2.4	0.80	0.50	1.0	13.9	7.67	14	78
166.0	Powerwave Allgon	6	34	2.9	1.2	9.2	2.6	0.80	0.50	1.0	45.1	7.67	45	221
166.0	Raycap DC6-48-60-	2	73	1.7	2.0	9.7	9.7	0.80	1.00	0.0	0.0	7.66	18	155
166.0	Ericsson RRUS 4426	3	105	2.2	1.3	13.2	5.8	0.80	0.50	0.0	0.0	7.66	17	344
166.0	Ericsson RRUS 32	3	147	3.4	2.2	12.1	6.7	0.80	0.67	1.0	35.9	7.67	36	476
166.0	Ericsson RRUS 32 B2	3	142	3.5	2.3	12.1	7.0	0.80	0.67	0.0	0.0	7.66	36	459
166.0	Ericsson RRUS-11	3	128	3.9	1.6	17.0	8.0	0.80	0.67	0.0	0.0	7.66	41	415
166.0	Powerwave Allgon	3	172	6.6	4.6	11.0	5.0	0.80	0.65	1.0	66.9	7.67	67	538
166.0	Commscope SBNHH-	3	194	7.0	4.6	11.9	7.1	0.80	0.69	0.0	0.0	7.66	75	603
166.0	CCI OPA-65R-LCUU-	3	218	7.0	4.0	14.4	7.3	0.80	0.66	1.0	72.1	7.67	72	688
166.0	CCI HPA-65R-BUU-H4	3	211	7.1	4.0	14.8	9.0	0.80	0.69	0.0	0.0	7.66	77	652
166.0	Flat Light Sector	3	705	33.2	0.0	0.0	0.0	0.75	0.67	0.0	0.0	7.66	326	2356
135.0	10' Dipole	1	141	8.6	10.0	3.0	3.0	1.00	1.00	5.0	269.3	7.39	54	147
135.0	Round Side Arm	4	222	7.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.33	197	1009
135.0	4' Dish w/ Radome	4	435	12.4	4.0	48.0	0.0	1.00	1.00	0.0	0.0	7.33	310	1837

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Tower Loading

135.0 Round Sector Frame	1	663	30.8	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.33	192	723
125.0 Round Side Arm	2	222	7.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	7.22	97	505
125.0 Scala PR-950	1	64	17.0	5.7	36.0	36.0	1.00	1.00	0.0	0.0	7.22	104	72
125.0 Harris FML-4E	1	383	21.7	40.0	24.0	24.0	1.00	1.00	2.0	266.6	7.24	133	429
125.0 6' FM antenna	2	51	22.7	6.0	6.0	6.0	1.00	1.00	12.0	3407.6	7.36	284	113
87.00 Stand-Off	1	125	4.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	6.69	24	140
87.00 Antel BCD-87010	1	153	6.5	11.2	2.6	2.6	1.00	1.00	4.0	150.2	6.75	38	158
80.00 4' Dish w/ Radome	2	416	12.3	4.0	48.0	0.0	1.00	1.00	0.0	0.0	6.57	138	881
16.00 Channel Master	1	283	22.5	3.9	47.2	0.0	1.00	1.00	0.0	0.0	4.68	89	308
Totals	94	18990	815.6									3691	20538

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc.(ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
189.0	6' Omni	2	25	1.8	6.0	3.0	3.0	1.00	1.00	1.0	34.0	11.35	34	50
187.0	12' Dipole	3	40	4.5	12.0	3.0	3.0	1.00	1.00	3.0	391.6	11.35	131	120
183.0	RCU (Remote	3	1	0.2	0.7	2.0	2.0	0.80	0.50	0.0	0.0	11.26	2	3
183.0	RFS APXV18-	3	26	5.2	6.0	6.8	3.2	0.80	0.68	0.0	0.0	11.26	81	79
183.0	Round Side Arm	3	150	5.2	0.0	0.0	0.0	1.00	0.67	0.0	0.0	11.26	100	450
175.0	Ericsson KRY 112	3	11	0.4	0.6	6.1	2.7	0.80	0.50	0.0	0.0	11.15	5	33
175.0	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.67	0.0	0.0	11.15	43	152
175.0	Ericsson AIR 21 B4A	3	90	5.8	4.5	12.0	8.0	0.80	0.71	0.0	0.0	11.15	94	270
175.0	Ericsson AIR 21, 1.3	3	90	5.8	4.5	12.0	8.0	0.80	0.71	0.0	0.0	11.15	94	270
175.0	Andrew LNX-	3	51	11.4	8.0	11.9	7.1	0.80	0.70	0.0	0.0	11.15	182	154
175.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.75	0.0	0.0	11.15	286	1200
166.0	Powerwave Allgon	6	2	0.4	0.4	8.3	2.4	0.80	0.50	1.0	9.0	11.04	9	13
166.0	Powerwave Allgon	6	14	1.1	1.2	9.2	2.6	0.80	0.50	1.0	24.8	11.04	25	85
166.0	Raycap DC6-48-60-	2	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	11.03	17	40
166.0	Ericsson RRUS 4426	3	48	1.6	1.3	13.2	5.8	0.80	0.50	0.0	0.0	11.03	19	145
166.0	Ericsson RRUS 32	3	60	2.7	2.2	12.1	6.7	0.80	0.67	1.0	40.6	11.04	41	180
166.0	Ericsson RRUS 32 B2	3	53	2.7	2.3	12.1	7.0	0.80	0.67	0.0	0.0	11.03	41	159
166.0	Ericsson RRUS-11	3	51	2.8	1.6	17.0	8.0	0.80	0.67	0.0	0.0	11.03	42	153
166.0	Powerwave Allgon	3	35	5.5	4.6	11.0	5.0	0.80	0.65	1.0	80.7	11.04	81	105
166.0	Commscope SBNHH-	3	34	5.9	4.6	11.9	7.1	0.80	0.69	0.0	0.0	11.03	91	101
166.0	CCI OPA-65R-LCUU-	3	57	5.9	4.0	14.4	7.3	0.80	0.66	1.0	88.3	11.04	88	171
166.0	CCI HPA-65R-BUU-H4	3	34	6.1	4.0	14.8	9.0	0.80	0.69	0.0	0.0	11.03	94	102
166.0	Flat Light Sector	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	11.03	253	1200
135.0	10' Dipole	1	30	3.8	10.0	3.0	3.0	1.00	1.00	5.0	170.1	10.64	34	30
135.0	Round Side Arm	4	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	10.56	187	600
135.0	4' Dish w/ Radome	4	120	10.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	10.56	390	480
135.0	Round Sector Frame	1	300	14.4	0.0	0.0	0.0	1.00	1.00	0.0	0.0	10.56	129	300
125.0	Round Side Arm	2	150	5.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	10.39	92	300
125.0	Scala PR-950	1	38	10.1	5.7	36.0	36.0	1.00	1.00	0.0	0.0	10.39	89	38
125.0	Harris FML-4E	1	227	12.8	40.0	24.0	24.0	1.00	1.00	2.0	227.4	10.43	114	227
125.0	6' FM antenna	2	30	13.4	6.0	6.0	6.0	1.00	1.00	12.0	2906.7	10.59	242	60
87.00	Stand-Off	1	75	2.5	0.0	0.0	0.0	1.00	1.00	0.0	0.0	9.63	20	75
87.00	Antel BCD-87010	1	27	2.9	11.2	2.6	2.6	1.00	1.00	4.0	95.8	9.72	24	27
80.00	4' Dish w/ Radome	2	120	10.9	4.0	48.0	0.0	1.00	1.00	0.0	0.0	9.46	174	240
16.00	Channel Master	1	126	20.2	3.9	47.2	0.0	1.00	1.00	0.0	0.0	6.74	116	126
Totals		94	7737	535.7									3462	7737

Site Number: 311305

Code: ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Tower Loading

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	190.5	Climbing Ladder	1	2.00	6.90	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	189.0	1/2" Coax	2	0.63	0.15	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	187.0	7/8" Coax	3	1.09	0.33	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	183.0	1 5/8" Coax	6	1.98	0.82	50	3	Block	0.00	N	1.00	1.00	0.00
0.00	183.0	3/8" Coax	1	0.44	0.08	0	3	Individual	0.00	N	1.00	1.00	0.01
0.00	183.0	Waveguide	1	2.00	6.00	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	175.0	1 1/4" Hybriflex	1	1.54	1.00	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	175.0	1 5/8" Coax	12	1.98	0.82	50	2	Block	0.00	N	1.00	1.00	0.00
0.00	175.0	Waveguide	1	2.00	6.00	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	166.0	0.39" (10mm) Fiber	1	0.39	0.06	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	166.0	0.39" (10mm) Fiber	1	0.39	0.06	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	166.0	0.74" (18.7mm) 8	2	0.74	0.49	50	2	Block	0.00	N	1.00	1.00	0.00
0.00	166.0	0.78" (19.7mm) 8	2	0.78	0.59	50	2	Block	0.00	N	1.00	1.00	0.00
0.00	166.0	1 5/8" Coax	12	1.98	0.82	50	2	Block	0.00	N	1.00	1.00	0.00
0.00	166.0	1/2" Coax	1	0.63	0.15	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	166.0	2" conduit	1	2.38	3.65	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	166.0	3/8" (0.38")	6	0.38	0.23	50	2	Block	0.00	N	1.00	1.00	0.00
0.00	166.0	Waveguide	1	2.00	6.00	0	2	Individual	0.00	N	1.00	1.00	0.00
0.00	135.0	1 1/4" Coax	3	1.55	0.63	0	3	Individual	0.00	N	1.00	1.00	0.01
0.00	135.0	7/8" Coax	4	1.09	0.33	75	3	Block	0.00	N	1.00	1.00	0.00
0.00	125.0	1 5/8" Coax	1	1.98	0.82	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	125.0	7/8" Coax	2	1.09	0.33	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	87.00	1 5/8" Coax	1	1.98	0.82	0	3	Individual	0.00	N	1.00	1.00	0.00
0.00	80.00	7/8" Coax	2	1.09	0.33	0	2	Individual	0.00	N	1.00	1.00	0.01
0.00	17.00	0.28" (7mm) RG-6	2	0.28	0.03	0	3	Individual	0.00	N	1.00	1.00	0.00

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

8/3/2018 2:56:41 PM

Customer: AT&T MOBILITY

Section Forces**LoadCase 1.2D + 1.6W Normal**

101 mph Normal with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.30	31.99	6.431	4.195	0.000	0.150	2.77	1.00	1.00	0.0	8.81	24.43	0.00	607	0	1063	285	1348	
9	170.00	31.41	11.127	11.667	0.000	0.168	2.71	1.00	1.00	0.0	17.61	47.68	0.00	2089	0	2037	2513	4550	
8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	1.00	1.00	0.0	20.53	53.60	0.00	3125	0	2230	3863	6094	
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	1.00	1.00	0.0	25.33	65.60	0.00	3727	0	2649	3960	6609	
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	1.00	1.00	0.0	30.04	77.10	0.00	4563	0	3005	4021	7027	
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	1.00	1.00	0.0	31.70	83.18	0.00	4674	0	3108	3886	6995	
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	1.00	1.00	0.0	36.73	95.34	0.00	6048	0	3379	3742	7121	
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	1.00	1.00	0.0	38.84	102.72	0.00	6218	0	3392	3486	6878	
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	1.00	1.00	0.0	45.93	121.60	0.00	6768	0	3606	3131	6737	
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	1.00	1.00	0.0	56.98	147.78	0.00	8007	0	3792	2724	6516	
														45825	0				59874

LoadCase 1.2D + 1.6W 60 deg

101 mph 60 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _a (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.30	31.99	6.431	4.195	0.000	0.150	2.77	0.80	1.00	0.0	7.53	20.87	0.00	607	0	908	285	1192	
9	170.00	31.41	11.127	11.667	0.000	0.168	2.71	0.80	1.00	0.0	15.39	41.66	0.00	2089	0	1780	2513	4292	
8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	0.80	1.00	0.0	18.21	47.53	0.00	3125	0	1978	3863	5841	
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	0.80	1.00	0.0	22.24	57.59	0.00	3727	0	2325	3960	6286	
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	0.80	1.00	0.0	26.63	68.34	0.00	4563	0	2664	4021	6685	
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	0.80	1.00	0.0	27.90	73.21	0.00	4674	0	2736	3886	6622	
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	0.80	1.00	0.0	32.58	84.58	0.00	6048	0	2998	3742	6740	
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	0.80	1.00	0.0	34.22	90.48	0.00	6218	0	2988	3486	6474	
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	0.80	1.00	0.0	39.88	105.59	0.00	6768	0	3131	3131	6262	
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	0.80	1.00	0.0	49.38	128.08	0.00	8007	0	3286	2724	6010	
														45825	0				56405

LoadCase 1.2D + 1.6W 90 deg

101 mph 90 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.30	31.99	6.431	4.195	0.000	0.150	2.77	0.85	1.00	0.0	7.85	21.76	0.00	607	0	947	285	1231
9 170.00	31.41	11.127	11.667	0.000	0.168	2.71	0.85	1.00	0.0	15.95	43.17	0.00	2089	0	1844	2513	4357
8 150.00	30.60	11.620	18.561	0.000	0.196	2.61	0.85	1.00	0.0	18.79	49.05	0.00	3125	0	2041	3863	5904
7 130.00	29.69	15.453	22.104	0.000	0.202	2.59	0.85	1.00	0.0	23.01	59.59	0.00	3727	0	2406	3960	6367
6 110.00	28.66	17.065	28.777	0.000	0.209	2.57	0.85	1.00	0.0	27.48	70.53	0.00	4563	0	2749	4021	6771
5 90.00	27.48	19.007	28.777	0.000	0.192	2.62	0.85	1.00	0.0	28.85	75.70	0.00	4674	0	2829	3886	6715
4 70.00	26.06	20.742	35.867	0.000	0.200	2.60	0.85	1.00	0.0	33.62	87.27	0.00	6048	0	3093	3742	6835
3 50.00	24.28	23.132	35.893	0.000	0.186	2.64	0.85	1.00	0.0	35.37	93.54	0.00	6218	0	3089	3486	6575
2 30.00	21.80	30.234	35.893	0.000	0.185	2.65	0.85	1.00	0.0	41.39	109.59	0.00	6768	0	3250	3131	6380
1 10.00	18.87	37.987	42.571	0.000	0.201	2.59	0.85	1.00	0.0	51.28	133.00	0.00	8007	0	3413	2724	6137

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Section Forces

45825 0 57272

LoadCase 1.2D + 1.6W 120 deg

101 mph 120 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{lz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.30	31.99	6.431	4.195	0.000	0.150	2.77	1.00	1.00	0.0	8.81	24.43	0.00	607	0	1063	285	1348
9 170.00	31.41	11.127	11.667	0.000	0.168	2.71	1.00	1.00	0.0	17.61	47.68	0.00	2089	0	2037	2513	4550
8 150.00	30.60	11.620	18.561	0.000	0.196	2.61	1.00	1.00	0.0	20.53	53.60	0.00	3125	0	2230	3863	6094
7 130.00	29.69	15.453	22.104	0.000	0.202	2.59	1.00	1.00	0.0	25.33	65.60	0.00	3727	0	2649	3960	6609
6 110.00	28.66	17.065	28.777	0.000	0.209	2.57	1.00	1.00	0.0	30.04	77.10	0.00	4563	0	3005	4021	7027
5 90.00	27.48	19.007	28.777	0.000	0.192	2.62	1.00	1.00	0.0	31.70	83.18	0.00	4674	0	3108	3886	6995
4 70.00	26.06	20.742	35.867	0.000	0.200	2.60	1.00	1.00	0.0	36.73	95.34	0.00	6048	0	3379	3742	7121
3 50.00	24.28	23.132	35.893	0.000	0.186	2.64	1.00	1.00	0.0	38.84	102.72	0.00	6218	0	3392	3486	6878
2 30.00	21.80	30.234	35.893	0.000	0.185	2.65	1.00	1.00	0.0	45.93	121.60	0.00	6768	0	3606	3131	6737
1 10.00	18.87	37.987	42.571	0.000	0.201	2.59	1.00	1.00	0.0	56.98	147.78	0.00	8007	0	3792	2724	6516
													45825	0			59874

LoadCase 1.2D + 1.6W 180 deg

101 mph 180 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{lz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.30	31.99	6.431	4.195	0.000	0.150	2.77	0.80	1.00	0.0	7.53	20.87	0.00	607	0	908	285	1192
9 170.00	31.41	11.127	11.667	0.000	0.168	2.71	0.80	1.00	0.0	15.39	41.66	0.00	2089	0	1780	2513	4292
8 150.00	30.60	11.620	18.561	0.000	0.196	2.61	0.80	1.00	0.0	18.21	47.53	0.00	3125	0	1978	3863	5841
7 130.00	29.69	15.453	22.104	0.000	0.202	2.59	0.80	1.00	0.0	22.24	57.59	0.00	3727	0	2325	3960	6286
6 110.00	28.66	17.065	28.777	0.000	0.209	2.57	0.80	1.00	0.0	26.63	68.34	0.00	4563	0	2664	4021	6685
5 90.00	27.48	19.007	28.777	0.000	0.192	2.62	0.80	1.00	0.0	27.90	73.21	0.00	4674	0	2736	3886	6622
4 70.00	26.06	20.742	35.867	0.000	0.200	2.60	0.80	1.00	0.0	32.58	84.58	0.00	6048	0	2998	3742	6740
3 50.00	24.28	23.132	35.893	0.000	0.186	2.64	0.80	1.00	0.0	34.22	90.48	0.00	6218	0	2988	3486	6474
2 30.00	21.80	30.234	35.893	0.000	0.185	2.65	0.80	1.00	0.0	39.88	105.59	0.00	6768	0	3131	3131	6262
1 10.00	18.87	37.987	42.571	0.000	0.201	2.59	0.80	1.00	0.0	49.38	128.08	0.00	8007	0	3286	2724	6010
													45825	0			56405

LoadCase 1.2D + 1.6W 210 deg

101 mph 210 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{lz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.30	31.99	6.431	4.195	0.000	0.150	2.77	0.85	1.00	0.0	7.85	21.76	0.00	607	0	947	285	1231
9 170.00	31.41	11.127	11.667	0.000	0.168	2.71	0.85	1.00	0.0	15.95	43.17	0.00	2089	0	1844	2513	4357
8 150.00	30.60	11.620	18.561	0.000	0.196	2.61	0.85	1.00	0.0	18.79	49.05	0.00	3125	0	2041	3863	5904
7 130.00	29.69	15.453	22.104	0.000	0.202	2.59	0.85	1.00	0.0	23.01	59.59	0.00	3727	0	2406	3960	6367
6 110.00	28.66	17.065	28.777	0.000	0.209	2.57	0.85	1.00	0.0	27.48	70.53	0.00	4563	0	2749	4021	6771
5 90.00	27.48	19.007	28.777	0.000	0.192	2.62	0.85	1.00	0.0	28.85	75.70	0.00	4674	0	2829	3886	6715
4 70.00	26.06	20.742	35.867	0.000	0.200	2.60	0.85	1.00	0.0	33.62	87.27	0.00	6048	0	3093	3742	6835
3 50.00	24.28	23.132	35.893	0.000	0.186	2.64	0.85	1.00	0.0	35.37	93.54	0.00	6218	0	3089	3486	6575

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Section Forces

2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	0.85	1.00	0.0	41.39	109.59	0.00	6768	0	3250	3131	6380
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	0.85	1.00	0.0	51.28	133.00	0.00	8007	0	3413	2724	6137
															45825	0		57272

LoadCase 1.2D + 1.6W 240 deg

101 mph 240 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	31.99	6.431	4.195	0.000	0.150	2.77	1.00	1.00	0.0	8.81	24.43	0.00	607	0	1063	285	1348
9	170.00	31.41	11.127	11.667	0.000	0.168	2.71	1.00	1.00	0.0	17.61	47.68	0.00	2089	0	2037	2513	4550
8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	1.00	1.00	0.0	20.53	53.60	0.00	3125	0	2230	3863	6094
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	1.00	1.00	0.0	25.33	65.60	0.00	3727	0	2649	3960	6609
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	1.00	1.00	0.0	30.04	77.10	0.00	4563	0	3005	4021	7027
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	1.00	1.00	0.0	31.70	83.18	0.00	4674	0	3108	3886	6995
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	1.00	1.00	0.0	36.73	95.34	0.00	6048	0	3379	3742	7121
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	1.00	1.00	0.0	38.84	102.72	0.00	6218	0	3392	3486	6878
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	1.00	1.00	0.0	45.93	121.60	0.00	6768	0	3606	3131	6737
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	1.00	1.00	0.0	56.98	147.78	0.00	8007	0	3792	2724	6516
															45825	0		59874

LoadCase 1.2D + 1.6W 300 deg

101 mph 300 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	31.99	6.431	4.195	0.000	0.150	2.77	0.80	1.00	0.0	7.53	20.87	0.00	607	0	908	285	1192
9	170.00	31.41	11.127	11.667	0.000	0.168	2.71	0.80	1.00	0.0	15.39	41.66	0.00	2089	0	1780	2513	4292
8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	0.80	1.00	0.0	18.21	47.53	0.00	3125	0	1978	3863	5841
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	0.80	1.00	0.0	22.24	57.59	0.00	3727	0	2325	3960	6286
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	0.80	1.00	0.0	26.63	68.34	0.00	4563	0	2664	4021	6685
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	0.80	1.00	0.0	27.90	73.21	0.00	4674	0	2736	3886	6622
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	0.80	1.00	0.0	32.58	84.58	0.00	6048	0	2998	3742	6740
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	0.80	1.00	0.0	34.22	90.48	0.00	6218	0	2988	3486	6474
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	0.80	1.00	0.0	39.88	105.59	0.00	6768	0	3131	3131	6262
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	0.80	1.00	0.0	49.38	128.08	0.00	8007	0	3286	2724	6010
															45825	0		56405

LoadCase 1.2D + 1.6W 330 deg

101 mph 330 degree with No Ice

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _r	D _r	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	31.99	6.431	4.195	0.000	0.150	2.77	0.85	1.00	0.0	7.85	21.76	0.00	607	0	947	285	1231
9	170.00	31.41	11.127	11.667	0.000	0.168	2.71	0.85	1.00	0.0	15.95	43.17	0.00	2089	0	1844	2513	4357
8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	0.85	1.00	0.0	18.79	49.05	0.00	3125	0	2041	3863	5904
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	0.85	1.00	0.0	23.01	59.59	0.00	3727	0	2406	3960	6367
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	0.85	1.00	0.0	27.48	70.53	0.00	4563	0	2749	4021	6771
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	0.85	1.00	0.0	28.85	75.70	0.00	4674	0	2829	3886	6715

Site Number: 311305

Code: ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Section Forces

4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	0.85	1.00	0.0	33.62	87.27	0.00	6048	0	3093	3742	6835
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	0.85	1.00	0.0	35.37	93.54	0.00	6218	0	3089	3486	6575
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	0.85	1.00	0.0	41.39	109.59	0.00	6768	0	3250	3131	6380
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	0.85	1.00	0.0	51.28	133.00	0.00	8007	0	3413	2724	6137
														45825	0			57272

LoadCase 0.9D + 1.6W Normal**101 mph Normal with No Ice (Reduced DL)**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _a (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	31.99	6.431	4.195	0.000	0.150	2.77	1.00	1.00	0.0	8.81	24.43	0.00	455	0	1063	285	1348
9	170.00	31.41	11.127	11.667	0.000	0.168	2.71	1.00	1.00	0.0	17.61	47.68	0.00	1567	0	2037	2513	4550
8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	1.00	1.00	0.0	20.53	53.60	0.00	2343	0	2230	3863	6094
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	1.00	1.00	0.0	25.33	65.60	0.00	2796	0	2649	3960	6609
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	1.00	1.00	0.0	30.04	77.10	0.00	3422	0	3005	4021	7027
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	1.00	1.00	0.0	31.70	83.18	0.00	3505	0	3108	3886	6995
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	1.00	1.00	0.0	36.73	95.34	0.00	4536	0	3379	3742	7121
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	1.00	1.00	0.0	38.84	102.72	0.00	4664	0	3392	3486	6878
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	1.00	1.00	0.0	45.93	121.60	0.00	5076	0	3606	3131	6737
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	1.00	1.00	0.0	56.98	147.78	0.00	6005	0	3792	2724	6516
														34369	0			59874

LoadCase 0.9D + 1.6W 60 deg**101 mph 60 deg with No Ice (Reduced DL)**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	31.99	6.431	4.195	0.000	0.150	2.77	0.80	1.00	0.0	7.53	20.87	0.00	455	0	908	285	1192
9	170.00	31.41	11.127	11.667	0.000	0.168	2.71	0.80	1.00	0.0	15.39	41.66	0.00	1567	0	1780	2513	4292
8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	0.80	1.00	0.0	18.21	47.53	0.00	2343	0	1978	3863	5841
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	0.80	1.00	0.0	22.24	57.59	0.00	2796	0	2325	3960	6286
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	0.80	1.00	0.0	26.63	68.34	0.00	3422	0	2664	4021	6685
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	0.80	1.00	0.0	27.90	73.21	0.00	3505	0	2736	3886	6622
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	0.80	1.00	0.0	32.58	84.58	0.00	4536	0	2998	3742	6740
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	0.80	1.00	0.0	34.22	90.48	0.00	4664	0	2988	3486	6474
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	0.80	1.00	0.0	39.88	105.59	0.00	5076	0	3131	3131	6262
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	0.80	1.00	0.0	49.38	128.08	0.00	6005	0	3286	2724	6010
														34369	0			56405

LoadCase 0.9D + 1.6W 90 deg**101 mph 90 deg with No Ice (Reduced DL)**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.30	31.99	6.431	4.195	0.000	0.150	2.77	0.85	1.00	0.0	7.85	21.76	0.00	455	0	947	285	1231
9 170.00	31.41	11.127	11.667	0.000	0.168	2.71	0.85	1.00	0.0	15.95	43.17	0.00	1567	0	1844	2513	4357
8 150.00	30.60	11.620	18.561	0.000	0.196	2.61	0.85	1.00	0.0	18.79	49.05	0.00	2343	0	2041	3863	5904
7 130.00	29.69	15.453	22.104	0.000	0.202	2.59	0.85	1.00	0.0	23.01	59.59	0.00	2796	0	2406	3960	6367

Site Number: 311305

Code:

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Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Section Forces

6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	0.85	1.00	0.0	27.48	70.53	0.00	3422	0	2749	4021	6771
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	0.85	1.00	0.0	28.85	75.70	0.00	3505	0	2829	3886	6715
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	0.85	1.00	0.0	33.62	87.27	0.00	4536	0	3093	3742	6835
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	0.85	1.00	0.0	35.37	93.54	0.00	4664	0	3089	3486	6575
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	0.85	1.00	0.0	41.39	109.59	0.00	5076	0	3250	3131	6380
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	0.85	1.00	0.0	51.28	133.00	0.00	6005	0	3413	2724	6137
														34369	0			57272

LoadCase 0.9D + 1.6W 120 deg

101 mph 120 deg with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	31.99	6.431	4.195	0.000	0.150	2.77	1.00	1.00	0.0	8.81	24.43	0.00	455	0	1063	285	1348
9	170.00	31.41	11.127	11.667	0.000	0.168	2.71	1.00	1.00	0.0	17.61	47.68	0.00	1567	0	2037	2513	4550
8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	1.00	1.00	0.0	20.53	53.60	0.00	2343	0	2230	3863	6094
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	1.00	1.00	0.0	25.33	65.60	0.00	2796	0	2649	3960	6609
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	1.00	1.00	0.0	30.04	77.10	0.00	3422	0	3005	4021	7027
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	1.00	1.00	0.0	31.70	83.18	0.00	3505	0	3108	3886	6995
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	1.00	1.00	0.0	36.73	95.34	0.00	4536	0	3379	3742	7121
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	1.00	1.00	0.0	38.84	102.72	0.00	4664	0	3392	3486	6878
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	1.00	1.00	0.0	45.93	121.60	0.00	5076	0	3606	3131	6737
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	1.00	1.00	0.0	56.98	147.78	0.00	6005	0	3792	2724	6516
														34369	0			59874

LoadCase 0.9D + 1.6W 180 deg

101 mph 180 deg with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _a (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	31.99	6.431	4.195	0.000	0.150	2.77	0.80	1.00	0.0	7.53	20.87	0.00	455	0	908	285	1192
9	170.00	31.41	11.127	11.667	0.000	0.168	2.71	0.80	1.00	0.0	15.39	41.66	0.00	1567	0	1780	2513	4292
8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	0.80	1.00	0.0	18.21	47.53	0.00	2343	0	1978	3863	5841
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	0.80	1.00	0.0	22.24	57.59	0.00	2796	0	2325	3960	6286
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	0.80	1.00	0.0	26.63	68.34	0.00	3422	0	2664	4021	6685
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	0.80	1.00	0.0	27.90	73.21	0.00	3505	0	2736	3886	6622
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	0.80	1.00	0.0	32.58	84.58	0.00	4536	0	2998	3742	6740
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	0.80	1.00	0.0	34.22	90.48	0.00	4664	0	2988	3486	6474
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	0.80	1.00	0.0	39.88	105.59	0.00	5076	0	3131	3131	6262
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	0.80	1.00	0.0	49.38	128.08	0.00	6005	0	3286	2724	6010
														34369	0			56405

LoadCase 0.9D + 1.6W 210 deg

101 mph 210 deg with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.30	31.99	6.431	4.195	0.000	0.150	2.77	0.85	1.00	0.0	7.85	21.76	0.00	455	0	947	285	1231
9 170.00	31.41	11.127	11.667	0.000	0.168	2.71	0.85	1.00	0.0	15.95	43.17	0.00	1567	0	1844	2513	4357

Site Number: 311305

Code: ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

8/3/2018 2:56:41 PM

Customer: AT&T MOBILITY

Section Forces

8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	0.85	1.00	0.0	18.79	49.05	0.00	2343	0	2041	3863	5904
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	0.85	1.00	0.0	23.01	59.59	0.00	2796	0	2406	3960	6367
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	0.85	1.00	0.0	27.48	70.53	0.00	3422	0	2749	4021	6771
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	0.85	1.00	0.0	28.85	75.70	0.00	3505	0	2829	3886	6715
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	0.85	1.00	0.0	33.62	87.27	0.00	4536	0	3093	3742	6835
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	0.85	1.00	0.0	35.37	93.54	0.00	4664	0	3089	3486	6575
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	0.85	1.00	0.0	41.39	109.59	0.00	5076	0	3250	3131	6380
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	0.85	1.00	0.0	51.28	133.00	0.00	6005	0	3413	2724	6137
														34369	0			57272

LoadCase 0.9D + 1.6W 240 deg

101 mph 240 deg with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	31.99	6.431	4.195	0.000	0.150	2.77	1.00	1.00	0.0	8.81	24.43	0.00	455	0	1063	285	1348
9	170.00	31.41	11.127	11.667	0.000	0.168	2.71	1.00	1.00	0.0	17.61	47.68	0.00	1567	0	2037	2513	4550
8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	1.00	1.00	0.0	20.53	53.60	0.00	2343	0	2230	3863	6094
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	1.00	1.00	0.0	25.33	65.60	0.00	2796	0	2649	3960	6609
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	1.00	1.00	0.0	30.04	77.10	0.00	3422	0	3005	4021	7027
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	1.00	1.00	0.0	31.70	83.18	0.00	3505	0	3108	3886	6995
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	1.00	1.00	0.0	36.73	95.34	0.00	4536	0	3379	3742	7121
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	1.00	1.00	0.0	38.84	102.72	0.00	4664	0	3392	3486	6878
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	1.00	1.00	0.0	45.93	121.60	0.00	5076	0	3606	3131	6737
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	1.00	1.00	0.0	56.98	147.78	0.00	6005	0	3792	2724	6516
														34369	0			59874

LoadCase 0.9D + 1.6W 300 deg

101 mph 300 deg with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	31.99	6.431	4.195	0.000	0.150	2.77	0.80	1.00	0.0	7.53	20.87	0.00	455	0	908	285	1192
9	170.00	31.41	11.127	11.667	0.000	0.168	2.71	0.80	1.00	0.0	15.39	41.66	0.00	1567	0	1780	2513	4292
8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	0.80	1.00	0.0	18.21	47.53	0.00	2343	0	1978	3863	5841
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	0.80	1.00	0.0	22.24	57.59	0.00	2796	0	2325	3960	6286
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	0.80	1.00	0.0	26.63	68.34	0.00	3422	0	2664	4021	6685
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	0.80	1.00	0.0	27.90	73.21	0.00	3505	0	2736	3886	6622
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	0.80	1.00	0.0	32.58	84.58	0.00	4536	0	2998	3742	6740
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	0.80	1.00	0.0	34.22	90.48	0.00	4664	0	2988	3486	6474
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	0.80	1.00	0.0	39.88	105.59	0.00	5076	0	3131	3131	6262
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	0.80	1.00	0.0	49.38	128.08	0.00	6005	0	3286	2724	6010
														34369	0			56405

LoadCase 0.9D + 1.6W 330 deg

101 mph 330 deg with No Ice (Reduced DL)

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
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Site Number: 311305

Code: ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

8/3/2018 2:56:41 PM

Customer: AT&T MOBILITY

Section Forces

10	185.30	31.99	6.431	4.195	0.000	0.150	2.77	0.85	1.00	0.0	7.85	21.76	0.00	455	0	947	285	1231
9	170.00	31.41	11.127	11.667	0.000	0.168	2.71	0.85	1.00	0.0	15.95	43.17	0.00	1567	0	1844	2513	4357
8	150.00	30.60	11.620	18.561	0.000	0.196	2.61	0.85	1.00	0.0	18.79	49.05	0.00	2343	0	2041	3863	5904
7	130.00	29.69	15.453	22.104	0.000	0.202	2.59	0.85	1.00	0.0	23.01	59.59	0.00	2796	0	2406	3960	6367
6	110.00	28.66	17.065	28.777	0.000	0.209	2.57	0.85	1.00	0.0	27.48	70.53	0.00	3422	0	2749	4021	6771
5	90.00	27.48	19.007	28.777	0.000	0.192	2.62	0.85	1.00	0.0	28.85	75.70	0.00	3505	0	2829	3886	6715
4	70.00	26.06	20.742	35.867	0.000	0.200	2.60	0.85	1.00	0.0	33.62	87.27	0.00	4536	0	3093	3742	6835
3	50.00	24.28	23.132	35.893	0.000	0.186	2.64	0.85	1.00	0.0	35.37	93.54	0.00	4664	0	3089	3486	6575
2	30.00	21.80	30.234	35.893	0.000	0.185	2.65	0.85	1.00	0.0	41.39	109.59	0.00	5076	0	3250	3131	6380
1	10.00	18.87	37.987	42.571	0.000	0.201	2.59	0.85	1.00	0.0	51.28	133.00	0.00	6005	0	3413	2724	6137
														34369	0			57272

LoadCase 1.2D + 1.0Di + 1.0Wi Normal**50 mph Normal with 0.75 in Radial Ice**

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _a (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	7.84	6.431	22.250	18.05	0.387	2.09	1.00	1.00	1.8	20.46	42.78	18.05	2278	1671	285	138	423
9	170.00	7.70	11.127	39.745	28.07	0.359	2.15	1.00	1.00	1.8	35.75	76.89	28.08	7367	5278	503	811	1314
8	150.00	7.50	11.620	47.238	28.67	0.368	2.13	1.00	1.00	1.7	41.04	87.48	28.68	10401	7277	558	1212	1770
7	130.00	7.28	15.453	52.258	30.15	0.353	2.16	1.00	1.00	1.7	47.71	103.26	30.15	12065	8338	639	1265	1904
6	110.00	7.02	17.065	60.531	31.75	0.345	2.18	1.00	1.00	1.7	54.24	118.44	31.75	13660	9096	707	1319	2026
5	90.00	6.73	19.007	62.047	33.27	0.318	2.25	1.00	1.00	1.7	56.53	127.15	33.27	13829	9155	728	1281	2009
4	70.00	6.39	20.742	70.468	34.60	0.316	2.25	1.00	1.00	1.6	63.32	142.68	34.60	15712	9665	775	1227	2001
3	50.00	5.95	23.132	71.849	35.95	0.294	2.31	1.00	1.00	1.6	66.03	152.68	35.96	15757	9539	772	1135	1908
2	30.00	5.34	30.234	72.815	36.92	0.284	2.34	1.00	1.00	1.5	73.49	171.94	36.92	16401	9633	781	999	1780
1	10.00	4.62	37.987	78.158	35.58	0.286	2.33	1.00	1.00	1.3	84.47	197.08	35.59	17417	9410	775	848	1623
														124886	79061			16758

LoadCase 1.2D + 1.0Di + 1.0Wi 60 deg**50 mph 60 deg with 0.75 in Radial Ice**

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _a (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	7.84	6.431	22.250	18.05	0.387	2.09	0.80	1.00	1.8	19.18	40.09	18.05	2278	1671	267	138	405
9	170.00	7.70	11.127	39.745	28.07	0.359	2.15	0.80	1.00	1.8	33.52	72.11	28.08	7367	5278	472	811	1283
8	150.00	7.50	11.620	47.238	28.67	0.368	2.13	0.80	1.00	1.7	38.72	82.53	28.68	10401	7277	526	1212	1738
7	130.00	7.28	15.453	52.258	30.15	0.353	2.16	0.80	1.00	1.7	44.62	96.57	30.15	12065	8338	597	1265	1862
6	110.00	7.02	17.065	60.531	31.75	0.345	2.18	0.80	1.00	1.7	50.83	110.98	31.75	13660	9096	663	1319	1982
5	90.00	6.73	19.007	62.047	33.27	0.318	2.25	0.80	1.00	1.7	52.73	118.60	33.27	13829	9155	679	1281	1960
4	70.00	6.39	20.742	70.468	34.60	0.316	2.25	0.80	1.00	1.6	59.17	133.33	34.60	15712	9665	724	1227	1951
3	50.00	5.95	23.132	71.849	35.95	0.294	2.31	0.80	1.00	1.6	61.40	141.98	35.96	15757	9539	718	1135	1854
2	30.00	5.34	30.234	72.815	36.92	0.284	2.34	0.80	1.00	1.5	67.45	157.79	36.92	16401	9633	717	999	1716
1	10.00	4.62	37.987	78.158	35.58	0.286	2.33	0.80	1.00	1.3	76.88	179.36	35.59	17417	9410	705	848	1553
														124886	79061			16303

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Section Forces**LoadCase 1.2D + 1.0Di + 1.0Wi 90 deg**

50 mph 90 deg with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.30	7.84	6.431	22.250	18.05	0.387	2.09	0.85	1.00	1.8	19.50	40.76	18.05	2278	1671	272	138	410
9 170.00	7.70	11.127	39.745	28.07	0.359	2.15	0.85	1.00	1.8	34.08	73.30	28.08	7367	5278	480	811	1291
8 150.00	7.50	11.620	47.238	28.67	0.368	2.13	0.85	1.00	1.7	39.30	83.77	28.68	10401	7277	534	1212	1746
7 130.00	7.28	15.453	52.258	30.15	0.353	2.16	0.85	1.00	1.7	45.39	98.24	30.15	12065	8338	608	1265	1873
6 110.00	7.02	17.065	60.531	31.75	0.345	2.18	0.85	1.00	1.7	51.68	112.85	31.75	13660	9096	674	1319	1993
5 90.00	6.73	19.007	62.047	33.27	0.318	2.25	0.85	1.00	1.7	53.68	120.73	33.27	13829	9155	691	1281	1972
4 70.00	6.39	20.742	70.468	34.60	0.316	2.25	0.85	1.00	1.6	60.21	135.67	34.60	15712	9665	737	1227	1963
3 50.00	5.95	23.132	71.849	35.95	0.294	2.31	0.85	1.00	1.6	62.56	144.65	35.96	15757	9539	732	1135	1867
2 30.00	5.34	30.234	72.815	36.92	0.284	2.34	0.85	1.00	1.5	68.96	161.33	36.92	16401	9633	733	999	1732
1 10.00	4.62	37.987	78.158	35.58	0.286	2.33	0.85	1.00	1.3	78.78	183.79	35.59	17417	9410	722	848	1571
													124886	79061			16417

LoadCase 1.2D + 1.0Di + 1.0Wi 120 deg

50 mph 120 deg with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.30	7.84	6.431	22.250	18.05	0.387	2.09	1.00	1.00	1.8	20.46	42.78	18.05	2278	1671	285	138	423
9 170.00	7.70	11.127	39.745	28.07	0.359	2.15	1.00	1.00	1.8	35.75	76.89	28.08	7367	5278	503	811	1314
8 150.00	7.50	11.620	47.238	28.67	0.368	2.13	1.00	1.00	1.7	41.04	87.48	28.68	10401	7277	558	1212	1770
7 130.00	7.28	15.453	52.258	30.15	0.353	2.16	1.00	1.00	1.7	47.71	103.26	30.15	12065	8338	639	1265	1904
6 110.00	7.02	17.065	60.531	31.75	0.345	2.18	1.00	1.00	1.7	54.24	118.44	31.75	13660	9096	707	1319	2026
5 90.00	6.73	19.007	62.047	33.27	0.318	2.25	1.00	1.00	1.7	56.53	127.15	33.27	13829	9155	728	1281	2009
4 70.00	6.39	20.742	70.468	34.60	0.316	2.25	1.00	1.00	1.6	63.32	142.68	34.60	15712	9665	775	1227	2001
3 50.00	5.95	23.132	71.849	35.95	0.294	2.31	1.00	1.00	1.6	66.03	152.68	35.96	15757	9539	772	1135	1908
2 30.00	5.34	30.234	72.815	36.92	0.284	2.34	1.00	1.00	1.5	73.49	171.94	36.92	16401	9633	781	999	1780
1 10.00	4.62	37.987	78.158	35.58	0.286	2.33	1.00	1.00	1.3	84.47	197.08	35.59	17417	9410	775	848	1623
													124886	79061			16758

LoadCase 1.2D + 1.0Di + 1.0Wi 180 deg

50 mph 180 deg with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.30	7.84	6.431	22.250	18.05	0.387	2.09	0.80	1.00	1.8	19.18	40.09	18.05	2278	1671	267	138	405
9 170.00	7.70	11.127	39.745	28.07	0.359	2.15	0.80	1.00	1.8	33.52	72.11	28.08	7367	5278	472	811	1283
8 150.00	7.50	11.620	47.238	28.67	0.368	2.13	0.80	1.00	1.7	38.72	82.53	28.68	10401	7277	526	1212	1738
7 130.00	7.28	15.453	52.258	30.15	0.353	2.16	0.80	1.00	1.7	44.62	96.57	30.15	12065	8338	597	1265	1862
6 110.00	7.02	17.065	60.531	31.75	0.345	2.18	0.80	1.00	1.7	50.83	110.98	31.75	13660	9096	663	1319	1982
5 90.00	6.73	19.007	62.047	33.27	0.318	2.25	0.80	1.00	1.7	52.73	118.60	33.27	13829	9155	679	1281	1960
4 70.00	6.39	20.742	70.468	34.60	0.316	2.25	0.80	1.00	1.6	59.17	133.33	34.60	15712	9665	724	1227	1951
3 50.00	5.95	23.132	71.849	35.95	0.294	2.31	0.80	1.00	1.6	61.40	141.98	35.96	15757	9539	718	1135	1854
2 30.00	5.34	30.234	72.815	36.92	0.284	2.34	0.80	1.00	1.5	67.45	157.79	36.92	16401	9633	717	999	1716
1 10.00	4.62	37.987	78.158	35.58	0.286	2.33	0.80	1.00	1.3	76.88	179.36	35.59	17417	9410	705	848	1553

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

8/3/2018 2:56:41 PM

Customer: AT&T MOBILITY

Section Forces

124886 79061

16303

LoadCase 1.2D + 1.0Di + 1.0Wi 210 deg

50 mph 210 deg with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor :1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	7.84	6.431	22.250	18.05	0.387	2.09	0.85	1.00	1.8	19.50	40.76	18.05	2278	1671	272	138	410
9	170.00	7.70	11.127	39.745	28.07	0.359	2.15	0.85	1.00	1.8	34.08	73.30	28.08	7367	5278	480	811	1291
8	150.00	7.50	11.620	47.238	28.67	0.368	2.13	0.85	1.00	1.7	39.30	83.77	28.68	10401	7277	534	1212	1746
7	130.00	7.28	15.453	52.258	30.15	0.353	2.16	0.85	1.00	1.7	45.39	98.24	30.15	12065	8338	608	1265	1873
6	110.00	7.02	17.065	60.531	31.75	0.345	2.18	0.85	1.00	1.7	51.68	112.85	31.75	13660	9096	674	1319	1993
5	90.00	6.73	19.007	62.047	33.27	0.318	2.25	0.85	1.00	1.7	53.68	120.73	33.27	13829	9155	691	1281	1972
4	70.00	6.39	20.742	70.468	34.60	0.316	2.25	0.85	1.00	1.6	60.21	135.67	34.60	15712	9665	737	1227	1963
3	50.00	5.95	23.132	71.849	35.95	0.294	2.31	0.85	1.00	1.6	62.56	144.65	35.96	15757	9539	732	1135	1867
2	30.00	5.34	30.234	72.815	36.92	0.284	2.34	0.85	1.00	1.5	68.96	161.33	36.92	16401	9633	733	999	1732
1	10.00	4.62	37.987	78.158	35.58	0.286	2.33	0.85	1.00	1.3	78.78	183.79	35.59	17417	9410	722	848	1571
														124886	79061			16417

LoadCase 1.2D + 1.0Di + 1.0Wi 240 deg

50 mph 240 deg with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor :1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	7.84	6.431	22.250	18.05	0.387	2.09	1.00	1.00	1.8	20.46	42.78	18.05	2278	1671	285	138	423
9	170.00	7.70	11.127	39.745	28.07	0.359	2.15	1.00	1.00	1.8	35.75	76.89	28.08	7367	5278	503	811	1314
8	150.00	7.50	11.620	47.238	28.67	0.368	2.13	1.00	1.00	1.7	41.04	87.48	28.68	10401	7277	558	1212	1770
7	130.00	7.28	15.453	52.258	30.15	0.353	2.16	1.00	1.00	1.7	47.71	103.26	30.15	12065	8338	639	1265	1904
6	110.00	7.02	17.065	60.531	31.75	0.345	2.18	1.00	1.00	1.7	54.24	118.44	31.75	13660	9096	707	1319	2026
5	90.00	6.73	19.007	62.047	33.27	0.318	2.25	1.00	1.00	1.7	56.53	127.15	33.27	13829	9155	728	1281	2009
4	70.00	6.39	20.742	70.468	34.60	0.316	2.25	1.00	1.00	1.6	63.32	142.68	34.60	15712	9665	775	1227	2001
3	50.00	5.95	23.132	71.849	35.95	0.294	2.31	1.00	1.00	1.6	66.03	152.68	35.96	15757	9539	772	1135	1908
2	30.00	5.34	30.234	72.815	36.92	0.284	2.34	1.00	1.00	1.5	73.49	171.94	36.92	16401	9633	781	999	1780
1	10.00	4.62	37.987	78.158	35.58	0.286	2.33	1.00	1.00	1.3	84.47	197.08	35.59	17417	9410	775	848	1623
														124886	79061			16758

LoadCase 1.2D + 1.0Di + 1.0Wi 300 deg

50 mph 300 deg with 0.75 in Radial Ice

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor :1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	7.84	6.431	22.250	18.05	0.387	2.09	0.80	1.00	1.8	19.18	40.09	18.05	2278	1671	267	138	405
9	170.00	7.70	11.127	39.745	28.07	0.359	2.15	0.80	1.00	1.8	33.52	72.11	28.08	7367	5278	472	811	1283
8	150.00	7.50	11.620	47.238	28.67	0.368	2.13	0.80	1.00	1.7	38.72	82.53	28.68	10401	7277	526	1212	1738
7	130.00	7.28	15.453	52.258	30.15	0.353	2.16	0.80	1.00	1.7	44.62	96.57	30.15	12065	8338	597	1265	1862
6	110.00	7.02	17.065	60.531	31.75	0.345	2.18	0.80	1.00	1.7	50.83	110.98	31.75	13660	9096	663	1319	1982
5	90.00	6.73	19.007	62.047	33.27	0.318	2.25	0.80	1.00	1.7	52.73	118.60	33.27	13829	9155	679	1281	1960
4	70.00	6.39	20.742	70.468	34.60	0.316	2.25	0.80	1.00	1.6	59.17	133.33	34.60	15712	9665	724	1227	1951
3	50.00	5.95	23.132	71.849	35.95	0.294	2.31	0.80	1.00	1.6	61.40	141.98	35.96	15757	9539	718	1135	1854

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

8/3/2018 2:56:41 PM

Customer: AT&T MOBILITY

Section Forces

2	30.00	5.34	30.234	72.815	36.92	0.284	2.34	0.80	1.00	1.5	67.45	157.79	36.92	16401	9633	717	999	1716	
1	10.00	4.62	37.987	78.158	35.58	0.286	2.33	0.80	1.00	1.3	76.88	179.36	35.59	17417	9410	705	848	1553	
														124886	79061				16303

LoadCase 1.2D + 1.0Di + 1.0Wi 330 deg**50 mph 330 deg with 0.75 in Radial Ice**

Gust Response Factor (Gh): 0.85

Ice Dead Load Factor 1.00

Ice Importance Factor :1.00

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.30	7.84	6.431	22.250	18.05	0.387	2.09	0.85	1.00	1.8	19.50	40.76	18.05	2278	1671	272	138	410	
9	170.00	7.70	11.127	39.745	28.07	0.359	2.15	0.85	1.00	1.8	34.08	73.30	28.08	7367	5278	480	811	1291	
8	150.00	7.50	11.620	47.238	28.67	0.368	2.13	0.85	1.00	1.7	39.30	83.77	28.68	10401	7277	534	1212	1746	
7	130.00	7.28	15.453	52.258	30.15	0.353	2.16	0.85	1.00	1.7	45.39	98.24	30.15	12065	8338	608	1265	1873	
6	110.00	7.02	17.065	60.531	31.75	0.345	2.18	0.85	1.00	1.7	51.68	112.85	31.75	13660	9096	674	1319	1993	
5	90.00	6.73	19.007	62.047	33.27	0.318	2.25	0.85	1.00	1.7	53.68	120.73	33.27	13829	9155	691	1281	1972	
4	70.00	6.39	20.742	70.468	34.60	0.316	2.25	0.85	1.00	1.6	60.21	135.67	34.60	15712	9665	737	1227	1963	
3	50.00	5.95	23.132	71.849	35.95	0.294	2.31	0.85	1.00	1.6	62.56	144.65	35.96	15757	9539	732	1135	1867	
2	30.00	5.34	30.234	72.815	36.92	0.284	2.34	0.85	1.00	1.5	68.96	161.33	36.92	16401	9633	733	999	1732	
1	10.00	4.62	37.987	78.158	35.58	0.286	2.33	0.85	1.00	1.3	78.78	183.79	35.59	17417	9410	722	848	1571	
														124886	79061				16417

LoadCase 1.0D + 1.0W Service Normal**Serviceability - 60 mph Wind Normal**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.30	11.29	6.431	4.195	0.000	0.150	2.77	1.00	1.00	0.0	8.81	24.43	0.00	506	0	234	63	297	
9	170.00	11.09	11.127	11.667	0.000	0.168	2.71	1.00	1.00	0.0	17.77	48.11	0.00	1741	0	453	554	1008	
8	150.00	10.80	11.620	18.561	0.000	0.196	2.61	1.00	1.00	0.0	22.22	58.01	0.00	2604	0	532	852	1385	
7	130.00	10.48	15.453	22.104	0.000	0.202	2.59	1.00	1.00	0.0	27.60	71.48	0.00	3106	0	637	874	1510	
6	110.00	10.12	17.065	28.777	0.000	0.209	2.57	1.00	1.00	0.0	31.73	81.43	0.00	3803	0	700	887	1587	
5	90.00	9.70	19.007	28.777	0.000	0.192	2.62	1.00	1.00	0.0	33.60	88.17	0.00	3895	0	727	857	1584	
4	70.00	9.20	20.742	35.867	0.000	0.200	2.60	1.00	1.00	0.0	37.56	97.50	0.00	5040	0	762	825	1588	
3	50.00	8.57	23.132	35.893	0.000	0.186	2.64	1.00	1.00	0.0	40.02	105.82	0.00	5182	0	771	769	1540	
2	30.00	7.69	30.234	35.893	0.000	0.185	2.65	1.00	1.00	0.0	47.55	125.89	0.00	5640	0	823	691	1514	
1	10.00	6.66	37.987	42.571	0.000	0.201	2.59	1.00	1.00	0.0	57.87	150.09	0.00	6672	0	849	601	1450	
														38188	0				13462

LoadCase 1.0D + 1.0W Service 60 deg**Serviceability - 60 mph Wind 60 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.30	11.29	6.431	4.195	0.000	0.150	2.77	0.80	1.00	0.0	7.53	20.87	0.00	506	0	200	63	263
9 170.00	11.09	11.127	11.667	0.000	0.168	2.71	0.80	1.00	0.0	15.55	42.09	0.00	1741	0	397	554	951
8 150.00	10.80	11.620	18.561	0.000	0.196	2.61	0.80	1.00	0.0	19.89	51.94	0.00	2604	0	477	852	1329
7 130.00	10.48	15.453	22.104	0.000	0.202	2.59	0.80	1.00	0.0	24.51	63.48	0.00	3106	0	565	874	1439

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

8/3/2018 2:56:41 PM

Customer: AT&T MOBILITY

Section Forces

6	110.00	10.12	17.065	28.777	0.000	0.209	2.57	0.80	1.00	0.0	28.32	72.67	0.00	3803	0	625	887	1512	
5	90.00	9.70	19.007	28.777	0.000	0.192	2.62	0.80	1.00	0.0	29.80	78.20	0.00	3895	0	645	857	1502	
4	70.00	9.20	20.742	35.867	0.000	0.200	2.60	0.80	1.00	0.0	33.41	86.73	0.00	5040	0	678	825	1503	
3	50.00	8.57	23.132	35.893	0.000	0.186	2.64	0.80	1.00	0.0	35.39	93.59	0.00	5182	0	682	769	1451	
2	30.00	7.69	30.234	35.893	0.000	0.185	2.65	0.80	1.00	0.0	41.50	109.88	0.00	5640	0	719	691	1409	
1	10.00	6.66	37.987	42.571	0.000	0.201	2.59	0.80	1.00	0.0	50.28	130.39	0.00	6672	0	738	601	1339	
														38188	0				12697

LoadCase 1.0D + 1.0W Service 90 deg**Serviceability - 60 mph Wind 90 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.30	11.29	6.431	4.195	0.000	0.150	2.77	0.85	1.00	0.0	7.85	21.76	0.00	506	0	209	63	272	
9	170.00	11.09	11.127	11.667	0.000	0.168	2.71	0.85	1.00	0.0	16.10	43.59	0.00	1741	0	411	554	965	
8	150.00	10.80	11.620	18.561	0.000	0.196	2.61	0.85	1.00	0.0	20.48	53.46	0.00	2604	0	491	852	1343	
7	130.00	10.48	15.453	22.104	0.000	0.202	2.59	0.85	1.00	0.0	25.28	65.48	0.00	3106	0	583	874	1457	
6	110.00	10.12	17.065	28.777	0.000	0.209	2.57	0.85	1.00	0.0	29.17	74.86	0.00	3803	0	644	887	1531	
5	90.00	9.70	19.007	28.777	0.000	0.192	2.62	0.85	1.00	0.0	30.75	80.69	0.00	3895	0	665	857	1522	
4	70.00	9.20	20.742	35.867	0.000	0.200	2.60	0.85	1.00	0.0	34.45	89.42	0.00	5040	0	699	825	1524	
3	50.00	8.57	23.132	35.893	0.000	0.186	2.64	0.85	1.00	0.0	36.55	96.65	0.00	5182	0	704	769	1473	
2	30.00	7.69	30.234	35.893	0.000	0.185	2.65	0.85	1.00	0.0	43.01	113.89	0.00	5640	0	745	691	1435	
1	10.00	6.66	37.987	42.571	0.000	0.201	2.59	0.85	1.00	0.0	52.18	135.32	0.00	6672	0	766	601	1367	
														38188	0				12888

LoadCase 1.0D + 1.0W Service 120 deg**Serviceability - 60 mph Wind 120 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.30	11.29	6.431	4.195	0.000	0.150	2.77	1.00	1.00	0.0	8.81	24.43	0.00	506	0	234	63	297	
9	170.00	11.09	11.127	11.667	0.000	0.168	2.71	1.00	1.00	0.0	17.77	48.11	0.00	1741	0	453	554	1008	
8	150.00	10.80	11.620	18.561	0.000	0.196	2.61	1.00	1.00	0.0	22.22	58.01	0.00	2604	0	532	852	1385	
7	130.00	10.48	15.453	22.104	0.000	0.202	2.59	1.00	1.00	0.0	27.60	71.48	0.00	3106	0	637	874	1510	
6	110.00	10.12	17.065	28.777	0.000	0.209	2.57	1.00	1.00	0.0	31.73	81.43	0.00	3803	0	700	887	1587	
5	90.00	9.70	19.007	28.777	0.000	0.192	2.62	1.00	1.00	0.0	33.60	88.17	0.00	3895	0	727	857	1584	
4	70.00	9.20	20.742	35.867	0.000	0.200	2.60	1.00	1.00	0.0	37.56	97.50	0.00	5040	0	762	825	1588	
3	50.00	8.57	23.132	35.893	0.000	0.186	2.64	1.00	1.00	0.0	40.02	105.82	0.00	5182	0	771	769	1540	
2	30.00	7.69	30.234	35.893	0.000	0.185	2.65	1.00	1.00	0.0	47.55	125.89	0.00	5640	0	823	691	1514	
1	10.00	6.66	37.987	42.571	0.000	0.201	2.59	1.00	1.00	0.0	57.87	150.09	0.00	6672	0	849	601	1450	
														38188	0				13462

LoadCase 1.0D + 1.0W Service 180 deg**Serviceability - 60 mph Wind 180 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10 185.30	11.29	6.431	4.195	0.000	0.150	2.77	0.80	1.00	0.0	7.53	20.87	0.00	506	0	200	63	263
9 170.00	11.09	11.127	11.667	0.000	0.168	2.71	0.80	1.00	0.0	15.55	42.09	0.00	1741	0	397	554	951

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Section Forces

8	150.00	10.80	11.620	18.561	0.000	0.196	2.61	0.80	1.00	0.0	19.89	51.94	0.00	2604	0	477	852	1329
7	130.00	10.48	15.453	22.104	0.000	0.202	2.59	0.80	1.00	0.0	24.51	63.48	0.00	3106	0	565	874	1439
6	110.00	10.12	17.065	28.777	0.000	0.209	2.57	0.80	1.00	0.0	28.32	72.67	0.00	3803	0	625	887	1512
5	90.00	9.70	19.007	28.777	0.000	0.192	2.62	0.80	1.00	0.0	29.80	78.20	0.00	3895	0	645	857	1502
4	70.00	9.20	20.742	35.867	0.000	0.200	2.60	0.80	1.00	0.0	33.41	86.73	0.00	5040	0	678	825	1503
3	50.00	8.57	23.132	35.893	0.000	0.186	2.64	0.80	1.00	0.0	35.39	93.59	0.00	5182	0	682	769	1451
2	30.00	7.69	30.234	35.893	0.000	0.185	2.65	0.80	1.00	0.0	41.50	109.88	0.00	5640	0	719	691	1409
1	10.00	6.66	37.987	42.571	0.000	0.201	2.59	0.80	1.00	0.0	50.28	130.39	0.00	6672	0	738	601	1339
														38188	0			12697

LoadCase 1.0D + 1.0W Service 210 deg**Serviceability - 60 mph Wind 210 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{si} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	11.29	6.431	4.195	0.000	0.150	2.77	0.85	1.00	0.0	7.85	21.76	0.00	506	0	209	63	272
9	170.00	11.09	11.127	11.667	0.000	0.168	2.71	0.85	1.00	0.0	16.10	43.59	0.00	1741	0	411	554	965
8	150.00	10.80	11.620	18.561	0.000	0.196	2.61	0.85	1.00	0.0	20.48	53.46	0.00	2604	0	491	852	1343
7	130.00	10.48	15.453	22.104	0.000	0.202	2.59	0.85	1.00	0.0	25.28	65.48	0.00	3106	0	583	874	1457
6	110.00	10.12	17.065	28.777	0.000	0.209	2.57	0.85	1.00	0.0	29.17	74.86	0.00	3803	0	644	887	1531
5	90.00	9.70	19.007	28.777	0.000	0.192	2.62	0.85	1.00	0.0	30.75	80.69	0.00	3895	0	665	857	1522
4	70.00	9.20	20.742	35.867	0.000	0.200	2.60	0.85	1.00	0.0	34.45	89.42	0.00	5040	0	699	825	1524
3	50.00	8.57	23.132	35.893	0.000	0.186	2.64	0.85	1.00	0.0	36.55	96.65	0.00	5182	0	704	769	1473
2	30.00	7.69	30.234	35.893	0.000	0.185	2.65	0.85	1.00	0.0	43.01	113.89	0.00	5640	0	745	691	1435
1	10.00	6.66	37.987	42.571	0.000	0.201	2.59	0.85	1.00	0.0	52.18	135.32	0.00	6672	0	766	601	1367
														38188	0			12888

LoadCase 1.0D + 1.0W Service 240 deg**Serviceability - 60 mph Wind 240 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section	Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
10	185.30	11.29	6.431	4.195	0.000	0.150	2.77	1.00	1.00	0.0	8.81	24.43	0.00	506	0	234	63	297
9	170.00	11.09	11.127	11.667	0.000	0.168	2.71	1.00	1.00	0.0	17.77	48.11	0.00	1741	0	453	554	1008
8	150.00	10.80	11.620	18.561	0.000	0.196	2.61	1.00	1.00	0.0	22.22	58.01	0.00	2604	0	532	852	1385
7	130.00	10.48	15.453	22.104	0.000	0.202	2.59	1.00	1.00	0.0	27.60	71.48	0.00	3106	0	637	874	1510
6	110.00	10.12	17.065	28.777	0.000	0.209	2.57	1.00	1.00	0.0	31.73	81.43	0.00	3803	0	700	887	1587
5	90.00	9.70	19.007	28.777	0.000	0.192	2.62	1.00	1.00	0.0	33.60	88.17	0.00	3895	0	727	857	1584
4	70.00	9.20	20.742	35.867	0.000	0.200	2.60	1.00	1.00	0.0	37.56	97.50	0.00	5040	0	762	825	1588
3	50.00	8.57	23.132	35.893	0.000	0.186	2.64	1.00	1.00	0.0	40.02	105.82	0.00	5182	0	771	769	1540
2	30.00	7.69	30.234	35.893	0.000	0.185	2.65	1.00	1.00	0.0	47.55	125.89	0.00	5640	0	823	691	1514
1	10.00	6.66	37.987	42.571	0.000	0.201	2.59	1.00	1.00	0.0	57.87	150.09	0.00	6672	0	849	601	1450
														38188	0			

LoadCase 1.0D + 1.0W Service 300 deg**Serviceability - 60 mph Wind 300 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw): 1.00

Section Elev. (ft)	Q _z (psf)	A _f (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _e (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)
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Site Number: 311305

Code: ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Section Forces

10	185.30	11.29	6.431	4.195	0.000	0.150	2.77	0.80	1.00	0.0	7.53	20.87	0.00	506	0	200	63	263
9	170.00	11.09	11.127	11.667	0.000	0.168	2.71	0.80	1.00	0.0	15.55	42.09	0.00	1741	0	397	554	951
8	150.00	10.80	11.620	18.561	0.000	0.196	2.61	0.80	1.00	0.0	19.89	51.94	0.00	2604	0	477	852	1329
7	130.00	10.48	15.453	22.104	0.000	0.202	2.59	0.80	1.00	0.0	24.51	63.48	0.00	3106	0	565	874	1439
6	110.00	10.12	17.065	28.777	0.000	0.209	2.57	0.80	1.00	0.0	28.32	72.67	0.00	3803	0	625	887	1512
5	90.00	9.70	19.007	28.777	0.000	0.192	2.62	0.80	1.00	0.0	29.80	78.20	0.00	3895	0	645	857	1502
4	70.00	9.20	20.742	35.867	0.000	0.200	2.60	0.80	1.00	0.0	33.41	86.73	0.00	5040	0	678	825	1503
3	50.00	8.57	23.132	35.893	0.000	0.186	2.64	0.80	1.00	0.0	35.39	93.59	0.00	5182	0	682	769	1451
2	30.00	7.69	30.234	35.893	0.000	0.185	2.65	0.80	1.00	0.0	41.50	109.88	0.00	5640	0	719	691	1409
1	10.00	6.66	37.987	42.571	0.000	0.201	2.59	0.80	1.00	0.0	50.28	130.39	0.00	6672	0	738	601	1339
														38188	0			12697

LoadCase 1.0D + 1.0W Service 330 deg**Serviceability - 60 mph Wind 330 deg**

Gust Response Factor (Gh): 0.85

Wind Importance Factor (Iw) : 1.00

Section	Elev. (ft)	Q _z (psf)	A _r (sf)	A _r (sf)	Ice A _r (sf)	e	C _f	D _f	D _r	T _{iz} (in)	A _a (sf)	EPA _a (sf)	EPA _{ai} (sf)	Wt. (lb)	Ice Wt. (lb)	F _{st} (lb)	F _a (lb)	Force (lb)	
10	185.30	11.29	6.431	4.195	0.000	0.150	2.77	0.85	1.00	0.0	7.85	21.76	0.00	506	0	209	63	272	
9	170.00	11.09	11.127	11.667	0.000	0.168	2.71	0.85	1.00	0.0	16.10	43.59	0.00	1741	0	411	554	965	
8	150.00	10.80	11.620	18.561	0.000	0.196	2.61	0.85	1.00	0.0	20.48	53.46	0.00	2604	0	491	852	1343	
7	130.00	10.48	15.453	22.104	0.000	0.202	2.59	0.85	1.00	0.0	25.28	65.48	0.00	3106	0	583	874	1457	
6	110.00	10.12	17.065	28.777	0.000	0.209	2.57	0.85	1.00	0.0	29.17	74.86	0.00	3803	0	644	887	1531	
5	90.00	9.70	19.007	28.777	0.000	0.192	2.62	0.85	1.00	0.0	30.75	80.69	0.00	3895	0	665	857	1522	
4	70.00	9.20	20.742	35.867	0.000	0.200	2.60	0.85	1.00	0.0	34.45	89.42	0.00	5040	0	699	825	1524	
3	50.00	8.57	23.132	35.893	0.000	0.186	2.64	0.85	1.00	0.0	36.55	96.65	0.00	5182	0	704	769	1473	
2	30.00	7.69	30.234	35.893	0.000	0.185	2.65	0.85	1.00	0.0	43.01	113.89	0.00	5640	0	745	691	1435	
1	10.00	6.66	37.987	42.571	0.000	0.201	2.59	0.85	1.00	0.0	52.18	135.32	0.00	6672	0	766	601	1367	
															38188	0			

Site Number: 311305

Code:

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Equivalent Lateral Force Method

(Based on ASCE7-10 Chapters 11, 12 & 15)

Spectral Response Acceleration for Short Period (S_g):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L - Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Seismic Response Coefficient (C_s):	0.04
Upper Limit C_s :	0.04
Lower Limit C_s :	0.03
Period based on Rayleigh Method (sec):	0.86
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.18
Total Unfactored Dead Load:	45.92 k
Seismic Base Shear (E):	2.22 k

LoadCase (1.2 + 0.2Sds) * DL + E**Seismic**

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	185.30	506	240,740	0.026	57	626
9	170.00	1,741	748,369	0.080	177	2,153
8	150.00	2,604	965,754	0.103	228	3,221
7	130.00	3,106	972,970	0.104	230	3,842
6	110.00	3,803	977,919	0.104	231	4,704
5	90.00	3,895	790,333	0.084	187	4,818
4	70.00	5,040	760,068	0.081	179	6,234
3	50.00	5,182	525,313	0.056	124	6,410
2	30.00	5,640	312,805	0.033	74	6,976
1	10.00	6,672	101,143	0.011	24	8,253
6' Omni	189.00	50	24,362	0.003	6	62
12' Dipole	187.00	120	57,740	0.006	14	148
RCU (Remote Control Unit)	183.00	3	1,407	0.000	0	4
RFS APXV18-206517S-C	183.00	79	37,148	0.004	9	98
Round Side Arm	183.00	450	211,068	0.022	50	557
Ericsson KRY 112 144/1	175.00	33	14,683	0.002	3	41
Ericsson RRUS 11 B12	175.00	152	67,673	0.007	16	188
Ericsson AIR 21 B4A B2P	175.00	270	120,130	0.013	28	334
Ericsson AIR 21, 1.3 M, B2A B4P, AWS - 1	175.00	270	120,130	0.013	28	334
Andrew LNX-6515DS-VTM	175.00	154	68,474	0.007	16	190
Flat Light Sector Frame	175.00	1,200	533,912	0.057	126	1,484
Powerwave Allgon 7020	166.00	13	5,518	0.001	1	16
Powerwave Allgon LGP21401	166.00	85	35,366	0.004	8	105

Site Number: 311305

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Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Equivalent Lateral Force Method

Raycap DC6-48-60-18-8F	166.00	40	16,722	0.002	4	49
Ericsson RRUS 4426 B66	166.00	145	60,699	0.006	14	180
Ericsson RRUS 32 B30 (60 lbs)	166.00	180	75,247	0.008	18	223
Ericsson RRUS 32 B2	166.00	159	66,468	0.007	16	197
Ericsson RRUS-11 (19.7")	166.00	153	63,960	0.007	15	189
Powerwave Allgon 7770.00	166.00	105	43,894	0.005	10	130
Commscope SBNHH-1D65A	166.00	101	42,013	0.004	10	124
CCI OPA-65R-LCUU-H4 (14.4" width)	166.00	171	71,485	0.008	17	212
CCI HPA-65R-BUU-H4	166.00	102	42,640	0.005	10	126
Flat Light Sector Frame	166.00	1,200	501,646	0.053	118	1,484
10' Dipole	135.00	30	9,825	0.001	2	37
Round Side Arm	135.00	600	196,505	0.021	46	742
4' Dish w/ Radome	135.00	480	157,204	0.017	37	594
Round Sector Frame	135.00	300	98,252	0.010	23	371
Round Side Arm	125.00	300	89,718	0.010	21	371
Scala PR-950	125.00	38	11,364	0.001	3	47
Harris FML-4E	125.00	227	67,887	0.007	16	281
6' FM antenna	125.00	60	17,944	0.002	4	74
Stand-Off	87.00	75	14,622	0.002	3	93
Antel BCD-87010 ____ 4°	87.00	26	5,166	0.001	1	33
4' Dish w/ Radome	80.00	240	42,377	0.005	10	297
Channel Master Type 120	16.00	126	3,327	0.000	1	156
		45,925	9,391,990	1.000	2,218	56,805

LoadCase (0.9 - 0.2Sds) * DL + E**Seismic (Reduced DL)**

Section	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
10	185.30	506	240,740	0.026	57	437
9	170.00	1,741	748,369	0.080	177	1,502
8	150.00	2,604	965,754	0.103	228	2,247
7	130.00	3,106	972,970	0.104	230	2,681
6	110.00	3,803	977,919	0.104	231	3,282
5	90.00	3,895	790,333	0.084	187	3,362
4	70.00	5,040	760,068	0.081	179	4,350
3	50.00	5,182	525,313	0.056	124	4,473
2	30.00	5,640	312,805	0.033	74	4,868
1	10.00	6,672	101,143	0.011	24	5,759
6' Omni	189.00	50	24,362	0.003	6	43
12' Dipole	187.00	120	57,740	0.006	14	104
RCU (Remote Control Unit)	183.00	3	1,407	0.000	0	3
RFS APXV18-206517S-C	183.00	79	37,148	0.004	9	68
Round Side Arm	183.00	450	211,068	0.022	50	388
Ericsson KRY 112 144/1	175.00	33	14,683	0.002	3	28
Ericsson RRUS 11 B12	175.00	152	67,673	0.007	16	131
Ericsson AIR 21 B4A B2P	175.00	270	120,130	0.013	28	233
Ericsson AIR 21, 1.3 M, B2A B4P, AWS - 1	175.00	270	120,130	0.013	28	233
Andrew LNX-6515DS-VTM	175.00	154	68,474	0.007	16	133
Flat Light Sector Frame	175.00	1,200	533,912	0.057	126	1,036
Powerwave Allgon 7020	166.00	13	5,518	0.001	1	11
Powerwave Allgon LGP21401	166.00	85	35,366	0.004	8	73
Raycap DC6-48-60-18-8F	166.00	40	16,722	0.002	4	35
Ericsson RRUS 4426 B66	166.00	145	60,699	0.006	14	125
Ericsson RRUS 32 B30 (60 lbs)	166.00	180	75,247	0.008	18	155

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Equivalent Lateral Force Method

Ericsson RRUS 32 B2	166.00	159	66,468	0.007	16	137
Ericsson RRUS-11 (19.7")	166.00	153	63,960	0.007	15	132
Powerwave Allgon 7770.00	166.00	105	43,894	0.005	10	91
Commscope SBNHH-1D65A	166.00	101	42,013	0.004	10	87
CCI OPA-65R-LCUU-H4 (14.4" width)	166.00	171	71,485	0.008	17	148
CCI HPA-65R-BUU-H4	166.00	102	42,640	0.005	10	88
Flat Light Sector Frame	166.00	1,200	501,646	0.053	118	1,036
10' Dipole	135.00	30	9,825	0.001	2	26
Round Side Arm	135.00	600	196,505	0.021	46	518
4' Dish w/ Radome	135.00	480	157,204	0.017	37	414
Round Sector Frame	135.00	300	98,252	0.010	23	259
Round Side Arm	125.00	300	89,718	0.010	21	259
Scala PR-950	125.00	38	11,364	0.001	3	33
Harris FML-4E	125.00	227	67,887	0.007	16	196
6' FM antenna	125.00	60	17,944	0.002	4	52
Stand-Off	87.00	75	14,622	0.002	3	65
Antel BCD-87010 ____ 4°	87.00	26	5,166	0.001	1	23
4' Dish w/ Radome	80.00	240	42,377	0.005	10	207
Channel Master Type 120	16.00	126	3,327	0.000	1	109
		45,925	9,391,990	1.000	2,218	39,638

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Equivalent Modal Analysis Method

(Based on ASCE7-10 Chapters 11, 12 & 15 and ANSI/TIA-G, section 2.7)

Spectral Response Acceleration for Short Period (S_s):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Importance Factor (I_e):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.18
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	0.86
Redundancy Factor (p):	1.30

LoadCase (1.2 + 0.2Sds) * DL + E**Seismic**

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S_{az}	Horizontal Force (lb)	Vertical Force (lb)
10	185.30	506	1.786	1.477	0.954	0.342	75	626
9	170.00	1,741	1.504	0.510	0.547	0.205	154	2,153
8	150.00	2,604	1.171	-0.021	0.233	0.097	109	3,221
7	130.00	3,106	0.879	-0.121	0.080	0.055	74	3,842
6	110.00	3,803	0.630	-0.064	0.018	0.050	82	4,704
5	90.00	3,895	0.421	0.011	0.006	0.050	84	4,818
4	70.00	5,040	0.255	0.054	0.017	0.044	96	6,234
3	50.00	5,182	0.130	0.069	0.033	0.034	77	6,410
2	30.00	5,640	0.047	0.071	0.042	0.025	62	6,976
1	10.00	6,672	0.005	0.045	0.026	0.014	40	8,253
6' Omni	189.00	50	1.858	1.817	1.081	0.383	8	62
12' Dipole	187.00	120	1.819	1.628	1.011	0.360	19	148
RCU (Remote Control Unit)	183.00	3	1.742	1.289	0.881	0.318	0	4
RFS APXV18-206517S-C	183.00	79	1.742	1.289	0.881	0.318	11	98
Round Side Arm	183.00	450	1.742	1.289	0.881	0.318	62	557
Ericsson KRY 112 144/1	175.00	33	1.593	0.758	0.661	0.244	3	41
Ericsson RRUS 11 B12	175.00	152	1.593	0.758	0.661	0.244	16	188
Ericsson AIR 21 B4A B2P	175.00	270	1.593	0.758	0.661	0.244	29	334
Ericsson AIR 21, 1.3 M, B2A B4P,	175.00	270	1.593	0.758	0.661	0.244	29	334
Andrew LNX-6515DS-VTM	175.00	154	1.593	0.758	0.661	0.244	16	190
Flat Light Sector Frame	175.00	1,200	1.593	0.758	0.661	0.244	127	1,484
Powerwave Allgon 7020	166.00	13	1.434	0.351	0.467	0.177	1	16
Powerwave Allgon LGP21401	166.00	85	1.434	0.351	0.467	0.177	6	105
Raycap DC6-48-60-18-8F	166.00	40	1.434	0.351	0.467	0.177	3	49
Ericsson RRUS 4426 B66	166.00	145	1.434	0.351	0.467	0.177	11	180
Ericsson RRUS 32 B30 (60 lbs)	166.00	180	1.434	0.351	0.467	0.177	14	223
Ericsson RRUS 32 B2	166.00	159	1.434	0.351	0.467	0.177	12	197
Ericsson RRUS-11 (19.7")	166.00	153	1.434	0.351	0.467	0.177	12	189
Powerwave Allgon 7770.00	166.00	105	1.434	0.351	0.467	0.177	8	130
Commscope SBNHH-1D65A	166.00	101	1.434	0.351	0.467	0.177	8	124
CCI OPA-65R-LCUU-H4 (14.4")	166.00	171	1.434	0.351	0.467	0.177	13	212
CCI HPA-65R-BUU-H4	166.00	102	1.434	0.351	0.467	0.177	8	126
Flat Light Sector Frame	166.00	1,200	1.434	0.351	0.467	0.177	92	1,484
10' Dipole	135.00	30	0.948	-0.119	0.107	0.061	1	37
Round Side Arm	135.00	600	0.948	-0.119	0.107	0.061	16	742
4' Dish w/ Radome	135.00	480	0.948	-0.119	0.107	0.061	13	594
Round Sector Frame	135.00	300	0.948	-0.119	0.107	0.061	8	371
Round Side Arm	125.00	300	0.813	-0.114	0.058	0.052	7	371

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Equivalent Modal Analysis Method

Scala PR-950	125.00	38	0.813	-0.114	0.058	0.052	1	47
Harris FML-4E	125.00	227	0.813	-0.114	0.058	0.052	5	281
6' FM antenna	125.00	60	0.813	-0.114	0.058	0.052	1	74
Stand-Off	87.00	75	0.394	0.020	0.007	0.050	2	93
Antel BCD-87010 ____ 4°	87.00	26	0.394	0.020	0.007	0.050	1	33
4' Dish w/ Radome	80.00	240	0.333	0.037	0.010	0.048	5	297
Channel Master Type 120	16.00	126	0.013	0.059	0.034	0.019	1	156
		45,925	50.673	17.301	16.980	6.814	1,422	56,805

LoadCase (0.9 - 0.2Sds) * DL + E**Seismic (Reduced DL)**

Section	Height Above Base (ft)	Weight (lb)	a	b	c	S _{az}	Horizontal Force (lb)	Vertical Force (lb)
10	185.30	506	1.786	1.477	0.954	0.342	75	437
9	170.00	1,741	1.504	0.510	0.547	0.205	154	1,502
8	150.00	2,604	1.171	-0.021	0.233	0.097	109	2,247
7	130.00	3,106	0.879	-0.121	0.080	0.055	74	2,681
6	110.00	3,803	0.630	-0.064	0.018	0.050	82	3,282
5	90.00	3,895	0.421	0.011	0.006	0.050	84	3,362
4	70.00	5,040	0.255	0.054	0.017	0.044	96	4,350
3	50.00	5,182	0.130	0.069	0.033	0.034	77	4,473
2	30.00	5,640	0.047	0.071	0.042	0.025	62	4,868
1	10.00	6,672	0.005	0.045	0.026	0.014	40	5,759
6' Omni	189.00	50	1.858	1.817	1.081	0.383	8	43
12' Dipole	187.00	120	1.819	1.628	1.011	0.360	19	104
RCU (Remote Control Unit)	183.00	3	1.742	1.289	0.881	0.318	0	3
RFS APXV18-206517S-C	183.00	79	1.742	1.289	0.881	0.318	11	68
Round Side Arm	183.00	450	1.742	1.289	0.881	0.318	62	388
Ericsson KRY 112 144/1	175.00	33	1.593	0.758	0.661	0.244	3	28
Ericsson RRUS 11 B12	175.00	152	1.593	0.758	0.661	0.244	16	131
Ericsson AIR 21 B4A B2P	175.00	270	1.593	0.758	0.661	0.244	29	233
Ericsson AIR 21, 1.3 M, B2A B4P,	175.00	270	1.593	0.758	0.661	0.244	29	233
Andrew LNX-6515DS-VTM	175.00	154	1.593	0.758	0.661	0.244	16	133
Flat Light Sector Frame	175.00	1,200	1.593	0.758	0.661	0.244	127	1,036
Powerwave Allgon 7020	166.00	13	1.434	0.351	0.467	0.177	1	11
Powerwave Allgon LGP21401	166.00	85	1.434	0.351	0.467	0.177	6	73
Raycap DC6-48-60-18-8F	166.00	40	1.434	0.351	0.467	0.177	3	35
Ericsson RRUS 4426 B66	166.00	145	1.434	0.351	0.467	0.177	11	125
Ericsson RRUS 32 B30 (60 lbs)	166.00	180	1.434	0.351	0.467	0.177	14	155
Ericsson RRUS 32 B2	166.00	159	1.434	0.351	0.467	0.177	12	137
Ericsson RRUS-11 (19.7")	166.00	153	1.434	0.351	0.467	0.177	12	132
Powerwave Allgon 7770.00	166.00	105	1.434	0.351	0.467	0.177	8	91
Commscope SBNHH-1D65A	166.00	101	1.434	0.351	0.467	0.177	8	87
CCI OPA-65R-LCUU-H4 (14.4"	166.00	171	1.434	0.351	0.467	0.177	13	148
CCI HPA-65R-BUU-H4	166.00	102	1.434	0.351	0.467	0.177	8	88
Flat Light Sector Frame	166.00	1,200	1.434	0.351	0.467	0.177	92	1,036
10' Dipole	135.00	30	0.948	-0.119	0.107	0.061	1	26
Round Side Arm	135.00	600	0.948	-0.119	0.107	0.061	16	518
4' Dish w/ Radome	135.00	480	0.948	-0.119	0.107	0.061	13	414
Round Sector Frame	135.00	300	0.948	-0.119	0.107	0.061	8	259
Round Side Arm	125.00	300	0.813	-0.114	0.058	0.052	7	259
Scala PR-950	125.00	38	0.813	-0.114	0.058	0.052	1	33
Harris FML-4E	125.00	227	0.813	-0.114	0.058	0.052	5	196
6' FM antenna	125.00	60	0.813	-0.114	0.058	0.052	1	52
Stand-Off	87.00	75	0.394	0.020	0.007	0.050	2	65
Antel BCD-87010 ____ 4°	87.00	26	0.394	0.020	0.007	0.050	1	23
4' Dish w/ Radome	80.00	240	0.333	0.037	0.010	0.048	5	207
Channel Master Type 120	16.00	126	0.013	0.059	0.034	0.019	1	109
		45,925	50.673	17.301	16.980	6.814	1,422	39,638

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 1		1		Bot Elev (ft): 0.00				Height (ft): 20.000									
Max Compression Member				Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PST - 12" DIA PIPE	-456.70	1.2D + 1.6W	6.43	100	100	100	17.6	50.0	642.27	0	0	0.00	0.00	71	Member X	
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0		
DIAG	SAE - 4X4X0.25	-12.13	1.2D + 1.6W 90	20.05	48	48	48	145.3	43.5	20.76	0	0	0.00	0.00	58	Member Z	
Max Tension Member				Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls		
LEG	PST - 12" DIA PIPE	415.19	0.9D + 1.6W 180	50	65	657.00	0	0	0	0	0.00	0.00		63	Member		
HORIZ		0.00		0	0	0.00	0	0	0	0	0.00	0.00	0.00	0			
DIAG	SAE - 4X4X0.25	12.65	1.2D + 1.6W 90	50	65	87.30	0	0	0	0	0.00	0.00	0.00	14	Member		
Max Splice Forces				Pu (kip)	Load Case	phiRnt (kip)			Use %	Num Bolts	Bolt Type						
Top Tension				378.39	0.9D + 1.6W 180	0.00			0	0							
Top Compression				421.88	1.2D + 1.6W	0.00			0								
Bot Tension				415.18	0.9D + 1.6W 180	0.00			0								
Bot Compression				464.09	1.2D + 1.6W	0.00			0								

Section: 2		2		Bot Elev (ft): 20.00				Height (ft): 20.000									
Max Compression Member				Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PST - 10" DIA PIPE	-412.54	1.2D + 1.6W	6.43	100	100	100	21.0	50.0	518.48	0	0	0.00	0.00	79	Member X	
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0		
DIAG	SAE - 3.5X3.5X0.25	-11.98	1.2D + 1.6W 90	18.77	48	48	48	157.2	50.0	15.46	0	0	0.00	0.00	77	Member Z	
Max Tension Member				Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls		
LEG	PST - 10" DIA PIPE	375.30	1.2D + 1.6W 180	50	65	535.50	0	0	0	0	0.00	0.00		70	Member		
HORIZ		0.00		0	0	0.00	0	0	0	0	0.00	0.00	0.00	0			
DIAG	SAE - 3.5X3.5X0.25	11.72	1.2D + 1.6W 90	50	65	76.05	0	0	0	0	0.00	0.00	0.00	15	Member		
Max Splice Forces				Pu (kip)	Load Case	phiRnt (kip)			Use %	Num Bolts	Bolt Type						
Top Tension				337.68	0.9D + 1.6W 180	0.00			0	0							
Top Compression				375.01	1.2D + 1.6W	0.00			0								
Bot Tension				378.39	0.9D + 1.6W 180	0.00			0								
Bot Compression				421.88	1.2D + 1.6W	0.00			0								

Site Number: 311305

Code: ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 3 3			Bot Elev (ft): 40.00				Height (ft): 20.000									
Max Compression Member			Pu (kip)	Load Case	Len (ft)	Bracing % X Y Z			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PST - 10" DIA PIPE	-365.44	1.2D + 1.6W	6.43	100	100	100	21.0	50.0	518.48	0	0	0.00	0.00	70	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.25	-11.40	1.2D + 1.6W 90	16.90	47	47	47	161.1	50.0	12.54	0	0	0.00	0.00	90	Member Z
Max Tension Member			Pu (kip)	Load Case		Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls	
LEG	PST - 10" DIA PIPE	337.99	0.9D + 1.6W 180	50	65	535.50	0	0	0	0	0.00	0.00		63	Member	
HORIZ		0.00		0	0	0.00	0	0	0	0	0.00	0.00	0.00	0		
DIAG	SAE - 3X3X0.25	11.18	1.2D + 1.6W 90	50	65	64.80	0	0	0	0	0.00	0.00	0.00	17	Member	
Max Splice Forces			Pu (kip)	Load Case		phiRnt (kip)		Use %	Num Bolts	Bolt Type						
Top Tension			294.72	0.9D + 1.6W 180		0.00		0	0							
Top Compression			326.25	1.2D + 1.6W		0.00		0								
Bot Tension			337.68	0.9D + 1.6W 180		0.00		0								
Bot Compression			375.01	1.2D + 1.6W		0.00		0								

Section: 4 4			Bot Elev (ft): 60.00				Height (ft): 20.000									
Max Compression Member			Pu (kip)	Load Case	Len (ft)	Bracing % X Y Z			F'y (ksi)	Phic Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Use %	Controls
LEG	PST - 10" DIA PIPE	-325.58	1.2D + 1.6W	0.38	100	100	100	1.2	50.0	535.44	0	0	0.00	0.00	60	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.25	-13.13	1.2D + 1.6W 90	15.15	48	48	48	147.5	50.0	14.96	0	0	0.00	0.00	87	Member Z
Max Tension Member			Pu (kip)	Load Case		Fy (ksi)	Fu (ksi)	Phit Pn (kip)	Num Bolts	Num Holes	Shear phiRnv (kip)	Bear phiRn (kip)	Blk Shear phit Pn (kip)	Use %	Controls	
LEG	PST - 10" DIA PIPE	294.78	0.9D + 1.6W 180	50	65	535.50	0	0	0	0	0.00	0.00		55	Member	
HORIZ		0.00		0	0	0.00	0	0	0	0	0.00	0.00	0.00	0		
DIAG	SAE - 3X3X0.25	13.11	1.2D + 1.6W 90	50	65	64.80	0	0	0	0	0.00	0.00	0.00	20	Member	
Max Splice Forces			Pu (kip)	Load Case		phiRnt (kip)		Use %	Num Bolts	Bolt Type						
Top Tension			239.23	0.9D + 1.6W 180		0.00		0	0							
Top Compression			264.78	1.2D + 1.6W		0.00		0								
Bot Tension			294.72	0.9D + 1.6W 180		0.00		0								
Bot Compression			326.25	1.2D + 1.6W		0.00		0								

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 5		5		Bot Elev (ft): 80.00				Height (ft): 20.000							
		Pu		Len	Bracing %			F'y	Phic	Pn Num	Num	Shear	Bear		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	Use
Max Compression Member															Controls
LEG	PST - 8" DIA PIPE	-253.54	1.2D + 1.6W	6.42	100	100	100	26.2	50.0	359.48	0	0	0.00	0.00	70 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.1875	-11.57	1.2D + 1.6W 90	13.81	48	48	48	133.5	44.0	13.82	0	0	0.00	0.00	83 Member Z
		Pu		Fy	Fu	Phit	Pn Num	Num	Num	Shear		Bear	Blk	Shear	Use
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	(kip)	phiRn	phit	Pn (kip)	%
LEG	PST - 8" DIA PIPE	239.57	0.9D + 1.6W 180	50	65	378.00	0	0		0.00		0.00			63 Member
HORIZ		0.00		0	0	0.00	0	0		0.00		0.00		0.00	0
DIAG	SAE - 3X3X0.1875	11.37	1.2D + 1.6W 90	50	65	49.05	0	0		0.00		0.00		0.00	23 Member
Max Splice Forces		Pu				phiRnt	Use	Num							
		(kip)	Load Case			(kip)	%	Bolts	Bolt Type						
Top Tension		184.94	0.9D + 1.6W 180			0.00	0	0							
Top Compression		205.15	1.2D + 1.6W			0.00	0								
Bot Tension		239.23	0.9D + 1.6W 180			0.00	0								
Bot Compression		264.78	1.2D + 1.6W			0.00	0								

Section: 6		6		Bot Elev (ft): 100.0				Height (ft): 20.000							
		Pu		Len	Bracing %			F'y	Phic	Pn Num	Num	Shear	Bear		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	Use
Max Compression Member															Controls
LEG	PST - 8" DIA PIPE	-204.83	1.2D + 1.6W	0.38	100	100	100	1.5	50.0	377.94	0	0	0.00	0.00	54 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.1875	-11.01	1.2D + 1.6W 90	12.50	48	48	48	120.8	44.0	16.87	0	0	0.00	0.00	65 Member Z
		Pu		Fy	Fu	Phit	Pn Num	Num	Num	Shear		Bear	Blk	Shear	Use
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes		phiRnv	(kip)	phiRn	phit	Pn (kip)	%
LEG	PST - 8" DIA PIPE	183.65	1.2D + 1.6W 180	50	65	378.00	0	0		0.00		0.00			48 Member
HORIZ		0.00		0	0	0.00	0	0		0.00		0.00		0.00	0
DIAG	SAE - 3X3X0.1875	10.91	1.2D + 1.6W 90	50	65	49.05	0	0		0.00		0.00		0.00	22 Member
Max Splice Forces		Pu				phiRnt	Use	Num							
		(kip)	Load Case			(kip)	%	Bolts	Bolt Type						
Top Tension		128.49	0.9D + 1.6W 180			0.00	0	0							
Top Compression		144.01	1.2D + 1.6W			0.00	0								
Bot Tension		184.94	0.9D + 1.6W 180			0.00	0								
Bot Compression		205.15	1.2D + 1.6W			0.00	0								

Site Number: 311305

Code:

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 7		7		Bot Elev (ft): 120.0				Height (ft): 20.000							
		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	Use
Max Compression Member															Controls
LEG PST - 6" DIA PIPE		-143.69	1.2D + 1.6W	0.38	100	100	100	2.0	50.0	251.03	0	0	0.00	0.00	57 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG SAE - 3X3X0.1875		-10.34	1.2D + 1.6W	11.24	48	48	48	111.5	44.0	19.40	0	0	0.00	0.00	53 Member Z
		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear				
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	Use			Controls
LEG PST - 6" DIA PIPE		128.69	0.9D + 1.6W 180	50	65	251.10	0	0	0.00	0.00		51			Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0			
DIAG SAE - 3X3X0.1875		9.84	1.2D + 1.6W 210	50	65	49.05	0	0	0.00	0.00	0.00	20			Member
Max Splice Forces		Pu		phiRnt	Use	Num									
		(kip)	Load Case	(kip)	%	Bolts	Bolt Type								
Top Tension		75.53	0.9D + 1.6W 180	0.00	0	0									
Top Compression		85.67	1.2D + 1.6W	0.00	0										
Bot Tension		128.49	0.9D + 1.6W 180	0.00	0										
Bot Compression		144.01	1.2D + 1.6W	0.00	0										

Section: 8		8		Bot Elev (ft): 140.0				Height (ft): 20.000							
		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	Use
Max Compression Member															Controls
LEG PST - 5" DIA PIPE		-77.32	1.2D + 1.6W	6.55	100	100	100	41.8	50.0	170.30	0	0	0.00	0.00	45 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG SAE - 2.5X2.5X0.1875		-6.47	1.2D + 1.6W 90	10.12	48	48	48	118.4	50.0	14.55	0	0	0.00	0.00	44 Member Z
		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Blk Shear				
Max Tension Member		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	phit Pn	Use			Controls
LEG PST - 5" DIA PIPE		75.70	0.9D + 1.6W 180	50	65	193.50	0	0	0.00	0.00		39			Member
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0.00	0			
DIAG SAE - 2.5X2.5X0.1875		6.38	1.2D + 1.6W 90	50	65	40.59	0	0	0.00	0.00	0.00	15			Member
Max Splice Forces		Pu		phiRnt	Use	Num									
		(kip)	Load Case	(kip)	%	Bolts	Bolt Type								
Top Tension		33.82	0.9D + 1.6W 180	0.00	0	0									
Top Compression		40.81	1.2D + 1.6W	0.00	0										
Bot Tension		75.53	0.9D + 1.6W 180	0.00	0										
Bot Compression		85.67	1.2D + 1.6W	0.00	0										

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Customer: AT&T MOBILITY

Force/Stress Summary

Section: 9		9		Bot Elev (ft): 160.0				Height (ft): 20.000										
				Pu			Len	Bracing %			F'y	Phic Pn Num	Num	Shear	Bear	Use		
Max Compression Member				(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	PST - 3" DIA PIPE			-31.62	1.2D + 1.6W	6.54	100	100	100	67.7	50.0	71.80	0	0	0.00	0.00	44	Member X
HORIZ				0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 2.5X2.5X0.1875			-6.67	1.2D + 1.6W 90	9.222	48	48	48	110.5	50.0	16.63	0	0	0.00	0.00	40	Member Z
				Pu			Fy	Fu	Phit Pn Num	Num	Num	Shear	Bear	Blk Shear	Use			
Max Tension Member				(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	(kip)	(kip)	(kip)	%	Controls	
LEG	PST - 3" DIA PIPE			25.51	0.9D + 1.6W 180	50	65	100.35	0	0	0	0.00	0.00			25	Member	
HORIZ				0.00		0	0	0.00	0	0	0	0.00	0.00	0.00		0		
DIAG	SAE - 2.5X2.5X0.1875			6.55	1.2D + 1.6W 90	50	65	40.59	0	0	0	0.00	0.00	0.00		16	Member	
Max Splice Forces				Pu			phiRnt		Use	Num								
				(kip)	Load Case	(kip)			%	Bolts	Bolt Type							
Top Tension				2.70	0.9D + 1.6W 180	0.00		0		0								
Top Compression				3.95	1.2D + 1.6W	0.00		0										
Bot Tension				33.82	0.9D + 1.6W 180	0.00		0										
Bot Compression				40.81	1.2D + 1.6W	0.00		0										

Section: 10		10		Bot Elev (ft): 180.0				Height (ft): 10.599										
				Pu			Len	Bracing %			F'y	Phic Pn Num	Num	Shear	Bear	Use		
Max Compression Member				(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	%	Controls
LEG	PST - 2" DIA PIPE			-3.78	1.2D + 1.6W	0.38	100	100	100	5.7	50.0	48.04	0	0	0.00	0.00	7	Member X
HORIZ	SAE - 2X2X0.125			-0.22	1.2D + 1.6W	6.500	100	100	100	196.0	36.0	2.82	0	0	0.00	0.00	7	Member Z
DIAG	SAE - 2X2X0.1875			-1.16	1.2D + 1.6W	8.269	48	48	48	120.9	50.0	11.05	0	0	0.00	0.00	10	Member Z
				Pu			Fy	Fu	Phit Pn Num	Num	Num	Shear	Bear	Blk Shear	Use			
Max Tension Member				(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	(kip)	(kip)	(kip)	(kip)	(kip)	%	Controls	
LEG	PST - 2" DIA PIPE			2.71	1.2D + 1.6W 180	50	65	48.15	0	0	0	0.00	0.00			5	Member	
HORIZ	SAE - 2X2X0.125			0.24	1.2D + 1.6W 60	36	58	15.55	0	0	0	0.00	0.00	0.00		1	Member	
DIAG	SAE - 2X2X0.1875			1.10	1.2D + 1.6W	50	65	32.17	0	0	0	0.00	0.00	0.00		3	Member	
Max Splice Forces				Pu			phiRnt		Use	Num								
				(kip)	Load Case	(kip)			%	Bolts	Bolt Type							
Top Tension				0.00		0.00		0		0								
Top Compression				0.28	1.2D + 1.0Di +	0.00		0										
Bot Tension				2.70	0.9D + 1.6W 180	0.00		0										
Bot Compression				3.95	1.2D + 1.6W	0.00		0										

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

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Customer: AT&T MOBILITY

Detailed Reactions

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal	11.55	00.00	0	1	0.00	462.72	-45.35	
	11.55	00.00	120	1a	15.67	-203.80	-15.11	
	11.55	00.00	240	1b	-15.67	-203.80	-15.11	
1.2D + 1.6W 60 deg	11.55	00.00	0	1	-4.69	232.08	-22.39	
	11.55	00.00	120	1a	-21.70	230.46	7.13	
	11.55	00.00	240	1b	-36.04	-407.43	-20.79	
1.2D + 1.6W 90 deg	11.55	00.00	0	1	-5.67	18.38	-1.21	
	11.55	00.00	120	1a	-34.42	390.31	16.76	
	11.55	00.00	240	1b	-32.88	-353.58	-15.55	
1.2D + 1.6W 120 deg	11.55	00.00	0	1	-5.29	-203.80	21.13	
	11.55	00.00	120	1a	-39.26	461.10	22.64	
	11.55	00.00	240	1b	-20.90	-202.19	-5.99	
1.2D + 1.6W 180 deg	11.55	00.00	0	1	0.00	-409.04	41.64	
	11.55	00.00	120	1a	-17.06	232.08	15.23	
	11.55	00.00	240	1b	17.06	232.08	15.23	
1.2D + 1.6W 210 deg	11.55	00.00	0	1	2.97	-355.45	36.29	
	11.55	00.00	120	1a	1.76	19.31	5.49	
	11.55	00.00	240	1b	31.76	391.24	21.41	
1.2D + 1.6W 240 deg	11.55	00.00	0	1	5.29	-203.80	21.13	
	11.55	00.00	120	1a	20.90	-202.19	-5.99	
	11.55	00.00	240	1b	39.26	461.10	22.64	
1.2D + 1.6W 300 deg	11.55	00.00	0	1	4.69	232.08	-22.39	
	11.55	00.00	120	1a	36.04	-407.43	-20.79	
	11.55	00.00	240	1b	21.70	230.46	7.13	
1.2D + 1.6W 330 deg	11.55	00.00	0	1	2.69	392.18	-38.22	
	11.55	00.00	120	1a	29.95	-354.52	-20.68	
	11.55	00.00	240	1b	3.84	17.45	-4.29	
0.9D + 1.6W Normal	11.55	00.00	0	1	0.00	457.61	-45.04	
	11.55	00.00	120	1a	15.92	-208.14	-15.27	
	11.55	00.00	240	1b	-15.92	-208.14	-15.27	
0.9D + 1.6W 60 deg	11.55	00.00	0	1	-4.70	227.24	-22.08	
	11.55	00.00	120	1a	-21.44	225.62	6.97	
	11.55	00.00	240	1b	-36.30	-411.53	-20.93	
0.9D + 1.6W 90 deg	11.55	00.00	0	1	-5.68	13.79	-0.90	
	11.55	00.00	120	1a	-34.15	385.29	16.60	
	11.55	00.00	240	1b	-33.14	-357.75	-15.70	
0.9D + 1.6W 120 deg	11.55	00.00	0	1	-5.30	-208.14	21.42	
	11.55	00.00	120	1a	-38.99	456.00	22.49	
	11.55	00.00	240	1b	-21.16	-206.53	-6.13	
0.9D + 1.6W 180 deg	11.55	00.00	0	1	0.00	-413.14	41.93	
	11.55	00.00	120	1a	-16.79	227.24	15.08	
	11.55	00.00	240	1b	16.79	227.24	15.08	
0.9D + 1.6W 210 deg	11.55	00.00	0	1	2.98	-359.61	36.59	
	11.55	00.00	120	1a	2.03	14.72	5.35	

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	11.55	00.00	240	1b	31.48	386.22	21.26
0.9D + 1.6W 240 deg	11.55	00.00	0	1	5.30	-208.14	21.42
	11.55	00.00	120	1a	21.16	-206.53	-6.13
	11.55	00.00	240	1b	38.99	456.00	22.49
0.9D + 1.6W 300 deg	11.55	00.00	0	1	4.70	227.24	-22.08
	11.55	00.00	120	1a	36.30	-411.53	-20.93
	11.55	00.00	240	1b	21.44	225.62	6.97
0.9D + 1.6W 330 deg	11.55	00.00	0	1	2.70	387.16	-37.91
	11.55	00.00	120	1a	30.20	-358.68	-20.83
	11.55	00.00	240	1b	3.59	12.86	-4.45
1.2D + 1.0Di + 1.0Wi Normal	11.55	00.00	0	1	0.00	170.60	-6.20
	11.55	00.00	120	1a	9.66	-12.59	-7.12
	11.55	00.00	240	1b	-9.66	-12.59	-7.12
1.2D + 1.0Di + 1.0Wi 60 deg	11.55	00.00	0	1	-1.28	108.49	-0.05
	11.55	00.00	120	1a	-0.67	108.04	-1.09
	11.55	00.00	240	1b	-15.36	-71.11	-8.86
1.2D + 1.0Di + 1.0Wi 90 deg	11.55	00.00	0	1	-1.51	48.48	5.87
	11.55	00.00	120	1a	-4.20	152.38	1.57
	11.55	00.00	240	1b	-14.41	-55.43	-7.43
1.2D + 1.0Di + 1.0Wi 120 deg	11.55	00.00	0	1	-1.35	-12.63	11.93
	11.55	00.00	120	1a	-5.37	170.24	3.09
	11.55	00.00	240	1b	-10.99	-12.18	-4.80
1.2D + 1.0Di + 1.0Wi 180 deg	11.55	00.00	0	1	0.00	-71.48	17.73
	11.55	00.00	120	1a	0.60	108.45	1.12
	11.55	00.00	240	1b	-0.60	108.45	1.12
1.2D + 1.0Di + 1.0Wi 210 deg	11.55	00.00	0	1	0.76	-55.95	16.20
	11.55	00.00	120	1a	5.83	48.74	-1.64
	11.55	00.00	240	1b	3.46	152.64	2.85
1.2D + 1.0Di + 1.0Wi 240 deg	11.55	00.00	0	1	1.35	-12.63	11.93
	11.55	00.00	120	1a	10.99	-12.18	-4.80
	11.55	00.00	240	1b	5.37	170.24	3.09
1.2D + 1.0Di + 1.0Wi 300 deg	11.55	00.00	0	1	1.28	108.49	-0.05
	11.55	00.00	120	1a	15.36	-71.11	-8.86
	11.55	00.00	240	1b	0.67	108.04	-1.09
1.2D + 1.0Di + 1.0Wi 330 deg	11.55	00.00	0	1	0.74	152.90	-4.43
	11.55	00.00	120	1a	13.65	-55.69	-8.75
	11.55	00.00	240	1b	-4.34	48.21	-4.23
(1.2 + 0.2Sds) * DL + E Normal M1	11.55	00.00	0	1	0.00	34.77	-2.62
	11.55	00.00	120	1a	-0.53	10.32	0.22
	11.55	00.00	240	1b	0.53	10.32	0.22
(1.2 + 0.2Sds) * DL + E Normal M2	11.55	00.00	0	1	0.00	29.49	-2.13
	11.55	00.00	120	1a	-0.72	12.96	0.37
	11.55	00.00	240	1b	0.72	12.96	0.37
(1.2 + 0.2Sds) * DL + E 60 deg M1	11.55	00.00	0	1	-0.08	26.62	-1.93
	11.55	00.00	120	1a	-1.71	26.62	0.90
	11.55	00.00	240	1b	-0.10	2.17	-0.06
(1.2 + 0.2Sds) * DL + E 60 deg M2	11.55	00.00	0	1	-0.04	23.89	-1.68
	11.55	00.00	120	1a	-1.48	23.89	0.81
	11.55	00.00	240	1b	0.33	7.63	0.19

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(1.2 + 0.2Sds) * DL + E 90 deg M1	11.55	00.00	0	1	-0.09	18.47	-1.25
	11.55	00.00	120	1a	-2.13	32.59	1.18
	11.55	00.00	240	1b	0.04	4.35	0.07
(1.2 + 0.2Sds) * DL + E 90 deg M2	11.55	00.00	0	1	-0.04	18.47	-1.25
	11.55	00.00	120	1a	-1.76	28.01	0.99
	11.55	00.00	240	1b	0.41	8.92	0.26
(1.2 + 0.2Sds) * DL + E 120 deg M1	11.55	00.00	0	1	-0.08	10.32	-0.57
	11.55	00.00	120	1a	-2.26	34.77	1.31
	11.55	00.00	240	1b	0.45	10.32	0.35
(1.2 + 0.2Sds) * DL + E 120 deg M2	11.55	00.00	0	1	-0.04	13.05	-0.81
	11.55	00.00	120	1a	-1.84	29.31	1.06
	11.55	00.00	240	1b	0.69	13.05	0.44
(1.2 + 0.2Sds) * DL + E 180 deg M1	11.55	00.00	0	1	0.00	2.17	0.12
	11.55	00.00	120	1a	-1.64	26.62	1.03
	11.55	00.00	240	1b	1.64	26.62	1.03
(1.2 + 0.2Sds) * DL + E 180 deg M2	11.55	00.00	0	1	0.00	7.44	-0.37
	11.55	00.00	120	1a	-1.45	23.98	0.88
	11.55	00.00	240	1b	1.45	23.98	0.88
(1.2 + 0.2Sds) * DL + E 210 deg M1	11.55	00.00	0	1	0.04	4.35	-0.07
	11.55	00.00	120	1a	-1.04	18.47	0.70
	11.55	00.00	240	1b	2.08	32.59	1.25
(1.2 + 0.2Sds) * DL + E 210 deg M2	11.55	00.00	0	1	0.02	9.08	-0.50
	11.55	00.00	120	1a	-1.06	18.47	0.66
	11.55	00.00	240	1b	1.72	27.86	1.02
(1.2 + 0.2Sds) * DL + E 240 deg M1	11.55	00.00	0	1	0.08	10.32	-0.57
	11.55	00.00	120	1a	-0.45	10.32	0.35
	11.55	00.00	240	1b	2.26	34.77	1.31
(1.2 + 0.2Sds) * DL + E 240 deg M2	11.55	00.00	0	1	0.04	13.05	-0.81
	11.55	00.00	120	1a	-0.69	13.05	0.44
	11.55	00.00	240	1b	1.84	29.31	1.06
(1.2 + 0.2Sds) * DL + E 300 deg M1	11.55	00.00	0	1	0.08	26.62	-1.93
	11.55	00.00	120	1a	0.10	2.17	-0.06
	11.55	00.00	240	1b	1.71	26.62	0.90
(1.2 + 0.2Sds) * DL + E 300 deg M2	11.55	00.00	0	1	0.04	23.89	-1.68
	11.55	00.00	120	1a	-0.33	7.63	0.19
	11.55	00.00	240	1b	1.48	23.89	0.81
(1.2 + 0.2Sds) * DL + E 330 deg M1	11.55	00.00	0	1	0.04	32.59	-2.43
	11.55	00.00	120	1a	-0.08	4.35	0.00
	11.55	00.00	240	1b	1.13	18.47	0.55
(1.2 + 0.2Sds) * DL + E 330 deg M2	11.55	00.00	0	1	0.02	27.86	-2.00
	11.55	00.00	120	1a	-0.44	9.08	0.23
	11.55	00.00	240	1b	1.10	18.47	0.59
(0.9 - 0.2Sds) * DL + E Normal M1	11.55	00.00	0	1	0.00	29.16	-2.24
	11.55	00.00	120	1a	-0.20	4.75	0.03
	11.55	00.00	240	1b	0.20	4.75	0.03
(0.9 - 0.2Sds) * DL + E Normal M2	11.55	00.00	0	1	0.00	23.89	-1.76
	11.55	00.00	120	1a	-0.39	7.38	0.18
	11.55	00.00	240	1b	0.39	7.38	0.18

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(0.9 - 0.2Sds) * DL + E 60 deg M1	11.55	00.00	0	1	-0.08	21.03	-1.55
	11.55	00.00	120	1a	-1.38	21.03	0.71
	11.55	00.00	240	1b	-0.43	-3.39	-0.25
(0.9 - 0.2Sds) * DL + E 60 deg M2	11.55	00.00	0	1	-0.04	18.30	-1.31
	11.55	00.00	120	1a	-1.15	18.30	0.62
	11.55	00.00	240	1b	0.00	2.06	0.00
(0.9 - 0.2Sds) * DL + E 90 deg M1	11.55	00.00	0	1	-0.09	12.89	-0.87
	11.55	00.00	120	1a	-1.80	26.98	0.99
	11.55	00.00	240	1b	-0.29	-1.21	-0.12
(0.9 - 0.2Sds) * DL + E 90 deg M2	11.55	00.00	0	1	-0.04	12.89	-0.87
	11.55	00.00	120	1a	-1.43	22.42	0.80
	11.55	00.00	240	1b	0.08	3.35	0.07
(0.9 - 0.2Sds) * DL + E 120 deg M1	11.55	00.00	0	1	-0.08	4.75	-0.19
	11.55	00.00	120	1a	-1.94	29.16	1.12
	11.55	00.00	240	1b	0.13	4.75	0.16
(0.9 - 0.2Sds) * DL + E 120 deg M2	11.55	00.00	0	1	-0.04	7.47	-0.44
	11.55	00.00	120	1a	-1.51	23.71	0.87
	11.55	00.00	240	1b	0.36	7.47	0.25
(0.9 - 0.2Sds) * DL + E 180 deg M1	11.55	00.00	0	1	0.00	-3.39	0.49
	11.55	00.00	120	1a	-1.31	21.03	0.84
	11.55	00.00	240	1b	1.31	21.03	0.84
(0.9 - 0.2Sds) * DL + E 180 deg M2	11.55	00.00	0	1	0.00	1.88	0.01
	11.55	00.00	120	1a	-1.12	18.39	0.69
	11.55	00.00	240	1b	1.12	18.39	0.69
(0.9 - 0.2Sds) * DL + E 210 deg M1	11.55	00.00	0	1	0.04	-1.21	0.31
	11.55	00.00	120	1a	-0.71	12.89	0.51
	11.55	00.00	240	1b	1.76	26.98	1.06
(0.9 - 0.2Sds) * DL + E 210 deg M2	11.55	00.00	0	1	0.02	3.51	-0.12
	11.55	00.00	120	1a	-0.73	12.89	0.47
	11.55	00.00	240	1b	1.40	22.26	0.83
(0.9 - 0.2Sds) * DL + E 240 deg M1	11.55	00.00	0	1	0.08	4.75	-0.19
	11.55	00.00	120	1a	-0.13	4.75	0.16
	11.55	00.00	240	1b	1.94	29.16	1.12
(0.9 - 0.2Sds) * DL + E 240 deg M2	11.55	00.00	0	1	0.04	7.47	-0.44
	11.55	00.00	120	1a	-0.36	7.47	0.25
	11.55	00.00	240	1b	1.51	23.71	0.87
(0.9 - 0.2Sds) * DL + E 300 deg M1	11.55	00.00	0	1	0.08	21.03	-1.55
	11.55	00.00	120	1a	0.43	-3.39	-0.25
	11.55	00.00	240	1b	1.38	21.03	0.71
(0.9 - 0.2Sds) * DL + E 300 deg M2	11.55	00.00	0	1	0.04	18.30	-1.31
	11.55	00.00	120	1a	0.00	2.06	0.00
	11.55	00.00	240	1b	1.15	18.30	0.62
(0.9 - 0.2Sds) * DL + E 330 deg M1	11.55	00.00	0	1	0.04	26.98	-2.05
	11.55	00.00	120	1a	0.25	-1.21	-0.19
	11.55	00.00	240	1b	0.80	12.89	0.36
(0.9 - 0.2Sds) * DL + E 330 deg M2	11.55	00.00	0	1	0.02	22.26	-1.63
	11.55	00.00	120	1a	-0.11	3.51	0.04
	11.55	00.00	240	1b	0.78	12.89	0.40
1.0D + 1.0W Service Normal	11.55	00.00	0	1	0.00	114.52	-10.94

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	11.55	00.00	120	1a	2.86	-34.30	-2.98
	11.55	00.00	240	1b	-2.86	-34.30	-2.98
1.0D + 1.0W Service 60 deg	11.55	00.00	0	1	-1.08	63.12	-5.77
	11.55	00.00	120	1a	-5.53	62.76	1.95
	11.55	00.00	240	1b	-7.39	-79.95	-4.26
1.0D + 1.0W Service 90 deg	11.55	00.00	0	1	-1.27	15.31	-1.01
	11.55	00.00	120	1a	-8.40	98.53	4.12
	11.55	00.00	240	1b	-6.68	-67.91	-3.11
1.0D + 1.0W Service 120 deg	11.55	00.00	0	1	-1.16	-34.38	3.97
	11.55	00.00	120	1a	-9.48	114.32	5.47
	11.55	00.00	240	1b	-4.01	-34.02	-0.98
1.0D + 1.0W Service 180 deg	11.55	00.00	0	1	0.00	-80.17	8.52
	11.55	00.00	120	1a	-4.46	63.05	3.81
	11.55	00.00	240	1b	4.46	63.05	3.81
1.0D + 1.0W Service 210 deg	11.55	00.00	0	1	0.64	-68.31	7.35
	11.55	00.00	120	1a	-0.25	15.51	1.60
	11.55	00.00	240	1b	7.78	98.72	5.21
1.0D + 1.0W Service 240 deg	11.55	00.00	0	1	1.16	-34.38	3.97
	11.55	00.00	120	1a	4.01	-34.02	-0.98
	11.55	00.00	240	1b	9.48	114.32	5.47
1.0D + 1.0W Service 300 deg	11.55	00.00	0	1	1.08	63.12	-5.77
	11.55	00.00	120	1a	7.39	-79.95	-4.26
	11.55	00.00	240	1b	5.53	62.76	1.95
1.0D + 1.0W Service 330 deg	11.55	00.00	0	1	0.63	98.92	-9.34
	11.55	00.00	120	1a	6.04	-68.10	-4.22
	11.55	00.00	240	1b	1.50	15.10	-0.59

Max Uplift:	413.14(kip)	Moment Ice:	2,115.27 (kip-ft)	Moment:	7,696.30 (kip-ft)	1.2D + 1.6W Normal
Max Down:	462.72(kip)	Total Down Ice:	145.42 (kip)	Total Down:	55.11 (kip)	
Max Shear:	45.35 (kip)	Total Shear Ice:	20.44 (kip)	Total Shear:	75.57 (kip)	

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Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
101 mph Normal with No Ice	13.21	0.017	0.0018	0.1088	0.1088
101 mph Normal with No Ice	80.00	0.379	0.0103	0.5419	0.5419
101 mph Normal with No Ice	86.79	0.444	0.0152	0.5678	0.5680
101 mph Normal with No Ice	126.79	0.938	0.0516	0.8804	0.8819
101 mph Normal with No Ice	133.21	1.034	0.0531	0.8630	0.8646
101 mph Normal with No Ice	166.54	1.606	0.0475	1.1249	1.1254
101 mph Normal with No Ice	173.08	1.731	0.0471	1.0679	1.0689
101 mph Normal with No Ice	185.49	1.971	0.0468	1.2630	1.2638
101 mph Normal with No Ice	190.60	2.068	0.0474	1.0636	1.0636
101 mph 60 degree with No Ice	13.21	0.016	-0.0067	0.1038	0.1040
101 mph 60 degree with No Ice	80.00	0.364	0.0432	0.5199	0.5217
101 mph 60 degree with No Ice	86.79	0.427	0.0522	0.5421	0.5444
101 mph 60 degree with No Ice	126.79	0.900	0.1160	0.7701	0.7755
101 mph 60 degree with No Ice	133.21	0.992	0.1211	0.8341	0.8378
101 mph 60 degree with No Ice	166.54	1.539	0.1396	1.0309	1.0402
101 mph 60 degree with No Ice	173.08	1.657	0.1480	1.0237	1.0285
101 mph 60 degree with No Ice	185.49	1.886	0.1844	0.9484	0.9580
101 mph 60 degree with No Ice	190.60	1.979	0.1910	1.1059	1.1223
101 mph 90 degree with No Ice	13.21	0.016	-0.0093	0.1074	0.1078
101 mph 90 degree with No Ice	80.00	0.367	-0.0585	0.5192	0.5200
101 mph 90 degree with No Ice	86.79	0.430	-0.0676	0.5451	0.5485
101 mph 90 degree with No Ice	126.79	0.906	-0.1295	0.7456	0.7557
101 mph 90 degree with No Ice	133.21	0.998	-0.1338	0.8435	0.8541
101 mph 90 degree with No Ice	166.54	1.547	-0.1343	1.0197	1.0282
101 mph 90 degree with No Ice	173.08	1.667	-0.1342	1.0376	1.0463
101 mph 90 degree with No Ice	185.49	1.897	-0.1342	0.8441	0.8547
101 mph 90 degree with No Ice	190.60	1.990	-0.1342	1.1355	1.1374
101 mph 120 degree with No Ice	13.21	0.017	-0.0096	0.1086	0.1087
101 mph 120 degree with No Ice	80.00	0.378	-0.0642	0.5394	0.5397
101 mph 120 degree with No Ice	86.79	0.442	-0.0749	0.5627	0.5650
101 mph 120 degree with No Ice	126.79	0.932	-0.1482	0.8003	0.8051
101 mph 120 degree with No Ice	133.21	1.027	-0.1545	0.8653	0.8742
101 mph 120 degree with No Ice	166.54	1.593	-0.1766	1.0675	1.0819
101 mph 120 degree with No Ice	173.08	1.716	-0.1857	1.0607	1.0765
101 mph 120 degree with No Ice	185.49	1.954	-0.2236	0.9836	1.0021
101 mph 120 degree with No Ice	190.60	2.050	-0.2299	1.1457	1.1466
101 mph 180 degree with No Ice	13.21	0.016	0.0015	0.1041	0.1041
101 mph 180 degree with No Ice	80.00	0.366	0.0111	0.5224	0.5224
101 mph 180 degree with No Ice	86.79	0.428	0.0162	0.5484	0.5486
101 mph 180 degree with No Ice	126.79	0.906	0.0533	0.8531	0.8548
101 mph 180 degree with No Ice	133.21	0.999	0.0549	0.8337	0.8355
101 mph 180 degree with No Ice	166.54	1.552	0.0496	1.0882	1.0891
101 mph 180 degree with No Ice	173.08	1.672	0.0500	1.0311	1.0323
101 mph 180 degree with No Ice	185.49	1.903	0.0503	1.2271	1.2281
101 mph 180 degree with No Ice	190.60	1.998	0.0497	1.0240	1.0240
101 mph 210 degree with No Ice	13.21	0.016	0.0060	0.1079	0.1079
101 mph 210 degree with No Ice	80.00	0.368	0.0419	0.5226	0.5229
101 mph 210 degree with No Ice	86.79	0.431	0.0492	0.5522	0.5523
101 mph 210 degree with No Ice	126.79	0.912	0.0992	0.8368	0.8382
101 mph 210 degree with No Ice	133.21	1.005	0.1038	0.8460	0.8476
101 mph 210 degree with No Ice	166.54	1.561	0.1252	1.0787	1.0859
101 mph 210 degree with No Ice	173.08	1.682	0.1341	1.0451	1.0478
101 mph 210 degree with No Ice	185.49	1.914	0.1710	1.1592	1.1647
101 mph 210 degree with No Ice	190.60	2.009	0.1771	1.0544	1.0688
101 mph 240 degree with No Ice	13.21	0.017	0.0096	0.1086	0.1087

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101 mph 240 degree with No Ice	80.00	0.378	0.0642	0.5394	0.5397
101 mph 240 degree with No Ice	86.79	0.442	0.0749	0.5627	0.5650
101 mph 240 degree with No Ice	126.79	0.932	0.1482	0.8003	0.8051
101 mph 240 degree with No Ice	133.21	1.027	0.1545	0.8653	0.8742
101 mph 240 degree with No Ice	166.54	1.593	0.1766	1.0675	1.0819
101 mph 240 degree with No Ice	173.08	1.716	0.1857	1.0607	1.0765
101 mph 240 degree with No Ice	185.49	1.954	0.2236	0.9836	1.0021
101 mph 240 degree with No Ice	190.60	2.050	0.2299	1.1457	1.1466
101 mph 300 degree with No Ice	13.21	0.016	0.0067	0.1038	0.1040
101 mph 300 degree with No Ice	80.00	0.364	0.0381	0.5199	0.5217
101 mph 300 degree with No Ice	86.79	0.427	0.0432	0.5421	0.5444
101 mph 300 degree with No Ice	126.79	0.900	0.0779	0.7701	0.7755
101 mph 300 degree with No Ice	133.21	0.992	0.0794	0.8341	0.8378
101 mph 300 degree with No Ice	166.54	1.539	0.0591	1.0309	1.0402
101 mph 300 degree with No Ice	173.08	1.657	0.0503	1.0237	1.0285
101 mph 300 degree with No Ice	185.49	1.886	0.0136	0.9484	0.9580
101 mph 300 degree with No Ice	190.60	1.979	0.0076	1.1059	1.1223
101 mph 330 degree with No Ice	13.21	0.016	0.0033	0.1077	0.1079
101 mph 330 degree with No Ice	80.00	0.368	0.0167	0.5228	0.5240
101 mph 330 degree with No Ice	86.79	0.431	0.0186	0.5511	0.5530
101 mph 330 degree with No Ice	126.79	0.912	0.0306	0.8335	0.8388
101 mph 330 degree with No Ice	133.21	1.005	0.0304	0.8431	0.8441
101 mph 330 degree with No Ice	166.54	1.560	0.0099	1.0785	1.0864
101 mph 330 degree with No Ice	173.08	1.682	0.0010	1.0449	1.0465
101 mph 330 degree with No Ice	185.49	1.914	-0.0359	1.1591	1.1630
101 mph 330 degree with No Ice	190.60	2.009	-0.0420	1.0550	1.0697
101 mph Normal with No Ice (Reduced DL)	13.21	0.017	0.0018	0.1087	0.1087
101 mph Normal with No Ice (Reduced DL)	80.00	0.379	0.0103	0.5411	0.5411
101 mph Normal with No Ice (Reduced DL)	86.79	0.444	0.0152	0.5669	0.5671
101 mph Normal with No Ice (Reduced DL)	126.79	0.937	0.0516	0.8788	0.8803
101 mph Normal with No Ice (Reduced DL)	133.21	1.032	0.0532	0.8613	0.8629
101 mph Normal with No Ice (Reduced DL)	166.54	1.603	0.0476	1.1227	1.1231
101 mph Normal with No Ice (Reduced DL)	173.08	1.728	0.0472	1.0656	1.0666
101 mph Normal with No Ice (Reduced DL)	185.49	1.967	0.0468	1.2608	1.2616
101 mph Normal with No Ice (Reduced DL)	190.60	2.065	0.0474	1.0612	1.0612
101 mph 60 deg with No Ice (Reduced DL)	13.21	0.016	-0.0067	0.1038	0.1039
101 mph 60 deg with No Ice (Reduced DL)	80.00	0.364	0.0432	0.5191	0.5209
101 mph 60 deg with No Ice (Reduced DL)	86.79	0.426	0.0522	0.5412	0.5435
101 mph 60 deg with No Ice (Reduced DL)	126.79	0.899	0.1159	0.7686	0.7740
101 mph 60 deg with No Ice (Reduced DL)	133.21	0.990	0.1210	0.8325	0.8363
101 mph 60 deg with No Ice (Reduced DL)	166.54	1.536	0.1394	1.0287	1.0380
101 mph 60 deg with No Ice (Reduced DL)	173.08	1.654	0.1479	1.0218	1.0265
101 mph 60 deg with No Ice (Reduced DL)	185.49	1.883	0.1842	0.9464	0.9560
101 mph 60 deg with No Ice (Reduced DL)	190.60	1.976	0.1907	1.1038	1.1201
101 mph 90 deg with No Ice (Reduced DL)	13.21	0.016	-0.0093	0.1073	0.1077
101 mph 90 deg with No Ice (Reduced DL)	80.00	0.366	-0.0585	0.5184	0.5192
101 mph 90 deg with No Ice (Reduced DL)	86.79	0.429	-0.0676	0.5442	0.5476
101 mph 90 deg with No Ice (Reduced DL)	126.79	0.904	-0.1294	0.7441	0.7543
101 mph 90 deg with No Ice (Reduced DL)	133.21	0.996	-0.1338	0.8419	0.8525
101 mph 90 deg with No Ice (Reduced DL)	166.54	1.545	-0.1342	1.0175	1.0260
101 mph 90 deg with No Ice (Reduced DL)	173.08	1.664	-0.1342	1.0355	1.0442
101 mph 90 deg with No Ice (Reduced DL)	185.49	1.894	-0.1341	0.8420	0.8526
101 mph 90 deg with No Ice (Reduced DL)	190.60	1.987	-0.1341	1.1332	1.1352
101 mph 120 deg with No Ice (Reduced DL)	13.21	0.017	-0.0096	0.1085	0.1086
101 mph 120 deg with No Ice (Reduced DL)	80.00	0.377	-0.0641	0.5385	0.5388
101 mph 120 deg with No Ice (Reduced DL)	86.79	0.442	-0.0749	0.5618	0.5641
101 mph 120 deg with No Ice (Reduced DL)	126.79	0.931	-0.1481	0.7987	0.8036
101 mph 120 deg with No Ice (Reduced DL)	133.21	1.025	-0.1543	0.8637	0.8725
101 mph 120 deg with No Ice (Reduced DL)	166.54	1.590	-0.1764	1.0653	1.0797
101 mph 120 deg with No Ice (Reduced DL)	173.08	1.713	-0.1855	1.0584	1.0742
101 mph 120 deg with No Ice (Reduced DL)	185.49	1.950	-0.2233	0.9814	0.9999
101 mph 120 deg with No Ice (Reduced DL)	190.60	2.046	-0.2296	1.1433	1.1444

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101 mph 180 deg with No Ice (Reduced DL)	13.21	0.016	0.0015	0.1041	0.1041
101 mph 180 deg with No Ice (Reduced DL)	80.00	0.365	0.0111	0.5217	0.5217
101 mph 180 deg with No Ice (Reduced DL)	86.79	0.428	0.0163	0.5475	0.5478
101 mph 180 deg with No Ice (Reduced DL)	126.79	0.905	0.0534	0.8517	0.8533
101 mph 180 deg with No Ice (Reduced DL)	133.21	0.997	0.0550	0.8321	0.8339
101 mph 180 deg with No Ice (Reduced DL)	166.54	1.549	0.0497	1.0860	1.0870
101 mph 180 deg with No Ice (Reduced DL)	173.08	1.669	0.0500	1.0291	1.0303
101 mph 180 deg with No Ice (Reduced DL)	185.49	1.900	0.0503	1.2250	1.2260
101 mph 180 deg with No Ice (Reduced DL)	190.60	1.995	0.0497	1.0218	1.0218
101 mph 210 deg with No Ice (Reduced DL)	13.21	0.016	0.0060	0.1078	0.1079
101 mph 210 deg with No Ice (Reduced DL)	80.00	0.368	0.0419	0.5218	0.5221
101 mph 210 deg with No Ice (Reduced DL)	86.79	0.431	0.0491	0.5513	0.5515
101 mph 210 deg with No Ice (Reduced DL)	126.79	0.910	0.0991	0.8353	0.8367
101 mph 210 deg with No Ice (Reduced DL)	133.21	1.003	0.1037	0.8444	0.8460
101 mph 210 deg with No Ice (Reduced DL)	166.54	1.558	0.1251	1.0765	1.0837
101 mph 210 deg with No Ice (Reduced DL)	173.08	1.679	0.1339	1.0429	1.0457
101 mph 210 deg with No Ice (Reduced DL)	185.49	1.911	0.1708	1.1571	1.1626
101 mph 210 deg with No Ice (Reduced DL)	190.60	2.006	0.1768	1.0521	1.0666
101 mph 240 deg with No Ice (Reduced DL)	13.21	0.017	0.0096	0.1085	0.1086
101 mph 240 deg with No Ice (Reduced DL)	80.00	0.377	0.0641	0.5385	0.5388
101 mph 240 deg with No Ice (Reduced DL)	86.79	0.442	0.0749	0.5618	0.5641
101 mph 240 deg with No Ice (Reduced DL)	126.79	0.931	0.1481	0.7987	0.8036
101 mph 240 deg with No Ice (Reduced DL)	133.21	1.025	0.1543	0.8637	0.8725
101 mph 240 deg with No Ice (Reduced DL)	166.54	1.590	0.1764	1.0653	1.0797
101 mph 240 deg with No Ice (Reduced DL)	173.08	1.713	0.1855	1.0584	1.0742
101 mph 240 deg with No Ice (Reduced DL)	185.49	1.950	0.2233	0.9814	0.9999
101 mph 240 deg with No Ice (Reduced DL)	190.60	2.046	0.2296	1.1433	1.1444
101 mph 300 deg with No Ice (Reduced DL)	13.21	0.016	0.0067	0.1038	0.1039
101 mph 300 deg with No Ice (Reduced DL)	80.00	0.364	0.0380	0.5191	0.5209
101 mph 300 deg with No Ice (Reduced DL)	86.79	0.426	0.0432	0.5412	0.5435
101 mph 300 deg with No Ice (Reduced DL)	126.79	0.899	0.0779	0.7686	0.7740
101 mph 300 deg with No Ice (Reduced DL)	133.21	0.990	0.0794	0.8325	0.8363
101 mph 300 deg with No Ice (Reduced DL)	166.54	1.536	0.0591	1.0287	1.0380
101 mph 300 deg with No Ice (Reduced DL)	173.08	1.654	0.0503	1.0218	1.0265
101 mph 300 deg with No Ice (Reduced DL)	185.49	1.883	0.0138	0.9464	0.9560
101 mph 300 deg with No Ice (Reduced DL)	190.60	1.976	0.0078	1.1038	1.1201
101 mph 330 deg with No Ice (Reduced DL)	13.21	0.016	0.0033	0.1077	0.1078
101 mph 330 deg with No Ice (Reduced DL)	80.00	0.368	0.0167	0.5220	0.5233
101 mph 330 deg with No Ice (Reduced DL)	86.79	0.431	0.0186	0.5502	0.5521
101 mph 330 deg with No Ice (Reduced DL)	126.79	0.910	0.0306	0.8320	0.8373
101 mph 330 deg with No Ice (Reduced DL)	133.21	1.003	0.0305	0.8415	0.8425
101 mph 330 deg with No Ice (Reduced DL)	166.54	1.558	0.0100	1.0763	1.0842
101 mph 330 deg with No Ice (Reduced DL)	173.08	1.679	0.0011	1.0427	1.0443
101 mph 330 deg with No Ice (Reduced DL)	185.49	1.911	-0.0357	1.1570	1.1609
101 mph 330 deg with No Ice (Reduced DL)	190.60	2.006	-0.0418	1.0527	1.0675
50 mph Normal with 0.75 in Radial Ice	13.21	0.006	0.0005	0.0330	0.0330
50 mph Normal with 0.75 in Radial Ice	80.00	0.105	0.0025	0.1496	0.1496
50 mph Normal with 0.75 in Radial Ice	86.79	0.123	0.0038	0.1566	0.1567
50 mph Normal with 0.75 in Radial Ice	126.79	0.258	0.0133	0.2414	0.2418
50 mph Normal with 0.75 in Radial Ice	133.21	0.285	0.0137	0.2384	0.2388
50 mph Normal with 0.75 in Radial Ice	166.54	0.442	0.0121	0.3087	0.3088
50 mph Normal with 0.75 in Radial Ice	173.08	0.477	0.0120	0.2973	0.2975
50 mph Normal with 0.75 in Radial Ice	185.49	0.544	0.0118	0.3748	0.3750
50 mph Normal with 0.75 in Radial Ice	190.60	0.571	0.0118	0.2838	0.2838
50 mph 60 deg with 0.75 in Radial Ice	13.21	0.006	-0.0021	0.0321	0.0321
50 mph 60 deg with 0.75 in Radial Ice	80.00	0.103	-0.0128	0.1462	0.1465
50 mph 60 deg with 0.75 in Radial Ice	86.79	0.121	-0.0147	0.1526	0.1530
50 mph 60 deg with 0.75 in Radial Ice	126.79	0.253	-0.0275	0.2166	0.2172
50 mph 60 deg with 0.75 in Radial Ice	133.21	0.279	-0.0284	0.2339	0.2352
50 mph 60 deg with 0.75 in Radial Ice	166.54	0.432	-0.0266	0.2922	0.2934
50 mph 60 deg with 0.75 in Radial Ice	173.08	0.466	0.0274	0.2871	0.2881
50 mph 60 deg with 0.75 in Radial Ice	185.49	0.531	0.0313	0.2601	0.2608

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50 mph 60 deg with 0.75 in Radial Ice	190.60	0.557	0.0319	0.3197	0.3213
50 mph 90 deg with 0.75 in Radial Ice	13.21	0.006	-0.0026	0.0326	0.0326
50 mph 90 deg with 0.75 in Radial Ice	80.00	0.104	-0.0159	0.1455	0.1457
50 mph 90 deg with 0.75 in Radial Ice	86.79	0.121	-0.0184	0.1526	0.1535
50 mph 90 deg with 0.75 in Radial Ice	126.79	0.254	-0.0348	0.2095	0.2117
50 mph 90 deg with 0.75 in Radial Ice	133.21	0.279	-0.0361	0.2355	0.2383
50 mph 90 deg with 0.75 in Radial Ice	166.54	0.433	-0.0362	0.2887	0.2900
50 mph 90 deg with 0.75 in Radial Ice	173.08	0.467	-0.0362	0.2900	0.2923
50 mph 90 deg with 0.75 in Radial Ice	185.49	0.531	-0.0361	0.2120	0.2151
50 mph 90 deg with 0.75 in Radial Ice	190.60	0.558	-0.0360	0.3331	0.3335
50 mph 120 deg with 0.75 in Radial Ice	13.21	0.006	-0.0023	0.0330	0.0330
50 mph 120 deg with 0.75 in Radial Ice	80.00	0.104	-0.0148	0.1490	0.1491
50 mph 120 deg with 0.75 in Radial Ice	86.79	0.122	-0.0172	0.1551	0.1556
50 mph 120 deg with 0.75 in Radial Ice	126.79	0.257	-0.0329	0.2205	0.2211
50 mph 120 deg with 0.75 in Radial Ice	133.21	0.283	-0.0342	0.2385	0.2401
50 mph 120 deg with 0.75 in Radial Ice	166.54	0.439	-0.0363	0.2962	0.2983
50 mph 120 deg with 0.75 in Radial Ice	173.08	0.473	-0.0372	0.2935	0.2957
50 mph 120 deg with 0.75 in Radial Ice	185.49	0.539	-0.0412	0.2646	0.2648
50 mph 120 deg with 0.75 in Radial Ice	190.60	0.566	-0.0417	0.3261	0.3263
50 mph 180 deg with 0.75 in Radial Ice	13.21	0.006	0.0005	0.0321	0.0321
50 mph 180 deg with 0.75 in Radial Ice	80.00	0.104	0.0026	0.1468	0.1468
50 mph 180 deg with 0.75 in Radial Ice	86.79	0.121	0.0039	0.1542	0.1542
50 mph 180 deg with 0.75 in Radial Ice	126.79	0.255	0.0135	0.2377	0.2381
50 mph 180 deg with 0.75 in Radial Ice	133.21	0.281	0.0139	0.2341	0.2345
50 mph 180 deg with 0.75 in Radial Ice	166.54	0.435	0.0124	0.3047	0.3047
50 mph 180 deg with 0.75 in Radial Ice	173.08	0.470	0.0124	0.2909	0.2912
50 mph 180 deg with 0.75 in Radial Ice	185.49	0.535	0.0122	0.3699	0.3701
50 mph 180 deg with 0.75 in Radial Ice	190.60	0.562	0.0121	0.2775	0.2775
50 mph 210 deg with 0.75 in Radial Ice	13.21	0.006	0.0014	0.0327	0.0327
50 mph 210 deg with 0.75 in Radial Ice	80.00	0.104	0.0089	0.1465	0.1465
50 mph 210 deg with 0.75 in Radial Ice	86.79	0.122	0.0104	0.1545	0.1545
50 mph 210 deg with 0.75 in Radial Ice	126.79	0.255	0.0200	0.2325	0.2326
50 mph 210 deg with 0.75 in Radial Ice	133.21	0.281	0.0209	0.2365	0.2366
50 mph 210 deg with 0.75 in Radial Ice	166.54	0.436	0.0229	0.3018	0.3026
50 mph 210 deg with 0.75 in Radial Ice	173.08	0.471	0.0238	0.2942	0.2943
50 mph 210 deg with 0.75 in Radial Ice	185.49	0.536	0.0277	0.3410	0.3412
50 mph 210 deg with 0.75 in Radial Ice	190.60	0.563	0.0283	0.2927	0.2929
50 mph 240 deg with 0.75 in Radial Ice	13.21	0.006	0.0023	0.0330	0.0330
50 mph 240 deg with 0.75 in Radial Ice	80.00	0.104	0.0148	0.1490	0.1491
50 mph 240 deg with 0.75 in Radial Ice	86.79	0.122	0.0172	0.1551	0.1556
50 mph 240 deg with 0.75 in Radial Ice	126.79	0.257	0.0329	0.2205	0.2211
50 mph 240 deg with 0.75 in Radial Ice	133.21	0.283	0.0342	0.2385	0.2401
50 mph 240 deg with 0.75 in Radial Ice	166.54	0.439	0.0363	0.2962	0.2983
50 mph 240 deg with 0.75 in Radial Ice	173.08	0.473	0.0372	0.2935	0.2957
50 mph 240 deg with 0.75 in Radial Ice	185.49	0.539	0.0412	0.2646	0.2648
50 mph 240 deg with 0.75 in Radial Ice	190.60	0.566	0.0417	0.3261	0.3263
50 mph 300 deg with 0.75 in Radial Ice	13.21	0.006	0.0021	0.0321	0.0321
50 mph 300 deg with 0.75 in Radial Ice	80.00	0.103	0.0128	0.1462	0.1465
50 mph 300 deg with 0.75 in Radial Ice	86.79	0.121	0.0147	0.1526	0.1530
50 mph 300 deg with 0.75 in Radial Ice	126.79	0.253	0.0275	0.2166	0.2172
50 mph 300 deg with 0.75 in Radial Ice	133.21	0.279	0.0284	0.2339	0.2352
50 mph 300 deg with 0.75 in Radial Ice	166.54	0.432	0.0266	0.2922	0.2934
50 mph 300 deg with 0.75 in Radial Ice	173.08	0.466	0.0257	0.2871	0.2881
50 mph 300 deg with 0.75 in Radial Ice	185.49	0.531	0.0216	0.2601	0.2608
50 mph 300 deg with 0.75 in Radial Ice	190.60	0.557	0.0209	0.3197	0.3213
50 mph 330 deg with 0.75 in Radial Ice	13.21	0.006	0.0012	0.0326	0.0327
50 mph 330 deg with 0.75 in Radial Ice	80.00	0.104	0.0070	0.1462	0.1464
50 mph 330 deg with 0.75 in Radial Ice	86.79	0.122	0.0080	0.1544	0.1545
50 mph 330 deg with 0.75 in Radial Ice	126.79	0.255	0.0148	0.2323	0.2327
50 mph 330 deg with 0.75 in Radial Ice	133.21	0.281	0.0152	0.2363	0.2363
50 mph 330 deg with 0.75 in Radial Ice	166.54	0.436	0.0134	0.3017	0.3027
50 mph 330 deg with 0.75 in Radial Ice	173.08	0.471	0.0124	0.2942	0.2942

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50 mph 330 deg with 0.75 in Radial Ice	185.49	0.536	0.0084	0.3412	0.3413
50 mph 330 deg with 0.75 in Radial Ice	190.60	0.563	0.0077	0.2928	0.2929
Seismic Normal M1	13.21	0.001	0.0001	0.0036	0.0036
Seismic Normal M1	80.00	0.014	0.0007	0.0214	0.0214
Seismic Normal M1	86.79	0.017	0.0008	0.0228	0.0228
Seismic Normal M1	126.79	0.037	0.0011	0.0352	0.0352
Seismic Normal M1	133.21	0.041	0.0012	0.0377	0.0378
Seismic Normal M1	166.54	0.067	0.0012	0.0510	0.0510
Seismic Normal M1	173.08	0.073	0.0011	0.0502	0.0502
Seismic Normal M1	185.49	0.084	0.0010	0.0487	0.0487
Seismic Normal M1	190.60	0.088	0.0009	0.0524	0.0524
Seismic Normal M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic Normal M2	80.00	0.010	0.0005	0.0147	0.0147
Seismic Normal M2	86.79	0.011	0.0005	0.0160	0.0160
Seismic Normal M2	126.79	0.026	0.0008	0.0265	0.0265
Seismic Normal M2	133.21	0.029	0.0008	0.0287	0.0287
Seismic Normal M2	166.54	0.050	0.0008	0.0421	0.0421
Seismic Normal M2	173.08	0.054	0.0008	0.0410	0.0410
Seismic Normal M2	185.49	0.064	0.0007	0.0397	0.0397
Seismic Normal M2	190.60	0.067	0.0007	0.0439	0.0439
Seismic 60 deg M1	13.21	0.000	0.0001	0.0035	0.0035
Seismic 60 deg M1	80.00	0.014	-0.0007	0.0213	0.0213
Seismic 60 deg M1	86.79	0.017	-0.0008	0.0228	0.0228
Seismic 60 deg M1	126.79	0.037	-0.0011	0.0352	0.0352
Seismic 60 deg M1	133.21	0.041	-0.0011	0.0375	0.0375
Seismic 60 deg M1	166.54	0.067	-0.0011	0.0507	0.0507
Seismic 60 deg M1	173.08	0.073	-0.0011	0.0499	0.0500
Seismic 60 deg M1	185.49	0.084	-0.0010	0.0491	0.0491
Seismic 60 deg M1	190.60	0.088	-0.0009	0.0524	0.0524
Seismic 60 deg M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic 60 deg M2	80.00	0.009	-0.0004	0.0144	0.0144
Seismic 60 deg M2	86.79	0.011	-0.0005	0.0157	0.0157
Seismic 60 deg M2	126.79	0.026	-0.0008	0.0261	0.0261
Seismic 60 deg M2	133.21	0.029	-0.0008	0.0280	0.0280
Seismic 60 deg M2	166.54	0.049	-0.0008	0.0411	0.0411
Seismic 60 deg M2	173.08	0.053	-0.0007	0.0401	0.0401
Seismic 60 deg M2	185.49	0.063	-0.0006	0.0395	0.0395
Seismic 60 deg M2	190.60	0.066	-0.0006	0.0431	0.0431
Seismic 90 deg M1	13.21	0.001	-0.0002	0.0036	0.0036
Seismic 90 deg M1	80.00	0.014	-0.0008	0.0212	0.0212
Seismic 90 deg M1	86.79	0.017	-0.0009	0.0228	0.0228
Seismic 90 deg M1	126.79	0.037	-0.0013	0.0352	0.0352
Seismic 90 deg M1	133.21	0.041	-0.0013	0.0378	0.0378
Seismic 90 deg M1	166.54	0.067	-0.0013	0.0508	0.0509
Seismic 90 deg M1	173.08	0.073	-0.0012	0.0507	0.0507
Seismic 90 deg M1	185.49	0.084	-0.0011	0.0492	0.0492
Seismic 90 deg M1	190.60	0.088	-0.0011	0.0524	0.0524
Seismic 90 deg M2	13.21	0.000	-0.0001	0.0024	0.0024
Seismic 90 deg M2	80.00	0.010	-0.0005	0.0146	0.0146
Seismic 90 deg M2	86.79	0.011	-0.0006	0.0160	0.0160
Seismic 90 deg M2	126.79	0.026	-0.0009	0.0265	0.0266
Seismic 90 deg M2	133.21	0.029	-0.0009	0.0287	0.0288
Seismic 90 deg M2	166.54	0.050	-0.0009	0.0419	0.0419
Seismic 90 deg M2	173.08	0.054	-0.0009	0.0415	0.0415
Seismic 90 deg M2	185.49	0.064	-0.0008	0.0403	0.0403
Seismic 90 deg M2	190.60	0.067	-0.0008	0.0439	0.0439
Seismic 120 deg M1	13.21	0.001	0.0001	0.0036	0.0036
Seismic 120 deg M1	80.00	0.014	-0.0007	0.0214	0.0214
Seismic 120 deg M1	86.79	0.017	-0.0008	0.0228	0.0228
Seismic 120 deg M1	126.79	0.037	-0.0011	0.0352	0.0352
Seismic 120 deg M1	133.21	0.041	-0.0012	0.0377	0.0378
Seismic 120 deg M1	166.54	0.067	-0.0011	0.0510	0.0510

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Seismic 120 deg M1	173.08	0.073	-0.0011	0.0502	0.0502
Seismic 120 deg M1	185.49	0.084	-0.0010	0.0487	0.0487
Seismic 120 deg M1	190.60	0.088	-0.0009	0.0524	0.0524
Seismic 120 deg M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic 120 deg M2	80.00	0.009	-0.0004	0.0145	0.0145
Seismic 120 deg M2	86.79	0.011	-0.0005	0.0157	0.0157
Seismic 120 deg M2	126.79	0.026	-0.0008	0.0261	0.0261
Seismic 120 deg M2	133.21	0.029	-0.0008	0.0282	0.0283
Seismic 120 deg M2	166.54	0.049	-0.0008	0.0414	0.0414
Seismic 120 deg M2	173.08	0.054	-0.0007	0.0403	0.0403
Seismic 120 deg M2	185.49	0.063	-0.0006	0.0391	0.0391
Seismic 120 deg M2	190.60	0.066	-0.0006	0.0432	0.0432
Seismic 180 deg M1	13.21	0.000	0.0001	0.0035	0.0035
Seismic 180 deg M1	80.00	0.014	0.0007	0.0213	0.0213
Seismic 180 deg M1	86.79	0.017	0.0008	0.0228	0.0228
Seismic 180 deg M1	126.79	0.037	0.0011	0.0352	0.0352
Seismic 180 deg M1	133.21	0.041	0.0012	0.0375	0.0375
Seismic 180 deg M1	166.54	0.067	0.0012	0.0507	0.0507
Seismic 180 deg M1	173.08	0.073	0.0011	0.0499	0.0500
Seismic 180 deg M1	185.49	0.084	0.0010	0.0491	0.0491
Seismic 180 deg M1	190.60	0.088	0.0009	0.0524	0.0524
Seismic 180 deg M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic 180 deg M2	80.00	0.010	0.0005	0.0146	0.0146
Seismic 180 deg M2	86.79	0.011	0.0005	0.0160	0.0160
Seismic 180 deg M2	126.79	0.026	0.0008	0.0265	0.0265
Seismic 180 deg M2	133.21	0.029	0.0008	0.0285	0.0285
Seismic 180 deg M2	166.54	0.050	0.0008	0.0417	0.0417
Seismic 180 deg M2	173.08	0.054	0.0008	0.0407	0.0407
Seismic 180 deg M2	185.49	0.064	0.0007	0.0401	0.0401
Seismic 180 deg M2	190.60	0.067	0.0007	0.0439	0.0439
Seismic 210 deg M1	13.21	0.001	0.0001	0.0036	0.0036
Seismic 210 deg M1	80.00	0.014	0.0004	0.0212	0.0212
Seismic 210 deg M1	86.79	0.017	0.0005	0.0228	0.0228
Seismic 210 deg M1	126.79	0.037	0.0007	0.0352	0.0352
Seismic 210 deg M1	133.21	0.041	0.0007	0.0378	0.0378
Seismic 210 deg M1	166.54	0.067	0.0007	0.0508	0.0509
Seismic 210 deg M1	173.08	0.073	0.0007	0.0507	0.0507
Seismic 210 deg M1	185.49	0.084	0.0006	0.0492	0.0493
Seismic 210 deg M1	190.60	0.088	0.0006	0.0524	0.0524
Seismic 210 deg M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic 210 deg M2	80.00	0.009	0.0003	0.0144	0.0144
Seismic 210 deg M2	86.79	0.011	0.0003	0.0157	0.0157
Seismic 210 deg M2	126.79	0.026	0.0005	0.0261	0.0261
Seismic 210 deg M2	133.21	0.029	0.0005	0.0283	0.0283
Seismic 210 deg M2	166.54	0.049	0.0005	0.0412	0.0412
Seismic 210 deg M2	173.08	0.053	0.0004	0.0408	0.0409
Seismic 210 deg M2	185.49	0.063	0.0004	0.0397	0.0397
Seismic 210 deg M2	190.60	0.066	0.0004	0.0431	0.0431
Seismic 240 deg M1	13.21	0.001	0.0001	0.0036	0.0036
Seismic 240 deg M1	80.00	0.014	0.0007	0.0214	0.0214
Seismic 240 deg M1	86.79	0.017	0.0008	0.0228	0.0228
Seismic 240 deg M1	126.79	0.037	0.0011	0.0352	0.0352
Seismic 240 deg M1	133.21	0.041	0.0012	0.0377	0.0378
Seismic 240 deg M1	166.54	0.067	0.0011	0.0510	0.0510
Seismic 240 deg M1	173.08	0.073	0.0011	0.0502	0.0502
Seismic 240 deg M1	185.49	0.084	0.0010	0.0487	0.0487
Seismic 240 deg M1	190.60	0.088	0.0009	0.0524	0.0524
Seismic 240 deg M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic 240 deg M2	80.00	0.009	0.0004	0.0145	0.0145
Seismic 240 deg M2	86.79	0.011	0.0005	0.0157	0.0157
Seismic 240 deg M2	126.79	0.026	0.0008	0.0261	0.0261
Seismic 240 deg M2	133.21	0.029	0.0008	0.0282	0.0283

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Seismic 240 deg M2	166.54	0.049	0.0008	0.0414	0.0414
Seismic 240 deg M2	173.08	0.054	0.0007	0.0403	0.0403
Seismic 240 deg M2	185.49	0.063	0.0006	0.0391	0.0391
Seismic 240 deg M2	190.60	0.066	0.0006	0.0432	0.0432
Seismic 300 deg M1	13.21	0.000	0.0001	0.0035	0.0035
Seismic 300 deg M1	80.00	0.014	0.0007	0.0213	0.0213
Seismic 300 deg M1	86.79	0.017	0.0008	0.0228	0.0228
Seismic 300 deg M1	126.79	0.037	0.0011	0.0352	0.0352
Seismic 300 deg M1	133.21	0.041	0.0011	0.0375	0.0375
Seismic 300 deg M1	166.54	0.067	0.0011	0.0507	0.0507
Seismic 300 deg M1	173.08	0.073	0.0011	0.0499	0.0500
Seismic 300 deg M1	185.49	0.084	0.0010	0.0491	0.0491
Seismic 300 deg M1	190.60	0.088	0.0009	0.0524	0.0524
Seismic 300 deg M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic 300 deg M2	80.00	0.009	0.0004	0.0144	0.0144
Seismic 300 deg M2	86.79	0.011	0.0005	0.0157	0.0157
Seismic 300 deg M2	126.79	0.026	0.0008	0.0261	0.0261
Seismic 300 deg M2	133.21	0.029	0.0008	0.0280	0.0280
Seismic 300 deg M2	166.54	0.049	0.0008	0.0411	0.0411
Seismic 300 deg M2	173.08	0.053	0.0007	0.0401	0.0401
Seismic 300 deg M2	185.49	0.063	0.0006	0.0395	0.0395
Seismic 300 deg M2	190.60	0.066	0.0006	0.0431	0.0431
Seismic 330 deg M1	13.21	0.001	0.0001	0.0036	0.0036
Seismic 330 deg M1	80.00	0.014	0.0004	0.0212	0.0212
Seismic 330 deg M1	86.79	0.017	0.0005	0.0228	0.0228
Seismic 330 deg M1	126.79	0.037	0.0007	0.0352	0.0353
Seismic 330 deg M1	133.21	0.041	0.0007	0.0378	0.0379
Seismic 330 deg M1	166.54	0.067	0.0007	0.0508	0.0509
Seismic 330 deg M1	173.08	0.073	0.0007	0.0507	0.0507
Seismic 330 deg M1	185.49	0.084	0.0006	0.0492	0.0492
Seismic 330 deg M1	190.60	0.088	0.0006	0.0524	0.0525
Seismic 330 deg M2	13.21	0.000	0.0001	0.0024	0.0024
Seismic 330 deg M2	80.00	0.009	0.0003	0.0144	0.0144
Seismic 330 deg M2	86.79	0.011	0.0003	0.0157	0.0157
Seismic 330 deg M2	126.79	0.026	0.0005	0.0261	0.0261
Seismic 330 deg M2	133.21	0.029	0.0005	0.0283	0.0283
Seismic 330 deg M2	166.54	0.049	0.0005	0.0412	0.0412
Seismic 330 deg M2	173.08	0.053	0.0004	0.0408	0.0409
Seismic 330 deg M2	185.49	0.063	0.0004	0.0397	0.0397
Seismic 330 deg M2	190.60	0.066	0.0003	0.0431	0.0431
Seismic (Reduced DL) Normal M1	13.21	0.001	0.0001	0.0036	0.0036
Seismic (Reduced DL) Normal M1	80.00	0.014	0.0007	0.0213	0.0213
Seismic (Reduced DL) Normal M1	86.79	0.017	0.0008	0.0227	0.0227
Seismic (Reduced DL) Normal M1	126.79	0.037	0.0011	0.0351	0.0352
Seismic (Reduced DL) Normal M1	133.21	0.041	0.0012	0.0376	0.0376
Seismic (Reduced DL) Normal M1	166.54	0.067	0.0012	0.0508	0.0508
Seismic (Reduced DL) Normal M1	173.08	0.073	0.0011	0.0500	0.0500
Seismic (Reduced DL) Normal M1	185.49	0.084	0.0010	0.0487	0.0487
Seismic (Reduced DL) Normal M1	190.60	0.088	0.0009	0.0523	0.0523
Seismic (Reduced DL) Normal M2	13.21	0.000	0.0001	0.0023	0.0023
Seismic (Reduced DL) Normal M2	80.00	0.010	0.0005	0.0147	0.0147
Seismic (Reduced DL) Normal M2	86.79	0.011	0.0005	0.0159	0.0159
Seismic (Reduced DL) Normal M2	126.79	0.026	0.0008	0.0265	0.0265
Seismic (Reduced DL) Normal M2	133.21	0.029	0.0008	0.0286	0.0286
Seismic (Reduced DL) Normal M2	166.54	0.050	0.0008	0.0419	0.0419
Seismic (Reduced DL) Normal M2	173.08	0.054	0.0008	0.0408	0.0408
Seismic (Reduced DL) Normal M2	185.49	0.064	0.0007	0.0397	0.0397
Seismic (Reduced DL) Normal M2	190.60	0.067	0.0007	0.0438	0.0438
Seismic (Reduced DL) 60 deg M1	13.21	0.000	0.0001	0.0034	0.0034
Seismic (Reduced DL) 60 deg M1	80.00	0.014	-0.0007	0.0212	0.0212
Seismic (Reduced DL) 60 deg M1	86.79	0.017	-0.0008	0.0227	0.0227
Seismic (Reduced DL) 60 deg M1	126.79	0.037	-0.0011	0.0351	0.0351

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Seismic (Reduced DL) 60 deg M1	133.21	0.041	-0.0011	0.0375	0.0375
Seismic (Reduced DL) 60 deg M1	166.54	0.067	-0.0011	0.0506	0.0506
Seismic (Reduced DL) 60 deg M1	173.08	0.072	-0.0011	0.0499	0.0499
Seismic (Reduced DL) 60 deg M1	185.49	0.084	-0.0010	0.0490	0.0490
Seismic (Reduced DL) 60 deg M1	190.60	0.088	-0.0009	0.0523	0.0523
Seismic (Reduced DL) 60 deg M2	13.21	0.000	0.0001	0.0023	0.0023
Seismic (Reduced DL) 60 deg M2	80.00	0.009	-0.0004	0.0143	0.0143
Seismic (Reduced DL) 60 deg M2	86.79	0.011	-0.0005	0.0157	0.0157
Seismic (Reduced DL) 60 deg M2	126.79	0.026	-0.0007	0.0260	0.0260
Seismic (Reduced DL) 60 deg M2	133.21	0.029	-0.0008	0.0280	0.0280
Seismic (Reduced DL) 60 deg M2	166.54	0.049	-0.0008	0.0410	0.0410
Seismic (Reduced DL) 60 deg M2	173.08	0.053	-0.0007	0.0400	0.0400
Seismic (Reduced DL) 60 deg M2	185.49	0.063	-0.0006	0.0393	0.0394
Seismic (Reduced DL) 60 deg M2	190.60	0.066	-0.0006	0.0430	0.0430
Seismic (Reduced DL) 90 deg M1	13.21	0.001	-0.0002	0.0035	0.0035
Seismic (Reduced DL) 90 deg M1	80.00	0.014	-0.0008	0.0211	0.0211
Seismic (Reduced DL) 90 deg M1	86.79	0.017	-0.0009	0.0227	0.0228
Seismic (Reduced DL) 90 deg M1	126.79	0.037	-0.0013	0.0351	0.0352
Seismic (Reduced DL) 90 deg M1	133.21	0.041	-0.0013	0.0377	0.0378
Seismic (Reduced DL) 90 deg M1	166.54	0.067	-0.0013	0.0507	0.0507
Seismic (Reduced DL) 90 deg M1	173.08	0.073	-0.0012	0.0505	0.0506
Seismic (Reduced DL) 90 deg M1	185.49	0.084	-0.0011	0.0491	0.0491
Seismic (Reduced DL) 90 deg M1	190.60	0.088	-0.0011	0.0523	0.0523
Seismic (Reduced DL) 90 deg M2	13.21	0.000	-0.0001	0.0023	0.0023
Seismic (Reduced DL) 90 deg M2	80.00	0.010	-0.0005	0.0146	0.0146
Seismic (Reduced DL) 90 deg M2	86.79	0.011	-0.0006	0.0160	0.0160
Seismic (Reduced DL) 90 deg M2	126.79	0.026	-0.0009	0.0265	0.0265
Seismic (Reduced DL) 90 deg M2	133.21	0.029	-0.0009	0.0287	0.0287
Seismic (Reduced DL) 90 deg M2	166.54	0.050	-0.0009	0.0417	0.0417
Seismic (Reduced DL) 90 deg M2	173.08	0.054	-0.0009	0.0414	0.0414
Seismic (Reduced DL) 90 deg M2	185.49	0.064	-0.0008	0.0402	0.0402
Seismic (Reduced DL) 90 deg M2	190.60	0.067	-0.0008	0.0437	0.0437
Seismic (Reduced DL) 120 deg M1	13.21	0.001	0.0001	0.0036	0.0036
Seismic (Reduced DL) 120 deg M1	80.00	0.014	-0.0007	0.0213	0.0213
Seismic (Reduced DL) 120 deg M1	86.79	0.017	-0.0008	0.0227	0.0227
Seismic (Reduced DL) 120 deg M1	126.79	0.037	-0.0011	0.0351	0.0352
Seismic (Reduced DL) 120 deg M1	133.21	0.041	-0.0011	0.0376	0.0376
Seismic (Reduced DL) 120 deg M1	166.54	0.067	-0.0011	0.0508	0.0508
Seismic (Reduced DL) 120 deg M1	173.08	0.073	-0.0011	0.0500	0.0500
Seismic (Reduced DL) 120 deg M1	185.49	0.084	-0.0010	0.0487	0.0487
Seismic (Reduced DL) 120 deg M1	190.60	0.088	-0.0009	0.0523	0.0523
Seismic (Reduced DL) 120 deg M2	13.21	0.000	0.0001	0.0023	0.0023
Seismic (Reduced DL) 120 deg M2	80.00	0.009	-0.0004	0.0144	0.0144
Seismic (Reduced DL) 120 deg M2	86.79	0.011	-0.0005	0.0157	0.0157
Seismic (Reduced DL) 120 deg M2	126.79	0.026	-0.0007	0.0260	0.0261
Seismic (Reduced DL) 120 deg M2	133.21	0.029	-0.0008	0.0282	0.0282
Seismic (Reduced DL) 120 deg M2	166.54	0.049	-0.0008	0.0413	0.0413
Seismic (Reduced DL) 120 deg M2	173.08	0.053	-0.0007	0.0402	0.0402
Seismic (Reduced DL) 120 deg M2	185.49	0.062	-0.0006	0.0391	0.0391
Seismic (Reduced DL) 120 deg M2	190.60	0.066	-0.0006	0.0431	0.0431
Seismic (Reduced DL) 180 deg M1	13.21	0.000	0.0001	0.0034	0.0034
Seismic (Reduced DL) 180 deg M1	80.00	0.014	0.0007	0.0212	0.0212
Seismic (Reduced DL) 180 deg M1	86.79	0.017	0.0008	0.0227	0.0227
Seismic (Reduced DL) 180 deg M1	126.79	0.037	0.0011	0.0351	0.0351
Seismic (Reduced DL) 180 deg M1	133.21	0.041	0.0012	0.0375	0.0375
Seismic (Reduced DL) 180 deg M1	166.54	0.067	0.0012	0.0506	0.0506
Seismic (Reduced DL) 180 deg M1	173.08	0.072	0.0011	0.0499	0.0499
Seismic (Reduced DL) 180 deg M1	185.49	0.084	0.0010	0.0490	0.0490
Seismic (Reduced DL) 180 deg M1	190.60	0.088	0.0009	0.0523	0.0523
Seismic (Reduced DL) 180 deg M2	13.21	0.000	0.0001	0.0023	0.0023
Seismic (Reduced DL) 180 deg M2	80.00	0.010	0.0005	0.0146	0.0146
Seismic (Reduced DL) 180 deg M2	86.79	0.011	0.0005	0.0159	0.0160

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Seismic (Reduced DL) 180 deg M2	126.79	0.026	0.0008	0.0264	0.0265
Seismic (Reduced DL) 180 deg M2	133.21	0.029	0.0008	0.0285	0.0285
Seismic (Reduced DL) 180 deg M2	166.54	0.050	0.0008	0.0417	0.0417
Seismic (Reduced DL) 180 deg M2	173.08	0.054	0.0008	0.0407	0.0407
Seismic (Reduced DL) 180 deg M2	185.49	0.064	0.0007	0.0400	0.0400
Seismic (Reduced DL) 180 deg M2	190.60	0.067	0.0007	0.0438	0.0438
Seismic (Reduced DL) 210 deg M1	13.21	0.001	0.0001	0.0035	0.0035
Seismic (Reduced DL) 210 deg M1	80.00	0.014	0.0004	0.0211	0.0211
Seismic (Reduced DL) 210 deg M1	86.79	0.017	0.0005	0.0227	0.0228
Seismic (Reduced DL) 210 deg M1	126.79	0.037	0.0007	0.0351	0.0352
Seismic (Reduced DL) 210 deg M1	133.21	0.041	0.0007	0.0377	0.0378
Seismic (Reduced DL) 210 deg M1	166.54	0.067	0.0007	0.0507	0.0507
Seismic (Reduced DL) 210 deg M1	173.08	0.073	0.0007	0.0505	0.0506
Seismic (Reduced DL) 210 deg M1	185.49	0.084	0.0006	0.0491	0.0491
Seismic (Reduced DL) 210 deg M1	190.60	0.088	0.0006	0.0523	0.0523
Seismic (Reduced DL) 210 deg M2	13.21	0.000	0.0001	0.0023	0.0023
Seismic (Reduced DL) 210 deg M2	80.00	0.009	0.0003	0.0143	0.0143
Seismic (Reduced DL) 210 deg M2	86.79	0.011	0.0003	0.0157	0.0157
Seismic (Reduced DL) 210 deg M2	126.79	0.026	0.0005	0.0261	0.0261
Seismic (Reduced DL) 210 deg M2	133.21	0.029	0.0005	0.0282	0.0282
Seismic (Reduced DL) 210 deg M2	166.54	0.049	0.0005	0.0411	0.0411
Seismic (Reduced DL) 210 deg M2	173.08	0.053	0.0004	0.0408	0.0408
Seismic (Reduced DL) 210 deg M2	185.49	0.062	0.0004	0.0396	0.0396
Seismic (Reduced DL) 210 deg M2	190.60	0.066	0.0003	0.0430	0.0430
Seismic (Reduced DL) 240 deg M1	13.21	0.001	0.0001	0.0036	0.0036
Seismic (Reduced DL) 240 deg M1	80.00	0.014	0.0007	0.0213	0.0213
Seismic (Reduced DL) 240 deg M1	86.79	0.017	0.0008	0.0227	0.0227
Seismic (Reduced DL) 240 deg M1	126.79	0.037	0.0011	0.0351	0.0352
Seismic (Reduced DL) 240 deg M1	133.21	0.041	0.0011	0.0376	0.0376
Seismic (Reduced DL) 240 deg M1	166.54	0.067	0.0011	0.0508	0.0508
Seismic (Reduced DL) 240 deg M1	173.08	0.073	0.0011	0.0500	0.0500
Seismic (Reduced DL) 240 deg M1	185.49	0.084	0.0010	0.0487	0.0487
Seismic (Reduced DL) 240 deg M1	190.60	0.088	0.0009	0.0523	0.0523
Seismic (Reduced DL) 240 deg M2	13.21	0.000	0.0001	0.0023	0.0023
Seismic (Reduced DL) 240 deg M2	80.00	0.009	0.0004	0.0144	0.0144
Seismic (Reduced DL) 240 deg M2	86.79	0.011	0.0005	0.0157	0.0157
Seismic (Reduced DL) 240 deg M2	126.79	0.026	0.0007	0.0260	0.0261
Seismic (Reduced DL) 240 deg M2	133.21	0.029	0.0008	0.0282	0.0282
Seismic (Reduced DL) 240 deg M2	166.54	0.049	0.0008	0.0413	0.0413
Seismic (Reduced DL) 240 deg M2	173.08	0.053	0.0007	0.0402	0.0402
Seismic (Reduced DL) 240 deg M2	185.49	0.062	0.0006	0.0391	0.0391
Seismic (Reduced DL) 240 deg M2	190.60	0.066	0.0006	0.0431	0.0431
Seismic (Reduced DL) 300 deg M1	13.21	0.000	0.0001	0.0034	0.0034
Seismic (Reduced DL) 300 deg M1	80.00	0.014	0.0007	0.0212	0.0212
Seismic (Reduced DL) 300 deg M1	86.79	0.017	0.0008	0.0227	0.0227
Seismic (Reduced DL) 300 deg M1	126.79	0.037	0.0011	0.0351	0.0351
Seismic (Reduced DL) 300 deg M1	133.21	0.041	0.0011	0.0375	0.0375
Seismic (Reduced DL) 300 deg M1	166.54	0.067	0.0011	0.0506	0.0506
Seismic (Reduced DL) 300 deg M1	173.08	0.072	0.0011	0.0499	0.0499
Seismic (Reduced DL) 300 deg M1	185.49	0.084	0.0010	0.0490	0.0490
Seismic (Reduced DL) 300 deg M1	190.60	0.088	0.0009	0.0523	0.0523
Seismic (Reduced DL) 300 deg M2	13.21	0.000	0.0001	0.0023	0.0023
Seismic (Reduced DL) 300 deg M2	80.00	0.009	0.0004	0.0143	0.0143
Seismic (Reduced DL) 300 deg M2	86.79	0.011	0.0005	0.0157	0.0157
Seismic (Reduced DL) 300 deg M2	126.79	0.026	0.0007	0.0260	0.0260
Seismic (Reduced DL) 300 deg M2	133.21	0.029	0.0008	0.0280	0.0280
Seismic (Reduced DL) 300 deg M2	166.54	0.049	0.0008	0.0410	0.0410
Seismic (Reduced DL) 300 deg M2	173.08	0.053	0.0007	0.0400	0.0400
Seismic (Reduced DL) 300 deg M2	185.49	0.063	0.0006	0.0393	0.0394
Seismic (Reduced DL) 300 deg M2	190.60	0.066	0.0006	0.0430	0.0430
Seismic (Reduced DL) 330 deg M1	13.21	0.001	0.0001	0.0035	0.0035
Seismic (Reduced DL) 330 deg M1	80.00	0.014	0.0004	0.0211	0.0211

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Seismic (Reduced DL) 330 deg M1	86.79	0.017	0.0005	0.0227	0.0228
Seismic (Reduced DL) 330 deg M1	126.79	0.037	0.0007	0.0351	0.0352
Seismic (Reduced DL) 330 deg M1	133.21	0.041	0.0007	0.0377	0.0378
Seismic (Reduced DL) 330 deg M1	166.54	0.067	0.0007	0.0507	0.0507
Seismic (Reduced DL) 330 deg M1	173.08	0.073	0.0007	0.0505	0.0506
Seismic (Reduced DL) 330 deg M1	185.49	0.084	0.0006	0.0491	0.0491
Seismic (Reduced DL) 330 deg M1	190.60	0.088	0.0006	0.0523	0.0523
Seismic (Reduced DL) 330 deg M2	13.21	0.000	0.0001	0.0023	0.0023
Seismic (Reduced DL) 330 deg M2	80.00	0.009	0.0003	0.0143	0.0143
Seismic (Reduced DL) 330 deg M2	86.79	0.011	0.0003	0.0157	0.0157
Seismic (Reduced DL) 330 deg M2	126.79	0.026	0.0005	0.0261	0.0261
Seismic (Reduced DL) 330 deg M2	133.21	0.029	0.0005	0.0282	0.0282
Seismic (Reduced DL) 330 deg M2	166.54	0.049	0.0005	0.0411	0.0411
Seismic (Reduced DL) 330 deg M2	173.08	0.053	0.0004	0.0408	0.0408
Seismic (Reduced DL) 330 deg M2	185.49	0.062	0.0004	0.0396	0.0396
Seismic (Reduced DL) 330 deg M2	190.60	0.066	0.0003	0.0430	0.0430
Serviceability - 60 mph Wind Normal	13.21	0.004	0.0004	0.0244	0.0244
Serviceability - 60 mph Wind Normal	80.00	0.085	0.0022	0.1209	0.1209
Serviceability - 60 mph Wind Normal	86.79	0.099	0.0033	0.1266	0.1267
Serviceability - 60 mph Wind Normal	126.79	0.209	0.0113	0.1959	0.1962
Serviceability - 60 mph Wind Normal	133.21	0.231	0.0116	0.1921	0.1925
Serviceability - 60 mph Wind Normal	166.54	0.358	0.0102	0.2496	0.2498
Serviceability - 60 mph Wind Normal	173.08	0.385	0.0101	0.2373	0.2376
Serviceability - 60 mph Wind Normal	185.49	0.439	0.0098	0.2802	0.2804
Serviceability - 60 mph Wind Normal	190.60	0.460	0.0098	0.2362	0.2362
Serviceability - 60 mph Wind 60 deg	13.21	0.004	-0.0017	0.0232	0.0232
Serviceability - 60 mph Wind 60 deg	80.00	0.081	-0.0106	0.1162	0.1165
Serviceability - 60 mph Wind 60 deg	86.79	0.095	-0.0122	0.1212	0.1216
Serviceability - 60 mph Wind 60 deg	126.79	0.201	-0.0230	0.1720	0.1722
Serviceability - 60 mph Wind 60 deg	133.21	0.221	-0.0237	0.1860	0.1872
Serviceability - 60 mph Wind 60 deg	166.54	0.343	-0.0227	0.2294	0.2303
Serviceability - 60 mph Wind 60 deg	173.08	0.370	-0.0221	0.2275	0.2286
Serviceability - 60 mph Wind 60 deg	185.49	0.421	0.0225	0.2107	0.2110
Serviceability - 60 mph Wind 60 deg	190.60	0.441	0.0227	0.2457	0.2467
Serviceability - 60 mph Wind 90 deg	13.21	0.004	-0.0021	0.0241	0.0241
Serviceability - 60 mph Wind 90 deg	80.00	0.082	-0.0130	0.1161	0.1163
Serviceability - 60 mph Wind 90 deg	86.79	0.096	-0.0150	0.1218	0.1226
Serviceability - 60 mph Wind 90 deg	126.79	0.202	-0.0286	0.1665	0.1687
Serviceability - 60 mph Wind 90 deg	133.21	0.223	-0.0296	0.1881	0.1905
Serviceability - 60 mph Wind 90 deg	166.54	0.346	-0.0295	0.2270	0.2288
Serviceability - 60 mph Wind 90 deg	173.08	0.372	-0.0295	0.2309	0.2328
Serviceability - 60 mph Wind 90 deg	185.49	0.423	-0.0293	0.1882	0.1905
Serviceability - 60 mph Wind 90 deg	190.60	0.444	-0.0292	0.2526	0.2531
Serviceability - 60 mph Wind 120 deg	13.21	0.004	-0.0019	0.0244	0.0244
Serviceability - 60 mph Wind 120 deg	80.00	0.085	-0.0120	0.1206	0.1207
Serviceability - 60 mph Wind 120 deg	86.79	0.099	-0.0139	0.1256	0.1260
Serviceability - 60 mph Wind 120 deg	126.79	0.208	-0.0267	0.1783	0.1788
Serviceability - 60 mph Wind 120 deg	133.21	0.230	-0.0276	0.1928	0.1942
Serviceability - 60 mph Wind 120 deg	166.54	0.356	-0.0286	0.2375	0.2392
Serviceability - 60 mph Wind 120 deg	173.08	0.383	-0.0290	0.2363	0.2380
Serviceability - 60 mph Wind 120 deg	185.49	0.436	-0.0307	0.2187	0.2193
Serviceability - 60 mph Wind 120 deg	190.60	0.457	-0.0309	0.2549	0.2552
Serviceability - 60 mph Wind 180 deg	13.21	0.004	0.0004	0.0232	0.0232
Serviceability - 60 mph Wind 180 deg	80.00	0.082	0.0024	0.1166	0.1166
Serviceability - 60 mph Wind 180 deg	86.79	0.096	0.0035	0.1223	0.1224
Serviceability - 60 mph Wind 180 deg	126.79	0.202	0.0115	0.1897	0.1901
Serviceability - 60 mph Wind 180 deg	133.21	0.223	0.0119	0.1855	0.1858
Serviceability - 60 mph Wind 180 deg	166.54	0.345	0.0105	0.2416	0.2416
Serviceability - 60 mph Wind 180 deg	173.08	0.372	0.0104	0.2286	0.2289
Serviceability - 60 mph Wind 180 deg	185.49	0.424	0.0102	0.2720	0.2722
Serviceability - 60 mph Wind 180 deg	190.60	0.445	0.0100	0.2270	0.2270
Serviceability - 60 mph Wind 210 deg	13.21	0.004	0.0011	0.0242	0.0242

Site Number: 311305

Code:

ANSI/TIA-222-G

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Site Name: GLFD-GUILFORD REBUILD CT, CT

Engineering Number: OAA737984_C3_01

8/3/2018 2:56:42 PM

Customer: AT&T MOBILITY

Serviceability - 60 mph Wind 210 deg	80.00	0.082	0.0071	0.1169	0.1170
Serviceability - 60 mph Wind 210 deg	86.79	0.096	0.0082	0.1233	0.1233
Serviceability - 60 mph Wind 210 deg	126.79	0.204	0.0159	0.1862	0.1863
Serviceability - 60 mph Wind 210 deg	133.21	0.224	0.0165	0.1884	0.1885
Serviceability - 60 mph Wind 210 deg	166.54	0.348	0.0174	0.2399	0.2406
Serviceability - 60 mph Wind 210 deg	173.08	0.375	0.0178	0.2325	0.2325
Serviceability - 60 mph Wind 210 deg	185.49	0.427	0.0194	0.2573	0.2574
Serviceability - 60 mph Wind 210 deg	190.60	0.448	0.0196	0.2347	0.2352
Serviceability - 60 mph Wind 240 deg	13.21	0.004	0.0019	0.0244	0.0244
Serviceability - 60 mph Wind 240 deg	80.00	0.085	0.0120	0.1206	0.1207
Serviceability - 60 mph Wind 240 deg	86.79	0.099	0.0139	0.1256	0.1260
Serviceability - 60 mph Wind 240 deg	126.79	0.208	0.0267	0.1783	0.1788
Serviceability - 60 mph Wind 240 deg	133.21	0.230	0.0276	0.1928	0.1942
Serviceability - 60 mph Wind 240 deg	166.54	0.356	0.0286	0.2375	0.2392
Serviceability - 60 mph Wind 240 deg	173.08	0.383	0.0290	0.2363	0.2380
Serviceability - 60 mph Wind 240 deg	185.49	0.436	0.0307	0.2187	0.2193
Serviceability - 60 mph Wind 240 deg	190.60	0.457	0.0309	0.2549	0.2552
Serviceability - 60 mph Wind 300 deg	13.21	0.004	0.0017	0.0232	0.0232
Serviceability - 60 mph Wind 300 deg	80.00	0.081	0.0106	0.1162	0.1165
Serviceability - 60 mph Wind 300 deg	86.79	0.095	0.0122	0.1212	0.1216
Serviceability - 60 mph Wind 300 deg	126.79	0.201	0.0230	0.1720	0.1722
Serviceability - 60 mph Wind 300 deg	133.21	0.221	0.0237	0.1860	0.1872
Serviceability - 60 mph Wind 300 deg	166.54	0.343	0.0227	0.2294	0.2303
Serviceability - 60 mph Wind 300 deg	173.08	0.370	0.0221	0.2275	0.2286
Serviceability - 60 mph Wind 300 deg	185.49	0.421	0.0201	0.2107	0.2110
Serviceability - 60 mph Wind 300 deg	190.60	0.441	0.0198	0.2457	0.2467
Serviceability - 60 mph Wind 330 deg	13.21	0.004	0.0010	0.0241	0.0242
Serviceability - 60 mph Wind 330 deg	80.00	0.082	0.0059	0.1168	0.1170
Serviceability - 60 mph Wind 330 deg	86.79	0.096	0.0067	0.1232	0.1233
Serviceability - 60 mph Wind 330 deg	126.79	0.204	0.0126	0.1861	0.1862
Serviceability - 60 mph Wind 330 deg	133.21	0.224	0.0130	0.1883	0.1883
Serviceability - 60 mph Wind 330 deg	166.54	0.348	0.0119	0.2399	0.2407
Serviceability - 60 mph Wind 330 deg	173.08	0.375	0.0115	0.2325	0.2325
Serviceability - 60 mph Wind 330 deg	185.49	0.427	0.0096	0.2574	0.2574
Serviceability - 60 mph Wind 330 deg	190.60	0.448	0.0093	0.2348	0.2351

PROJECT INFORMATION

SCOPE OF WORK:

ITEMS TO BE MOUNTED ON THE EXISTING TOWER:

•NEW AT&T ANTENNAS: (HPA-65R-BUU-H4) (TYP. OF 1 PER SECTOR, TOTAL OF 3).

•NEW AT&T RRUS: 4426 B66 (AWS) @ POS. 1 (TYP. OF 1 PER SECTOR, TOTAL OF 3).

•EXISTING RRUS-32 (WCS) (TYP. OF 1 PER SECTOR, TOTAL OF 3)

(TO BE RELOCATED TO POS. 2)

•EXISTING RRUS-32 B2 (PCS) @ POS 1 (TYP. OF 1 PER SECTOR, TOTAL OF 3)

(TO BE RELOCATED TO POS. 3)

•EXISTING AT&T ANTENNA (SBNHH-1D65A) (TYP. OF 1 PER SECTOR, TOTAL OF 3)

(TO BE RELOCATED TO POS. 2)

ITEMS TO BE MOUNTED AT EQUIPMENT LOCATION:

•NEW AT&T SURGE ARRESTORS (TSXDC-4310FM) (TOTAL OF 20)

•NEW AT&T RRUS: 4478 B5 (850) (TOTAL OF 3)

•NEW AT&T RRUS: B14 4478 (700) (TOTAL OF 2).

•INSTALL 6601 (TOTAL OF 2)

•SWAP (2) DUS WITH (2) 5216

•REPLACE IDL2 WITH IDLE

ITEMS TO REMAIN:

•(9) ANTENNAS, (6) RRU'S, (9) TMA'S, (12) COAX CABLES, (4) DC POWER &

(2) FIBER.

SITE ADDRESS:

10 TANNER MARSH ROAD
GUILFORD, CT 06437

LATITUDE:

41.288694 N, 41° 17' 19.3" N

LONGITUDE:

72.658249 W, 72° 39' 29.7" W

TYPE OF SITE:

SELF SUPPORT TOWER/ OUTDOOR EQUIPMENT

STRUCTURE HEIGHT:

190.6'±

RAD CENTER:

167'±

CURRENT USE:

TELECOMMUNICATIONS FACILITY

PROPOSED USE:

TELECOMMUNICATIONS FACILITY

DRAWING INDEX		
SHEET NO.	DESCRIPTION	REV.
T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLANS	1
A-2	ANTENNA LAYOUTS & ELEVATION	1
A-3	DETAILS	1
RF-1	RF PLUMBING DIAGRAM	1
G-1	GROUNDING DETAILS	1

ATC SITE NAME: GUILFORD REBUILD CT

ATC SITE #: 311305

HUDSON

Design Group LLC

45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845

TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE

COMMUNICATIONS

750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT2017

SITE NAME: GUILFORD

ATC SITE #: 311305

10 TANNER MARSH ROAD
GUILFORD, CT 06437
NEW HAVEN COUNTY

at&t

550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

1	08/20/18	ISSUED FOR CONSTRUCTION	AM	AT	DJC
A	08/17/18	ISSUED FOR REVIEW	AM	AT	DJC
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: AM		

STATE OF CONNECTICUT
DEREK J. CREASER
PROFESSIONAL ENGINEER
08.20.2018

AT&T

TITLE SHEET
(LTE 5C_6C_5G)

SITE NUMBER

DRAWING NUMBER

REV

CT2017

T-1

1

at&t

SITE NUMBER: CT2017

SITE NAME: GUILFORD

FA CODE:10034980

PACE ID: MRCTB032302, MRCTB032206, MRCTB032223

PROJECT: LTE 5C_6C_5G 2018 UPGRADE

VICINITY MAP

DIRECTIONS TO SITE:

DEPART ENTERPRISE DR TOWARD CAPITOL BLVD. 0.1 MI. TURN LEFT ONTO CAPITOL BLVD. 0.3 MI. TURN LEFT ONTO WEST ST. 0.3 MI. TAKE RAMP LEFT FOR I-91 S. 28.9 MI. TAKE RAMP LEFT FOR I-95 NORTH TOWARD NEW LONDON. 13.8 MI. AT EXIT 59, TAKE RAMP RIGHT AND FOLLOW SIGNS FOR GOOSE LANE. 0.2 MI. TURN RIGHT ONTO SOUNDVIEW RD, AND THEN IMMEDIATELY TURN LEFT ONTO US-1 / BOSTON POST RD. 0.3 MI. TURN LEFT ONTO TANNER MARSH RD. 105 FT. ARRIVE AT SITE ON THE LEFT.

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.

2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.

3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T MOBILITY REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

4. CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.

72 HOURS

CALL

BEFORE YOU DIG

CALL TOLL FREE 1-800-922-4455

OR CALL 811

UNDERGROUND SERVICE ALERT

HUDSON

Design Group LLC

45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845

TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE

COMMUNICATIONS

750 WEST CENTER STREET., SUITE #301
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at&t

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1	08/20/18	ISSUED FOR CONSTRUCTION	AM	AT	DJC
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NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: AT	DRAWN BY: AM		

STATE OF CONNECTICUT
DEREK J. CREASER
PROFESSIONAL ENGINEER
08.20.2018

AT&T

TITLE SHEET
(LTE 5C_6C_5G)

SITE NUMBER

DRAWING NUMBER

REV

CT2017

T-1

1

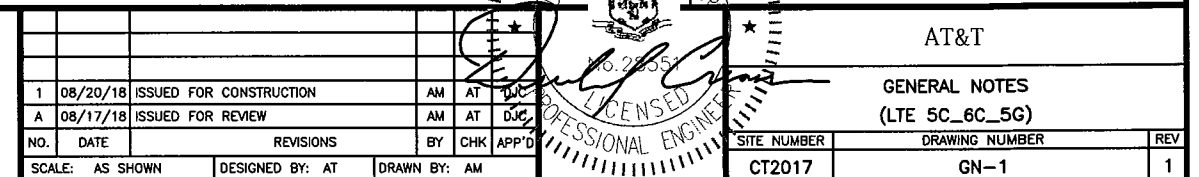
1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/2 IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50

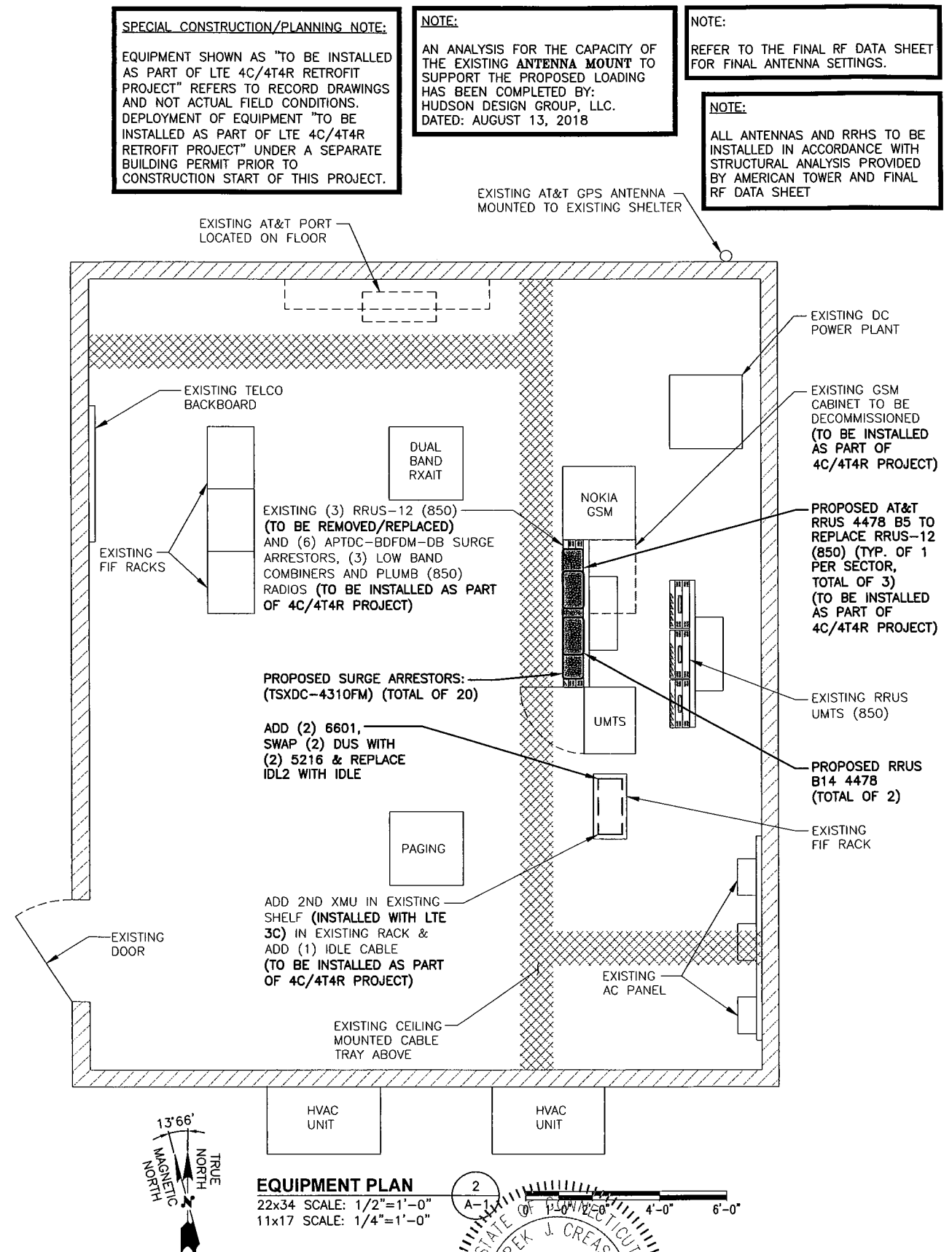
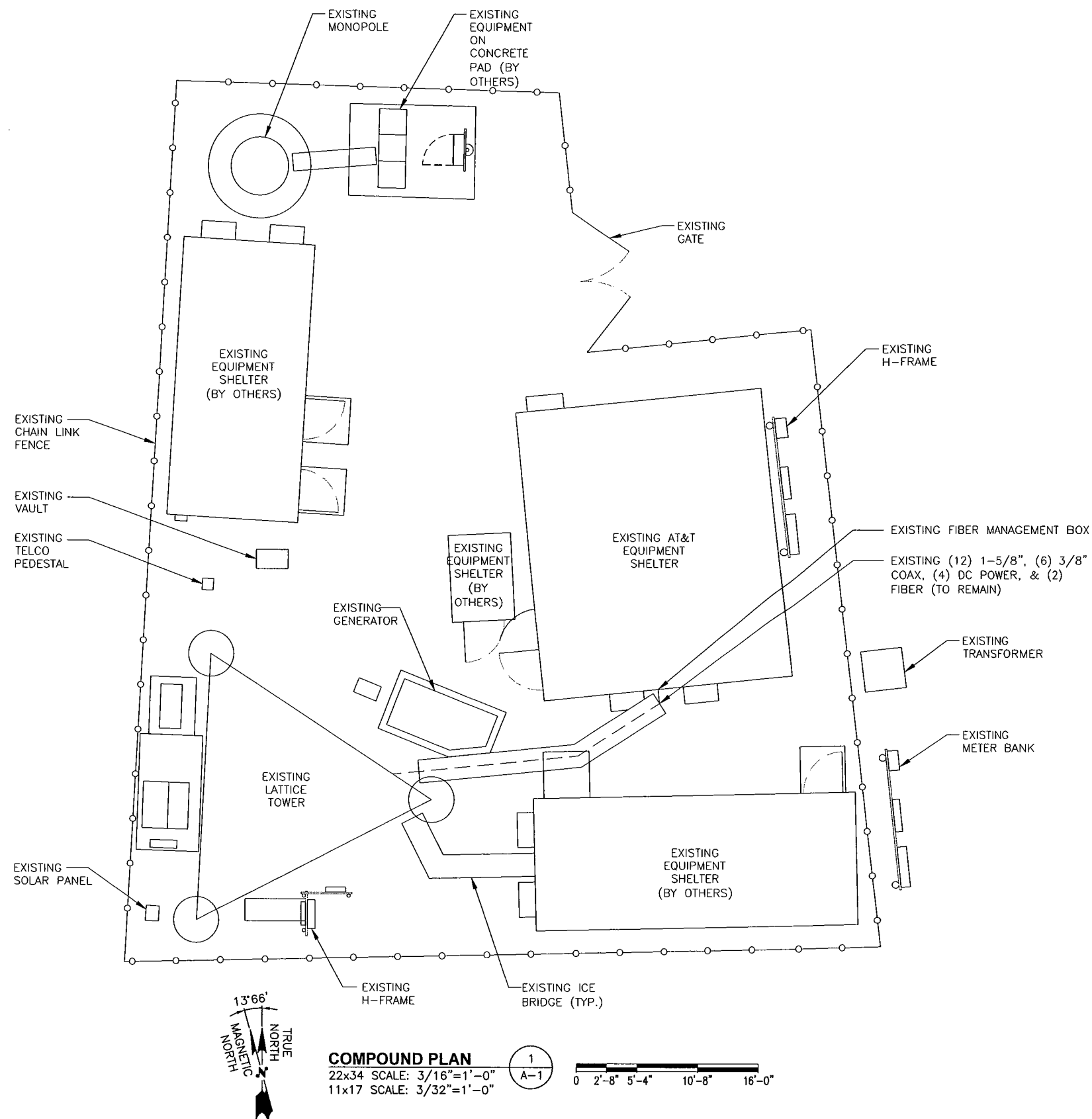
1. FOR THE PURPOSE OF THE CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR - CENTERLINE
SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
OWNER - AT&T MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.

14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 ($F_y = 36$ ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E ($F_y = 36$ ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:
SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS					
AGL	ABOVE GRADE LEVEL	EQ	EQUAL	REQ	REQUIRED
AWG	AMERICAN WIRE GAUGE	GC	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
BBU	BATTERY BACKUP UNIT	GRC	GALVANIZED RIGID CONDUIT	TBD	TO BE DETERMINED
BTCW	BARE TINNED SOLID COPPER WIRE	MGB	MASTER GROUND BAR	TBR	TO BE REMOVED
BGR	BURIED GROUND RING	MIN	MINIMUM	TBRR	TO BE REMOVED AND REPLACED
BTS	BASE TRANSCEIVER STATION	P	PROPOSED	TYP	TYPICAL
E	EXISTING	NTS	NOT TO SCALE	UG	UNDER GROUND
EGB	EQUIPMENT GROUND BAR	RAD	RADIATION CENTER LINE (ANTENNA)	VIF	VERIFY IN FIELD
EGR	EQUIPMENT GROUND RING	REF	REFERENCE		



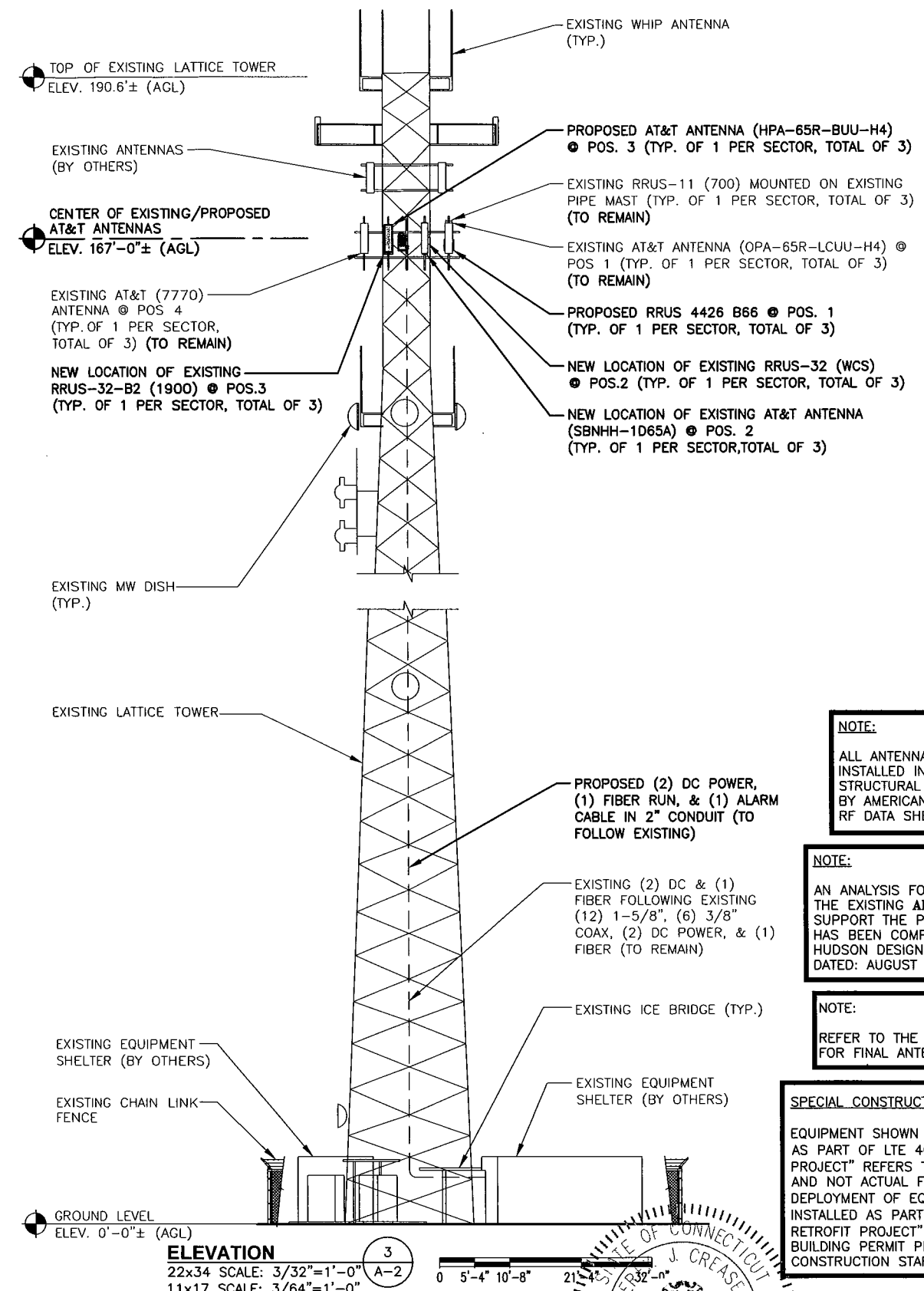
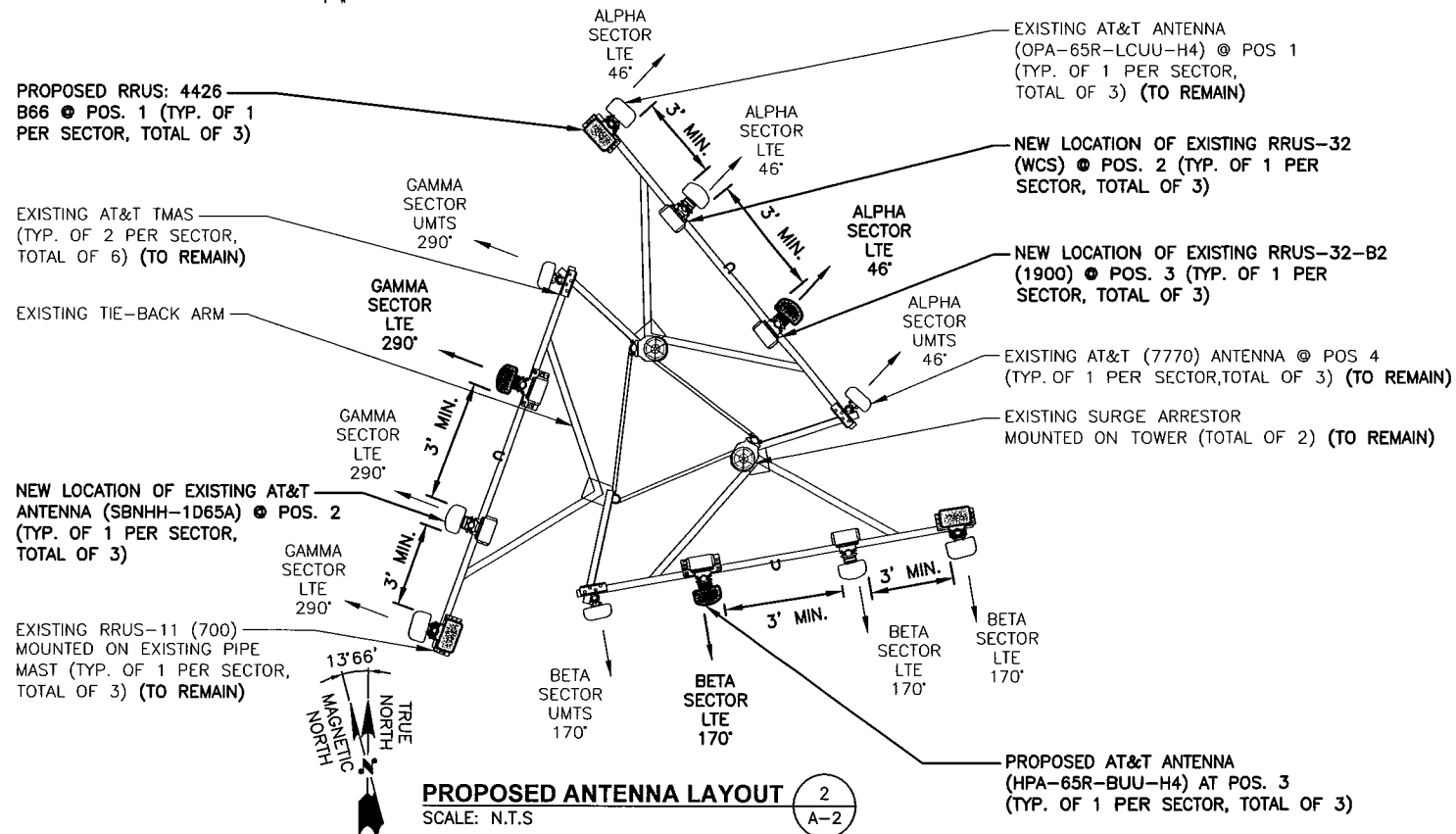
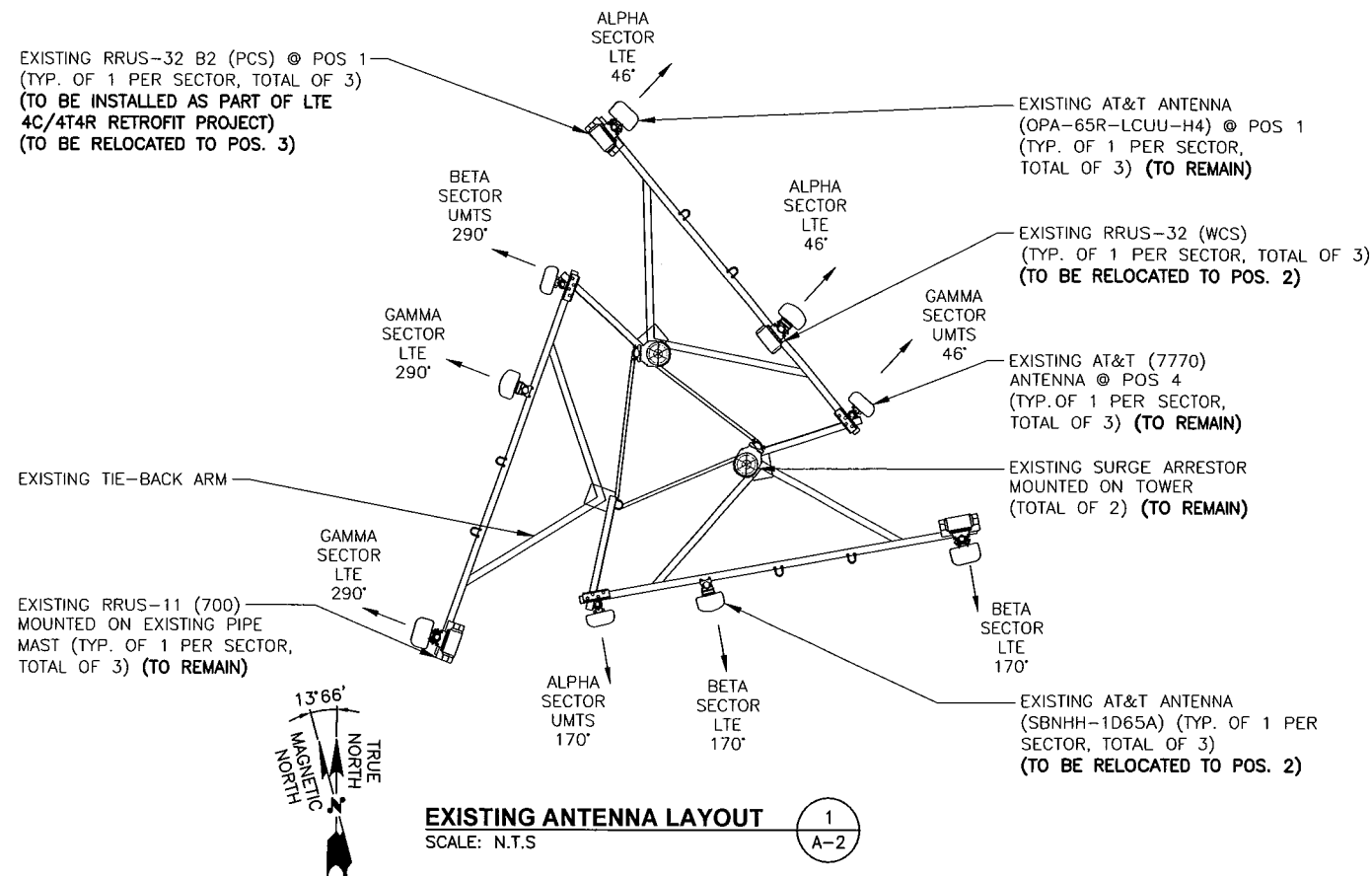


750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

SITE NUMBER: CT2017
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10 TANNER MARSH ROAD
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NEW HAVEN COUNTY



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NOTE:

ALL ANTENNAS AND RRHS TO BE
INSTALLED IN ACCORDANCE WITH
STRUCTURAL ANALYSIS PROVIDED
BY AMERICAN TOWER AND FINAL
RF DATA SHEET

NOTE:

AN ANALYSIS FOR THE CAPACITY OF
THE EXISTING ANTENNA MOUNT TO
SUPPORT THE PROPOSED LOADING
HAS BEEN COMPLETED BY:
HUDSON DESIGN GROUP, LLC.
DATED: AUGUST 13, 2018

NOTE:

REFER TO THE FINAL RF DATA SHEET
FOR FINAL ANTENNA SETTINGS.

SPECIAL CONSTRUCTION/PLANNING NOTE:

EQUIPMENT SHOWN AS "TO BE INSTALLED
AS PART OF LTE 4C/4T4R RETROFIT
PROJECT" REFERS TO RECORD DRAWINGS
AND NOT ACTUAL FIELD CONDITIONS.
DEPLOYMENT OF EQUIPMENT "TO BE
INSTALLED AS PART OF LTE 4C/4T4R
RETROFIT PROJECT" UNDER A SEPARATE
BUILDING PERMIT PRIOR TO
CONSTRUCTION START OF THIS PROJECT.

HDG HUDSON
Design Group LLC

45 BEECHWOOD DRIVE
NORTH ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

CENTERLINE
COMMUNICATIONS

750 WEST CENTER STREET., SUITE #301
WEST BRIDGEWATER, MA 02379

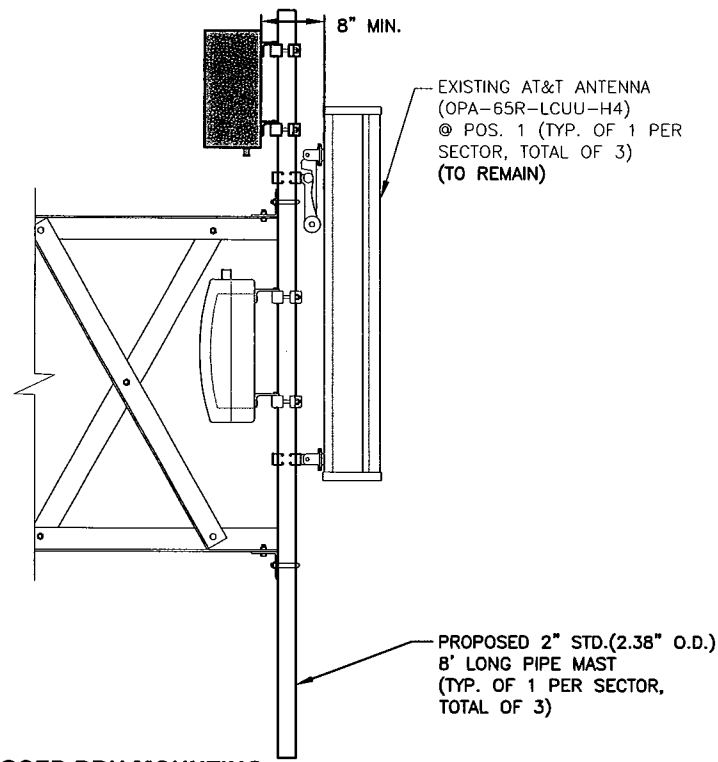
SITE NUMBER: CT2017
SITE NAME: GUILFORD
ATC SITE #: 311305

10 TANNER MARSH ROAD
GUILFORD, CT 06437
NEW HAVEN COUNTY

at&t

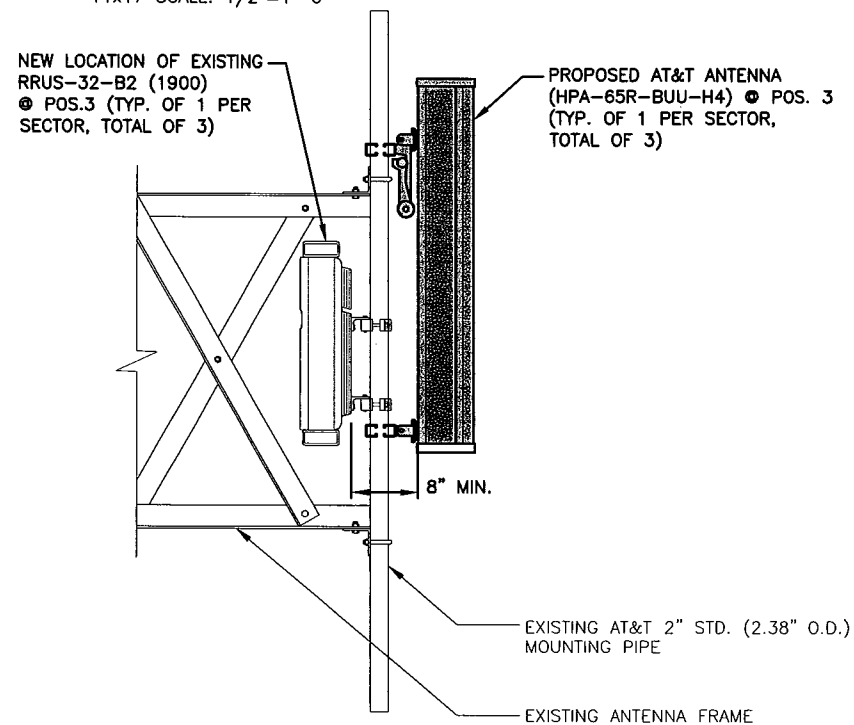
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

AT&T				ANTENNA LAYOUT & ELEVATION (LTE 5C_6C_5G)			
NO.	DATE	REVISIONS	BY	CHK	APP'D	SITE NUMBER	DRAWING NUMBER
1	08/20/18	ISSUED FOR CONSTRUCTION	AM	AT		CT2017	A-2
A	08/17/18	ISSUED FOR REVIEW	AM	AT			
SCALE: AS SHOWN				DESIGNED BY: AT			
				DRAWN BY: AM			
				REV			
				1			



PROPOSED RRH MOUNTING DETAIL @ POS. 1

22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"



PROPOSED LTE ANTENNA & RRH MOUNTING DETAIL @ POS. 3

22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"

ANTENNA SCHEDULE											
SECTOR	EXISTING/PROPOSED	BAND	ANTENNA	SIZE (INCHES) (L x W x D)	ANTENNA HEIGHT	AZIMUTH	TMA/DIPLEXER	RRU	SIZE (INCHES) (L x W x D)	FEEDER	RAYCAP
A1	EXISTING	700 BC/AWS	OPA-65R-LCUU-H4	48x14.4x7.3	±167'	46°	--	(E) (1) RRUS-11 (700) (P) (1) 4426 B66 (AWS)	15x13.2x7.4	--	--
A2	EXISTING	LTE WCS/850/700 B14	SBNHH-1D65A	55x11.9x7.1	±167'	46°	(1)(E)(G) DBC0061F1V51-2	(P) (G) B14 4478 (700) (P) (G) 4478 B5 (850) (E) RRUS-32 (WCS)	15x13.2x7.4 15x13.2x7.4	(2) 1-5/8 COAX (LENGTH 220' ±)	(E) (1) RAYCAP DC6-48-60-18-8C
A3	PROPOSED	LTE PCS	HPA-65R-BUU-H4	48x14.8x9	±167'	46°	--	(E) RRUS-32 B2 (1900)	--	--	
A4	EXISTING	UMTS 850	7770	55x11x5	±167'	46°	(2)(E)(G) POWERWAVE LGP21901 (2)(E) POWERWAVE LGP21401	--	--	(2) 1-5/8 COAX (LENGTH 220' ±)	
B1	EXISTING	700 BC/AWS	OPA-65R-LCUU-H4	48x14.4x7.3	±167'	170°	--	(E) (1) RRUS-11 (700) (P) (1) 4426 B66 (AWS)	15x13.2x7.4	--	--
B2	EXISTING	LTE WCS/850/700 B14	SBNHH-1D65A	55x11.9x7.1	±167'	170°	(1)(E)(G) DBC0061F1V51-2	(P) (G) 4478 B5 (850) (E) RRUS-32 (WCS)	15x13.2x7.4	(2) 1-5/8 COAX (LENGTH 220' ±)	(E) (1) RAYCAP DC6-48-60-18-8C
B3	PROPOSED	LTE PCS	HPA-65R-BUU-H4	48x14.8x9	±167'	170°	--	(E) RRUS-32 B2 (1900)	--	--	
B4	EXISTING	UMTS 850	7770	55x11x5	±167'	170°	(2)(E)(G) POWERWAVE LGP21901 (2)(E) POWERWAVE LGP21401	--	--	(2) 1-5/8 COAX (LENGTH 220' ±)	
C1	EXISTING	700 BC/AWS	OPA-65R-LCUU-H4	48x14.4x7.3	±167'	290°	--	(E) (1) RRUS-11 (700) (P) (1) 4426 B66 (AWS)	15x13.2x7.4	--	--
C2	EXISTING	LTE WCS/850/700 B14	SBNHH-1D65A	55x11.9x7.1	±167'	290°	(1)(E)(G) DBC0061F1V51-2	(P) (G) B14 4478 (700) (P) (G) 4478 B5 (850) (E) RRUS-32 (WCS)	15x13.2x7.4 15x13.2x7.4	(2) 1-5/8 COAX (LENGTH 220' ±)	I
C3	PROPOSED	LTE PCS	HPA-65R-BUU-H4	48x14.8x9	±167'	290°	--	(E) RRUS-32 B2 (1900)	--	--	
C4	EXISTING	UMTS 850	7770	55x11x5	±167'	290°	(2)(E)(G) POWERWAVE LGP21901 (2)(E) POWERWAVE LGP21401	--	--	(2) 1-5/8 COAX (LENGTH 220' ±)	

FINAL ANTENNA SCHEDULE

SCALE: N.T.S.

RRU CHART					
QUANTITY	MODEL	L	W	D	
3(P)	RRUS-11 (700)	15.0"	13.2"	7.4"	
6(E)	RRUS-32 (WCS)	27.2"	12.1"	7.0"	
3(P)	4426 B66 (AWS)	15.0"	13.2"	7.4"	
2(P)	B14 4478 (700)	15.0"	13.2"	7.4"	
3(P)	4478 B5 (850)	15.0"	13.2"	7.4"	

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS

NOTE:
SEE RFDS FOR RRH FREQUENCY AND MODEL NUMBER

PROPOSED RRU REFER TO THE FINAL RFDS AND CHART FOR QUANTITY, MODEL AND DIMENSIONS

NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

PROPOSED RRUS DETAIL
SCALE: N.T.S.

PROPOSED RRUS B14 4478 (TOTAL OF 2)

PROPOSED AT&T RRUS 4478 B5 TO REPLACE RRUS-12 (850) (TYP. OF 1 PER SECTOR, TOTAL OF 3)

EXISTING EQUIPMENT RACK

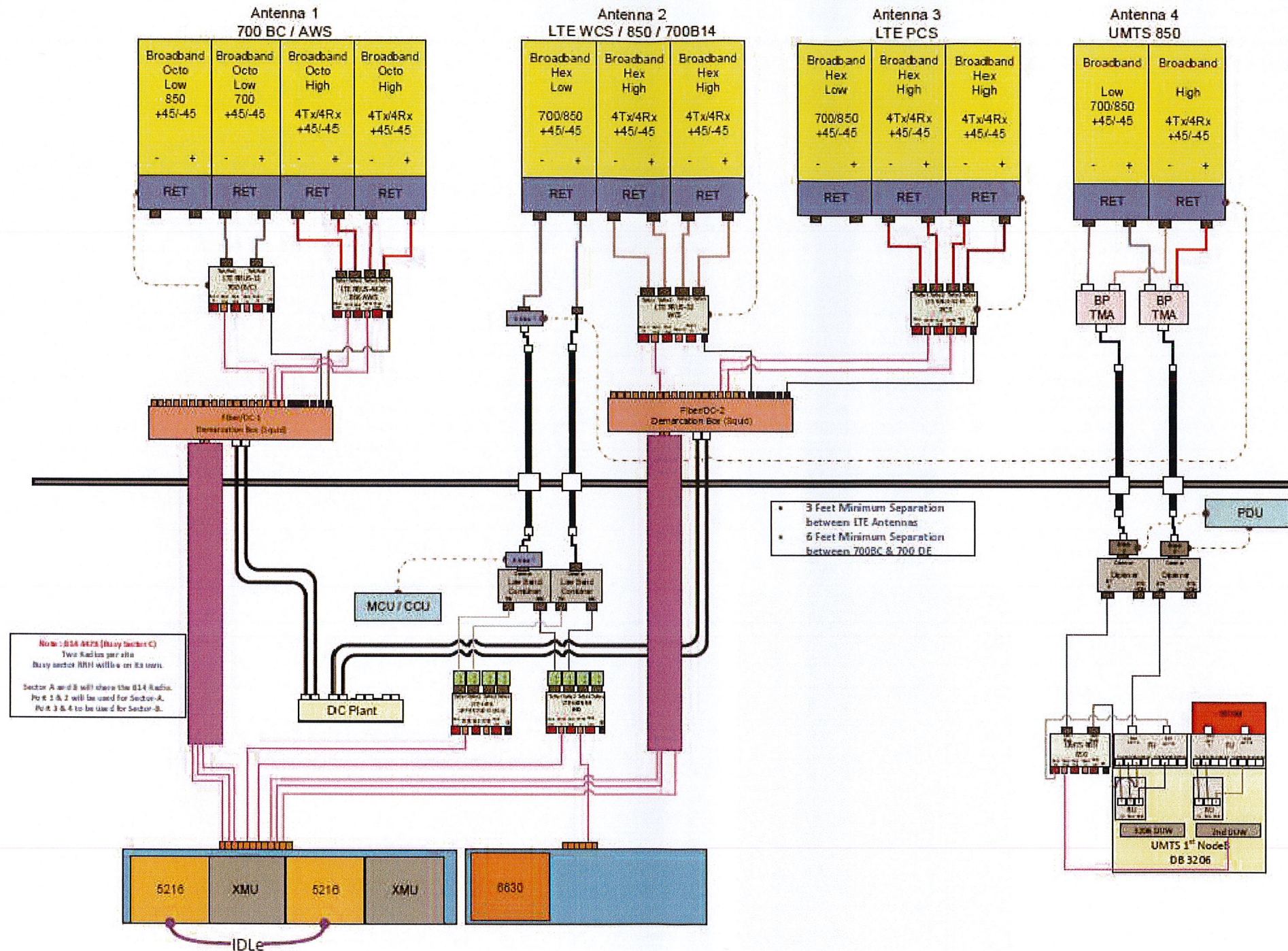
PROPOSED RRUS MOUNTING DETAIL ON EXISTING RACK
SCALE: N.T.S.

NOTE:
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:
ALL ANTENNAS AND RRHS TO BE INSTALLED IN ACCORDANCE WITH STRUCTURAL ANALYSIS PROVIDED BY AMERICAN TOWER AND FINAL RF DATA SHEET

NOTE:
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING ANTENNA MOUNT TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY: HUDSON DESIGN GROUP, LLC. DATED: AUGUST 13, 2018

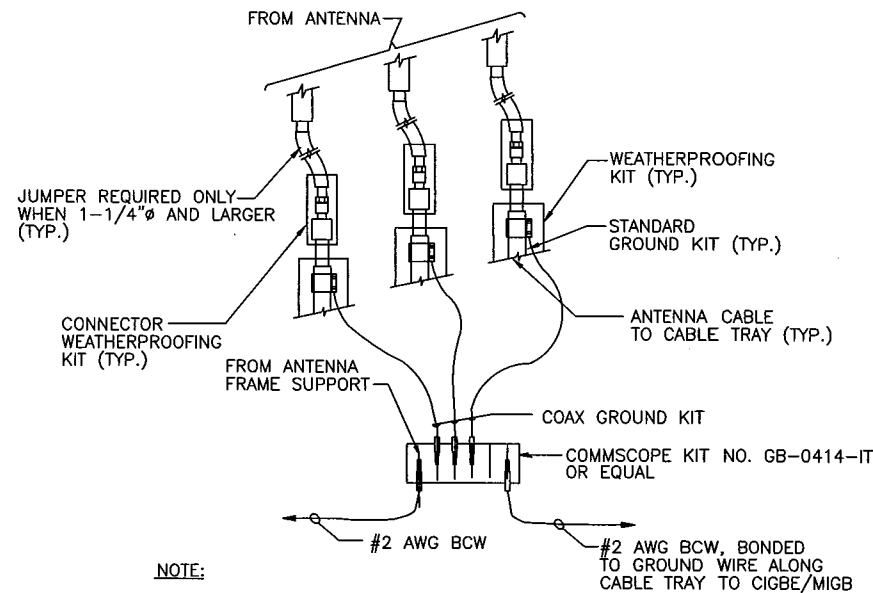
SPECIAL CONSTRUCTION/PLANNING NOTE:
EQUIPMENT SHOWN AS "TO BE INSTALLED AS PART OF LTE 4C/4T4R RETROFIT PROJECT" REFERS TO RECORD DRAWINGS AND NOT ACTUAL FIELD CONDITIONS. DEPLOYMENT OF EQUIPMENT "TO BE INSTALLED AS PART OF LTE 4C/4T4R RETROFIT PROJECT" UNDER A SEPARATE BUILDING PERMIT PRIOR TO CONSTRUCTION START OF THIS PROJECT.



RF PLUMBING DIAGRAM 1
SCALE: N.T.S. RF-1

NOTE:
1. CONTRACTOR TO CONFIRM ALL PARTS.
2. INSTALL ALL EQUIPMENT TO
MANUFACTURER'S RECOMMENDATIONS

NOTE:
REFER TO THE FINAL RF DATA SHEET
FOR FINAL ANTENNA SETTINGS.

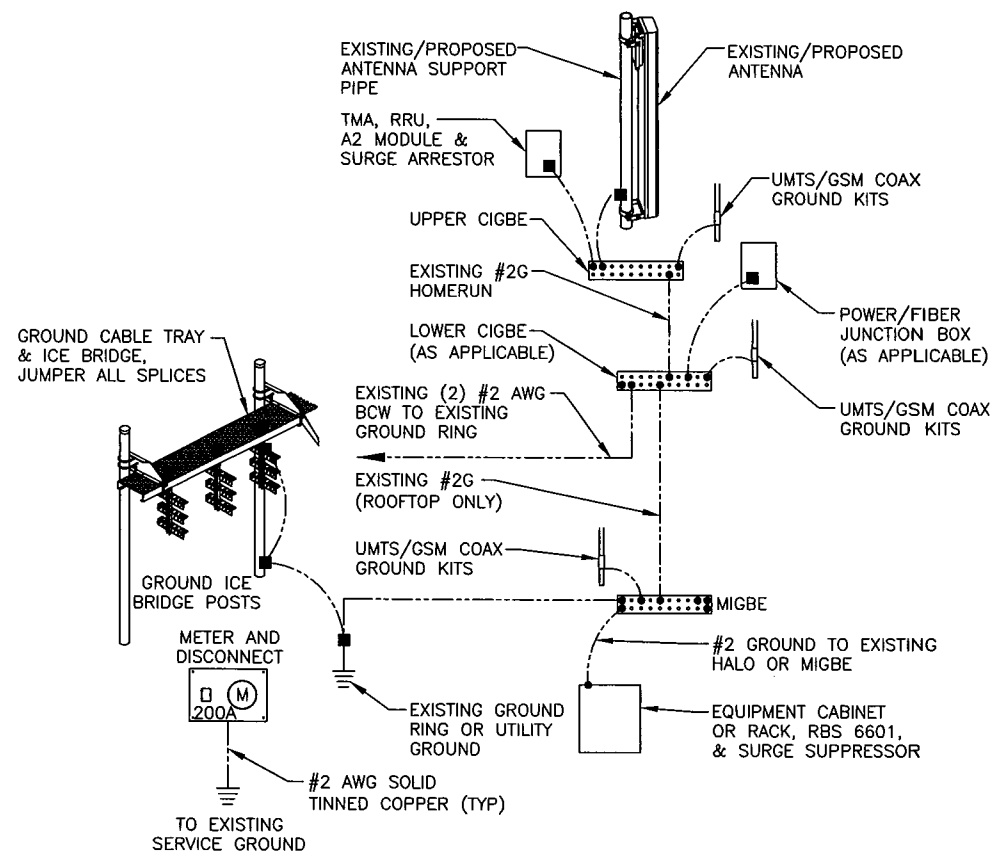


NOTE:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

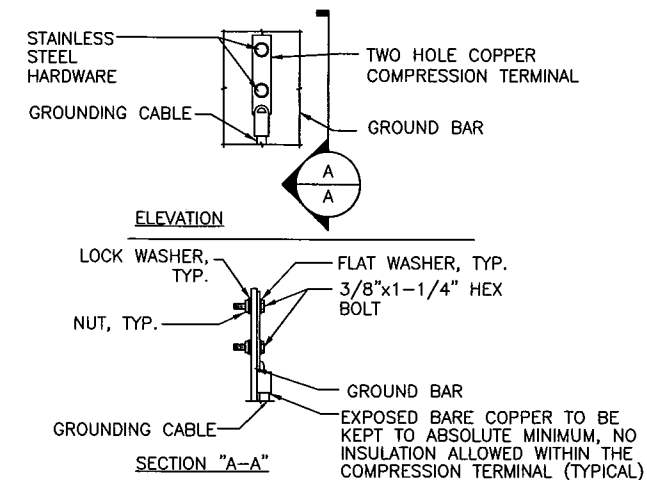
GROUND WIRE TO GROUND BAR CONNECTION DETAIL
SCALE: N.T.S.

1
G-1



GROUNDING RISER DIAGRAM
SCALE: N.T.S.

2
G-1



NOTE:

1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATION.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB

TYPICAL GROUND BAR CONNECTION DETAIL
SCALE: N.T.S.

3
G-1

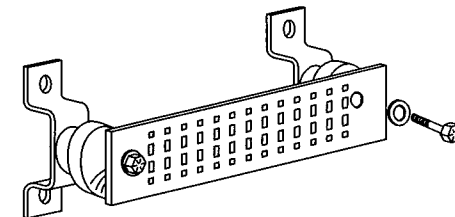
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" - SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)



GROUND BAR - DETAIL
SCALE: N.T.S.

4
G-1