7/30/2018

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

Regarding: Notice of Exempt Modification – Antenna Swap
Property Address: 151 Waterbury Road, Prospect CT 06712
AT&T Site: CTL05626 / FA: 10071211

Dear Ms. Bachman:

On behalf of AT&T, please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16- 50j-72(b) (2).

AT&T currently maintains a wireless telecommunications facility on an existing monopole at the above-referenced address. ATC Watertown LLC-American Tower Property Tax c/o American Tower, Inc., owns said facility. The site consists of nine (9) wireless telecommunication antennae at an antenna centerline height of 156-feet on an existing 150-foot monopole tower. AT&T now intends to install (3) Kathrein 80010966 panel antennae, while retaining (3) Powerwave 7770, (2) CCI TPA-65R-LCUUU-H8, (1) QS66512-2, (3) HPA-65R-BUU-H8 panel antennae, (for a total of (12) panel antennas), at the 156-foot level. AT&T also intends to remove (6) remote radio units and install (9) new remote radio units to the existing antenna masts, in addition to other associated equipment as outlined in the drawings.

This facility was permitted by the Town of Prospect's building department in July 2003 #4482 for AT&T Wireless PCS, LLC to add antennas to an existing guyed tower and erect an equipment shelter with AT&T radio cabinets as well as a concrete pad with ice bridge posts. Furthermore, it has been confirmed with the town that after a search of the Land Use Office records in the town hall, no copy of the original decision has been found for the tower located at 151 Waterbury Road.

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-5I0j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to Robert J. Chatfield, Mayor of the Town of Prospect; Town of Prospect, CT Land Use Department, and American Tower, Inc.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b) (2).

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's replacement antennas will be installed at the 156-foot level of the 150-foot monopole.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require and extension of the site boundary.

3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included,
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included).

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

Sincerely,

Ryan Lynch
Real Estate Specialist | Smartlink, LLC
85 Rangeway Road, Building 3, Suite 102
North Billerica, MA 01862

Enclosures

CC w/ enclosures:

Robert J. Chatfield, Mayor of the Town of Prospect
Town of Prospect, CT Land Use Department
American Tower, Inc.

Ryan Lynch

From: TrackingUpdates@fedex.com
Sent: Thursday, August 2, 2018 9:53 AM
To: Ryan Lynch
Subject: FedEx Shipment 772870558304 Delivered

Your package has been delivered

Tracking # 772870558304

Ship date:
Wed, 8/1/2018

Ryan Lynch
Smartlink LLC
North Billerica, MA 01862
US

Delivered

Delivery date:
Thu, 8/2/2018 9:44 am

ATTN: Zoning Dept.
American Tower Corporation
10 Presidential Way
WOBURN, MA 01801
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	772870558304
Status:	Delivered: 08/02/2018 09:44 AM Signed for By: C.ARRIA
Signed for by:	C.ARRIA
Delivery location:	WOBURN, MA
Delivered to:	Receptionist/Front Desk
Service type:	FedEx 2Day®
Packaging type:	FedEx® Envelope
Number of pieces:	1
Weight:	0.50 lb.
Special handling/Services:	Deliver Weekday
Standard transit:	8/3/2018 by 4:30 pm

Standard transit is the date and time the package is scheduled to be delivered by, based on the selected service, destination and ship date. Limitations and exceptions may apply. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

Thank you for your business.

Ryan Lynch

From: TrackingUpdates@fedex.com
Sent: Friday, August 3, 2018 12:21 PM
To: Ryan Lynch
Subject: FedEx Shipment 772870524887 Delivered

Your package has been delivered

Tracking # 772870524887

Ship date:
Wed, 8/1/2018

Ryan Lynch
Smartlink LLC
North Billerica, MA 01862
US

Delivery date:
Fri, 8/3/2018 12:18 pm

ATTN: Land Use Dept.
Town of Prospect
36 Center St.
PROSPECT, CT 06712
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	772870524887
Status:	Delivered: 08/03/2018 12:18 PM Signed for By: M.BARTON
Signed for by:	M.BARTON
Delivery location:	PROSPECT, CT
Delivered to:	Receptionist/Front Desk
Service type:	FedEx 2Day®
Packaging type:	FedEx® Envelope
Number of pieces:	1
Weight:	0.50 lb.
Special handling/Services:	Deliver Weekday
Standard transit:	8/3/2018 by 4:30 pm

To track the latest status of your shipment, click on the tracking number above.

Standard transit is the date and time the package is scheduled to be delivered by, based on the selected service, destination and ship date. Limitations and exceptions may apply. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

Thank you for your business.

Ryan Lynch

From: TrackingUpdates@fedex.com
Sent: Friday, August 3, 2018 12:21 PM
To: Ryan Lynch
Subject: FedEx Shipment 772870499562 Delivered

Follow Up Flag: Follow up
Flag Status: Flagged

Your package has been delivered

Tracking # 772870499562

Ship date:
Wed, 8/1/2018

Ryan Lynch
Smartlink LLC
North Billerica, MA 01862
US

Delivered

Delivery date:
Fri, 8/3/2018 12:19 pm

ATTN: Mayor Robert Chatfield
Town of Prospect
36 Center St.
PROSPECT, CT 06712
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	772870499562
Status:	Delivered: 08/03/2018 12:19 PM Signed for By: B.R
Signed for by:	B.R
Delivery location:	PROSPECT, CT
Delivered to:	Receptionist/Front Desk
Service type:	FedEx 2Day®
Packaging type:	FedEx® Envelope
Number of pieces:	1
Weight:	0.50 lb.
Special handling/Services:	Deliver Weekday
Standard transit:	8/3/2018 by 4:30 pm

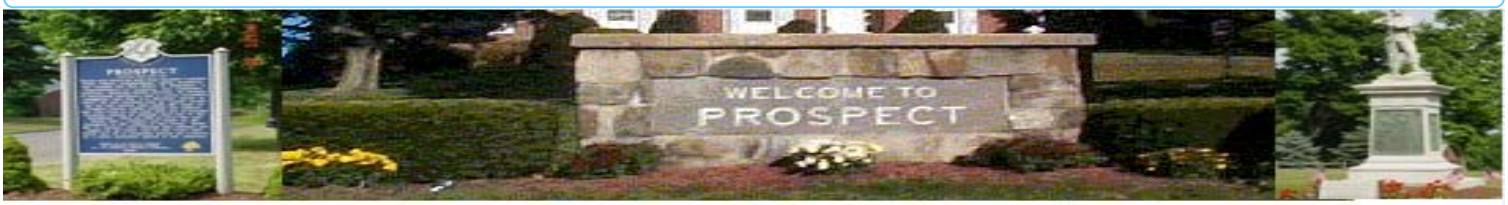
All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Standard transit is the date and time the package is scheduled to be delivered by, based on the selected service, destination and ship date. Limitations and exceptions may apply. Please see the FedEx Service Guide for terms and conditions of service, including the FedEx Money-Back Guarantee, or contact your FedEx Customer Support representative.

Thank you for your business.

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2015.



www.townofprospect.org

Information on the Property Records for the Municipality of Prospect was last updated on 7/28/2018.

Parcel Information

Location:	151 WATERBURY RD	Property Use:	Office	Primary Use:	Office Building
Unique ID:	G0121400	Map Block Lot:	104 160 151	Acres:	3.91
490 Acres:	0.00	Zone:	B	Volume / Page:	0819/0091
Developers Map / Lot:		Census:	3472		

Value Information

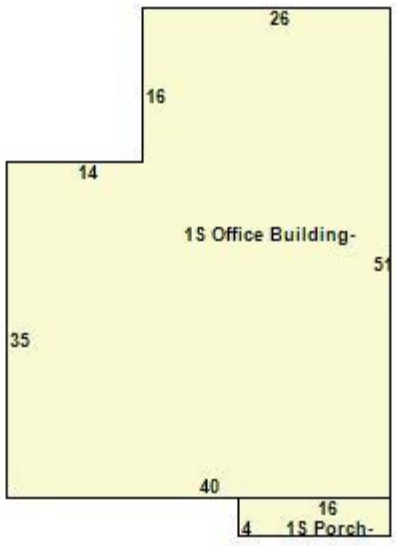
	Appraised Value	Assessed Value
Land	145,748	102,020
Buildings	18,751	13,130
Detached Outbuildings	615,568	430,900
Total	780,067	546,050

Owner's Information

Owner's Data
ATC WATERTOWN LLC AMERICAN TOWER PROP TAX P O BOX 723597 ATLANTA GA 31139

Building 1

Photo Not Available



Category:	Office	Use:	Office Building	GLA:	1,816
Stories:	1.00	Construction:	Masonry and Wood Frame	Year Built:	1973
Heating:	FHA	Fuel:	Oil	Cooling Percent:	100

Siding:	Concrete Block/B. V. Solid	Roof Material:		Beds/Units:	0

Special Features

Attached Components

Type:	Year Built:	Area:
Open Porch	1973	64

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Paving	1973	0.00	0.00	2,400
Average Shed	1973	0.00	0.00	120
Cell Tower	2008	0.00	0.00	1
Cell Tower	2008	0.00	0.00	1

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
ATC WATERTOWN LLC	0819	0091	04/09/2018	Warranty Deed	No	$0
RICHLAND TOWERS MANAGEMENT PARKVIEW LLC	0722	0095	03/01/2013	Quit Claim	No	$666,450
SFX BROADCASTING OF CONNECTICUT	0291	0059	06/30/1997	Warranty Deed	No	$0

Building Permits

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
8169	Commercial	07/25/2018		Permit Issued	CELL TOWER T MOBILE INTENT TO MODIFY AN EXISTING COMMUNICATIONS FACILITY
7916	Commercial	11/29/2017		Permit Issued	REMOVE EXISTING TIMBER WALL & TREES INSTALL NEW REDI ROCK WALL & FENCING
7751	Commercial	04/02/2017		Permit Issued	REMOVE/REPLAE 3 ANTENNAS 3 RRUS 11 RRDE2
7624	Commercial	08/03/2016		Closed	MODIFICATION TO AN EXISTING TELECOMMUNICATIONS FACILITY
7523	Outbuilding/Yard Item	04/15/2016		Closed	REPLACE 3 ANTENNAS INSTALL 3 RRO S
7472	Outbuilding/Yard Item	12/29/2015			
7149	Commercial	10/14/2014		Needs Visit	INSTALL THREE (3} ADDITIONAL REMORE RADIO UNITS ON EXISTING TOWER
6603	Building	06/15/2012		Permit Issued	ADD 3 LTE ANTENNAS TO EXISTING TOWER ADD EQUIP TO EXISTING SHELTER
6034		01/20/2010		Closed	REPLC EXISTING 195' GUYED TOWER WITH NEW;150' MONOPOLE & FOUNDATION CHNINK FENC;
5004		10/21/2005		Closed	CERT OF COMPLETION10212005;;

SITESAFE
RF COMPLIANCE EXPERTS

8618 Westwood Center Drive, Suite 315, Vienna, VA 22182
703.276.1100 ● 703.276.1169 fax
info@sitesafe.com ● www.sitesafe.com

Smartlink on behalf of AT&T Mobility, LLC Site FA – 10071211 Site ID – CT5626 (MRCTB032259-MRCTB032276-MRCTB032280-MRCTB032300) USID – 26038 Site Name – Prospect North

151 Waterbury Road
Prospect, CT 06712

Latitude: N41-31-22.04
Longitude: W72-59-52.04
Structure Type: Guyed

Report generated date: July 25, 2018
Report by: Scott Broyles
Customer Contact: Ryan Lynch

AT&T Mobility, LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

Table of Contents

1 General Site Summary

1.1 Report Summary

AT&T Mobility, LLC	Summary
Access to Antennas Locked?	Yes
Max Cumulative Simulated RFE Level on the Ground	<1% General Public Limit
FCC & AT&T Compliant?	Will Be Compliant
Optional AT&T Mitigation Items?	No

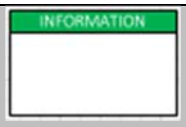
The following documents were provided by the client and were utilized to create this report:

RFDS: CTL05626_2018-LTE-Next-Carrier_LTE_mh705r_2051A0GWH0_10071211_26038_03-19-2018_As-Built-In-Progress_v3.00

CD's: 10071211_AE201_180709_CTL05626_Rev 0_6C-7C-Retro-5G NR Upgrade

RF Powers Used: RFDS

1.2 Signage Summary

AT&T Signage Locations	 Information 1	 Information 2	 Notice	 Notice 2	 Caution	 Caution 2	 Warning	 Warning 2	 Barriers
Access Point(s)	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐
Alpha	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐
Beta	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐
Gamma	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐[#]	☐

1.3 Fall Arrest Anchor Point Summary

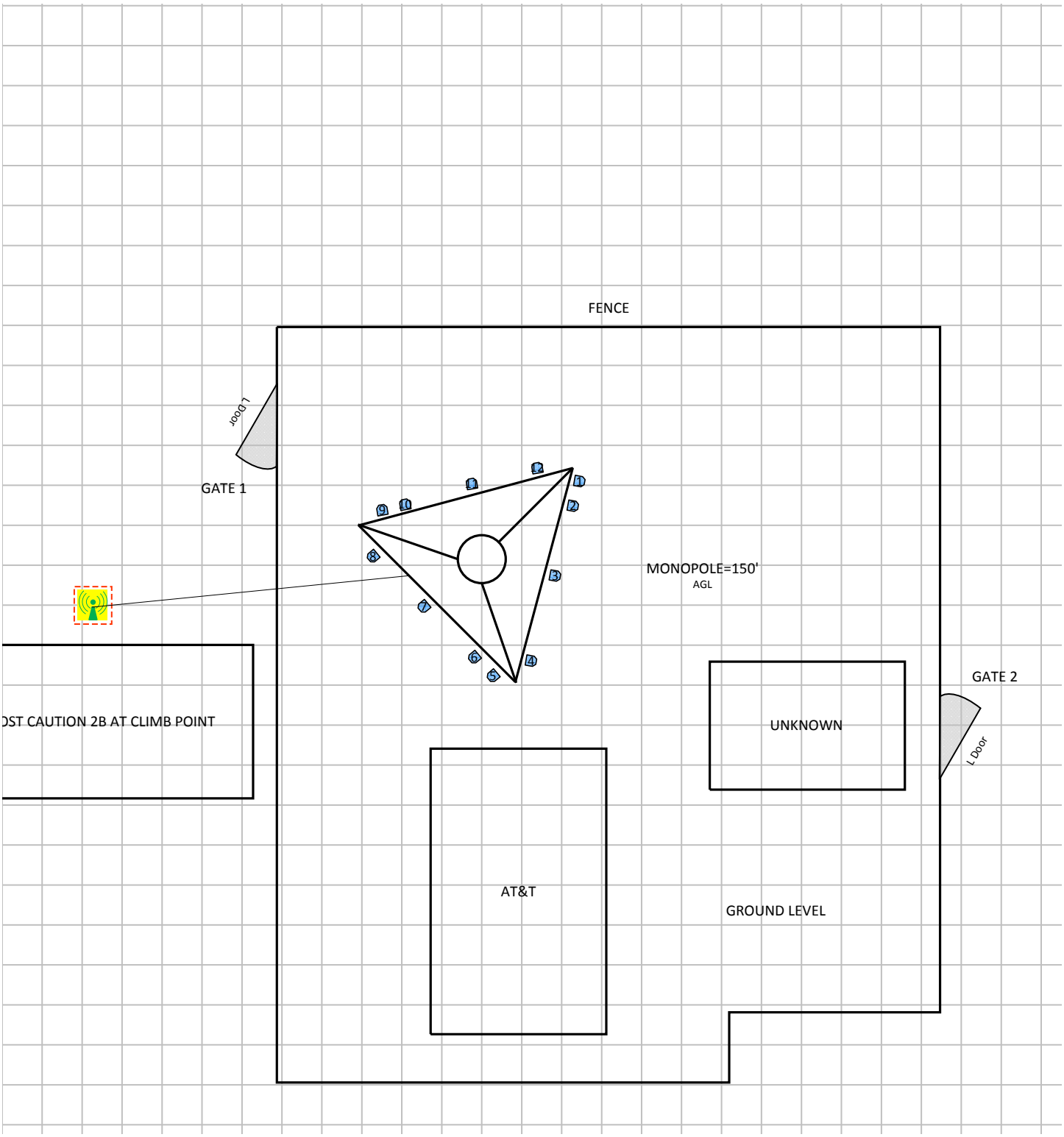
Fall Arrest Anchor & Parapet Info	Parapet Available (Y/N)	Parapet Height (inches)	Fall Arrest Anchor Available (Y/N)
Roof Safety Info	Y	N/A	N

2 Scale Maps of Site

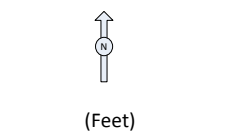
The following diagrams are included:

- Site Scale Map
- RF Exposure Diagram
- RF Exposure Diagram – Elevation View

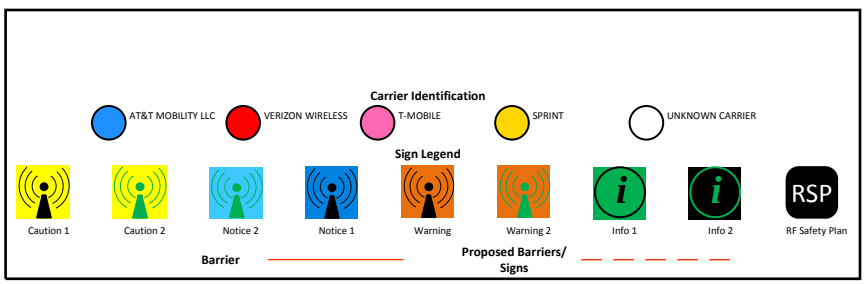
Site Scale Map For: Prospect North



% of FCC Public Exposure Limit
Spatial average 0' - 6'



www.sitesafe.com
Site Name:Prospect North
7/25/2018 12:53:46 PM



3 Antenna Inventory

The following antenna inventory was obtained by the customer and was utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	X	Y	Z AGL
1	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	100	82	4.6	11.51	1	0	314.8	81.9'	115.1'	151.7'
2	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	737	100	64.9	7.7	13.26	0	1	1475.7	81.4'	113.5'	150.2'
2	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	2300	100	63.3	7.7	15.26	0	1	1285.3	81.4'	113.5'	150.2'
3	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	763	100	67.9	8	13.55	0	1	2951.4	80.3'	109.2'	150'
3	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	850	100	66	8	14.25	0	1	500	80.3'	109.2'	150'
3	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	5G 850	100	66	8	14.25	0	1	500	80.3'	109.2'	150'
4	AT&T MOBILITY LLC	Cci Antennas TPA-65R-LCUUUU-H8	Panel	737	100	61.9	8	13.56	0	1	1475.7	78.8'	103.9'	150'
4	AT&T MOBILITY LLC	Cci Antennas TPA-65R-LCUUUU-H8	Panel	2100	100	65.2	8	13.96	0	1	3837.1	78.8'	103.9'	150'
4	AT&T MOBILITY LLC	Cci Antennas TPA-65R-LCUUUU-H8	Panel	1900	100	68.2	8	13.86	0	1	3664.4	78.8'	103.9'	150'
5	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	230	82	4.6	11.51	1	0	314.8	76.4'	102.9'	151.7'
6	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	737	230	64.9	7.7	13.26	0	1	1475.7	75.3'	104.1'	150.2'
6	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	2300	230	63.3	7.7	15.26	0	1	1285.3	75.3'	104.1'	150.2'
7	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	763	230	67.9	8	13.55	0	1	2951.4	72.1'	107.2'	150'
7	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	850	230	66	8	14.25	0	1	500	72.1'	107.2'	150'
7	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	5G 850	230	66	8	14.25	0	1	500	72.1'	107.2'	150'
8	AT&T MOBILITY LLC	Cci Antennas TPA-65R-LCUUUU-H8	Panel	737	230	61.9	8	13.56	0	1	1475.7	68.9'	110.4'	150'
8	AT&T MOBILITY LLC	Cci Antennas TPA-65R-LCUUUU-H8	Panel	2100	230	65.2	8	13.96	0	1	3837.1	68.9'	110.4'	150'
8	AT&T MOBILITY LLC	Cci Antennas TPA-65R-LCUUUU-H8	Panel	1900	230	68.2	8	13.86	0	1	3664.4	68.9'	110.4'	150'
9	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	350	82	4.6	11.51	1	0	314.8	69.5'	113.3'	151.7'
10	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	737	350	64.9	7.7	13.26	0	1	1475.7	70.9'	113.6'	150.2'
10	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	2300	350	63.3	7.7	15.26	0	1	1285.3	70.9'	113.6'	150.2'
11	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	763	350	67.9	8	13.55	0	1	2951.4	75.1'	114.9'	150'

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	X	Y	Z AGL
11	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	850	350	66	8	14.25	0	1	500	75.1'	114.9'	150'
11	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	5G 850	350	66	8	14.25	0	1	500	75.1'	114.9'	150'
12	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	737	350	69	6	11.46	0	1	1475.7	79.2'	115.9'	151'
12	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	2100	350	57	6	14.76	0	1	3837.1	79.2'	115.9'	151'
12	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	1900	350	68	6	14.16	0	1	3664.4	79.2'	115.9'	151'

NOTE: X, Y and Z indicate relative position of the bottom of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. The distance to the bottom of the antenna is calculated by subtracting half of the length of the antenna from the antenna centerline**.** Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed.

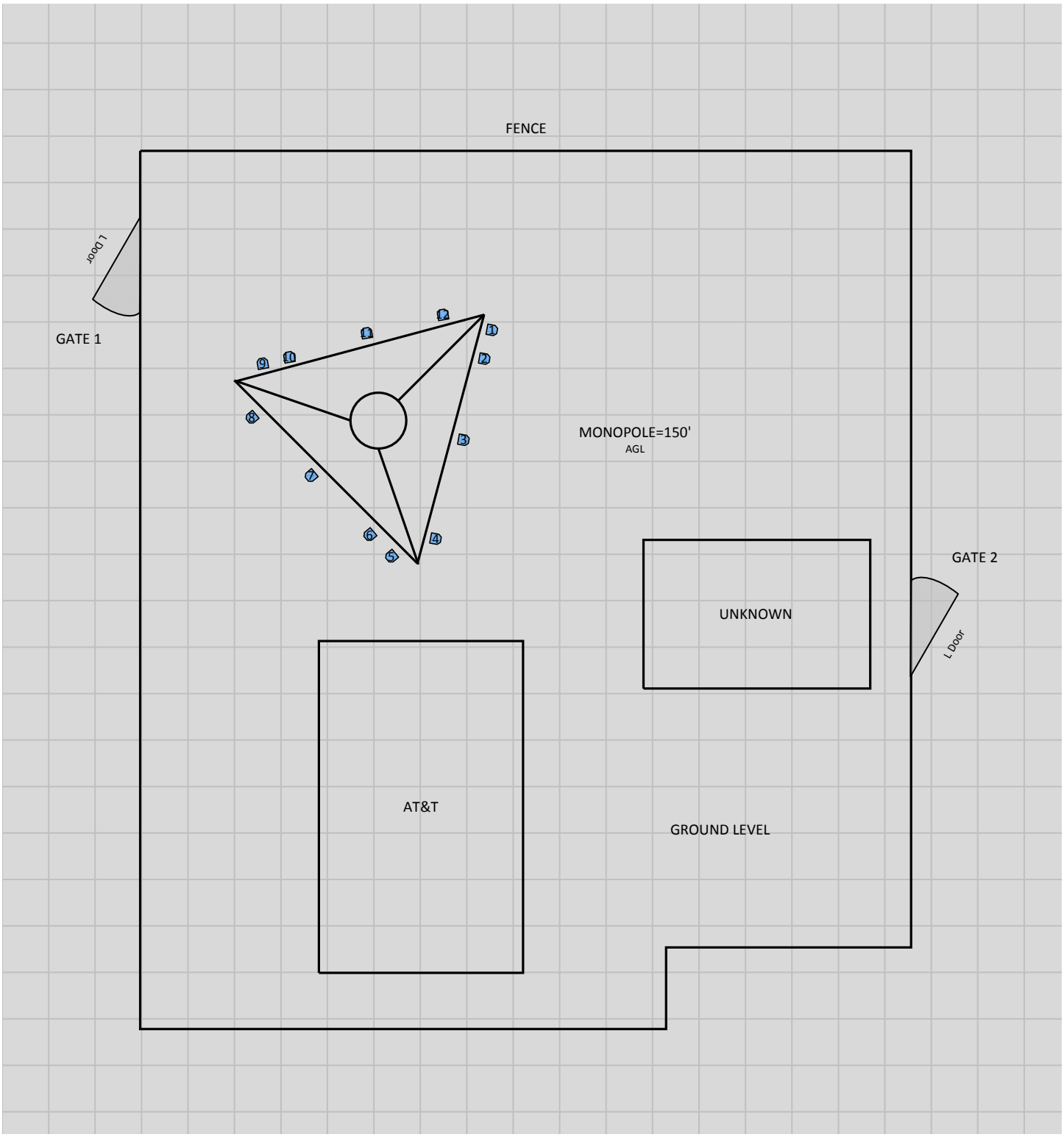
4 Emission Predictions

In the RF Exposure Simulations below all heights are reflected with respect to main site level. In most rooftop cases this is the height of the main rooftop and in other cases this can be ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main site level. Emissions are calculated appropriately based on the relative height and location of that area to all antennas. The total analyzed elevations in the below RF Exposure Simulations are listed below.

- Ground = 0'

The Antenna Inventory heights are referenced to the same level.

RF Exposure Simulation For: Prospect North
Composite View



% of FCC Public Exposure Limit
Spatial average 0' - 6'

(Feet)

0 4 8.1

www.sitesafe.com
Site Name:Prospect North
7/25/2018 12:43:07 PM

% of FCC Public Exposure Limit

>= 5000	>= 500	>= 100	>= 5	< 5

Carrier Identification

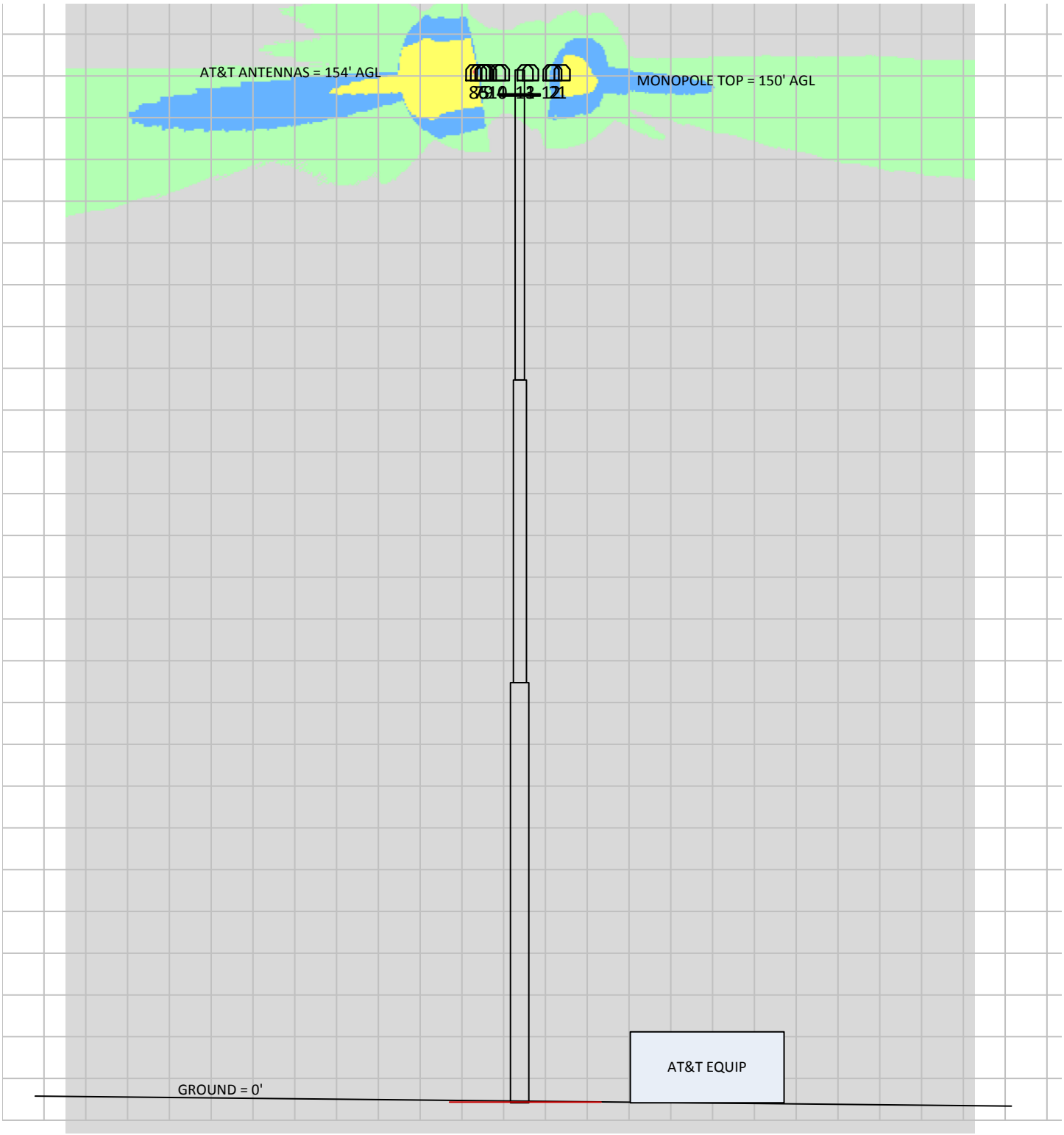
AT&T MOBILITY LLC | VERIZON WIRELESS | T-MOBILE | SPRINT | UNKNOWN CARRIER

Barrier

Proposed Barriers/ Signs

Sitesafe OET-65 Model
Near Field Boundary:
1.5 * Aperture
Reflection Factor: 1
Spatially Averaged

RF Exposure Simulation For: Prospect North
Elevation View



% of FCC Public Exposure Limit
Spatial average 0' - 6'

(Feet)

0 11.2 22.4

www.sitesafe.com
Site Name:Prospect North
7/25/2018 12:50:35 PM

% of FCC Public Exposure Limit

>= 5000	>= 500	>= 100	>= 5	< 5

Carrier Identification

AT&T MOBILITY LLC | VERIZON WIRELESS | T-MOBILE | SPRINT | UNKNOWN CARRIER

Barrier

Proposed Barriers/ Signs

Sitesafe OET-65 Model
Near Field Boundary:
1.5 * Aperture
Reflection Factor: 1
Single Level (0)

5 Site Compliance

5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, RF hazard signage and antenna locations, Sitesafe has determined that:

AT&T Mobility, LLC will be compliant when the remediation recommended in Section 5.2 or other appropriate remediation is implemented.

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility, LLC's proposed deployment plan could result in the site being rendered non-compliant.

Modeling is used for determining compliance and the percentage of MPE contribution.

5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

AT&T Mobility, LLC will be made compliant if the following changes are implemented:

Monopole Access Location

(1) Yellow Caution 2B sign(s) required posted at the monopole climb point.

Notes:

- Signage may already be in place. Sitesafe does not have record of any existing signage because there were no previous visits or data supplied regarding them. All remediation is based on a worst-case scenario.

6 Reviewer Certification

The reviewer whose signature appears below hereby certifies and affirms:

That I am an employee of Sitesafe, LLC., in Vienna, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio-frequency Radiation; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Scott Broyles.

July 25, 2018

Appendix A – Statement of Limiting Conditions

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, that Sitesafe became aware of during the normal research involved in creating this report. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data collected by Sitesafe provided by a second party and data collected by Sitesafe, the data will be used.

Appendix B – Regulatory Background Information

FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

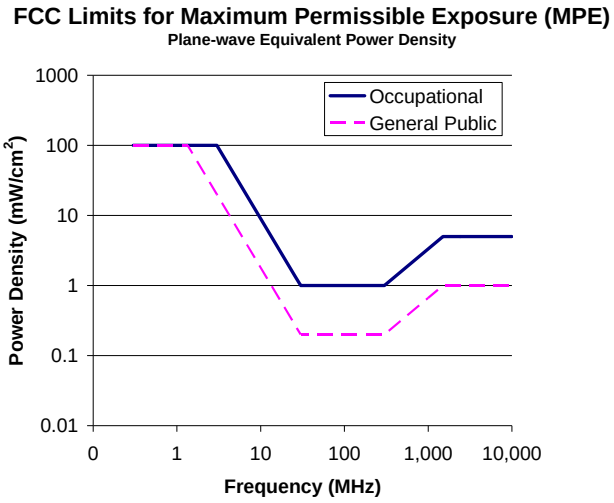
FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:



Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

(a) Each employer –
- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.

Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3 foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

Site RF Emissions Diagram: Section 4 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. Gray represents areas more than 20 times below the most conservative exposure limit.
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone**.
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers**.
- Yellow represents areas predicted to exceed Occupational MPE limits. Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

Appendix E – Assumptions and Definitions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur, but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

Gain (of an antenna) – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

General Population/Uncontrolled Environment – Defined by the FCC, as an area where exposure to RF energy may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

Maximum Permissible Exposure (MPE) – The maximum levels of RF exposure a person may be exposed to without harmful effect and with acceptable safety factor.

Occupational/Controlled Environment – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are **aware** of the

potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

OET Bulletin 65 – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Radio Frequency (RF) – The frequencies of electromagnetic waves which are used for radio communications. Approximately 3 kHz to 300 GHz.

Radio Frequency Exposure (RFE) – The amount of RF power density that a person is or might be exposed to.

Spatial Average Measurement – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average power density an average sized human will be exposed to at a location.

Transmitter Power Output (TPO) – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.

Appendix F – References

The following references can be followed for further information about RF Health and Safety.

Sitesafe, LLC.
http://www.sitesafe.com
FCC Radio Frequency Safety
http://www.fcc.gov/encyclopedia/radio-frequency-safety
National Council on Radiation Protection and Measurements (NCRP)
http://www.ncrponline.org
Institute of Electrical and Electronics Engineers, Inc., (IEEE)
http://www.ieee.org
American National Standards Institute (ANSI)
http://www.ansi.org
Environmental Protection Agency (EPA)
http://www.epa.gov/radtown/wireless-tech.html
National Institutes of Health (NIH)
http://www.niehs.nih.gov/health/topics/agents/emf/
Occupational Safety and Health Agency (OSHA)
http://www.osha.gov/SLTC/radiofrequencyradiation/
International Commission on Non-Ionizing Radiation Protection (ICNIRP)
http://www.icnirp.org
World Health Organization (WHO)
http://www.who.int/peh-emf/en/
National Cancer Institute
http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones
American Cancer Society (ACS)
http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?siteareа=PED
European Commission Scientific Committee on Emerging and Newly Identified Health Risks
http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_022.pdf
Fairfax County, Virginia Public School Survey
http://www.fcps.edu/fts/safety-security/RFEESurvey/
UK Health Protection Agency Advisory Group on Non-ionising Radiation
http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368
Norwegian Institute of Public Health
http://www.fhi.no/dokumenter/545eea7147.pdf

PROJECT NOTES

1. SITE INFORMATION OBTAINED FROM THE FOLLOWING:
   - A. PLAN ENTITLED "PROSPECT NORTH" PREPARED BY FULLERTON ENGINEERING & DESIGN OF SCHAUMBURG, IL LAST REVISED 12/20/2016.
   - B. LIMITED FIELD OBSERVATION BY MASER CONSULTING ON 05/16/2018.
2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
4. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
6. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
7. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.
8. THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
9. SINCE THE CELL SITE MAY BE 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 REQUIRED TO BE WORN TO ALERT OF ANY POTENTIALLY DANGEROUS EXPOSURE LEVELS.
10. THE PROPOSED FACILITY WILL CAUSE AN INSIGNIFICANT OR "DE-MINIMUS" INCREASE IN STORM WATER RUNOFF, THEREFORE, NO DRAINAGE STRUCTURES ARE PROPOSED.
11. NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.
12. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).
13. THE FACILITY DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
14. CONTRACTOR SHALL VERIFY ANTENNA ELEVATION AND AZIMUTHS WITH RF ENGINEERING PRIOR TO INSTALLATION.
15. THE TOWER, MOUNTS AND ANTENNAS SHALL BE DESIGNED TO MEET EIA/TIA-222-G AS PER IBC REQUIREMENTS.
16. ALL STRUCTURAL ELEMENTS SHALL BE HOT DIPPED GALVANIZED STEEL.
17. CONTRACTOR MUST FIELD LOCATE ALL EXISTING UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.

at&t

ISSUED FOR PERMIT ONLY

SITE NAME: PROSPECT NORTH
FA NUMBER: 10071211
SITE NUMBER: CTL05626
RETRO FIT - MRCTB032300
5G NR UPGRADE - MRCTB032259
6C - MRCTB0032276
7C - MRCTB032280
151 WATERBURY ROAD (MURPHY ROAD)
PROSPECT, CT 06712
NEW HAVEN COUNTY

VICINITY MAP

CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.

1. 2016 CONNECTICUT STATE BUILDING CODE, INCORPORATING THE 2012 IBC
2. 2014 NATIONAL ELECTRICAL CODE - NFPA 70
3. 2012 NFPA 101
4. AMERICAN INSTITUTE OF STEEL CONSTRUCTION 360-10
5. AMERICAN CONCRETE INSTITUTE
6. TIA-222-G
7. TIA 607 FOR GROUNDING
8. INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS 81 IEEE C2 LATEST EDITION
9. TELCORDIA GR-1275
10. ANSI T1.311
11. PROPOSED USE: UNMANNED TELECOM FACILITY
12. HANDICAP REQUIREMENTS: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED.
13. CONSTRUCTION TYPE: IIB
14. USE GROUP: U

PROJECT INFORMATION

SITE INFORMATION

LATITUDE:	41.522792° N
LONGITUDE:	72.997799° W
JURISDICTION:	NEW HAVEN COUNTY

APPLICANT/LESSEE

COMPANY:	NEW CINGULAR WIRELESS PCS, LLC
ADDRESS:	550 COCHITUATE ROAD
CITY, STATE, ZIP:	FRAMINGHAM, MA 01701

TOWER OWNER

COMPANY:	AMERICAN TOWER CORPORATION
ADDRESS:	111 SHILOH STREET
CITY, STATE, ZIP:	PITTSBURGH, PA 15211

CLIENT REPRESENTATIVE

COMPANY:	SMARTLINK, LLC
ADDRESS:	85 RANGEWAY ROAD, BUILDING 3, STE. 102
CITY, STATE, ZIP:	NORTH BILLERICA, MA 01862
CONTACT:	TODD OLIVER
E-MAIL:	TODD.OLIVER@SMARTLINKLLC.COM

SITE ACQUISITION

COMPANY:	SMARTLINK, LLC
ADDRESS:	85 RANGEWAY ROAD, BUILDING 3, STE. 102
CITY, STATE, ZIP:	NORTH BILLERICA, MA 01862
CONTACT:	SHARON KEEFE
E-MAIL:	SHARON.KEEFE@SMARTLINKLLC.COM

CONSTRUCTION MANAGER

COMPANY:	SMARTLINK, LLC
ADDRESS:	85 RANGEWAY ROAD, BUILDING 3, STE. 102
CITY, STATE, ZIP:	NORTH BILLERICA, MA 01862
CONTACT:	MARK DONNELLY
E-MAIL:	MARK.DONNELLY@SMARTLINKLLC.COM

ENGINEER

COMPANY:	MASER CONSULTING P.A.
ADDRESS:	2000 MIDLANTIC DRIVE, SUITE 100
CITY, STATE, ZIP:	MT. LAUREL, NJ 08054
CONTACT:	ROBERT ANDREWS
PHONE:	(856) 797-0412
E-MAIL:	RANDREWS@MASERCONSULTING.COM

PROJECT DESCRIPTION/ SCOPE OF WORK

- INSTALL (9) NEW RRU'S, (3) PER SECTOR
- REMOVE (6) EXISTING RRU'S, (2) PER SECTOR
- INSTALL (3) NEW PANEL ANTENNAS, (1) PER SECTOR
- INSTALL (9) LOW BAND COMBINERS, (3) PER SECTOR
- INSTALL (1) NEW DC-6 SURGE SUPPRESSION DOME
- INSTALL (2) NEW 6/C DC CABLES
- REPLACE EXISTING BBU WITH (2) 5216
- REPLACE IDL2 WITH IDLe AND ADD (1) 6630

PROPOSED PROJECT SCOPE BASED ON RFDS ID# 2287778, VERSION 3.0, LAST UPDATED 06/13/2018.

SHEET INDEX

MASER CONSULTING CONNECTICUT
Customer Loyalty *through* Client Satisfaction
www.maserconsulting.com
Engineers ■ Planners ■ Surveyors
Landscape Architects ■ Environmental Scientists

at&t

smartlink

811 Know what's below. Call before you dig.
PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE:	JOB NUMBER:
AS SHOWN	18946018A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	07/24/18	ISSUED FOR PERMIT	RA	RA
0	07/09/18	ISSUED FOR REVIEW	AJC	RA

STATE OF CONNECTICUT
PETROS T. SOUKALAS
CONNECTICUT PROFESSIONAL ENGINEER LICENSE NUMBER 32617
LICENSED PROFESSIONAL ENGINEER

SITE NAME:

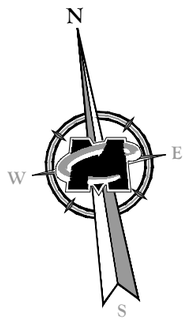
PROSPECT NORTH
FA# 10071211
SITE# CTL05626

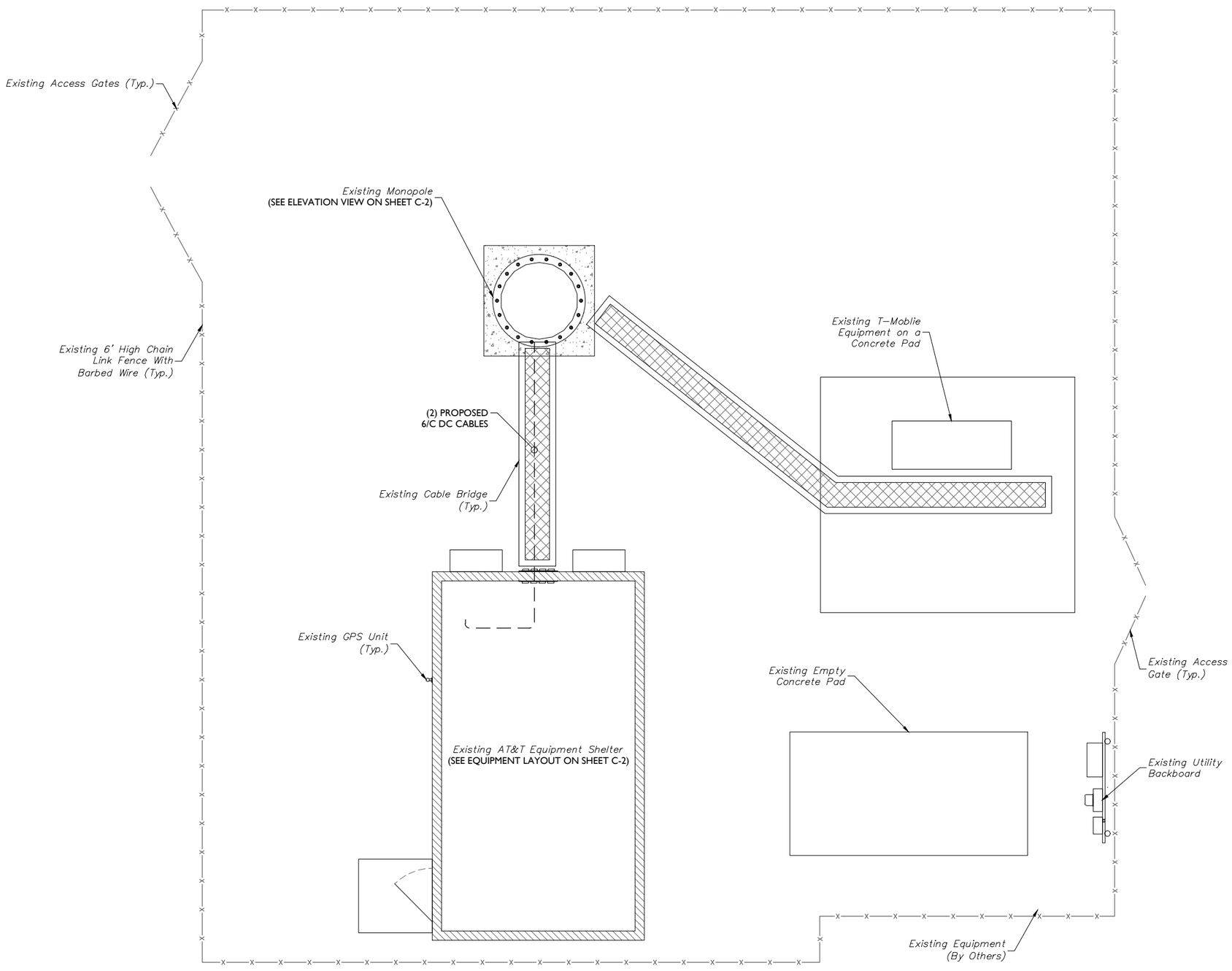
151 WATERBURY ROAD
PROSPECT, CT 06712
NEW HAVEN COUNTY

MT. LAUREL OFFICE
2000 Midlantic Drive
Suite 100
Mt. Laurel NJ 08054
Phone: .856.797.0412
Fax: .856.722.1120
email: solutions@maserconsulting.com

SHEET TITLE:
TITLE SHEET

SHEET NUMBER:
T-1





COMPOUND PLAN

3 2.4 1.8 1.2 0.6 0 1.5 3 6

SCALE : 1" = 3' FOR 22"X34"
(SCALE : 1" = 6' FOR 11"X17")

at&t

smartlink

811 Know what's below. Call before you dig.

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT:
WWW.CALL811.COM

SCALE :	JOB NUMBER :
AS SHOWN	18946018A

REV	DATE	DESCRIPTION	DRAWN	CHECKED BY
1	07/24/18	ISSUED FOR PERMIT	RA	RA
0	07/09/18	ISSUED FOR REVIEW	AJC	RA

STATE OF CONNECTICUT
PETROS T. SOUKALAS
PROFESSIONAL ENGINEER
LICENSED

PETROS T. SOUKALAS
CONNECTICUT PROFESSIONAL ENGINEER LICENSE NUMBER 32617

SITE NAME:

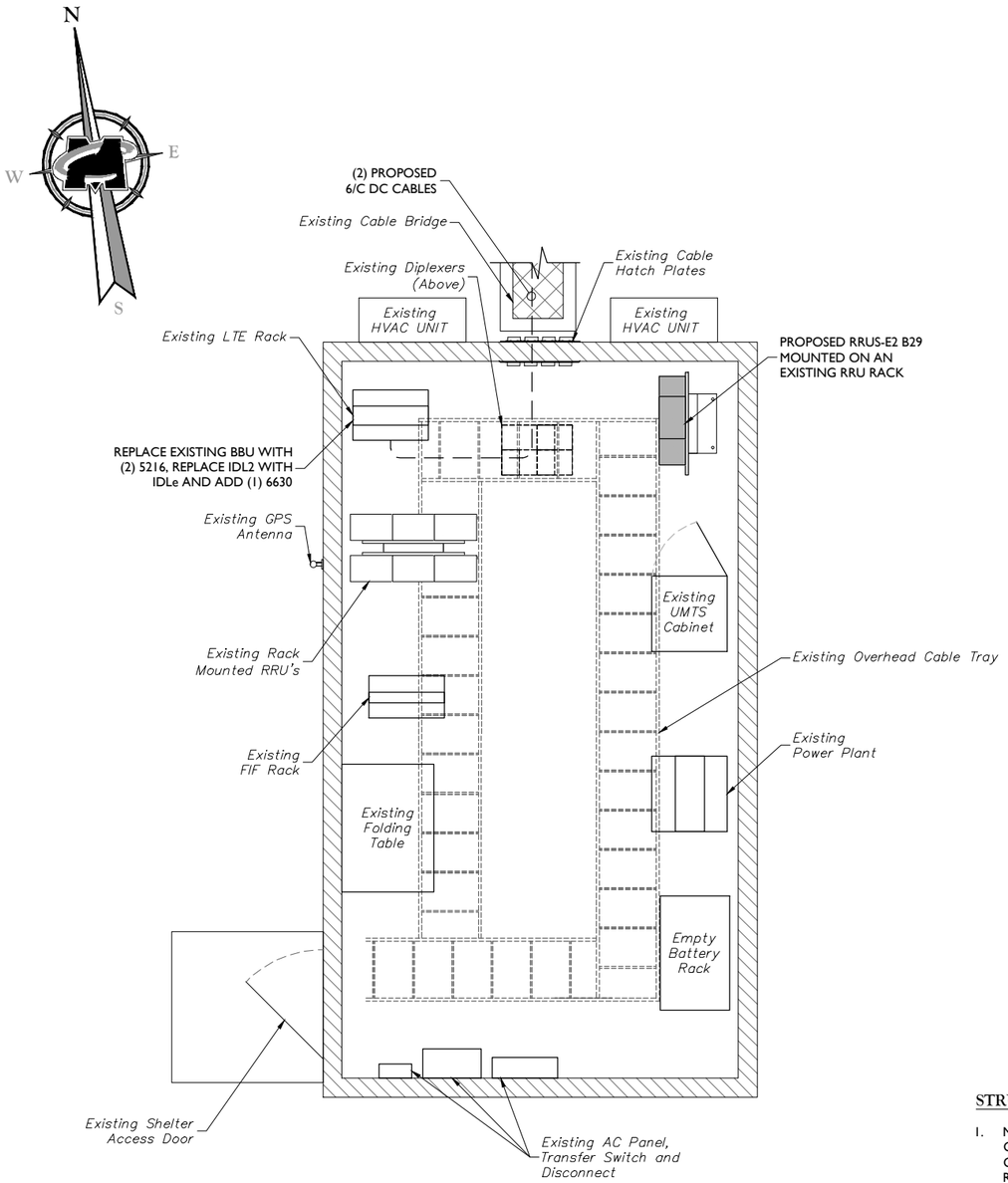
PROSPECT NORTH
FA# 10071211
SITE# CTL05626

151 WATERBURY ROAD
PROSPECT, CT 06712
NEW HAVEN COUNTY

MT. LAUREL OFFICE
2000 Midlantic Drive
Suite 100
Mt. Laurel NJ 08054
Phone: .856.797.0412
Fax: .856.722.1120
email: solutions@maserconsulting.com

SHEET TITLE :
COMPOUND PLAN

SHEET NUMBER :
C-1



EQUIPMENT LAYOUT

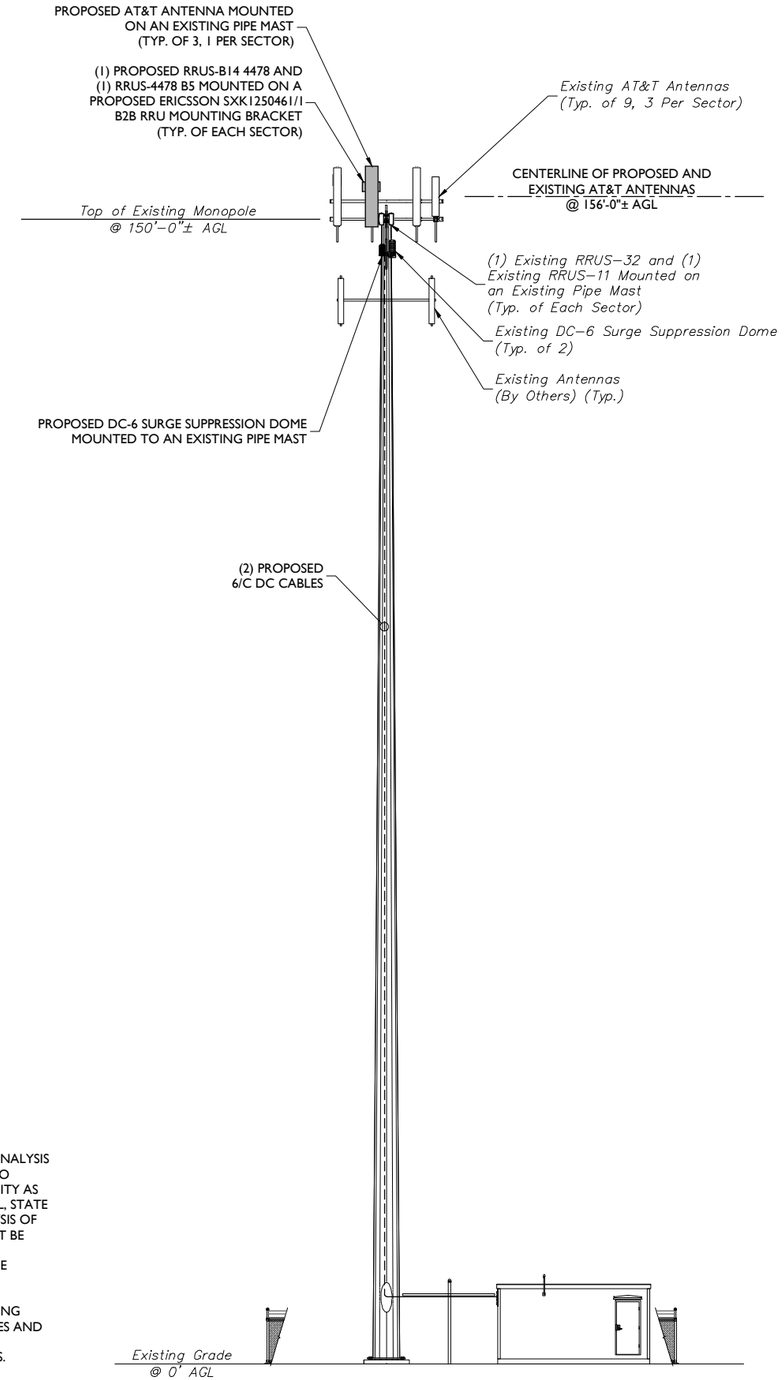
2 1.6 1.2 0.8 0.4 0 1 2 4

SCALE : 1" = 2' FOR 22"X34"
(SCALE : 1" = 4' FOR 11"X17")

STRUCTURAL NOTES:

1. MASER CONSULTING P.A. HAS NOT BEEN CONTRACTED TO PERFORM A STRUCTURAL ANALYSIS ON THIS TOWER AND THEREFORE ASSUMES NO RESPONSIBILITY FOR THE STRUCTURAL CAPACITY AS REQUIRED UNDER THE MOST CURRENT LOCAL, STATE AND FEDERAL CODES. A STRUCTURAL ANALYSIS OF THE TOWER AND TOWER FOUNDATION MUST BE PREPARED BY AN APPROPRIATE LICENSED STRUCTURAL ENGINEER CERTIFYING THAT THE EXISTING TOWER AND ANY REQUIRED IMPROVEMENTS AND REINFORCEMENTS HAVE SUFFICIENT CAPACITY TO SUPPORT ALL EXISTING AND PROPOSED ANTENNAS, SUPPORTS, CABLES AND APPURTENANCES COMPLIES WITH THE MOST CURRENT LOCAL, STATE AND FEDERAL CODES.

2. THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THAT ANY IMPROVEMENTS AND REINFORCEMENTS REQUIRED BY THE STRUCTURAL ANALYSIS CERTIFICATION ARE PROPERLY INSTALLED PRIOR TO THE ADDITION OF ANTENNAS, CABLES, SUPPORTS AND APPURTENANCES PROPOSED ON THESE DRAWINGS OR OTHERWISE NOTED IN THE STRUCTURAL ANALYSIS.



ELEVATION VIEW

10 8 6 4 2 0 5 10 20

SCALE : 1" = 10' FOR 22"X34"
(SCALE : 1" = 20' FOR 11"X17")

MASER CONSULTING CONNECTICUT

Customer Loyalty *through* Client Satisfaction
www.maserconsulting.com
Engineers ■ Planners ■ Surveyors
Landscape Architects ■ Environmental Scientists

at&t

smartlink

811 Know what's below. Call before you dig.

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT:
WWW.CALL811.COM

SCALE :	JOB NUMBER :
AS SHOWN	18946018A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	07/24/18	ISSUED FOR PERMIT	RA	RA
0	07/09/18	ISSUED FOR REVIEW	AJC	RA

STATE OF CONNECTICUT
PETROS T. SOUKALAS
LICENSED PROFESSIONAL ENGINEER

PETROS T. SOUKALAS
CONNECTICUT PROFESSIONAL ENGINEER LICENSE NUMBER #32617

SITE NAME:

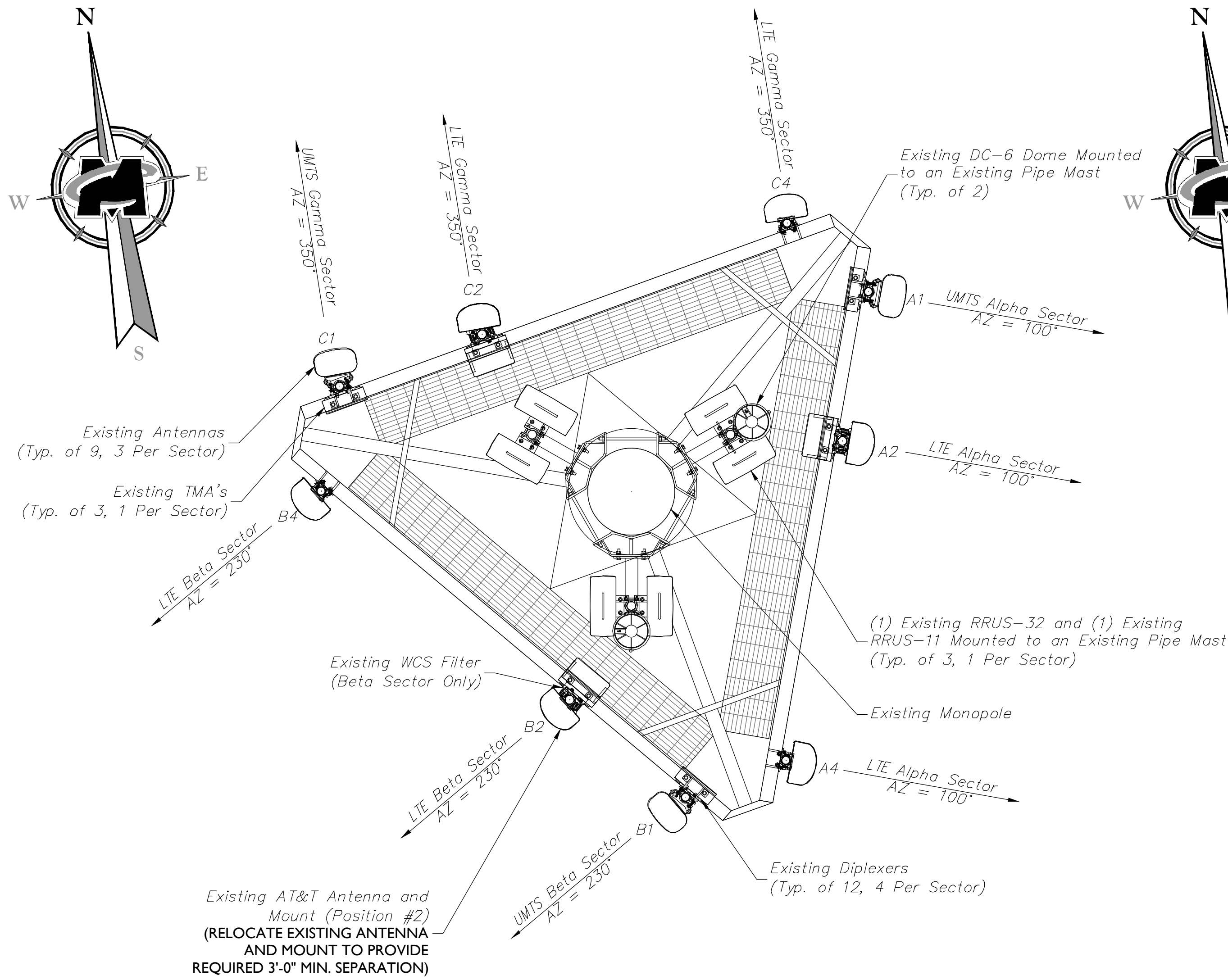
PROSPECT NORTH
FA# 10071211
SITE# CTL05626

151 WATERBURY ROAD
PROSPECT, CT 06712
NEW HAVEN COUNTY

MT. LAUREL OFFICE
2000 Midlantic Drive
Suite 100
Mt. Laurel NJ 08054
Phone: .856.797.0412
Fax: .856.722.1120
email: solutions@maserconsulting.com

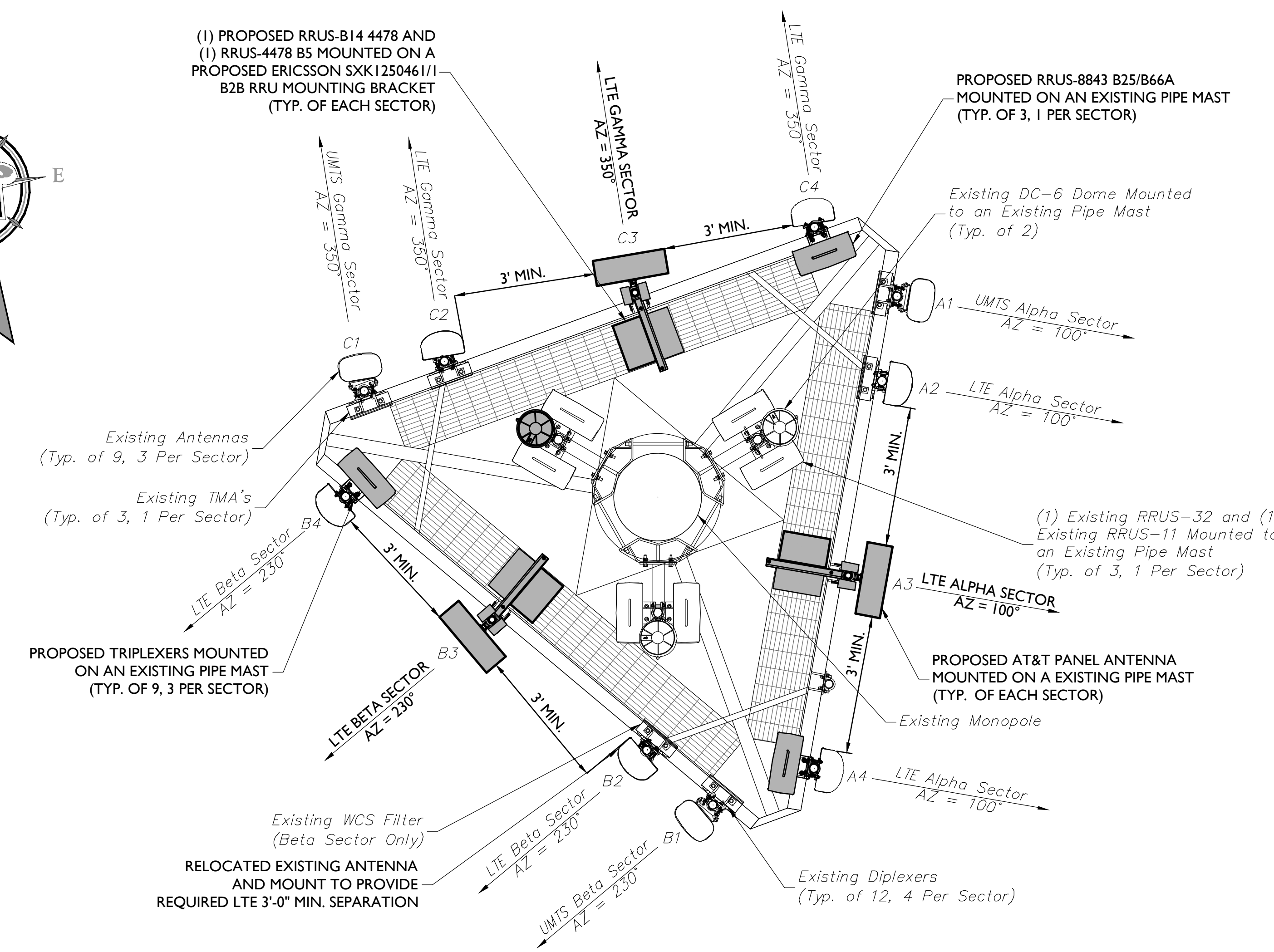
SHEET TITLE :
EQUIPMENT LAYOUT AND
ELEVATION VIEW

SHEET NUMBER :
C-2



EXISTING ANTENNA LAYOUT

NOT TO SCALE



PROPOSED ANTENNA LAYOUT

NOT TO SCALE

3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700 DE

ANTENNA SCHEDULE

SECTOR		EXISTING ANTENNA	PROPOSED ANTENNA	TECHNOLOGY	ANTENNA STATUS	HEIGHT (in)	WIDTH (in)	DEPTH (in)	WEIGHT (lbs)	ANTENNA AZIMUTH (DEG.)	ANT. CL. ELEV. (ft.)	REMOTE RADIO/TMA CONFIGURATION	TRANSMISSION CABLE			
													QUANTITY	LENGTH	TYPE	STATUS
Sector 1	1	POWERWAVE 7770	POWERWAVE 7770	UMTS	REMAIN	55.00	11.00	5.00	35.00	100	154	(2) LGP 21901 Diplexer (1) TT08-19DB111-001 TMA	2		1 5/8" COAX	REMAIN
	2	CCI HPA-65R-BUU-H8	CCI HPA-65R-BUU-H8	LTE	REMAIN	92.80	14.40	7.30	65.60	100	154	(1) RRUS-11 (1) RRUS-32	1/2		FIBER/DC	REMAIN
	3		**KATHREIN 80010966**	**LTE**	**PROPOSED**	**96.00**	**20.00**	**6.90**	**125.70**	**100**	**154**	**(1) RRUS-B14 4478 (1) RRUS-4478 B5 (2) DBCT108F1V92-1**	**2**		**DC**	**PROPOSED**
	4	CCI TPA-65R-LCUUUU-H8	CCI TPA-65R-LCUUUU-H8	LTE	REMAIN	96.00	14.40	8.60	87.60	100	154	**(1) RRUS B25/566A 8843** (1) RRUS-E2 B29 (3) TPX-070821 TRIPLEXER	2 1 2		1 5/8" COAX FIBER DC	REMAIN
Sector 2	5	POWERWAVE 7770	POWERWAVE 7770	UMTS	REMAIN	55.00	11.00	5.00	35.00	230	154	(2) LGP 21901 Diplexer (1) TT08-19DB111-001 TMA	2		1 5/8" COAX	REMAIN
	6	CCI HPA-65R-BUU-H8	CCI HPA-65R-BUU-H8	LTE	REMAIN	92.80	14.40	7.30	65.60	230	154	(1) WCS IMFQ-AMT Filter (1) RRUS-11 (1) RRUS-32	1/2		FIBER/DC	REMAIN
	7		**KATHREIN 80010966**	**LTE**	**PROPOSED**	**96.00**	**20.00**	**6.90**	**125.70**	**230**	**154**	**(1) RRUS-B14 4478 (1) RRUS-4478 B5 (2) DBCT108F1V92-1**	**2**		**DC**	**PROPOSED**
	8	CCI TPA-65R-LCUUUU-H8	CCI TPA-65R-LCUUUU-H8	LTE	REMAIN	96.00	14.40	8.60	87.60	230	154	**(1) RRUS B25/566A 8843** (1) RRUS-E2 B29 (3) TPX-070821 TRIPLEXER	2 1 2		1 5/8" COAX FIBER DC	REMAIN
Sector 3	9	POWERWAVE 7770	POWERWAVE 7770	UMTS	REMAIN	55.00	11.00	5.00	35.00	350	154	(2) LGP 21901 Diplexer (1) TT08-19DB111-001 TMA	2		1 5/8" COAX	REMAIN
	10	CCI HPA-65R-BUU-H8	CCI HPA-65R-BUU-H8	LTE	REMAIN	92.80	14.40	7.30	65.60	350	154	(1) RRUS-11 (1) RRUS-32	1/2		FIBER/DC	REMAIN
	11		**KATHREIN 80010966**	**LTE**	**PROPOSED**	**96.00**	**20.00**	**6.90**	**125.70**	**350**	**154**	**(1) RRUS-B14 4478 (1) RRUS-4478 B5 (2) DBCT108F1V92-1**	**2**		**DC**	**PROPOSED**
	12	QUINTEL QS66512-2	QUINTEL QS66512-2	LTE	REMAIN	72.00	12.00	9.60	123.00	350	154	**(1) RRUS B25/566A 8843** (1) RRUS-E2 B29 (3) TPX-070821 TRIPLEXER	2 1 2		1 5/8" COAX FIBER DC	REMAIN

MASER CONSULTING
— CONNECTICUT —

Customer Loyalty *through* Client Satisfaction
www.maserconsulting.com
Engineers ■ Planners ■ Surveyors
Landscape Architects ■ Environmental Scientists

at&t

smartlink

811 Know what's below. Call before you dig.

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE :	JOB NUMBER :
AS SHOWN	18946018A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
1	07/24/18	ISSUED FOR PERMIT	RA	RA
0	07/09/18	ISSUED FOR REVIEW	AJC	RA

STATE OF CONNECTICUT · PETROS TSOUKALAS · LICENSED · PROFESSIONAL ENGINEER

PETROS TSOUKALAS
CONNECTICUT PROFESSIONAL ENGINEER LICENSE NUMBER: 32577

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF THE RESPONSIBLE LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SITE NAME:

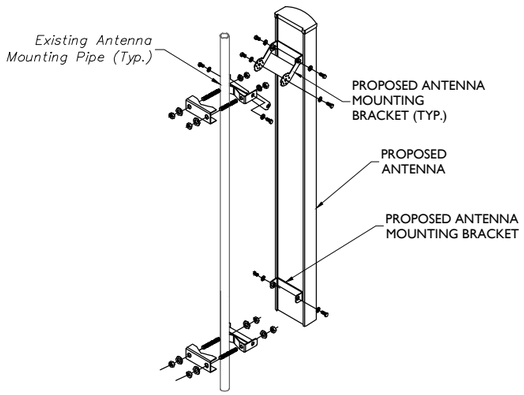
PROSPECT NORTH
FA# 10071211
SITE# CTL05626

151 WATERBURY ROAD
PROSPECT, CT 06712
NEW HAVEN COUNTY

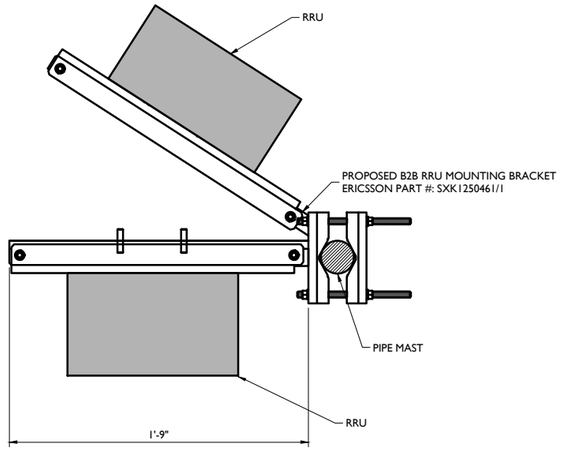
MT. LAUREL OFFICE
2000 Midlantic Drive
Suite 100
Mt. Laurel NJ 08054
Phone: 856.797.0412
Fax: 856.722.1120
email: solutions@maserconsulting.com

SHEET TITLE :
ANTENNA LAYOUTS AND ANTENNA SCHEDULE

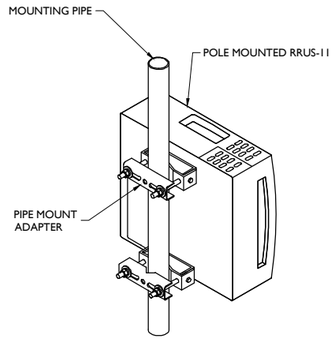
SHEET NUMBER :
C-3

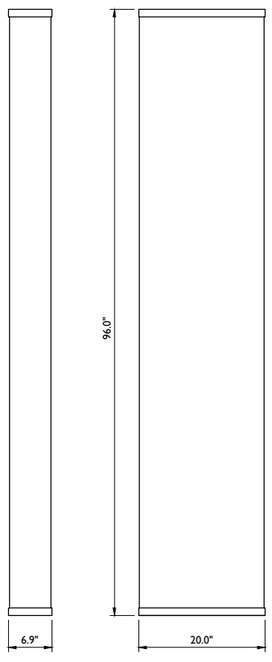


ANTENNA MOUNTING DETAIL
NOT TO SCALE



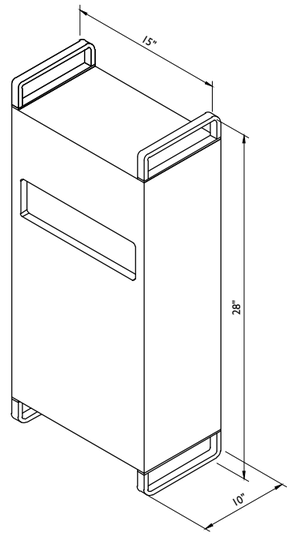
RRU MOUNTING DETAIL
NOT TO SCALE





WEIGHT = 114.6 LBS

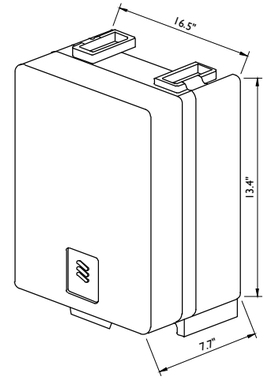
KATHREIN 800-10966



RRUS-8843 B25/B66 DIMENSIONS (H X W X D): 28" X 15" X 10.0" (INCLUDES HANDLES, FEET AND SUNSHIELD)

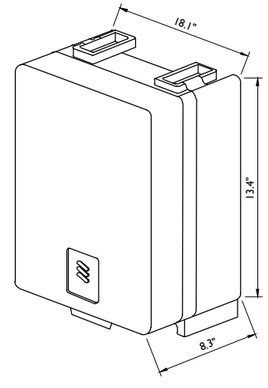
WEIGHT: 85 LBS

RRUS-8843 B25/B66 DETAIL
NOT TO SCALE



DIMENSIONS (H X W X D): 16.5"H X 13.4"W X 7.7"D (INCLUDES SUNSHIELD)
WEIGHT: 59.9 LBS

RRU-4478-B5 DETAIL
NOT TO SCALE



DIMENSIONS (H X W X D): 18.1"H X 13.4"W X 8.3"D (INCLUDES SUNSHIELD)
WEIGHT: 59.4 LBS

RRUS-B14 4478 DETAIL
NOT TO SCALE

MASER CONSULTING CONNECTICUT
Customer Loyalty *through* Client Satisfaction
www.maserconsulting.com
Engineers ■ Planners ■ Surveyors
Landscape Architects ■ Environmental Scientists

at&t

smartlink

811 Know what's below. Call before you dig.

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE : AS SHOWN

JOB NUMBER : 18946018A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
1	07/24/18	ISSUED FOR PERMIT	RA	RA
0	07/09/18	ISSUED FOR REVIEW	AJC	RA

STATE OF CONNECTICUT — PETROS T. SOUKALAS — LICENSED PROFESSIONAL ENGINEER

PETROS T. SOUKALAS
CONNECTICUT PROFESSIONAL ENGINEER LICENSE NUMBER #32671

SITE NAME:

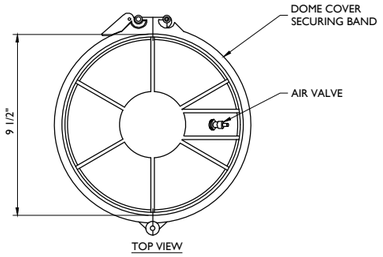
PROSPECT NORTH
FA# 10071211
SITE# CTL05626

151 WATERBURY ROAD
PROSPECT, CT 06712
NEW HAVEN COUNTY

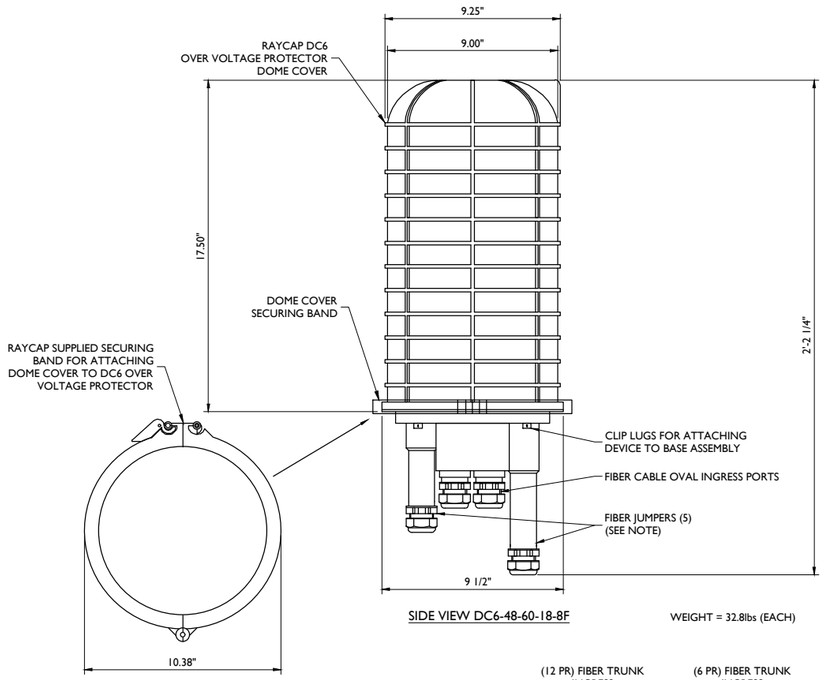
MT. LAUREL OFFICE
2000 Midlantic Drive
Suite 100
Mt. Laurel NJ 08054
Phone: 856.797.0412
Fax: 856.722.1120
email: solutions@maserconsulting.com

SHEET TITLE :
CONSTRUCTION DETAILS

SHEET NUMBER :
A-1

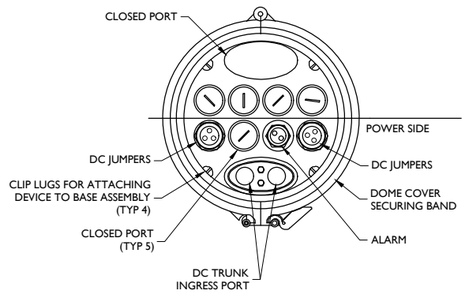


TOP VIEW

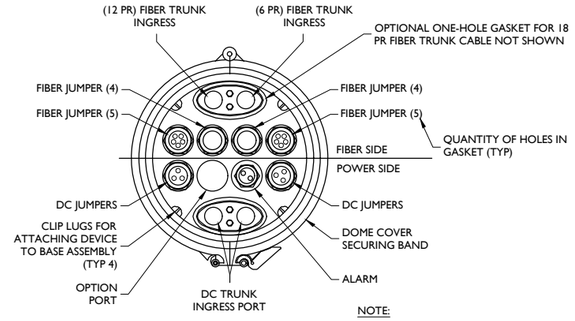


SIDE VIEW DC6-48-60-18-8F

WEIGHT = 32.8lbs (EACH)



BOTTOM VIEW
DC6-48-60-0-8F



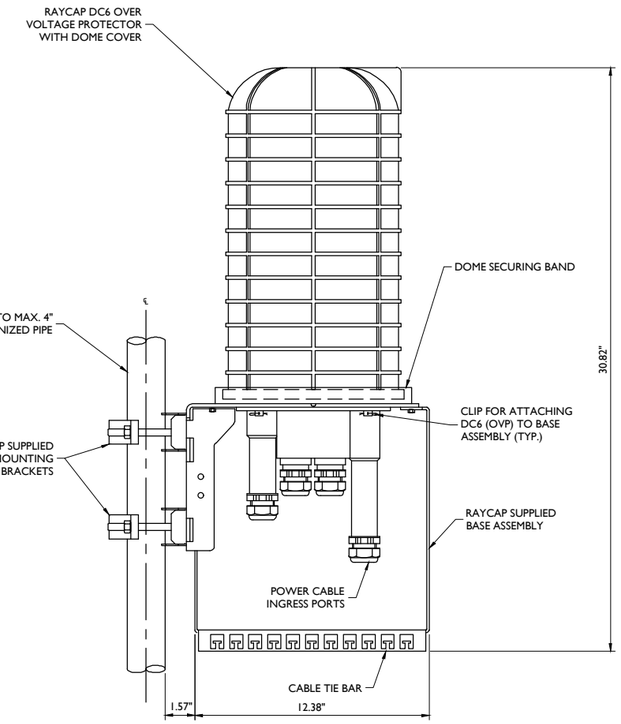
BOTTOM VIEW
DC6-48-60-18-8F

NOTE:

REMOVE CABLE SEALING GLAND AND INSTALL M32x1.5 METRIC-TO-1" NPT ADAPTER (COOPER CROUSE-HINES P/N CAP 740 994 OR EQUIVALENT MFR) WHEN CONNECTING CONDUIT TO OVP.

DC6 SURGE SUPPRESSION DOME DETAIL

NOT TO SCALE



ELEVATION

NOTES:

RAYCAP VIA AT&T SUPPLIES THE DC6 OVER VOLTAGE PROTECTOR AND PIPE MOUNTING BRACKETS. SUBCONTRACTOR SHALL SUPPLY THE PIPE.

RAYCAP DC6-48-60-18-8F & DC6-48-60-0-8F
DC POWER OVER VOLTAGE PROTECTOR (OVP)
POLE MOUNT BASE ASSEMBLY

NOT TO SCALE

MASER CONSULTING
CONNECTICUT

Customer Loyalty *through* Client Satisfaction
www.maserconsulting.com
Engineers ■ Planners ■ Surveyors
Landscape Architects ■ Environmental Scientists

at&t

smartlink

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
Know what's below. Call before you dig.
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE :	JOB NUMBER :
AS SHOWN	18946018A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
1	07/24/18	ISSUED FOR PERMIT	RA	RA
0	07/09/18	ISSUED FOR REVIEW	AJC	RA

STATE OF CONNECTICUT
PETROS T. SOUKALAS
PROFESSIONAL ENGINEER
LICENSED

PETROS T. SOUKALAS
CONNECTICUT PROFESSIONAL ENGINEER LICENSE NUMBER 32871

SITE NAME:

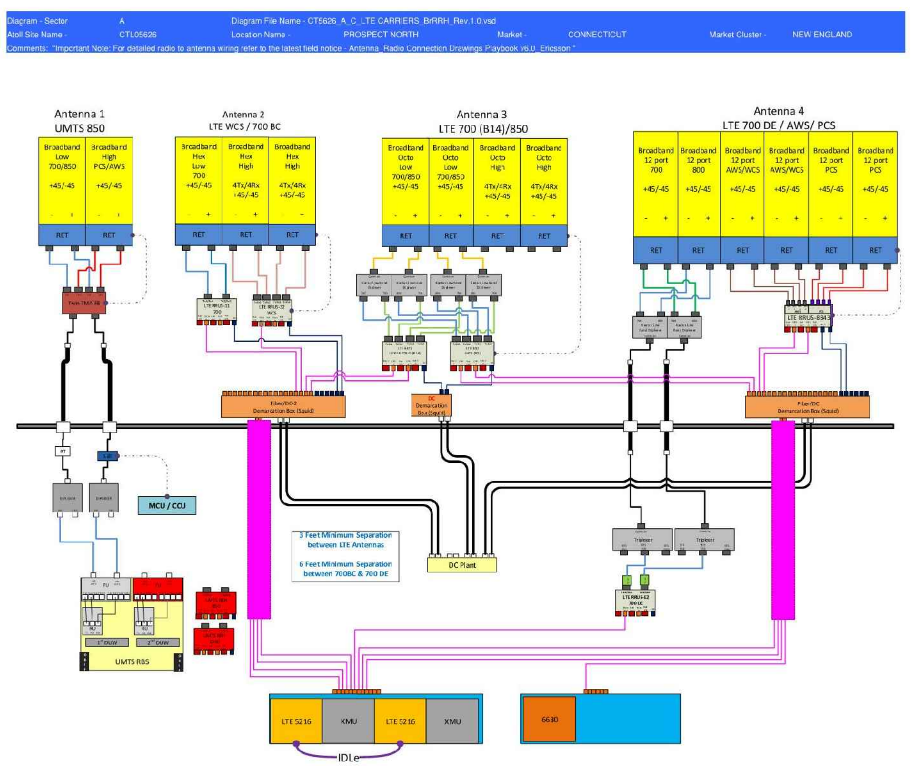
PROSPECT NORTH
FA# 10071211
SITE# CTL05626

151 WATERBURY ROAD
PROSPECT, CT 06712
NEW HAVEN COUNTY

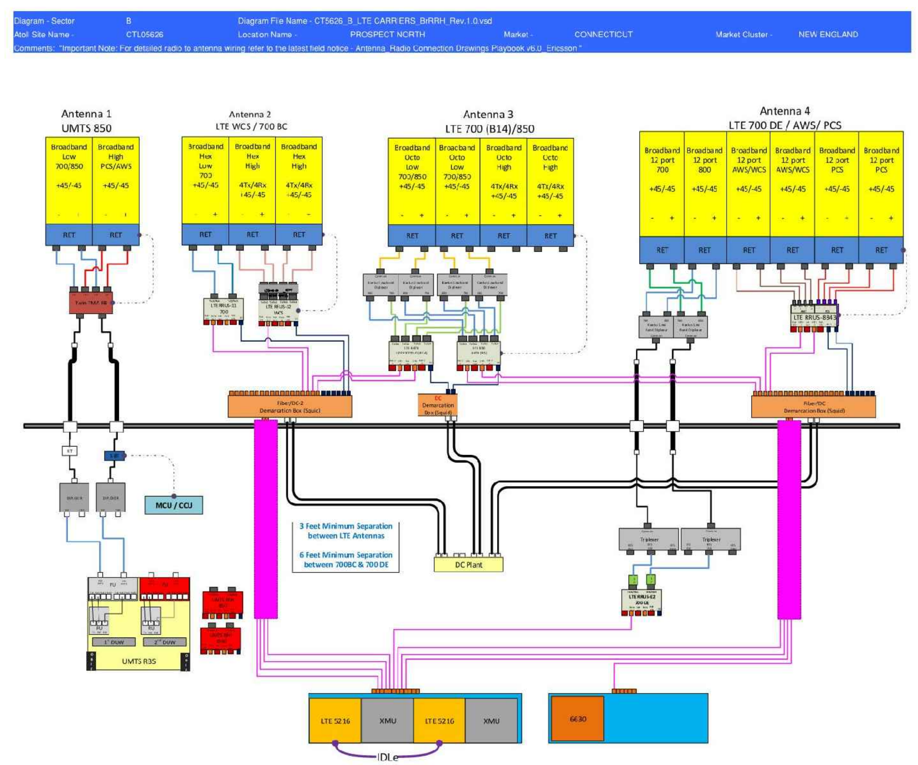
MT. LAUREL OFFICE
2000 Midlantic Drive
Suite 100
Mt. Laurel NJ 08054
Phone: .856.797.0412
Fax: .856.722.1120
email: solutions@maserconsulting.com

SHEET TITLE :
CONSTRUCTION DETAILS

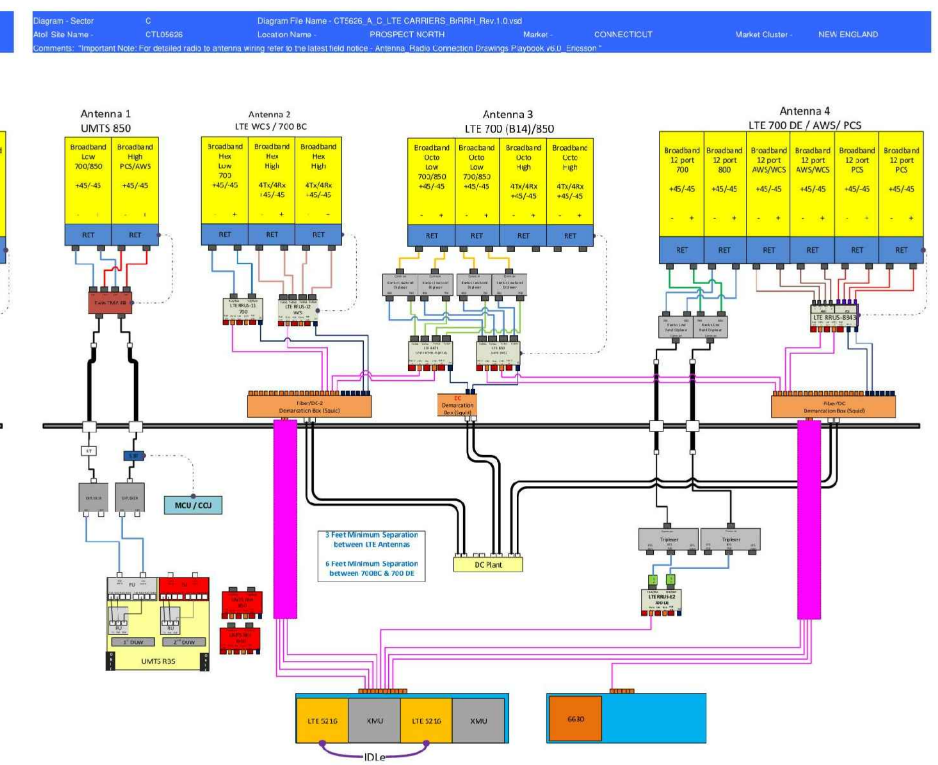
SHEET NUMBER :
A-2



ALPHA SECTOR



BETA SECTOR



GAMMA SECTOR

BASED ON: RF ENGINEERING DESIGN ENTITLED "NEW-ENGLAND_CONNECTICUT_CTL05626_2018-LTE-Next-Carrier_LTE_mh705r_2051A0GWH0_10071211_26038_03-19-2018_As-Built-In-Progress_v3.00", LAST REVISED 06/13/2018.

RF PLUMBING DIAGRAMS

MASER CONSULTING
— CONNECTICUT —

Customer Loyalty *through* Client Satisfaction
www.maserconsulting.com
Engineers ■ Planners ■ Surveyors
Landscape Architects ■ Environmental Scientists

at&t

smartlink

SCALE :	JOB NUMBER :
AS SHOWN	18946018A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
1	07/24/18	ISSUED FOR PERMIT	RA	RA
0	07/09/18	ISSUED FOR REVIEW	AJC	RA

PETROS TSOUKALAS
CONNECTICUT PROFESSIONAL ENGINEER LICENSE NUMBER: 32577

SITE NAME:

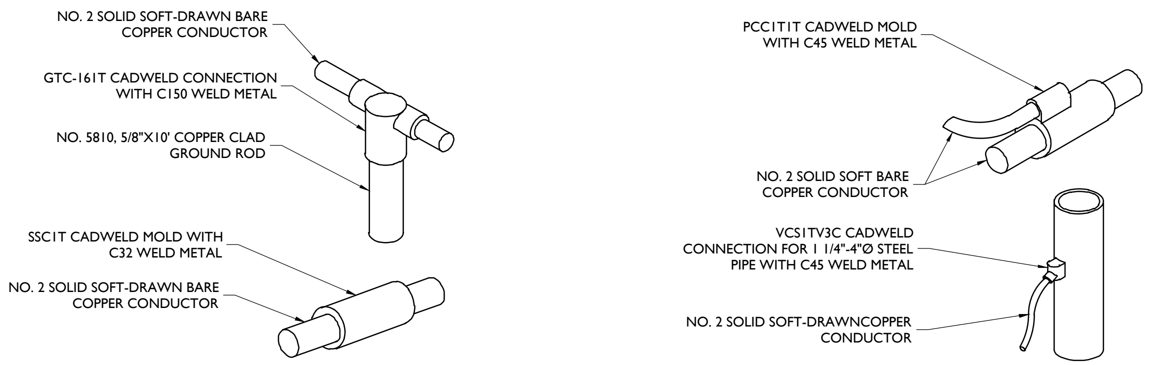
PROSPECT NORTH
FA# 10071211
SITE# CTL05626

151 WATERBURY ROAD
PROSPECT, CT 06712
NEW HAVEN COUNTY

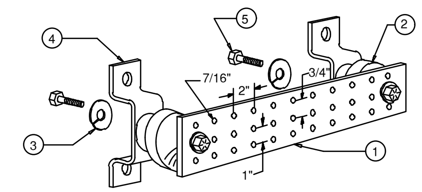
MT. LAUREL OFFICE
2000 Midlantic Drive
Suite 100
Mt. Laurel NJ 08054
Phone: 856.797.0412
Fax: 856.722.1120
email: solutions@maserconsulting.com

SHEET TITLE :
PLUMBING DIAGRAM

SHEET NUMBER :
A-3



CADWELD DETAILS
NOT TO SCALE



LEGEND

1- TINNED COPPER GROUND BAR, 1/4"x4"x20", NEWTON INSTRUMENT CO. CAT. NO. B-6142 OR EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.

2- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4

3- 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8

4- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-5056

5- 5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1

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

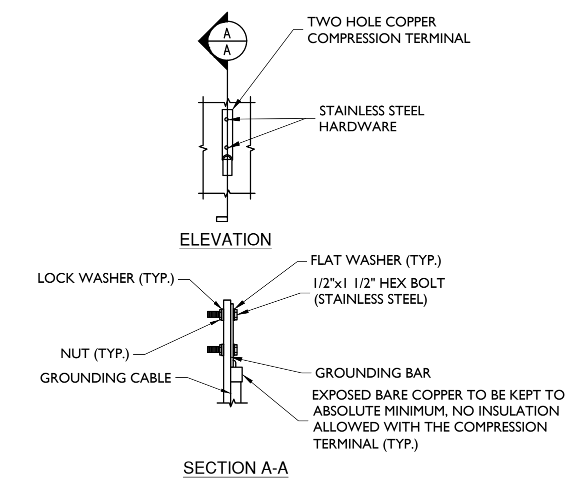
SECTION "P" - SURGE PRODUCERS

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 SUPPLT RETURN BAR (#2)
RECTIFIER FRAMES.

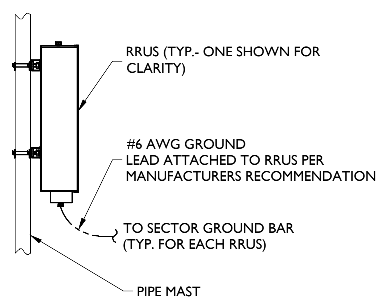
SECTION "A" - SURGE ABSORBERS

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

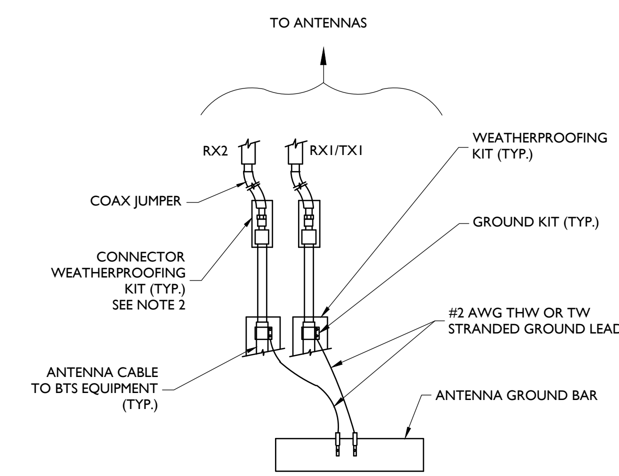
MASTER GROUND BAR
NOT TO SCALE



TYPICAL GROUND BAR CONNECTION DETAIL
NOT TO SCALE



RRU GROUNDING
NOT TO SCALE

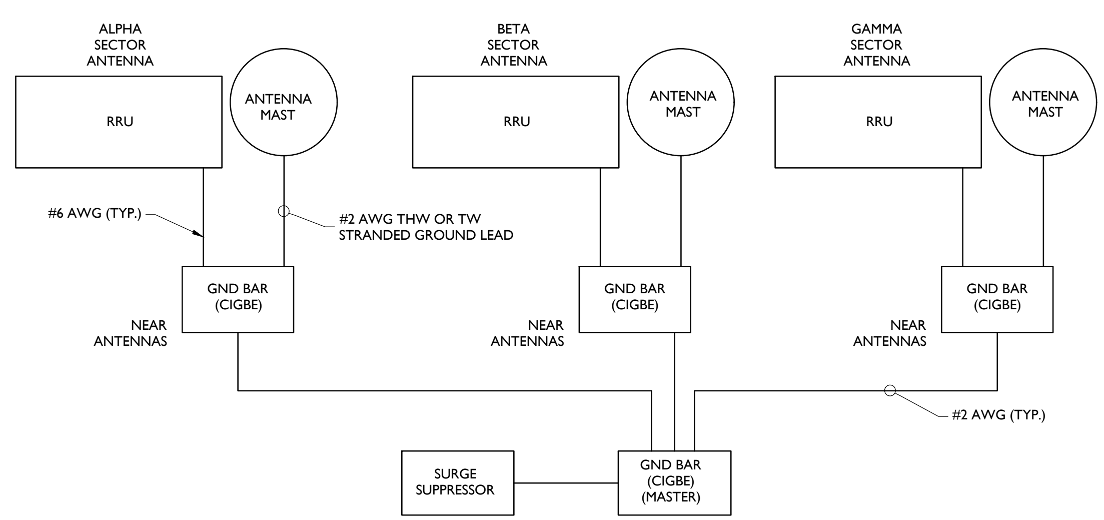


NOTES:

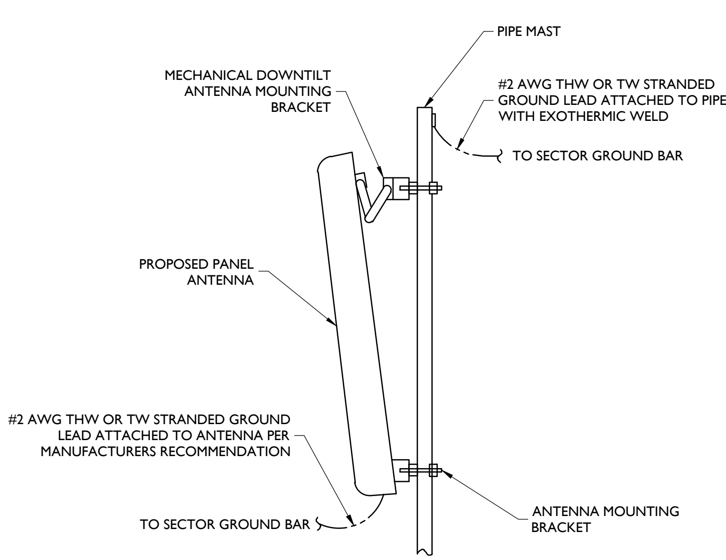
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.

2. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

TYPICAL GROUND WIRE TO GROUNDING BAR
NOT TO SCALE



SCHEMATIC DIAGRAM GROUNDING SYSTEM



ANTENNA GROUNDING

MASER CONSULTING —CONNECTICUT—

Customer Loyalty *through* Client Satisfaction
www.maserconsulting.com
Engineers ■ Planners ■ Surveyors
Landscape Architects ■ Environmental Scientists

at&t

smartlink

811 Know what's below. Call before you dig.

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

SCALE :	JOB NUMBER :
AS SHOWN	18946018A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
1	07/24/18	ISSUED FOR PERMIT	RA	RA
0	07/09/1[illegible]	ISSUED FOR REVIEW	AJC	RA

STATE OF CONNECTICUT PETROS TSOUKALAS LICENSED PROFESSIONAL ENGINEER

PETROS TSOUKALAS
CONNECTICUT PROFESSIONAL ENGINEER - LICENSE NUMBER: 32577

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF THE RESPONSIBLE LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SITE NAME:

PROSPECT NORTH
FA# 10071211
SITE# CTL05626

151 WATERBURY ROAD
PROSPECT, CT 06712
NEW HAVEN COUNTY

MT. LAUREL OFFICE
2000 Midlantic Drive
Suite 100
Mt. Laurel NJ 08054
Phone: 856.797.0412
Fax: 856.722.1120
email: solutions@maserconsulting.com

SHEET TITLE :
GROUNDING AND DETAIL NOTES

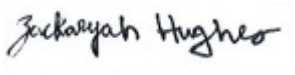
SHEET NUMBER :
G-1

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**150 ft Monopole**
ATC Site Name	:	**Prospect CT, CT**
ATC Site Number	:	**282660**
Engineering Number	:	**OAA734974_C3_01**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**Prospect Waterbury Road**
Carrier Site Number	:	**CTL05626 / 10071211**
Site Location	:	**151 Waterbury Prospect Road** **Prospect, CT 06712-1228** **41.523700,-72.995500**
County	:	**New Haven**
Date	:	**July 6, 2018**
Max Usage	:	**72%**
Result	:	**Pass**

Prepared By:
Zackaryah Hughes
Structural Engineer I



Reviewed By:

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 150 ft monopole to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	ERI Project #25148/001, dated November 13, 2009
Foundation Drawing	ERI Project #25148/002, dated November 13, 2009
Geotechnical Report	FDH Project #09-10144E G1, dated November 9, 2009

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:	100 mph (3-Second Gust, V_{asd}) / 129 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:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.19, 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					
150.0	152.0	3	Powerwave TT08-19DB111-001	Platform w/ Handrails	(6) 0.78" 8 AWG 6 (6) 1 5/8" Coax (2) 0.39" Fiber Trunk	AT&T Mobility
		1	Commscope WCS-IMFQ-AMT			
		3	Raycap DC6-48-60-0-8F			
		3	Ericsson RRUS 32 (50.8 lbs)			
		3	Ericsson RRUS 12			
		1	Ericsson RRUS E2 B29			
		6	Ericsson RRUS-11			
		3	Powerwave 7770.00			
		1	Quintel QS66512-2			
		3	CCI HPA-65R-BUU-H8			
		2	CCI TPA-65R-LCUUUU-H8			
137.0	141.0	3	Ericsson KRY 112 144/1	Low Profile Platform	(12) 1 5/8" Coax (2) 0.27" Cat 5 (1) 1 1/4" Hybriflex (1) 1 5/8" Hybriflex (1) 0.33" Fiber	T-Mobile
		3	Ericsson RRUS 11 B12			
		3	Ericsson AIR 21, 1.3 M, B2A B4P			
		3	Ericsson AIR32 B66Aa/B2a			
		3	Andrew LNX-6515DS-VTM			
	137.0	1	Fastback Networks Intelligent Backhaul Radio 1300 Series			

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
152.0	152.0	3	Ericsson RRUS 12	-	-	AT&T Mobility
		6	Ericsson RRUS A2			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
150.0	152.0	9	Kaelus DBCT108F1V92-1	Platform w/ Handrails	(3) 2" conduit (6) 1 5/8" Coax (2) 0.78" 8 AWG 6	AT&T Mobility
		3	Powerwave TT08-19DB111-001			
		1	Raycap DC6-48-60-18-8F ("Squid")			
		3	Ericsson Radio 8843 - B2 + B66A			
		3	Ericsson RRUS 4478 B14			
		3	Ericsson RRUS 4478 B5			
		3	Kathrein 80010966			

[1]Mount 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).

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	16%	Pass
Shaft	51%	Pass
Base Plate	72%	Pass
Flanges	71%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	4,816.0	4,816.0	2,293.0	48%
Shear (Kips)	50.0	50.0	21.6	43%

*** 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 and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
150.0	Kaelus DBCT108F1V92-1	AT&T Mobility	0.651	0.469
	Powerwave TT08-19DB111-001			
	Raycap DC6-48-60-18-8F ("Squid")			
	Ericsson Radio 8843 - B2 + B66A			
	Ericsson RRUS 4478 B5			
	Ericsson RRUS 4478 B14			
	Kathrein Scala 80010966			

***Deflection 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:

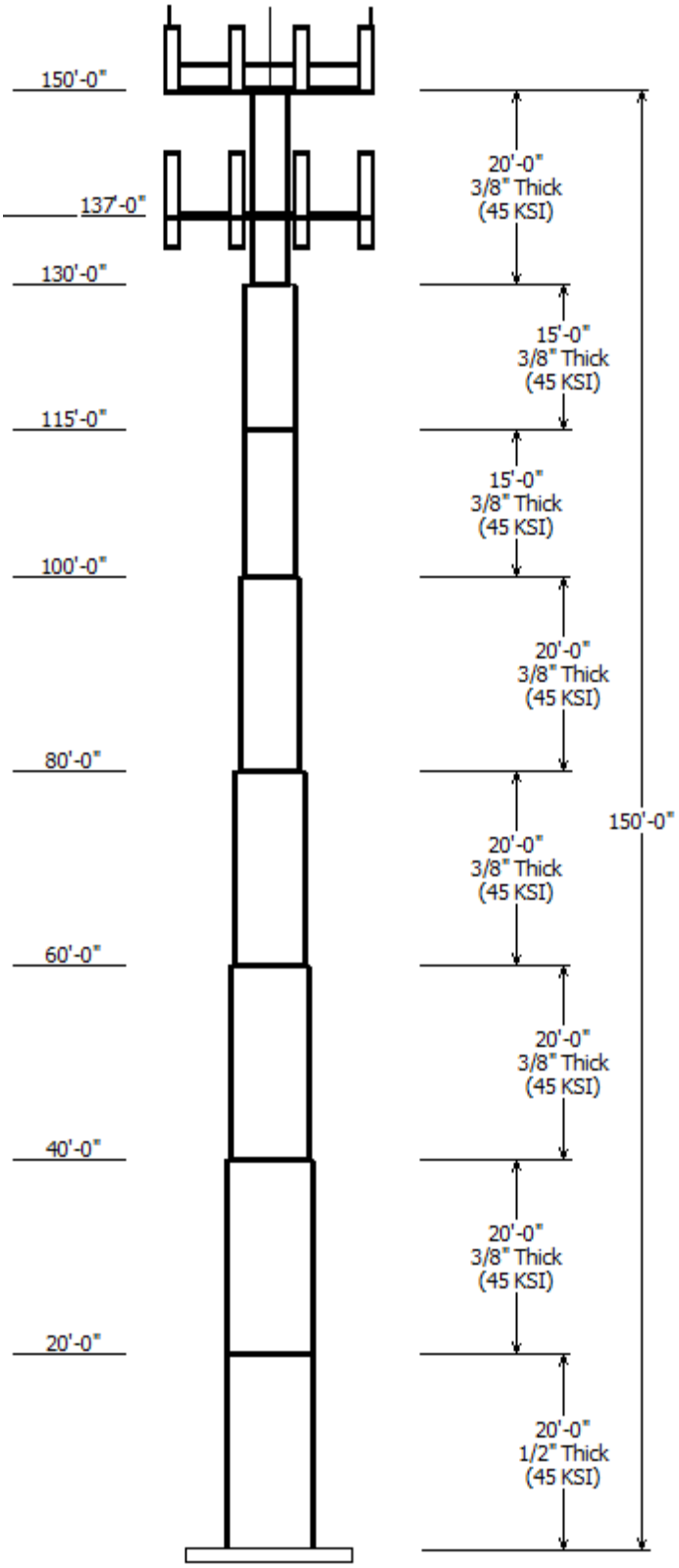
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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.



Job Information

Pole :	282660	Code:	ANSI/TIA-222-G
Location :	PROSPECT CT, CT		
Description :			
Client :	AT&T MOBILITY	Struct Class :	II
Shape :	Round	Exposure :	B
Height :	150.00 (ft)	Topo :	1
Base Elev (ft):	0.00		
Taper:	0.000000 (in/ft)		

Sections Properties

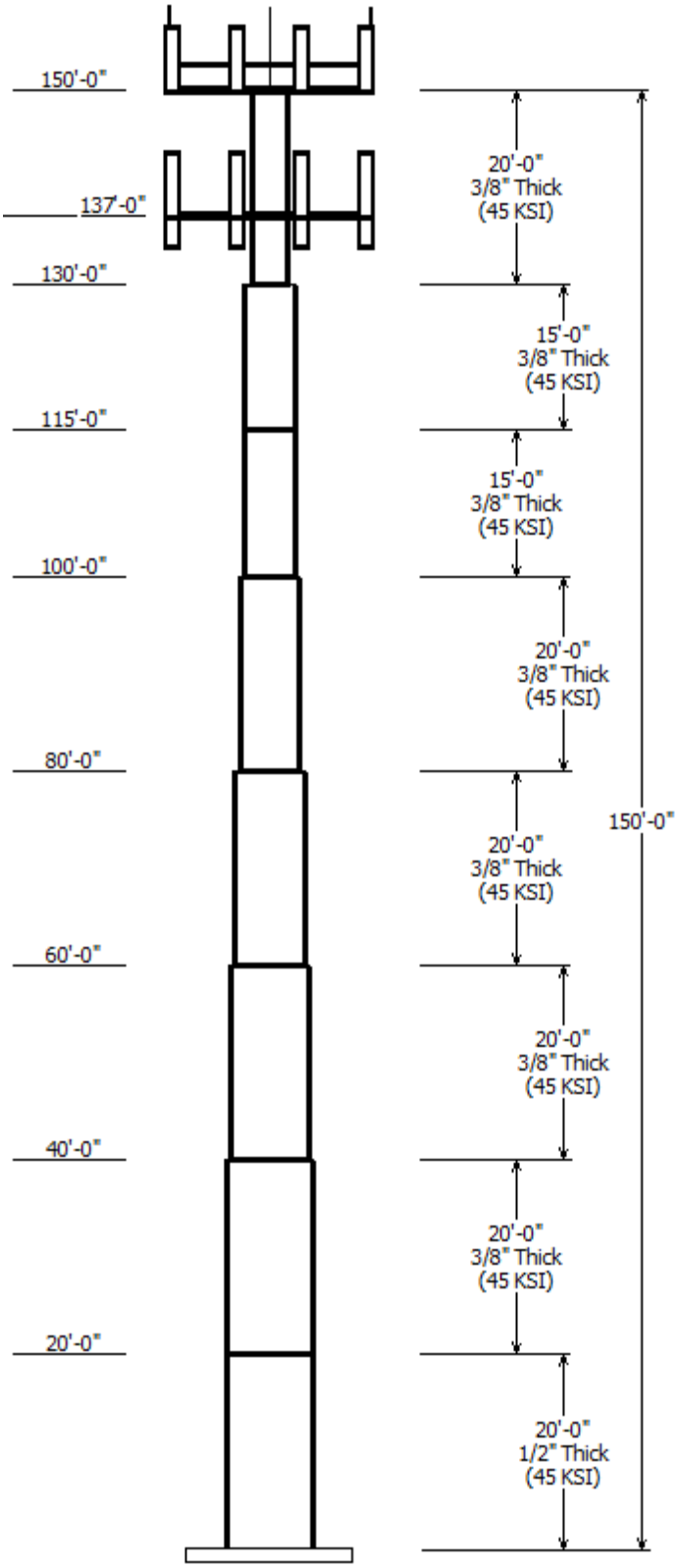
Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Steel Grade Shape	(ksi)
1	20.000	60.00	60.00	0.500		0.000	Round	45
2	20.000	60.00	60.00	0.375	Butt Joint	0.000	Round	45
3	20.000	54.00	54.00	0.375	Butt Joint	0.000	Round	45
4	20.000	48.00	48.00	0.375	Butt Joint	0.000	Round	45
5	20.000	42.00	42.00	0.375	Butt Joint	0.000	Round	45
6	15.000	36.00	36.00	0.375	Butt Joint	0.000	Round	45
7	15.000	36.00	36.00	0.375	Butt Joint	0.000	Round	45
8	20.000	24.00	24.00	0.375	Butt Joint	0.000	Round	45

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
150.000	152.000	3	Kathrein Scala 80010966
150.000	152.000	9	Kaelus DBCT108F1V92-1
150.000	152.000	3	Ericsson RRUS 4478 B14
150.000	152.000	3	Ericsson RRUS 4478 B5
150.000	152.000	3	Ericsson Radio 8843 - B2 + B66
150.000	152.000	1	Raycap DC6-48-60-18-8F
150.000	152.000	3	Powerwave TT08-19DB111-001
150.000	150.000	1	Round Platform w/ Handrails
150.000	152.000	2	CCI TPA-65R-LCUUUU-H8
150.000	152.000	3	CCI HPA-65R-BUU-H8
150.000	152.000	1	Quintel QS66512-2
150.000	152.000	3	Powerwave Allgon 7770.00
150.000	152.000	6	Ericsson RRUS-11
150.000	152.000	1	Ericsson RRUS E2 B29
150.000	152.000	3	Ericsson RRUS 12
150.000	152.000	3	Ericsson RRUS 32 (50.8 lbs)
150.000	152.000	3	Raycap DC6-48-60-0-8F
150.000	152.000	1	Commscope WCS-IMFQ-AMT
150.000	152.000	3	Powerwave TT08-19DB111-001
137.000	137.000	1	Round Low Profile Platform
137.000	141.000	3	Andrew LNX-6515DS-VTM
137.000	141.000	3	Ericsson AIR32 B66Aa/B2a
137.000	141.000	3	Ericsson AIR 21, 1.3 M, B2A B4
137.000	141.000	3	Ericsson RRUS 11 B12
137.000	137.000	1	Fastback Networks Intelligent
137.000	141.000	3	Ericsson KRY 112 144/1

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
0.000	137.0	0.27" Cat 5	No
0.000	137.0	0.33" (8.7mm)	No
0.000	137.0	1 1/4" Hybriflex	No
0.000	137.0	1 5/8" Coax	No
0.000	137.0	1 5/8" Hybriflex	No
0.000	150.0	0.39" Fiber Trunk	No



0.000	150.0	0.78" 8 AWG 6	No
0.000	150.0	1 5/8" Coax	No
0.000	150.0	2" conduit	No
0.000	150.0	2" conduit	No

Load Cases

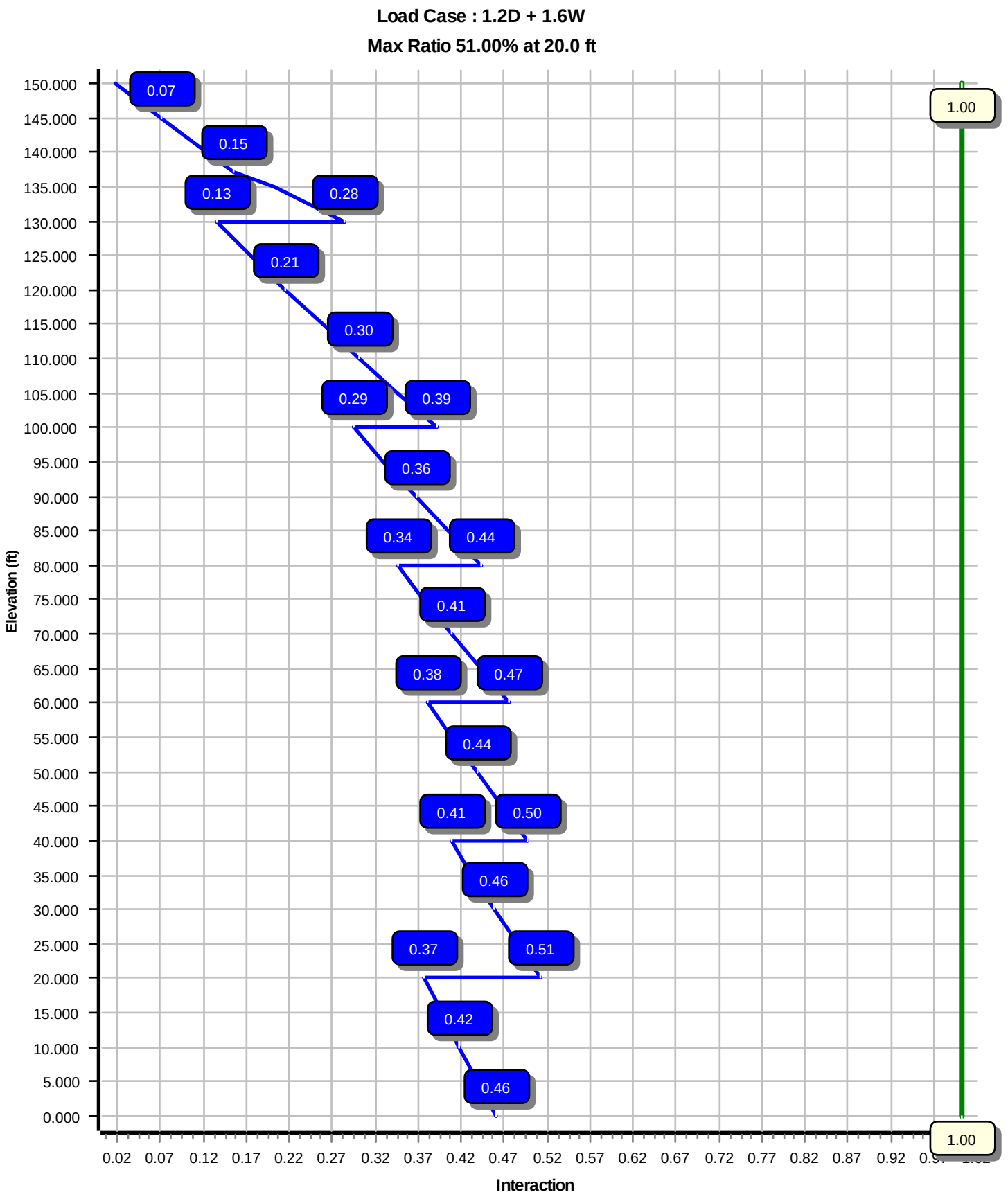
1.2D + 1.6W	100 mph with No Ice
0.9D + 1.6W	100 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2293.05	21.56	49.66
0.9D + 1.6W	2278.92	21.55	37.24
1.2D + 1.0Di + 1.0Wi	611.36	6.11	72.54
(1.2 + 0.2Sds) * DL + E ELFM	193.28	1.61	49.13
(1.2 + 0.2Sds) * DL + E EMAM	314.54	2.51	49.13
(0.9 - 0.2Sds) * DL + E ELFM	191.85	1.61	34.07
(0.9 - 0.2Sds) * DL + E EMAM	312.03	2.51	34.07
1.0D + 1.0W	513.80	4.85	41.40

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000


Load Case : 1.2D + 1.6W
Max Ratio 51.00% at 20.0 ft
Elevation (ft)
150.000
145.000
140.000
135.000
130.000
125.000
120.000
115.000
110.000
105.000
100.000
95.000
90.000
85.000
80.000
75.000
70.000
65.000
60.000
55.000
50.000
45.000
40.000
35.000
30.000
25.000
20.000
15.000
10.000
5.000
0.000
0.07
0.15
0.13
0.28
0.21
0.30
0.29
0.39
0.36
0.34
0.44
0.41
0.38
0.47
0.44
0.41
0.50
0.46
0.37
0.51
0.42
0.46
1.00
1.00
0.02 0.07 0.12 0.17 0.22 0.27 0.32 0.37 0.42 0.47 0.52 0.57 0.62 0.67 0.72 0.77 0.82 0.87 0.92
Interaction

Site Number: 282660 Code: ANSI/TIA-222-G

Site Name: PROSPECT CT, CT Engineering Number:OAA734974_C3_01 7/6/2018 11:21:18 AM

Customer: AT&T MOBILITY

Analysis Parameters

Location :	NEW HAVEN County, CT	Height (ft) :	150
Code :	ANSI/TIA-222-G	Base Diameter (in) :	60.00
Shape :	Round	Top Diameter (in) :	24.00
Pole Type :	Stepped	Taper (in/ft) :	0.000
Pole Manfacturer :	ERI	Rotation (deg) :	0.00

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	100 mph
Exposure Category:	B	Design Wind Speed With Ice:	50 mph
Topographic Category:	1	Operational Wind Speed:	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):	1.76				
T_L (sec):	6	p:	1	C_s:	0.039
S_s:	0.188	S_1:	0.064	C_s Max:	0.039
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.201	S_{d1}:	0.102		

Load Cases

1.2D + 1.6W	100 mph with No Ice
0.9D + 1.6W	100 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E ELFM	Seismic Equivalent Lateral Forces Method
(1.2 + 0.2Sds) * DL + E EMAM	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E ELFM	Seismic (Reduced DL) Equivalent Lateral Forces Method
(0.9 - 0.2Sds) * DL + E EMAM	Seismic (Reduced DL) Equivalent Modal Analysis Method
1.0D + 1.0W	Serviceability 60 mph

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-R	20.000	0.5000	45		0.00	6,361	60.00	0.00	93.46	41391.7	0.00	120.00	60.00	20.00	93.46	41391.7	0.00	120.00	0.000000
2-R	20.000	0.3750	45	Butt	0.00	4,780	60.00	20.00	70.24	31239.9	0.00	160.00	60.00	40.00	70.24	31239.9	0.00	160.00	0.000000
3-R	20.000	0.3750	45	Butt	0.00	4,299	54.00	40.00	63.18	22726.1	0.00	144.00	54.00	60.00	63.18	22726.1	0.00	144.00	0.000000
4-R	20.000	0.3750	45	Butt	0.00	3,818	48.00	60.00	56.11	15919.5	0.00	128.00	48.00	80.00	56.11	15919.5	0.00	128.00	0.000000
5-R	20.000	0.3750	45	Butt	0.00	3,337	42.00	80.00	49.04	10628.9	0.00	112.00	42.00	100.00	49.04	10628.9	0.00	112.00	0.000000
6-R	15.000	0.3750	45	Butt	0.00	2,142	36.00	100.00	41.97	6663.3	0.00	96.00	36.00	115.00	41.97	6663.3	0.00	96.00	0.000000
7-R	15.000	0.3750	45	Butt	0.00	2,142	36.00	115.00	41.97	6663.3	0.00	96.00	36.00	130.00	41.97	6663.3	0.00	96.00	0.000000
8-R	20.000	0.3750	45	Butt	0.00	1,894	24.00	130.00	27.83	1943.3	0.00	64.00	24.00	150.00	27.83	1943.3	0.00	64.00	0.000000
				Shaft Weight		28,775													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Distance From Face (ft)	Vert Ecc (ft)	Weight (lb)	No Ice EPAa (sf)	Orientation Factor
150.00	CCI HPA-65R-BUU-H8	3	0.000	2.000	68.00	12.980	0.67
150.00	CCI TPA-65R-LCUUUU-H8	2	0.000	2.000	81.60	13.300	0.69
150.00	Commscope WCS-IMFQ-AMT	1	0.000	2.000	29.50	0.990	0.50
150.00	Ericsson Radio 8843 - B2 + B66	3	0.000	2.000	70.00	1.650	0.50
150.00	Ericsson RRUS 12	3	0.000	2.000	50.00	3.150	0.50
150.00	Ericsson RRUS 32 (50.8 lbs)	3	0.000	2.000	50.80	2.690	0.50
150.00	Ericsson RRUS 4478 B14	3	0.000	2.000	59.90	1.840	0.50
150.00	Ericsson RRUS 4478 B5	3	0.000	2.000	59.90	1.840	0.50
150.00	Ericsson RRUS E2 B29	1	0.000	2.000	60.00	3.150	0.50
150.00	Ericsson RRUS-11	6	0.000	2.000	55.00	3.790	0.50
150.00	Kaelus DBCT108F1V92-1	9	0.000	2.000	13.90	0.610	0.50
150.00	Kathrein Scala 80010966	3	0.000	2.000	114.60	17.360	0.63
150.00	Powerwave Allgon 7770.00	3	0.000	2.000	35.00	5.510	0.65
150.00	Powerwave TT08-19DB111-001	3	0.000	2.000	22.00	0.920	0.50
150.00	Powerwave TT08-19DB111-001	3	0.000	2.000	22.00	0.920	0.50
150.00	Quintel QS66512-2	1	0.000	2.000	111.00	8.130	0.74
150.00	Raycap DC6-48-60-0-8F	3	0.000	2.000	32.80	1.190	1.00
150.00	Raycap DC6-48-60-18-8F ("Squid	1	0.000	2.000	31.80	1.280	1.00
150.00	Round Platform w/ Handrails	1	0.000	0.000	2000.00	27.200	1.00
137.00	Andrew LNX-6515DS-VTM	3	0.000	4.000	51.30	11.430	0.70
137.00	Ericsson AIR 21, 1.3 M, B2A B4	3	0.000	4.000	83.00	6.050	0.71
137.00	Ericsson AIR32 B66Aa/B2a	3	0.000	4.000	132.20	6.510	0.71
137.00	Ericsson KRY 112 144/1	3	0.000	4.000	11.00	0.410	0.50
137.00	Ericsson RRUS 11 B12	3	0.000	4.000	50.70	2.790	0.50
137.00	Fastback Networks Intelligent	1	0.000	0.000	8.80	0.780	0.50
137.00	Round Low Profile Platform	1	0.000	0.000	1500.00	21.700	1.00
Totals	Num Loadings:26	72			7099.00		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Diameter (in)	Coax Weight (lb/ft)	Flat	Projected Width (in)	Exposed To Wind	Carrier
0.00	150.00	2	0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	150.00	8	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	150.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
0.00	150.00	1	2" conduit	2.38	3.65	N	0.00	N	AT&T Mobility
0.00	150.00	2	2" conduit	2.38	3.65	N	0.00	N	AT&T Mobility
0.00	137.00	2	0.27" Cat 5	0.27	0.03	N	0.00	N	T-Mobile

0.00	137.00	1	0.33" (8.7mm) Fiber	0.33	0.05	N	0.00	N	T-Mobile
0.00	137.00	1	1 1/4" Hybriflex	1.54	1.00	N	0.00	N	T-Mobile
0.00	137.00	12	1 5/8" Coax	1.98	0.82	N	0.00	N	T-Mobile
0.00	137.00	1	1 5/8" Hybriflex	1.98	1.30	N	0.00	N	T-Mobile

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.5000	60.000	93.462	41,391.7	0.00	120.00	39.2	1379.	1770.	0.0
5.00		0.5000	60.000	93.462	41,391.7	0.00	120.00	39.2	1379.	1770.	1,590.2
10.00		0.5000	60.000	93.462	41,391.7	0.00	120.00	39.2	1379.	1770.	1,590.2
15.00		0.5000	60.000	93.462	41,391.7	0.00	120.00	39.2	1379.	1770.	1,590.2
20.00	Top - Section 1	0.5000	60.000	93.462	41,391.7	0.00	120.00	39.2	1379.	1770.	1,590.2
20.00	Bot - Section 2	0.3750	60.000	70.244	31,239.9	0.00	160.00	36.9	1041.	1333.	
25.00		0.3750	60.000	70.244	31,239.9	0.00	160.00	36.9	1041.	1333.	1,195.1
30.00		0.3750	60.000	70.244	31,239.9	0.00	160.00	36.9	1041.	1333.	1,195.1
35.00		0.3750	60.000	70.244	31,239.9	0.00	160.00	36.9	1041.	1333.	1,195.1
40.00	Top - Section 2	0.3750	60.000	70.244	31,239.9	0.00	160.00	36.9	1041.	1333.	1,195.1
40.00	Bot - Section 3	0.3750	54.000	63.175	22,726.1	0.00	144.00	37.6	841.7	1078.	
45.00		0.3750	54.000	63.175	22,726.1	0.00	144.00	37.6	841.7	1078.	1,074.9
50.00		0.3750	54.000	63.175	22,726.1	0.00	144.00	37.6	841.7	1078.	1,074.9
55.00		0.3750	54.000	63.175	22,726.1	0.00	144.00	37.6	841.7	1078.	1,074.9
60.00	Top - Section 3	0.3750	54.000	63.175	22,726.1	0.00	144.00	37.6	841.7	1078.	1,074.9
60.00	Bot - Section 4	0.3750	48.000	56.107	15,919.5	0.00	128.00	38.6	663.3	850.6	
65.00		0.3750	48.000	56.107	15,919.5	0.00	128.00	38.6	663.3	850.6	954.6
70.00		0.3750	48.000	56.107	15,919.5	0.00	128.00	38.6	663.3	850.6	954.6
75.00		0.3750	48.000	56.107	15,919.5	0.00	128.00	38.6	663.3	850.6	954.6
80.00	Top - Section 4	0.3750	48.000	56.107	15,919.5	0.00	128.00	38.6	663.3	850.6	954.6
80.00	Bot - Section 5	0.3750	42.000	49.038	10,628.9	0.00	112.00	39.8	506.1	649.8	
85.00		0.3750	42.000	49.038	10,628.9	0.00	112.00	39.8	506.1	649.8	834.3
90.00		0.3750	42.000	49.038	10,628.9	0.00	112.00	39.8	506.1	649.8	834.3
95.00		0.3750	42.000	49.038	10,628.9	0.00	112.00	39.8	506.1	649.8	834.3
100.0	Top - Section 5	0.3750	42.000	49.038	10,628.9	0.00	112.00	39.8	506.1	649.8	834.3
100.0	Bot - Section 6	0.3750	36.000	41.970	6,663.3	0.00	96.00	41.4	370.2	475.9	
105.0		0.3750	36.000	41.970	6,663.3	0.00	96.00	41.4	370.2	475.9	714.1
110.0		0.3750	36.000	41.970	6,663.3	0.00	96.00	41.4	370.2	475.9	714.1
115.0	Top - Section 6	0.3750	36.000	41.970	6,663.3	0.00	96.00	41.4	370.2	475.9	714.1
115.0	Bot - Section 7	0.3750	36.000	41.970	6,663.3	0.00	96.00	41.4	370.2	475.9	
120.0		0.3750	36.000	41.970	6,663.3	0.00	96.00	41.4	370.2	475.9	714.1
125.0		0.3750	36.000	41.970	6,663.3	0.00	96.00	41.4	370.2	475.9	714.1
130.0	Top - Section 7	0.3750	36.000	41.970	6,663.3	0.00	96.00	41.4	370.2	475.9	714.1
130.0	Bot - Section 8	0.3750	24.000	27.833	1,943.3	0.00	64.00	45.0	161.9	209.3	
135.0		0.3750	24.000	27.833	1,943.3	0.00	64.00	45.0	161.9	209.3	473.5
137.0		0.3750	24.000	27.833	1,943.3	0.00	64.00	45.0	161.9	209.3	189.4
140.0		0.3750	24.000	27.833	1,943.3	0.00	64.00	45.0	161.9	209.3	284.1
145.0		0.3750	24.000	27.833	1,943.3	0.00	64.00	45.0	161.9	209.3	473.5
150.0		0.3750	24.000	27.833	1,943.3	0.00	64.00	45.0	161.9	209.3	473.5
											28,774.9

Site Number: 282660 Code: ANSI/TIA-222-G

Site Name: PROSPECT CT, CT Engineering Number:OAA734974_C3_01 7/6/2018 11:21:18 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.6W 100 mph with No Ice 19 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00

Dead Load Factor :1.20

Wind Load Factor :1.60

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		224.7	0.0					0.0	0.0	224.7	0.0	0.0	0.0
5.00		449.4	1,908.2					0.0	227.3	449.4	2,135.5	0.0	0.0
10.00		449.4	1,908.2					0.0	227.3	449.4	2,135.5	0.0	0.0
15.00		449.4	1,908.2					0.0	227.3	449.4	2,135.5	0.0	0.0
20.00	Top - Section 1	449.4	1,908.2					0.0	227.3	449.4	2,135.5	0.0	0.0
25.00		449.4	1,434.1					0.0	227.3	449.4	1,661.4	0.0	0.0
30.00		454.8	1,434.1					0.0	227.3	454.8	1,661.4	0.0	0.0
35.00		469.8	1,434.1					0.0	227.3	469.8	1,661.4	0.0	0.0
40.00	Top - Section 2	463.3	1,434.1					0.0	227.3	463.3	1,661.4	0.0	0.0
45.00		454.4	1,289.8					0.0	227.3	454.4	1,517.1	0.0	0.0
50.00		468.3	1,289.8					0.0	227.3	468.3	1,517.1	0.0	0.0
55.00		481.3	1,289.8					0.0	227.3	481.3	1,517.1	0.0	0.0
60.00	Top - Section 3	465.7	1,289.8					0.0	227.3	465.7	1,517.1	0.0	0.0
65.00		448.7	1,145.5					0.0	227.3	448.7	1,372.8	0.0	0.0
70.00		458.4	1,145.5					0.0	227.3	458.4	1,372.8	0.0	0.0
75.00		467.5	1,145.5					0.0	227.3	467.5	1,372.8	0.0	0.0
80.00	Top - Section 4	446.2	1,145.5					0.0	227.3	446.2	1,372.8	0.0	0.0
85.00		424.0	1,001.2					0.0	227.3	424.0	1,228.5	0.0	0.0
90.00		430.9	1,001.2					0.0	227.3	430.9	1,228.5	0.0	0.0
95.00		437.7	1,001.2					0.0	227.3	437.7	1,228.5	0.0	0.0
100.00	Top - Section 5	412.2	1,001.2					0.0	227.3	412.2	1,228.5	0.0	0.0
105.00		386.0	856.9					0.0	227.3	386.0	1,084.2	0.0	0.0
110.00		391.2	856.9					0.0	227.3	391.2	1,084.2	0.0	0.0
115.00	Top - Section 6	396.2	856.9					0.0	227.3	396.2	1,084.2	0.0	0.0
120.00		401.0	856.9					0.0	227.3	401.0	1,084.2	0.0	0.0
125.00		405.7	856.9					0.0	227.3	405.7	1,084.2	0.0	0.0
130.00	Top - Section 7	341.6	856.9					0.0	227.3	341.6	1,084.2	0.0	0.0
135.00		192.9	568.2					0.0	227.3	192.9	795.5	0.0	0.0
137.00	Appurtenance(s)	139.0	227.3	3,092.6	0.0	8,295.6	2,992.1	0.0	90.9	3,231.6	3,310.3	0.0	0.0
140.00		224.0	340.9					0.0	92.3	224.0	433.2	0.0	0.0
145.00		282.2	568.2					0.0	153.8	282.2	722.0	0.0	0.0
150.00	Appurtenance(s)	141.8	568.2	6,103.4	0.0	9,623.1	5,526.7	0.0	153.8	6,245.2	6,248.7	0.0	0.0
								Totals:		21,752.6	49,675.9	0.00	0.00

Load Case: 1.2D + 1.6W 100 mph with No Ice 19 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.20
Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.66	-21.56	0.00	-2,293.05	0.00	2,293.05	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.458
5.00	-47.50	-21.17	0.00	-2,185.24	0.00	2,185.24	3,293.92	1,646.96	8,093.29	5,174.22	0.04	-0.08	0.437
10.00	-45.34	-20.78	0.00	-2,079.38	0.00	2,079.38	3,293.92	1,646.96	8,093.29	5,174.22	0.16	-0.15	0.416
15.00	-43.18	-20.37	0.00	-1,975.51	0.00	1,975.51	3,293.92	1,646.96	8,093.29	5,174.22	0.36	-0.22	0.395
20.00	-41.02	-19.96	0.00	-1,873.66	0.00	1,873.66	3,293.92	1,646.96	8,093.29	5,174.22	0.62	-0.29	0.375
20.00	-41.02	-19.96	0.00	-1,873.66	0.00	1,873.66	2,330.87	1,165.43	5,751.12	3,807.50	0.62	-0.29	0.510
25.00	-39.34	-19.55	0.00	-1,773.87	0.00	1,773.87	2,330.87	1,165.43	5,751.12	3,807.50	0.96	-0.35	0.483
30.00	-37.66	-19.13	0.00	-1,676.13	0.00	1,676.13	2,330.87	1,165.43	5,751.12	3,807.50	1.36	-0.43	0.457
35.00	-35.98	-18.69	0.00	-1,580.48	0.00	1,580.48	2,330.87	1,165.43	5,751.12	3,807.50	1.85	-0.50	0.431
40.00	-34.30	-18.26	0.00	-1,487.01	0.00	1,487.01	2,330.87	1,165.43	5,751.12	3,807.50	2.42	-0.57	0.406
40.00	-34.30	-18.26	0.00	-1,487.01	0.00	1,487.01	2,139.71	1,069.86	4,744.89	3,103.93	2.42	-0.57	0.495
45.00	-32.76	-17.83	0.00	-1,395.74	0.00	1,395.74	2,139.71	1,069.86	4,744.89	3,103.93	3.05	-0.64	0.465
50.00	-31.23	-17.39	0.00	-1,306.60	0.00	1,306.60	2,139.71	1,069.86	4,744.89	3,103.93	3.76	-0.72	0.436
55.00	-29.69	-16.92	0.00	-1,219.67	0.00	1,219.67	2,139.71	1,069.86	4,744.89	3,103.93	4.56	-0.80	0.407
60.00	-28.16	-16.47	0.00	-1,135.05	0.00	1,135.05	2,139.71	1,069.86	4,744.89	3,103.93	5.44	-0.87	0.379
60.00	-28.16	-16.47	0.00	-1,135.05	0.00	1,135.05	1,948.48	974.24	3,834.02	2,471.99	5.44	-0.87	0.474
65.00	-26.77	-16.04	0.00	-1,052.70	0.00	1,052.70	1,948.48	974.24	3,834.02	2,471.99	6.39	-0.94	0.440
70.00	-25.39	-15.59	0.00	-972.51	0.00	972.51	1,948.48	974.24	3,834.02	2,471.99	7.43	-1.03	0.407
75.00	-24.00	-15.14	0.00	-894.54	0.00	894.54	1,948.48	974.24	3,834.02	2,471.99	8.56	-1.12	0.374
80.00	-22.62	-14.69	0.00	-818.86	0.00	818.86	1,948.48	974.24	3,834.02	2,471.99	9.77	-1.19	0.343
80.00	-22.62	-14.69	0.00	-818.86	0.00	818.86	1,757.14	878.57	3,018.53	1,911.67	9.77	-1.19	0.442
85.00	-21.38	-14.27	0.00	-745.41	0.00	745.41	1,757.14	878.57	3,018.53	1,911.67	11.05	-1.26	0.402
90.00	-20.14	-13.84	0.00	-674.06	0.00	674.06	1,757.14	878.57	3,018.53	1,911.67	12.43	-1.36	0.364
95.00	-18.90	-13.40	0.00	-604.84	0.00	604.84	1,757.14	878.57	3,018.53	1,911.67	13.90	-1.44	0.327
100.00	-17.67	-12.98	0.00	-537.83	0.00	537.83	1,757.14	878.57	3,018.53	1,911.67	15.45	-1.52	0.292
100.00	-17.67	-12.98	0.00	-537.83	0.00	537.83	1,565.64	782.82	2,298.42	1,422.98	15.45	-1.52	0.390
105.00	-16.58	-12.59	0.00	-472.92	0.00	472.92	1,565.64	782.82	2,298.42	1,422.98	17.08	-1.59	0.343
110.00	-15.49	-12.19	0.00	-409.98	0.00	409.98	1,565.64	782.82	2,298.42	1,422.98	18.79	-1.68	0.298
115.00	-14.40	-11.78	0.00	-349.02	0.00	349.02	1,565.64	782.82	2,298.42	1,422.98	20.60	-1.76	0.255
115.00	-14.40	-11.78	0.00	-349.02	0.00	349.02	1,565.64	782.82	2,298.42	1,422.98	20.60	-1.76	0.255
120.00	-13.32	-11.36	0.00	-290.11	0.00	290.11	1,565.64	782.82	2,298.42	1,422.98	22.48	-1.83	0.213
125.00	-12.24	-10.93	0.00	-233.31	0.00	233.31	1,565.64	782.82	2,298.42	1,422.98	24.43	-1.89	0.172
130.00	-11.16	-10.56	0.00	-178.65	0.00	178.65	1,565.64	782.82	2,298.42	1,422.98	26.43	-1.93	0.133
130.00	-11.16	-10.56	0.00	-178.65	0.00	178.65	1,127.22	563.61	1,091.62	660.47	26.43	-1.93	0.281
135.00	-10.36	-10.35	0.00	-125.85	0.00	125.85	1,127.22	563.61	1,091.62	660.47	28.47	-1.96	0.200
137.00	-7.16	-7.01	0.00	-96.86	0.00	96.86	1,127.22	563.61	1,091.62	660.47	29.30	-2.00	0.153
140.00	-6.73	-6.77	0.00	-75.83	0.00	75.83	1,127.22	563.61	1,091.62	660.47	30.57	-2.04	0.121
145.00	-6.02	-6.47	0.00	-41.97	0.00	41.97	1,127.22	563.61	1,091.62	660.47	32.73	-2.08	0.069
150.00	0.00	-6.25	0.00	-9.62	0.00	9.62	1,127.22	563.61	1,091.62	660.47	34.92	-2.10	0.015

Site Number: 282660 Code: ANSI/TIA-222-G

Site Name: PROSPECT CT, CT Engineering Number:OAA734974_C3_01 7/6/2018 11:21:21 AM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W — 100 mph with No Ice (Reduced DL) — 19 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces Wind FX (lb)	Shaft Forces Dead Load (lb)	Discrete Forces Wind FX (lb)	Discrete Forces Torsion MY (lb-ft)	Discrete Forces Moment MZ (lb-ft)	Discrete Forces Dead Load (lb)	Linear Forces Wind FX (lb)	Linear Forces Dead Load (lb)	Sum of Forces Wind FX (lb)	Sum of Forces Dead Load (lb)	Sum of Forces Torsion MY (lb-ft)	Sum of Forces Moment MZ (lb)
0.00		224.7	0.0					0.0	0.0	224.7	0.0	0.0	0.0
5.00		449.4	1,431.1					0.0	170.5	449.4	1,601.6	0.0	0.0
10.00		449.4	1,431.1					0.0	170.5	449.4	1,601.6	0.0	0.0
15.00		449.4	1,431.1					0.0	170.5	449.4	1,601.6	0.0	0.0
20.00	Top - Section 1	449.4	1,431.1					0.0	170.5	449.4	1,601.6	0.0	0.0
25.00		449.4	1,075.6					0.0	170.5	449.4	1,246.1	0.0	0.0
30.00		454.8	1,075.6					0.0	170.5	454.8	1,246.1	0.0	0.0
35.00		469.8	1,075.6					0.0	170.5	469.8	1,246.1	0.0	0.0
40.00	Top - Section 2	463.3	1,075.6					0.0	170.5	463.3	1,246.1	0.0	0.0
45.00		454.4	967.4					0.0	170.5	454.4	1,137.8	0.0	0.0
50.00		468.3	967.4					0.0	170.5	468.3	1,137.8	0.0	0.0
55.00		481.3	967.4					0.0	170.5	481.3	1,137.8	0.0	0.0
60.00	Top - Section 3	465.7	967.4					0.0	170.5	465.7	1,137.8	0.0	0.0
65.00		448.7	859.1					0.0	170.5	448.7	1,029.6	0.0	0.0
70.00		458.4	859.1					0.0	170.5	458.4	1,029.6	0.0	0.0
75.00		467.5	859.1					0.0	170.5	467.5	1,029.6	0.0	0.0
80.00	Top - Section 4	446.2	859.1					0.0	170.5	446.2	1,029.6	0.0	0.0
85.00		424.0	750.9					0.0	170.5	424.0	921.4	0.0	0.0
90.00		430.9	750.9					0.0	170.5	430.9	921.4	0.0	0.0
95.00		437.7	750.9					0.0	170.5	437.7	921.4	0.0	0.0
100.00	Top - Section 5	412.2	750.9					0.0	170.5	412.2	921.4	0.0	0.0
105.00		386.0	642.7					0.0	170.5	386.0	813.1	0.0	0.0
110.00		391.2	642.7					0.0	170.5	391.2	813.1	0.0	0.0
115.00	Top - Section 6	396.2	642.7					0.0	170.5	396.2	813.1	0.0	0.0
120.00		401.0	642.7					0.0	170.5	401.0	813.1	0.0	0.0
125.00		405.7	642.7					0.0	170.5	405.7	813.1	0.0	0.0
130.00	Top - Section 7	341.6	642.7					0.0	170.5	341.6	813.1	0.0	0.0
135.00		192.9	426.2					0.0	170.5	192.9	596.6	0.0	0.0
137.00	Appurtenance(s)	139.0	170.5	3,092.6	0.0	8,295.6	2,244.1	0.0	68.2	3,231.6	2,482.7	0.0	0.0
140.00		224.0	255.7					0.0	69.2	224.0	324.9	0.0	0.0
145.00		282.2	426.2					0.0	115.3	282.2	541.5	0.0	0.0
150.00	Appurtenance(s)	141.8	426.2	6,103.4	0.0	9,623.1	4,145.0	0.0	115.3	6,245.2	4,686.6	0.0	0.0
								Totals:		21,752.6	37,256.9	0.00	0.00

Site Number: 282660 Code: ANSI/TIA-222-G

Site Name: PROSPECT CT, CT Engineering Number:OAA734974_C3_01 7/6/2018 11:21:25 AM

Customer: AT&T MOBILITY

Load Case: 0.9D + 1.6W 100 mph with No Ice (Reduced DL) 19 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00

Dead Load Factor :0.90

Wind Load Factor :1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-37.24	-21.55	0.00	-2,278.92	0.00	2,278.92	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.452
5.00	-35.61	-21.15	0.00	-2,171.16	0.00	2,171.16	3,293.92	1,646.96	8,093.29	5,174.22	0.04	-0.08	0.431
10.00	-33.99	-20.74	0.00	-2,065.42	0.00	2,065.42	3,293.92	1,646.96	8,093.29	5,174.22	0.16	-0.15	0.410
15.00	-32.36	-20.32	0.00	-1,961.73	0.00	1,961.73	3,293.92	1,646.96	8,093.29	5,174.22	0.35	-0.22	0.389
20.00	-30.74	-19.90	0.00	-1,860.12	0.00	1,860.12	3,293.92	1,646.96	8,093.29	5,174.22	0.62	-0.28	0.369
20.00	-30.74	-19.90	0.00	-1,860.12	0.00	1,860.12	2,330.87	1,165.43	5,751.12	3,807.50	0.62	-0.28	0.502
25.00	-29.47	-19.48	0.00	-1,760.63	0.00	1,760.63	2,330.87	1,165.43	5,751.12	3,807.50	0.95	-0.35	0.475
30.00	-28.21	-19.05	0.00	-1,663.23	0.00	1,663.23	2,330.87	1,165.43	5,751.12	3,807.50	1.36	-0.42	0.449
35.00	-26.94	-18.61	0.00	-1,567.97	0.00	1,567.97	2,330.87	1,165.43	5,751.12	3,807.50	1.84	-0.50	0.424
40.00	-25.68	-18.16	0.00	-1,474.94	0.00	1,474.94	2,330.87	1,165.43	5,751.12	3,807.50	2.40	-0.57	0.399
40.00	-25.68	-18.16	0.00	-1,474.94	0.00	1,474.94	2,139.71	1,069.86	4,744.89	3,103.93	2.40	-0.57	0.487
45.00	-24.52	-17.73	0.00	-1,384.13	0.00	1,384.13	2,139.71	1,069.86	4,744.89	3,103.93	3.03	-0.63	0.458
50.00	-23.36	-17.28	0.00	-1,295.49	0.00	1,295.49	2,139.71	1,069.86	4,744.89	3,103.93	3.74	-0.72	0.429
55.00	-22.21	-16.81	0.00	-1,209.10	0.00	1,209.10	2,139.71	1,069.86	4,744.89	3,103.93	4.53	-0.79	0.400
60.00	-21.06	-16.36	0.00	-1,125.03	0.00	1,125.03	2,139.71	1,069.86	4,744.89	3,103.93	5.40	-0.87	0.373
60.00	-21.06	-16.36	0.00	-1,125.03	0.00	1,125.03	1,948.48	974.24	3,834.02	2,471.99	5.40	-0.87	0.466
65.00	-20.02	-15.92	0.00	-1,043.26	0.00	1,043.26	1,948.48	974.24	3,834.02	2,471.99	6.35	-0.94	0.433
70.00	-18.97	-15.47	0.00	-963.66	0.00	963.66	1,948.48	974.24	3,834.02	2,471.99	7.37	-1.03	0.400
75.00	-17.93	-15.01	0.00	-886.31	0.00	886.31	1,948.48	974.24	3,834.02	2,471.99	8.49	-1.11	0.368
80.00	-16.89	-14.56	0.00	-811.26	0.00	811.26	1,948.48	974.24	3,834.02	2,471.99	9.69	-1.18	0.337
80.00	-16.89	-14.56	0.00	-811.26	0.00	811.26	1,757.14	878.57	3,018.53	1,911.67	9.69	-1.18	0.434
85.00	-15.96	-14.14	0.00	-738.44	0.00	738.44	1,757.14	878.57	3,018.53	1,911.67	10.97	-1.25	0.396
90.00	-15.03	-13.72	0.00	-667.72	0.00	667.72	1,757.14	878.57	3,018.53	1,911.67	12.33	-1.35	0.358
95.00	-14.10	-13.28	0.00	-599.15	0.00	599.15	1,757.14	878.57	3,018.53	1,911.67	13.79	-1.43	0.322
100.00	-13.17	-12.86	0.00	-532.77	0.00	532.77	1,757.14	878.57	3,018.53	1,911.67	15.33	-1.51	0.286
100.00	-13.17	-12.86	0.00	-532.77	0.00	532.77	1,565.64	782.82	2,298.42	1,422.98	15.33	-1.51	0.383
105.00	-12.35	-12.47	0.00	-468.49	0.00	468.49	1,565.64	782.82	2,298.42	1,422.98	16.95	-1.57	0.337
110.00	-11.53	-12.07	0.00	-406.16	0.00	406.16	1,565.64	782.82	2,298.42	1,422.98	18.65	-1.67	0.293
115.00	-10.71	-11.66	0.00	-345.82	0.00	345.82	1,565.64	782.82	2,298.42	1,422.98	20.44	-1.75	0.250
115.00	-10.71	-11.66	0.00	-345.82	0.00	345.82	1,565.64	782.82	2,298.42	1,422.98	20.44	-1.75	0.250
120.00	-9.90	-11.25	0.00	-287.50	0.00	287.50	1,565.64	782.82	2,298.42	1,422.98	22.30	-1.82	0.209
125.00	-9.09	-10.82	0.00	-231.27	0.00	231.27	1,565.64	782.82	2,298.42	1,422.98	24.24	-1.87	0.169
130.00	-8.28	-10.46	0.00	-177.15	0.00	177.15	1,565.64	782.82	2,298.42	1,422.98	26.22	-1.91	0.130
130.00	-8.28	-10.46	0.00	-177.15	0.00	177.15	1,127.22	563.61	1,091.62	660.47	26.22	-1.91	0.276
135.00	-7.69	-10.25	0.00	-124.85	0.00	124.85	1,127.22	563.61	1,091.62	660.47	28.24	-1.95	0.196
137.00	-5.31	-6.94	0.00	-96.04	0.00	96.04	1,127.22	563.61	1,091.62	660.47	29.07	-1.98	0.150
140.00	-4.99	-6.71	0.00	-75.22	0.00	75.22	1,127.22	563.61	1,091.62	660.47	30.32	-2.02	0.118
145.00	-4.46	-6.41	0.00	-41.68	0.00	41.68	1,127.22	563.61	1,091.62	660.47	32.46	-2.06	0.067
150.00	0.00	-6.25	0.00	-9.62	0.00	9.62	1,127.22	563.61	1,091.62	660.47	34.63	-2.08	0.015

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 19 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00 Wind Importance Factor :1.00
Dead Load Factor :1.20 Ice Importance Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		72.9	0.0					0.0	0.0	72.9	0.0	0.0	0.0
5.00		146.2	2,340.9					0.0	227.3	146.2	2,568.2	0.0	0.0
10.00		146.7	2,392.2					0.0	227.3	146.7	2,619.5	0.0	0.0
15.00		146.9	2,418.2					0.0	227.3	146.9	2,645.4	0.0	0.0
20.00	Top - Section 1	147.1	2,436.0					0.0	227.3	147.1	2,663.3	0.0	0.0
25.00		147.3	1,975.7					0.0	227.3	147.3	2,203.0	0.0	0.0
30.00		149.2	1,987.0					0.0	227.3	149.2	2,214.2	0.0	0.0
35.00		154.2	1,996.5					0.0	227.3	154.2	2,223.8	0.0	0.0
40.00	Top - Section 2	152.6	2,004.8					0.0	227.3	152.6	2,232.1	0.0	0.0
45.00		150.1	1,811.5					0.0	227.3	150.1	2,038.8	0.0	0.0
50.00		154.8	1,817.5					0.0	227.3	154.8	2,044.8	0.0	0.0
55.00		159.2	1,823.0					0.0	227.3	159.2	2,050.2	0.0	0.0
60.00	Top - Section 3	154.6	1,828.0					0.0	227.3	154.6	2,055.3	0.0	0.0
65.00		149.6	1,629.7					0.0	227.3	149.6	1,857.0	0.0	0.0
70.00		152.9	1,633.6					0.0	227.3	152.9	1,860.9	0.0	0.0
75.00		156.0	1,637.2					0.0	227.3	156.0	1,864.5	0.0	0.0
80.00	Top - Section 4	149.6	1,640.6					0.0	227.3	149.6	1,867.9	0.0	0.0
85.00		142.9	1,439.3					0.0	227.3	142.9	1,666.5	0.0	0.0
90.00		145.3	1,441.9					0.0	227.3	145.3	1,669.2	0.0	0.0
95.00		147.6	1,444.5					0.0	227.3	147.6	1,671.8	0.0	0.0
100.00	Top - Section 5	139.9	1,446.9					0.0	227.3	139.9	1,674.2	0.0	0.0
105.00		131.9	1,243.4					0.0	227.3	131.9	1,470.7	0.0	0.0
110.00		133.7	1,245.3					0.0	227.3	133.7	1,472.6	0.0	0.0
115.00	Top - Section 6	135.5	1,247.2					0.0	227.3	135.5	1,474.4	0.0	0.0
120.00		137.2	1,248.9					0.0	227.3	137.2	1,476.2	0.0	0.0
125.00		138.9	1,250.6					0.0	227.3	138.9	1,477.9	0.0	0.0
130.00	Top - Section 7	119.0	1,252.3					0.0	227.3	119.0	1,479.6	0.0	0.0
135.00		69.0	839.0					0.0	227.3	69.0	1,066.2	0.0	0.0
137.00	Appurtenance(s)	49.7	335.9	677.1	0.0	1,517.6	5,591.5	0.0	90.9	726.8	6,018.3	0.0	0.0
140.00		80.1	504.2					0.0	92.3	80.1	596.4	0.0	0.0
145.00		101.0	841.1					0.0	153.8	101.0	994.9	0.0	0.0
150.00	Appurtenance(s)	50.7	842.1	1,277.3	0.0	1,787.9	12,327.8	0.0	153.8	1,328.0	13,323.6	0.0	0.0
								Totals:		6,166.65	72,541.4	0.00	0.00

Site Number: 282660 Code: ANSI/TIA-222-G

Site Name: PROSPECT CT, CT Engineering Number:OAA734974_C3_01 7/6/2018 11:21:28 AM

Customer: AT&T MOBILITY

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 0.75 in Radial Ice 19 Iterations

Gust Response Factor :1.10 Ice Dead Load Factor :1.00 Wind Importance Factor :1.00

Dead Load Factor :1.20 Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-72.54	-6.11	0.00	-611.36	0.00	611.36	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.140
5.00	-69.97	-5.98	0.00	-580.83	0.00	580.83	3,293.92	1,646.96	8,093.29	5,174.22	0.01	-0.02	0.134
10.00	-67.35	-5.86	0.00	-550.91	0.00	550.91	3,293.92	1,646.96	8,093.29	5,174.22	0.04	-0.04	0.127
15.00	-64.70	-5.73	0.00	-521.61	0.00	521.61	3,293.92	1,646.96	8,093.29	5,174.22	0.09	-0.06	0.120
20.00	-62.04	-5.60	0.00	-492.96	0.00	492.96	3,293.92	1,646.96	8,093.29	5,174.22	0.17	-0.08	0.114
20.00	-62.04	-5.60	0.00	-492.96	0.00	492.96	2,330.87	1,165.43	5,751.12	3,807.50	0.17	-0.08	0.156
25.00	-59.83	-5.47	0.00	-464.98	0.00	464.98	2,330.87	1,165.43	5,751.12	3,807.50	0.25	-0.09	0.148
30.00	-57.62	-5.33	0.00	-437.64	0.00	437.64	2,330.87	1,165.43	5,751.12	3,807.50	0.36	-0.11	0.140
35.00	-55.39	-5.19	0.00	-410.98	0.00	410.98	2,330.87	1,165.43	5,751.12	3,807.50	0.49	-0.13	0.132
40.00	-53.16	-5.05	0.00	-385.01	0.00	385.01	2,330.87	1,165.43	5,751.12	3,807.50	0.64	-0.15	0.124
40.00	-53.16	-5.05	0.00	-385.01	0.00	385.01	2,139.71	1,069.86	4,744.89	3,103.93	0.64	-0.15	0.149
45.00	-51.12	-4.91	0.00	-359.76	0.00	359.76	2,139.71	1,069.86	4,744.89	3,103.93	0.81	-0.17	0.140
50.00	-49.07	-4.77	0.00	-335.20	0.00	335.20	2,139.71	1,069.86	4,744.89	3,103.93	0.99	-0.19	0.131
55.00	-47.02	-4.62	0.00	-311.35	0.00	311.35	2,139.71	1,069.86	4,744.89	3,103.93	1.20	-0.21	0.122
60.00	-44.96	-4.47	0.00	-288.26	0.00	288.26	2,139.71	1,069.86	4,744.89	3,103.93	1.43	-0.23	0.114
60.00	-44.96	-4.47	0.00	-288.26	0.00	288.26	1,948.48	974.24	3,834.02	2,471.99	1.43	-0.23	0.140
65.00	-43.11	-4.33	0.00	-265.91	0.00	265.91	1,948.48	974.24	3,834.02	2,471.99	1.68	-0.25	0.130
70.00	-41.25	-4.18	0.00	-244.26	0.00	244.26	1,948.48	974.24	3,834.02	2,471.99	1.95	-0.27	0.120
75.00	-39.38	-4.03	0.00	-223.35	0.00	223.35	1,948.48	974.24	3,834.02	2,471.99	2.24	-0.29	0.111
80.00	-37.51	-3.88	0.00	-203.19	0.00	203.19	1,948.48	974.24	3,834.02	2,471.99	2.55	-0.31	0.101
80.00	-37.51	-3.88	0.00	-203.19	0.00	203.19	1,757.14	878.57	3,018.53	1,911.67	2.55	-0.31	0.128
85.00	-35.84	-3.74	0.00	-183.77	0.00	183.77	1,757.14	878.57	3,018.53	1,911.67	2.89	-0.33	0.117
90.00	-34.17	-3.60	0.00	-165.05	0.00	165.05	1,757.14	878.57	3,018.53	1,911.67	3.24	-0.35	0.106
95.00	-32.50	-3.46	0.00	-147.03	0.00	147.03	1,757.14	878.57	3,018.53	1,911.67	3.62	-0.37	0.095
100.00	-30.83	-3.31	0.00	-129.75	0.00	129.75	1,757.14	878.57	3,018.53	1,911.67	4.01	-0.39	0.085
100.00	-30.83	-3.31	0.00	-129.75	0.00	129.75	1,565.64	782.82	2,298.42	1,422.98	4.01	-0.39	0.111
105.00	-29.36	-3.18	0.00	-113.18	0.00	113.18	1,565.64	782.82	2,298.42	1,422.98	4.43	-0.40	0.098
110.00	-27.89	-3.05	0.00	-97.27	0.00	97.27	1,565.64	782.82	2,298.42	1,422.98	4.86	-0.43	0.086
115.00	-26.41	-2.91	0.00	-82.03	0.00	82.03	1,565.64	782.82	2,298.42	1,422.98	5.32	-0.45	0.075
115.00	-26.41	-2.91	0.00	-82.03	0.00	82.03	1,565.64	782.82	2,298.42	1,422.98	5.32	-0.45	0.075
120.00	-24.94	-2.77	0.00	-67.49	0.00	67.49	1,565.64	782.82	2,298.42	1,422.98	5.80	-0.46	0.063
125.00	-23.46	-2.62	0.00	-53.65	0.00	53.65	1,565.64	782.82	2,298.42	1,422.98	6.29	-0.47	0.053
130.00	-21.98	-2.49	0.00	-40.55	0.00	40.55	1,565.64	782.82	2,298.42	1,422.98	6.79	-0.48	0.043
130.00	-21.98	-2.49	0.00	-40.55	0.00	40.55	1,127.22	563.61	1,091.62	660.47	6.79	-0.48	0.081
135.00	-20.91	-2.42	0.00	-28.09	0.00	28.09	1,127.22	563.61	1,091.62	660.47	7.30	-0.49	0.061
137.00	-14.90	-1.64	0.00	-21.74	0.00	21.74	1,127.22	563.61	1,091.62	660.47	7.51	-0.50	0.046
140.00	-14.31	-1.56	0.00	-16.82	0.00	16.82	1,127.22	563.61	1,091.62	660.47	7.83	-0.51	0.038
145.00	-13.31	-1.45	0.00	-9.03	0.00	9.03	1,127.22	563.61	1,091.62	660.47	8.37	-0.52	0.025
150.00	0.00	-1.33	0.00	-1.79	0.00	1.79	1,127.22	563.61	1,091.62	660.47	8.91	-0.52	0.003

Load Case: 1.0D + 1.0W Serviceability 60 mph 18 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		50.6	0.0					0.0	0.0	50.6	0.0	0.0	0.0
5.00		101.1	1,590.2					0.0	189.4	101.1	1,779.6	0.0	0.0
10.00		101.1	1,590.2					0.0	189.4	101.1	1,779.6	0.0	0.0
15.00		101.1	1,590.2					0.0	189.4	101.1	1,779.6	0.0	0.0
20.00	Top - Section 1	101.1	1,590.2					0.0	189.4	101.1	1,779.6	0.0	0.0
25.00		101.1	1,195.1					0.0	189.4	101.1	1,384.5	0.0	0.0
30.00		102.3	1,195.1					0.0	189.4	102.3	1,384.5	0.0	0.0
35.00		105.7	1,195.1					0.0	189.4	105.7	1,384.5	0.0	0.0
40.00	Top - Section 2	104.2	1,195.1					0.0	189.4	104.2	1,384.5	0.0	0.0
45.00		102.2	1,074.9					0.0	189.4	102.2	1,264.3	0.0	0.0
50.00		105.4	1,074.9					0.0	189.4	105.4	1,264.3	0.0	0.0
55.00		108.3	1,074.9					0.0	189.4	108.3	1,264.3	0.0	0.0
60.00	Top - Section 3	104.8	1,074.9					0.0	189.4	104.8	1,264.3	0.0	0.0
65.00		101.0	954.6					0.0	189.4	101.0	1,144.0	0.0	0.0
70.00		103.1	954.6					0.0	189.4	103.1	1,144.0	0.0	0.0
75.00		105.2	954.6					0.0	189.4	105.2	1,144.0	0.0	0.0
80.00	Top - Section 4	100.4	954.6					0.0	189.4	100.4	1,144.0	0.0	0.0
85.00		95.4	834.3					0.0	189.4	95.4	1,023.7	0.0	0.0
90.00		97.0	834.3					0.0	189.4	97.0	1,023.7	0.0	0.0
95.00		98.5	834.3					0.0	189.4	98.5	1,023.7	0.0	0.0
100.00	Top - Section 5	92.7	834.3					0.0	189.4	92.7	1,023.7	0.0	0.0
105.00		86.9	714.1					0.0	189.4	86.9	903.5	0.0	0.0
110.00		88.0	714.1					0.0	189.4	88.0	903.5	0.0	0.0
115.00	Top - Section 6	89.1	714.1					0.0	189.4	89.1	903.5	0.0	0.0
120.00		90.2	714.1					0.0	189.4	90.2	903.5	0.0	0.0
125.00		91.3	714.1					0.0	189.4	91.3	903.5	0.0	0.0
130.00	Top - Section 7	76.8	714.1					0.0	189.4	76.8	903.5	0.0	0.0
135.00		43.4	473.5					0.0	189.4	43.4	662.9	0.0	0.0
137.00	Appurtenance(s)	31.3	189.4	695.8	0.0	1,866.5	2,493.4	0.0	75.8	727.1	2,758.6	0.0	0.0
140.00		50.4	284.1					0.0	76.9	50.4	361.0	0.0	0.0
145.00		63.5	473.5					0.0	128.1	63.5	601.7	0.0	0.0
150.00	Appurtenance(s)	31.9	473.5	1,373.3	0.0	2,165.2	4,605.6	0.0	128.1	1,405.2	5,207.3	0.0	0.0
								Totals:		4,894.34	41,396.6	0.00	0.00

Load Case: 1.0D + 1.0W Serviceability 60 mph 18 Iterations

Gust Response Factor :1.10 Wind Importance Factor 1.00
Dead Load Factor :1.00
Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-41.40	-4.85	0.00	-513.80	0.00	513.80	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.112
5.00	-39.61	-4.76	0.00	-489.56	0.00	489.56	3,293.92	1,646.96	8,093.29	5,174.22	0.01	-0.02	0.107
10.00	-37.83	-4.67	0.00	-465.76	0.00	465.76	3,293.92	1,646.96	8,093.29	5,174.22	0.04	-0.03	0.102
15.00	-36.05	-4.58	0.00	-442.42	0.00	442.42	3,293.92	1,646.96	8,093.29	5,174.22	0.08	-0.05	0.096
20.00	-34.27	-4.48	0.00	-419.55	0.00	419.55	3,293.92	1,646.96	8,093.29	5,174.22	0.14	-0.06	0.091
20.00	-34.27	-4.48	0.00	-419.55	0.00	419.55	2,330.87	1,165.43	5,751.12	3,807.50	0.14	-0.06	0.125
25.00	-32.89	-4.39	0.00	-397.14	0.00	397.14	2,330.87	1,165.43	5,751.12	3,807.50	0.21	-0.08	0.118
30.00	-31.50	-4.29	0.00	-375.21	0.00	375.21	2,330.87	1,165.43	5,751.12	3,807.50	0.31	-0.10	0.112
35.00	-30.12	-4.19	0.00	-353.75	0.00	353.75	2,330.87	1,165.43	5,751.12	3,807.50	0.41	-0.11	0.106
40.00	-28.73	-4.09	0.00	-332.79	0.00	332.79	2,330.87	1,165.43	5,751.12	3,807.50	0.54	-0.13	0.100
40.00	-28.73	-4.09	0.00	-332.79	0.00	332.79	2,139.71	1,069.86	4,744.89	3,103.93	0.54	-0.13	0.121
45.00	-27.47	-4.00	0.00	-312.32	0.00	312.32	2,139.71	1,069.86	4,744.89	3,103.93	0.68	-0.14	0.113
50.00	-26.20	-3.90	0.00	-292.34	0.00	292.34	2,139.71	1,069.86	4,744.89	3,103.93	0.84	-0.16	0.106
55.00	-24.94	-3.79	0.00	-272.87	0.00	272.87	2,139.71	1,069.86	4,744.89	3,103.93	1.02	-0.18	0.100
60.00	-23.67	-3.69	0.00	-253.91	0.00	253.91	2,139.71	1,069.86	4,744.89	3,103.93	1.22	-0.20	0.093
60.00	-23.67	-3.69	0.00	-253.91	0.00	253.91	1,948.48	974.24	3,834.02	2,471.99	1.22	-0.20	0.115
65.00	-22.53	-3.59	0.00	-235.47	0.00	235.47	1,948.48	974.24	3,834.02	2,471.99	1.43	-0.21	0.107
70.00	-21.38	-3.49	0.00	-217.52	0.00	217.52	1,948.48	974.24	3,834.02	2,471.99	1.66	-0.23	0.099
75.00	-20.24	-3.39	0.00	-200.07	0.00	200.07	1,948.48	974.24	3,834.02	2,471.99	1.92	-0.25	0.091
80.00	-19.09	-3.29	0.00	-183.14	0.00	183.14	1,948.48	974.24	3,834.02	2,471.99	2.19	-0.27	0.084
80.00	-19.09	-3.29	0.00	-183.14	0.00	183.14	1,757.14	878.57	3,018.53	1,911.67	2.19	-0.27	0.107
85.00	-18.07	-3.19	0.00	-166.71	0.00	166.71	1,757.14	878.57	3,018.53	1,911.67	2.47	-0.28	0.098
90.00	-17.04	-3.10	0.00	-150.75	0.00	150.75	1,757.14	878.57	3,018.53	1,911.67	2.78	-0.30	0.089
95.00	-16.02	-3.00	0.00	-135.27	0.00	135.27	1,757.14	878.57	3,018.53	1,911.67	3.11	-0.32	0.080
100.00	-14.99	-2.90	0.00	-120.29	0.00	120.29	1,757.14	878.57	3,018.53	1,911.67	3.46	-0.34	0.071
100.00	-14.99	-2.90	0.00	-120.29	0.00	120.29	1,565.64	782.82	2,298.42	1,422.98	3.46	-0.34	0.094
105.00	-14.09	-2.81	0.00	-105.78	0.00	105.78	1,565.64	782.82	2,298.42	1,422.98	3.82	-0.36	0.083
110.00	-13.19	-2.73	0.00	-91.70	0.00	91.70	1,565.64	782.82	2,298.42	1,422.98	4.21	-0.38	0.073
115.00	-12.28	-2.63	0.00	-78.08	0.00	78.08	1,565.64	782.82	2,298.42	1,422.98	4.61	-0.39	0.063
115.00	-12.28	-2.63	0.00	-78.08	0.00	78.08	1,565.64	782.82	2,298.42	1,422.98	4.61	-0.39	0.063
120.00	-11.38	-2.54	0.00	-64.91	0.00	64.91	1,565.64	782.82	2,298.42	1,422.98	5.03	-0.41	0.053
125.00	-10.48	-2.44	0.00	-52.21	0.00	52.21	1,565.64	782.82	2,298.42	1,422.98	5.47	-0.42	0.043
130.00	-9.57	-2.36	0.00	-39.99	0.00	39.99	1,565.64	782.82	2,298.42	1,422.98	5.92	-0.43	0.034
130.00	-9.57	-2.36	0.00	-39.99	0.00	39.99	1,127.22	563.61	1,091.62	660.47	5.92	-0.43	0.069
135.00	-8.91	-2.31	0.00	-28.18	0.00	28.18	1,127.22	563.61	1,091.62	660.47	6.37	-0.44	0.051
137.00	-6.16	-1.57	0.00	-21.68	0.00	21.68	1,127.22	563.61	1,091.62	660.47	6.56	-0.45	0.038
140.00	-5.80	-1.52	0.00	-16.98	0.00	16.98	1,127.22	563.61	1,091.62	660.47	6.84	-0.46	0.031
145.00	-5.20	-1.45	0.00	-9.40	0.00	9.40	1,127.22	563.61	1,091.62	660.47	7.33	-0.47	0.019
150.00	0.00	-1.41	0.00	-2.17	0.00	2.17	1,127.22	563.61	1,091.62	660.47	7.82	-0.47	0.003

Equivalent Lateral Forces Method Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.19	
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06	
Long-Period Transition Period (T_L):	6	
Importance Factor (I_E):	1.00	
Site Coefficient F_a:	1.60	
Site Coeffiecient F_v:	2.40	
Response Modification Coefficient (R):	1.50	
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20	
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):	1.76	
Redundancy Factor (p):	1.00	
Seismic Force Distribution Exponent (k):	1.63	
Total Unfactored Dead Load:	41.40	k
Seismic Base Shear (E):	1.61	k

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
31	147.50	602	2,058	0.034	55	746
30	142.50	602	1,946	0.033	52	746
29	138.50	361	1,114	0.019	30	448
28	136.00	265	795	0.013	21	329
27	132.50	663	1,904	0.032	51	822
26	127.50	903	2,437	0.041	66	1,120
25	122.50	903	2,283	0.038	61	1,120
24	117.50	903	2,133	0.036	57	1,120
23	112.50	903	1,987	0.033	54	1,120
22	107.50	903	1,846	0.031	50	1,120
21	102.50	903	1,708	0.029	46	1,120
20	97.50	1,024	1,784	0.030	48	1,270
19	92.50	1,024	1,637	0.027	44	1,270
18	87.50	1,024	1,495	0.025	40	1,270
17	82.50	1,024	1,359	0.023	37	1,270
16	77.50	1,144	1,371	0.023	37	1,419
15	72.50	1,144	1,230	0.021	33	1,419
14	67.50	1,144	1,095	0.018	29	1,419
13	62.50	1,144	966	0.016	26	1,419
12	57.50	1,264	932	0.016	25	1,568
11	52.50	1,264	803	0.013	22	1,568
10	47.50	1,264	682	0.011	18	1,568
9	42.50	1,264	569	0.010	15	1,568

8	37.50	1,385	508	0.009	14	1,717
7	32.50	1,385	403	0.007	11	1,717
6	27.50	1,385	307	0.005	8	1,717
5	22.50	1,385	221	0.004	6	1,717
4	17.50	1,780	189	0.003	5	2,207
3	12.50	1,780	109	0.002	3	2,207
2	7.50	1,780	47	0.001	1	2,207
1	2.50	1,780	8	0.000	0	2,207
Kaelus DBCT108F1V92-	150.00	125	440	0.007	12	155
Powerwave TT08-19DB1	150.00	66	232	0.004	6	82
Powerwave TT08-19DB1	150.00	66	232	0.004	6	82
Commscope WCS-IMFQ-A	150.00	30	104	0.002	3	37
Raycap DC6-48-60-0-8	150.00	98	346	0.006	9	122
Raycap DC6-48-60-18-	150.00	32	112	0.002	3	39
Ericsson Radio 8843	150.00	210	738	0.012	20	260
Ericsson RRUS 4478 B	150.00	180	632	0.011	17	223
Ericsson RRUS 4478 B	150.00	180	632	0.011	17	223
Ericsson RRUS 32 (50	150.00	152	536	0.009	14	189
Ericsson RRUS 12	150.00	150	527	0.009	14	186
Ericsson RRUS E2 B29	150.00	60	211	0.004	6	74
Ericsson RRUS-11	150.00	330	1,160	0.019	31	409
Powerwave Allgon 777	150.00	105	369	0.006	10	130
Quintel QS66512-2	150.00	111	390	0.007	11	138
CCI HPA-65R-BUU-H8	150.00	204	717	0.012	19	253
CCI TPA-65R-LCUUUU-H	150.00	163	574	0.010	15	202
Kathrein Scala 80010	150.00	344	1,209	0.020	33	426
Round Platform w/ Ha	150.00	2,000	7,031	0.118	189	2,480
Ericsson KRY 112 144	137.00	33	100	0.002	3	41
Fastback Networks In	137.00	9	27	0.000	1	11
Ericsson RRUS 11 B12	137.00	152	461	0.008	12	189
Ericsson AIR 21, 1.3	137.00	249	755	0.013	20	309
Ericsson AIR32 B66Aa	137.00	397	1,203	0.020	32	492
Andrew LNX-6515DS-VT	137.00	154	467	0.008	13	191
Round Low Profile Pl	137.00	1,500	4,549	0.076	122	1,860
		41,397	59,677	1.000	1,607	51,336

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
31	147.50	602	2,058	0.034	55	517
30	142.50	602	1,946	0.033	52	517
29	138.50	361	1,114	0.019	30	310
28	136.00	265	795	0.013	21	228
27	132.50	663	1,904	0.032	51	570
26	127.50	903	2,437	0.041	66	777
25	122.50	903	2,283	0.038	61	777
24	117.50	903	2,133	0.036	57	777
23	112.50	903	1,987	0.033	54	777
22	107.50	903	1,846	0.031	50	777
21	102.50	903	1,708	0.029	46	777
20	97.50	1,024	1,784	0.030	48	880
19	92.50	1,024	1,637	0.027	44	880
18	87.50	1,024	1,495	0.025	40	880
17	82.50	1,024	1,359	0.023	37	880
16	77.50	1,144	1,371	0.023	37	984
15	72.50	1,144	1,230	0.021	33	984
14	67.50	1,144	1,095	0.018	29	984
13	62.50	1,144	966	0.016	26	984
12	57.50	1,264	932	0.016	25	1,087

11	52.50	1,264	803	0.013	22	1,087
10	47.50	1,264	682	0.011	18	1,087
9	42.50	1,264	569	0.010	15	1,087
8	37.50	1,385	508	0.009	14	1,191
7	32.50	1,385	403	0.007	11	1,191
6	27.50	1,385	307	0.005	8	1,191
5	22.50	1,385	221	0.004	6	1,191
4	17.50	1,780	189	0.003	5	1,530
3	12.50	1,780	109	0.002	3	1,530
2	7.50	1,780	47	0.001	1	1,530
1	2.50	1,780	8	0.000	0	1,530
Kaelus DBCT108F1V92-	150.00	125	440	0.007	12	108
Powerwave TT08-19DB1	150.00	66	232	0.004	6	57
Powerwave TT08-19DB1	150.00	66	232	0.004	6	57
Commscope WCS-IMFQ-A	150.00	30	104	0.002	3	25
Raycap DC6-48-60-0-8	150.00	98	346	0.006	9	85
Raycap DC6-48-60-18-	150.00	32	112	0.002	3	27
Ericsson Radio 8843	150.00	210	738	0.012	20	181
Ericsson RRUS 4478 B	150.00	180	632	0.011	17	155
Ericsson RRUS 4478 B	150.00	180	632	0.011	17	155
Ericsson RRUS 32 (50	150.00	152	536	0.009	14	131
Ericsson RRUS 12	150.00	150	527	0.009	14	129
Ericsson RRUS E2 B29	150.00	60	211	0.004	6	52
Ericsson RRUS-11	150.00	330	1,160	0.019	31	284
Powerwave Allgon 777	150.00	105	369	0.006	10	90
Quintel QS66512-2	150.00	111	390	0.007	11	95
CCI HPA-65R-BUU-H8	150.00	204	717	0.012	19	175
CCI TPA-65R-LCUUUU-H	150.00	163	574	0.010	15	140
Kathrein Scala 80010	150.00	344	1,209	0.020	33	296
Round Platform w/ Ha	150.00	2,000	7,031	0.118	189	1,720
Ericsson KRY 112 144	137.00	33	100	0.002	3	28
Fastback Networks In	137.00	9	27	0.000	1	8
Ericsson RRUS 11 B12	137.00	152	461	0.008	12	131
Ericsson AIR 21, 1.3	137.00	249	755	0.013	20	214
Ericsson AIR32 B66Aa	137.00	397	1,203	0.020	32	341
Andrew LNX-6515DS-VT	137.00	154	467	0.008	13	132
Round Low Profile Pl	137.00	1,500	4,549	0.076	122	1,290
		41,397	59,677	1.000	1,607	35,597

Load Case (1.2 + 0.2Sds) * DL + E ELFM Seismic Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.13	-1.61	0.00	-193.28	0.00	193.28	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.052
5.00	-46.92	-1.61	0.00	-185.23	0.00	185.23	3,293.92	1,646.96	8,093.29	5,174.22	0.00	-0.01	0.050
10.00	-44.72	-1.61	0.00	-177.17	0.00	177.17	3,293.92	1,646.96	8,093.29	5,174.22	0.01	-0.01	0.048
15.00	-42.51	-1.61	0.00	-169.10	0.00	169.10	3,293.92	1,646.96	8,093.29	5,174.22	0.03	-0.02	0.046
20.00	-40.79	-1.61	0.00	-161.04	0.00	161.04	3,293.92	1,646.96	8,093.29	5,174.22	0.05	-0.02	0.044
20.00	-40.79	-1.61	0.00	-161.04	0.00	161.04	2,330.87	1,165.43	5,751.12	3,807.50	0.05	-0.02	0.060
25.00	-39.07	-1.61	0.00	-152.99	0.00	152.99	2,330.87	1,165.43	5,751.12	3,807.50	0.08	-0.03	0.057
30.00	-37.36	-1.60	0.00	-144.96	0.00	144.96	2,330.87	1,165.43	5,751.12	3,807.50	0.12	-0.04	0.054
35.00	-35.64	-1.59	0.00	-136.97	0.00	136.97	2,330.87	1,165.43	5,751.12	3,807.50	0.16	-0.04	0.051
40.00	-34.07	-1.57	0.00	-129.04	0.00	129.04	2,330.87	1,165.43	5,751.12	3,807.50	0.21	-0.05	0.049
40.00	-34.07	-1.57	0.00	-129.04	0.00	129.04	2,139.71	1,069.86	4,744.89	3,103.93	0.21	-0.05	0.057
45.00	-32.50	-1.56	0.00	-121.17	0.00	121.17	2,139.71	1,069.86	4,744.89	3,103.93	0.26	-0.05	0.054
50.00	-30.94	-1.54	0.00	-113.39	0.00	113.39	2,139.71	1,069.86	4,744.89	3,103.93	0.32	-0.06	0.051
55.00	-29.37	-1.51	0.00	-105.70	0.00	105.70	2,139.71	1,069.86	4,744.89	3,103.93	0.39	-0.07	0.048
60.00	-27.95	-1.49	0.00	-98.12	0.00	98.12	2,139.71	1,069.86	4,744.89	3,103.93	0.47	-0.08	0.045
60.00	-27.95	-1.49	0.00	-98.12	0.00	98.12	1,948.48	974.24	3,834.02	2,471.99	0.47	-0.08	0.054
65.00	-26.53	-1.46	0.00	-90.68	0.00	90.68	1,948.48	974.24	3,834.02	2,471.99	0.55	-0.08	0.050
70.00	-25.11	-1.43	0.00	-83.37	0.00	83.37	1,948.48	974.24	3,834.02	2,471.99	0.64	-0.09	0.047
75.00	-23.69	-1.39	0.00	-76.22	0.00	76.22	1,948.48	974.24	3,834.02	2,471.99	0.73	-0.10	0.043
80.00	-22.42	-1.36	0.00	-69.26	0.00	69.26	1,948.48	974.24	3,834.02	2,471.99	0.84	-0.10	0.040
80.00	-22.42	-1.36	0.00	-69.26	0.00	69.26	1,757.14	878.57	3,018.53	1,911.67	0.84	-0.10	0.049
85.00	-21.15	-1.32	0.00	-62.47	0.00	62.47	1,757.14	878.57	3,018.53	1,911.67	0.95	-0.11	0.045
90.00	-19.88	-1.27	0.00	-55.89	0.00	55.89	1,757.14	878.57	3,018.53	1,911.67	1.07	-0.12	0.041
95.00	-18.61	-1.22	0.00	-49.52	0.00	49.52	1,757.14	878.57	3,018.53	1,911.67	1.19	-0.12	0.037
100.00	-17.49	-1.18	0.00	-43.40	0.00	43.40	1,757.14	878.57	3,018.53	1,911.67	1.33	-0.13	0.033
100.00	-17.49	-1.18	0.00	-43.40	0.00	43.40	1,565.64	782.82	2,298.42	1,422.98	1.33	-0.13	0.042
105.00	-16.37	-1.13	0.00	-37.51	0.00	37.51	1,565.64	782.82	2,298.42	1,422.98	1.46	-0.14	0.037
110.00	-15.25	-1.07	0.00	-31.88	0.00	31.88	1,565.64	782.82	2,298.42	1,422.98	1.61	-0.14	0.032
115.00	-14.13	-1.01	0.00	-26.51	0.00	26.51	1,565.64	782.82	2,298.42	1,422.98	1.76	-0.15	0.028
115.00	-14.13	-1.01	0.00	-26.51	0.00	26.51	1,565.64	782.82	2,298.42	1,422.98	1.76	-0.15	0.028
120.00	-13.01	-0.95	0.00	-21.44	0.00	21.44	1,565.64	782.82	2,298.42	1,422.98	1.92	-0.15	0.023
125.00	-11.89	-0.88	0.00	-16.69	0.00	16.69	1,565.64	782.82	2,298.42	1,422.98	2.08	-0.16	0.019
130.00	-11.07	-0.83	0.00	-12.27	0.00	12.27	1,565.64	782.82	2,298.42	1,422.98	2.25	-0.16	0.016
130.00	-11.07	-0.83	0.00	-12.27	0.00	12.27	1,127.22	563.61	1,091.62	660.47	2.25	-0.16	0.028
135.00	-10.74	-0.81	0.00	-8.12	0.00	8.12	1,127.22	563.61	1,091.62	660.47	2.42	-0.16	0.022
137.00	-7.20	-0.56	0.00	-6.51	0.00	6.51	1,127.22	563.61	1,091.62	660.47	2.49	-0.17	0.016
140.00	-6.46	-0.51	0.00	-4.82	0.00	4.82	1,127.22	563.61	1,091.62	660.47	2.60	-0.17	0.013
145.00	-5.71	-0.45	0.00	-2.26	0.00	2.26	1,127.22	563.61	1,091.62	660.47	2.77	-0.17	0.008
150.00	0.00	-0.44	0.00	0.00	0.00	0.00	1,127.22	563.61	1,091.62	660.47	2.95	-0.17	0.000

Load Case (0.9 - 0.2Sds) * DL + E ELFM Seismic (Reduced DL) Equivalent Lateral Forces Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.07	-1.61	0.00	-191.85	0.00	191.85	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.047
5.00	-32.54	-1.61	0.00	-183.81	0.00	183.81	3,293.92	1,646.96	8,093.29	5,174.22	0.00	-0.01	0.045
10.00	-31.01	-1.61	0.00	-175.76	0.00	175.76	3,293.92	1,646.96	8,093.29	5,174.22	0.01	-0.01	0.043
15.00	-29.48	-1.61	0.00	-167.71	0.00	167.71	3,293.92	1,646.96	8,093.29	5,174.22	0.03	-0.02	0.041
20.00	-28.28	-1.60	0.00	-159.67	0.00	159.67	3,293.92	1,646.96	8,093.29	5,174.22	0.05	-0.02	0.039
20.00	-28.28	-1.60	0.00	-159.67	0.00	159.67	2,330.87	1,165.43	5,751.12	3,807.50	0.05	-0.02	0.054
25.00	-27.09	-1.60	0.00	-151.65	0.00	151.65	2,330.87	1,165.43	5,751.12	3,807.50	0.08	-0.03	0.051
30.00	-25.90	-1.59	0.00	-143.66	0.00	143.66	2,330.87	1,165.43	5,751.12	3,807.50	0.12	-0.04	0.049
35.00	-24.71	-1.58	0.00	-135.71	0.00	135.71	2,330.87	1,165.43	5,751.12	3,807.50	0.16	-0.04	0.046
40.00	-23.63	-1.56	0.00	-127.82	0.00	127.82	2,330.87	1,165.43	5,751.12	3,807.50	0.20	-0.05	0.044
40.00	-23.63	-1.56	0.00	-127.82	0.00	127.82	2,139.71	1,069.86	4,744.89	3,103.93	0.20	-0.05	0.052
45.00	-22.54	-1.55	0.00	-120.00	0.00	120.00	2,139.71	1,069.86	4,744.89	3,103.93	0.26	-0.05	0.049
50.00	-21.45	-1.53	0.00	-112.27	0.00	112.27	2,139.71	1,069.86	4,744.89	3,103.93	0.32	-0.06	0.046
55.00	-20.36	-1.50	0.00	-104.63	0.00	104.63	2,139.71	1,069.86	4,744.89	3,103.93	0.39	-0.07	0.043
60.00	-19.38	-1.48	0.00	-97.12	0.00	97.12	2,139.71	1,069.86	4,744.89	3,103.93	0.46	-0.07	0.040
60.00	-19.38	-1.48	0.00	-97.12	0.00	97.12	1,948.48	974.24	3,834.02	2,471.99	0.46	-0.07	0.049
65.00	-18.40	-1.45	0.00	-89.73	0.00	89.73	1,948.48	974.24	3,834.02	2,471.99	0.54	-0.08	0.046
70.00	-17.41	-1.42	0.00	-82.48	0.00	82.48	1,948.48	974.24	3,834.02	2,471.99	0.63	-0.09	0.042
75.00	-16.43	-1.38	0.00	-75.40	0.00	75.40	1,948.48	974.24	3,834.02	2,471.99	0.73	-0.10	0.039
80.00	-15.55	-1.34	0.00	-68.50	0.00	68.50	1,948.48	974.24	3,834.02	2,471.99	0.83	-0.10	0.036
80.00	-15.55	-1.34	0.00	-68.50	0.00	68.50	1,757.14	878.57	3,018.53	1,911.67	0.83	-0.10	0.045
85.00	-14.67	-1.30	0.00	-61.78	0.00	61.78	1,757.14	878.57	3,018.53	1,911.67	0.94	-0.11	0.041
90.00	-13.79	-1.26	0.00	-55.26	0.00	55.26	1,757.14	878.57	3,018.53	1,911.67	1.06	-0.12	0.037
95.00	-12.91	-1.21	0.00	-48.96	0.00	48.96	1,757.14	878.57	3,018.53	1,911.67	1.18	-0.12	0.033
100.00	-12.13	-1.17	0.00	-42.90	0.00	42.90	1,757.14	878.57	3,018.53	1,911.67	1.31	-0.13	0.029
100.00	-12.13	-1.17	0.00	-42.90	0.00	42.90	1,565.64	782.82	2,298.42	1,422.98	1.31	-0.13	0.038
105.00	-11.35	-1.11	0.00	-37.08	0.00	37.08	1,565.64	782.82	2,298.42	1,422.98	1.45	-0.13	0.033
110.00	-10.58	-1.06	0.00	-31.50	0.00	31.50	1,565.64	782.82	2,298.42	1,422.98	1.60	-0.14	0.029
115.00	-9.80	-1.00	0.00	-26.20	0.00	26.20	1,565.64	782.82	2,298.42	1,422.98	1.75	-0.15	0.025
115.00	-9.80	-1.00	0.00	-26.20	0.00	26.20	1,565.64	782.82	2,298.42	1,422.98	1.75	-0.15	0.025
120.00	-9.02	-0.94	0.00	-21.19	0.00	21.19	1,565.64	782.82	2,298.42	1,422.98	1.90	-0.15	0.021
125.00	-8.25	-0.87	0.00	-16.49	0.00	16.49	1,565.64	782.82	2,298.42	1,422.98	2.07	-0.16	0.017
130.00	-7.68	-0.82	0.00	-12.13	0.00	12.13	1,565.64	782.82	2,298.42	1,422.98	2.23	-0.16	0.013
130.00	-7.68	-0.82	0.00	-12.13	0.00	12.13	1,127.22	563.61	1,091.62	660.47	2.23	-0.16	0.025
135.00	-7.45	-0.80	0.00	-8.03	0.00	8.03	1,127.22	563.61	1,091.62	660.47	2.40	-0.16	0.019
137.00	-4.99	-0.56	0.00	-6.43	0.00	6.43	1,127.22	563.61	1,091.62	660.47	2.47	-0.16	0.014
140.00	-4.48	-0.50	0.00	-4.76	0.00	4.76	1,127.22	563.61	1,091.62	660.47	2.57	-0.17	0.011
145.00	-3.96	-0.45	0.00	-2.24	0.00	2.24	1,127.22	563.61	1,091.62	660.47	2.75	-0.17	0.007
150.00	0.00	-0.44	0.00	0.00	0.00	0.00	1,127.22	563.61	1,091.62	660.47	2.92	-0.17	0.000

Equivalent Modal Forces Analysis

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

Spectral Response Acceleration for Short Period (S_s):	0.19
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):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Desing Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.10
Period Based on Rayleigh Method (sec):	1.76
Redundancy Factor (p):	1.00

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
31	147.50	602	1.828	1.667	1.025	0.347	139	746
30	142.50	602	1.706	1.144	0.823	0.271	109	746
29	138.50	361	1.611	0.814	0.686	0.217	52	448
28	136.00	265	1.554	0.642	0.609	0.186	33	329
27	132.50	663	1.475	0.441	0.513	0.147	65	822
26	127.50	903	1.366	0.222	0.397	0.097	59	1,120
25	122.50	903	1.261	0.069	0.302	0.057	34	1,120
24	117.50	903	1.160	-0.030	0.226	0.024	15	1,120
23	112.50	903	1.063	-0.088	0.165	0.000	0	1,120
22	107.50	903	0.971	-0.116	0.117	-0.015	-9	1,120
21	102.50	903	0.883	-0.121	0.081	-0.023	-14	1,120
20	97.50	1,024	0.799	-0.112	0.053	-0.024	-16	1,270
19	92.50	1,024	0.719	-0.092	0.034	-0.019	-13	1,270
18	87.50	1,024	0.643	-0.068	0.020	-0.009	-6	1,270
17	82.50	1,024	0.572	-0.043	0.012	0.004	2	1,270
16	77.50	1,144	0.505	-0.018	0.007	0.016	13	1,419
15	72.50	1,144	0.442	0.005	0.006	0.028	21	1,419
14	67.50	1,144	0.383	0.023	0.007	0.037	28	1,419
13	62.50	1,144	0.328	0.039	0.010	0.043	33	1,419
12	57.50	1,264	0.278	0.050	0.014	0.047	40	1,568
11	52.50	1,264	0.232	0.058	0.019	0.049	41	1,568
10	47.50	1,264	0.190	0.064	0.025	0.049	41	1,568
9	42.50	1,264	0.152	0.068	0.030	0.048	40	1,568
8	37.50	1,385	0.118	0.070	0.035	0.047	43	1,717
7	32.50	1,385	0.089	0.071	0.039	0.045	42	1,717
6	27.50	1,385	0.064	0.072	0.041	0.044	40	1,717
5	22.50	1,385	0.043	0.070	0.042	0.042	39	1,717
4	17.50	1,780	0.026	0.067	0.040	0.039	47	2,207
3	12.50	1,780	0.013	0.059	0.034	0.035	41	2,207
2	7.50	1,780	0.005	0.044	0.025	0.027	32	2,207
1	2.50	1,780	0.001	0.018	0.010	0.012	14	2,207
Kaelus DBCT108F1V92-	150.00	125	1.890	1.980	1.140	0.388	32	155
Powerwave TT08-	150.00	66	1.890	1.980	1.140	0.388	17	82
Powerwave TT08-	150.00	66	1.890	1.980	1.140	0.388	17	82

Commscope WCS-	150.00	30	1.890	1.980	1.140	0.388	8	37
Raycap DC6-48-60-0-8	150.00	98	1.890	1.980	1.140	0.388	25	122
Raycap DC6-48-60-18-	150.00	32	1.890	1.980	1.140	0.388	8	39
Ericsson Radio 8843	150.00	210	1.890	1.980	1.140	0.388	54	260
Ericsson RRUS 4478 B	150.00	180	1.890	1.980	1.140	0.388	46	223
Ericsson RRUS 4478 B	150.00	180	1.890	1.980	1.140	0.388	46	223
Ericsson RRUS 32 (50	150.00	152	1.890	1.980	1.140	0.388	39	189
Ericsson RRUS 12	150.00	150	1.890	1.980	1.140	0.388	39	186
Ericsson RRUS E2 B29	150.00	60	1.890	1.980	1.140	0.388	16	74
Ericsson RRUS-11	150.00	330	1.890	1.980	1.140	0.388	85	409
Powerwave Allgon 777	150.00	105	1.890	1.980	1.140	0.388	27	130
Quintel QS66512-2	150.00	111	1.890	1.980	1.140	0.388	29	138
CCI HPA-65R-BUU-H8	150.00	204	1.890	1.980	1.140	0.388	53	253
CCI TPA-65R-LCUUUU-H	150.00	163	1.890	1.980	1.140	0.388	42	202
Kathrein Scala 80010	150.00	344	1.890	1.980	1.140	0.388	89	426
Round Platform w/ Ha	150.00	2,000	1.890	1.980	1.140	0.388	517	2,480
Ericsson KRY 112 144	137.00	33	1.577	0.708	0.639	0.198	4	41
Fastback Networks In	137.00	9	1.577	0.708	0.639	0.198	1	11
Ericsson RRUS 11 B12	137.00	152	1.577	0.708	0.639	0.198	20	189
Ericsson AIR 21, 1.3	137.00	249	1.577	0.708	0.639	0.198	33	309
Ericsson AIR32 B66Aa	137.00	397	1.577	0.708	0.639	0.198	52	492
Andrew LNX-6515DS-VT	137.00	154	1.577	0.708	0.639	0.198	20	191
Round Low Profile Pl	137.00	1,500	1.577	0.708	0.639	0.198	198	1,860
		41,397	67.418	47.663	31.578	10.621	2,524	51,336

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Segment	Height Above Base (ft)	Weight (lb)	a	b	c	Saz	Horizontal Force (lb)	Vertical Force (lb)
31	147.50	602	1.828	1.667	1.025	0.347	139	517
30	142.50	602	1.706	1.144	0.823	0.271	109	517
29	138.50	361	1.611	0.814	0.686	0.217	52	310
28	136.00	265	1.554	0.642	0.609	0.186	33	228
27	132.50	663	1.475	0.441	0.513	0.147	65	570
26	127.50	903	1.366	0.222	0.397	0.097	59	777
25	122.50	903	1.261	0.069	0.302	0.057	34	777
24	117.50	903	1.160	-0.030	0.226	0.024	15	777
23	112.50	903	1.063	-0.088	0.165	0.000	0	777
22	107.50	903	0.971	-0.116	0.117	-0.015	-9	777
21	102.50	903	0.883	-0.121	0.081	-0.023	-14	777
20	97.50	1,024	0.799	-0.112	0.053	-0.024	-16	880
19	92.50	1,024	0.719	-0.092	0.034	-0.019	-13	880
18	87.50	1,024	0.643	-0.068	0.020	-0.009	-6	880
17	82.50	1,024	0.572	-0.043	0.012	0.004	2	880
16	77.50	1,144	0.505	-0.018	0.007	0.016	13	984
15	72.50	1,144	0.442	0.005	0.006	0.028	21	984
14	67.50	1,144	0.383	0.023	0.007	0.037	28	984
13	62.50	1,144	0.328	0.039	0.010	0.043	33	984
12	57.50	1,264	0.278	0.050	0.014	0.047	40	1,087
11	52.50	1,264	0.232	0.058	0.019	0.049	41	1,087
10	47.50	1,264	0.190	0.064	0.025	0.049	41	1,087
9	42.50	1,264	0.152	0.068	0.030	0.048	40	1,087
8	37.50	1,385	0.118	0.070	0.035	0.047	43	1,191
7	32.50	1,385	0.089	0.071	0.039	0.045	42	1,191
6	27.50	1,385	0.064	0.072	0.041	0.044	40	1,191
5	22.50	1,385	0.043	0.070	0.042	0.042	39	1,191
4	17.50	1,780	0.026	0.067	0.040	0.039	47	1,530
3	12.50	1,780	0.013	0.059	0.034	0.035	41	1,530
2	7.50	1,780	0.005	0.044	0.025	0.027	32	1,530

1	2.50	1,780	0.001	0.018	0.010	0.012	14	1,530
Kaelus DBCT108F1V92-	150.00	125	1.890	1.980	1.140	0.388	32	108
Powerwave TT08-	150.00	66	1.890	1.980	1.140	0.388	17	57
Powerwave TT08-	150.00	66	1.890	1.980	1.140	0.388	17	57
Commscope WCS-	150.00	30	1.890	1.980	1.140	0.388	8	25
Raycap DC6-48-60-0-8	150.00	98	1.890	1.980	1.140	0.388	25	85
Raycap DC6-48-60-18-	150.00	32	1.890	1.980	1.140	0.388	8	27
Ericsson Radio 8843	150.00	210	1.890	1.980	1.140	0.388	54	181
Ericsson RRUS 4478 B	150.00	180	1.890	1.980	1.140	0.388	46	155
Ericsson RRUS 4478 B	150.00	180	1.890	1.980	1.140	0.388	46	155
Ericsson RRUS 32 (50	150.00	152	1.890	1.980	1.140	0.388	39	131
Ericsson RRUS 12	150.00	150	1.890	1.980	1.140	0.388	39	129
Ericsson RRUS E2 B29	150.00	60	1.890	1.980	1.140	0.388	16	52
Ericsson RRUS-11	150.00	330	1.890	1.980	1.140	0.388	85	284
Powerwave Allgon 777	150.00	105	1.890	1.980	1.140	0.388	27	90
Quintel QS66512-2	150.00	111	1.890	1.980	1.140	0.388	29	95
CCI HPA-65R-BUU-H8	150.00	204	1.890	1.980	1.140	0.388	53	175
CCI TPA-65R-LCUUUU-H	150.00	163	1.890	1.980	1.140	0.388	42	140
Kathrein Scala 80010	150.00	344	1.890	1.980	1.140	0.388	89	296
Round Platform w/ Ha	150.00	2,000	1.890	1.980	1.140	0.388	517	1,720
Ericsson KRY 112 144	137.00	33	1.577	0.708	0.639	0.198	4	28
Fastback Networks In	137.00	9	1.577	0.708	0.639	0.198	1	8
Ericsson RRUS 11 B12	137.00	152	1.577	0.708	0.639	0.198	20	131
Ericsson AIR 21, 1.3	137.00	249	1.577	0.708	0.639	0.198	33	214
Ericsson AIR32 B66Aa	137.00	397	1.577	0.708	0.639	0.198	52	341
Andrew LNX-6515DS-VT	137.00	154	1.577	0.708	0.639	0.198	20	132
Round Low Profile Pl	137.00	1,500	1.577	0.708	0.639	0.198	198	1,290
		41,397	67.418	47.663	31.578	10.621	2,524	35,597

Load Case (1.2 + 0.2Sds) * DL + E EMAM Seismic Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.13	-2.51	0.00	-314.54	0.00	314.54	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.076
5.00	-46.92	-2.49	0.00	-301.97	0.00	301.97	3,293.92	1,646.96	8,093.29	5,174.22	0.01	-0.01	0.073
10.00	-44.71	-2.46	0.00	-289.52	0.00	289.52	3,293.92	1,646.96	8,093.29	5,174.22	0.02	-0.02	0.070
15.00	-42.51	-2.42	0.00	-277.24	0.00	277.24	3,293.92	1,646.96	8,093.29	5,174.22	0.05	-0.03	0.066
20.00	-40.79	-2.38	0.00	-265.16	0.00	265.16	3,293.92	1,646.96	8,093.29	5,174.22	0.09	-0.04	0.064
20.00	-40.79	-2.38	0.00	-265.16	0.00	265.16	2,330.87	1,165.43	5,751.12	3,807.50	0.09	-0.04	0.087
25.00	-39.07	-2.35	0.00	-253.25	0.00	253.25	2,330.87	1,165.43	5,751.12	3,807.50	0.13	-0.05	0.083
30.00	-37.36	-2.31	0.00	-241.52	0.00	241.52	2,330.87	1,165.43	5,751.12	3,807.50	0.19	-0.06	0.079
35.00	-35.64	-2.27	0.00	-229.96	0.00	229.96	2,330.87	1,165.43	5,751.12	3,807.50	0.26	-0.07	0.076
40.00	-34.07	-2.24	0.00	-218.60	0.00	218.60	2,330.87	1,165.43	5,751.12	3,807.50	0.34	-0.08	0.072
40.00	-34.07	-2.24	0.00	-218.60	0.00	218.60	2,139.71	1,069.86	4,744.89	3,103.93	0.34	-0.08	0.086
45.00	-32.50	-2.20	0.00	-207.41	0.00	207.41	2,139.71	1,069.86	4,744.89	3,103.93	0.43	-0.09	0.082
50.00	-30.93	-2.16	0.00	-196.42	0.00	196.42	2,139.71	1,069.86	4,744.89	3,103.93	0.53	-0.10	0.078
55.00	-29.37	-2.13	0.00	-185.60	0.00	185.60	2,139.71	1,069.86	4,744.89	3,103.93	0.64	-0.12	0.074
60.00	-27.95	-2.10	0.00	-174.97	0.00	174.97	2,139.71	1,069.86	4,744.89	3,103.93	0.77	-0.13	0.069
60.00	-27.95	-2.10	0.00	-174.97	0.00	174.97	1,948.48	974.24	3,834.02	2,471.99	0.77	-0.13	0.085
65.00	-26.53	-2.07	0.00	-164.50	0.00	164.50	1,948.48	974.24	3,834.02	2,471.99	0.91	-0.14	0.080
70.00	-25.11	-2.05	0.00	-154.15	0.00	154.15	1,948.48	974.24	3,834.02	2,471.99	1.06	-0.15	0.075
75.00	-23.69	-2.04	0.00	-143.89	0.00	143.89	1,948.48	974.24	3,834.02	2,471.99	1.23	-0.16	0.070
80.00	-22.42	-2.04	0.00	-133.70	0.00	133.70	1,948.48	974.24	3,834.02	2,471.99	1.41	-0.18	0.066
80.00	-22.42	-2.04	0.00	-133.70	0.00	133.70	1,757.14	878.57	3,018.53	1,911.67	1.41	-0.18	0.083
85.00	-21.15	-2.05	0.00	-123.50	0.00	123.50	1,757.14	878.57	3,018.53	1,911.67	1.60	-0.19	0.077
90.00	-19.88	-2.06	0.00	-113.28	0.00	113.28	1,757.14	878.57	3,018.53	1,911.67	1.80	-0.20	0.071
95.00	-18.61	-2.08	0.00	-102.98	0.00	102.98	1,757.14	878.57	3,018.53	1,911.67	2.03	-0.22	0.064
100.00	-17.49	-2.09	0.00	-92.61	0.00	92.61	1,757.14	878.57	3,018.53	1,911.67	2.26	-0.23	0.058
100.00	-17.49	-2.09	0.00	-92.61	0.00	92.61	1,565.64	782.82	2,298.42	1,422.98	2.26	-0.23	0.076
105.00	-16.37	-2.10	0.00	-82.17	0.00	82.17	1,565.64	782.82	2,298.42	1,422.98	2.51	-0.24	0.068
110.00	-15.25	-2.10	0.00	-71.68	0.00	71.68	1,565.64	782.82	2,298.42	1,422.98	2.78	-0.26	0.060
115.00	-14.13	-2.08	0.00	-61.20	0.00	61.20	1,565.64	782.82	2,298.42	1,422.98	3.06	-0.27	0.052
115.00	-14.13	-2.08	0.00	-61.20	0.00	61.20	1,565.64	782.82	2,298.42	1,422.98	3.06	-0.27	0.052
120.00	-13.00	-2.04	0.00	-50.80	0.00	50.80	1,565.64	782.82	2,298.42	1,422.98	3.35	-0.29	0.044
125.00	-11.88	-1.98	0.00	-40.59	0.00	40.59	1,565.64	782.82	2,298.42	1,422.98	3.65	-0.30	0.036
130.00	-11.06	-1.91	0.00	-30.70	0.00	30.70	1,565.64	782.82	2,298.42	1,422.98	3.97	-0.30	0.029
130.00	-11.06	-1.91	0.00	-30.70	0.00	30.70	1,127.22	563.61	1,091.62	660.47	3.97	-0.30	0.056
135.00	-10.73	-1.88	0.00	-21.14	0.00	21.14	1,127.22	563.61	1,091.62	660.47	4.29	-0.31	0.042
137.00	-7.20	-1.48	0.00	-17.38	0.00	17.38	1,127.22	563.61	1,091.62	660.47	4.42	-0.31	0.033
140.00	-6.45	-1.37	0.00	-12.95	0.00	12.95	1,127.22	563.61	1,091.62	660.47	4.62	-0.32	0.025
145.00	-5.70	-1.22	0.00	-6.12	0.00	6.12	1,127.22	563.61	1,091.62	660.47	4.96	-0.33	0.014
150.00	0.00	-1.19	0.00	0.00	0.00	0.00	1,127.22	563.61	1,091.62	660.47	5.31	-0.33	0.000

Load Case (0.9 - 0.2Sds) * DL + E EMAM Seismic (Reduced DL) Equivalent Modal Analysis Method

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-34.07	-2.51	0.00	-312.03	0.00	312.03	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.071
5.00	-32.54	-2.49	0.00	-299.47	0.00	299.47	3,293.92	1,646.96	8,093.29	5,174.22	0.01	-0.01	0.068
10.00	-31.00	-2.45	0.00	-287.04	0.00	287.04	3,293.92	1,646.96	8,093.29	5,174.22	0.02	-0.02	0.065
15.00	-29.47	-2.41	0.00	-274.79	0.00	274.79	3,293.92	1,646.96	8,093.29	5,174.22	0.05	-0.03	0.062
20.00	-28.28	-2.37	0.00	-262.76	0.00	262.76	3,293.92	1,646.96	8,093.29	5,174.22	0.09	-0.04	0.059
20.00	-28.28	-2.37	0.00	-262.76	0.00	262.76	2,330.87	1,165.43	5,751.12	3,807.50	0.09	-0.04	0.081
25.00	-27.09	-2.34	0.00	-250.90	0.00	250.90	2,330.87	1,165.43	5,751.12	3,807.50	0.13	-0.05	0.078
30.00	-25.90	-2.30	0.00	-239.22	0.00	239.22	2,330.87	1,165.43	5,751.12	3,807.50	0.19	-0.06	0.074
35.00	-24.71	-2.26	0.00	-227.73	0.00	227.73	2,330.87	1,165.43	5,751.12	3,807.50	0.26	-0.07	0.070
40.00	-23.62	-2.22	0.00	-216.44	0.00	216.44	2,330.87	1,165.43	5,751.12	3,807.50	0.34	-0.08	0.067
40.00	-23.62	-2.22	0.00	-216.44	0.00	216.44	2,139.71	1,069.86	4,744.89	3,103.93	0.34	-0.08	0.081
45.00	-22.54	-2.18	0.00	-205.34	0.00	205.34	2,139.71	1,069.86	4,744.89	3,103.93	0.42	-0.09	0.077
50.00	-21.45	-2.14	0.00	-194.42	0.00	194.42	2,139.71	1,069.86	4,744.89	3,103.93	0.53	-0.10	0.073
55.00	-20.36	-2.11	0.00	-183.70	0.00	183.70	2,139.71	1,069.86	4,744.89	3,103.93	0.64	-0.11	0.069
60.00	-19.38	-2.08	0.00	-173.17	0.00	173.17	2,139.71	1,069.86	4,744.89	3,103.93	0.76	-0.13	0.065
60.00	-19.38	-2.08	0.00	-173.17	0.00	173.17	1,948.48	974.24	3,834.02	2,471.99	0.76	-0.13	0.080
65.00	-18.39	-2.05	0.00	-162.79	0.00	162.79	1,948.48	974.24	3,834.02	2,471.99	0.90	-0.14	0.075
70.00	-17.41	-2.03	0.00	-152.55	0.00	152.55	1,948.48	974.24	3,834.02	2,471.99	1.05	-0.15	0.071
75.00	-16.42	-2.02	0.00	-142.40	0.00	142.40	1,948.48	974.24	3,834.02	2,471.99	1.22	-0.16	0.066
80.00	-15.54	-2.02	0.00	-132.32	0.00	132.32	1,948.48	974.24	3,834.02	2,471.99	1.39	-0.18	0.062
80.00	-15.54	-2.02	0.00	-132.32	0.00	132.32	1,757.14	878.57	3,018.53	1,911.67	1.39	-0.18	0.078
85.00	-14.66	-2.02	0.00	-122.24	0.00	122.24	1,757.14	878.57	3,018.53	1,911.67	1.58	-0.19	0.072
90.00	-13.78	-2.04	0.00	-112.12	0.00	112.12	1,757.14	878.57	3,018.53	1,911.67	1.79	-0.20	0.067
95.00	-12.90	-2.05	0.00	-101.95	0.00	101.95	1,757.14	878.57	3,018.53	1,911.67	2.01	-0.22	0.061
100.00	-12.12	-2.07	0.00	-91.68	0.00	91.68	1,757.14	878.57	3,018.53	1,911.67	2.24	-0.23	0.055
100.00	-12.12	-2.07	0.00	-91.68	0.00	91.68	1,565.64	782.82	2,298.42	1,422.98	2.24	-0.23	0.072
105.00	-11.35	-2.07	0.00	-81.36	0.00	81.36	1,565.64	782.82	2,298.42	1,422.98	2.49	-0.24	0.064
110.00	-10.57	-2.07	0.00	-70.98	0.00	70.98	1,565.64	782.82	2,298.42	1,422.98	2.75	-0.26	0.057
115.00	-9.79	-2.06	0.00	-60.62	0.00	60.62	1,565.64	782.82	2,298.42	1,422.98	3.03	-0.27	0.049
115.00	-9.79	-2.06	0.00	-60.62	0.00	60.62	1,565.64	782.82	2,298.42	1,422.98	3.03	-0.27	0.049
120.00	-9.01	-2.02	0.00	-50.33	0.00	50.33	1,565.64	782.82	2,298.42	1,422.98	3.32	-0.28	0.041
125.00	-8.24	-1.96	0.00	-40.22	0.00	40.22	1,565.64	782.82	2,298.42	1,422.98	3.62	-0.29	0.034
130.00	-7.67	-1.89	0.00	-30.42	0.00	30.42	1,565.64	782.82	2,298.42	1,422.98	3.93	-0.30	0.026
130.00	-7.67	-1.89	0.00	-30.42	0.00	30.42	1,127.22	563.61	1,091.62	660.47	3.93	-0.30	0.053
135.00	-7.44	-1.86	0.00	-20.95	0.00	20.95	1,127.22	563.61	1,091.62	660.47	4.25	-0.31	0.038
137.00	-4.99	-1.47	0.00	-17.23	0.00	17.23	1,127.22	563.61	1,091.62	660.47	4.38	-0.31	0.031
140.00	-4.47	-1.35	0.00	-12.84	0.00	12.84	1,127.22	563.61	1,091.62	660.47	4.58	-0.32	0.023
145.00	-3.95	-1.21	0.00	-6.06	0.00	6.06	1,127.22	563.61	1,091.62	660.47	4.91	-0.33	0.013
150.00	0.00	-1.19	0.00	0.00	0.00	0.00	1,127.22	563.61	1,091.62	660.47	5.26	-0.33	0.000

Analysis Summary

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	21.56	0.00	49.66	0.00	0.00	2293.05	20.00	0.51
0.9D + 1.6W	21.55	0.00	37.24	0.00	0.00	2278.92	20.00	0.50
1.2D + 1.0Di + 1.0Wi	6.11	0.00	72.54	0.00	0.00	611.36	20.00	0.16
(1.2 + 0.2Sds) * DL + E ELFM	1.61	0.00	49.13	0.00	0.00	193.28	20.00	0.06
(1.2 + 0.2Sds) * DL + E EMAM	2.51	0.00	49.13	0.00	0.00	314.54	20.00	0.09
(0.9 - 0.2Sds) * DL + E ELFM	1.61	0.00	34.07	0.00	0.00	191.85	20.00	0.05
(0.9 - 0.2Sds) * DL + E EMAM	2.51	0.00	34.07	0.00	0.00	312.03	20.00	0.08
1.0D + 1.0W	4.85	0.00	41.40	0.00	0.00	513.80	20.00	0.12

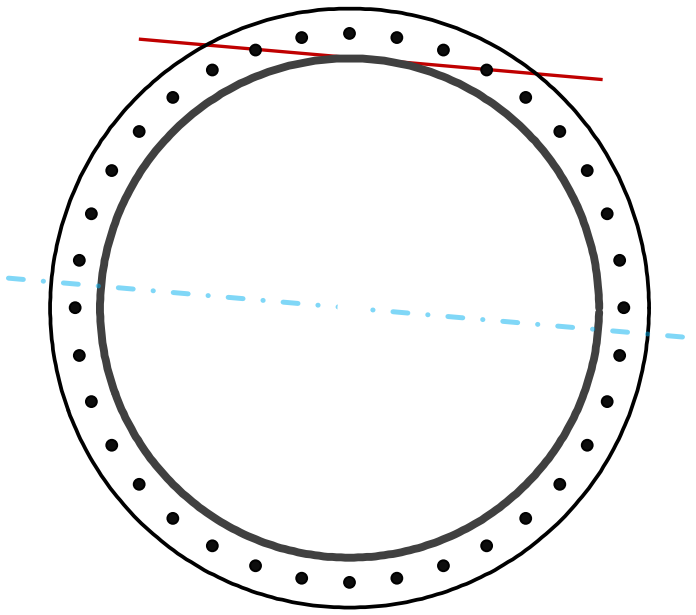
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Shape	Round	-
Diameter	60.00	in
Thickness	0.500	in
Orientation Offset		°

Base Reactions		
Moment, Mu	2293.1	k-ft
Axial, Pu	49.7	k
Shear, Vu	21.6	k
Neutral Axis	355	°

Report Capacities		
Component	Capacity	Result
Base Plate	72%	Pass
Anchor Rods	16%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ø	72	in
Thickness	1 1/2	in
Grade	A572-50	-
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Clip	N/A	in
Orientation Offset	0	°
Anchor Rod Detail	d	η=0.5
Clear Distance	3	in
Applied Moment, Mu	446.2	k
Bending Stress, ϕMn	617.7	k



Original Anchor Rods		
Arrangement	Radial	-
Quantity	36	-
Diameter, ø	1 1/2	in
Bolt Circle	66	in
Grade	Other	
Yield Strength, Fy	81	ksi
Tensile Strength, Fu	105	ksi
Spacing	5.8	in
Orientation Offset	0	°
Applied Force, Pu	47.5	k
Anchor Rods, ϕPn	118.0	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	21.6	2293.1	1.00
Anchor Rod Forces	21.6	2293.1	1.00
Additional Bolt (Grp1) Forces	0.0	0.0	0.00
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	0.0	0.00
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in^2	in^2	in^4	#	in^4
Pole	93.4612	0.2596	0.0217		41367.32
Bolt	1.7671	1.4053	0.1571	6	27551.41
Bolt1	0.0000	0.0000	0.0000	0	0.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	0.0000	0.0000	0.0000		0.00
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Round	-
Diameter, D	72	in
Thickness, t	1.5	in
Yield Strength, Fy	50	ksi
Tensile Strength, Fu	65	ksi
Base Plate Chord	39.799	in
Detail Type	d	-
Detail Factor	0.50	-
Clear Distance	3	-

External Base Plate		
Chord Length AA	31.465	in
Additional AA	3.000	in
Section Modulus, Z	19.387	in^3
Applied Moment, Mu	446.2	k-ft
Bending Capacity, ϕMn	872.4	k-ft
Capacity, Mu/ϕMn	0.511	OK
Chord Length AB	31.465	in
Additional AB	3.000	in
Section Modulus, Z	19.387	in^3
Applied Moment, Mu	446.2	k-ft
Bending Capacity, ϕMn	872.4	k-ft
Capacity, Mu/ϕMn	0.511	OK
Bend Line Length	24.403	in
Additional Bend Line	0.000	in
Section Modulus, Z	13.727	in^3
Applied Moment, Mu	446.2	k-ft
Bending Capacity, ϕMn	617.7	k-ft
Capacity, Mu/ϕMn	0.722	OK

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in^3
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, ϕMn	0.0	k-ft
Capacity, Mu/ϕMn		

Anchor Rods		
Anchor Rod Quantity, N	36	-
Rod Diameter, d	1.5	in
Bolt Circle, BC	66	in
Yield Strength, Fy	81	ksi
Tensile Strength, Fu	105	ksi
Applied Axial, Pu	47.5	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	118.0	k
Tensile Capacity, ϕRnt	0.403	OK
Interaction Capacity	0.162	OK

Additional Bolt Group 1		
Bolt Quantity, N	0	-
Bolt Diameter, d	0	in
Bolt Circle, BC	0	in
Yield Strength, Fy	0	ksi
Tensile Strength, Fu	0	ksi
Applied Axial, Pu	0.0	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Compressive Capacity, ϕPn		
Interaction Capacity		

Additional Bolt Group 2		
Bolt Quantity, N	0	-
Bolt Diameter, d	0	in
Bolt Circle, BC	0	in
Yield Strength, Fy	0	ksi
Tensile Strength, Fu	0	ksi
Applied Axial, Pu	0.0	k
Applied Shear, Vu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Compressive Capacity, ϕPn		
Interaction Capacity		

Dywidag Reinforcement		
Dywidag Quantity, N	0	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	66.88	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	0.0	k
Compressive Capacity, ϕPn	0.0	k
Capacity, Pu/ϕPn		

Base Plate Stiffeners		
Applied Axial Force, Pu	0.0	k
Applied Horizontal Force, Vu	0.00	k

Vertical Weld		
Vert.-to-Stiffener a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Compressive Capacity, ϕPn	#DIV/0!	k
Vert.-to-Plate a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Shear Capacity, ϕVn	#DIV/0!	k
$P_u/\phi_P P_n + V_u/\phi_V V_n$		

Horizontal Weld		
Horz.-to-Stiffener a=e_x/l	0.000	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Effective Fillet	0.000	in
Compressive Capacity, ϕPn	#DIV/0!	k
Horz.-to-Pole a=e_x/l	#DIV/0!	-
Spacing Ratio, k	#DIV/0!	-
Weld Coefficient, C	#DIV/0!	-
Shear Capacity, ϕVn	#DIV/0!	k
$P_u/\phi_P P_n + V_u/\phi_V V_n$		

Plate Tension		
Gross Cross Section	0.000	in^2
Net Cross Section	0.000	in^2
Tensile Capacity, ϕTn	0.0	k
Capacity, Tu/ϕTn		

Plate Compression		
Radius of Gyration	#DIV/0!	in^3
kl/r	#DIV/0!	-
4.71 $\sqrt{(E/Fy)}$	0.00	-
Buckling Stress(Fe)	0.0	-
Crit. Buckling Stress(Fcr)	0.0	ksi
Compressive Capacity, ϕPn	0.0	k
Capacity, Pu/ϕPn		

Base/Flange Plate			
	Plate Type	***Flange***	***@ 20.0 ft***
	Pole Diameter	60	in
	Pole Thickness	0.375	in
	Plate Diameter	60	in
	Plate Thickness	1.5	in
	Plate Fy	50	ksi
	Weld Length	0.3125	in
	ϕ_s Resistance	134.19	k-in
	Applied	95.15	k-in

Stiffeners		
	#	

Bolts			
	#	***32***	
	Bolt Circle	54	in
	(R)adial / (S)quare	R	
●	Diameter	1.5	in
	Hole Diameter	1.625	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	ϕ_s Resistance	126.47	k
	Applied	50.75	k

Reinforcement ●		
	#	***0***

Extra Bolts O		
	#	***0***

Code Rev. ***G***

Moment 1873.7 k-ft

Axial 41.0 k

Date 7/6/2018

Engineer Zackaryah.Hughes

Site # 282660

Carrier AT&T MOBILITY

Required Flange Thickness:

1.26 in OK

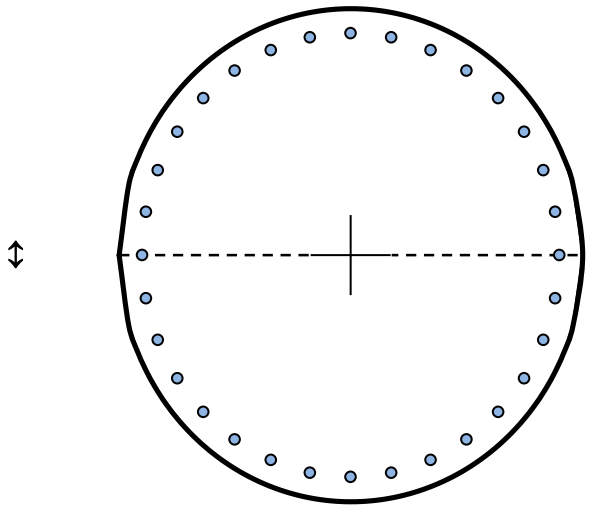


Plate Stress Ratio:

0.71 (Pass)

Bolt Stress Ratio:

0.40 (Pass)

Base/Flange Plate			
	Plate Type	***Flange***	***@ 40.0 ft***
	Pole Diameter	54	in
	Pole Thickness	0.375	in
	Plate Diameter	60	in
	Plate Thickness	1.5	in
	Plate Fy	50	ksi
	Weld Length	0.3125	in
	ϕ_s Resistance	89.46	k-in
	Applied	15.86	k-in

Stiffeners		
	#	

Bolts			
	#	***48***	
	Bolt Circle	57	in
	(R)adial / (S)quare	R	
●	Diameter	1	in
	Hole Diameter	1.125	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	ϕ_s Resistance	54.52	k
	Applied	25.37	k

Reinforcement ●		
	#	***0***

Extra Bolts O		
	#	***0***

Code Rev. ***G***

Moment 1487.0 k-ft
Axial 34.3 k

Date 7/6/2018
Engineer Zackaryah.Hughes
Site # 282660
Carrier AT&T MOBILITY

Required Flange Thickness:
0.63 in OK

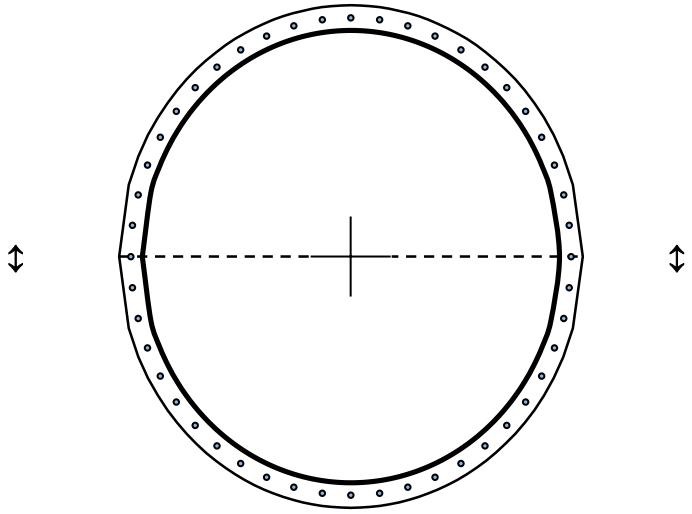


Plate Stress Ratio:
0.18 (Pass)

Bolt Stress Ratio:
0.47 (Pass)

Base/Flange Plate	Plate Type	***Flange*** ***@ 60.0 ft***
	Pole Diameter	48 in
	Pole Thickness	0.375 in
	Plate Diameter	54 in
	Plate Thickness	1.5 in
	Plate Fy	50 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	95.43 k-in
	Applied	16.25 k-in
Stiffeners	#	

Bolts	#	***40***
	Bolt Circle	51 in
	(R)adial / (S)quare	R
	Diameter	1 in
	Hole Diameter	1.125 in
	Type	A325
	Fy	92 ksi
	Fu	120 ksi
	ϕ_s Resistance	54.52 k
	Applied	26.00 k
Reinforcement ●	#	***0***
Extra Bolts O	#	***0***

Code Rev. ***G***

Moment 1135.1 k-ft
Axial 28.2 k

Date	7/6/2018
Engineer	Zackaryah.Hughes
Site #	282660
Carrier	AT&T MOBILITY

Required Flange Thickness:
0.62 in OK

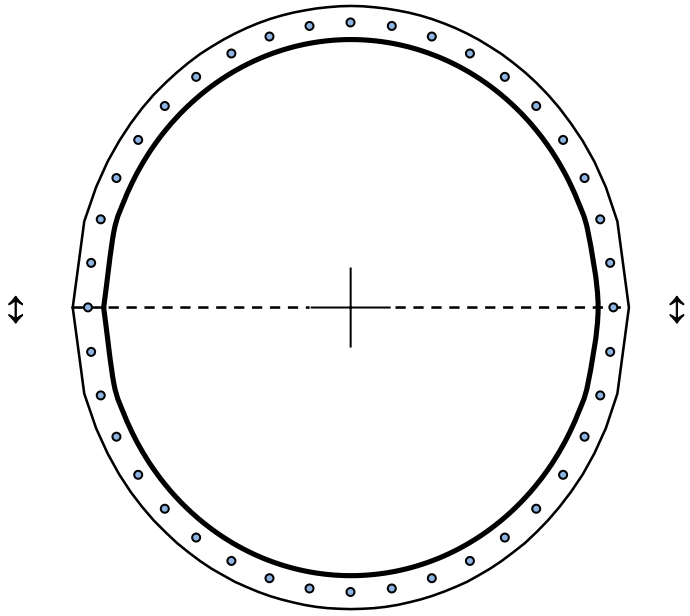


Plate Stress Ratio:
0.17 (Pass)

Bolt Stress Ratio:
0.48 (Pass)

Base/Flange Plate	Plate Type	***Flange***	***@ 80.0 ft***
	Pole Diameter	42	in
	Pole Thickness	0.375	in
	Plate Diameter	48	in
	Plate Thickness	1.5	in
	Plate Fy	50	ksi
	Weld Length	0.3125	in
	ϕ_s Resistance	104.13	k-in
	Applied	16.62	k-in
Stiffeners	#		

Bolts	#	***32***	
	Bolt Circle	45	in
	(R)adial / (S)quare	R	
	Diameter	1	in
	Hole Diameter	1.125	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	ϕ_s Resistance	54.52	k
	Applied	26.59	k
Reinforcement ●	#	***0***	
Extra Bolts O	#	***0***	

Code Rev. ***G***

Date	7/6/2018
Engineer	Zackaryah.Hughes
Site #	282660
Carrier	AT&T MOBILITY

Moment 818.9 k-ft
Axial 22.6 k

Required Flange Thickness:
0.60 in OK

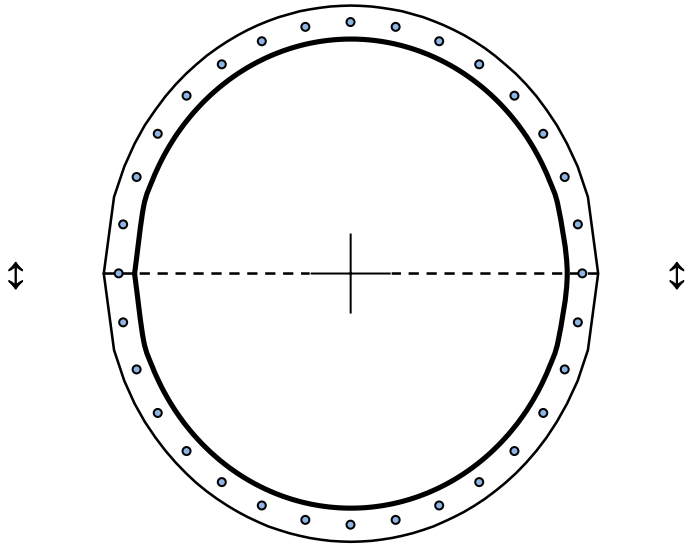


Plate Stress Ratio:
0.16 (Pass)

Bolt Stress Ratio:
0.49 (Pass)

Base/Flange Plate	Plate Type	***Flange*** ***@ 100.0 ft***
	Pole Diameter	36 in
	Pole Thickness	0.375 in
	Plate Diameter	42 in
	Plate Thickness	1.5 in
	Plate Fy	50 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	104.13 k-in
	Applied	16.77 k-in
Stiffeners	#	

Bolts	#	***24***
	Bolt Circle	39 in
	(R)adial / (S)quare	R
	Diameter	1 in
	Hole Diameter	1.125 in
	Type	A325
	Fy	92 ksi
	Fu	120 ksi
	ϕ_s Resistance	54.52 k
	Applied	26.84 k
Reinforcement ●	#	***0***
Extra Bolts O	#	***0***

Code Rev. ***G***

Moment 537.8 k-ft
Axial 17.7 k

Date	7/6/2018
Engineer	Zackaryah.Hughes
Site #	282660
Carrier	AT&T MOBILITY

Required Flange Thickness:
0.60 in OK

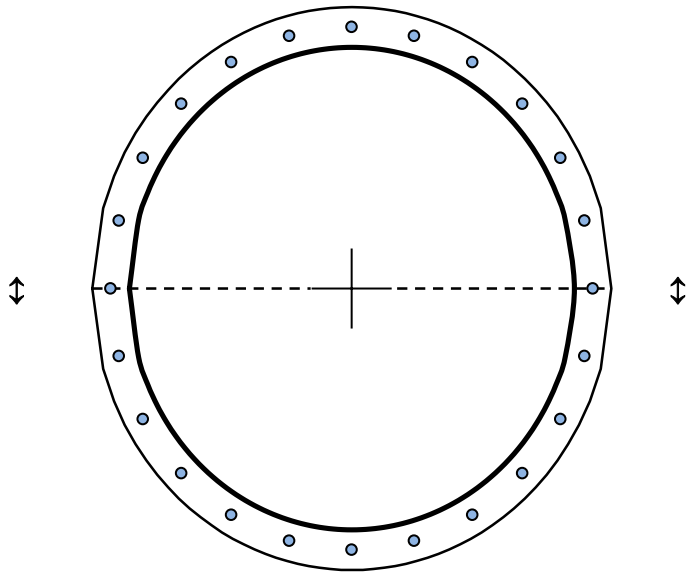


Plate Stress Ratio:
0.16 (Pass)

Bolt Stress Ratio:
0.49 (Pass)

Base/Flange Plate	Plate Type	***Flange***	***@ 115.0 ft***
	Pole Diameter	36	in
	Pole Thickness	0.375	in
	Plate Diameter	36	in
	Plate Thickness	1.5	in
	Plate Fy	50	ksi
	Weld Length	0.3125	in
	ϕ_s Resistance	99.40	k-in
	Applied	48.15	k-in
Stiffeners	#		

Bolts	#	***24***	
	Bolt Circle	30	in
	(R)adial / (S)quare	R	
	Diameter	1	in
	Hole Diameter	1.125	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	ϕ_s Resistance	54.52	k
	Applied	22.66	k
Reinforcement ●	#	***0***	
Extra Bolts O	#	***0***	

Code Rev. ***G***

Moment	349.0 k-ft
Axial	14.4 k

Date	7/6/2018
Engineer	Zackaryah.Hughes
Site #	282660
Carrier	AT&T MOBILITY

Required Flange Thickness:

1.04 in OK

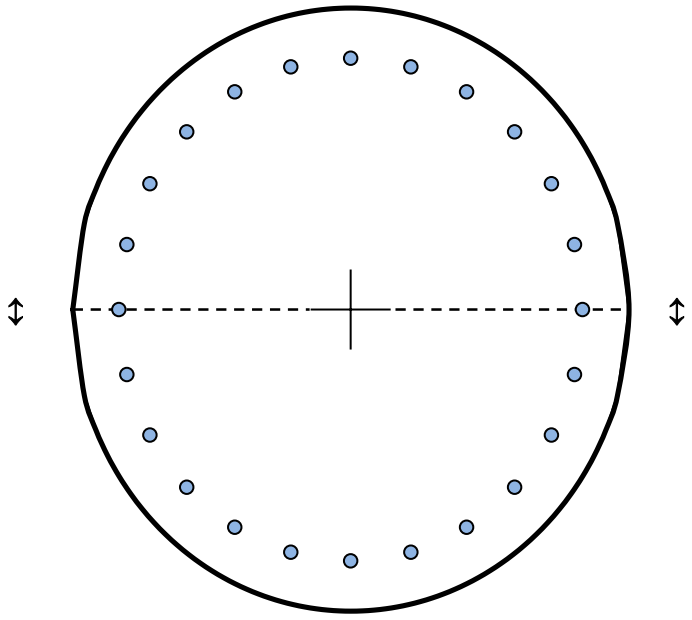


Plate Stress Ratio:

0.48 (Pass)

Bolt Stress Ratio:

0.42 (Pass)

Base/Flange Plate	Plate Type	***Flange***	***@ 130.0 ft***
	Pole Diameter	24	in
	Pole Thickness	0.375	in
	Plate Diameter	30	in
	Plate Thickness	1.5	in
	Plate Fy	50	ksi
	Weld Length	0.3125	in
	ϕ_s Resistance	95.43	k-in
	Applied	9.57	k-in
Stiffeners	#		

Bolts	#	***20***	
	Bolt Circle	27	in
	(R)adial / (S)quare	R	
	Diameter	1	in
	Hole Diameter	1.125	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	ϕ_s Resistance	54.52	k
	Applied	15.31	k
Reinforcement ●	#	***0***	
Extra Bolts O	#	***0***	

Code Rev. ***G***

Date	7/6/2018
Engineer	Zackaryah.Hughes
Site #	282660
Carrier	AT&T MOBILITY

Moment	178.7 k-ft
Axial	11.2 k

Required Flange Thickness:

0.48 in OK

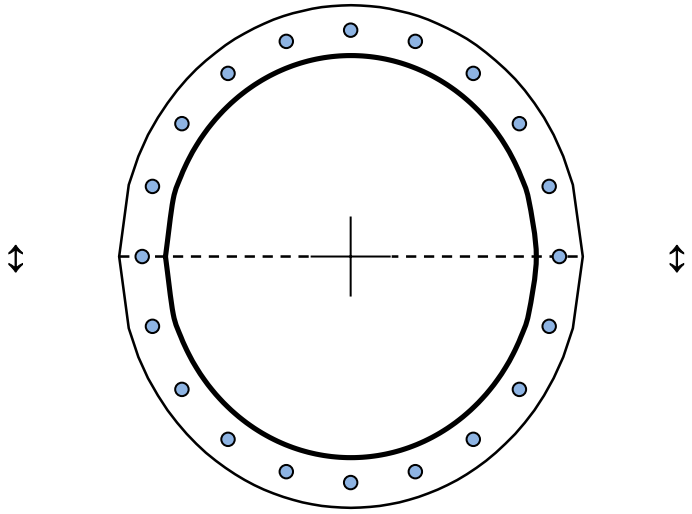


Plate Stress Ratio:

0.10 (Pass)

Bolt Stress Ratio:

0.28 (Pass)