March 14, 2017

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

Re:	**Notice of Exempt Modification – Antenna Swap Property**
Address:	**151 Waterbury Rd Prospect, CT 06712**
Applicant:	**AT&T Mobility, LLC**

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 consisting of nine (9) wireless telecommunication antennas at an antenna center line height of 154-feet on an existing 150 -foot monopole tower, owned by American Tower, and located at 151 Waterbury Rd. Prospect, CT 06712. AT&T now intends to remove (2) Andrew SBNH-1D6565C panel antennas from position 4 in Alpha & Beta sector and replace them with (2) CCI TPA-65R-LCUUUU-H8 panel antennas. (1) KMW AM-X-CD-16-65-00T-RET panel antenna in position 4 Gamma sector will be replaced with (1) Quintel QS66512-2 panel antenna. AT&T also plans to install a handrail support kit on the existing equipment mount. Within the shelter AT&T intends to install (3) RRUS-11, (3) RRUS-E2, (6) 25 amp breakers, (1) XMU, and (1) IDL2 link.

This facility was permitted the Town of Prospect's building department on July, 2003 #4482 for AT&T Wireless PCS, LLC. To add antennas to an existing guy tower and erect an equipment shelter with AT&T radio cabinets as well as a concrete pat with ice bridge posts. Also, This is the only information on file and an email will be included confirming that after a search of the Land Use Office records in the Prospect Town Hall, I am unable to locate the original approval for the tower located at 151 Waterbury Road.

The following is a list of subsequent decisions by the Connecticut Siting Council:

EM-AT&T-115-020923 - AT&T Wireless, PCS, Inc., d/b/a AT&T Wireless notice of intent to modify an existing telecommunications facility located at 151 Waterbury Road, **Prospect**, Connecticut.

EM-CING-097-082-007-088-115-060727 - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 36 Janowski Road, Ashford; 239 Middle Turnpike East, Manchester; 575 Hillstown Road, Manchester; 151 Waterbury Road, **Prospect**; and 14 Booth Hill Road, a/k/a Oxford Drive, Shelton, Connecticut.

EM-CING-115-120518 - New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 151 Waterbury Road, **Prospect**, Connecticut.

EM-CING-115-140902 - New Cingular Wireless PCS, LLC (AT&T) notice of intent to modify an existing telecommunications facility located at 151 Waterbury Road, **Prospect**, Connecticut.

EM-AT&T-115-160324 - AT&T Mobility, LLC notice of intent to modify an existing telecommunications facility located at 151 Waterbury Road, **Prospect**, Connecticut.

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 Benjamin G Blake, Mayor, City of Milford, 110 River St Milford, CT 06460. A copy of this letter is also being sent to American Tower Corporation-Tower Owner- at 116 Huntington Ave., 11th floor, Boston, MA 02116 and Charchenko, Henry & Genevieve & Co-Owner C/O Spectrasite Communications P O Box 723597 Prop Tax Dept. Atlanta, GA 31139. A copy of this letter will also be sent to the Town of Prospect, CT Land Use Department, 36 Center Street, Prospect, CT 06712.

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 154-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 in Tab 2.
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 in Tab 3).

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,

Michael Pattison

Enclosures
CC w/enclosures:
Benjamin G Blake, Mayor, City of Milford
American Tower Corporation-Tower Owner
Charchenko, Henry & Genevieve & Co-Owner C/O Spectrasite Communications - Property Owner
Town of Prospect, CT Land Use Department

85 Rangeway Road, Building 3, Suite 102
Billerica, MA 01862

BUILDING PERMIT APPLICATION

File Copy

WILLIAM SCARPATI
BUILDING OFFICIAL

TOWN OF PROSPECT
BUILDING DEPARTMENT

(203) 758-4461

Date: 7/10/03

Job Site/Address: 151 Waterbury Rd

Owner: Cleo Chawool Communications Phone #: (201) 218-6278

Address: 151 Waterbury Rd

(To be completed if Contractor signing application)

Contractor: Bechtel Communications Phone #: (203) 630-9876

Address: 210 Pomeray Ave, Meriden, CT. FAX 203 481-1135

Contractor's License Number: Inco 900855

Home Improvement
General Contractor's License Number:

Description of Work Being Done: Construction of a 7'x16' lease area w/ T+T Radio Cabinets, on a Concrete pad with ICE BRIDGE Posts and three Directional antenna's on an existing guy tower

Estimated Cost: $60,000.00 Permit Fee: 360.00 Cash ☐ Check ☑

Inspector's Estimate: 60,000.00 State Fee: 9.00

I hereby agree to conform to all of the requirements of the applicable State of Connecticut laws and regulations and to notify the Building Official of any alteration in the plans or specifications of the building for which the permit is sought. I further agree to keep any and all easement/rights-of-way free of obstructions which would prohibit the Town from using those areas as intended.

William B. Scarpati 7-15-03
Building Officials Signature Date

Applicant's or Agent's Signature Date

Permit Number: 4482 Date Issued: 7-18-03

Zoning Permit: Siting Council

Fire Marshall:

Completed 12/16/03

TAXES PAID
Date 7-18-03 Int. MAH

MATERIALS TESTING, INC.

200 ROWE AVENUE • MILFORD, CONNECTICUT 06460 • (203)878-2765
871 STAFFORD ROAD • EAGLEVILLE, CONNECTICUT 06268 • (860)487-1972

NVLAP #0320
Specific Scope Accredited

COMPRESSION TESTS (6" X 12" CYLINDERS) ASTM C-39

S-100A

STATE OF CONNECTICUT
RAM MOHAN RAO KASTURI
NO. 23364
LICENSED
PROFESSIONAL ENGINEER

11/24/03

CLIENT: Natcomm, LLC
63-2 North Branford Road
Branford, CT 06405
Attn: Mr. John Centore

PROJECT: AT&T Wireless PCS, LLC
Site #CT-626
151 Waterbury Drive
Prospect, CT

File

LOCATION Guy wire anchor slabs (3) locations

CONCRETE SUPPLIER Haynes Concrete

DATE CAST 10-21-03 **DATE RECEIVED** 10-27-03

TEMPERATURE-AMBIENT 58 °F **CONCRETE** 70 °F

SLUMP 4 " **AIR CONTENT** 5.0 % **TRUCK NO.** 002

SAMPLING TIME 12:55 p.m. **CYLS. CAST BY** Materials Testing, Inc.

REQUIRED STRENGTH - PSI 3000 (4000 PSI installed)

CEMENT, LBS./CU.YD **FINE AGGREGATE, LBS./CU.YD**

COARSE AGGREGATE, LBS./CU.YD.

WATER, GALS./CU.YD **ADMIXTURES**

CYLINDER NOS.	AGE DAYS	CYL. WTS.	DATE TESTED	LOAD-LBS.	COMPRESSIVE STRENGTH - PSI
S-69283	7	28.65	10-28-03	104,500	3700
S-69284	28	28.55	11-18-03	131,000	4640
S-69285	28	28.25	11-18-03	136,000	4810
S-69286	Spare	28.40	Spare		

Materials Testing, Inc.
Frank A. Soucy

cc: Client
cc: Town of Prospect
cc: Esmat Ali, P.E.

mc

David Barbagallo

From: Tammy DeLoia <landuse02@yahoo.com>
Sent: Wednesday, March 23, 2016 3:41 PM
To: David Barbagallo
Subject: Re: CTL05626 -151 Waterbury Rd- orginal zoning decision not found

Hi David. Please let this confirm that after a search of the Land Use Office records in the Prospect Town Hall, I am unable to locate the original approval for the tower located at 151 Waterbury Road.

Tammy DeLoia
Land Use Inspector
Town of Prospect
36 Center Street
Prospect, CT 06712
(203) 758-4461

On Tuesday, March 22, 2016 1:11 PM, David Barbagallo <david.barbagallo@smartlinkllc.com> wrote:

Hi Tammy,

This email is just to confirm my visit and inquiry into the land use records for an original zoning decision to commission the tower that is now built
At 151 Waterbury Rd Prospect, CT. We checked all available records and this information was not found.

Thank you for your assistance in this matter,

smartlink

David Barbagallo | Real Estate Specialist
Smartlink
33 Boston Post Rd. West, Suite 210
Marlborough, MA 01752
(M) 860-681-7708
David.barbagallo@smartlinkllc.com

TOWN OF
PROSPECT
CONNECTICUT
GIS & Real Property Information

Town Offices
36 Center Steet
Prospect, CT 06712
ph (203)758-4461

Property Search

Name: ex. Smith

House No:
151

Street:
WATERBURY RD

Unique Parcel Id: ex.P0324300

GO

Information Updates

GIS Parcels Updated
May 2016

Property Info Data Updated
Nightly - not finalized

Current Parcel Count
3,758 +/-

Search Results

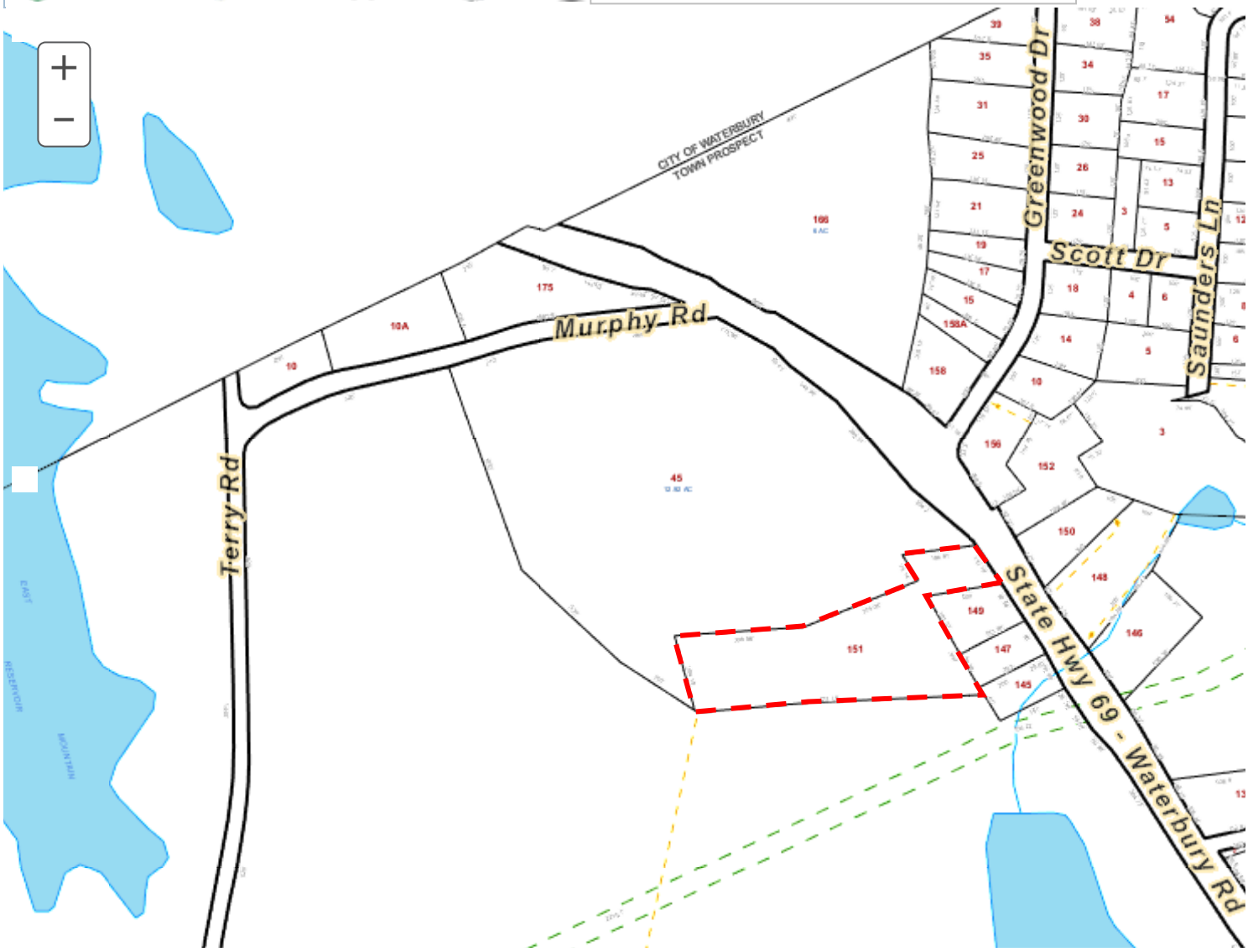
Click on GIS Map No. to zoom to MapXpress Application.

Your Search of: ,151 WATERBURY RD,,

Picture	MBL/Owner/Address	Quick Links	MapXpress
	104 160 151 RICHLAND TOWERS MANAGEMENT PARKVIEW LLC 151 WATERBURY RD **Sale date:** 03/01/2013	**Parcel Details** **Quick Map** **eQuality Property Card** **Assessor Map** **FEMA Panels**	Zoom to GIS

Start Over

Full Town View | Reset Map | Search | Print | Map Layer

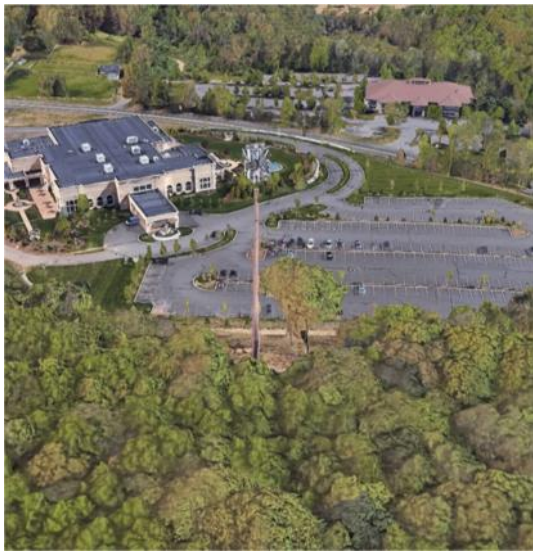


Full Extent | Zoom In | Zoom Out | Prev Extent | Next Extent | Pan | **Parcel Information** | Simple

MapXpress v1.2

SITESAFE
RF COMPLIANCE EXPERTS
A BUSINESS OF FDH VELOCITEL

200 North Glebe Road, Suite 1000, Arlington, VA 22203-3728
703.276.1100 ● 703.276.1169 fax
info@sitesafe.com ● www.sitesafe.com



Smartlink LLC on behalf of AT&T Mobility, LLC
Site FA – 10071211
Site ID – CTV5626 (4C & 5C (ran concurrently))
USID – 26038
Site Name – Prospect NorthSite Compliance Report

151 Waterbury Road
Prospect, CT 06712

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

Report generated date: February 28, 2017
Report by: Young Kim
Customer Contact: Romina Kirchmaier

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
RF Sign(s) @ access point(s)	None
RF Sign(s) @ antennas	None
Barrier(s) @ sectors	None
Max cumulative simulated RFE level on the Ground	<1% General Public Limit
FCC & AT&T Compliant?	Will be compliant

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

RFDS: CTL05626 4C RFDS
CTL05626 5C RFDS

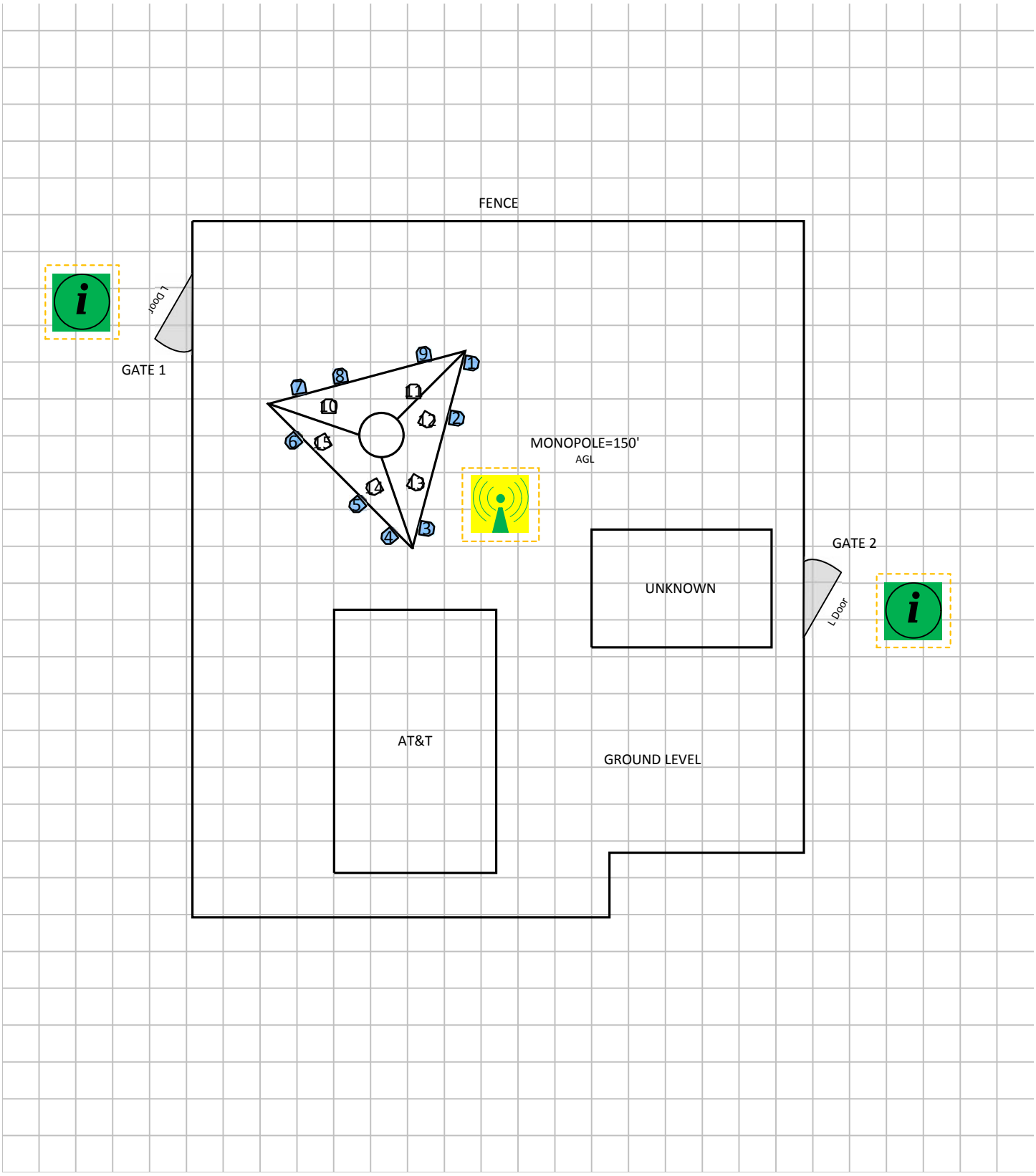
CD's: 10071211_AE201_161220_CTL05626_REV1

2 Scale Maps of Site

The following diagrams are included:

- Site Scale Map
- Composite View
- AT&T Mobility, LLC Contribution
- Elevation View – South

Site Scale Map For: Prospect North



(Feet)

0 4.7 9.3

www.sitesafe.com
Site Name:Prospect North
2/28/2017 1:36:54 PM

Carrier Identification

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

Sign Legend

Caution 1 | Caution 2 | Notice 1 | Notice 2 | Info 1 | Info 2 | Warning

Barrier

Proposed Barriers/ Signs

3 Antenna Inventory

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

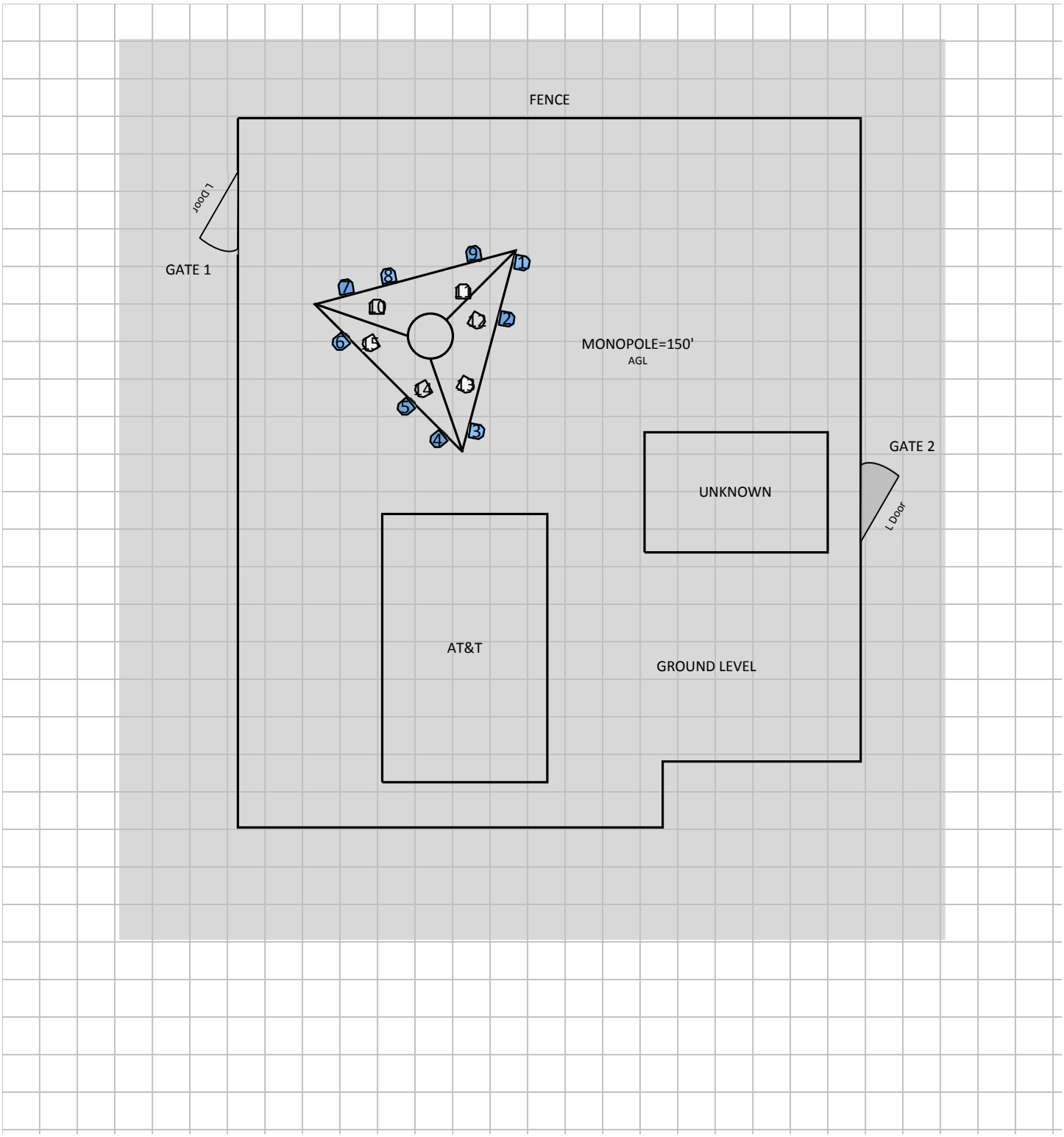
Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	2G GSM Radio(s)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	X	Y	Z (AGL)
1	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	100	82	4.6	11.51	0	2	0	629.5	81.9'	115.1'	151.7'
1	AT&T MOBILITY LLC	Powerwave 7770	Panel	1900	100	86	4.6	13.41	0	2	0	1213.5	81.9'	115.1'	151.7'
2	AT&T MOBILITY LLC (Proposed)	CCI Antennas HPA-65R-BUU-H8	Panel	737	100	64.9	7.7	13.26	0	0	1	1475.7	80.8'	111.3'	150.2'
2	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	2300	100	63.3	7.7	15.26	0	0	1	1285.3	80.8'	111.3'	150.2'
3	AT&T MOBILITY LLC	Cci Antennas TPA-65R-LCUUUU-H8	Panel	737	100	61.9	8	13.56	0	0	1	1475.7	78.8'	103.9'	150'
3	AT&T MOBILITY LLC (Proposed)	Cci Antennas TPA-65R-LCUUUU-H8	Panel	850	100	63	8	13.56	0	0	1	1475.7	78.8'	103.9'	150'
3	AT&T MOBILITY LLC	Cci Antennas TPA-65R-LCUUUU-H8	Panel	1900	100	68.2	8	13.86	0	0	1	2421	78.8'	103.9'	150'
4	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	230	82	4.6	11.51	0	2	0	629.5	76.2'	103.3'	151.7'
4	AT&T MOBILITY LLC	Powerwave 7770	Panel	1900	230	86	4.6	13.41	0	2	0	1213.5	76.2'	103.3'	151.7'
5	AT&T MOBILITY LLC (Proposed)	CCI Antennas HPA-65R-BUU-H8	Panel	737	230	64.9	7.7	13.26	0	0	1	1475.7	74.1'	105.5'	150.2'
5	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	2300	230	63.3	7.7	15.26	0	0	1	1285.3	74.1'	105.5'	150.2'
6	AT&T MOBILITY LLC	Cci Antennas TPA-65R-LCUUUU-H8	Panel	737	230	61.9	8	13.56	0	0	1	1475.7	69.7'	109.8'	150'
6	AT&T MOBILITY LLC (Proposed)	Cci Antennas TPA-65R-LCUUUU-H8	Panel	850	230	63	8	13.56	0	0	1	1475.7	69.7'	109.8'	150'
6	AT&T MOBILITY LLC	Cci Antennas TPA-65R-LCUUUU-H8	Panel	1900	230	68.2	8	13.86	0	0	1	2421	69.7'	109.8'	150'
7	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	350	82	4.6	11.51	0	2	0	629.5	70.1'	113.5'	151.7'
7	AT&T MOBILITY LLC	Powerwave 7770	Panel	1900	350	86	4.6	13.41	0	2	0	1213.5	70.1'	113.5'	151.7'
8	AT&T MOBILITY LLC (Proposed)	CCI Antennas HPA-65R-BUU-H8	Panel	737	350	64.9	7.7	13.26	0	0	1	1475.7	72.9'	114.2'	150.2'
8	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	2300	350	63.3	7.7	15.26	0	0	1	1285.3	72.9'	114.2'	150.2'
9	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	737	350	69	6	11.46	0	0	1	1475.7	78.6'	115.7'	151'
9	AT&T MOBILITY LLC (Proposed)	Quintel QS66512-2	Panel	850	350	63	6	10.96	0	0	1	1475.7	78.6'	115.7'	151'
9	AT&T MOBILITY LLC	Quintel QS66512-2	Panel	1900	350	68	6	14.16	0	0	1	2421	78.6'	115.7'	151'
10	UNKNOWN	Generic Panel	Panel	850	0	65	4.6	12.77	-	-	-	1135.4	72.2'	112.2'	137.7'
11	UNKNOWN	Generic Panel	Panel	1900	0	65	4.6	15.43	-	-	-	2094.8	77.9'	113.2'	137.7'
12	UNKNOWN	Generic Panel	Panel	850	120	65	4.6	12.77	-	-	-	1135.4	78.9'	111.2'	137.7'
13	UNKNOWN	Generic Panel	Panel	1900	120	65	4.6	15.43	-	-	-	2094.8	78.1'	107'	137.7'
14	UNKNOWN	Generic Panel	Panel	850	240	65	4.6	12.77	-	-	-	1135.4	75.2'	106.7'	137.7'

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	2G GSM Radio(s)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	X	Y	Z (AGL)
15	UNKNOWN	Generic Panel	Panel	1900	240	65	4.6	15.43	-	-	-	2094.8	71.7'	109.7'	137.7'

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. For other operators at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to operator, their FCC license and/or antenna information was not available nor could it be secured while on site. Other operator's equipment, antenna models and powers used for modeling are based on obtained information or Sitesafe experience.

Note: The 737MHz LTE technology is being added to an existing antenna.

RF Exposure Simulation For: Prospect North
Composite View



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

(Feet)

0 5 10

www.sitesafe.com
Site Name:Prospect North
2/28/2017 1:47:39 PM

% of FCC Public Exposure Limit

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

Carrier Identification

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

Sign Legend

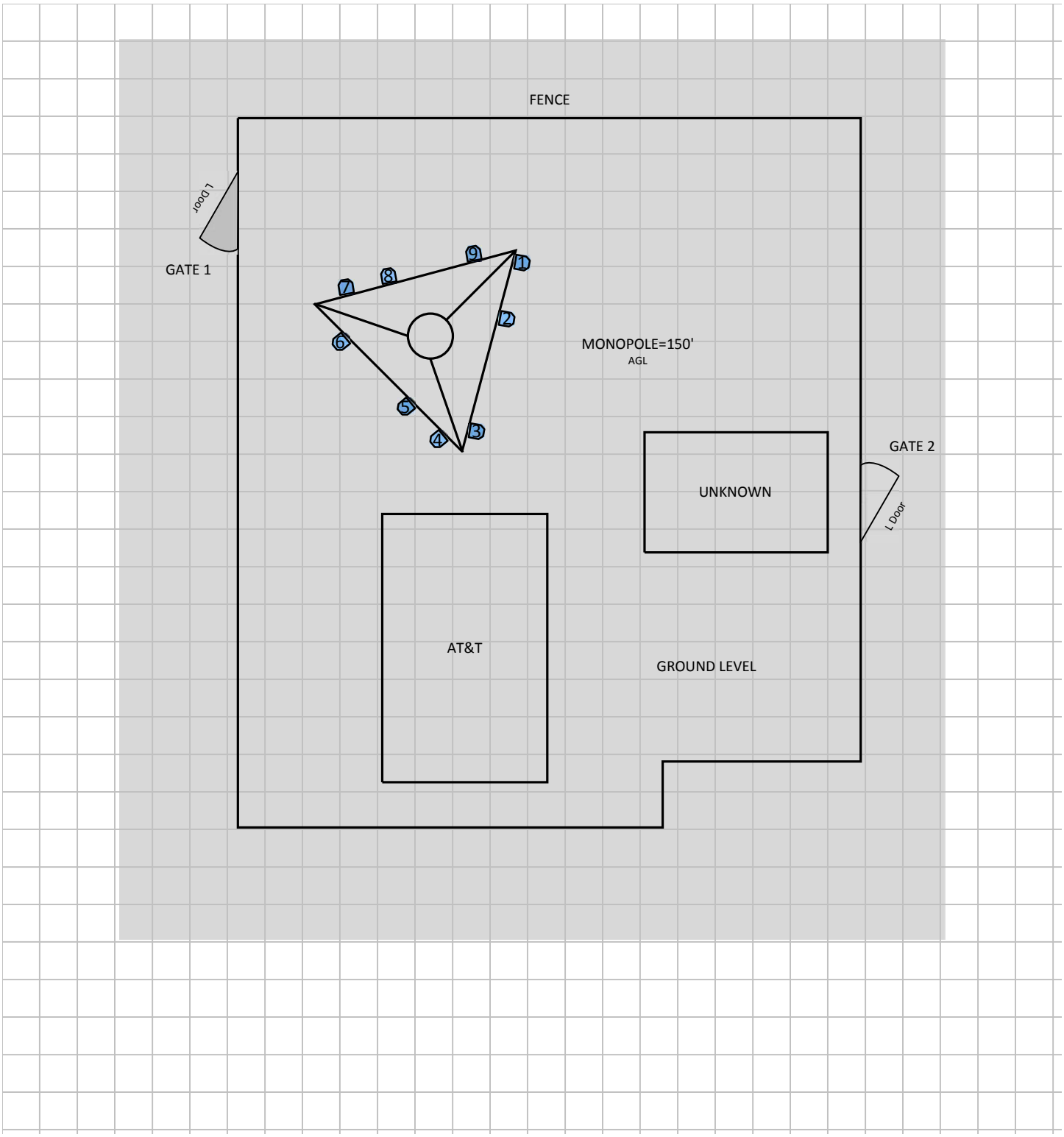
Caution 1 | Caution 2 | Notice 1 | Notice 2 | Info 1 | Info 2 | Warning

Barrier

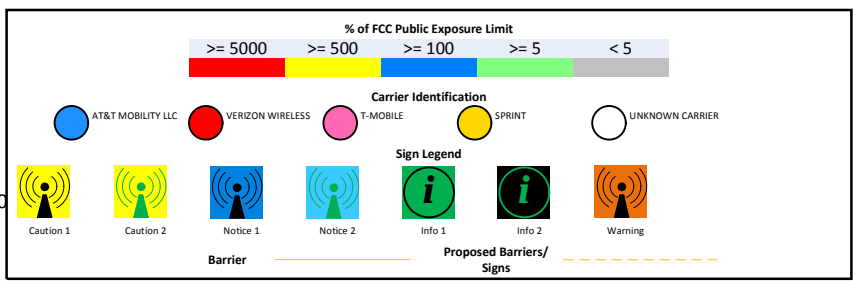
Proposed Barriers/ Signs

SitesafeTC Version:1.0.0.0 - 0.0.0.257
Sitesafe OET-65 Model
Near Field Boundary: 1.5 * Aperture
Reflection Factor: 1
Single Level (0)

RF Exposure Simulation For: Prospect North
AT&T Mobility, LLC Contribution



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



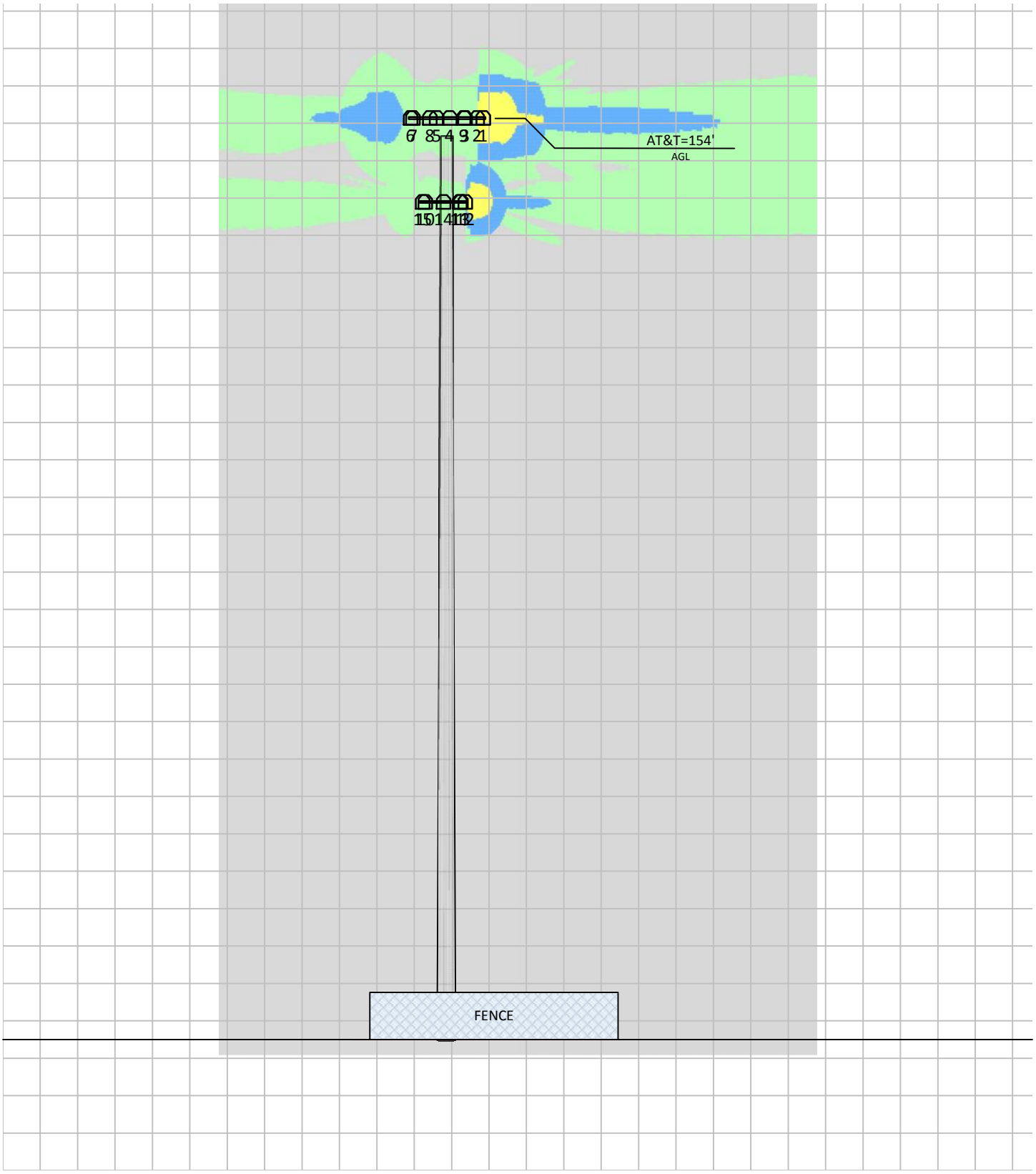
(Feet)

0 5 10

www.sitesafe.com
Site Name:Prospect North
2/28/2017 1:48:28 PM

SitesafeTC Version:1.0.0.0 - 0.0.0.257
Sitesafe OET-65 Model
Near Field Boundary: 1.5 * Aperture
Reflection Factor: 1
Single Level (0)

RF Exposure Simulation For: Prospect North
Elevation View – South



% of FCC Public Exposure Limit

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

Carrier Identification

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

(Feet)

0 11.5 22.9

www.sitesafe.com
Site Name:Prospect North
2/28/2017 2:04:28 PM

Barrier

Proposed Barriers/ Signs

SitesafeTC Version:1.0.0.0 - 0.0.0.257
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 Base

Yellow caution 2 sign required.

Gates 1 and 2

Information 1 sign required.

6 Reviewer Certification

The Reviewer whose signature appears below hereby certifies and affirms:

That I am an employee of Sitesafe, Inc., in Arlington, 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 Young Kim.

February 28, 2017

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 Communication 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.

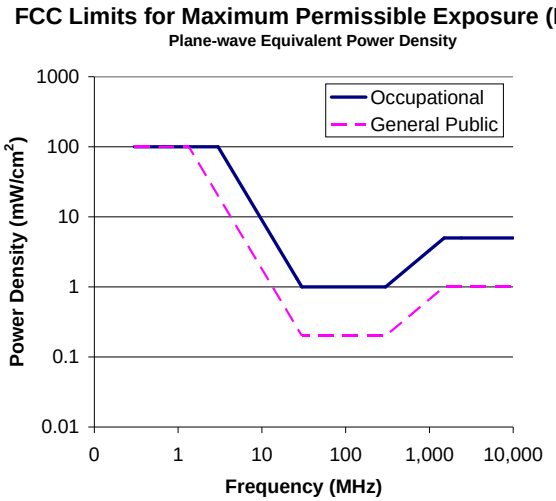
FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* 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, Inc.
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

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This report was prepared for American Tower Corporation by

CLS Group

Structural Analysis Report

Structure	:	**150 ft Monopole**
ATC Site Name	:	**Prospect CT, CT**
ATC Site Number	:	**282660**
Engineering Number	:	**OAA685963_C3_01**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**Prospect North**
Carrier Site Number	:	**CTL05626/FA#10071211**
Site Location	:	**151 Waterbury Prospect road** **Prospect, CT 06712-1228** **41.523700,-72.995500**
County	:	**New Haven**
Date	:	**September 22, 2016**
Max Usage	:	**67%**
Result	:	**Pass**

Prepared By:
Zachary A. Medoff

Zachary A. Medoff

COA: PEC.0001553

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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:	97 mph (3-Second Gust, V_{asd}) / 125 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					
152.0	152.0	3	Powerwave TT08-19DB111-001	Low Profile Platform	(6) 0.78" 8 AWG 6 (6) 1 5/8" Coax (2) 0.39" Fiber Trunk	AT&T Mobility
		3	Raycap DC6-48-60-0-8F			
		6	Ericsson RRUS A2			
		3	Ericsson RRUS 32			
		6	Ericsson RRUS 12			
		1	Ericsson RRUS E2 B29			
		6	Ericsson RRUS-11			
		3	CCI HPA-65R-BUU-H8			
137.0	138.0	3	Ericsson AIR 21, 1.3 M, B2A B4P	Low Profile Platform	(12) 1 5/8" Coax (1) 1 1/4" Hybriflex (1) 1 5/8" Hybriflex	T-Mobile
		3	Ericsson AIR32 B66Aa/B2a			
		3	Andrew LNX-6515DS-VTM			
	137.0	3	Ericsson KRY 112 144/1			
		3	Ericsson RRUS 11 B12			

Equipment to be Removed

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
152.0	152.0	3	CCI HPA-65R-BUU-H8	-	(6) 1 5/8" Coax	AT&T Mobility
		3	CCI HPA-65R-BUU-H6			

Proposed Equipment

Elevation[1] (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
152.0	152.0	1	Commscope WCS-IMFQ-AMT	Low Profile Platform	-	AT&T Mobility
		3	Powerwave 7770.00			
		1	Quintel QS66512-2			
		2	CCI TPA-65R-LCUUUU-H8			

[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).

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	37%	Pass
Shaft	47%	Pass
Base Plate	59%	Pass
Flanges	67%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	4,816.0	4,816.0	2,121.6	44%
Shear (Kips)	50.0	50.0	20.2	40%

*** 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) (°)
152.0	Commscope WCS-IMFQ-AMT	AT&T Mobility	0.635	0.450
	Powerwave Allgon 7770.00			
	Quintel QS66512-2			
	CCI TPA-65R-LCUUUU-H8			

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

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Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

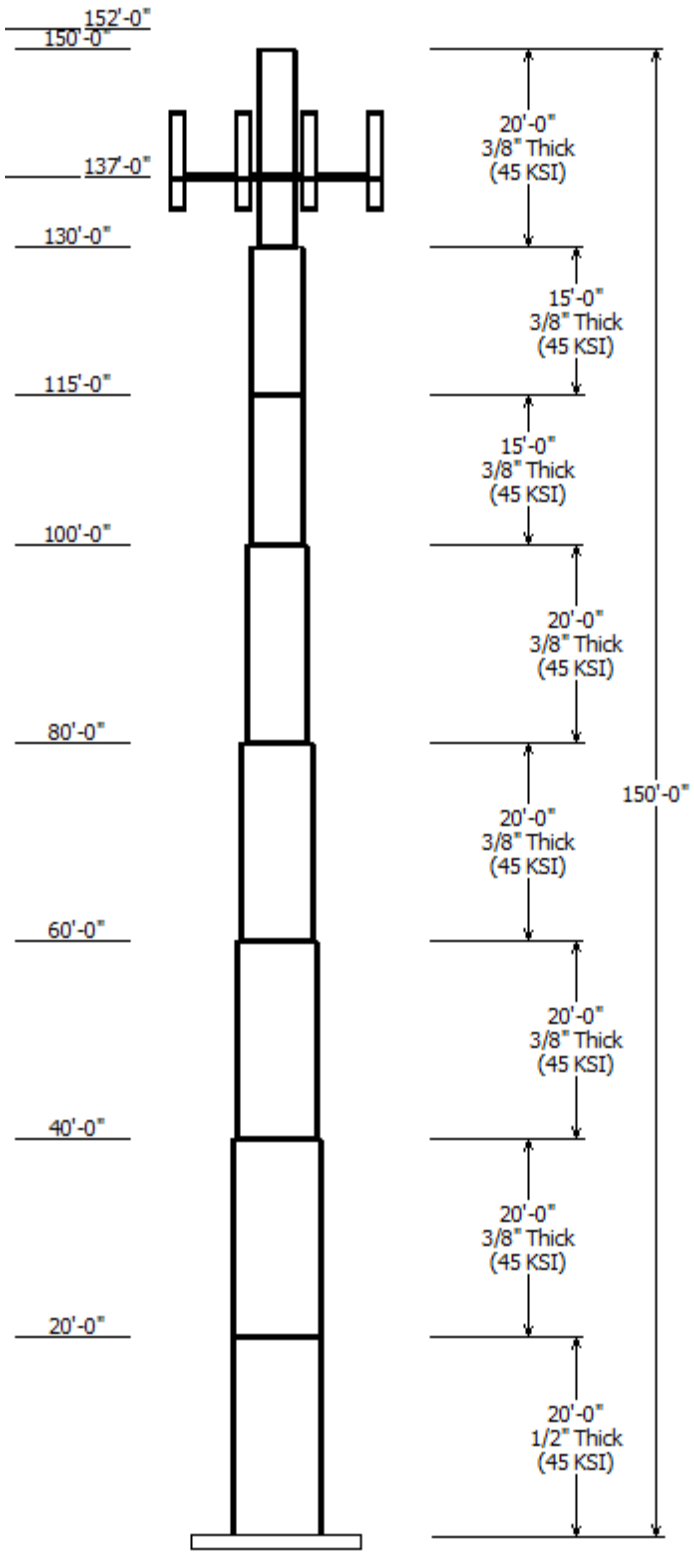
-- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.

-- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

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. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

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 we supply.



Job Information

Pole :	282660	Code:	ANSI/TIA-222-G
Description :			
Client :	AT&T Mobility	Struct Class :	II
Location :	Prospect CT, CT		
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)	Taper (in/ft)	Steel Grade (ksi)
1	20.000	60.00	60.00	0.500		0.000	0.000000	45
2	20.000	60.00	60.00	0.375	Butt Joint	0.000	0.000000	45
3	20.000	54.00	54.00	0.375	Butt Joint	0.000	0.000000	45
4	20.000	48.00	48.00	0.375	Butt Joint	0.000	0.000000	45
5	20.000	42.00	42.00	0.375	Butt Joint	0.000	0.000000	45
6	15.000	36.00	36.00	0.375	Butt Joint	0.000	0.000000	45
7	15.000	36.00	36.00	0.375	Butt Joint	0.000	0.000000	45
8	20.000	24.00	24.00	0.375	Butt Joint	0.000	0.000000	45

Discrete Appurtenance

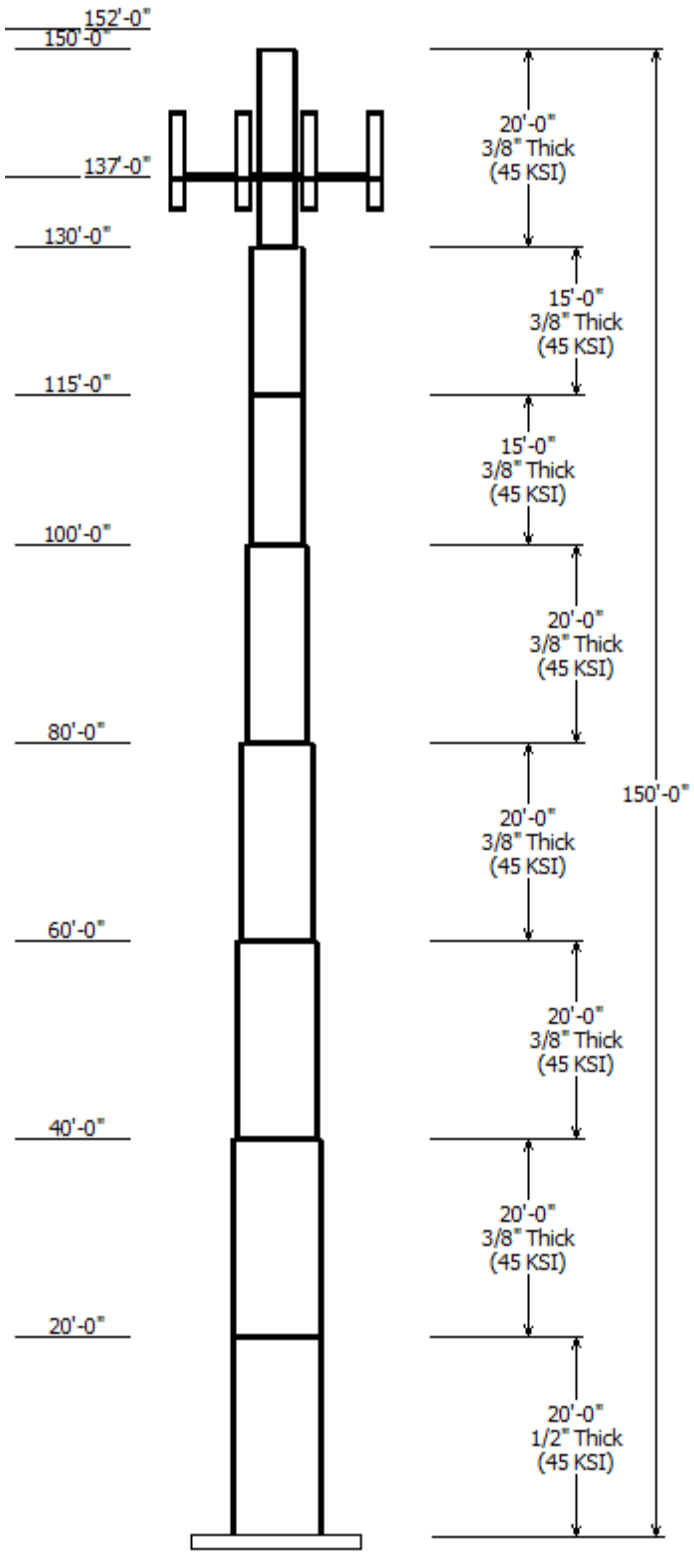
Attach Elev (ft)	Force Elev (ft)	Qty	Description
152.000	152.000	2	CCI TPA-65R-LCUUUU-H8
152.000	152.000	1	Quintel QS66512-2
152.000	152.000	3	Powerwave Allgon 7770.00
152.000	152.000	1	Commscope WCS-IMFQ-AMT
152.000	152.000	1	Round Low Profile Platform
152.000	152.000	3	CCI HPA-65R-BUU-H8
152.000	152.000	6	Ericsson RRUS-11
152.000	152.000	1	Ericsson RRUS E2 B29
152.000	152.000	6	Ericsson RRUS 12
152.000	152.000	3	Ericsson RRUS 32
152.000	152.000	6	Ericsson RRUS A2
152.000	152.000	3	Raycap DC6-48-60-0-8F
152.000	152.000	3	Powerwave TT08-19DB111-001
137.000	138.000	3	Andrew LNX-6515DS-VTM
137.000	137.000	3	Ericsson RRUS 11 B12
137.000	137.000	3	Ericsson KRY 112 144/1
137.000	138.000	3	Ericsson AIR32 B66Aa/B2a
137.000	137.000	1	Round Low Profile Platform
137.000	138.000	3	Ericsson AIR 21, 1.3 M, B2A B4

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
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	152.0	0.39" Fiber Trunk	No
0.000	152.0	0.78" 8 AWG 6	No
0.000	152.0	1 5/8" Coax	No

Load Cases

1.2D + 1.6W	97 mph with No Ice
0.9D + 1.6W	97 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



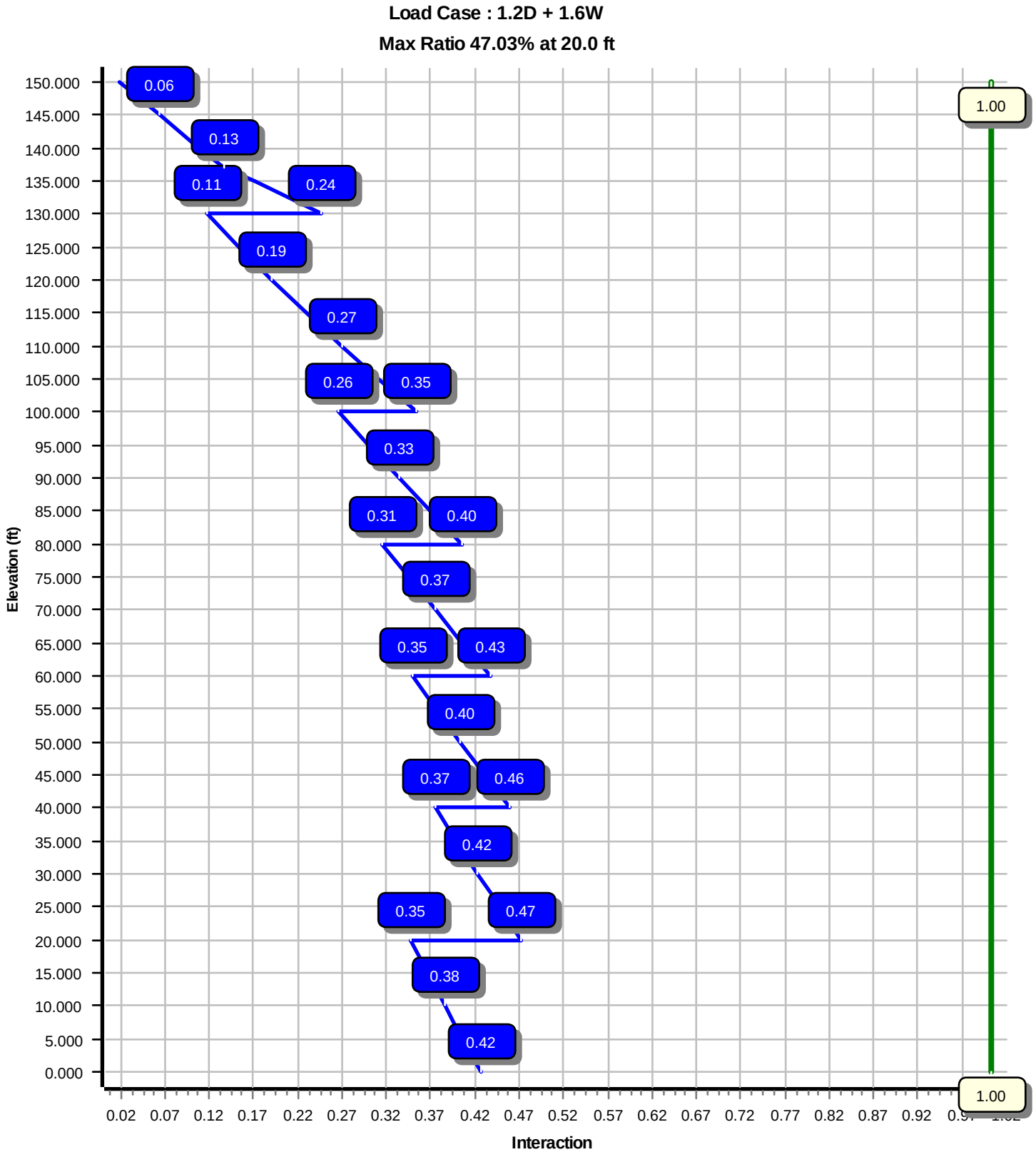
(1.2 + 0.2Sds) * DL + E	Seismic Equivalent Modal Analysis Method
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Lateral
(0.9 - 0.2Sds) * DL + E	Seismic (Reduced DL) Equivalent Modal
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	2121.60	20.16	44.89
0.9D + 1.6W	2110.54	20.16	33.67
1.2D + 1.0Di + 1.0Wi	596.99	6.05	65.76
(1.2 + 0.2Sds) * DL + E ELFM	171.38	1.62	40.32
(1.2 + 0.2Sds) * DL + E EMAM	163.21	1.64	40.32
(0.9 - 0.2Sds) * DL + E ELFM	170.64	1.62	27.96
(0.9 - 0.2Sds) * DL + E EMAM	162.47	1.64	27.96
1.0D + 1.0W	505.56	4.82	37.42

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 47.03% 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
0.06
0.13
0.11
0.24
0.19
0.27
0.26
0.35
0.33
0.31
0.40
0.37
0.35
0.43
0.40
0.37
0.46
0.42
0.35
0.47
0.38
0.42
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:OAA685963_C3_01 9/22/2016 9:08:36 AM

Customer: AT&T Mobility

Analysis Parameters

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

Ice & Wind Parameters

Structure Class:	II	Design Wind Speed Without Ice:	97 mph
Exposure Catagory:	B	Design Wind Speed With Ice:	50 mph
Topographic Catagory:	1	Operational Wind Speed:	60 mph
Crest Height:	0.0 ft	Design Ice Thickness:	1.00 in

Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	1.60				
T_L (sec):	6	p:	1.3	C_s:	0.043
S_s:	0.188	S_1:	0.064	C_s Max:	0.043
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	97 mph with No Ice
0.9D + 1.6W	97 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

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

Site Name: Prospect CT, CT Engineering Number:OAA685963_C3_01 9/22/2016 9:08:36 AM

Customer: AT&T Mobility

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	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor	Distance From Face (ft)	Vert Ecc (ft)
152.00	CCI HPA-65R-BUU-H8	3	68.00	12.980	0.79	358.48	14.592	0.79	0.000	0.000
152.00	CCI TPA-65R-LCUUUU-H8	2	82.10	13.300	0.83	393.62	14.943	0.83	0.000	0.000
152.00	Commscope WCS-IMFQ-AMT	1	29.50	0.990	0.50	72.46	1.413	0.50	0.000	0.000
152.00	Ericsson RRUS 12	6	50.00	3.150	0.67	145.19	3.863	0.67	0.000	0.000
152.00	Ericsson RRUS 32	3	50.80	2.690	0.67	136.07	3.416	0.67	0.000	0.000
152.00	Ericsson RRUS A2	6	15.00	1.600	0.50	61.37	2.131	0.50	0.000	0.000
152.00	Ericsson RRUS E2 B29	1	60.00	3.150	0.67	155.19	3.863	0.67	0.000	0.000
152.00	Ericsson RRUS-11	6	55.00	3.790	0.67	160.06	4.582	0.67	0.000	0.000
152.00	Powerwave Allgon 7770.00	3	35.00	5.510	0.77	169.89	6.563	0.77	0.000	0.000
152.00	Powerwave TT08-19DB111-	3	22.00	0.920	0.50	57.14	1.203	0.50	0.000	0.000
152.00	Quintel QS66512-2	1	111.00	8.130	0.92	337.83	9.427	0.92	0.000	0.000
152.00	Raycap DC6-48-60-0-8F	3	32.80	1.190	1.00	120.73	1.817	1.00	0.000	0.000
152.00	Round Low Profile Platform	1	1500.00	21.700	1.00	2,148.13	40.906	1.00	0.000	0.000
137.00	Andrew LNX-6515DS-VTM	3	51.30	11.430	0.84	311.69	13.077	0.84	0.000	1.000
137.00	Ericsson AIR 21, 1.3 M, B2A	3	83.00	6.050	0.86	250.08	7.137	0.86	0.000	1.000
137.00	Ericsson AIR32 B66Aa/B2a	3	132.20	6.510	0.86	313.44	7.626	0.86	0.000	1.000
137.00	Ericsson KRY 112 144/1	3	11.00	0.410	0.50	27.15	0.631	0.50	0.000	0.000
137.00	Ericsson RRUS 11 B12	3	50.70	2.790	0.67	136.08	3.462	0.67	0.000	0.000
137.00	Round Low Profile Platform	1	1500.00	21.700	1.00	2,142.89	40.751	1.00	0.000	0.000
	Totals	55	5695.10			13,485.69			Number of Loadings :	19

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	152.00	2	0.39" Fiber Trunk	0.39	0.06	N	0.00	N	AT&T Mobility
0.00	152.00	6	0.78" 8 AWG 6	0.78	0.59	N	0.00	N	AT&T Mobility
0.00	152.00	6	1 5/8" Coax	1.98	0.82	N	0.00	N	AT&T Mobility
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:OAA685963_C3_01 9/22/2016 9:08:36 AM

Customer: AT&T Mobility

Load Case: 1.2D + 1.6W 97 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

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		211.4	0.0					0.0	0.0	211.4	0.0	0.0	0.0
5.00		422.9	1,908.2					0.0	124.3	422.9	2,032.5	0.0	0.0
10.00		422.9	1,908.2					0.0	124.3	422.9	2,032.5	0.0	0.0
15.00		422.9	1,908.2					0.0	124.3	422.9	2,032.5	0.0	0.0
20.00	Top - Section 1	422.9	1,908.2					0.0	124.3	422.9	2,032.5	0.0	0.0
25.00		422.9	1,434.1					0.0	124.3	422.9	1,558.5	0.0	0.0
30.00		427.9	1,434.1					0.0	124.3	427.9	1,558.5	0.0	0.0
35.00		442.1	1,434.1					0.0	124.3	442.1	1,558.5	0.0	0.0
40.00	Top - Section 2	435.9	1,434.1					0.0	124.3	435.9	1,558.5	0.0	0.0
45.00		427.6	1,289.8					0.0	124.3	427.6	1,414.2	0.0	0.0
50.00		440.6	1,289.8					0.0	124.3	440.6	1,414.2	0.0	0.0
55.00		452.8	1,289.8					0.0	124.3	452.8	1,414.2	0.0	0.0
60.00	Top - Section 3	438.1	1,289.8					0.0	124.3	438.1	1,414.2	0.0	0.0
65.00		422.2	1,145.5					0.0	124.3	422.2	1,269.8	0.0	0.0
70.00		431.3	1,145.5					0.0	124.3	431.3	1,269.8	0.0	0.0
75.00		439.9	1,145.5					0.0	124.3	439.9	1,269.8	0.0	0.0
80.00	Top - Section 4	419.8	1,145.5					0.0	124.3	419.8	1,269.8	0.0	0.0
85.00		398.9	1,001.2					0.0	124.3	398.9	1,125.5	0.0	0.0
90.00		405.5	1,001.2					0.0	124.3	405.5	1,125.5	0.0	0.0
95.00		411.8	1,001.2					0.0	124.3	411.8	1,125.5	0.0	0.0
100.00	Top - Section 5	387.8	1,001.2					0.0	124.3	387.8	1,125.5	0.0	0.0
105.00		363.2	856.9					0.0	124.3	363.2	981.2	0.0	0.0
110.00		368.1	856.9					0.0	124.3	368.1	981.2	0.0	0.0
115.00	Top - Section 6	372.8	856.9					0.0	124.3	372.8	981.2	0.0	0.0
120.00		377.3	856.9					0.0	124.3	377.3	981.2	0.0	0.0
125.00		381.8	856.9					0.0	124.3	381.8	981.2	0.0	0.0
130.00	Top - Section 7	321.4	856.9					0.0	124.3	321.4	981.2	0.0	0.0
135.00		181.5	568.2					0.0	124.3	181.5	692.6	0.0	0.0
137.00	Appertunance(s)	130.8	227.3	3,298.4	0.0	2,136.7	2,981.5	0.0	49.7	3,429.2	3,258.5	0.0	0.0
140.00		210.7	340.9					0.0	30.9	210.7	371.8	0.0	0.0
145.00		265.5	568.2					0.0	51.5	265.5	619.7	0.0	0.0
150.00		133.4	568.2					0.0	51.5	133.4	619.7	0.0	0.0
								Totals:		15,112.9	41,051.5	0.00	0.00

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

Site Name: Prospect CT, CT Engineering Number:OAA685963_C3_01 9/22/2016 9:08:37 AM

Customer: AT&T Mobility

Load Case: 1.2D + 1.6W 97 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	-44.89	-20.16	0.00	-2,121.60	0.00	2,121.60	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.424
5.00	-42.84	-19.79	0.00	-2,020.79	0.00	2,020.79	3,293.92	1,646.96	8,093.29	5,174.22	0.04	-0.07	0.404
10.00	-40.78	-19.41	0.00	-1,921.84	0.00	1,921.84	3,293.92	1,646.96	8,093.29	5,174.22	0.15	-0.14	0.384
15.00	-38.73	-19.02	0.00	-1,824.79	0.00	1,824.79	3,293.92	1,646.96	8,093.29	5,174.22	0.33	-0.20	0.365
20.00	-36.68	-18.63	0.00	-1,729.67	0.00	1,729.67	3,293.92	1,646.96	8,093.29	5,174.22	0.58	-0.26	0.346
20.00	-36.68	-18.63	0.00	-1,729.67	0.00	1,729.67	2,330.87	1,165.43	5,751.12	3,807.50	0.58	-0.26	0.470
25.00	-35.10	-18.24	0.00	-1,636.51	0.00	1,636.51	2,330.87	1,165.43	5,751.12	3,807.50	0.88	-0.32	0.445
30.00	-33.52	-17.84	0.00	-1,545.31	0.00	1,545.31	2,330.87	1,165.43	5,751.12	3,807.50	1.26	-0.39	0.420
35.00	-31.95	-17.43	0.00	-1,456.09	0.00	1,456.09	2,330.87	1,165.43	5,751.12	3,807.50	1.71	-0.46	0.396
40.00	-30.38	-17.01	0.00	-1,368.96	0.00	1,368.96	2,330.87	1,165.43	5,751.12	3,807.50	2.23	-0.53	0.373
40.00	-30.38	-17.01	0.00	-1,368.96	0.00	1,368.96	2,139.71	1,069.86	4,744.89	3,103.93	2.23	-0.53	0.455
45.00	-28.95	-16.60	0.00	-1,283.91	0.00	1,283.91	2,139.71	1,069.86	4,744.89	3,103.93	2.82	-0.59	0.427
50.00	-27.52	-16.18	0.00	-1,200.89	0.00	1,200.89	2,139.71	1,069.86	4,744.89	3,103.93	3.47	-0.67	0.400
55.00	-26.09	-15.75	0.00	-1,119.97	0.00	1,119.97	2,139.71	1,069.86	4,744.89	3,103.93	4.21	-0.74	0.373
60.00	-24.66	-15.32	0.00	-1,041.24	0.00	1,041.24	2,139.71	1,069.86	4,744.89	3,103.93	5.02	-0.81	0.347
60.00	-24.66	-15.32	0.00	-1,041.24	0.00	1,041.24	1,948.48	974.24	3,834.02	2,471.99	5.02	-0.81	0.434
65.00	-23.38	-14.91	0.00	-964.65	0.00	964.65	1,948.48	974.24	3,834.02	2,471.99	5.90	-0.87	0.402
70.00	-22.10	-14.49	0.00	-890.12	0.00	890.12	1,948.48	974.24	3,834.02	2,471.99	6.85	-0.95	0.372
75.00	-20.82	-14.05	0.00	-817.70	0.00	817.70	1,948.48	974.24	3,834.02	2,471.99	7.89	-1.03	0.342
80.00	-19.54	-13.63	0.00	-747.45	0.00	747.45	1,948.48	974.24	3,834.02	2,471.99	9.01	-1.10	0.313
80.00	-19.54	-13.63	0.00	-747.45	0.00	747.45	1,757.14	878.57	3,018.53	1,911.67	9.01	-1.10	0.402
85.00	-18.40	-13.23	0.00	-679.30	0.00	679.30	1,757.14	878.57	3,018.53	1,911.67	10.19	-1.16	0.366
90.00	-17.27	-12.83	0.00	-613.13	0.00	613.13	1,757.14	878.57	3,018.53	1,911.67	11.45	-1.25	0.331
95.00	-16.14	-12.41	0.00	-548.99	0.00	548.99	1,757.14	878.57	3,018.53	1,911.67	12.80	-1.33	0.297
100.00	-15.01	-12.02	0.00	-486.93	0.00	486.93	1,757.14	878.57	3,018.53	1,911.67	14.23	-1.39	0.263
100.00	-15.01	-12.02	0.00	-486.93	0.00	486.93	1,565.64	782.82	2,298.42	1,422.98	14.23	-1.39	0.352
105.00	-14.02	-11.65	0.00	-426.86	0.00	426.86	1,565.64	782.82	2,298.42	1,422.98	15.72	-1.46	0.309
110.00	-13.03	-11.27	0.00	-368.63	0.00	368.63	1,565.64	782.82	2,298.42	1,422.98	17.29	-1.54	0.268
115.00	-12.05	-10.88	0.00	-312.28	0.00	312.28	1,565.64	782.82	2,298.42	1,422.98	18.95	-1.61	0.227
115.00	-12.05	-10.88	0.00	-312.28	0.00	312.28	1,565.64	782.82	2,298.42	1,422.98	18.95	-1.61	0.227
120.00	-11.07	-10.49	0.00	-257.86	0.00	257.86	1,565.64	782.82	2,298.42	1,422.98	20.67	-1.67	0.188
125.00	-10.09	-10.09	0.00	-205.41	0.00	205.41	1,565.64	782.82	2,298.42	1,422.98	22.45	-1.72	0.151
130.00	-9.12	-9.74	0.00	-154.98	0.00	154.98	1,565.64	782.82	2,298.42	1,422.98	24.28	-1.76	0.115
130.00	-9.12	-9.74	0.00	-154.98	0.00	154.98	1,127.22	563.61	1,091.62	660.47	24.28	-1.76	0.243
135.00	-8.43	-9.54	0.00	-106.27	0.00	106.27	1,127.22	563.61	1,091.62	660.47	26.14	-1.79	0.169
137.00	-5.27	-6.01	0.00	-85.05	0.00	85.05	1,127.22	563.61	1,091.62	660.47	26.90	-1.82	0.134
140.00	-4.91	-5.80	0.00	-67.01	0.00	67.01	1,127.22	563.61	1,091.62	660.47	28.05	-1.85	0.106
145.00	-4.29	-5.51	0.00	-38.03	0.00	38.03	1,127.22	563.61	1,091.62	660.47	30.01	-1.89	0.061
150.00	0.00	-5.37	0.00	-10.47	0.00	10.47	1,127.22	563.61	1,091.62	660.47	32.01	-1.91	0.016

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

Site Name: Prospect CT, CT Engineering Number:OAA685963_C3_01 9/22/2016 9:08:37 AM

Customer: AT&T Mobility

Load Case: 0.9D + 1.6W — 97 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		211.4	0.0					0.0	0.0	211.4	0.0	0.0	0.0
5.00		422.9	1,431.1					0.0	93.2	422.9	1,524.4	0.0	0.0
10.00		422.9	1,431.1					0.0	93.2	422.9	1,524.4	0.0	0.0
15.00		422.9	1,431.1					0.0	93.2	422.9	1,524.4	0.0	0.0
20.00	Top - Section 1	422.9	1,431.1					0.0	93.2	422.9	1,524.4	0.0	0.0
25.00		422.9	1,075.6					0.0	93.2	422.9	1,168.9	0.0	0.0
30.00		427.9	1,075.6					0.0	93.2	427.9	1,168.9	0.0	0.0
35.00		442.1	1,075.6					0.0	93.2	442.1	1,168.9	0.0	0.0
40.00	Top - Section 2	435.9	1,075.6					0.0	93.2	435.9	1,168.9	0.0	0.0
45.00		427.6	967.4					0.0	93.2	427.6	1,060.6	0.0	0.0
50.00		440.6	967.4					0.0	93.2	440.6	1,060.6	0.0	0.0
55.00		452.8	967.4					0.0	93.2	452.8	1,060.6	0.0	0.0
60.00	Top - Section 3	438.1	967.4					0.0	93.2	438.1	1,060.6	0.0	0.0
65.00		422.2	859.1					0.0	93.2	422.2	952.4	0.0	0.0
70.00		431.3	859.1					0.0	93.2	431.3	952.4	0.0	0.0
75.00		439.9	859.1					0.0	93.2	439.9	952.4	0.0	0.0
80.00	Top - Section 4	419.8	859.1					0.0	93.2	419.8	952.4	0.0	0.0
85.00		398.9	750.9					0.0	93.2	398.9	844.1	0.0	0.0
90.00		405.5	750.9					0.0	93.2	405.5	844.1	0.0	0.0
95.00		411.8	750.9					0.0	93.2	411.8	844.1	0.0	0.0
100.00	Top - Section 5	387.8	750.9					0.0	93.2	387.8	844.1	0.0	0.0
105.00		363.2	642.7					0.0	93.2	363.2	735.9	0.0	0.0
110.00		368.1	642.7					0.0	93.2	368.1	735.9	0.0	0.0
115.00	Top - Section 6	372.8	642.7					0.0	93.2	372.8	735.9	0.0	0.0
120.00		377.3	642.7					0.0	93.2	377.3	735.9	0.0	0.0
125.00		381.8	642.7					0.0	93.2	381.8	735.9	0.0	0.0
130.00	Top - Section 7	321.4	642.7					0.0	93.2	321.4	735.9	0.0	0.0
135.00		181.5	426.2					0.0	93.2	181.5	519.4	0.0	0.0
137.00	Appertunance(s)	130.8	170.5	3,298.4	0.0	2,136.7	2,236.1	0.0	37.3	3,429.2	2,443.9	0.0	0.0
140.00		210.7	255.7					0.0	23.2	210.7	278.9	0.0	0.0
145.00		265.5	426.2					0.0	38.6	265.5	464.8	0.0	0.0
150.00		133.4	426.2					0.0	38.6	133.4	464.8	0.0	0.0
								Totals:		15,112.9	30,788.6	0.00	0.00

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

Site Name: Prospect CT, CT Engineering Number:OAA685963_C3_01 9/22/2016 9:08:38 AM

Customer: AT&T Mobility

Load Case: 0.9D + 1.6W 97 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	-33.67	-20.16	0.00	-2,110.54	0.00	2,110.54	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.418
5.00	-32.12	-19.77	0.00	-2,009.77	0.00	2,009.77	3,293.92	1,646.96	8,093.29	5,174.22	0.04	-0.07	0.398
10.00	-30.57	-19.38	0.00	-1,910.92	0.00	1,910.92	3,293.92	1,646.96	8,093.29	5,174.22	0.15	-0.14	0.379
15.00	-29.03	-18.98	0.00	-1,814.02	0.00	1,814.02	3,293.92	1,646.96	8,093.29	5,174.22	0.33	-0.20	0.360
20.00	-27.49	-18.58	0.00	-1,719.10	0.00	1,719.10	3,293.92	1,646.96	8,093.29	5,174.22	0.57	-0.26	0.341
20.00	-27.49	-18.58	0.00	-1,719.10	0.00	1,719.10	2,330.87	1,165.43	5,751.12	3,807.50	0.57	-0.26	0.464
25.00	-26.30	-18.18	0.00	-1,626.19	0.00	1,626.19	2,330.87	1,165.43	5,751.12	3,807.50	0.88	-0.32	0.439
30.00	-25.11	-17.78	0.00	-1,535.27	0.00	1,535.27	2,330.87	1,165.43	5,751.12	3,807.50	1.25	-0.39	0.414
35.00	-23.93	-17.36	0.00	-1,446.37	0.00	1,446.37	2,330.87	1,165.43	5,751.12	3,807.50	1.70	-0.46	0.390
40.00	-22.74	-16.93	0.00	-1,359.59	0.00	1,359.59	2,330.87	1,165.43	5,751.12	3,807.50	2.22	-0.52	0.367
40.00	-22.74	-16.93	0.00	-1,359.59	0.00	1,359.59	2,139.71	1,069.86	4,744.89	3,103.93	2.22	-0.52	0.449
45.00	-21.67	-16.52	0.00	-1,274.92	0.00	1,274.92	2,139.71	1,069.86	4,744.89	3,103.93	2.80	-0.58	0.421
50.00	-20.59	-16.10	0.00	-1,192.30	0.00	1,192.30	2,139.71	1,069.86	4,744.89	3,103.93	3.45	-0.66	0.394
55.00	-19.52	-15.66	0.00	-1,111.82	0.00	1,111.82	2,139.71	1,069.86	4,744.89	3,103.93	4.19	-0.73	0.368
60.00	-18.44	-15.22	0.00	-1,033.54	0.00	1,033.54	2,139.71	1,069.86	4,744.89	3,103.93	4.99	-0.80	0.342
60.00	-18.44	-15.22	0.00	-1,033.54	0.00	1,033.54	1,948.48	974.24	3,834.02	2,471.99	4.99	-0.80	0.428
65.00	-17.48	-14.81	0.00	-957.42	0.00	957.42	1,948.48	974.24	3,834.02	2,471.99	5.86	-0.86	0.397
70.00	-16.51	-14.39	0.00	-883.37	0.00	883.37	1,948.48	974.24	3,834.02	2,471.99	6.81	-0.95	0.366
75.00	-15.55	-13.95	0.00	-811.43	0.00	811.43	1,948.48	974.24	3,834.02	2,471.99	7.84	-1.02	0.336
80.00	-14.59	-13.53	0.00	-741.68	0.00	741.68	1,948.48	974.24	3,834.02	2,471.99	8.95	-1.09	0.308
80.00	-14.59	-13.53	0.00	-741.68	0.00	741.68	1,757.14	878.57	3,018.53	1,911.67	8.95	-1.09	0.397
85.00	-13.74	-13.13	0.00	-674.03	0.00	674.03	1,757.14	878.57	3,018.53	1,911.67	10.12	-1.15	0.361
90.00	-12.88	-12.73	0.00	-608.37	0.00	608.37	1,757.14	878.57	3,018.53	1,911.67	11.38	-1.24	0.326
95.00	-12.03	-12.31	0.00	-544.73	0.00	544.73	1,757.14	878.57	3,018.53	1,911.67	12.72	-1.32	0.292
100.00	-11.19	-11.92	0.00	-483.16	0.00	483.16	1,757.14	878.57	3,018.53	1,911.67	14.14	-1.39	0.259
100.00	-11.19	-11.92	0.00	-483.16	0.00	483.16	1,565.64	782.82	2,298.42	1,422.98	14.14	-1.39	0.347
105.00	-10.44	-11.55	0.00	-423.57	0.00	423.57	1,565.64	782.82	2,298.42	1,422.98	15.62	-1.45	0.305
110.00	-9.70	-11.18	0.00	-365.83	0.00	365.83	1,565.64	782.82	2,298.42	1,422.98	17.18	-1.53	0.263
115.00	-8.96	-10.79	0.00	-309.94	0.00	309.94	1,565.64	782.82	2,298.42	1,422.98	18.82	-1.60	0.224
115.00	-8.96	-10.79	0.00	-309.94	0.00	309.94	1,565.64	782.82	2,298.42	1,422.98	18.82	-1.60	0.224
120.00	-8.23	-10.40	0.00	-255.98	0.00	255.98	1,565.64	782.82	2,298.42	1,422.98	20.53	-1.66	0.185
125.00	-7.50	-10.01	0.00	-203.96	0.00	203.96	1,565.64	782.82	2,298.42	1,422.98	22.30	-1.71	0.148
130.00	-6.77	-9.67	0.00	-153.93	0.00	153.93	1,565.64	782.82	2,298.42	1,422.98	24.12	-1.75	0.113
130.00	-6.77	-9.67	0.00	-153.93	0.00	153.93	1,127.22	563.61	1,091.62	660.47	24.12	-1.75	0.239
135.00	-6.25	-9.47	0.00	-105.60	0.00	105.60	1,127.22	563.61	1,091.62	660.47	25.97	-1.78	0.166
137.00	-3.91	-5.97	0.00	-84.52	0.00	84.52	1,127.22	563.61	1,091.62	660.47	26.72	-1.81	0.132
140.00	-3.63	-5.75	0.00	-66.60	0.00	66.60	1,127.22	563.61	1,091.62	660.47	27.86	-1.84	0.104
145.00	-3.18	-5.47	0.00	-37.84	0.00	37.84	1,127.22	563.61	1,091.62	660.47	29.81	-1.88	0.060
150.00	0.00	-5.37	0.00	-10.47	0.00	10.47	1,127.22	563.61	1,091.62	660.47	31.79	-1.89	0.016

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

Site Name: Prospect CT, CT Engineering Number:OAA685963_C3_01 9/22/2016 9:08:38 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

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	124.3	146.2	2,465.2	0.0	0.0
10.00		146.7	2,392.2					0.0	124.3	146.7	2,516.6	0.0	0.0
15.00		146.9	2,418.2					0.0	124.3	146.9	2,542.5	0.0	0.0
20.00	Top - Section 1	147.1	2,436.0					0.0	124.3	147.1	2,560.3	0.0	0.0
25.00		147.3	1,975.7					0.0	124.3	147.3	2,100.0	0.0	0.0
30.00		149.2	1,987.0					0.0	124.3	149.2	2,111.3	0.0	0.0
35.00		154.2	1,996.5					0.0	124.3	154.2	2,120.8	0.0	0.0
40.00	Top - Section 2	152.6	2,004.8					0.0	124.3	152.6	2,129.1	0.0	0.0
45.00		150.1	1,811.5					0.0	124.3	150.1	1,935.8	0.0	0.0
50.00		154.8	1,817.5					0.0	124.3	154.8	1,941.8	0.0	0.0
55.00		159.2	1,823.0					0.0	124.3	159.2	1,947.3	0.0	0.0
60.00	Top - Section 3	154.6	1,828.0					0.0	124.3	154.6	1,952.3	0.0	0.0
65.00		149.6	1,629.7					0.0	124.3	149.6	1,754.0	0.0	0.0
70.00		152.9	1,633.6					0.0	124.3	152.9	1,757.9	0.0	0.0
75.00		156.0	1,637.2					0.0	124.3	156.0	1,761.5	0.0	0.0
80.00	Top - Section 4	149.6	1,640.6					0.0	124.3	149.6	1,764.9	0.0	0.0
85.00		142.9	1,439.3					0.0	124.3	142.9	1,563.6	0.0	0.0
90.00		145.3	1,441.9					0.0	124.3	145.3	1,566.3	0.0	0.0
95.00		147.6	1,444.5					0.0	124.3	147.6	1,568.8	0.0	0.0
100.00	Top - Section 5	139.9	1,446.9					0.0	124.3	139.9	1,571.2	0.0	0.0
105.00		131.9	1,243.4					0.0	124.3	131.9	1,367.7	0.0	0.0
110.00		133.7	1,245.3					0.0	124.3	133.7	1,369.6	0.0	0.0
115.00	Top - Section 6	135.5	1,247.2					0.0	124.3	135.5	1,371.5	0.0	0.0
120.00		137.2	1,248.9					0.0	124.3	137.2	1,373.3	0.0	0.0
125.00		138.9	1,250.6					0.0	124.3	138.9	1,375.0	0.0	0.0
130.00	Top - Section 7	119.0	1,252.3					0.0	124.3	119.0	1,376.6	0.0	0.0
135.00		69.0	839.0					0.0	124.3	69.0	963.3	0.0	0.0
137.00	Appertunance(s)	49.7	335.9	752.3	0.0	411.8	5,555.1	0.0	49.7	802.0	5,940.7	0.0	0.0
140.00		80.1	504.2					0.0	30.9	80.1	535.0	0.0	0.0
145.00		101.0	841.1					0.0	51.5	101.0	892.6	0.0	0.0
150.00		50.7	842.1					0.0	51.5	50.7	893.6	0.0	0.0
								Totals:		4,964.56	57,090.2	0.00	0.00

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

Site Name: Prospect CT, CT Engineering Number:OAA685963_C3_01 9/22/2016 9:08:39 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	-65.76	-6.05	0.00	-596.99	0.00	596.99	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.135
5.00	-63.29	-5.92	0.00	-566.75	0.00	566.75	3,293.92	1,646.96	8,093.29	5,174.22	0.01	-0.02	0.129
10.00	-60.77	-5.79	0.00	-537.14	0.00	537.14	3,293.92	1,646.96	8,093.29	5,174.22	0.04	-0.04	0.122
15.00	-58.23	-5.66	0.00	-508.17	0.00	508.17	3,293.92	1,646.96	8,093.29	5,174.22	0.09	-0.06	0.116
20.00	-55.67	-5.53	0.00	-479.85	0.00	479.85	3,293.92	1,646.96	8,093.29	5,174.22	0.16	-0.07	0.110
20.00	-55.67	-5.53	0.00	-479.85	0.00	479.85	2,330.87	1,165.43	5,751.12	3,807.50	0.16	-0.07	0.150
25.00	-53.57	-5.40	0.00	-452.21	0.00	452.21	2,330.87	1,165.43	5,751.12	3,807.50	0.25	-0.09	0.142
30.00	-51.45	-5.26	0.00	-425.23	0.00	425.23	2,330.87	1,165.43	5,751.12	3,807.50	0.35	-0.11	0.134
35.00	-49.33	-5.12	0.00	-398.93	0.00	398.93	2,330.87	1,165.43	5,751.12	3,807.50	0.48	-0.13	0.126
40.00	-47.20	-4.97	0.00	-373.34	0.00	373.34	2,330.87	1,165.43	5,751.12	3,807.50	0.62	-0.15	0.118
40.00	-47.20	-4.97	0.00	-373.34	0.00	373.34	2,139.71	1,069.86	4,744.89	3,103.93	0.62	-0.15	0.142
45.00	-45.26	-4.83	0.00	-348.47	0.00	348.47	2,139.71	1,069.86	4,744.89	3,103.93	0.78	-0.16	0.133
50.00	-43.32	-4.69	0.00	-324.31	0.00	324.31	2,139.71	1,069.86	4,744.89	3,103.93	0.97	-0.18	0.125
55.00	-41.37	-4.54	0.00	-300.87	0.00	300.87	2,139.71	1,069.86	4,744.89	3,103.93	1.17	-0.20	0.116
60.00	-39.42	-4.39	0.00	-278.19	0.00	278.19	2,139.71	1,069.86	4,744.89	3,103.93	1.39	-0.22	0.108
60.00	-39.42	-4.39	0.00	-278.19	0.00	278.19	1,948.48	974.24	3,834.02	2,471.99	1.39	-0.22	0.133
65.00	-37.66	-4.24	0.00	-256.27	0.00	256.27	1,948.48	974.24	3,834.02	2,471.99	1.63	-0.24	0.123
70.00	-35.91	-4.09	0.00	-235.06	0.00	235.06	1,948.48	974.24	3,834.02	2,471.99	1.89	-0.26	0.114
75.00	-34.14	-3.94	0.00	-214.58	0.00	214.58	1,948.48	974.24	3,834.02	2,471.99	2.18	-0.28	0.104
80.00	-32.38	-3.79	0.00	-194.88	0.00	194.88	1,948.48	974.24	3,834.02	2,471.99	2.48	-0.30	0.095
80.00	-32.38	-3.79	0.00	-194.88	0.00	194.88	1,757.14	878.57	3,018.53	1,911.67	2.48	-0.30	0.120
85.00	-30.81	-3.65	0.00	-175.91	0.00	175.91	1,757.14	878.57	3,018.53	1,911.67	2.80	-0.32	0.110
90.00	-29.25	-3.51	0.00	-157.65	0.00	157.65	1,757.14	878.57	3,018.53	1,911.67	3.15	-0.34	0.099
95.00	-27.68	-3.36	0.00	-140.11	0.00	140.11	1,757.14	878.57	3,018.53	1,911.67	3.51	-0.36	0.089
100.00	-26.11	-3.22	0.00	-123.31	0.00	123.31	1,757.14	878.57	3,018.53	1,911.67	3.89	-0.37	0.079
100.00	-26.11	-3.22	0.00	-123.31	0.00	123.31	1,565.64	782.82	2,298.42	1,422.98	3.89	-0.37	0.103
105.00	-24.74	-3.09	0.00	-107.22	0.00	107.22	1,565.64	782.82	2,298.42	1,422.98	4.29	-0.39	0.091
110.00	-23.37	-2.95	0.00	-91.79	0.00	91.79	1,565.64	782.82	2,298.42	1,422.98	4.71	-0.41	0.079
115.00	-22.00	-2.81	0.00	-77.04	0.00	77.04	1,565.64	782.82	2,298.42	1,422.98	5.16	-0.43	0.068
115.00	-22.00	-2.81	0.00	-77.04	0.00	77.04	1,565.64	782.82	2,298.42	1,422.98	5.16	-0.43	0.068
120.00	-20.63	-2.67	0.00	-62.99	0.00	62.99	1,565.64	782.82	2,298.42	1,422.98	5.61	-0.44	0.057
125.00	-19.25	-2.52	0.00	-49.65	0.00	49.65	1,565.64	782.82	2,298.42	1,422.98	6.09	-0.46	0.047
130.00	-17.88	-2.39	0.00	-37.04	0.00	37.04	1,565.64	782.82	2,298.42	1,422.98	6.57	-0.47	0.037
130.00	-17.88	-2.39	0.00	-37.04	0.00	37.04	1,127.22	563.61	1,091.62	660.47	6.57	-0.47	0.072
135.00	-16.91	-2.32	0.00	-25.07	0.00	25.07	1,127.22	563.61	1,091.62	660.47	7.06	-0.47	0.053
137.00	-10.98	-1.47	0.00	-20.02	0.00	20.02	1,127.22	563.61	1,091.62	660.47	7.26	-0.48	0.040
140.00	-10.44	-1.39	0.00	-15.61	0.00	15.61	1,127.22	563.61	1,091.62	660.47	7.56	-0.49	0.033
145.00	-9.55	-1.28	0.00	-8.68	0.00	8.68	1,127.22	563.61	1,091.62	660.47	8.08	-0.50	0.022
150.00	0.00	-1.20	0.00	-2.29	0.00	2.29	1,127.22	563.61	1,091.62	660.47	8.60	-0.50	0.003

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

Site Name: Prospect CT, CT Engineering Number:OAA685963_C3_01 9/22/2016 9:08:39 AM

Customer: AT&T Mobility

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

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		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	103.6	101.1	1,693.8	0.0	0.0
10.00		101.1	1,590.2					0.0	103.6	101.1	1,693.8	0.0	0.0
15.00		101.1	1,590.2					0.0	103.6	101.1	1,693.8	0.0	0.0
20.00	Top - Section 1	101.1	1,590.2					0.0	103.6	101.1	1,693.8	0.0	0.0
25.00		101.1	1,195.1					0.0	103.6	101.1	1,298.7	0.0	0.0
30.00		102.3	1,195.1					0.0	103.6	102.3	1,298.7	0.0	0.0
35.00		105.7	1,195.1					0.0	103.6	105.7	1,298.7	0.0	0.0
40.00	Top - Section 2	104.2	1,195.1					0.0	103.6	104.2	1,298.7	0.0	0.0
45.00		102.2	1,074.9					0.0	103.6	102.2	1,178.5	0.0	0.0
50.00		105.4	1,074.9					0.0	103.6	105.4	1,178.5	0.0	0.0
55.00		108.3	1,074.9					0.0	103.6	108.3	1,178.5	0.0	0.0
60.00	Top - Section 3	104.8	1,074.9					0.0	103.6	104.8	1,178.5	0.0	0.0
65.00		101.0	954.6					0.0	103.6	101.0	1,058.2	0.0	0.0
70.00		103.1	954.6					0.0	103.6	103.1	1,058.2	0.0	0.0
75.00		105.2	954.6					0.0	103.6	105.2	1,058.2	0.0	0.0
80.00	Top - Section 4	100.4	954.6					0.0	103.6	100.4	1,058.2	0.0	0.0
85.00		95.4	834.3					0.0	103.6	95.4	937.9	0.0	0.0
90.00		97.0	834.3					0.0	103.6	97.0	937.9	0.0	0.0
95.00		98.5	834.3					0.0	103.6	98.5	937.9	0.0	0.0
100.00	Top - Section 5	92.7	834.3					0.0	103.6	92.7	937.9	0.0	0.0
105.00		86.9	714.1					0.0	103.6	86.9	817.7	0.0	0.0
110.00		88.0	714.1					0.0	103.6	88.0	817.7	0.0	0.0
115.00	Top - Section 6	89.1	714.1					0.0	103.6	89.1	817.7	0.0	0.0
120.00		90.2	714.1					0.0	103.6	90.2	817.7	0.0	0.0
125.00		91.3	714.1					0.0	103.6	91.3	817.7	0.0	0.0
130.00	Top - Section 7	76.8	714.1					0.0	103.6	76.8	817.7	0.0	0.0
135.00		43.4	473.5					0.0	103.6	43.4	577.1	0.0	0.0
137.00	Appertunance(s)	31.3	189.4	788.8	0.0	511.0	2,484.6	0.0	41.4	820.0	2,715.5	0.0	0.0
140.00		50.4	284.1					0.0	25.7	50.4	309.9	0.0	0.0
145.00		63.5	473.5					0.0	42.9	63.5	516.4	0.0	0.0
150.00		31.9	473.5					0.0	42.9	31.9	516.4	0.0	0.0
								Totals:		3,614.00	34,209.6	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	-37.42	-4.82	0.00	-505.56	0.00	505.56	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.109
5.00	-35.72	-4.73	0.00	-481.46	0.00	481.46	3,293.92	1,646.96	8,093.29	5,174.22	0.01	-0.02	0.104
10.00	-34.03	-4.64	0.00	-457.82	0.00	457.82	3,293.92	1,646.96	8,093.29	5,174.22	0.04	-0.03	0.099
15.00	-32.33	-4.54	0.00	-434.64	0.00	434.64	3,293.92	1,646.96	8,093.29	5,174.22	0.08	-0.05	0.094
20.00	-30.64	-4.45	0.00	-411.93	0.00	411.93	3,293.92	1,646.96	8,093.29	5,174.22	0.14	-0.06	0.089
20.00	-30.64	-4.45	0.00	-411.93	0.00	411.93	2,330.87	1,165.43	5,751.12	3,807.50	0.14	-0.06	0.121
25.00	-29.34	-4.35	0.00	-389.69	0.00	389.69	2,330.87	1,165.43	5,751.12	3,807.50	0.21	-0.08	0.115
30.00	-28.04	-4.26	0.00	-367.93	0.00	367.93	2,330.87	1,165.43	5,751.12	3,807.50	0.30	-0.09	0.109
35.00	-26.74	-4.16	0.00	-346.65	0.00	346.65	2,330.87	1,165.43	5,751.12	3,807.50	0.41	-0.11	0.103
40.00	-25.44	-4.06	0.00	-325.88	0.00	325.88	2,330.87	1,165.43	5,751.12	3,807.50	0.53	-0.13	0.097
40.00	-25.44	-4.06	0.00	-325.88	0.00	325.88	2,139.71	1,069.86	4,744.89	3,103.93	0.53	-0.13	0.117
45.00	-24.26	-3.96	0.00	-305.60	0.00	305.60	2,139.71	1,069.86	4,744.89	3,103.93	0.67	-0.14	0.110
50.00	-23.08	-3.86	0.00	-285.82	0.00	285.82	2,139.71	1,069.86	4,744.89	3,103.93	0.83	-0.16	0.103
55.00	-21.90	-3.75	0.00	-266.54	0.00	266.54	2,139.71	1,069.86	4,744.89	3,103.93	1.00	-0.18	0.096
60.00	-20.72	-3.65	0.00	-247.78	0.00	247.78	2,139.71	1,069.86	4,744.89	3,103.93	1.20	-0.19	0.090
60.00	-20.72	-3.65	0.00	-247.78	0.00	247.78	1,948.48	974.24	3,834.02	2,471.99	1.20	-0.19	0.111
65.00	-19.66	-3.55	0.00	-229.55	0.00	229.55	1,948.48	974.24	3,834.02	2,471.99	1.40	-0.21	0.103
70.00	-18.61	-3.45	0.00	-211.80	0.00	211.80	1,948.48	974.24	3,834.02	2,471.99	1.63	-0.23	0.095
75.00	-17.55	-3.34	0.00	-194.56	0.00	194.56	1,948.48	974.24	3,834.02	2,471.99	1.88	-0.24	0.088
80.00	-16.49	-3.24	0.00	-177.84	0.00	177.84	1,948.48	974.24	3,834.02	2,471.99	2.14	-0.26	0.080
80.00	-16.49	-3.24	0.00	-177.84	0.00	177.84	1,757.14	878.57	3,018.53	1,911.67	2.14	-0.26	0.102
85.00	-15.55	-3.15	0.00	-161.63	0.00	161.63	1,757.14	878.57	3,018.53	1,911.67	2.43	-0.28	0.093
90.00	-14.61	-3.05	0.00	-145.89	0.00	145.89	1,757.14	878.57	3,018.53	1,911.67	2.73	-0.30	0.085
95.00	-13.67	-2.95	0.00	-130.63	0.00	130.63	1,757.14	878.57	3,018.53	1,911.67	3.05	-0.32	0.076
100.00	-12.74	-2.86	0.00	-115.87	0.00	115.87	1,757.14	878.57	3,018.53	1,911.67	3.39	-0.33	0.068
100.00	-12.74	-2.86	0.00	-115.87	0.00	115.87	1,565.64	782.82	2,298.42	1,422.98	3.39	-0.33	0.090
105.00	-11.92	-2.77	0.00	-101.58	0.00	101.58	1,565.64	782.82	2,298.42	1,422.98	3.74	-0.35	0.079
110.00	-11.10	-2.68	0.00	-87.73	0.00	87.73	1,565.64	782.82	2,298.42	1,422.98	4.12	-0.37	0.069
115.00	-10.28	-2.59	0.00	-74.32	0.00	74.32	1,565.64	782.82	2,298.42	1,422.98	4.51	-0.38	0.059
115.00	-10.28	-2.59	0.00	-74.32	0.00	74.32	1,565.64	782.82	2,298.42	1,422.98	4.51	-0.38	0.059
120.00	-9.46	-2.50	0.00	-61.38	0.00	61.38	1,565.64	782.82	2,298.42	1,422.98	4.92	-0.40	0.049
125.00	-8.65	-2.40	0.00	-48.90	0.00	48.90	1,565.64	782.82	2,298.42	1,422.98	5.35	-0.41	0.040
130.00	-7.83	-2.32	0.00	-36.90	0.00	36.90	1,565.64	782.82	2,298.42	1,422.98	5.78	-0.42	0.031
130.00	-7.83	-2.32	0.00	-36.90	0.00	36.90	1,127.22	563.61	1,091.62	660.47	5.78	-0.42	0.063
135.00	-7.25	-2.27	0.00	-25.31	0.00	25.31	1,127.22	563.61	1,091.62	660.47	6.22	-0.43	0.045
137.00	-4.54	-1.43	0.00	-20.26	0.00	20.26	1,127.22	563.61	1,091.62	660.47	6.40	-0.43	0.035
140.00	-4.23	-1.38	0.00	-15.96	0.00	15.96	1,127.22	563.61	1,091.62	660.47	6.68	-0.44	0.028
145.00	-3.72	-1.31	0.00	-9.07	0.00	9.07	1,127.22	563.61	1,091.62	660.47	7.15	-0.45	0.017
150.00	0.00	-1.28	0.00	-2.50	0.00	2.50	1,127.22	563.61	1,091.62	660.47	7.62	-0.45	0.004

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):	1.60	
Redundancy Factor (p):	1.30	
Seismic Force Distribution Exponent (k):	1.55	
Total Unfactored Dead Load:	37.42	k
Seismic Base Shear (E):	2.07	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	516	1,192	0.033	69	640
30	142.50	516	1,130	0.032	66	640
29	138.50	310	648	0.018	38	384
28	136.00	231	470	0.013	27	286
27	132.50	577	1,128	0.032	66	716
26	127.50	818	1,505	0.042	88	1,014
25	122.50	818	1,415	0.040	82	1,014
24	117.50	818	1,326	0.037	77	1,014
23	112.50	818	1,240	0.035	72	1,014
22	107.50	818	1,155	0.032	67	1,014
21	102.50	818	1,073	0.030	62	1,014
20	97.50	938	1,139	0.032	66	1,163
19	92.50	938	1,050	0.029	61	1,163
18	87.50	938	963	0.027	56	1,163
17	82.50	938	879	0.025	51	1,163
16	77.50	1,058	900	0.025	52	1,312
15	72.50	1,058	812	0.023	47	1,312
14	67.50	1,058	727	0.020	42	1,312
13	62.50	1,058	645	0.018	38	1,312
12	57.50	1,178	631	0.018	37	1,461
11	52.50	1,178	548	0.015	32	1,461
10	47.50	1,178	469	0.013	27	1,461
9	42.50	1,178	395	0.011	23	1,461

8	37.50	1,299	358	0.010	21	1,611
7	32.50	1,299	287	0.008	17	1,611
6	27.50	1,299	222	0.006	13	1,611
5	22.50	1,299	162	0.005	9	1,611
4	17.50	1,694	143	0.004	8	2,100
3	12.50	1,694	85	0.002	5	2,100
2	7.50	1,694	39	0.001	2	2,100
1	2.50	1,694	7	0.000	0	2,100
Powerwave TT08-19DB1	152.00	66	160	0.004	9	82
Commscope WCS-IMFQ-A	152.00	30	71	0.002	4	37
Raycap DC6-48-60-0-8	152.00	98	238	0.007	14	122
Ericsson RRUS A2	152.00	90	218	0.006	13	112
Ericsson RRUS 32	152.00	152	368	0.010	21	189
Ericsson RRUS 12	152.00	300	725	0.020	42	372
Ericsson RRUS E2 B29	152.00	60	145	0.004	8	74
Ericsson RRUS-11	152.00	330	798	0.022	46	409
Powerwave Allgon 777	152.00	105	254	0.007	15	130
Quintel QS66512-2	152.00	111	268	0.008	16	138
CCI HPA-65R-BUU-H8	152.00	204	493	0.014	29	253
CCI TPA-65R-LCUUUU-H	152.00	164	397	0.011	23	204
Round Low Profile Pl	152.00	1,500	3,626	0.102	211	1,860
Ericsson KRY 112 144	137.00	33	68	0.002	4	41
Ericsson RRUS 11 B12	137.00	152	313	0.009	18	189
Ericsson AIR 21, 1.3	137.00	249	512	0.014	30	309
Ericsson AIR32 B66Aa	137.00	397	816	0.023	48	492
Andrew LNX-6515DS-VT	137.00	154	317	0.009	18	191
Round Low Profile Pl	137.00	1,500	3,087	0.087	180	1,860
		37,420	35,615	1.000	2,074	46,405

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	516	1,192	0.033	69	444
30	142.50	516	1,130	0.032	66	444
29	138.50	310	648	0.018	38	266
28	136.00	231	470	0.013	27	199
27	132.50	577	1,128	0.032	66	496
26	127.50	818	1,505	0.042	88	703
25	122.50	818	1,415	0.040	82	703
24	117.50	818	1,326	0.037	77	703
23	112.50	818	1,240	0.035	72	703
22	107.50	818	1,155	0.032	67	703
21	102.50	818	1,073	0.030	62	703
20	97.50	938	1,139	0.032	66	807
19	92.50	938	1,050	0.029	61	807
18	87.50	938	963	0.027	56	807
17	82.50	938	879	0.025	51	807
16	77.50	1,058	900	0.025	52	910
15	72.50	1,058	812	0.023	47	910
14	67.50	1,058	727	0.020	42	910
13	62.50	1,058	645	0.018	38	910
12	57.50	1,178	631	0.018	37	1,013
11	52.50	1,178	548	0.015	32	1,013
10	47.50	1,178	469	0.013	27	1,013
9	42.50	1,178	395	0.011	23	1,013
8	37.50	1,299	358	0.010	21	1,117
7	32.50	1,299	287	0.008	17	1,117
6	27.50	1,299	222	0.006	13	1,117
5	22.50	1,299	162	0.005	9	1,117

4	17.50	1,694	143	0.004	8	1,456
3	12.50	1,694	85	0.002	5	1,456
2	7.50	1,694	39	0.001	2	1,456
1	2.50	1,694	7	0.000	0	1,456
Powerwave TT08-19DB1	152.00	66	160	0.004	9	57
Commscope WCS-IMFQ-A	152.00	30	71	0.002	4	25
Raycap DC6-48-60-0-8	152.00	98	238	0.007	14	85
Ericsson RRUS A2	152.00	90	218	0.006	13	77
Ericsson RRUS 32	152.00	152	368	0.010	21	131
Ericsson RRUS 12	152.00	300	725	0.020	42	258
Ericsson RRUS E2 B29	152.00	60	145	0.004	8	52
Ericsson RRUS-11	152.00	330	798	0.022	46	284
Powerwave Allgon 777	152.00	105	254	0.007	15	90
Quintel QS66512-2	152.00	111	268	0.008	16	95
CCI HPA-65R-BUU-H8	152.00	204	493	0.014	29	175
CCI TPA-65R-LCUUUU-H	152.00	164	397	0.011	23	141
Round Low Profile Pl	152.00	1,500	3,626	0.102	211	1,290
Ericsson KRY 112 144	137.00	33	68	0.002	4	28
Ericsson RRUS 11 B12	137.00	152	313	0.009	18	131
Ericsson AIR 21, 1.3	137.00	249	512	0.014	30	214
Ericsson AIR32 B66Aa	137.00	397	816	0.023	48	341
Andrew LNX-6515DS-VT	137.00	154	317	0.009	18	132
Round Low Profile Pl	137.00	1,500	3,087	0.087	180	1,290
		37,420	35,615	1.000	2,074	32,177

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	-40.32	-1.62	0.00	-171.38	0.00	171.38	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.045
5.00	-38.22	-1.62	0.00	-163.26	0.00	163.26	3,293.92	1,646.96	8,093.29	5,174.22	0.00	-0.01	0.043
10.00	-36.12	-1.62	0.00	-155.14	0.00	155.14	3,293.92	1,646.96	8,093.29	5,174.22	0.01	-0.01	0.041
15.00	-34.02	-1.62	0.00	-147.03	0.00	147.03	3,293.92	1,646.96	8,093.29	5,174.22	0.03	-0.02	0.039
20.00	-32.41	-1.61	0.00	-138.94	0.00	138.94	3,293.92	1,646.96	8,093.29	5,174.22	0.05	-0.02	0.037
20.00	-32.41	-1.61	0.00	-138.94	0.00	138.94	2,330.87	1,165.43	5,751.12	3,807.50	0.05	-0.02	0.050
25.00	-30.80	-1.60	0.00	-130.89	0.00	130.89	2,330.87	1,165.43	5,751.12	3,807.50	0.07	-0.03	0.048
30.00	-29.19	-1.58	0.00	-122.90	0.00	122.90	2,330.87	1,165.43	5,751.12	3,807.50	0.10	-0.03	0.045
35.00	-27.58	-1.56	0.00	-114.98	0.00	114.98	2,330.87	1,165.43	5,751.12	3,807.50	0.14	-0.04	0.042
40.00	-26.12	-1.54	0.00	-107.16	0.00	107.16	2,330.87	1,165.43	5,751.12	3,807.50	0.18	-0.04	0.039
40.00	-26.12	-1.54	0.00	-107.16	0.00	107.16	2,139.71	1,069.86	4,744.89	3,103.93	0.18	-0.04	0.047
45.00	-24.66	-1.52	0.00	-99.44	0.00	99.44	2,139.71	1,069.86	4,744.89	3,103.93	0.23	-0.05	0.044
50.00	-23.19	-1.49	0.00	-91.86	0.00	91.86	2,139.71	1,069.86	4,744.89	3,103.93	0.28	-0.05	0.040
55.00	-21.73	-1.45	0.00	-84.43	0.00	84.43	2,139.71	1,069.86	4,744.89	3,103.93	0.34	-0.06	0.037
60.00	-20.42	-1.41	0.00	-77.18	0.00	77.18	2,139.71	1,069.86	4,744.89	3,103.93	0.40	-0.06	0.034
60.00	-20.42	-1.41	0.00	-77.18	0.00	77.18	1,948.48	974.24	3,834.02	2,471.99	0.40	-0.06	0.042
65.00	-19.11	-1.37	0.00	-70.12	0.00	70.12	1,948.48	974.24	3,834.02	2,471.99	0.47	-0.07	0.038
70.00	-17.80	-1.32	0.00	-63.26	0.00	63.26	1,948.48	974.24	3,834.02	2,471.99	0.54	-0.07	0.035
75.00	-16.48	-1.27	0.00	-56.65	0.00	56.65	1,948.48	974.24	3,834.02	2,471.99	0.63	-0.08	0.031
80.00	-15.32	-1.22	0.00	-50.29	0.00	50.29	1,948.48	974.24	3,834.02	2,471.99	0.71	-0.08	0.028
80.00	-15.32	-1.22	0.00	-50.29	0.00	50.29	1,757.14	878.57	3,018.53	1,911.67	0.71	-0.08	0.035
85.00	-14.16	-1.16	0.00	-44.20	0.00	44.20	1,757.14	878.57	3,018.53	1,911.67	0.80	-0.09	0.031
90.00	-12.99	-1.10	0.00	-38.38	0.00	38.38	1,757.14	878.57	3,018.53	1,911.67	0.90	-0.09	0.027
95.00	-11.83	-1.03	0.00	-32.88	0.00	32.88	1,757.14	878.57	3,018.53	1,911.67	1.00	-0.10	0.024
100.00	-10.82	-0.97	0.00	-27.71	0.00	27.71	1,757.14	878.57	3,018.53	1,911.67	1.10	-0.10	0.021
100.00	-10.82	-0.97	0.00	-27.71	0.00	27.71	1,565.64	782.82	2,298.42	1,422.98	1.10	-0.10	0.026
105.00	-9.80	-0.90	0.00	-22.86	0.00	22.86	1,565.64	782.82	2,298.42	1,422.98	1.21	-0.11	0.022
110.00	-8.79	-0.83	0.00	-18.36	0.00	18.36	1,565.64	782.82	2,298.42	1,422.98	1.33	-0.11	0.019
115.00	-7.77	-0.75	0.00	-14.22	0.00	14.22	1,565.64	782.82	2,298.42	1,422.98	1.44	-0.11	0.015
115.00	-7.77	-0.75	0.00	-14.22	0.00	14.22	1,565.64	782.82	2,298.42	1,422.98	1.44	-0.11	0.015
120.00	-6.76	-0.66	0.00	-10.47	0.00	10.47	1,565.64	782.82	2,298.42	1,422.98	1.57	-0.12	0.012
125.00	-5.75	-0.58	0.00	-7.15	0.00	7.15	1,565.64	782.82	2,298.42	1,422.98	1.69	-0.12	0.009
130.00	-5.03	-0.51	0.00	-4.27	0.00	4.27	1,565.64	782.82	2,298.42	1,422.98	1.81	-0.12	0.006
130.00	-5.03	-0.51	0.00	-4.27	0.00	4.27	1,127.22	563.61	1,091.62	660.47	1.81	-0.12	0.011
135.00	-4.75	-0.48	0.00	-1.73	0.00	1.73	1,127.22	563.61	1,091.62	660.47	1.94	-0.12	0.007
137.00	-1.28	-0.14	0.00	-0.77	0.00	0.77	1,127.22	563.61	1,091.62	660.47	1.99	-0.12	0.002
140.00	-0.64	-0.07	0.00	-0.35	0.00	0.35	1,127.22	563.61	1,091.62	660.47	2.07	-0.12	0.001
145.00	0.00	0.00	0.00	0.00	0.00	0.00	1,127.22	563.61	1,091.62	660.47	2.19	-0.12	0.000
150.00	0.00	0.00	0.00	0.00	0.00	0.00	1,127.22	563.61	1,091.62	660.47	2.32	-0.12	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	-27.96	-1.62	0.00	-170.64	0.00	170.64	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.041
5.00	-26.50	-1.62	0.00	-162.52	0.00	162.52	3,293.92	1,646.96	8,093.29	5,174.22	0.00	-0.01	0.039
10.00	-25.05	-1.62	0.00	-154.41	0.00	154.41	3,293.92	1,646.96	8,093.29	5,174.22	0.01	-0.01	0.037
15.00	-23.59	-1.61	0.00	-146.31	0.00	146.31	3,293.92	1,646.96	8,093.29	5,174.22	0.03	-0.02	0.035
20.00	-22.47	-1.61	0.00	-138.24	0.00	138.24	3,293.92	1,646.96	8,093.29	5,174.22	0.05	-0.02	0.034
20.00	-22.47	-1.61	0.00	-138.24	0.00	138.24	2,330.87	1,165.43	5,751.12	3,807.50	0.05	-0.02	0.046
25.00	-21.36	-1.59	0.00	-130.22	0.00	130.22	2,330.87	1,165.43	5,751.12	3,807.50	0.07	-0.03	0.043
30.00	-20.24	-1.58	0.00	-122.25	0.00	122.25	2,330.87	1,165.43	5,751.12	3,807.50	0.10	-0.03	0.041
35.00	-19.12	-1.56	0.00	-114.35	0.00	114.35	2,330.87	1,165.43	5,751.12	3,807.50	0.14	-0.04	0.038
40.00	-18.11	-1.54	0.00	-106.56	0.00	106.56	2,330.87	1,165.43	5,751.12	3,807.50	0.18	-0.04	0.036
40.00	-18.11	-1.54	0.00	-106.56	0.00	106.56	2,139.71	1,069.86	4,744.89	3,103.93	0.18	-0.04	0.043
45.00	-17.10	-1.51	0.00	-98.88	0.00	98.88	2,139.71	1,069.86	4,744.89	3,103.93	0.23	-0.05	0.040
50.00	-16.08	-1.48	0.00	-91.33	0.00	91.33	2,139.71	1,069.86	4,744.89	3,103.93	0.28	-0.05	0.037
55.00	-15.07	-1.44	0.00	-83.93	0.00	83.93	2,139.71	1,069.86	4,744.89	3,103.93	0.34	-0.06	0.034
60.00	-14.16	-1.41	0.00	-76.72	0.00	76.72	2,139.71	1,069.86	4,744.89	3,103.93	0.40	-0.06	0.031
60.00	-14.16	-1.41	0.00	-76.72	0.00	76.72	1,948.48	974.24	3,834.02	2,471.99	0.40	-0.06	0.038
65.00	-13.25	-1.36	0.00	-69.69	0.00	69.69	1,948.48	974.24	3,834.02	2,471.99	0.47	-0.07	0.035
70.00	-12.34	-1.32	0.00	-62.87	0.00	62.87	1,948.48	974.24	3,834.02	2,471.99	0.54	-0.07	0.032
75.00	-11.43	-1.26	0.00	-56.29	0.00	56.29	1,948.48	974.24	3,834.02	2,471.99	0.62	-0.08	0.029
80.00	-10.62	-1.21	0.00	-49.98	0.00	49.98	1,948.48	974.24	3,834.02	2,471.99	0.71	-0.08	0.026
80.00	-10.62	-1.21	0.00	-49.98	0.00	49.98	1,757.14	878.57	3,018.53	1,911.67	0.71	-0.08	0.032
85.00	-9.82	-1.16	0.00	-43.92	0.00	43.92	1,757.14	878.57	3,018.53	1,911.67	0.80	-0.09	0.029
90.00	-9.01	-1.09	0.00	-38.14	0.00	38.14	1,757.14	878.57	3,018.53	1,911.67	0.89	-0.09	0.025
95.00	-8.20	-1.03	0.00	-32.67	0.00	32.67	1,757.14	878.57	3,018.53	1,911.67	0.99	-0.10	0.022
100.00	-7.50	-0.96	0.00	-27.54	0.00	27.54	1,757.14	878.57	3,018.53	1,911.67	1.10	-0.10	0.019
100.00	-7.50	-0.96	0.00	-27.54	0.00	27.54	1,565.64	782.82	2,298.42	1,422.98	1.10	-0.10	0.024
105.00	-6.80	-0.90	0.00	-22.72	0.00	22.72	1,565.64	782.82	2,298.42	1,422.98	1.21	-0.11	0.020
110.00	-6.09	-0.82	0.00	-18.24	0.00	18.24	1,565.64	782.82	2,298.42	1,422.98	1.32	-0.11	0.017
115.00	-5.39	-0.74	0.00	-14.13	0.00	14.13	1,565.64	782.82	2,298.42	1,422.98	1.44	-0.11	0.013
115.00	-5.39	-0.74	0.00	-14.13	0.00	14.13	1,565.64	782.82	2,298.42	1,422.98	1.44	-0.11	0.013
120.00	-4.69	-0.66	0.00	-10.40	0.00	10.40	1,565.64	782.82	2,298.42	1,422.98	1.56	-0.12	0.010
125.00	-3.98	-0.57	0.00	-7.10	0.00	7.10	1,565.64	782.82	2,298.42	1,422.98	1.68	-0.12	0.008
130.00	-3.49	-0.51	0.00	-4.24	0.00	4.24	1,565.64	782.82	2,298.42	1,422.98	1.80	-0.12	0.005
130.00	-3.49	-0.51	0.00	-4.24	0.00	4.24	1,127.22	563.61	1,091.62	660.47	1.80	-0.12	0.010
135.00	-3.29	-0.48	0.00	-1.72	0.00	1.72	1,127.22	563.61	1,091.62	660.47	1.93	-0.12	0.006
137.00	-0.89	-0.14	0.00	-0.76	0.00	0.76	1,127.22	563.61	1,091.62	660.47	1.98	-0.12	0.002
140.00	-0.44	-0.07	0.00	-0.35	0.00	0.35	1,127.22	563.61	1,091.62	660.47	2.05	-0.12	0.001
145.00	0.00	0.00	0.00	0.00	0.00	0.00	1,127.22	563.61	1,091.62	660.47	2.18	-0.12	0.000
150.00	0.00	0.00	0.00	0.00	0.00	0.00	1,127.22	563.61	1,091.62	660.47	2.31	-0.12	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):	1.60
Redundancy Factor (p):	1.30

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	516	1.828	1.667	1.025	0.350	157	640
30	142.50	516	1.706	1.144	0.823	0.275	123	640
29	138.50	310	1.611	0.814	0.686	0.221	59	384
28	136.00	231	1.554	0.642	0.609	0.190	38	286
27	132.50	577	1.475	0.441	0.513	0.151	76	716
26	127.50	818	1.366	0.222	0.397	0.102	73	1,014
25	122.50	818	1.261	0.069	0.302	0.062	44	1,014
24	117.50	818	1.160	-0.030	0.226	0.031	22	1,014
23	112.50	818	1.063	-0.088	0.165	0.008	5	1,014
22	107.50	818	0.971	-0.116	0.117	-0.007	-5	1,014
21	102.50	818	0.883	-0.121	0.081	-0.015	-11	1,014
20	97.50	938	0.799	-0.112	0.053	-0.016	-13	1,163
19	92.50	938	0.719	-0.092	0.034	-0.011	-9	1,163
18	87.50	938	0.643	-0.068	0.020	-0.002	-1	1,163
17	82.50	938	0.572	-0.043	0.012	0.009	8	1,163
16	77.50	1,058	0.505	-0.018	0.007	0.020	19	1,312
15	72.50	1,058	0.442	0.005	0.006	0.030	28	1,312
14	67.50	1,058	0.383	0.023	0.007	0.038	35	1,312
13	62.50	1,058	0.328	0.039	0.010	0.043	40	1,312
12	57.50	1,178	0.278	0.050	0.014	0.046	47	1,461
11	52.50	1,178	0.232	0.058	0.019	0.047	48	1,461
10	47.50	1,178	0.190	0.064	0.025	0.047	48	1,461
9	42.50	1,178	0.152	0.068	0.030	0.046	47	1,461
8	37.50	1,299	0.118	0.070	0.035	0.045	50	1,611
7	32.50	1,299	0.089	0.071	0.039	0.043	48	1,611
6	27.50	1,299	0.064	0.072	0.041	0.041	47	1,611
5	22.50	1,299	0.043	0.070	0.042	0.040	45	1,611
4	17.50	1,694	0.026	0.067	0.040	0.037	54	2,100
3	12.50	1,694	0.013	0.059	0.034	0.033	48	2,100
2	7.50	1,694	0.005	0.044	0.025	0.025	37	2,100
1	2.50	1,694	0.001	0.018	0.010	0.011	16	2,100
Powerwave TT08-	152.00	66	1.941	2.259	1.239	0.425	24	82
Commscope WCS-	152.00	30	1.941	2.259	1.239	0.425	11	37
Raycap DC6-48-60-0-8	152.00	98	1.941	2.259	1.239	0.425	36	122

Ericsson RRUS A2	152.00	90	1.941	2.259	1.239	0.425	33	112
Ericsson RRUS 32	152.00	152	1.941	2.259	1.239	0.425	56	189
Ericsson RRUS 12	152.00	300	1.941	2.259	1.239	0.425	111	372
Ericsson RRUS E2 B29	152.00	60	1.941	2.259	1.239	0.425	22	74
Ericsson RRUS-11	152.00	330	1.941	2.259	1.239	0.425	122	409
Powerwave Allgon 777	152.00	105	1.941	2.259	1.239	0.425	39	130
Quintel QS66512-2	152.00	111	1.941	2.259	1.239	0.425	41	138
CCI HPA-65R-BUU-H8	152.00	204	1.941	2.259	1.239	0.425	75	253
CCI TPA-65R-LCUUUU-H	152.00	164	1.941	2.259	1.239	0.425	61	204
Round Low Profile Pl	152.00	1,500	1.941	2.259	1.239	0.425	553	1,860
Ericsson KRY 112 144	137.00	33	1.577	0.708	0.639	0.202	6	41
Ericsson RRUS 11 B12	137.00	152	1.577	0.708	0.639	0.202	27	189
Ericsson AIR 21, 1.3	137.00	249	1.577	0.708	0.639	0.202	44	309
Ericsson AIR32 B66Aa	137.00	397	1.577	0.708	0.639	0.202	70	492
Andrew LNX-6515DS-VT	137.00	154	1.577	0.708	0.639	0.202	27	191
Round Low Profile Pl	137.00	1,500	1.577	0.708	0.639	0.202	263	1,860
		37,420	55.161	38.696	25.384	8.685	2,841	46,405

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	516	1.828	1.667	1.025	0.350	157	444
30	142.50	516	1.706	1.144	0.823	0.275	123	444
29	138.50	310	1.611	0.814	0.686	0.221	59	266
28	136.00	231	1.554	0.642	0.609	0.190	38	199
27	132.50	577	1.475	0.441	0.513	0.151	76	496
26	127.50	818	1.366	0.222	0.397	0.102	73	703
25	122.50	818	1.261	0.069	0.302	0.062	44	703
24	117.50	818	1.160	-0.030	0.226	0.031	22	703
23	112.50	818	1.063	-0.088	0.165	0.008	5	703
22	107.50	818	0.971	-0.116	0.117	-0.007	-5	703
21	102.50	818	0.883	-0.121	0.081	-0.015	-11	703
20	97.50	938	0.799	-0.112	0.053	-0.016	-13	807
19	92.50	938	0.719	-0.092	0.034	-0.011	-9	807
18	87.50	938	0.643	-0.068	0.020	-0.002	-1	807
17	82.50	938	0.572	-0.043	0.012	0.009	8	807
16	77.50	1,058	0.505	-0.018	0.007	0.020	19	910
15	72.50	1,058	0.442	0.005	0.006	0.030	28	910
14	67.50	1,058	0.383	0.023	0.007	0.038	35	910
13	62.50	1,058	0.328	0.039	0.010	0.043	40	910
12	57.50	1,178	0.278	0.050	0.014	0.046	47	1,013
11	52.50	1,178	0.232	0.058	0.019	0.047	48	1,013
10	47.50	1,178	0.190	0.064	0.025	0.047	48	1,013
9	42.50	1,178	0.152	0.068	0.030	0.046	47	1,013
8	37.50	1,299	0.118	0.070	0.035	0.045	50	1,117
7	32.50	1,299	0.089	0.071	0.039	0.043	48	1,117
6	27.50	1,299	0.064	0.072	0.041	0.041	47	1,117
5	22.50	1,299	0.043	0.070	0.042	0.040	45	1,117
4	17.50	1,694	0.026	0.067	0.040	0.037	54	1,456
3	12.50	1,694	0.013	0.059	0.034	0.033	48	1,456
2	7.50	1,694	0.005	0.044	0.025	0.025	37	1,456
1	2.50	1,694	0.001	0.018	0.010	0.011	16	1,456
Powerwave TT08-	152.00	66	1.941	2.259	1.239	0.425	24	57
Commscope WCS-	152.00	30	1.941	2.259	1.239	0.425	11	25
Raycap DC6-48-60-0-8	152.00	98	1.941	2.259	1.239	0.425	36	85
Ericsson RRUS A2	152.00	90	1.941	2.259	1.239	0.425	33	77
Ericsson RRUS 32	152.00	152	1.941	2.259	1.239	0.425	56	131
Ericsson RRUS 12	152.00	300	1.941	2.259	1.239	0.425	111	258

Ericsson RRUS E2 B29	152.00	60	1.941	2.259	1.239	0.425	22	52
Ericsson RRUS-11	152.00	330	1.941	2.259	1.239	0.425	122	284
Powerwave Allgon 777	152.00	105	1.941	2.259	1.239	0.425	39	90
Quintel QS66512-2	152.00	111	1.941	2.259	1.239	0.425	41	95
CCI HPA-65R-BUU-H8	152.00	204	1.941	2.259	1.239	0.425	75	175
CCI TPA-65R-LCUUUU-H	152.00	164	1.941	2.259	1.239	0.425	61	141
Round Low Profile Pl	152.00	1,500	1.941	2.259	1.239	0.425	553	1,290
Ericsson KRY 112 144	137.00	33	1.577	0.708	0.639	0.202	6	28
Ericsson RRUS 11 B12	137.00	152	1.577	0.708	0.639	0.202	27	131
Ericsson AIR 21, 1.3	137.00	249	1.577	0.708	0.639	0.202	44	214
Ericsson AIR32 B66Aa	137.00	397	1.577	0.708	0.639	0.202	70	341
Andrew LNX-6515DS-VT	137.00	154	1.577	0.708	0.639	0.202	27	132
Round Low Profile Pl	137.00	1,500	1.577	0.708	0.639	0.202	263	1,290
		37,420	55.161	38.696	25.384	8.685	2,841	32,177

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	-40.32	-1.64	0.00	-163.21	0.00	163.21	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.044
5.00	-38.22	-1.61	0.00	-155.00	0.00	155.00	3,293.92	1,646.96	8,093.29	5,174.22	0.00	-0.01	0.042
10.00	-36.12	-1.56	0.00	-146.95	0.00	146.95	3,293.92	1,646.96	8,093.29	5,174.22	0.01	-0.01	0.039
15.00	-34.02	-1.51	0.00	-139.13	0.00	139.13	3,293.92	1,646.96	8,093.29	5,174.22	0.03	-0.02	0.037
20.00	-32.41	-1.47	0.00	-131.56	0.00	131.56	3,293.92	1,646.96	8,093.29	5,174.22	0.04	-0.02	0.035
20.00	-32.41	-1.47	0.00	-131.56	0.00	131.56	2,330.87	1,165.43	5,751.12	3,807.50	0.04	-0.02	0.048
25.00	-30.80	-1.43	0.00	-124.21	0.00	124.21	2,330.87	1,165.43	5,751.12	3,807.50	0.07	-0.02	0.046
30.00	-29.19	-1.38	0.00	-117.08	0.00	117.08	2,330.87	1,165.43	5,751.12	3,807.50	0.10	-0.03	0.043
35.00	-27.58	-1.33	0.00	-110.19	0.00	110.19	2,330.87	1,165.43	5,751.12	3,807.50	0.13	-0.04	0.041
40.00	-26.12	-1.28	0.00	-103.54	0.00	103.54	2,330.87	1,165.43	5,751.12	3,807.50	0.17	-0.04	0.038
40.00	-26.12	-1.28	0.00	-103.54	0.00	103.54	2,139.71	1,069.86	4,744.89	3,103.93	0.17	-0.04	0.046
45.00	-24.66	-1.24	0.00	-97.11	0.00	97.11	2,139.71	1,069.86	4,744.89	3,103.93	0.21	-0.04	0.043
50.00	-23.19	-1.19	0.00	-90.93	0.00	90.93	2,139.71	1,069.86	4,744.89	3,103.93	0.27	-0.05	0.040
55.00	-21.73	-1.14	0.00	-84.97	0.00	84.97	2,139.71	1,069.86	4,744.89	3,103.93	0.32	-0.06	0.038
60.00	-20.42	-1.11	0.00	-79.25	0.00	79.25	2,139.71	1,069.86	4,744.89	3,103.93	0.38	-0.06	0.035
60.00	-20.42	-1.11	0.00	-79.25	0.00	79.25	1,948.48	974.24	3,834.02	2,471.99	0.38	-0.06	0.043
65.00	-19.11	-1.07	0.00	-73.73	0.00	73.73	1,948.48	974.24	3,834.02	2,471.99	0.45	-0.07	0.040
70.00	-17.80	-1.04	0.00	-68.37	0.00	68.37	1,948.48	974.24	3,834.02	2,471.99	0.52	-0.07	0.037
75.00	-16.48	-1.02	0.00	-63.16	0.00	63.16	1,948.48	974.24	3,834.02	2,471.99	0.60	-0.08	0.034
80.00	-15.32	-1.02	0.00	-58.04	0.00	58.04	1,948.48	974.24	3,834.02	2,471.99	0.69	-0.08	0.031
80.00	-15.32	-1.02	0.00	-58.04	0.00	58.04	1,757.14	878.57	3,018.53	1,911.67	0.69	-0.08	0.039
85.00	-14.16	-1.02	0.00	-52.95	0.00	52.95	1,757.14	878.57	3,018.53	1,911.67	0.78	-0.09	0.036
90.00	-12.99	-1.03	0.00	-47.86	0.00	47.86	1,757.14	878.57	3,018.53	1,911.67	0.87	-0.10	0.032
95.00	-11.83	-1.04	0.00	-42.73	0.00	42.73	1,757.14	878.57	3,018.53	1,911.67	0.98	-0.10	0.029
100.00	-10.82	-1.05	0.00	-37.54	0.00	37.54	1,757.14	878.57	3,018.53	1,911.67	1.09	-0.11	0.026
100.00	-10.82	-1.05	0.00	-37.54	0.00	37.54	1,565.64	782.82	2,298.42	1,422.98	1.09	-0.11	0.033
105.00	-9.80	-1.05	0.00	-32.31	0.00	32.31	1,565.64	782.82	2,298.42	1,422.98	1.20	-0.11	0.029
110.00	-8.79	-1.05	0.00	-27.05	0.00	27.05	1,565.64	782.82	2,298.42	1,422.98	1.32	-0.12	0.025
115.00	-7.77	-1.02	0.00	-21.82	0.00	21.82	1,565.64	782.82	2,298.42	1,422.98	1.45	-0.12	0.020
115.00	-7.77	-1.02	0.00	-21.82	0.00	21.82	1,565.64	782.82	2,298.42	1,422.98	1.45	-0.12	0.020
120.00	-6.76	-0.98	0.00	-16.71	0.00	16.71	1,565.64	782.82	2,298.42	1,422.98	1.58	-0.13	0.016
125.00	-5.75	-0.90	0.00	-11.84	0.00	11.84	1,565.64	782.82	2,298.42	1,422.98	1.71	-0.13	0.012
130.00	-5.03	-0.82	0.00	-7.33	0.00	7.33	1,565.64	782.82	2,298.42	1,422.98	1.85	-0.13	0.008
130.00	-5.03	-0.82	0.00	-7.33	0.00	7.33	1,127.22	563.61	1,091.62	660.47	1.85	-0.13	0.016
135.00	-4.74	-0.79	0.00	-3.21	0.00	3.21	1,127.22	563.61	1,091.62	660.47	1.99	-0.13	0.009
137.00	-1.28	-0.28	0.00	-1.64	0.00	1.64	1,127.22	563.61	1,091.62	660.47	2.05	-0.13	0.004
140.00	-0.64	-0.16	0.00	-0.79	0.00	0.79	1,127.22	563.61	1,091.62	660.47	2.13	-0.13	0.002
145.00	0.00	0.00	0.00	0.00	0.00	0.00	1,127.22	563.61	1,091.62	660.47	2.27	-0.13	0.000
150.00	0.00	0.00	0.00	0.00	0.00	0.00	1,127.22	563.61	1,091.62	660.47	2.41	-0.13	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	-27.96	-1.64	0.00	-162.47	0.00	162.47	3,293.92	1,646.96	8,093.29	5,174.22	0.00	0.00	0.040
5.00	-26.50	-1.61	0.00	-154.26	0.00	154.26	3,293.92	1,646.96	8,093.29	5,174.22	0.00	-0.01	0.038
10.00	-25.05	-1.56	0.00	-146.22	0.00	146.22	3,293.92	1,646.96	8,093.29	5,174.22	0.01	-0.01	0.036
15.00	-23.59	-1.51	0.00	-138.41	0.00	138.41	3,293.92	1,646.96	8,093.29	5,174.22	0.03	-0.02	0.034
20.00	-22.47	-1.47	0.00	-130.86	0.00	130.86	3,293.92	1,646.96	8,093.29	5,174.22	0.04	-0.02	0.032
20.00	-22.47	-1.47	0.00	-130.86	0.00	130.86	2,330.87	1,165.43	5,751.12	3,807.50	0.04	-0.02	0.044
25.00	-21.36	-1.42	0.00	-123.53	0.00	123.53	2,330.87	1,165.43	5,751.12	3,807.50	0.07	-0.02	0.042
30.00	-20.24	-1.37	0.00	-116.43	0.00	116.43	2,330.87	1,165.43	5,751.12	3,807.50	0.10	-0.03	0.039
35.00	-19.12	-1.32	0.00	-109.56	0.00	109.56	2,330.87	1,165.43	5,751.12	3,807.50	0.13	-0.04	0.037
40.00	-18.11	-1.28	0.00	-102.93	0.00	102.93	2,330.87	1,165.43	5,751.12	3,807.50	0.17	-0.04	0.035
40.00	-18.11	-1.28	0.00	-102.93	0.00	102.93	2,139.71	1,069.86	4,744.89	3,103.93	0.17	-0.04	0.042
45.00	-17.10	-1.23	0.00	-96.54	0.00	96.54	2,139.71	1,069.86	4,744.89	3,103.93	0.21	-0.04	0.039
50.00	-16.08	-1.18	0.00	-90.38	0.00	90.38	2,139.71	1,069.86	4,744.89	3,103.93	0.26	-0.05	0.037
55.00	-15.07	-1.14	0.00	-84.46	0.00	84.46	2,139.71	1,069.86	4,744.89	3,103.93	0.32	-0.06	0.034
60.00	-14.16	-1.10	0.00	-78.78	0.00	78.78	2,139.71	1,069.86	4,744.89	3,103.93	0.38	-0.06	0.032
60.00	-14.16	-1.10	0.00	-78.78	0.00	78.78	1,948.48	974.24	3,834.02	2,471.99	0.38	-0.06	0.039
65.00	-13.25	-1.06	0.00	-73.29	0.00	73.29	1,948.48	974.24	3,834.02	2,471.99	0.45	-0.07	0.036
70.00	-12.34	-1.04	0.00	-67.97	0.00	67.97	1,948.48	974.24	3,834.02	2,471.99	0.52	-0.07	0.034
75.00	-11.43	-1.02	0.00	-62.79	0.00	62.79	1,948.48	974.24	3,834.02	2,471.99	0.60	-0.08	0.031
80.00	-10.62	-1.01	0.00	-57.70	0.00	57.70	1,948.48	974.24	3,834.02	2,471.99	0.68	-0.08	0.029
80.00	-10.62	-1.01	0.00	-57.70	0.00	57.70	1,757.14	878.57	3,018.53	1,911.67	0.68	-0.08	0.036
85.00	-9.82	-1.01	0.00	-52.66	0.00	52.66	1,757.14	878.57	3,018.53	1,911.67	0.77	-0.09	0.033
90.00	-9.01	-1.02	0.00	-47.60	0.00	47.60	1,757.14	878.57	3,018.53	1,911.67	0.87	-0.09	0.030
95.00	-8.20	-1.03	0.00	-42.51	0.00	42.51	1,757.14	878.57	3,018.53	1,911.67	0.97	-0.10	0.027
100.00	-7.50	-1.04	0.00	-37.35	0.00	37.35	1,757.14	878.57	3,018.53	1,911.67	1.08	-0.11	0.024
100.00	-7.50	-1.04	0.00	-37.35	0.00	37.35	1,565.64	782.82	2,298.42	1,422.98	1.08	-0.11	0.031
105.00	-6.80	-1.05	0.00	-32.15	0.00	32.15	1,565.64	782.82	2,298.42	1,422.98	1.19	-0.11	0.027
110.00	-6.09	-1.04	0.00	-26.92	0.00	26.92	1,565.64	782.82	2,298.42	1,422.98	1.31	-0.12	0.023
115.00	-5.39	-1.02	0.00	-21.72	0.00	21.72	1,565.64	782.82	2,298.42	1,422.98	1.44	-0.12	0.019
115.00	-5.39	-1.02	0.00	-21.72	0.00	21.72	1,565.64	782.82	2,298.42	1,422.98	1.44	-0.12	0.019
120.00	-4.69	-0.97	0.00	-16.64	0.00	16.64	1,565.64	782.82	2,298.42	1,422.98	1.57	-0.13	0.015
125.00	-3.98	-0.90	0.00	-11.79	0.00	11.79	1,565.64	782.82	2,298.42	1,422.98	1.70	-0.13	0.011
130.00	-3.49	-0.82	0.00	-7.30	0.00	7.30	1,565.64	782.82	2,298.42	1,422.98	1.84	-0.13	0.007
130.00	-3.49	-0.82	0.00	-7.30	0.00	7.30	1,127.22	563.61	1,091.62	660.47	1.84	-0.13	0.014
135.00	-3.29	-0.78	0.00	-3.20	0.00	3.20	1,127.22	563.61	1,091.62	660.47	1.98	-0.13	0.008
137.00	-0.89	-0.28	0.00	-1.63	0.00	1.63	1,127.22	563.61	1,091.62	660.47	2.03	-0.13	0.003
140.00	-0.44	-0.16	0.00	-0.79	0.00	0.79	1,127.22	563.61	1,091.62	660.47	2.12	-0.13	0.002
145.00	0.00	0.00	0.00	0.00	0.00	0.00	1,127.22	563.61	1,091.62	660.47	2.26	-0.13	0.000
150.00	0.00	0.00	0.00	0.00	0.00	0.00	1,127.22	563.61	1,091.62	660.47	2.40	-0.13	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	20.16	0.00	44.89	0.00	0.00	2121.60	20.00	0.47
0.9D + 1.6W	20.16	0.00	33.67	0.00	0.00	2110.54	20.00	0.46
1.2D + 1.0Di + 1.0Wi	6.05	0.00	65.76	0.00	0.00	596.99	20.00	0.15
(1.2 + 0.2Sds) * DL + E ELFM	1.62	0.00	40.32	0.00	0.00	171.38	20.00	0.05
(1.2 + 0.2Sds) * DL + E EMAM	1.64	0.00	40.32	0.00	0.00	163.21	20.00	0.05
(0.9 - 0.2Sds) * DL + E ELFM	1.62	0.00	27.96	0.00	0.00	170.64	20.00	0.05
(0.9 - 0.2Sds) * DL + E EMAM	1.64	0.00	27.96	0.00	0.00	162.47	20.00	0.04
1.0D + 1.0W	4.82	0.00	37.42	0.00	0.00	505.56	20.00	0.12

Code Rev.	***G***	**Date**	9/22/2016
		Engineer	ZAM
		Site #	282660
Moment	2121.6 k-ft	**Carrier**	AT&T Mobility
Axial	44.9 k		

Base/Flange Plate	Plate Type	***Baseplate***	
	Pole Diameter	60	in
	Pole Thickness	0.5	in
	Plate Diameter	72	in
	Plate Thickness	1.5	in
	Plate Fy	50	ksi
	Weld Length	0.4375	in
	ϕ_s Resistance	132.54	k-in
	Applied	78.55	k-in
Stiffeners	#	***0***	

Bolts	#	***36***	
	Bolt Circle	66	in
	(R)adial / (S)quare	R	
●	Diameter	1.5	in
	Hole Diameter	1.5625	in
	Type	A449	
	Fy	81	ksi
	Fu	105	ksi
	ϕ_s Resistance	118.04	k
	Applied	44.10	k
Reinforcement ●	#	***0***	
Extra Bolts O	#	***0***	

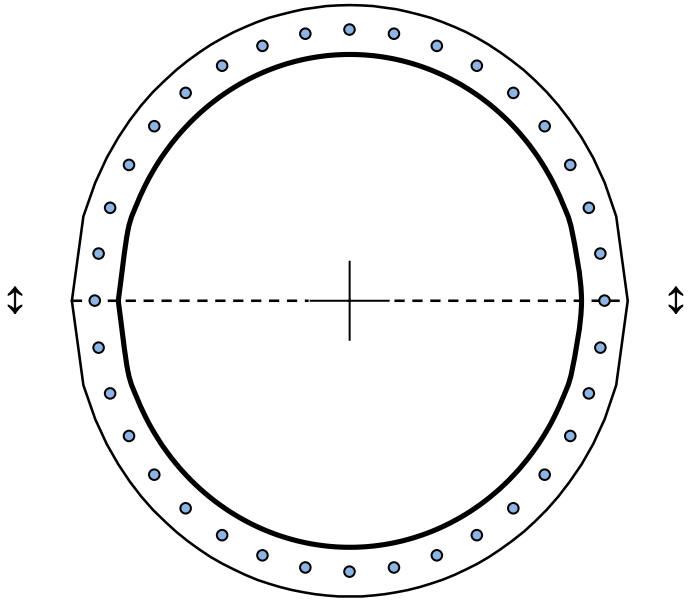


Plate Stress Ratio:
0.59 (Pass)

Bolt Stress Ratio:
0.37 (Pass)

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	89.38	k-in

Stiffeners		
	#	***0***

Bolts			
	#	***32***	
	Bolt Circle	54	in
	(R)adial / (S)quare	R	
●	Diameter	1.5	in
	Hole Diameter	1.5625	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	ϕ_s Resistance	126.47	k
	Applied	46.89	k

Reinforcement ●		
	#	***0***

Extra Bolts O		
	#	***0***

Code Rev. ***G***

Moment 1729.7 k-ft
Axial 36.7 k

Date	9/22/2016
Engineer	ZAM
Site #	282660
Carrier	AT&T Mobility

Required Flange Thickness:
1.22 in OK

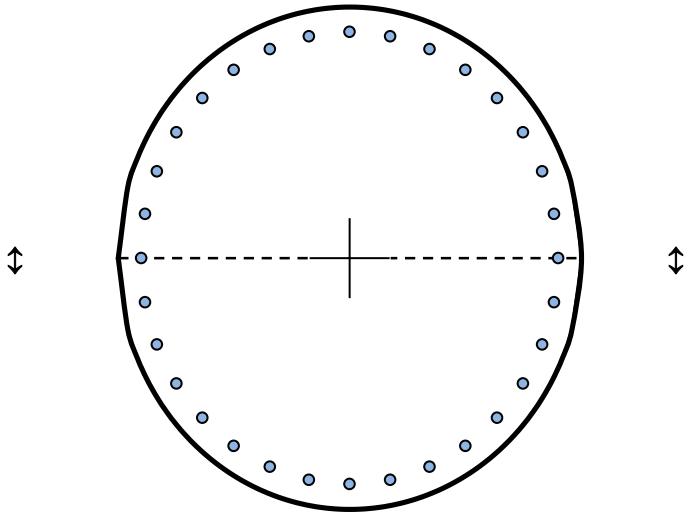


Plate Stress Ratio:
0.67 (Pass)

Bolt Stress Ratio:
0.37 (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	14.61	k-in

Stiffeners		
	#	***0***

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	23.38	k

Reinforcement ●		
	#	***0***

Extra Bolts O		
	#	***0***

Code Rev. ***G***

Moment 1369.0 k-ft

Axial 30.4 k

Date	9/22/2016
Engineer	ZAM
Site #	282660
Carrier	AT&T Mobility

Required Flange Thickness:

0.61 in OK

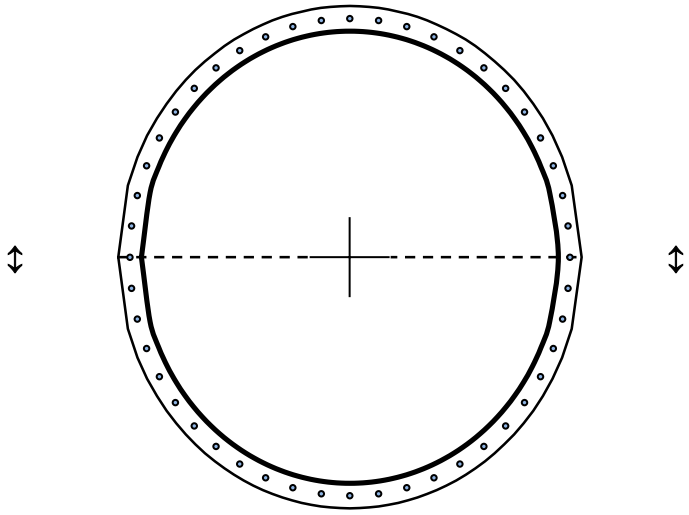


Plate Stress Ratio:

0.16 (Pass)

Bolt Stress Ratio:

0.43 (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	14.92	k-in

Stiffeners		
	#	***0***

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	23.88	k

Reinforcement ●		
	#	***0***

Extra Bolts O		
	#	***0***

Code Rev. ***G***

Moment 1041.2 k-ft
Axial 24.7 k

Date	9/22/2016
Engineer	ZAM
Site #	282660
Carrier	AT&T Mobility

Required Flange Thickness:
0.59 in OK

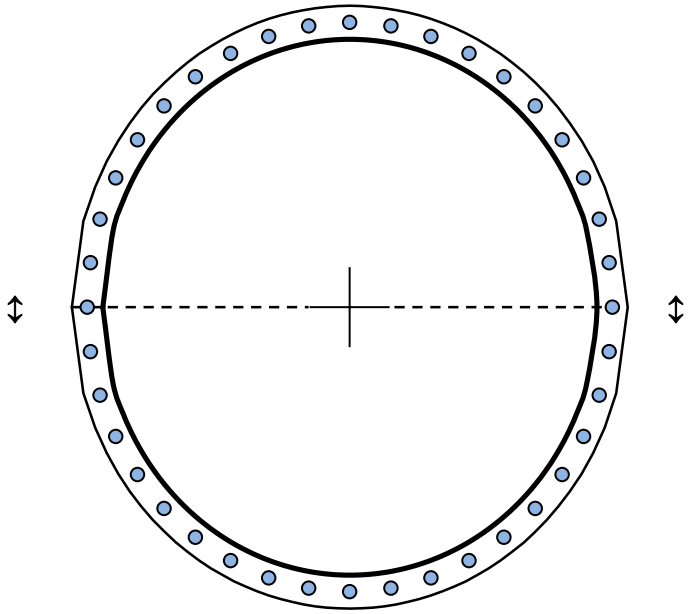


Plate Stress Ratio:
0.16 (Pass)

Bolt Stress Ratio:
0.44 (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	15.19	k-in
Stiffeners	#	***0***	

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	24.30	k
Reinforcement ●	#	***0***	
Extra Bolts O	#	***0***	

Code Rev. ***G***

Moment	747.5 k-ft
Axial	19.5 k

Date	9/22/2016
Engineer	ZAM
Site #	282660
Carrier	AT&T Mobility

Required Flange Thickness:

0.57 in OK

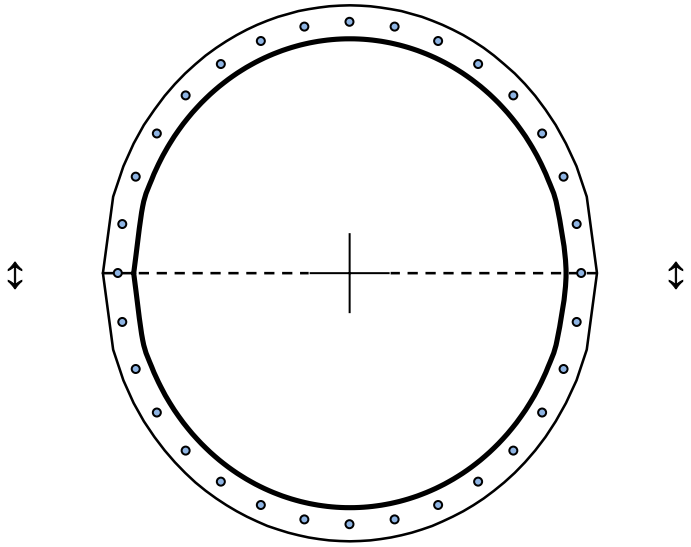


Plate Stress Ratio:

0.15 (Pass)

Bolt Stress Ratio:

0.45 (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	15.21	k-in
Stiffeners	#	***0***	

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	24.34	k
Reinforcement ●	#	***0***	
Extra Bolts O	#	***0***	

Code Rev. ***G***

Date	9/22/2016
Engineer	ZAM
Site #	282660
Carrier	AT&T Mobility

Moment	486.9 k-ft
Axial	15.0 k

Required Flange Thickness:

0.57 in OK

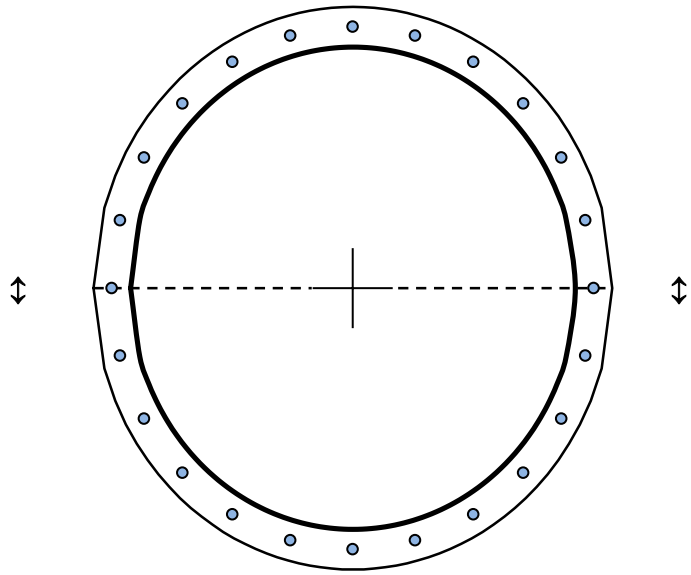


Plate Stress Ratio:

0.15 (Pass)

Bolt Stress Ratio:

0.45 (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	43.15	k-in
Stiffeners	#	***0***	

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	20.31	k
Reinforcement ●	#	***0***	
Extra Bolts O	#	***0***	

Code Rev. ***G***

Date	9/22/2016
Engineer	ZAM
Site #	282660
Carrier	AT&T Mobility

Moment	312.3 k-ft
Axial	12.1 k

Required Flange Thickness:

0.99 in OK

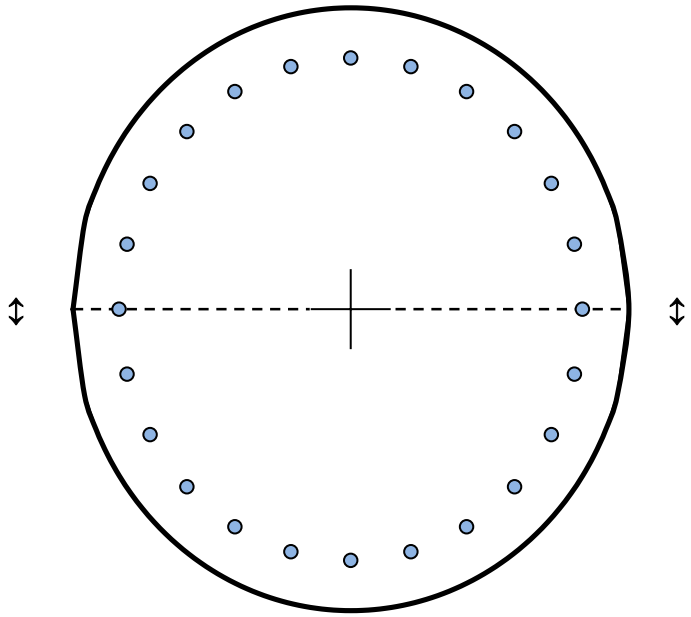


Plate Stress Ratio:

0.43 (Pass)

Bolt Stress Ratio:

0.37 (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	8.32	k-in

Stiffeners		
	#	***0***

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	13.32	k

Reinforcement ●		
	#	***0***

Extra Bolts O		
	#	***0***

Code Rev. ***G***

Moment 155.0 k-ft
Axial 9.1 k

Date	9/22/2016
Engineer	ZAM
Site #	282660
Carrier	AT&T Mobility

Required Flange Thickness:
0.44 in OK

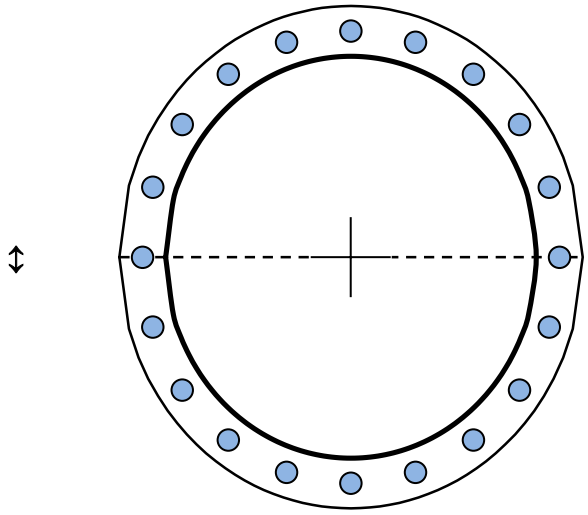


Plate Stress Ratio:
0.09 (Pass)

Bolt Stress Ratio:
0.24 (Pass)

PROJECT:	LTE 4C/5C
SITE NUMBER:	CTL05626
FA NUMBER:	10071211
PTN NUMBER:	2051A066CX
PACE NUMBER:	MRCTB018496 / MRCTB019090
ATC#:	282660
SITE NAME:	PROSPECT NORTH
SITE ADDRESS:	151 WATERBURY ROAD PROSPECT, CT 06712

PROJECT INFORMATION

SITE NAME:	PROSPECT NORTH
SITE NUMBER:	CTL05626
SITE ADDRESS:	151 WATERBURY ROAD PROSPECT, CT 06712
FA NUMBER:	10071211
PTN NUMBER:	2051A066CX
PACE NUMBER:	MRCTB018496 / MRCTB019090
USID NUMBER:	26038
ATC NUMBER:	282660
APPLICANT:	AT&T WIRELESS 550 COCHITUATE ROAD SUITE 550 13 AND 14 FRAMINGHAM, MA 01701
TOWER OWNER:	AMERICAN TOWER CORPORATION 111 SHILOH ST PITTSBURGH, PA 15211
JURISDICTION:	PROSPECT, CT
COUNTY:	NEW HAVEN
SITE COORDINATES FROM	(RFDS)
LATITUDE:	41.522792°
LONGITUDE:	−72.997799°
GROUND ELEV.:	879'
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
AT&T RF MANAGER:	CAMERON SYME
PHONE:	(508) 596−7146
EMAIL:	cs6970@att.com

PROJECT CONSULTANTS

PROJECT MANAGER:	SMARTLINK
ADDRESS:	85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT:	RYAN BURGDORFER (508) 665−8005
EMAIL:	Ryan.Burgdorfer@Smartlinkllc.com
SITE AQUISITION:	SMARTLINK
ADDRESS:	85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT:	SHARON KEEFE (978) 930−3918
EMAIL:	Sharon.Keefe@Smartlinkllc.com
ENGINEER/ARCHITECT:	FULLERTON ENGINEERING
ADDRESS:	1100 E. WOODFIELD ROAD, SUITE 500 SCHAUMBURG, IL 60173
CONTACT:	MILEN DIMITROV (847) 908−8439
EMAIL:	MDimitrov@fullertonengineering.com
CONSTRUCTION:	SMARTLINK
ADDRESS:	85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT:	MARK DONNELLY (617) 515−2080
EMAIL:	mark.donnelly@smartlinkllc.com

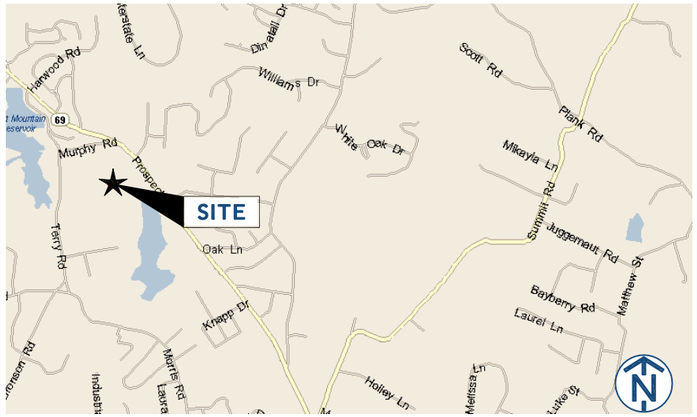
SCOPE OF WORK

LTE 850/700 WILL BE 4C/5C AT THE SITE WITH BRONZE CONFIGURATION.
PROPOSED 4C/5C PROJECT SCOPE HEREIN BASED ON RFDS ID # 1137174, VERSION 2.00 LAST UPDATED 05/18/16 & RFDS ID # 1242569, VERSION 1.00 LAST UPDATED 06/09/16.

- (3) NEW ANTENNAS TO REPLACE (3) EXISTING ANTENNAS
- (3) NEW RRUS−11 UNITS
- (3) NEW RRUS−E2 UNITS
- (6) NEW 25A BREAKERS
- (1) NEW XMU
- (1) NEW IDL2
- INSTALL NEW HANDRAIL KIT

- CONTRACTOR SHALL FURNISH ALL MATERIAL WITH THE EXCEPTION OF AT&T SUPPLIED MATERIAL.
- ALL MATERIAL SHALL BE INSTALLED BY THE CONTRACTOR, UNLESS STATED OTHERWISE.

SITE LOCATION MAP



NO SCALE

DIRECTIONS

SCAN QR CODE FOR LINK
TO SITE LOCATION MAP

APPLICABLE BUILDING CODES AND STANDARDS

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.

BUILDING CODE:	2012 INTERNATIONAL BUILDING CODE 2016 CONNECTICUT STATE BUILDING CODE SUPPLEMENT
ELECTRICAL CODE:	2014 NATIONAL ELECTRIC CODE

- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- ADA ACCESS REQUIREMENTS ARE NOT REQUIRED.
- THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE

DRAWING INDEX

NOTE: DRAWING SCALES ARE FOR 11"x17" SHEETS UNLESS OTHERWISE NOTED

550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

smartlink
1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076

FULLERTON ENGINEERING·DESIGN
1100 E. WOODFIELD ROAD, SUITE 500
SCHAUMBURG, ILLINOIS 60173
TEL: 847-908-8400
COA# PEC.0001444
www.FullertonEngineering.com

REV	DATE	DESCRIPTION	BY
0	11/22/16	90% REVIEW	KC
1	12/20/16	FOR PERMIT	KC

I HEREBY CERTIFY THAT THESE DRAWING WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.

SITE NAME
PROSPECT NORTH

SITE NUMBER:
CTL05626

SITE ADDRESS
151 WATERBURY ROAD
PROSPECT, CT 06712

SHEET NAME
TITLE SHEET

SHEET NUMBER
T1

GENERAL CONSTRUCTION

1. FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR/CM – SMARTLINK
   OWNER – AT&T WIRELESS

2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND AT&T PROJECT SPECIFICATIONS.

3. GENERAL CONTRACTOR SHALL VISIT THE SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

4. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.

5. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.

6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

7. PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.

8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

9. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE ENGINEER PRIOR TO PROCEEDING.

10. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF WORK AREA, ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFIRM TO ALL OSHA REQUIREMENTS AND THE LOCAL JURISDICTION.

11. GENERAL CONTRACTOR SHALL COORDINATE WORK AND SCHEDULE WORK ACTIVITIES WITH OTHER DISCIPLINES.

12. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.

13. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED MATERIALS APPROVED BY LOCAL JURISDICTION. CONTRACTOR SHALL KEEP AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DEBRIS.

14. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.

15. CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO COMMENCEMENT OF WORK.

16. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.

17. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

18. GENERAL CONTRACTOR SHALL COORDINATE AND MAINTAIN ACCESS FOR ALL TRADES AND CONTRACTORS TO THE SITE AND/OR BUILDING.

19. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR SECURITY OF THE SITE FOR THE DURATION OF CONSTRUCTION UNTIL JOB COMPLETION.

20. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.

21. THE GENERAL CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2–A OT 2–A:10–B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.

22. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.

23. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.

24. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.

25. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.

26. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUNDING. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

27. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE–APPROVED BY THE LOCAL JURISDICTION.

28. ALL NECESSARY RUBBISH, STUMPS, DEBRIS, STICKS, STONES, AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LAWFUL MANNER.

29. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.

30. CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS–BUILT REDLINES TO THE GENERAL CONTRACTOR UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.

31. CONTRACTOR SHALL LEAVE PREMISES IN A CLEAN CONDITION.

32. THE PROPOSED FACILITY WILL BE UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SEWER SERVICE, AND IS NOT FOR HUMAN HABITAT (NO HANDICAP ACCESS REQUIRED).

33. OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION, APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS.

34. NO OUTDOOR STORAGE OR SOLID WASTE CONTAINERS ARE PROPOSED.

35. ALL MATERIAL SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST REVISION AT&T MOBILITY GROUNDING STANDARD "TECHNICAL SPECIFICATION FOR CONSTRUCTION OF GSM/GPRS WIRELESS SITES" AND "TECHNICAL SPECIFICATION FOR FACILITY GROUNDING". IN CASE OF A CONFLICT BETWEEN THE CONSTRUCTION SPECIFICATION AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.

36. CONTRACTORS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION. IF CONTRACTOR CANNOT OBTAIN A PERMIT, THEY MUST NOTIFY THE GENERAL CONTRACTOR IMMEDIATELY.

37. CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.

38. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

39. NO WHITE STROBE LIGHTS ARE PERMITTED. LIGHTING IF REQUIRED, WILL MEET FAA STANDARDS AND REQUIREMENTS.

ANTENNA MOUNTING

40. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA–222 OR APPLICABLE LOCAL CODES.

41. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT–DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.

42. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC–COATING (HOT–DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.

43. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.

44. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.

45. CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.

46. ALL UNUSED PORTS ON ANY ANTENNAS SHALL BE TERMINATED WITH A 50–OHM LOAD TO ENSURE ANTENNAS PERFORM AS DESIGNED.

47. PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/– 5% AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/– 0.5% AS DEFINED BY THE RFDS. REFER TO ND–00246.

48. JUMPERS FROM THE TMA'S MUST TERMINATE TO OPPOSITE POLARIZATION'S IN EACH SECTOR.

49. CONTRACTOR SHALL RECORD THE SERIAL #, SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO AT&T.

50. TMA'S SHALL BE MOUNTED ON PIPE DIRECTLY BEHIND ANTENNAS AS CLOSE TO ANTENNA AS FEASIBLE IN A VERTICAL POSITION.

TORQUE REQUIREMENTS

51. ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.

52. ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.
   A. RF CONNECTION BOTH SIDES OF THE CONNECTOR.
   B. GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.

FIBER & POWER CABLE MOUNTING

53. THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (60) SIXTY FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.

54. THE TYPE TC–ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET. AN EXCEPTION; WHERE TYPE TC–ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES, A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.

55. WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC–ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

COAXIAL CABLE NOTES

62. TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO

    ORDERING CABLE, CONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.

63. CONTRACTOR SHALL VERIFY THE DOWN–TILT OF EACH ANTENNA WITH A DIGITAL LEVEL.

64. CONTRACTOR SHALL CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION.

65. ALL JUMPERS TO THE ANTENNAS FROM THE MAIN TRANSMISSION LINE SHALL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 6'–0".

66. ALL COAXIAL CABLE SHALL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 4'–0" OC.

67. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.

68. CONTRACTOR SHALL GROUND ALL EQUIPMENT. INCLUDING ANTENNAS, RET MOTORS, TMA'S, COAX CABLES, AND RET CONTROL CABLES AS A COMPLETE SYSTEM. GROUNDING SHALL BE EXECUTED BY QUALIFIED WIREMEN IN COMPLIANCE WITH MANUFACTURER'S SPECIFICATION AND RECOMMENDATION.

69. CONTRACTOR SHALL PROVIDE STRAIN–RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES, COAX CABLES, AND RET CONTROL CABLES. CABLE STRAIN–RELIEFS AND CABLE SUPPORTS SHALL BE APPROVED FOR THE PURPOSE. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.

70. CONTRACTOR TO VERIFY THAT EXISTING COAX HANGERS ARE STACKABLE SNAP IN HANGERS. IF EXISTING HANGERS ARE NOT STACKABLE SNAP IN HANGERS THE CONTRACTOR SHALL REPLACE EXISTING HANGERS WITH NEW SNAP IN HANGERS IF APPLICABLE.

GENERAL CABLE AND EQUIPMENT NOTES

71. CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY ANTENNA, TMAS, DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.

72. ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS.

73. CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.

74. ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE–HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED.

75. IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:
   A. TEMPERATURE SHALL BE ABOVE 50° F.
   B. PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.
   C. FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
   D. DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS

76. ALL CABLES SHALL BE GROUNDED WITH COAXIAL CABLE GROUND KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.
   A. GROUNDING AT THE ANTENNA LEVEL.
   B. GROUNDING AT MID LEVEL, TOWERS WHICH ARE OVER 200'–0", ADDITIONAL CABLE GROUNDING REQUIRED.
   C. GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
   D. GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT.
   E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.

77. ALL PROPOSED GROUND BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUND BAR DOWNLEADS A MINIMUM DISTANCE OF 4'–0" BELOW GROUND BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.

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0	11/22/16	90% REVIEW	KC
1	12/20/16	FOR PERMIT	KC

I HEREBY CERTIFY THAT THESE DRAWING WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.

STATE OF CONNECTICUT · HENRY M. BELLAGAMBA · 25358 · LICENSED PROFESSIONAL ENGINEER

SITE NAME
PROSPECT NORTH

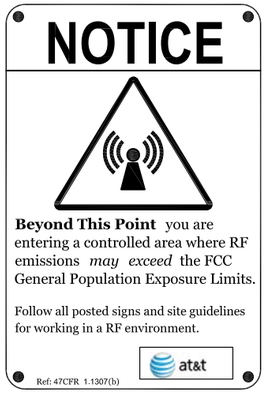
SITE NUMBER:
CTL05626

SITE ADDRESS
151 WATERBURY ROAD
PROSPECT, CT 06712

SHEET NAME
NOTES AND SPECIFICATIONS

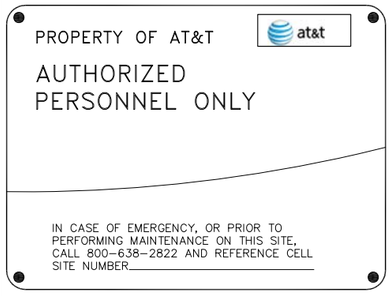
SHEET NUMBER
SP1

FEC# 2016.0200.0036



ALERTING SIGNS

ALERTING SIGN



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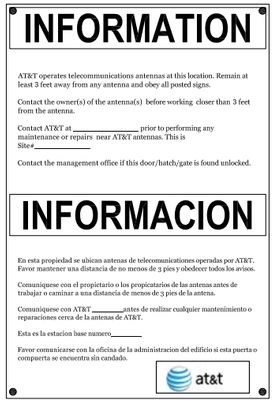

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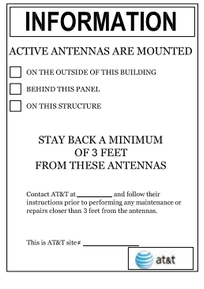

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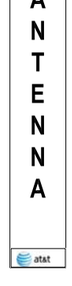

INFO SIGN #3

ALERTING SIGN
(FOR CELL SITE BATTERIES)

ALERTING SIGN
(FOR DIESEL FUEL)

ALERTING SIGN
(FOR PROPANE)

GENERAL SIGNAGE GUIDELINES

STRUCTURE TYPE	INFO SIGN #1	INFO SIGN #2	INFO SIGN #3	INFO SIGN #4	STRIPING	NOTICE SIGN	CAUTION SIGN
TOWERS							
MONOPOLE/MONOPINE/MONOPALM	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS			AT THE HEIGHT OF THE FIRST CLIMBING STEP, MIN 9 FT ABOVE GROUND
SEC TOWERS/TOWERS WITH HIGH VOLTAGE	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	CLIMBING SIDE OF THE TOWER	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS			
LIGHT POLES/FLAG POLES	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS			
UTILITY WOOD POLES (JPA)	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS		IF GP MAX VALUE OF MPE AT ANTENNA LEVEL IS: 0-99%; NOTICE SIGN; OVER 99%: CAUTION SIGN AT NO LESS THAN 3FT BELOW ANTENNA AND 9FT ABOVE GROUND	
MICROCELLS MOUNTED ON NON-JPA POLES	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS	ON THE POLE, NO LESS THAN 3FT BELOW THE ANTENNA AND LESS THAN 9FT ABOVE GROUND	ON BACKSIDE OF ANTENNAS	ENTRANCE GATES, SHELTER DOORS OR ON THE OUTDOOR CABINETS		NOTICE OR CAUTION SIGN AT NO LESS THAN 9FT ABOVE GROUND: ONLY IF THE EXPOSURE EXCEEDS 90% OF THE GENERAL PUBLIC EXPOSURE AT EXPOSURE AT 6FT ABOVE GROUND OR AT OUTSIDE OF SURFACE OF ADJACENT BUILDING	
TOWERS							
AT ALL ACCESS POINTS TO THE ROOF	X			X			
ON ANTENNAS	X		X	X			
CONCEALED ANTENNAS	X	X		X			
ANTENNAS MOUNTED FACING OUTSIDE THE BUILDING	X	X		X			
ANTENNAS ON SUPPORT STRUCTURE	X	X		X			
ROOFVIEW GRAPH							
RADIATION AREA IS WITHIN 3FT FROM ANTENNA	X	ADJACENT TO EACH ANTENNA		X		EITHER NOTICE OR CAUTION SIGN (BASED ON ROOFVIEW RESULTS) AT ANTENNA /BARRIER	
RADIATION AREA IS BEYOND 3FT FROM ANTENNA	X	ADJACENT TO EACH ANTENNA		X	DIAGONAL, YELLOW STRIPING AS TO ROOFVIEW GRAPH		
CHURCH STEEPLES	ACCESS TO STEEPLE	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ACCESS TO STEEPLE			CAUTION SIGN AT THE ANTENNAS
WATER STATIONS	ACCESS TO LADDER	ADJACENT TO ANTENNAS IF ANTENNAS ARE CONCEALED	ON BACKSIDE OF ANTENNAS	ACCESS TO LADDER			CAUTION SIGN BESIDE INFO SIGN #1, MIN. 9FT ABOVE GROUND

NOTES FOR ROOFTOP SITES:

1. EITHER NOTICE OR CAUTION SIGNS NEED TO BE POSTED AT EACH SECTOR AS CLOSE AS POSSIBLE TO: THE OUTER EDGE OF THE STRIPED OFF AREA OR THE OUTER ANTENNAS OF THE SECTOR
2. IF ROOFVIEWS SHOWS: ONLY BLUE = NOTICE SIGN, BLUE AND YELLOW = CAUTION SIGN, ONLY YELLOW = CAUTION SIGN TO BE INSTALLED
3. SHOULD THE REQUIRED STRIPING AREAS INTERFERE WITH ANY STRUCTURE OR EQUIPMENT (A/C, VENTS, ROOF HATCH, DOORS, OTHER ANTENNAS, DISHES, ETC.). PLEASE NOTIFY AT&T TO MODIFY THE STRIPING AREA, PRIOR TO STARTING THE WORK.

SIGNAGE GUIDELINES CHART

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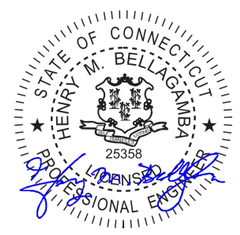

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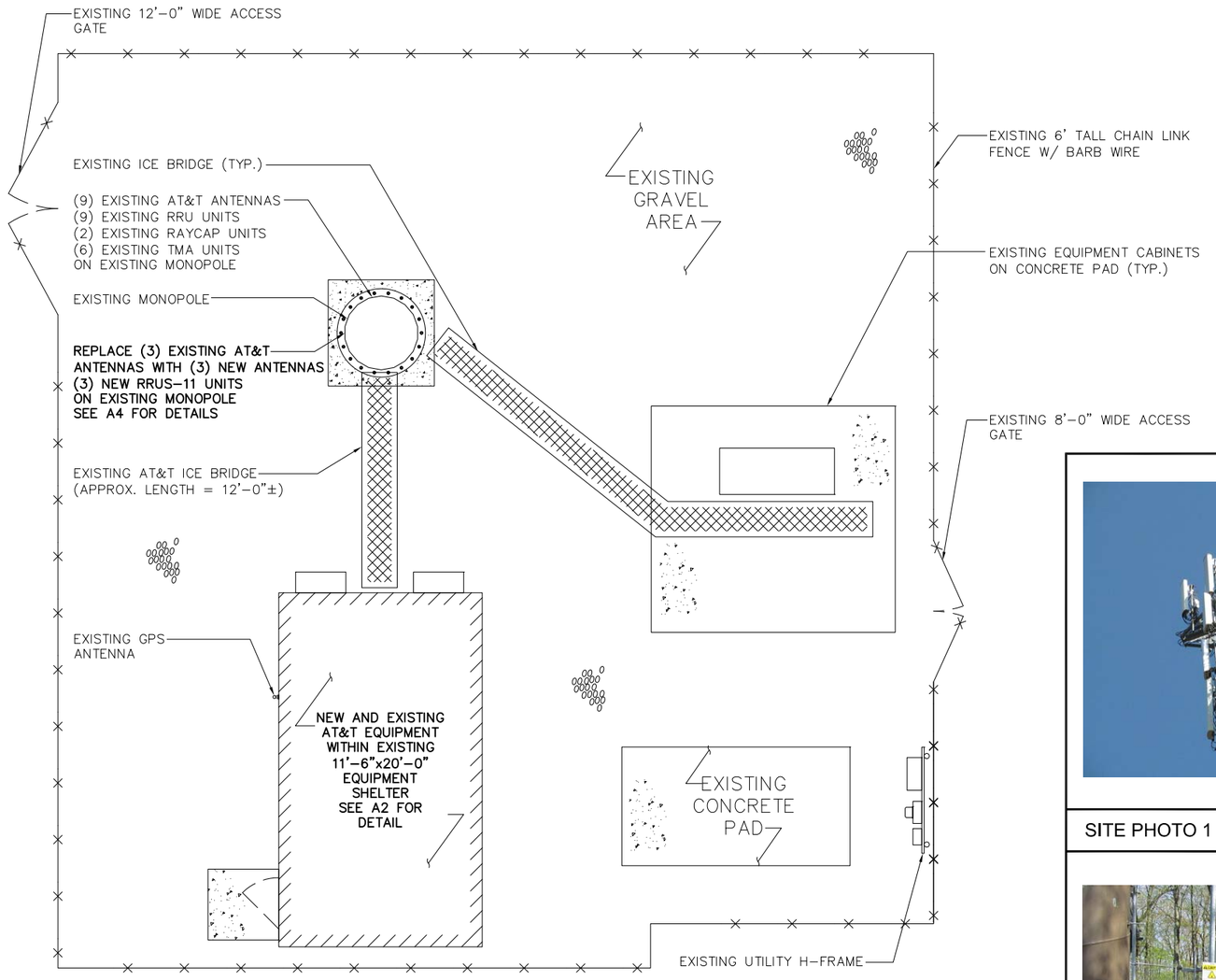
ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AGL	ABOVE GRADE LEVEL
AMSL	ABOVE MEAN SEA LEVEL
APPROX	APPROXIMATE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BLDG	BUILDING
BTS	BASE TRANSMISSION STATION
℄	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CND	CONDUIT
DWG	DRAWING
FT	FOOT(FEET)
EGB	EQUIPMENT GROUND BAR
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ELEV	ELEVATION
EQUIP	EQUIPMENT
(E)	EXISTING
EXT	EXTERIOR
FND	FOUNDATION
F	FIBER
FIF	FACILITY INTERFACE FRAME
GA	GAUGE
GALV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE COMMUNICATION
LTE	LONG TERM EVOLUTION
MAX	MAXIMUM
MCPA	MULTI-CARRIER POWER AMPLIFIER
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MTS	MANUAL TRANSFER SWITCH
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
OE/OT	OVERHEAD ELECTRIC/TELCO
PPC	POWER PROTECTION CABINET
PL	PROPERY LINE
RBS	RADIO BASED STATION
RET	REMOTE ELECTRIC TILT
RRU	REMOTE RADIO UNIT
RGS	RIGID GALVANIZED STEEL
IN	INCH(ES)
INT	INTERIOR
LB(S), #	POUND(S)
SF	SQUARE FOOT
STL	STEEL
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UE/UT	UNDERGROUND ELECTRIC/TELCO
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELE-COMMUNICATION SYSTEM
VIF	VERIFY IN FIELD
W/	WITH
XFMR	TRANSFORMER

SYMBOLS

- REVISION
- WORK POINT
- UTILITY POLE
- COMPRESSED STONE
- BRICK
- CONCRETE
- EARTH
- GRAVEL
- MASONRY
- STEEL
- CENTERLINE
- PROPERTY LINE
- LEASE LINE
- EASEMENT LINE
- CHAIN LINK FENCE
- WOOD FENCE
- UE — BELOW GRADE ELECTRIC
- UT — BELOW GRADE TELEPHONE
- OE/OT — OVERHEAD ELECTRIC/TELEPHONE
- SECTION REFERENCE (A / S-1)



COMPOUND PLAN — SCALE: 1/8" = 1'-0" — 1

SITE PHOTO 1 — SCALE: N.T.S. — 2

SITE PHOTO 2 — SCALE: N.T.S. — 3

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0	11/22/16	90% REVIEW	KC
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STATE OF CONNECTICUT · HENRY M. BELLAGAMBA · 25358 · LICENSED PROFESSIONAL ENGINEER

SITE NAME
PROSPECT NORTH

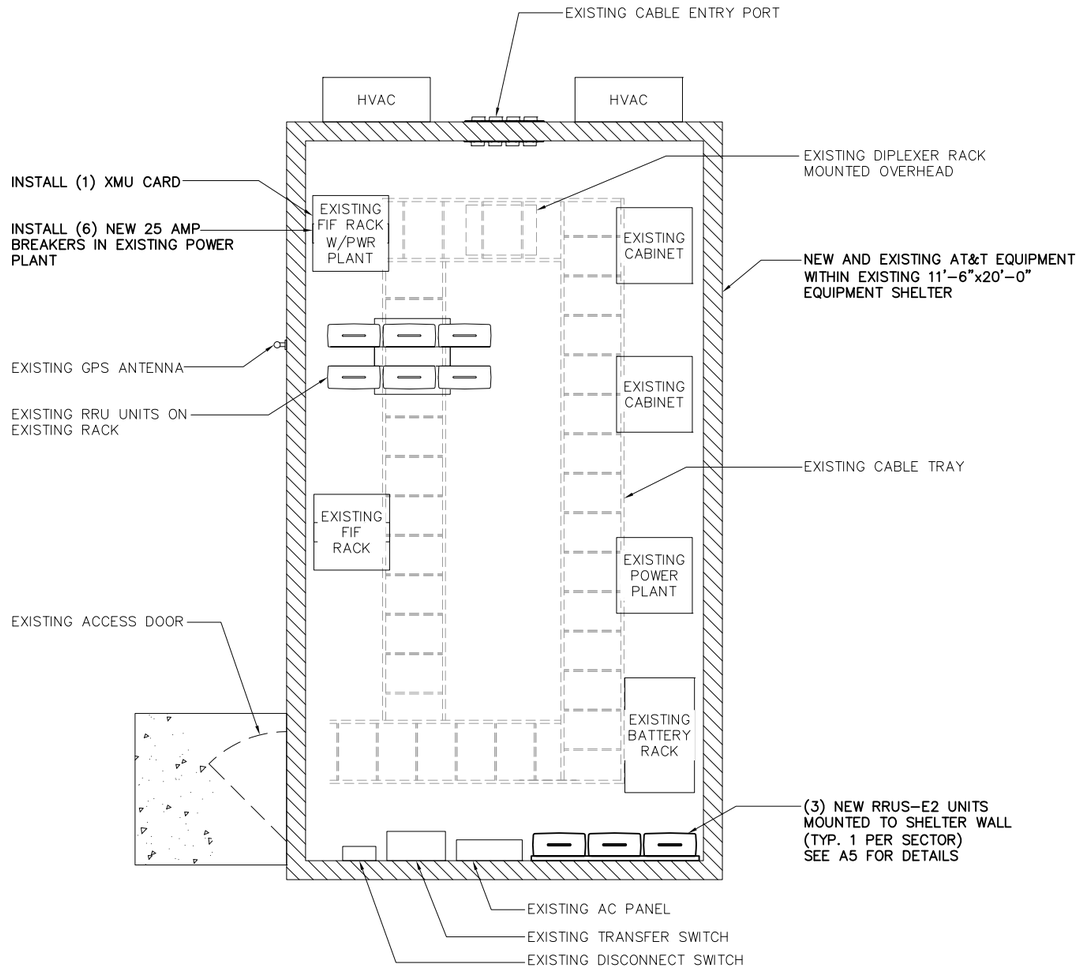
SITE NUMBER:
CTL05626

SITE ADDRESS
151 WATERBURY ROAD
PROSPECT, CT 06712

SHEET NAME
COMPOUND PLAN

SHEET NUMBER
A1

FEC# 2016.0200.0036



EQUIPMENT PLAN

SCALE: 1/4" = 1'-0" | 1

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550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

smartlink

1362 MELLON ROAD
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151 WATERBURY ROAD
PROSPECT, CT 06712

SHEET NAME

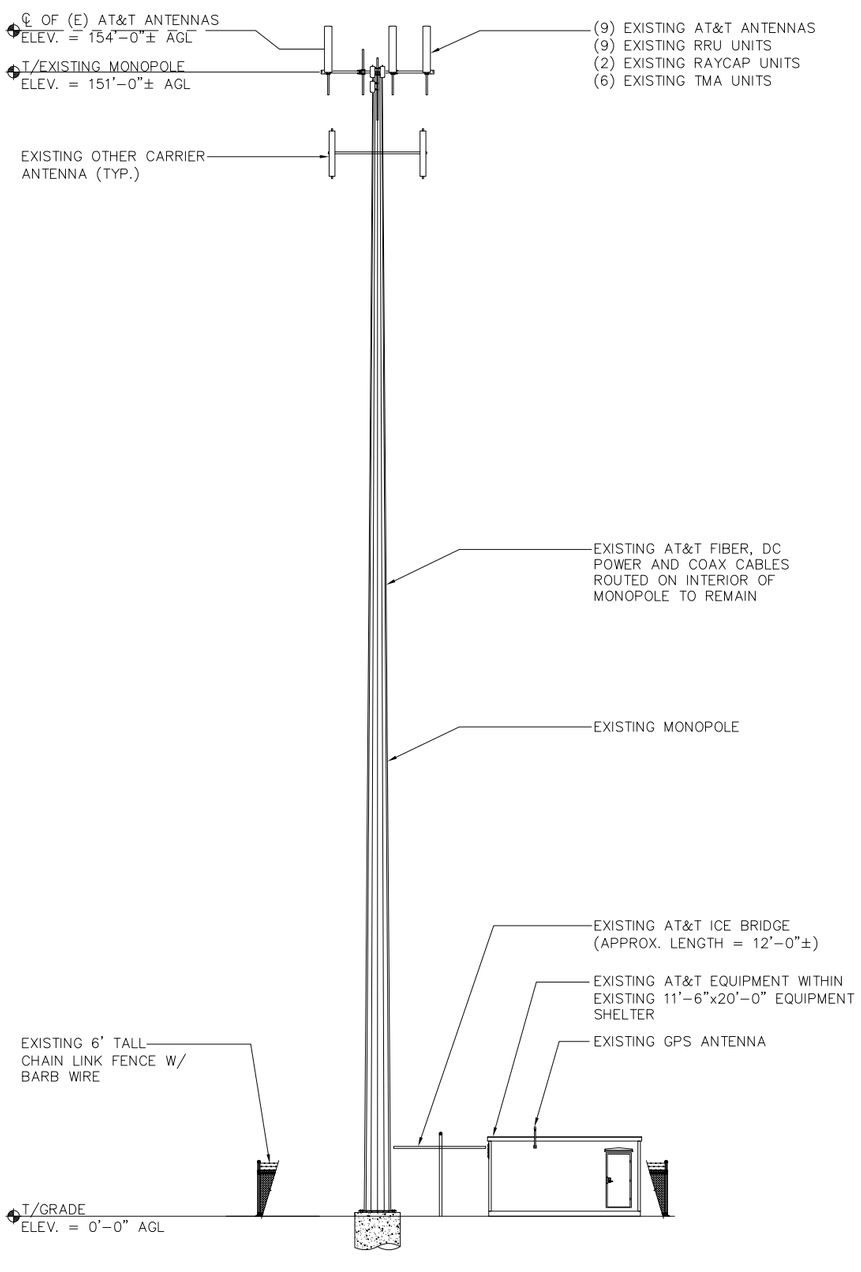
EQUIPMENT PLAN

SHEET NUMBER

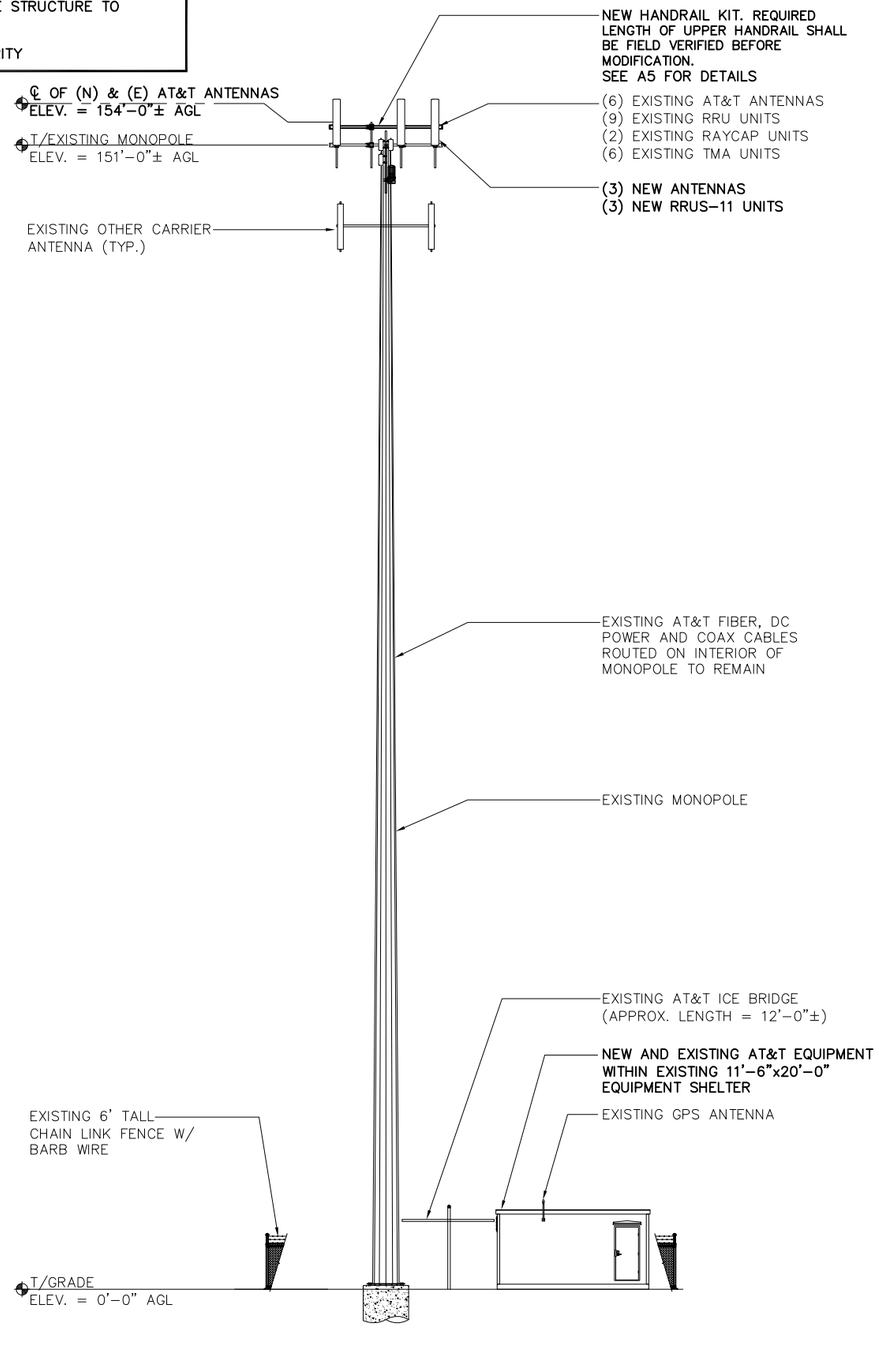
A2

NOTES:

1. CALCULATIONS FOR THE STRUCTURE WERE PREPARED BY OTHERS AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT
2. CALCULATIONS FOR THE ANTENNA MOUNTS WERE PREPARED BY FULLERTON AND THOSE CALCULATIONS CERTIFY THE CAPACITY OF THE STRUCTURE TO SUPPORT THE NEW EQUIPMENT
3. CABLES NOT SHOWN FOR CLARITY



EXISTING ELEVATION — SCALE: 1" = 20'-0" — 1



NEW ELEVATION — SCALE: 1" = 20'-0" — 2

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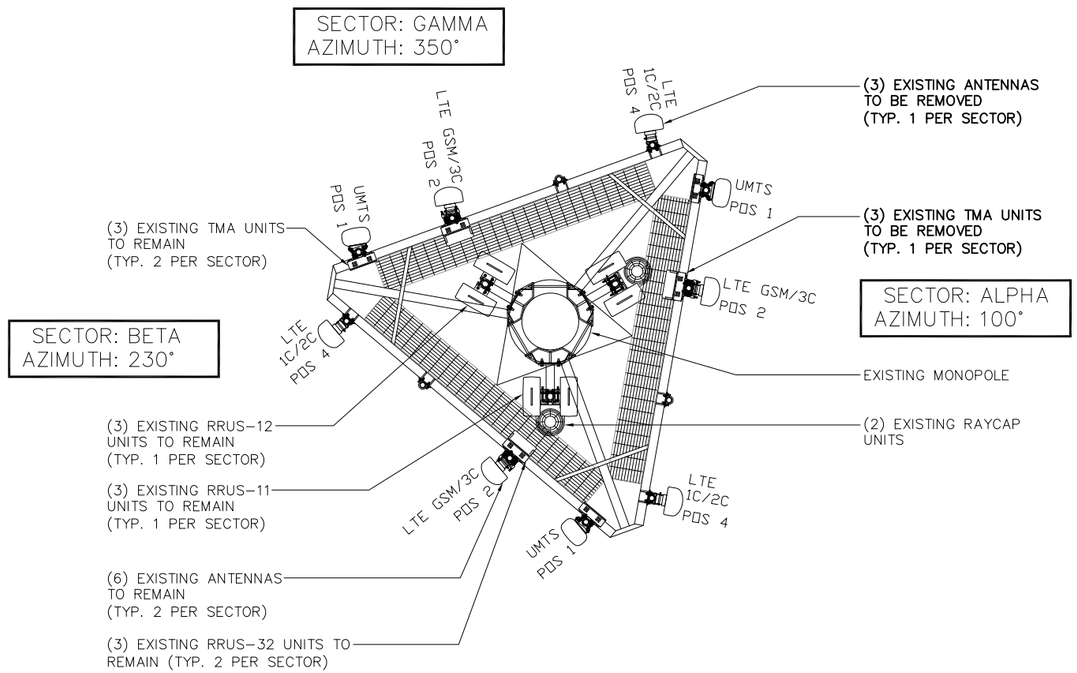
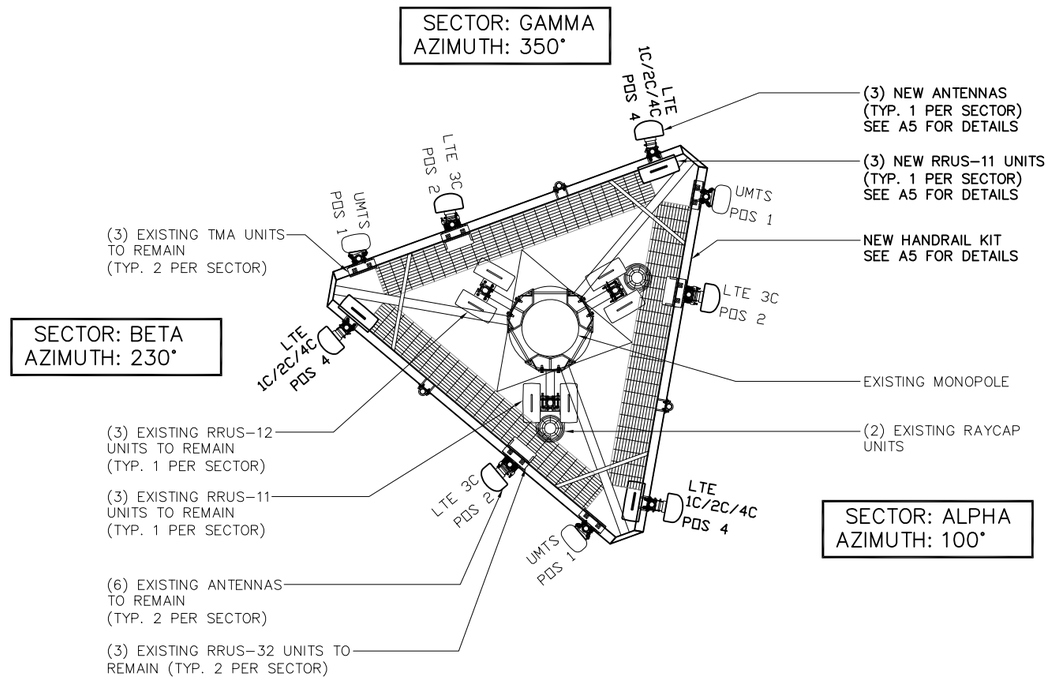
SHEET NAME
ELEVATIONS

SHEET NUMBER
A3



EXISTING ANTENNA PLAN — SCALE: 3/16" = 1'-0" | 1



FINAL ANTENNA PLAN — SCALE: 3/16" = 1'-0" | 2

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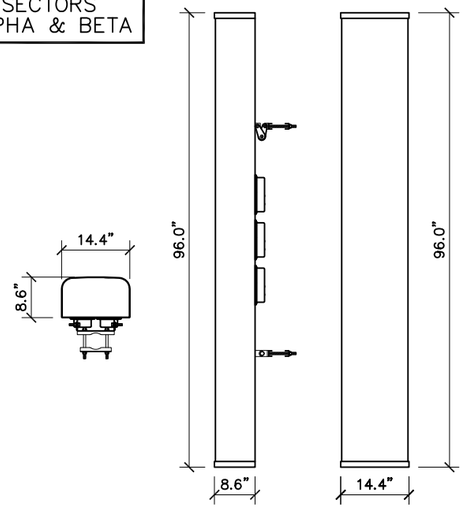
SHEET NAME
ANTENNA PLANS

SHEET NUMBER
A4

FEC# 2016.0200.0036

SECTORS ALPHA & BETA



PLAN VIEW SIDE VIEW FRONT VIEW

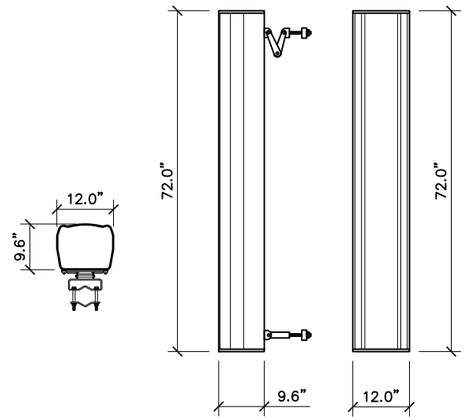
CCI ANTENNA TPA-65R-LCUUUU-H8

12 PORT MULTI-BAND ANTENNA

FREQUENCY RANGE	2 LOW BAND PORTS, 698-798 MHz
	2 LOW BAND PORTS, 824-896 MHz
	8 HIGH BAND PORTS, 1695-2360 MHz
ANTENNA W/ RET SYSTEM	81.6 Lbs
BRACKET	12.6 Lbs
TOTAL	94.2 Lbs

ANTENNA SPEC SCALE: N.T.S. 1

SECTOR GAMMA



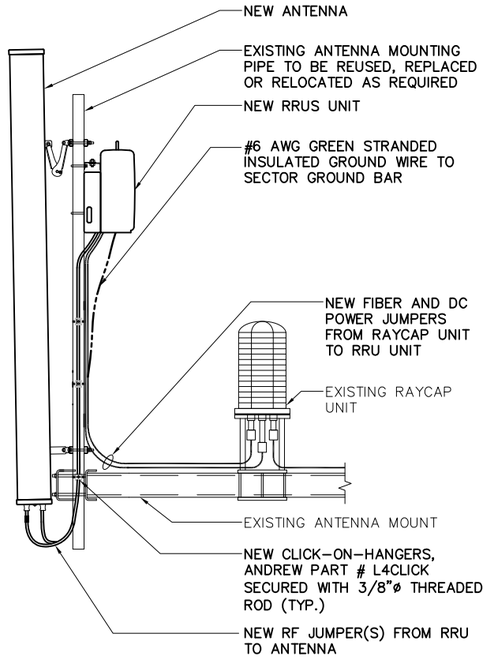
PLAN VIEW SIDE VIEW FRONT VIEW

QUINTEL - QS66512-2

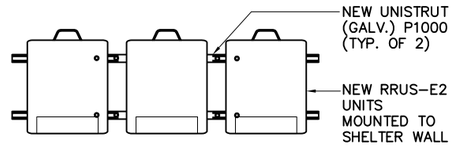
MULTISERVE MULITBAND 12 PORT ANTENNA
WITH QTILT AND INTERNAL RET

FREQUENCY RANGE	2x698-806 MHz
	2x824-894 MHz
	4x1850-1990 MHz
	4x1695-1780 +2110-2400 MHz
ANTENNA	111 Lbs
BRACKET	15 Lbs
TOTAL WEIGHT	126 Lbs

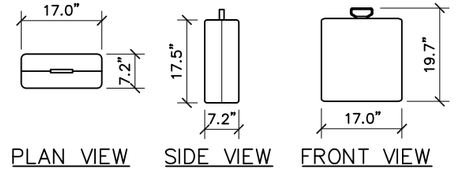
ANTENNA SPEC SCALE: N.T.S. 2



ANTENNA SCHEMATIC SCALE: N.T.S. 3



RRU SCHEMATIC SCALE: N.T.S. 4



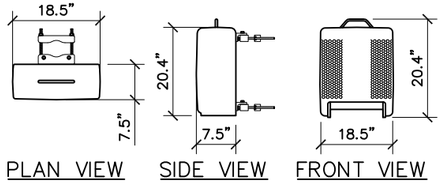
PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON - RRUS 11

WITH SOLAR SHIELD

UNIT WEIGHT 50 Lbs

RRU SPEC SCALE: N.T.S. 5



PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON - RRUS E2

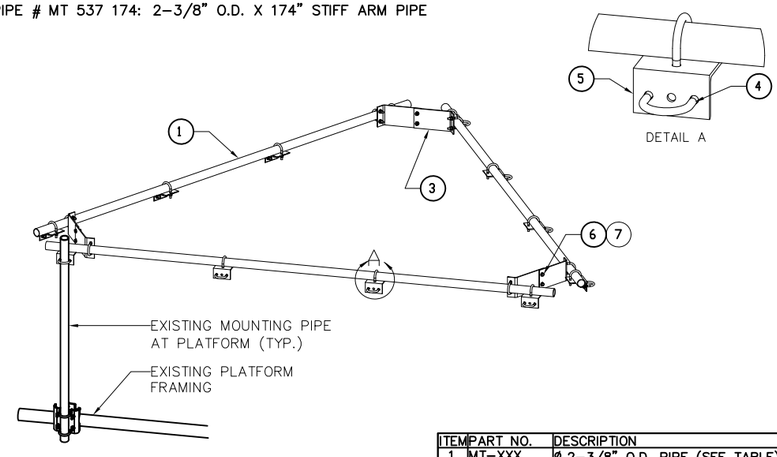
WITH SOLAR SHIELD

UNIT WEIGHT 52.9 Lbs

RRU SPEC SCALE: N.T.S. 6

PRODUCT INFORMATION:

MFR: COMMSCOPE
P/N: MT-195 SERIES OR APPROVED EQUIVALENT
PRODUCT:
1. MT195 12
   - PIPE # MT 651 150: 2-3/8" O.D. X 150" STIFF ARM PIPE
2. MT195 14
   - PIPE # MT 537 174: 2-3/8" O.D. X 174" STIFF ARM PIPE



ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	MT-XXX	ø 2-3/8" O.D. PIPE (SEE TABLE)	3	-
2	MT195HK	HARDWARE KIT (ITEMS 3-7)	1	-
3	MT195.03	END PLATE	6	5.63 LBS
4	GUB-4240	1/2" X 2-1/2" X 4" GALV U-BOLT KIT	30	0.56 LBS
5	XA2020.01	CROSS OVER ANGLE	12	2.66 LBS
6	GB-04145	1/2" X 1-1/2" GALV BOLT KIT	6	0.13 LBS
7	GWF-04	1/2" GALV FLAT WASHER	12	0.02 LBS

HANDRAIL KIT SCALE: N.T.S. 7

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SITE NAME

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SITE ADDRESS

151 WATERBURY ROAD
PROSPECT, CT 06712

SHEET NAME

EQUIPMENT DETAILS

SHEET NUMBER

A5

FEC# 2016.0200.0036

FINAL ANTENNA CONFIGURATION AND CABLE SCHEDULE
SUPPLIED BY AT&T WIRELESS, FROM RF CONFIGS. DATED (05/18/16 & 06/06/16)

SECTOR	ANTENNA NUMBER	ANTENNA STATUS & TYPE	ANTENNA MODEL NUMBER	ANTENNA VENDOR	TMA/RRU UNIT	AZIMUTH	ANTENNA CL FROM GROUND	CABLE FEEDER TYPE	CABLE FEEDER LENGTH	RAYCAP UNIT
ALPHA	A-1	(E) UMTS ANTENNA	7770	POWERWAVE	(1) EXISTING TMA UNIT(S)	100°	154'-0"	1-5/8"ø LDF7-50A	165'-0"	(2) (E) DC6-48-60-18-8F UNIT
								1-5/8"ø LDF7-50A	165'-0"	
	A-2	(E) LTE 3C ANTENNA	HPA-65R-BUU-H8	CCI	(1) EXISTING TMA UNIT (1) EXISTING RRUS-32 UNIT **(1) NEW RRUS-E2 UNIT**	100°	154'-0"	(1) EXISTING FIBER CABLE	165'-0"	
								(2) EXISTING DC POWER CABLES	165'-0"	
	A-3	-	-	-	-	-	-	-		
	A-4	**(N) LTE 1C/2C/4C ANTENNA**	**TPA-65R-LCUUUU-H8**	**CCI**	(1) EXISTING RRUS-11 UNIT (1) EXISTING RRUS-12 UNIT **(1) NEW RRUS-11 UNIT**	100°	154'-0"	(1) EXISTING FIBER CABLE	165'-0"	
								(2) EXISTING DC POWER CABLES	165'-0"	
BETA	B-1	(E) UMTS ANTENNA	7770	POWERWAVE	(1) EXISTING TMA UNIT(S)	B°	154'-0"	1-5/8"ø LDF7-50A	165'-0"	
								1-5/8"ø LDF7-50A	165'-0"	
	B-2		HPA-65R-BUU-H8	CCI	(1) EXISTING TMA UNIT (1) EXISTING RRUS-32 UNIT **(1) NEW RRUS-E2 UNIT**	B°	154'-0"	SEE ANTENNA A-2 FOR CABLE TYPE AND LENGTH		
	B-3	-	-	-	-	-	-	-		
	B-4	**(N) LTE 1C/2C/4C ANTENNA**	**TPA-65R-LCUUUU-H8**	**CCI**	(1) EXISTING RRUS-11 UNIT (1) EXISTING RRUS-12 UNIT **(1) NEW RRUS-11 UNIT**	B°	154'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		
GAMMA	C-1	(E) UMTS ANTENNA	7770	POWERWAVE	(1) EXISTING TMA UNIT(S)	C°	154'-0"	1-5/8"ø LDF7-50A	165'-0"	
								1-5/8"ø LDF7-50A	165'-0"	
	C-2		HPA-65R-BUU-H8	CCI	(1) EXISTING TMA UNIT (1) EXISTING RRUS-32 UNIT **(1) NEW RRUS-E2 UNIT**	C°	154'-0"	SEE ANTENNA A-2 FOR CABLE TYPE AND LENGTH		
	C-3	-	-	-	-	-	-	-		
	C-4	**(N) LTE 1C/2C/4C ANTENNA**	**QS66512-2**	**QUINTEL**	(1) EXISTING RRUS-11 UNIT (1) EXISTING RRUS-12 UNIT **(1) NEW RRUS-11 UNIT**	C°	154'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		

ANTENNA & CABLE CONFIGURATION

SCALE: N.T.S. | 1

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PROSPECT, CT 06712

SHEET NAME
ANTENNA & CABLE CONFIGURATION

SHEET NUMBER
A6

1. CONTRACTOR IS TO REFER TO AT&T'S MOST CURRENT RADIO FREQUENCY DATA SHEET (RFDS) PRIOR TO CONSTRUCTION.
2. THE SIZE, HEIGHT, AND DIRECTION OF THE ANTENNAS SHALL BE ADJUSTED TO ACHIEVE THE AZIMUTHS SPECIFIED AND LIMIT SHADOWING AND TO MEET THE SYSTEM REQUIREMENTS.
3. CONTRACTOR SHALL VERIFY THE HEIGHT OF THE ANTENNA WITH THE AT&T WIRELESS PROJECT MANAGER.
4. VERIFY TYPE AND SIZE OF TOWER LEG PRIOR TO ORDERING ANY ANTENNA MOUNT.
5. UNLESS NOTED OTHERWISE THE CONTRACTOR MUST PROVIDE ALL MATERIAL NECESSARY.
6. ANTENNA AZIMUTHS ARE DEGREES OFF OF TRUE NORTH, BEARING CLOCKWISE, IN WHICH ANTENNA FACE IS DIRECTED. ALL ANTENNAS (AND SUPPORTING STRUCTURES AS PRACTICAL) SHALL BE ACCURATELY ORIENTED IN THE SPECIFIED DIRECTION.
7. CONTRACTOR SHALL VERIFY ALL RF INFORMATION PRIOR TO CONSTRUCTION.
8. SWEEP TEST SHALL BE PERFORMED BY GENERAL CONTRACTOR AND SUBMITTED TO AT&T WIRELESS CONSTRUCTION SPECIALIST. TEST SHALL BE PERFORMED PER AT&T WIRELESS STANDARDS.
9. CABLE LENGTHS WERE DETERMINED BASED ON THE DESIGN DRAWING. CONTRACTOR TO VERIFY ACTUAL LENGTH DURING PRE-CONSTRUCTION WALK.
10. CONTRACTOR TO USE ROSENBERGER FIBER LINE HANGER COMPONENTS (OR ENGINEER APPROVED EQUAL).

ANTENNA AND CABLING NOTES

SCALE: N.T.S. | 1

RF, DC, & COAX CABLE MARKING LOCATIONS TABLE	
NO	LOCATIONS
1	EACH TOP-JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2	EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS NEAR THE TOP-JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS JUST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
3	CABLE ENTRY PORT ON THE INTERIOR OF THE SHELTER.
4	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.

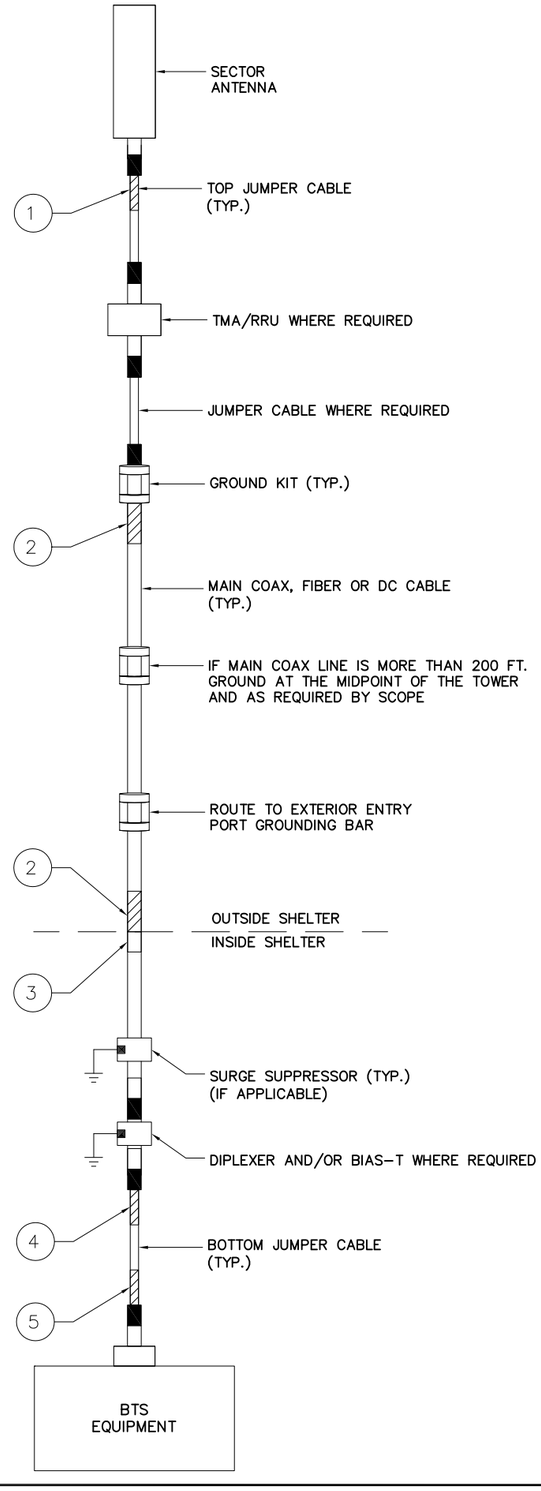
CABLE MARKING DIAGRAM

SCALE: N.T.S. | 2

1. THE ANTENNA SYSTEM COAX SHALL BE LABELED WITH VINYL TAPE.
2. THE STANDARD IS BASED ON EIGHT COLORED TAPES-RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE, AND VIOLET. THESE TAPES MUST BE 3/4" WIDE & UV RESISTANT SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE AND SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR CONTRACTOR ON SITE.
3. USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLE BY SECTOR AND CABLE NUMBER AS SHOWN ON "CABLE COLOR CHART".
4. WHEN AN EXISTING COAXIAL LINE THAT IS INTENDED TO BE A SHARED LINE BETWEEN TECHNOLOGIES IS ENCOUNTERED, THE CONTRACTOR SHALL REMOVE THE EXISTING COLOR CODING SCHEME AND REPLACE IT WITH THE COLOR CODING STANDARD. IN THE ABSENCE OF AN EXISTING COLOR CODING AND TAGGING SCHEME, OR WHEN INSTALLING PROPOSED COAXIAL CABLES, THIS GUIDELINE SHALL BE IMPLEMENTED AT THAT SITE REGARDLESS OF TECHNOLOGY.
5. ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE INSTALLED USING A MINIMUM OF (3) THREE WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
6. ALL COLOR BANDS INSTALLED AT THE TOP OF THE TOWER SHALL BE A MINIMUM OF 3" WIDE, AND SHALL HAVE A MINIMUM OF 3/4" OF SPACE BETWEEN EACH COLOR.
7. ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE.
8. IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODING SCHEME AND THEY ARE NOT INTENDED TO BE REUSED OR SHARED WITH THE NEW TECHNOLOGY, THE EXISTING COLOR CODING SCHEME SHALL REMAIN UNTOUCHED.

CABLE MARKING NOTES

SCALE: N.T.S. | 3



CABLE COLOR CODING DIAGRAM

SCALE: N.T.S. | 4

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SHEET NAME
CABLE NOTES AND COLOR CODING

SHEET NUMBER
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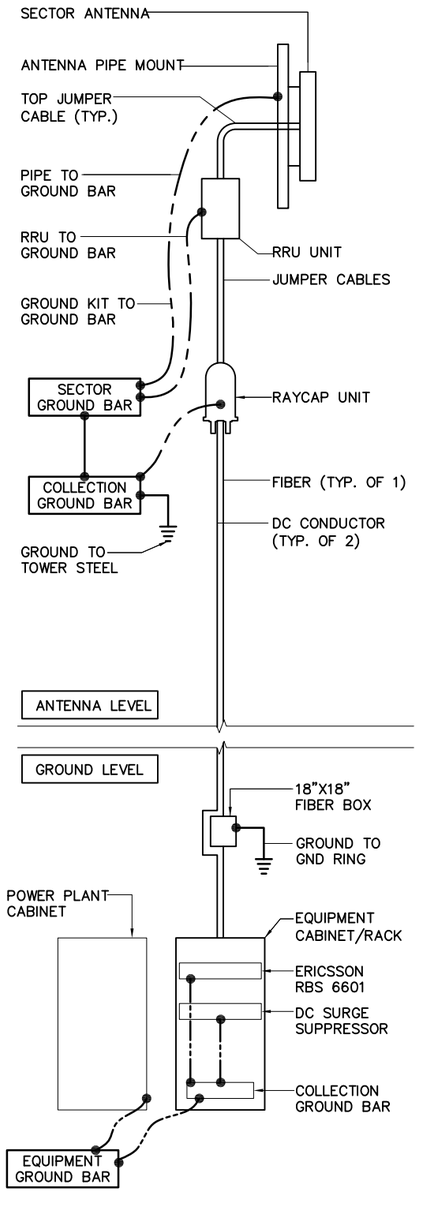
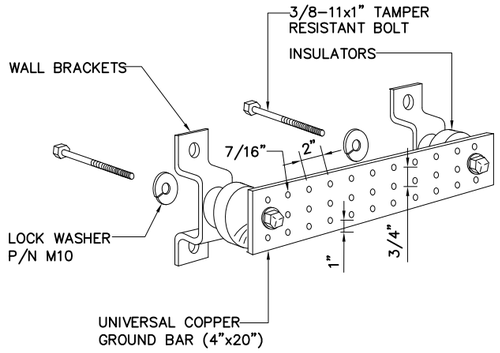
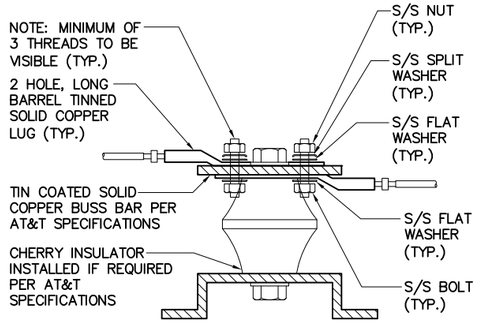
FEC# 2016.0200.0036



GROUNDING SCHEMATIC SCALE: N.T.S. 1



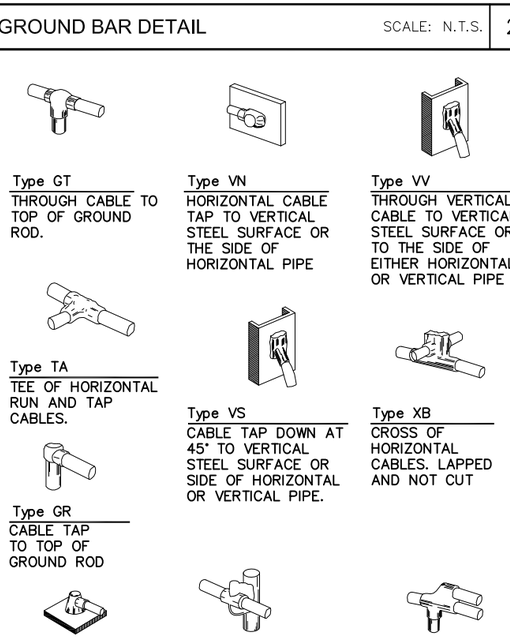
GROUND BAR DETAIL SCALE: N.T.S. 2



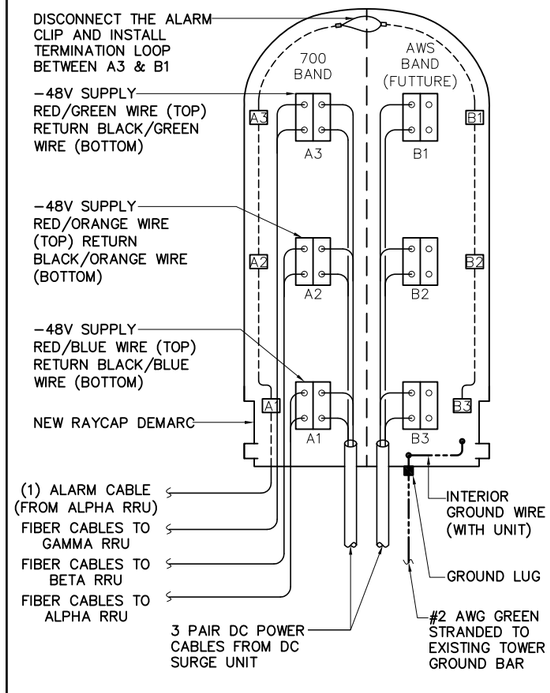
NOTES:

1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
2. COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
3. APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING.

LUG DETAIL SCALE: N.T.S. 3



EXOTHERMIC WELD DETAILS SCALE: N.T.S. 4



RAYCAP DC POWER AND ALARM DET. SCALE: N.T.S. 5

NOT USED SCALE: N.T.S. 6

at&t
550 COCHITUATE ROAD
SUITE 550 13 AND 14
FRAMINGHAM, MA 01701

smartlink
1362 MELLON ROAD
SUITE 140
HANOVER, MD 21076

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1	12/20/16	FOR PERMIT	KC

I HEREBY CERTIFY THAT THESE DRAWING WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF ALL APPLICABLE CODES.

STATE OF CONNECTICUT · HENRY M. BELLAGAMBA · 25358 · LICENSED PROFESSIONAL ENGINEER

SITE NAME
PROSPECT NORTH

SITE NUMBER:
CTL05626

SITE ADDRESS
151 WATERBURY ROAD
PROSPECT, CT 06712

SHEET NAME
GROUNDING DETAILS

SHEET NUMBER
A8

FEC# 2016.0200.0036