May 1, 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: **244 Gates Rd Lebanon, CT 06429**
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 six (6) wireless telecommunication antennas at an antenna center line height of 121-feet on an existing 124 –self-support tower, owned by to New Cingular Wireless (AT&T) PCS LLC at 909 Chestnut St 36-m-01 St Louis, MO 63101.AT&T now intends to remove (6) NEW ANTENNAS TO REPLACE (6) EXISTING ANTENNAS (6) NEW RRUS-32 UNITS (3) NEW RRUS-11 UNITS W/A2 MODULES(3) Existing RRUS-11 UNITS TO BE REMOVED(1) NEW RAYCAP UNIT(1) FIBER CABLE AND (2) DC POWER CABLES(6) NEW TRIPLEXER UNITS.
.

This facility was unanimously acknowledged/approved by the Connecticut Siting Council on April 10, 1990 with conditions of “Option Two”, the replacement of both the existing 80- foot and 120-foot guyed SNET towers with one self-supporting 120- foot tower. This proposed modification is to be implemented as specified in a notice dated March 1st, 1990.The building permit (No 0822) was issued by the town of Lebanon to SNET, ATTN: Mr. R. Archacki,
195 Church Street, New Haven, CT 06510.

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 Betsy Petrie, First Selectman and Philip Chester, Town Planner of the town of Lebanon, Town of Lebanon, 579 Exeter Road Lebanon, CT 06249. A copy of this letter is also being sent to New Cingular Wireless (AT&T) PCS LLC at 909 Chestnut St 36-m-01 St Louis, MO 63101.

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

EM-CING-071-081124- New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 244 Gates Road, **Lebanon**, Connecticut.

EM-CING-071-130124 – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 244 Gates Road, **Lebanon**, Connecticut.

EM-CING-071-140519 – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 244 Gates Road, Lebanon, Connecticut.

EM-AT&T-071-160817 - AT&T notice of intent to modify an existing telecommunications facility located at 244 Gates Road, Lebanon, Connecticut. Decision.

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 121-foot level of the 124-self support tower.
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,

David Barbagallo

Enclosures
CC w/enclosures:
Betsy Petrie, First Selectman - Town of Lebanon
Philip Chester- Town Planner
New Cingular Wireless (AT&T) PCS LLC -Land/Tower owner

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

136 Main Street, Suite 401
New Britain, Connecticut 06051
Phone : 827-7682

April 10, 1990

Peter J. Tyrrell
Senior Attorney
SNET Cellular, Inc
227 Church Street
New Haven, CT 06506

RE: SNET Cellular Inc., (SCI) Notice of Intent to Modify an Exempt Tower and Associated Equipment owned by the Southern New England Telephone Company (SNET) in Lebanon, Connecticut.

Dear Attorney Tyrrell:

At a meeting on April 9, 1990, the Connecticut Siting Council acknowledged your notice of intent to modify an exempt telecommunications tower and associated equipment located on Gates Road in Lebanon, Connecticut, pursuant to Section 16-50j-73 of the Regulations of State Agencies (RSA).

The proposed modifications are to be implemented as specified in your notice dated March 1, 1990, "Option Two", the replacement of both of the existing 80-foot and 120-foot guyed SNET towers with one self-supporting 120-foot tower. As proposed, the modifications are in compliance with the exception criteria specified in RSA Section 16-50j-72(b)(3) as a replacement of an existing CATV tower or telecommunications tower and associated equipment with a tower that is no taller than the tower to be replaced and that will not support public service company or state antennas, or antennas to be used for public cellular radio communications emitting total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to Section 22a-162 of the Connecticut General Statutes.

The Council is pleased to note that the shared use of an existing tower meets the Council's long-term goal and the public interest to avoid the proliferation of additional tower structures.

Enclosed for your reference is a copy of the Staff Report on this Exempt Modification, dated April 9, 1990. Please notify the Council upon completion of construction.

Very truly yours,

Gloria Dibble Pond

Gloria Dibble Pond
Chairperson

Enclosure

cc: Donald Chapman

4313E-4

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

136 Main Street, Suite 401
New Britain, Connecticut 06051
Phone : 827-7682

Notice of Intent of Modify an Existing Tower
SNET Cellular, Inc.
Lebanon, Connecticut
April 9, 1990

On March 1, 1990, SNET Cellular Inc. (SCI) submitted to the Siting Council a Notice of Intent to Modify a tower and associated equipment in the Town of Lebanon. On March 7, 1990, Robert A. Pulito of the Siting Council and Joel M. Rinebold and Robert K. Erling of the Council staff visited the Lebanon site on which the proposed modifications would take place. On March 30, 1990, Council members Mortimer A. Gelston and Colin C. Tait visited the site with Council staff members Joel M. Rinebold and Robert K. Erling.

SCI has proposed two options to replace an existing 120-foot guyed telecommunications tower on Gates Road in Lebanon. This tower site would be leased from its current owner, the Southern New England Telephone Company (SNET), and would be used to provide cellular telephone service in New London County, overlapping with coverage from an adjacent cell site in Colchester, and a planned cell site in Ashford.

There are currently four existing guyed towers on two adjacent properties on this hilltop site. Two of these towers are owned by SNET on SNET property containing 1.7 acres. These towers are 80 feet and 120 feet in height. Two towers on an adjacent property of 1.2 acres owned by Colin K. and Loretta L. Rice are 120 feet and 290 feet in height. The 120-foot tower on the Rice property is owned by Tele-Media Company of Northeastern Connecticut, and was certificated by the Council as part of Docket 43 in 1984. The 290-foot tower is owned by radio station WILI.

The 120-foot SNET tower is painted and lighted because it was constructed before the nearby WILI tower, which is also obstruction marked and lighted.

The following guying information was supplied by SCI.

Tower Owner	Height	No. of sets of 3-guy wires	Tower Distance to Farthest guy wires
SNET	80 feet	1	65 feet
SNET	120 feet	3	100 feet
Tele-Media	120 feet	3	80 feet
WILI	290 feet	6	150 feet

Both SNET towers were constructed in 1960. The WILI tower was constructed in 1980, and the Tele-Media tower was built in 1984. All four of these towers were erected prior to the construction of any of the nearby homes on Gates Hill Road. These homes were built between 1987 and 1988.

Option One of SCI involves the replacement of the existing 120-foot SNET tower with another 120-foot guyed tower which has the capacity to support both the existing antennas and new cellular transmit and receive antennas. The existing 120-foot tower cannot accommodate the proposed cellular antennas. The existing 80-foot SNET tower would remain in place.

Option Two of SCI would replace both of the existing SNET towers with a single 120-foot self-supporting tower. The replacement of the two existing towers would mean the removal of 1808 feet of guy wires. The proposed 120-foot tower would measure approximately 10 feet across at its base and taper to six feet at its top. Each of the two existing towers has a width of three feet The two existing SNET towers would be removed within six months after the installation of the new tower.

Neither Option One nor Option Two would increase the height of a tower on the SNET property, extend the boundaries of the SNET property, increase noise levels at the site boundary, or increase the total radio frequency electromagnetic radiation power density at the tower site boundary to or above the State Standard of 2.933 mW/cm^2.

SNET does not propose to paint or light the replacement tower or associated dish antennas. SNET has requested the elimination of this painting and lighting requirement for this tower from the Federal Aviation Administration, but has not yet received a response.

A meeting between SCI and the Lebanon Building Inspector indicates that the construction of the new equipment building on the SNET site is a permitted use at this location, requiring a building permit.

Pursuant to Section 16-50j-72(b) of the Connecticut Regulations of State Agencies, "None of the following shall constitute a modification to an existing community antenna television or telecommunications tower that may have substantial adverse environmental effect:

(1) Routine general maintenance and one-for-one replacement of facility components that is necessary for reliable operation;

(2) Changes on an existing tower site that do not increase the tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by 6 decibels, and add radio frequency sending or receiving capability which increases the total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to Section 22a-162 of the Connecticut General Statutes; or

(3) Replacement of an existing CATV tower or telecommunications tower and associated equipment with a tower that is no taller than the tower to be replaced and that will not support public service company or State antennas, or antennas to be used for public cellular radio communications emitting total radio frequency electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to Section 22a-162 of the Connecticut General Statutes.

Robert K. Erling
Senior Siting Analyst

RKE/cp

4237E

Permit No. 0822

Zone: RA

TOWN OF LEBANON

Building Permit Record Date: 5-15-90

VALID FOR ONE YEAR

Owner: Southern New England Telephone, ATTN: Mr. R. Archacki

Address: 195 Church Street, New Haven, CT 06510 Phone 771-5926

DESCRIPTION

New: ✓ Addition: Accessory: Remodel: Alteration: Other: Seasonal: Year Round:

New Precast Telephone Equipment Bldg. and new Tower. Bldg unoccupied No water!

The applicant agrees to conform to all requirements of the laws of the State of Conn. and all ordinances and zoning regulations of the Town of Lebanon, and to notify the Building Official of any changes in specifications for which this permit is issued, and to obtain a certificate of occupancy before using this structure. INSPECTION REQUIRED

Class: S - B	Flooring: Concrete		Lot No.:
Type: 3C		Tile Bath:	Lot Size:
	Int. Walls: Concrete	Walls:	Set Back: let plan
No. of Rms: 1		Shower:	Side Yard:
No. of Stories: 1	Electrical:	Floors:	Back Yard:
Floor Area: 312 ft		Heating:	Sub-Div.:
	No. of Bathrooms:	Wa. Htg:	Hot Water Supply
Foundation: Concrete		Stm. Htg:	
	No. of Toilet Rms.:	H. W. Htg:	Fireplace:
Construction: Concrete		Space Htg:	
	Plumbing Fixtures:		City Water:
Ext. Walls: Concrete	Sink:	Fuel:	Well Water:
	Toilets:	Oil:	
	Basins:	Gas:	Septic:
Roofing: Concrete	Bathtubs:	Elec.:	Sewer:
	Shrstalls:		
Basement: 1		Air Cond.:	

Separate Permits Required: Elect, Heat, Plumb, Septic, Well, Stove, All Masonry

Architect: Bayer & Associates, Engineers

Address: 109 Montgomery Ave, Scarsdale, N.Y.

Est Cost: $1,000.00

Builder: Thomas Corp. License #:

$5 per 1,000 Est Cost. 355.00
$10 Minimum Charge

Address: P.O. Box 2159 Vernon, Ct. 06066

Applicant's and/or Owner Signature: Edward M. Klocek

Total: 355.00

Issued by Building Inspector: Harold C. Johnson

Zoning Officer:

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 – 10035007
Site ID – CT1065 (3C-4C-BWE)
USID – 65054
Site Name – Lebanon
Site Compliance Report

244 Gates Road
Lebanon, CT 06249

Latitude: 41.682936
Longitude: -72.216193
Structure Type: Self-Support

Report generated date: May 8, 2017
Report by: Michelle Stone
Customer Contact: Michael Pattison

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 2

1.1 REPORT SUMMARY 2

2 SCALE MAPS OF SITE 3

3 ANTENNA INVENTORY 5

4 EMISSION PREDICTIONS 6

5 SITE COMPLIANCE 9

5.1 SITE COMPLIANCE STATEMENT 9

5.2 ACTIONS FOR SITE COMPLIANCE 9

6 REVIEWER CERTIFICATION 10

APPENDIX A – STATEMENT OF LIMITING CONDITIONS 11

APPENDIX B – REGULATORY BACKGROUND INFORMATION 12

FCC RULES AND REGULATIONS 12

OSHA STATEMENT 13

APPENDIX C – SAFETY PLAN AND PROCEDURES 14

APPENDIX D – RF EMISSIONS 15

APPENDIX E – ASSUMPTIONS AND DEFINITIONS 16

GENERAL MODEL ASSUMPTIONS 16

USE OF GENERIC ANTENNAS 16

DEFINITIONS 17

APPENDIX F – REFERENCES 19

1 General Site Summary

1.1 Report Summary

AT&T Mobility, LLC	Summary
Access to Antennas Locked?	Unknown
RF Sign(s) @ access point(s)	None
RF Sign(s) @ antennas	None
Barrier(s) @ sectors	N/A
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: NEW-ENGLAND_CONNECTICUT_CTV1065_2016-LTE-Next-Carrier_LTE-3C_mm093q_2051...

NEW-ENGLAND_CONNECTICUT_CTV1065_2017-LTE-Next-Carrier_LTE-4C_mm093q_PTN_...

CD's: 10035007_AE201_170314_CTL01065_REV1

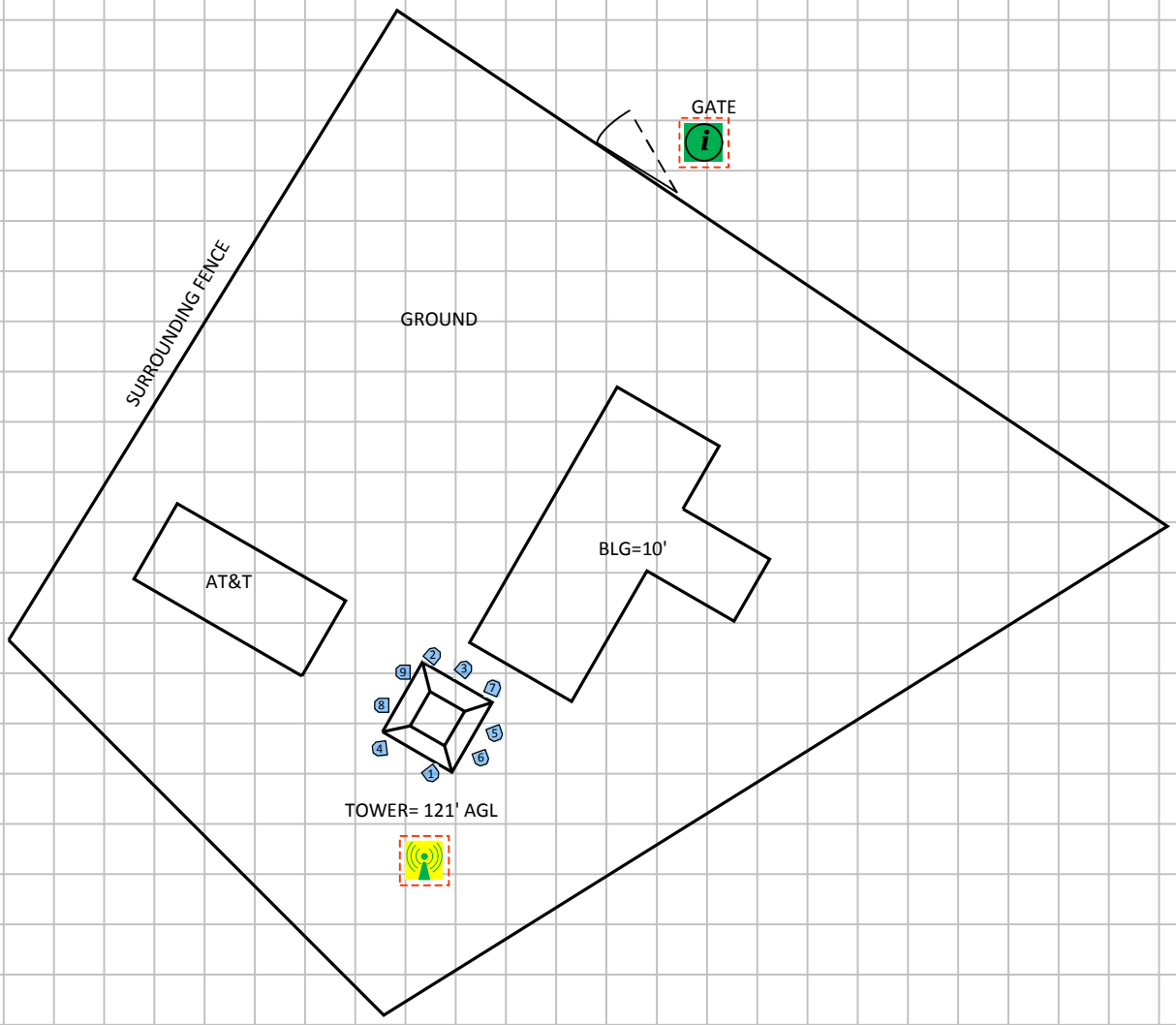
RF Powers Used: AT&T Engineering Defaults

2 Scale Maps of Site

The following diagrams are included:

- Site Scale Map
- RF Exposure Diagram
- Elevation View

Site Scale Map For: Lebanon



% 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 2 | Notice 1 | Warning | Info 1 | Info 2

Barrier

Proposed Barriers/ Signs

(Feet)

0 13.9 27.8

www.sitesafe.com
Site Name:Lebanon
5/8/2017 11:43:08 AM

SitesafeTC Version:1.0.0.0 - 0.0.0.261
Sitesafe OET-65 Model
Near Field Boundary: 1.5 * Aperture
Reflection Factor: 1
Spatially Averaged

3 Antenna Inventory

The following antenna inventory on this and the following page, were obtained by the customer and were 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	143	82	4.6	11.51	0	1	0	1132.6	212.1'	263'	121.7'
1	AT&T MOBILITY LLC	Powerwave 7770	Panel	1900	143	86	4.6	13.41	0	1	0	1754.2	212.1'	263'	121.7'
2	AT&T Mobility, LLC (Proposed)	CCI Antennas HPA-65R-BUU-H8	Panel	2300	40	63.3	7.7	15.26	0	0	1	2014.4	212.4'	280.7'	120.2'
3	AT&T MOBILITY LLC	CCI Antennas TPA-65R-LCUUUU-H8	Panel	737	40	61.9	8	13.56	0	0	1	1361.9	217'	278.7'	120'
3	AT&T Mobility, LLC (Proposed)	CCI Antennas TPA-65R-LCUUUU-H8	Panel	1900	40	68.2	8	13.86	0	0	1	1459.3	217'	278.7'	120'
3	AT&T Mobility, LLC (Proposed)	CCI Antennas TPA-65R-LCUUUU-H8	Panel	2100	40	65.2	8	13.96	0	0	1	1493.3	217'	278.7'	120'
4	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	263	82	4.6	11.51	0	1	0	1132.6	204.4'	266.8'	121.7'
4	AT&T MOBILITY LLC	Powerwave 7770	Panel	1900	263	86	4.6	13.41	0	1	0	1754.2	204.4'	266.8'	121.7'
5	AT&T Mobility, LLC (Proposed)	CCI Antennas HPA-65R-BUU-H8	Panel	2300	160	63.3	7.7	15.26	0	0	1	2014.4	221.6'	269'	120.2'
6	AT&T MOBILITY LLC	CCI Antennas TPA-65R-LCUUUU-H8	Panel	737	160	61.9	8	13.56	0	0	1	1361.9	219.5'	265.4'	120'
6	AT&T Mobility, LLC (Proposed)	CCI Antennas TPA-65R-LCUUUU-H8	Panel	1900	160	68.2	8	13.86	0	0	1	1459.3	219.5'	265.4'	120'
6	AT&T Mobility, LLC (Proposed)	CCI Antennas TPA-65R-LCUUUU-H8	Panel	2100	160	65.2	8	13.96	0	0	1	1493.3	219.5'	265.4'	120'
7	AT&T MOBILITY LLC	Powerwave 7770	Panel	850	23	82	4.6	11.51	0	1	0	1132.6	221.3'	275.9'	121.7'
7	AT&T MOBILITY LLC	Powerwave 7770	Panel	1900	23	86	4.6	13.41	0	1	0	1754.2	221.3'	275.9'	121.7'
8	AT&T Mobility, LLC (Proposed)	CCI Antennas HPA-65R-BUU-H8	Panel	2300	270	63.3	7.7	15.26	0	0	1	2014.4	204.7'	273.3'	120.2'
9	AT&T Mobility, LLC	CCI Antennas TPA-65R-LCUUUU-H8	Panel	737	270	61.9	8	13.56	0	0	1	1361.9	207.9'	278.2'	120'
9	AT&T Mobility, LLC (Proposed)	CCI Antennas TPA-65R-LCUUUU-H8	Panel	1900	270	68.2	8	13.86	0	0	1	1459.3	207.9'	278.2'	120'
9	AT&T Mobility, LLC (Proposed)	CCI Antennas TPA-65R-LCUUUU-H8	Panel	2100	270	65.2	8	13.96	0	0	1	1493.3	207.9'	278.2'	120'

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.

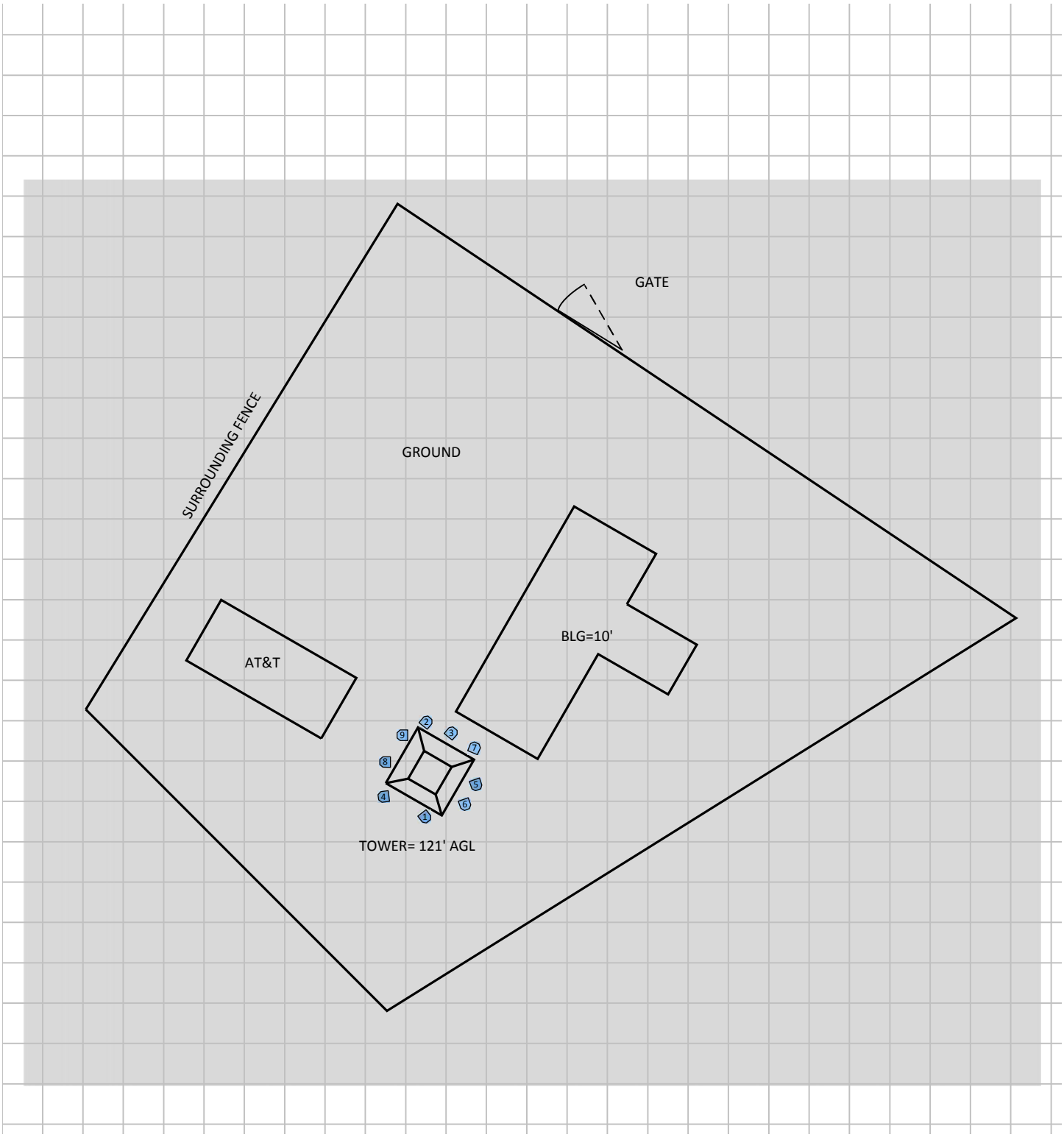
Note: The 1900/2100MHz LTE technology is being added to an existing antenna.

4 Emission Predictions

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

The Antenna Inventory heights are referenced to the same level.

RF Exposure Simulation For: Lebanon



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

% 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 2 | Notice 1 | Warning | Info 1 | Info 2

Barrier

Proposed Barriers/ Signs

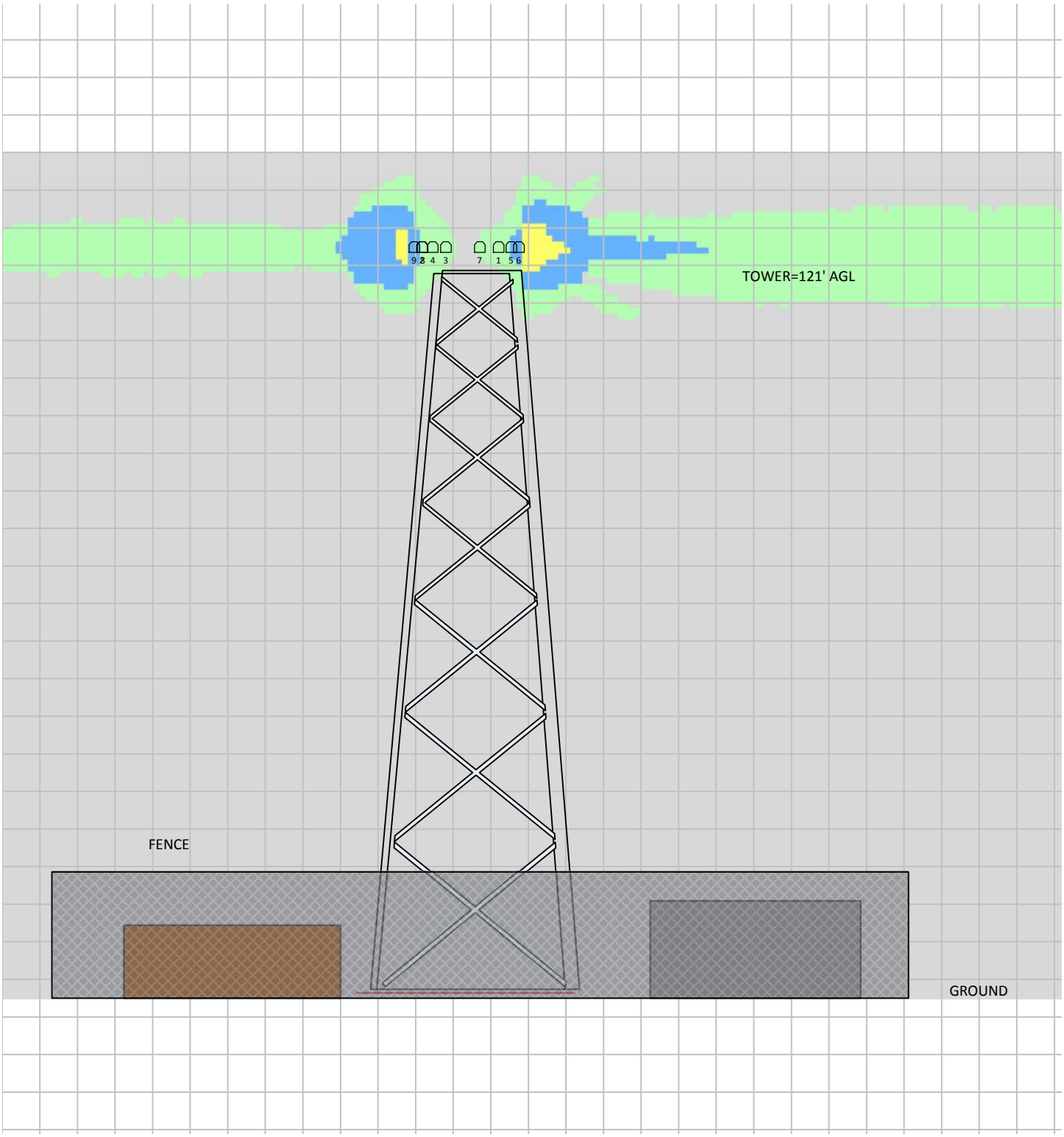
(Feet)

0 13.1 26.3

www.sitesafe.com
Site Name:Lebanon
5/8/2017 11:44:09 AM

SitesafeTC Version:1.0.0.0 - 0.0.0.261
Sitesafe OET-65 Model
Near Field Boundary: 1.5 * Aperture
Reflection Factor: 1
Spatially Averaged

RF Exposure Simulation For: Lebanon
Elevation View



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

% 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 2 | Notice 1 | Warning | Info 1 | Info 2

Barrier

Proposed Barriers/ Signs

(Feet)

0 11.8 23.5

www.sitesafe.com
Site Name:Lebanon
5/8/2017 11:40:25 AM

SitesafeTC Version:1.0.0.0 - 0.0.0.261
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.

Based on measurement or predictions, other wireless operators on this site may be out of RF exposure compliance with FCC regulations on this site. We recommend that those operators review this site with respect to RF exposure compliance.

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:

All Site Access Gates

Information 1 sign required.

Tower Base

Yellow Caution 2 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 Michelle Stone.

May 8, 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.

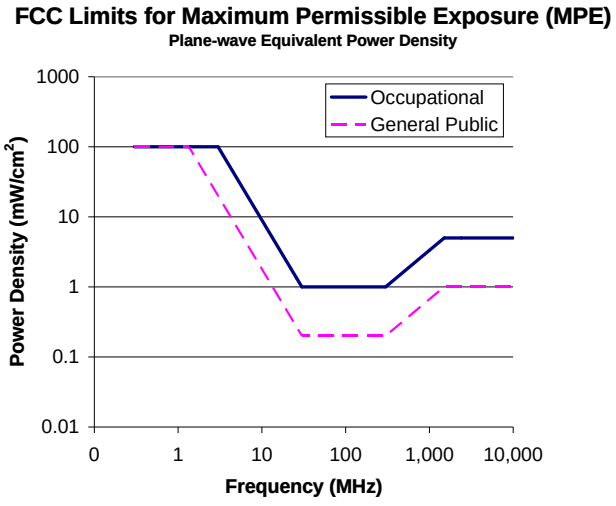
FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* 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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GPD# 2017723.21.65054.03
April 20, 2017

RIGOROUS STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	**Site USID:**	**65054**
	Site FA:	**10035007**
	Site Name:	**Lebanon**
	Client #:	**CTL01065**
ANALYSIS CRITERIA:	**Codes:**	**TIA-222-G & 2012 IBC and 2016 CTBC** **130-mph Ultimate (3-second gust) with 0" ice** **101-mph Nominal (3-second gust) with 0" ice** **50-mph Nominal (3-second gust) with 0.75″ ice**
SITE DATA:		**244 Gates Road, Lebanon, CT 06249, New London County** **Latitude 41° 40' 58.57" N, Longitude 72° 12' 58.30" W** **Market: NEW ENGLAND** **121' Self-Support Tower**

Ms. Kristen LeDuc,

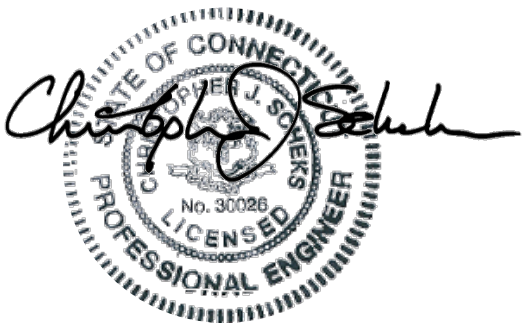
GPD is pleased to submit this Rigorous Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

Tower Stress Level with Proposed Equipment:	90.5%	Pass
Foundation Ratio with Proposed Equipment:	84.7%	Pass

We at GPD appreciate the opportunity of providing our continuing professional services to you and Smartlink, LLC. If you have any questions or need further assistance on this or any other projects please do not hesitate to call.

Respectfully submitted,



Christopher J. Scheks, P.E.
Connecticut #: 0030026

SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing structure is capable of carrying the proposed loading configuration as specified by AT&T Mobility to Smartlink, LLC. This report was commissioned by Ms. Kristen LeDuc of Smartlink, LLC.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 130 mph converted to a nominal 3-second gust wind speed of 101 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category C with a maximum topographic factor, Kzt, of 1.242 and Risk Category II were used in this analysis.

The proposed coax shall be installed next to existing coax on Face B for the analysis results to be considered valid. See Appendix C for further details.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Legs	65.9%	Pass
Diagonals	90.5%	Pass
Secondary Horizontal	41.4%	Pass
Top Girt	81.3%	Pass
Bolt Checks	68.8%	Pass
Anchor Rods	55.3%	Pass
Foundation	84.7%	Pass

ANALYSIS METHOD

tnxTower (Version 7.0.7.0), a commercially available software program, was used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information and is being completed without the benefit of a recent site visit.

DOCUMENTS PROVIDED

Document	Remarks	Source
RF Data Sheet	RFDS Name: CTV1065 Rev. 1, updated: 9/22/2016	Smartlink
RF Data Sheet	RFDS Name: CTV1065 Rev. 1, updated: 1/21/2016	Smartlink
Construction Drawings	Fullerton FEC #: 2016.0428.0017, dated: 3/14/2017	Smartlink
Tower Design	Not Provided	N/A
Foundation Design	Not Provided	N/A
Geotechnical Report	GPD Job #: 2012832.03, dated: 12/10/2012	AT&T
Previous Structural Analysis	GPD Job #: 2014723.21.65054.01, dated: 2/26/2014	AT&T
Tower Mapping	GPD Job #: 2012832.03, dated: 12/19/2012	AT&T
Foundation Mapping	GPD Job #: 2012832.03, dated: 12/19/2012	AT&T

ASSUMPTIONS

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower member sizes and shapes are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The appurtenance configuration is as supplied, determined from available photos, and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
3. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
4. The soil parameters are as per data supplied or as assumed and stated in the calculations.
5. Foundations are properly designed and constructed to resist the original design loads indicated in the documents provided.
6. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
7. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
8. All prior structural modifications, if applicable, are assumed to be as per data supplied/available and to have been properly installed.
9. Loading interpreted from photos is accurate to $\pm 5'$ AGL, antenna size accurate to ± 3.3 sf, and coax equal to the number of existing antennas without reserve.
10. All existing loading has been modeled based on the Previous Structural Analysis by GPD (Job #: 2014723.21.65054.01, dated: 2/26/2014), Construction Drawings by Fullerton (FEC #: 2016.0428.0017, dated: 3/14/2017), site photos, and the provided RF Data Sheets and is assumed to be accurate.
11. AT&T's proposed loading has been modeled to reflect the final loading configuration found in the RF Data Sheets and is assumed to be accurate.
12. The proposed coax shall be installed next to existing coax on Face B for the analysis results to be considered valid. See Appendix C for further details.
13. Based on satellite imagery, tower Leg A has an approximate azimuth of 5 degrees.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD should be allowed to review any new information to determine its effect on the structural integrity of the tower.

DISCLAIMER OF WARRANTIES

GPD has not performed a recent site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD in connection with this Rigorous Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

This analysis is limited to the designated maximum wind and seismic conditions per the governing tower standards and code. Wind forces resulting in tower vibrations near the structure's resonant frequencies were not considered in this analysis and are outside the scope of this analysis. Lateral loading from any dynamic response was not evaluated under a time-domain based fatigue analysis.

GPD does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the capability of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the code specified amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

Towers are designed to carry gravity, wind, and ice loads. All members, legs, diagonals, struts, and redundant members provide structural stability to the tower with little redundancy. Absence or removal of a member can trigger catastrophic failure unless a substitute is provided before any removal. Legs carry axial loads and derive their strength from shorter unbraced lengths by the presence of redundant members and their connection to the diagonals with bolts or welds. If the bolts or welds are removed without providing any substitute to the frame, the leg is subjected to a higher unbraced length that immediately reduces its load carrying capacity. If a diagonal is also removed in addition to the connection, the unbraced length of the leg is greatly increased, jeopardizing its load carrying capacity. Failure of one leg can result in a tower collapse because there is no redundancy. Redundant members and diagonals are critical to the stability of the tower.

GPD makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Tower Analysis Summary Form

Tower Analysis Summary Form

General Info

Site Name	Lebanon
Site Number	65054
FA Number	10035007
Date of Analysis	4/20/2017
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	SST	
Tower Height (top of steel AGL)	121'	
Tower Manufacturer	n/a	
Tower Model	n/a	
Tower Design	n/a	
Foundation Design	n/a	
Geotech Report	GPD Job #: 2012832.03	12/10/2012
Tower Mapping	GPD Job #: 2012832.03	12/19/2012
Previous Structural Analysis	GPD Job #: 2014723.21.65054.01	2/26/2014
Foundation Mapping	GPD Job #: 2012832.03	12/10/2012

Design Parameters

Design Code Used	TIA-222-G, 2012 IBC & 2016 CTBC
Location of Tower (County, State)	New London, CT
Nominal Wind Speed (mph)	101 (3-sec gust)
Ice Thickness (in)	0.75
Risk Category (I, II, III)	II
Exposure Category (B, C, D)	C
Topographic Category (1 to 5)	5

Analysis Results (% Maximum Usage)

Existing/Reserved + Future + Proposed Condition	
Tower (%)	90.5%
Tower Base (%)	55.3%
Foundation (%)	84.7%
Foundation Adequate?	YES

Steel Yield Strength (ksi)

Legs	50
Diagonals	36
Bolts	A325N
Anchor Rods	36

Existing / Reserved Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
AT&T Mobility	121	129	1	Dipole	Unknown	16' Dipole		4	Unknown	Star Mount	9	Unknown	1 5/8"	Face "A"
AT&T Mobility	121	124	6	Panel	Powerwave	7770	23/143/263			on the same mounts	3	Unknown	1 5/8"	Face "B"
AT&T Mobility	121	124	1	Panel	Andrew	SBNH-1D6565C	40			on the same mounts	1	Unknown	1/2"	Face "A"
AT&T Mobility	121	124	2	Panel	Powerwave	P65-17-XLH-RR	160/270			on the same mounts	1	Unknown	1/2"	Face "B"
AT&T Mobility	121	124	6	RET	Powerwave	7020				on the same mounts	2	DC Power	3/4"	Face "B"
AT&T Mobility	121	124	6	Diplexer	Powerwave	LGP 13519				on the same mounts	1	Fiber	1/2"	Face "B"
AT&T Mobility	121	124	6	TMA	Powerwave	LGP21401				on the same mounts				
AT&T Mobility	121	124	6	RRU	Ericsson	RRUS-11				on the same mounts				
AT&T Mobility	121	124	1	Squid	Raycap	DC6-48-60-18-8F				on the same mounts				

Note: The existing (3) 7770, (1) SBNH-1D6565C, (2) P65-17-XLH-RR, and (6) LGP 13519 at 124' shall be removed prior to the installation of the proposed configuration and have not been considered in this analysis. All other existing/reserved equipment shall be reused.

Proposed Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
AT&T Mobility	121	124	3	Panel	CCI	TPA-65R-LCUUUU-H8	40/160/270			on the existing mount	1	Fiber	1/2"	Face "B"
AT&T Mobility	121	124	3	Panel	CCI	HPA-65R-BUU-H8	40/160/270			on the existing mount	2	DC Power	3/4"	Face "B"
AT&T Mobility	121	124	3	Module	Ericsson	RRUS-A2				on the existing mount				
AT&T Mobility	121	124	3	RRU	Ericsson	RRUS-32				on the existing mount				
AT&T Mobility	121	124	3	RRU	Ericsson	RRUS-32 B2				on the existing mount				
AT&T Mobility	121	124	1	Squid	Raycap	DC6-48-60-18-8F				on the existing mount				

Note: The proposed equipment shall be installed in addition to the remaining existing/reserved loading at the same elevation.

Future Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face

APPENDIX B

tnxTower Output File

Tower Input Data

The main tower is a 4x free standing tower with an overall height of 121.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 6.25 ft at the top and 11.25 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

- Tower is located in New London County, Connecticut.
- Basic wind speed of 101 mph.
- Structure Class II.
- Exposure Category C.
- Topographic Category 5.
- Crest Height 200.00 ft.
- SEAW RSM-03 procedures for wind speed-up calculations are used.
- Topographic Feature: Flat Topped Ridge.
- Slope Distance L: 1050.00 ft.
- Distance from Crest x: 600.00 ft.
- Nominal ice thickness of 0.7500 in.
- Ice thickness is considered to increase with height.
- Ice density of 56 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in tower member design is 1.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	*Face or Leg*	*Allow Shield*	*Component Type*	*Placement* *ft*	*Face Offset* *in*	*Lateral Offset (Frac FW)*	*#*	*# Per Row*	*Clear Spacing* *in*	*Width or Diameter* *in*	*Perimeter* *in*	*Weight* *plf*
Climbing Ladder (Af)	A	No	Af (CaAa)	121.00 - 8.00	1.0000	0	1	1	3.8400	3.8400		4.81
LDF4-50A (1/2 FOAM)	A	No	Ar (CaAa)	121.00 - 8.00	0.5000	0.05	1	1	0.6300	0.6300		0.15
LDF7-50A (1-5/8 FOAM)	A	No	Ar (CaAa)	121.00 - 8.00	0.5000	0.08	3	2	1.0000 1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	A	No	Ar (CaAa)	121.00 - 8.00	0.5000	0.45	6	3	1.0000 1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	B	No	Ar (CaAa)	121.00 - 8.00	0.5000	0	3	2	1.0000 1.9800	1.9800		0.82
LDF4-50A (1/2 FOAM)	B	No	Ar (CaAa)	121.00 - 8.00	0.5000	0.05	1	1	0.6300	0.6300		0.15
1/2" Fiber Cable	B	No	Ar (CaAa)	121.00 - 8.00	0.5000	0.03	2	2	0.6300	0.6300		0.15
3/4" DC Power Line	B	No	Ar (CaAa)	121.00 - 8.00	0.5000	0.05	4	2	0.7500	0.7500		0.33

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
Safety Line 3/8	A	No	Ar (CaAa)	121.00 - 8.00	1.0000	0	1	1	0.3750	0.3750		0.22
Feedline Ladder (Af)	B	No	Af (CaAa)	121.00 - 8.00	1.0000	0	1	1	3.0000	3.0000		8.40

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
(2) Sabre 6' Sidearm C10-151-006	A	From Face	1.73 1.00 0.00	30.0000	121.00	No Ice 1/2" Ice 1" Ice	2.72 4.11 5.50	12.93 17.82 22.71	145.70 223.26 300.82
(2) Sabre 6' Sidearm C10-151-006	B	From Face	1.73 1.00 0.00	30.0000	121.00	No Ice 1/2" Ice 1" Ice	2.72 4.11 5.50	12.93 17.82 22.71	145.70 223.26 300.82
(2) Sabre 6' Sidearm C10-151-006	C	From Face	1.73 1.00 0.00	30.0000	121.00	No Ice 1/2" Ice 1" Ice	2.72 4.11 5.50	12.93 17.82 22.71	145.70 223.26 300.82
(2) Sabre 6' Sidearm C10-151-006	D	From Face	1.73 1.00 0.00	30.0000	121.00	No Ice 1/2" Ice 1" Ice	2.72 4.11 5.50	12.93 17.82 22.71	145.70 223.26 300.82
Andrew Double Pipe Mount MC-DA14-B	A	From Leg	3.46 2.00 3.00	0.0000	121.00	No Ice 1/2" Ice 1" Ice	3.75 4.45 5.15	1.28 1.39 1.50	84.00 111.00 138.00
Andrew Double Pipe Mount MC-DA14-B	B	From Leg	3.46 2.00 3.00	0.0000	121.00	No Ice 1/2" Ice 1" Ice	3.75 4.45 5.15	1.28 1.39 1.50	84.00 111.00 138.00
MTS 60" Standoff	C	From Leg	3.46 2.00 3.00	0.0000	121.00	No Ice 1/2" Ice 1" Ice	0.98 1.70 2.42	2.60 4.50 6.40	48.00 70.36 92.72
7770.00 w/Mount Pipe	B	From Leg	3.83 -3.21 3.00	-50.0000	121.00	No Ice 1/2" Ice 1" Ice	5.51 5.87 6.23	4.10 4.73 5.37	61.54 108.55 162.39
7770.00 w/Mount Pipe	C	From Leg	3.83 -3.21 3.00	0.0000	121.00	No Ice 1/2" Ice 1" Ice	5.51 5.87 6.23	4.10 4.73 5.37	61.54 108.55 162.39
7770.00 w/Mount Pipe	D	From Leg	3.86 0.87 3.00	-10.0000	121.00	No Ice 1/2" Ice 1" Ice	5.51 5.87 6.23	4.10 4.73 5.37	61.54 108.55 162.39
HPA-65R-BUU-H8 w/ Mount Pipe	A	From Leg	3.83 -3.21 3.00	30.0000	121.00	No Ice 1/2" Ice 1" Ice	13.05 13.66 14.27	9.42 10.82 12.07	94.20 189.07 293.65
HPA-65R-BUU-H8 w/ Mount Pipe	C	From Leg	3.83 -3.21 3.00	0.0000	121.00	No Ice 1/2" Ice 1" Ice	13.05 13.66 14.27	9.42 10.82 12.07	94.20 189.07 293.65
HPA-65R-BUU-H8 w/ Mount Pipe	D	From Leg	3.83 -3.21 3.00	0.0000	121.00	No Ice 1/2" Ice 1" Ice	13.05 13.66 14.27	9.42 10.82 12.07	94.20 189.07 293.65
TPA-65R-LCUUUU-H8 w/ Mount Pipe	D	From Leg	0.00 6.50 3.00	0.0000	121.00	No Ice 1/2" Ice 1" Ice	13.54 14.24 14.95	10.96 12.49 14.04	114.45 217.61 330.97
TPA-65R-LCUUUU-H8 w/	B	From Leg	3.83	-40.0000	121.00	No Ice	13.54	10.96	114.45

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Mount Pipe			-3.21			1/2" Ice	14.24	12.49	217.61
			3.00			1" Ice	14.95	14.04	330.97
TPA-65R-LCUUUU-H8 w/ Mount Pipe	D	From Leg	3.83	-90.0000	121.00	No Ice	13.54	10.96	114.45
			-3.21			1/2" Ice	14.24	12.49	217.61
			3.00			1" Ice	14.95	14.04	330.97
RRUS-32	C	From Leg	3.83	0.0000	121.00	No Ice	3.31	2.42	77.00
			-3.21			1/2" Ice	3.56	2.64	104.93
			3.00			1" Ice	3.81	2.86	136.47
RRUS-32 B2	C	From Leg	3.83	0.0000	121.00	No Ice	3.31	2.42	77.00
			-3.21			1/2" Ice	3.56	2.64	104.93
			3.00			1" Ice	3.81	2.86	136.47
RRUS-32	B	From Leg	3.83	-60.0000	121.00	No Ice	3.31	2.42	77.00
			-3.21			1/2" Ice	3.56	2.64	104.93
			3.00			1" Ice	3.81	2.86	136.47
RRUS-32	A	From Leg	3.83	-40.0000	121.00	No Ice	3.31	2.42	77.00
			-3.21			1/2" Ice	3.56	2.64	104.93
			3.00			1" Ice	3.81	2.86	136.47
RRUS-32 B2	A	From Leg	3.83	-40.0000	121.00	No Ice	3.31	2.42	77.00
			-3.21			1/2" Ice	3.56	2.64	104.93
			3.00			1" Ice	3.81	2.86	136.47
RRUS-32 B2	D	From Leg	3.83	0.0000	121.00	No Ice	13.05	9.42	94.20
			-3.21			1/2" Ice	13.66	10.82	189.07
			3.00			1" Ice	14.27	12.07	293.65
RRUS-11	A	From Leg	0.00	0.0000	121.00	No Ice	2.78	1.19	47.62
			0.00			1/2" Ice	2.99	1.33	68.42
			0.00			1" Ice	3.21	1.49	92.25
RRUS-11	B	From Leg	0.00	0.0000	121.00	No Ice	2.78	1.19	47.62
			0.00			1/2" Ice	2.99	1.33	68.42
			0.00			1" Ice	3.21	1.49	92.25
RRUS-11	C	From Leg	0.00	0.0000	121.00	No Ice	2.78	1.19	47.62
			0.00			1/2" Ice	2.99	1.33	68.42
			0.00			1" Ice	3.21	1.49	92.25
RRUS-11	D	From Leg	3.83	-90.0000	121.00	No Ice	2.78	1.19	47.62
			-3.21			1/2" Ice	2.99	1.33	68.42
			3.00			1" Ice	3.21	1.49	92.25
RRUS-11	D	From Leg	0.00	0.0000	121.00	No Ice	2.78	1.19	47.62
			6.50			1/2" Ice	2.99	1.33	68.42
			3.00			1" Ice	3.21	1.49	92.25
RRUS-11	B	From Leg	3.83	-50.0000	121.00	No Ice	2.78	1.19	47.62
			-3.21			1/2" Ice	2.99	1.33	68.42
			3.00			1" Ice	3.21	1.49	92.25
RRUS-A2	D	From Leg	3.83	-90.0000	121.00	No Ice	0.00	0.50	22.04
			-3.21			1/2" Ice	0.00	0.61	34.65
			3.00			1" Ice	0.00	0.72	49.71
RRUS-A2	D	From Leg	0.00	0.0000	121.00	No Ice	0.00	0.50	22.04
			6.50			1/2" Ice	0.00	0.61	34.65
			3.00			1" Ice	0.00	0.72	49.71
RRUS-A2	B	From Leg	3.83	-50.0000	121.00	No Ice	0.00	0.50	22.04
			-3.21			1/2" Ice	0.00	0.61	34.65
			3.00			1" Ice	0.00	0.72	49.71
16' Dipole	D	From Leg	3.46	0.0000	121.00	No Ice	5.01	5.01	60.00
			2.00			1/2" Ice	6.84	6.84	97.11
			8.00			1" Ice	8.49	8.49	144.48
(2) LGP21401	B	From Leg	3.83	-50.0000	121.00	No Ice	1.10	0.21	14.10
			-3.21			1/2" Ice	1.24	0.27	21.26
			3.00			1" Ice	1.38	0.35	30.32
(2) LGP21401	C	From Leg	3.83	0.0000	121.00	No Ice	1.10	0.21	14.10

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			-3.21			1/2" Ice	1.24	0.27	21.26
			3.00			1" Ice	1.38	0.35	30.32
(2) LGP21401	D	From Leg	3.86	-10.0000	121.00	No Ice	1.10	0.21	14.10
			0.87			1/2" Ice	1.24	0.27	21.26
			3.00			1" Ice	1.38	0.35	30.32
DC6-48-60-18-8F	A	From Leg	3.83	0.0000	121.00	No Ice	2.20	2.20	18.90
			-3.21			1/2" Ice	2.40	2.40	41.46
			3.00			1" Ice	2.60	2.60	67.19
DC6-48-60-18-8F	B	From Leg	3.83	0.0000	121.00	No Ice	2.20	2.20	18.90
			-3.21			1/2" Ice	2.40	2.40	41.46
			3.00			1" Ice	2.60	2.60	67.19

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
121.00	(2) Sabre 6' Sidearm C10-151-006	34	1.826	0.1138	0.0141	218085

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load lb	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	121	Leg	A325N	0.6250	8	2312.81	24850.50	0.093 ✔	1	Bolt DS
		Diagonal	A325N	0.6250	2	3105.30	7187.70	0.432 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	202.80	7655.27	0.026 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	389.64	13661.70	0.029 ✔	1	Member Block Shear
T2	110	Leg	A325N	0.6250	8	5656.40	24850.50	0.228 ✔	1	Bolt DS
		Diagonal	A325N	0.6250	2	3530.68	8224.22	0.429 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	339.38	7655.27	0.044 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	1599.48	13661.70	0.117 ✔	1	Member Block Shear
T3	100.417	Leg	A325N	0.6250	16	4834.69	24850.50	0.195 ✔	1	Bolt DS
		Diagonal	A325N	0.6250	2	4433.44	7697.46	0.576 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	580.16	7655.27	0.076 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	3206.03	13661.70	0.235 ✔	1	Member Block Shear
T4	90.4167	Leg	A325N	0.6250	16	6786.65	24850.50	0.273 ✔	1	Bolt DS

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load lb	Ratio Load / Allowable	Allowable Ratio	Criteria
		Diagonal	A325N	0.6250	2	4975.64	10263.30	0.485 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	814.72	7655.27	0.106 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	1	4458.06	13661.70	0.326 ✔	1	Member Block Shear
T5	80.4167	Leg	A325N	0.6250	24	5888.26	24850.50	0.237 ✔	1	Bolt DS
		Diagonal	A325N	0.6250	2	5517.98	12336.30	0.447 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	1060.29	7655.27	0.139 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	2	3854.14	12336.30	0.312 ✔	1	Member Block Shear
T6	70.4167	Leg	A325N	0.7500	24	7668.58	35784.70	0.214 ✔	1	Bolt DS
		Diagonal	A325N	0.6250	2	4774.48	10263.30	0.465 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	1380.88	7655.27	0.180 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	2	3479.16	12336.30	0.282 ✔	1	Member Block Shear
T7	60.4167	Leg	A325N	0.7500	24	9144.13	35784.70	0.256 ✔	1	Bolt DS
		Diagonal	A325N	0.6250	2	5227.19	10263.30	0.509 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	1646.57	7655.27	0.215 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	2	3089.92	14375.40	0.215 ✔	1	Member Block Shear
T8	50.4167	Leg	A325N	0.7500	28	9179.63	35784.70	0.257 ✔	1	Bolt DS
		Diagonal	A325N	0.6250	2	5432.85	10263.30	0.529 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	1928.48	7655.27	0.252 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	2	3401.56	10263.30	0.331 ✔	1	Member Block Shear
T9	40.4167	Leg	A325N	0.7500	32	9210.72	35784.70	0.257 ✔	1	Bolt DS
		Diagonal	A325N	0.6250	2	5732.72	10263.30	0.559 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	2211.41	7655.27	0.289 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	2	3683.39	10263.30	0.359 ✔	1	Member Block Shear
T10	30.4167	Leg	A325N	0.7500	36	9248.55	35784.70	0.258 ✔	1	Bolt DS
		Diagonal	A325N	0.6250	2	5933.61	10263.30	0.578 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	2498.09	7655.27	0.326 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	2	3890.77	10263.30	0.379 ✔	1	Member Block Shear
T11	20.4167	Leg	A325N	0.7500	40	9296.14	35784.70	0.260 ✔	1	Bolt DS
		Diagonal	A325N	0.6250	2	6189.94	10263.30	0.603 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	2789.85	7655.27	0.364 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	2	4134.54	12336.30	0.335 ✔	1	Member Block Shear
T12	10.2083	Leg	A325N	0.7500	40	10145.60	35784.70	0.284 ✔	1	Bolt DS

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load lb	Ratio Load / Allowable	Allowable Ratio	Criteria
		Diagonal	A325N	0.6250	2	7064.03	10263.30	0.688 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	3044.83	10207.00	0.298 ✔	1	Member Block Shear
		Top Girt	A325N	0.6250	2	5056.92	12336.30	0.410 ✔	1	Member Block Shear

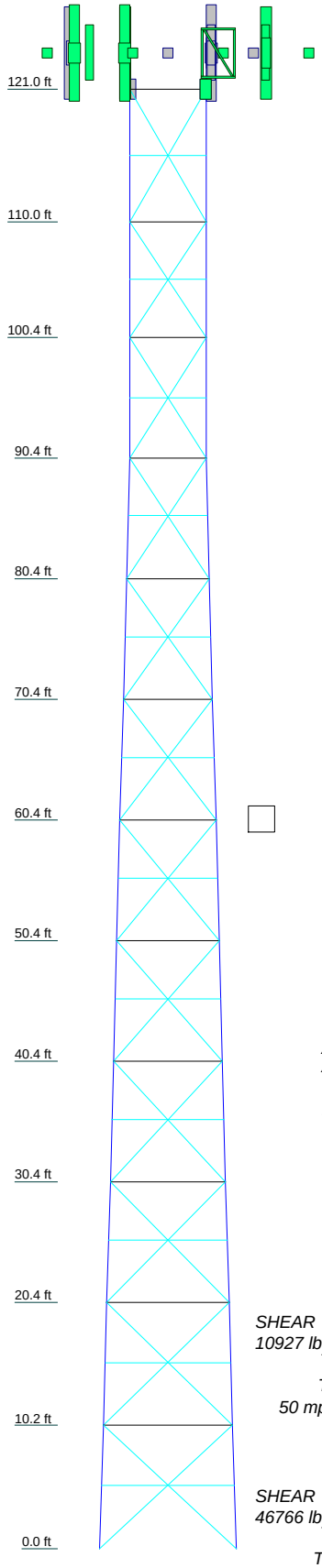
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	121 - 110	Leg	L5x5x1/2	4	-9251.23	153721.00	6.0	Pass
T2	110 - 100.417	Leg	L5x5x1/2	24	-22625.60	166432.00	13.6	Pass
T3	100.417 - 90.4167	Leg	L5x5x1/2	44	-38677.50	162773.00	23.8	Pass
T4	90.4167 - 80.4167	Leg	L5x5x1/2	64	-54293.20	158860.00	34.2	Pass
T5	80.4167 - 70.4167	Leg	L5x5x1/2	84	-70659.10	159230.00	44.4	Pass
T6	70.4167 - 60.4167	Leg	L6x6x3/4	104	-92022.90	309075.00	29.8	Pass
T7	60.4167 - 50.4167	Leg	L6x6x3/4	124	-109730.00	309457.00	35.5	Pass
T8	50.4167 - 40.4167	Leg	L6x6x3/4	144	-128515.00	309644.00	41.5	Pass
T9	40.4167 - 30.4167	Leg	L6x6x3/4	164	-147372.00	309947.00	47.5	Pass
T10	30.4167 - 20.4167	Leg	L6x6x3/4	184	-166474.00	310085.00	53.7	Pass
T11	20.4167 - 10.2083	Leg	L6x6x3/4	204	-185923.00	307711.00	60.4	Pass
T12	10.2083 - 0	Leg	L6x6x3/4	224	-202913.00	307819.00	65.9	Pass
T1	121 - 110	Diagonal	L2 1/2x2 1/2x3/16	15	-6493.35	10134.50	64.1	Pass
T2	110 - 100.417	Diagonal	L2x3x1/4	35	-7472.92	12806.60	58.4	Pass
T3	100.417 - 90.4167	Diagonal	L3x3x3/16	55	-9325.42	17200.20	54.2	Pass
T4	90.4167 - 80.4167	Diagonal	L3x3x1/4	75	-10468.90	21376.60	49.0	Pass
T5	80.4167 - 70.4167	Diagonal	2L2x2x3/16	93	-11588.50	21713.40	53.4	Pass
T6	70.4167 - 60.4167	Diagonal	L3x3x1/4	113	-9864.59	20141.30	49.0	Pass
T7	60.4167 - 50.4167	Diagonal	L3x3x1/4	133	-10768.80	19490.10	55.3	Pass
T8	50.4167 - 40.4167	Diagonal	L3x3x1/4	153	-11112.40	18781.40	59.2	Pass
T9	40.4167 - 30.4167	Diagonal	L3x3x1/4	173	-11638.30	18070.00	64.4	Pass
T10	30.4167 - 20.4167	Diagonal	L3x3x1/4	193	-11943.70	17306.60	69.0	Pass
T11	20.4167 - 10.2083	Diagonal	L3x3x1/4	213	-12301.70	16324.50	75.4	Pass
T12	10.2083 - 0	Diagonal	L3x3x1/4	233	-14151.70	15634.80	90.5	Pass
T1	121 - 110	Secondary Horizontal	L2x2x3/16	19	-201.89	14200.70	1.4	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T2	110 - 100.417	Secondary Horizontal	L2x2x3/16	39	-339.38	14200.70	2.4	Pass
T3	100.417 - 90.4167	Secondary Horizontal	L2x2x3/16	59	-580.16	14200.70	4.1	Pass
T4	90.4167 - 80.4167	Secondary Horizontal	L2x2x3/16	79	-814.72	13755.30	5.9	Pass
T5	80.4167 - 70.4167	Secondary Horizontal	L2x2x3/16	99	-1060.29	12849.80	8.3	Pass
T6	70.4167 - 60.4167	Secondary Horizontal	L2x2x3/16	119	-1380.88	11948.40	11.6	Pass
T7	60.4167 - 50.4167	Secondary Horizontal	L2x2x3/16	139	-1646.57	11031.10	14.9	Pass
T8	50.4167 - 40.4167	Secondary Horizontal	L2x2x3/16	160	-1928.48	9637.16	20.0	Pass
T9	40.4167 - 30.4167	Secondary Horizontal	L2x2x3/16	179	-2211.41	8490.62	26.0	Pass
T10	30.4167 - 20.4167	Secondary Horizontal	L2x2x3/16	199	-2498.09	7538.18	33.1	Pass
T11	20.4167 - 10.2083	Secondary Horizontal	L2x2x3/16	219	-2789.85	6736.77	41.4	Pass
T12	10.2083 - 0	Secondary Horizontal	L2x2x1/4	239	-3044.83	7827.19	38.9	Pass
T1	121 - 110	Top Girt	2L2x2x3/16	5	-300.22	22566.40	1.3	Pass
T2	110 - 100.417	Top Girt	2L2x2x3/16	25	-1324.91	22566.40	5.9	Pass
T3	100.417 - 90.4167	Top Girt	2L2x2x3/16	45	-2816.96	22566.40	12.5	Pass
T4	90.4167 - 80.4167	Top Girt	2L2x2x3/16	65	-4035.06	22566.40	17.9	Pass
T5	80.4167 - 70.4167	Top Girt	2L2x2x3/16	85	-7031.17	20913.70	33.6	Pass
T6	70.4167 - 60.4167	Top Girt	2L2x2x3/16	105	-6357.34	19163.10	33.2	Pass
T7	60.4167 - 50.4167	Top Girt	2L2 1/2x2 1/2x3/16	125	-5647.26	28700.10	19.7	Pass
T8	50.4167 - 40.4167	Top Girt	L3x3x1/4	145	-6199.64	15084.40	41.1	Pass
T9	40.4167 - 30.4167	Top Girt	L3x3x1/4	165	-6705.98	13746.40	48.8	Pass
T10	30.4167 - 20.4167	Top Girt	L3x3x1/4	185	-7074.82	12598.40	56.2	Pass
T11	20.4167 - 10.2083	Top Girt	2L2x2x3/16	205	-7512.15	12196.30	61.6	Pass
T12	10.2083 - 0	Top Girt	2L2x2x3/16	225	-9160.65	11267.10	81.3	Pass
						Summary		
						Leg (T12)	65.9	Pass
						Diagonal (T12)	90.5	Pass
						Secondary Horizontal (T11)	41.4	Pass
						Top Girt (T12)	81.3	Pass
						Bolt Checks	68.8	Pass
						RATING =	**90.5**	**Pass**

APPENDIX C

Tower Elevation Drawing



Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12
Legs	L5x5x1/2								L6x6x3/4			
Leg Grade	A572-50											
Diagonals	L2 1/2x2 1/2x3/16	L2x3x1/4	L3x3x3/16	L3x3x1/4	2L2x2x3/16		2L2 1/2x2 1/2x3/16		L3x3x1/4			
Diagonal Grade	A36											
Top Girts	2L2x2x3/16											
Sec. Horizontals	L2x2x3/16											L2x2x1/4
Face Width (ft)	6.25			6.81	7.36	7.92	8.47	9.03	9.58	10.14	10.69	11.25
# Panels @ (ft)	1 @ 11	1 @ 9.58333			8 @ 10						2 @ 10.2083	
Weight (lb)	1204.3	1171.9	1178.9	1300.4	1325.6	1860.3	1929.9	1921.4	1952.3	1983.6	2043.7	2108.7

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(2) Sabre 6' Sidearm C10-151-006	121	RRUS-32	121
(2) Sabre 6' Sidearm C10-151-006	121	RRUS-32	121
(2) Sabre 6' Sidearm C10-151-006	121	RRUS-32 B2	121
(2) Sabre 6' Sidearm C10-151-006	121	RRUS-32 B2	121
Andrew Double Pipe Mount MC-DA14-B	121	RRUS-11	121
		RRUS-11	121
Andrew Double Pipe Mount MC-DA14-B	121	RRUS-11	121
		RRUS-11	121
MTS 60" Standoff	121	RRUS-11	121
7770.00 w/Mount Pipe	121	RRUS-11	121
7770.00 w/Mount Pipe	121	RRUS-A2	121
7770.00 w/Mount Pipe	121	RRUS-A2	121
HPA-65R-BUU-H8 w/ Mount Pipe	121	RRUS-A2	121
HPA-65R-BUU-H8 w/ Mount Pipe	121	16' Dipole	121
HPA-65R-BUU-H8 w/ Mount Pipe	121	(2) LGP21401	121
TPA-65R-LCUUUU-H8 w/ Mount Pipe	121	(2) LGP21401	121
TPA-65R-LCUUUU-H8 w/ Mount Pipe	121	(2) LGP21401	121
TPA-65R-LCUUUU-H8 w/ Mount Pipe	121	DC6-48-60-18-8F	121
RRUS-32	121	DC6-48-60-18-8F	121
RRUS-32 B2	121		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 101 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 5 with Crest Height of 200.00 ft
8. TOWER RATING: 90.5%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 221141 lb
SHEAR: 22050 lb

UPLIFT: -216141 lb
SHEAR: 22148 lb

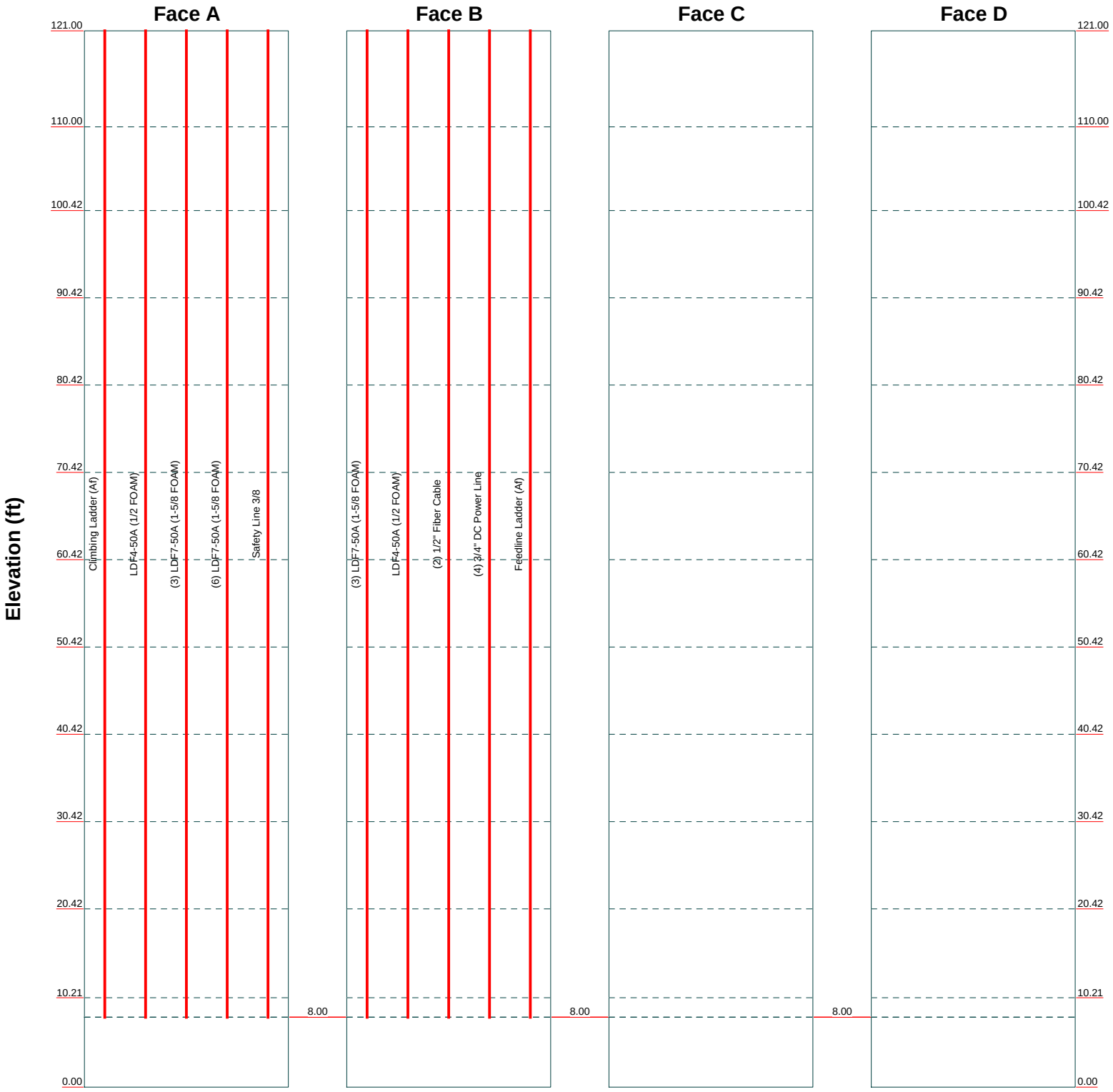
AXIAL 84483 lb
SHEAR 10927 lb *MOMENT 898509 lb-ft*
TORQUE 3473 lb-ft
50 mph WIND - 0.7500 in ICE
AXIAL 31240 lb
SHEAR 46766 lb *MOMENT 3465896 lb-ft*
TORQUE 20890 lb-ft
REACTIONS - 101 mph WIND

GPD
520 South Main Street Suite 2531
Akron, Ohio 44311
Phone: (555) 555-1234
FAX: (555) 555-1235

Job: **65054 - LEBANON**			
Project: **2017723.21.65054.03**			
Client: Smartlink, LLC	Drawn by: stony	App'd:	
Code: TIA-222-G	Date: 04/20/17	Scale: NTS	
Path: T:\ATandT\65054\04 2017723.21 65054.03 Smartlink SA\TNX\65054.eri		Dwg No. E-1	

Feed Line Distribution Chart
0' - 121'

Round | Flat | App In Face | App Out Face | Truss Leg

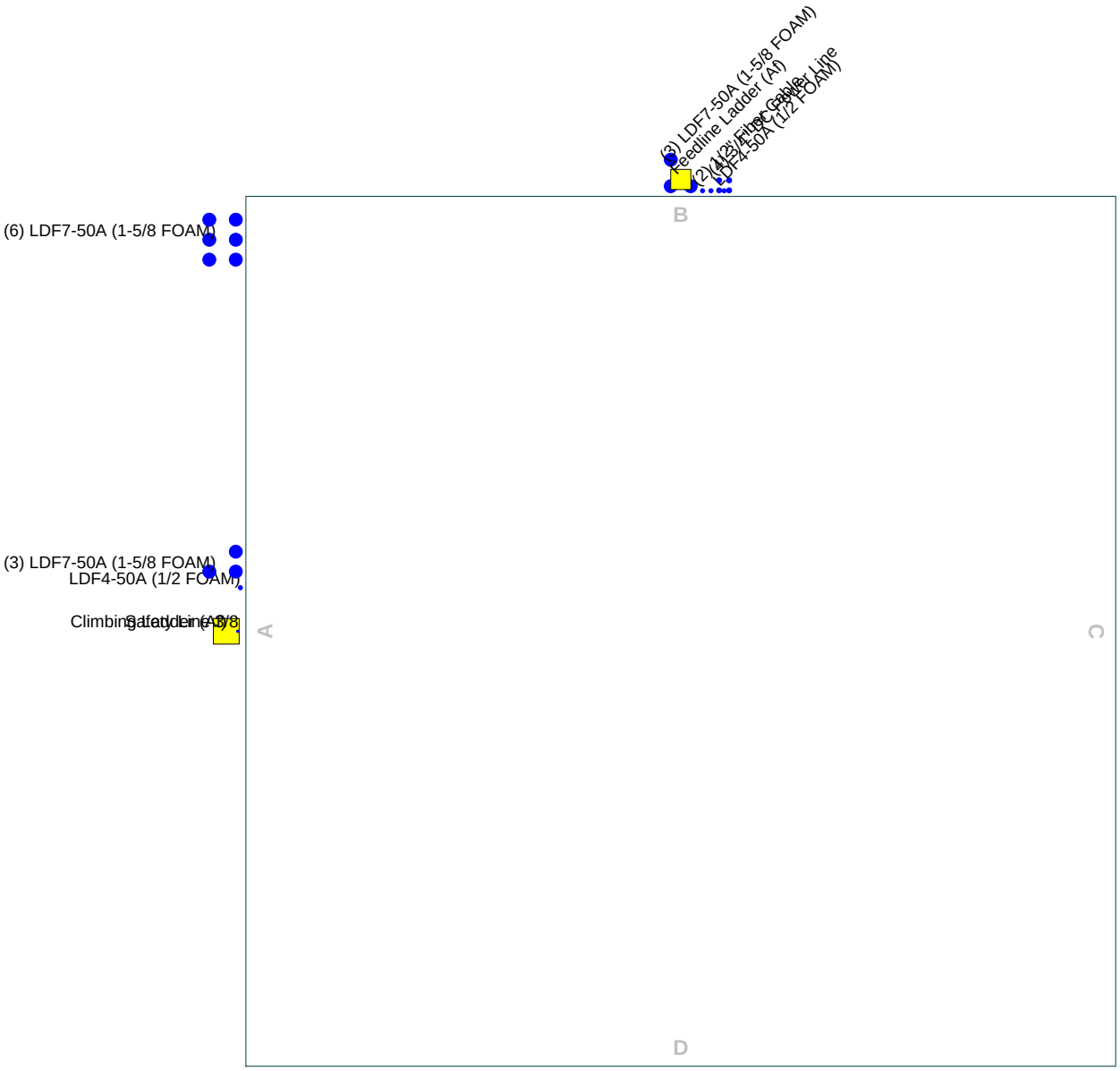


GPD
520 South Main Street Suite 2531
Akron, Ohio 44311
Phone: (555) 555-1234
FAX: (555) 555-1235

Job: ***65054 - LEBANON***			
Project: ***2017723.21.65054.03***			
Client: Smartlink, LLC	Drawn by: stony	App'd:	
Code: TIA-222-G	Date: 04/20/17	Scale: NTS	
Path: T:\ATandT\65054\04 2017723.21 65054.03 Smartlink SA\TNX\65054.eri		Dwg No. E-7	

Feed Line Plan

Round Flat App In Face App Out Face



GPD
520 South Main Street Suite 2531
Akron, Ohio 44311
Phone: (555) 555-1234
FAX: (555) 555-1235

Job:	65054 - LEBANON		
Project:	2017723.21.65054.03		
Client: Smartlink, LLC	Drawn by: stony	App'd:	
Code: TIA-222-G	Date: 04/20/17	Scale: NTS	
Path: T:\ATandT\65054\04 2017723.21 65054.03 Smartlink SA\TNX\65054.er		Dwg No. E-7	

APPENDIX D

Anchor Rod Analysis

Self-Support Anchor Rod Analysis
65054 - Lebanon
2017723.21.65054.03

General Info	
Code	TIA-222-G
Modified Anchor Rods	No
Clear Distance > d_b	No
Leg Eccentricity	No
Max Capacity	1.05

Tower Reactions		
Detail Type =	c	
Eta Factor, η =	0.55	
Uplift, P_u =	216.14	kips
Uplift Shear, V_u =	22.15	kips

Anchor Rods		
Number of Anchor Rods, N =	4	
Anchor Rod Grade =	A36	
Anchor Rod Diameter, d_d =	2	in
Bolt Circle, BC =	8	in
Yield, F_y =	36	ksi
Tensile, F_{ub} =	58	ksi

Anchor Rod Results		
$(P_u + V_u/\eta)$	64.1	kips
$\phi*R_{nt} = \phi*F_{ub}*A_n$ =	116.0	kips
Anchor Rod Stress Ratio =	55.3%	OK

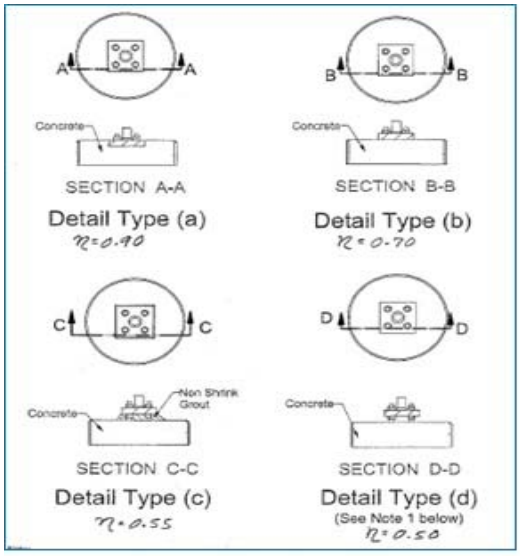


Figure 4-4 of TIA-222-G

APPENDIX E

Foundation Analysis

Mat Foundation Analysis
65054 - Lebanon
2017723.21.65054.03

General Info	
Foundation Criteria	GPD
TIA Code	TIA-222-G
Soil Code	AASHTO 2012
Concrete Code	ACI 318-11
Seismic Design Category	B
Tower Height	121 ft
Bearing On	Rock
Foundation Type	SS Pad
Pier Type	Square
Reinforcing Known	No
Max Bearing Capacity	105%
Max Overturning Capacity	100%

Tower Reactions	
Moment, M	3465.896 k-ft
Axial, P	31.24 k
Shear, V	46.766 k

Pad & Pier Geometry	
Pier Width, ø	3 ft
Pad Length, L [y]	23 ft
Pad Width, W [x]	23 ft
Pad Thickness, t	3 ft
Depth, D	5.5 ft
Height Above Grade, HG	1 ft
Tower Centroid, X	11.5 ft
Tower Centroid, Y	11.5 ft
Tower Eccentricity	0.0000 ft

Pad & Pier Reinforcing	
Rebar Fy	60 ksi
Concrete F'c	3 ksi
Pier Reinforcing Clear Cover	3 in
Shear Rebar Type	Tie
Shear Rebar Size	# 4
Pad Reinforcing Clear Cover	3 in
Reinforced Top & Bottom?	Yes
Pad Reinforcing Size	# 8
Pad Quantity Per Layer	33
Pier Rebar Size	# 8
Pier Quantity of Rebar	16

Soil Properties	
Soil Type	Cohesive
Soil Unit Weight	120 pcf
Cohesion, Cu (ksf)	15
Base Friction Coeff. Provided in Geo?	Yes
Base Friction Coefficient, µ	0.7
Bearing Type	Net
Ultimate Bearing	50 ksf
Water Table Depth	99 ft
Frost Depth	5 ft

GPD Mat Foundation Analysis - V3.2

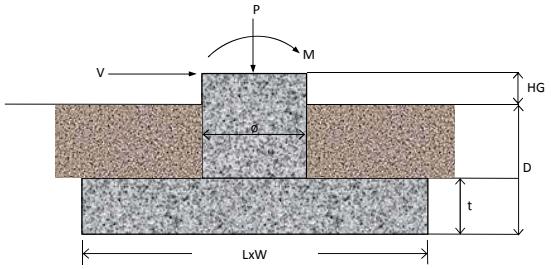
Bearing Summary					
Case	*Demand/Limits*	*Capacity/Availability*	*Check*	*Eccentricity*	*Load Case*
Qxmax	6.35 ksf	38.00 ksf	OK, <= 105%	L/2.4	0.9D+1.6W
Qymax	6.35 ksf	38.00 ksf	OK, <= 105%	W/2.4	0.9D+1.6W
Qmax @ 45°	6.80 ksf	38.00 ksf	OK, <= 105%	W/3.3	0.9D+1.6W
Controlling Capacity		**17.9%**	**Pass**		

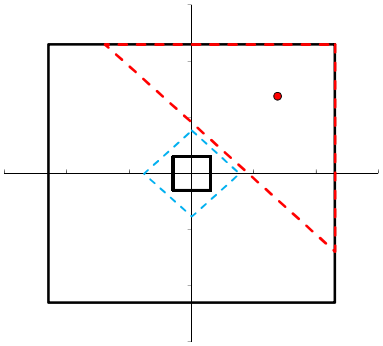
Overturning Summary					
Case	*Demand/Limits*	*Capacity/Availability*	*Check*		*Load Case*
Ovtx	3758.2 k-ft	5918.2 k-ft	84.7%	OK	0.9D+1.6W
Ovty	3758.2 k-ft	5918.2 k-ft	84.7%	OK	0.9D+1.6W
Ovtxy	2657.4 k-ft	5918.2 k-ft	59.9%	OK	0.9D+1.6W
Controlling Capacity		**84.7%**	**Pass**		

Sliding Summary					
Case	*Demand/Limits*	*Capacity/Availability*	*Check*		*Load Case*
Slidingx	46.8 k	464.2 k	10.1%	OK	0.9D+1.6W
Slidingy	46.8 k	464.2 k	10.1%	OK	0.9D+1.6W
Controlling Capacity		**10.1%**	**Pass**		

Reinforcement Summary					
Component	*Demand/Limits*	*Capacity/Availability*	*Check*		*Load Case*
Compression on Pier	259.5 k	1385.1 k	18.7%	OK	1.2D+1.6W
Moment on Pier	77.5 k-ft	527.2 k-ft	14.7%	OK	1.2D+1.6W
As Min Pad Met?	2.27 sq. in.	0.55 sq. in.	Yes		
As Min Pier Met?	12.64 sq. in.	6.48 sq. in.	Yes		
Controlling Capacity		**18.7%**	**Pass**		

<-- Minimum reinforcement assumed





244 GATES RD

Location	244 GATES RD	**Mblu**	208/ / 55/ /
Acct#	S0154300	**Owner**	NEW CINGULAR WIRELESS PCS LLC
Assessment	$179,780	**Appraisal**	$256,830
PID	1091	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$30,710	$226,120	$256,830
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$21,500	$158,280	$179,780

Owner of Record

Owner	NEW CINGULAR WIRELESS PCS LLC	**Sale Price**	$1
Co-Owner		**Certificate**	
Address	909 CHESTNUT ST 36-M-01 ST LOUIS , MO 63101	**Book & Page**	294/ 582
		Sale Date	06/23/2015
		Instrument	25

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
NEW CINGULAR WIRELESS PCS LLC	$1		294/ 582	25	06/23/2015
AT&T CAPITAL SERVIES INC	$0		291/1006	31	10/28/2014
SOUTHERN NEW ENGLAND TELEPHONE	$0		0072/0507	29	

Building Information

Building 1 : Section 1

Year Built:	1961
Living Area:	900
Replacement Cost:	$29,433
Building Percent Good:	70

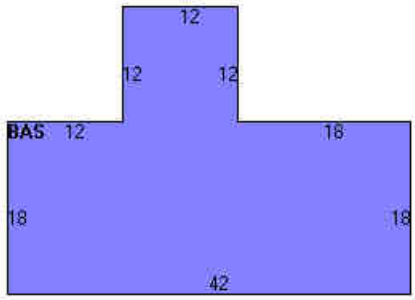
Replacement Cost Less Depreciation: $20,600

Building Attributes	
Field	**Description**
STYLE	Support Shed
MODEL	Industrial
Grade	Average +10
Stories:	1
Occupancy	
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Shed
Roof Cover	Tar + Gravel
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	None
Heating Type	None
AC Type	None
Use:	CELL TOWR MDL-96
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	4310
Heat/AC	NONE
Frame Type	MASONRY
Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	LIGHT
Wall Height	10
% Comn Wall	0

Building Photo

(http://images.vgsi.com/photos/LebanonCTPhotos//\00\00\93/

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	900	900
		900	900

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Land Line Valuation

Use Code	4310	**Size (Sqr Feet)**	75794
Description	CELL TOWR MDL-96	**Frontage**	0
Zone		**Depth**	0
Neighborhood		**Assessed Value**	$158,280
Alt Land Appr	No	**Appraised Value**	$226,120
Category			

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
TW2	CELL TOWER			120 HEIGHT	$0	1
FN3	FENCE-6' CHAIN			340 L.F.	$1,530	1
SHDC	Shed - Cell tower			300 S.F.	$8,580	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$30,710	$226,120	$256,830
2014	$30,710	$226,120	$256,830
2013	$30,710	$226,120	$256,830

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$21,500	$158,280	$179,780
2014	$21,500	$158,280	$179,780
2013	$21,500	$158,280	$179,780

PROJECT:	LTE 3C/4C/BWE
SITE NUMBER:	CTL01065
FA NUMBER:	10035007
PTN NUMBER:	2051A052XC / 2051A07R86
PACE NUMBER:	MRCTB017607 / MRCTB020132
SITE NAME:	LEBANON
SITE ADDRESS:	244 GATES ROAD LEBANON, CT 06249

PROJECT INFORMATION

SITE NAME:	LEBANON
SITE NUMBER:	CTL01065
SITE ADDRESS:	244 GATES ROAD LEBANON, CT 06249
FA NUMBER:	10035007
PTN NUMBER:	2051A052XC / 2051A07R86
PACE NUMBER:	MRCTB017607 / MRCTB020132
USID NUMBER:	65054
APPLICANT:	AT&T WIRELESS 550 COCHITUATE ROAD SUITE 550 13 AND 14 FRAMINGHAM, MA 01701
OWNER:	AT&T CORP. 1950 CENTRY BLVD., SUITE 25 ATLANTA GA 30345
JURISDICTION:	CONNECTICUT SITING COUNCIL
COUNTY:	NEW LONDON COUNTY
SITE COORDINATES FROM	(RFDS)
LATITUDE:	41.682936°
LONGITUDE:	−72.216193°
GROUND ELEV.:	668'
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:	STEPHEN GIACOBBE (347) 486 0739
EMAIL:	Stephen.Giacobbe@smartlinkllc.com

SCOPE OF WORK

LTE AWS/WCS/PCS WILL BE 3C/4C/BWE AT THE SITE WITH BRONZE CONFIGURATION.
PROPOSED 3C/4C/BWE PROJECT SCOPE BASED ON RFDS ID # 1013752, VERSION 1.00 LAST UPDATED 01/21/16 AND RFDS ID # 1401026, VERSION 2.00 LAST UPDATED 01/26/17.

- (6) NEW ANTENNAS TO REPLACE (6) EXISTING ANTENNAS
- (6) NEW RRUS−32 UNITS
- (3) NEW RRUS−11 UNITS W/A2 MODULES
- (3) EXISTING RRUS−11 UNITS TO BE REMOVED
- (1) NEW RAYCAP UNIT
- (1) FIBER CABLE AND (2) DC POWER CABLES
- (6) NEW TRIPLEXER UNITS
- (6) NEW 25A BREAKERS, (1) NEW XMU CARD, (1) NEW IDL2, (1) LTE DUS & (1) DUS 41 EXPANSION
- 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

T1	TITLE SHEET
SP1	NOTES AND SPECIFICATIONS
SP2	NOTES AND SPECIFICATIONS
A1	COMPOUND PLAN
A2	EQUIPMENT PLAN
A3	ELEVATIONS
A4	ANTENNA PLANS
A5	EQUIPMENT DETAILS
A6	ANTENNA & CABLE CONFIGURATION
A7	CABLE NOTES AND COLOR CODING
A8	GROUNDING DETAILS

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

at&t
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	03/10/17	90% REVIEW	KC
1	03/14/17	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
LEBANON

SITE NUMBER:
CTL01065

SITE ADDRESS
244 GATES ROAD
LEBANON, CT 06249

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.

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

smartlink
1362 MELLON ROAD
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REV	DATE	DESCRIPTION	BY
0	03/10/17	90% REVIEW	KC
1	03/14/17	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

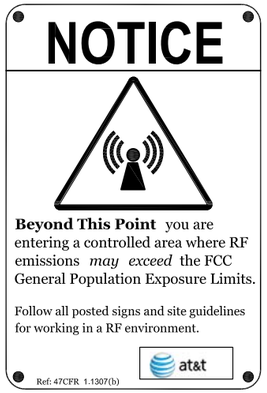
SITE NAME
LEBANON

SITE NUMBER:
CTL01065

SITE ADDRESS
244 GATES ROAD
LEBANON, CT 06249

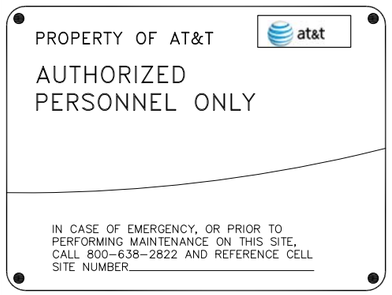
SHEET NAME
NOTES AND SPECIFICATIONS

SHEET NUMBER
SP1



ALERTING SIGNS

ALERTING SIGN



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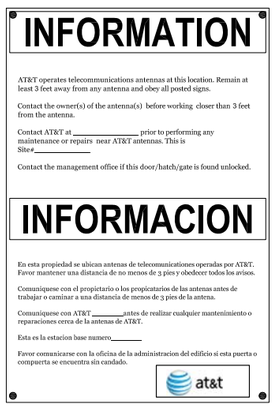

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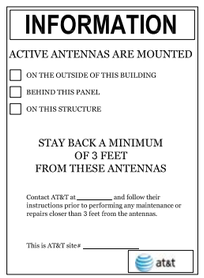

INFO SIGN #2

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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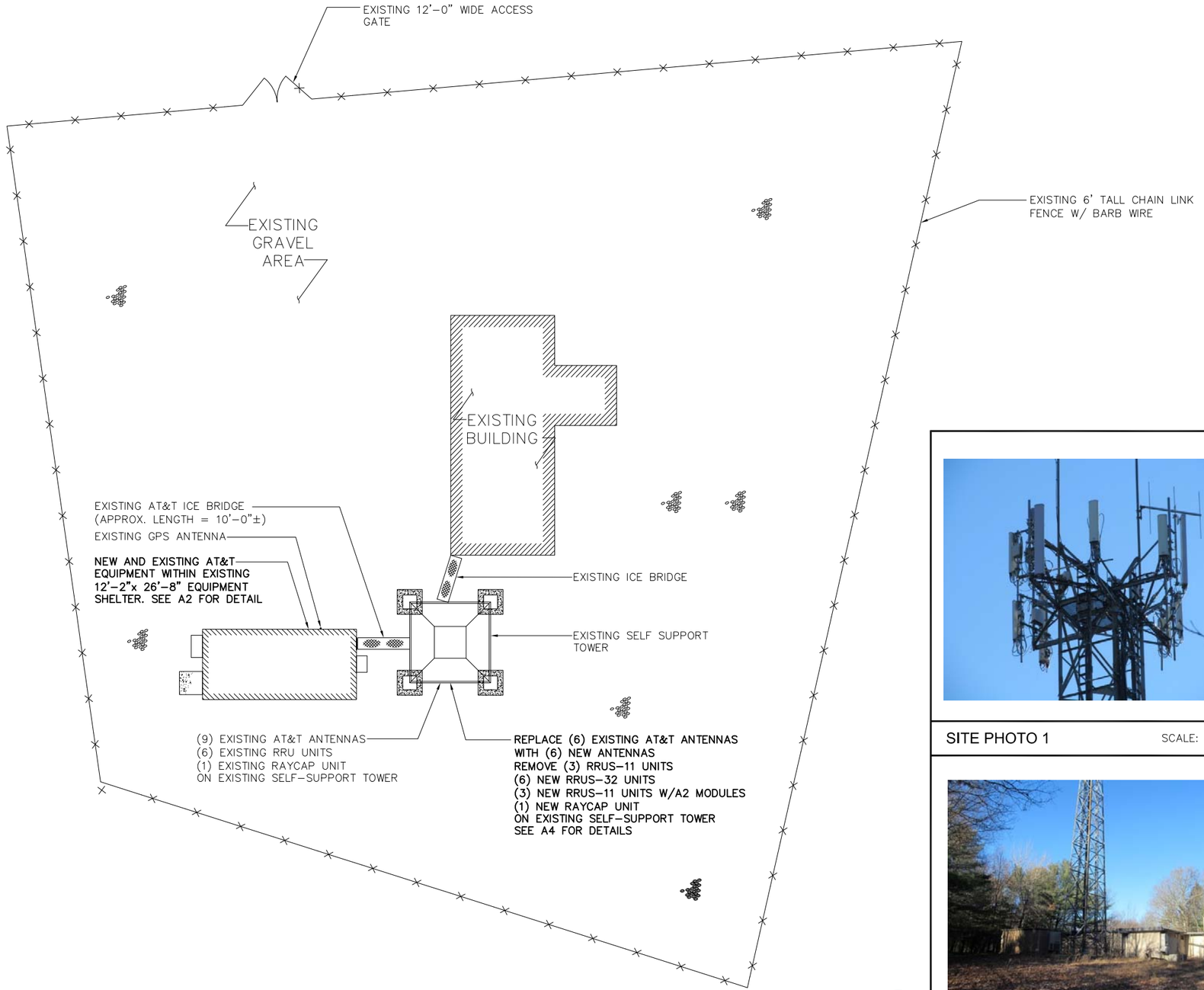
FEC# 2016.0428.0017

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 / A)



COMPOUND PLAN — SCALE: 1" = 20'-0" — 1

SITE PHOTO 1 — SCALE: N.T.S. — 2

SITE PHOTO 2 — SCALE: N.T.S. — 3

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

SITE NAME
LEBANON

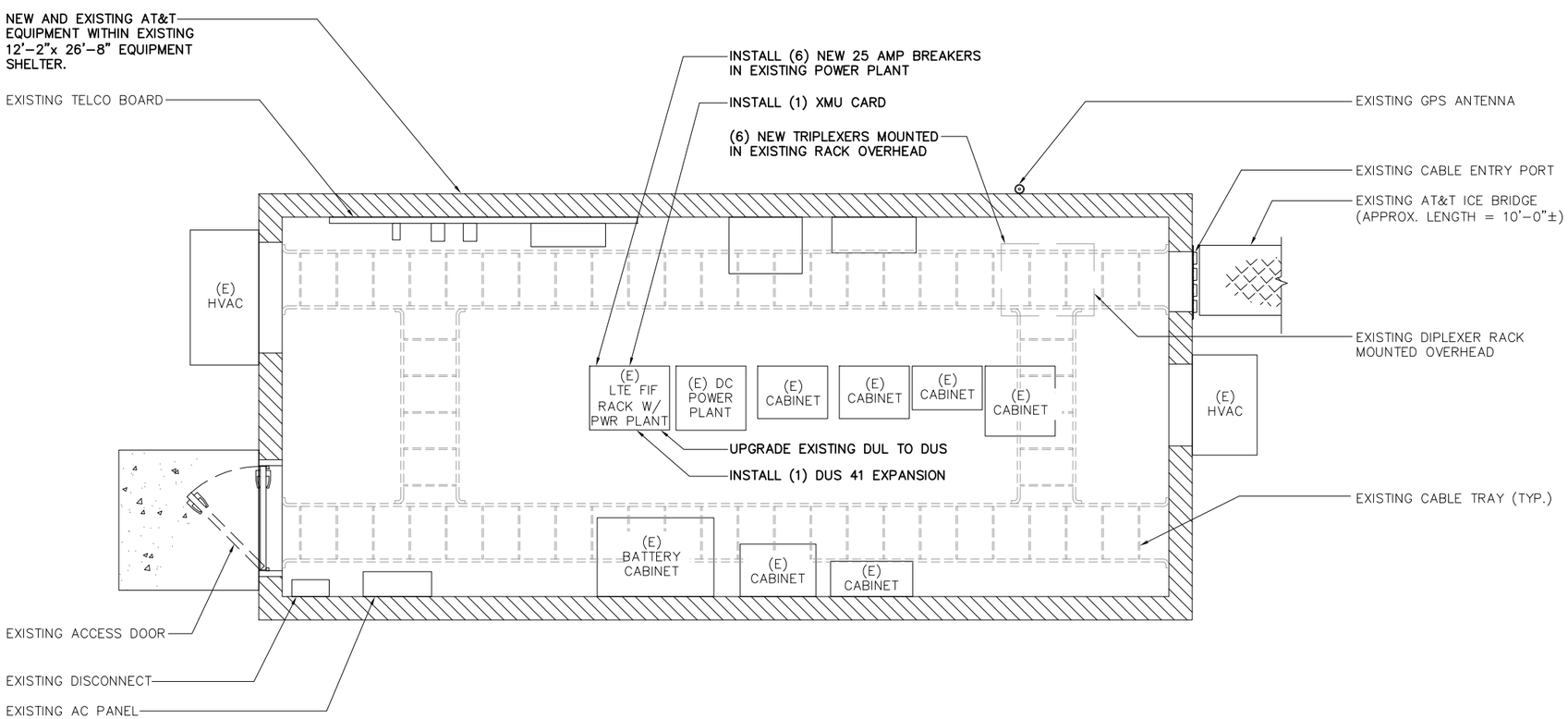
SITE NUMBER:
CTL01065

SITE ADDRESS
244 GATES ROAD
LEBANON, CT 06249

SHEET NAME
COMPOUND PLAN

SHEET NUMBER
A1

FEC# 2016.0428.0017



EQUIPMENT PLAN

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

1

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25358
LICENSED PROFESSIONAL ENGINEER

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SITE NUMBER:
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SITE ADDRESS
244 GATES ROAD
LEBANON, CT 06249

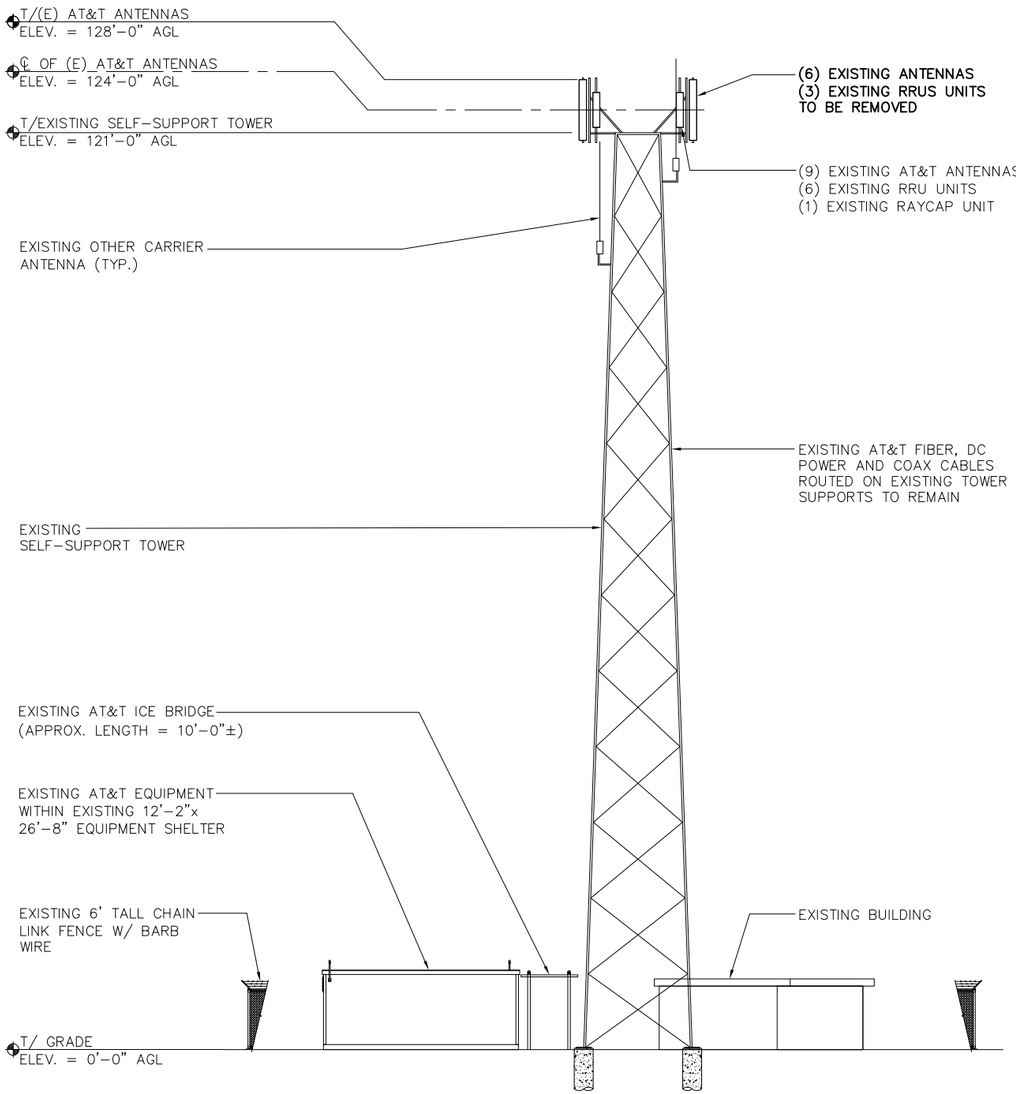
SHEET NAME
EQUIPMENT PLAN

SHEET NUMBER
A2

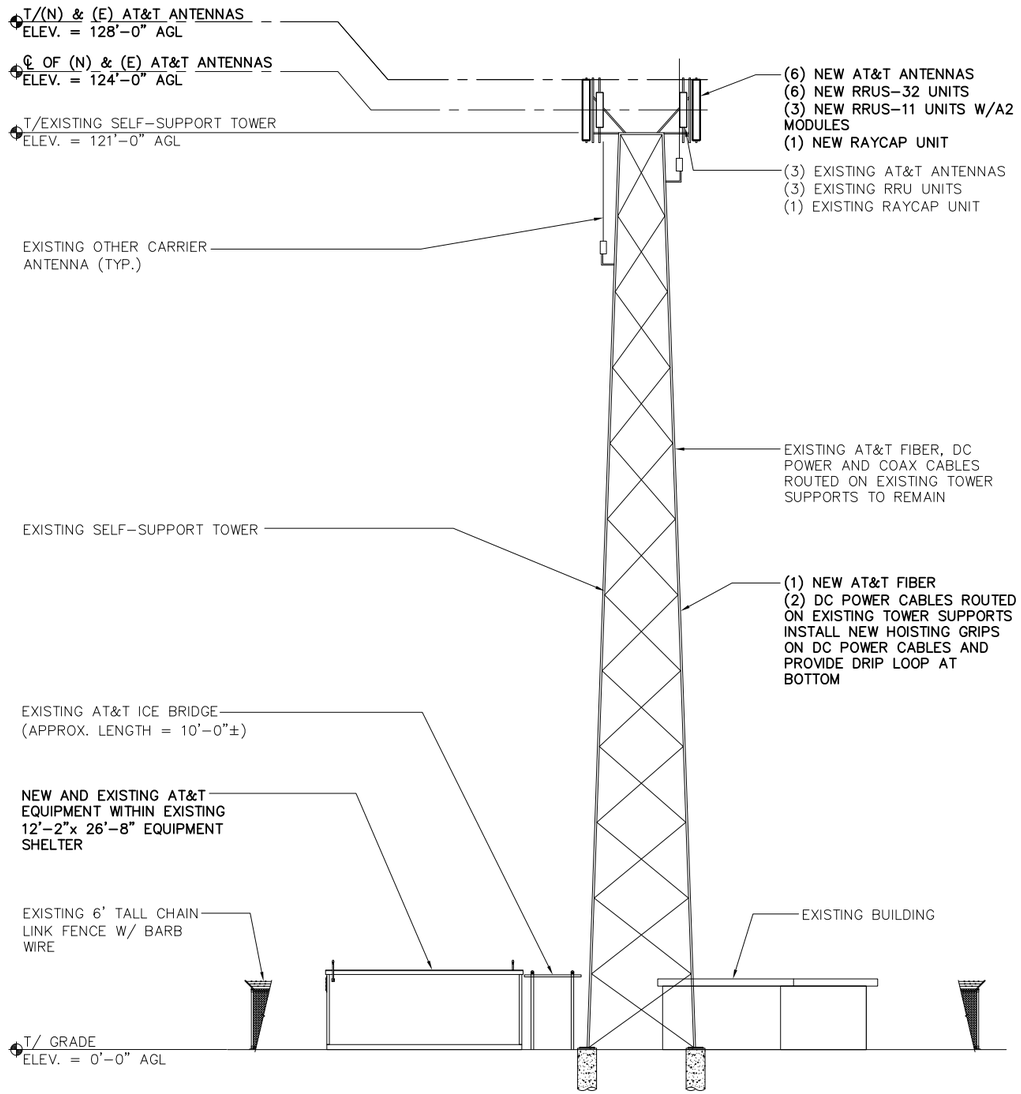
FEC# 2016.0428.0017

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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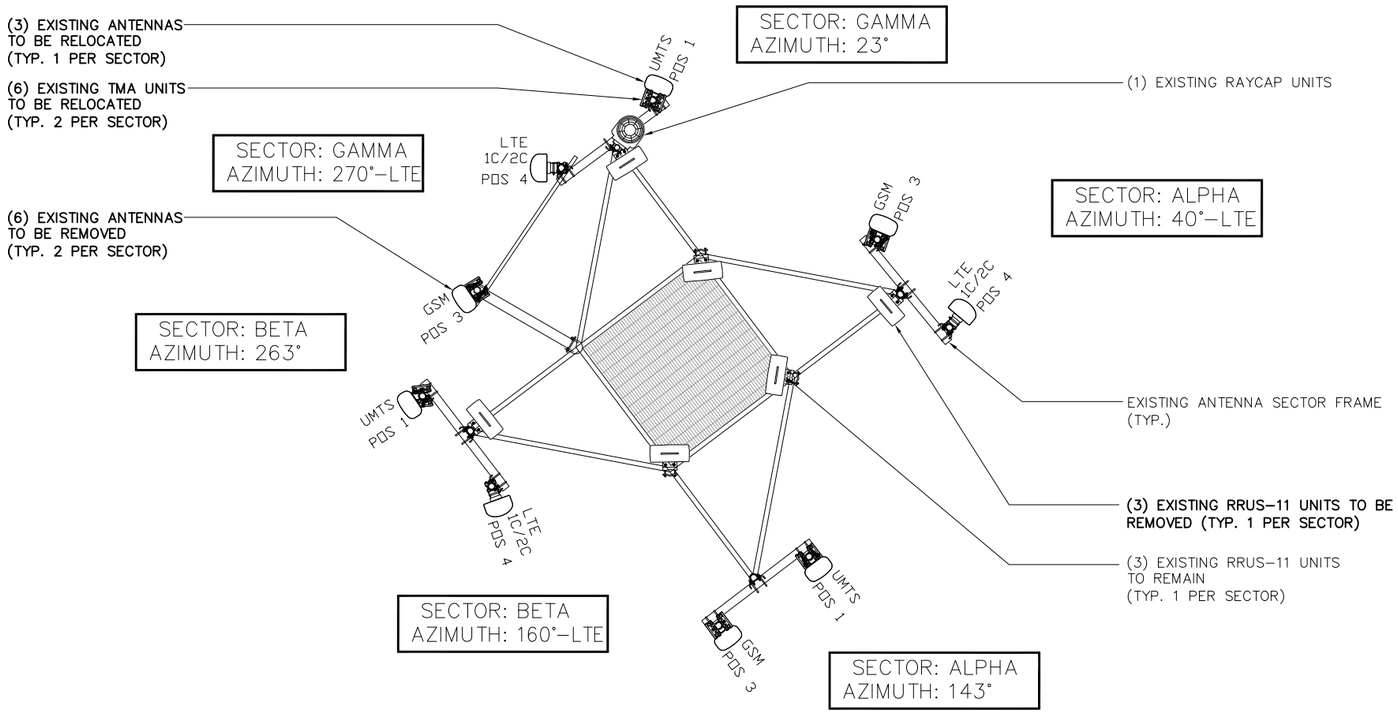
SITE ADDRESS
244 GATES ROAD
LEBANON, CT 06249

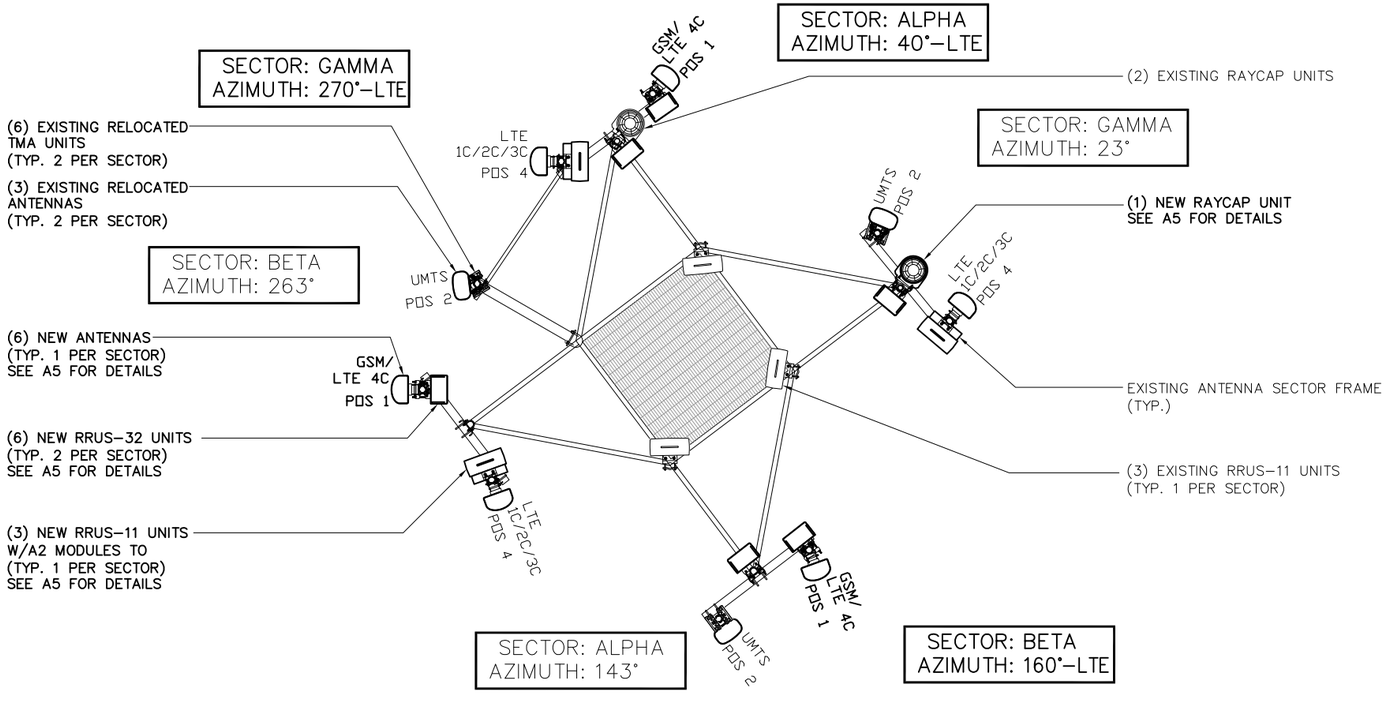
SHEET NAME
ELEVATIONS

SHEET NUMBER
A3

FEC# 2016.0428.0017



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



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

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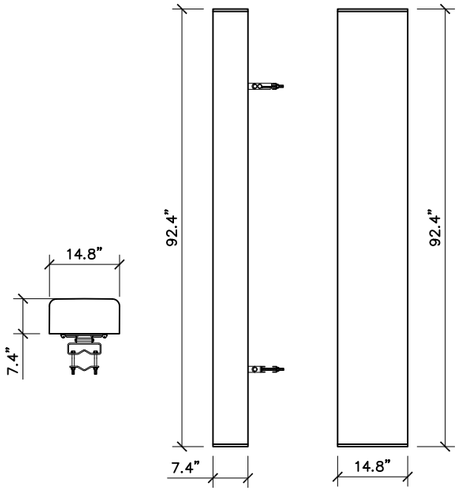
244 GATES ROAD
LEBANON, CT 06249

SHEET NAME
ANTENNA PLANS

SHEET NUMBER
A4

FEC# 2016.0428.0017



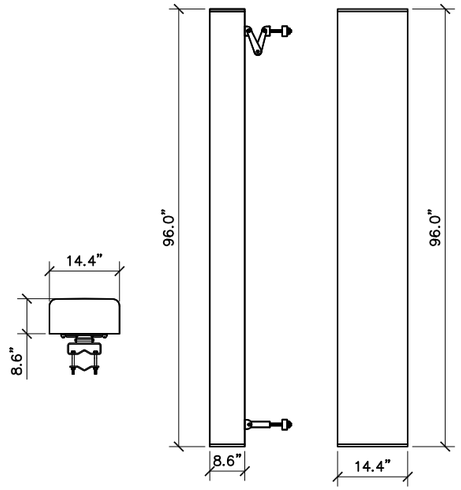
PLAN VIEW SIDE VIEW FRONT VIEW

CCI – HPA–65R–BUU–H8

HEXPORT MULTI–BAND ANTENNA

FREQUENCY RANGE	698–806 MHz
	824–894 MHz
	1850–1990 MHz
	1710–1755/2110–2170 MHz
	2305–2360 MHz
ANTENNA	68 Lbs
WITH BRACKET	78 Lbs

ANTENNA SPEC SCALE: N.T.S. 1



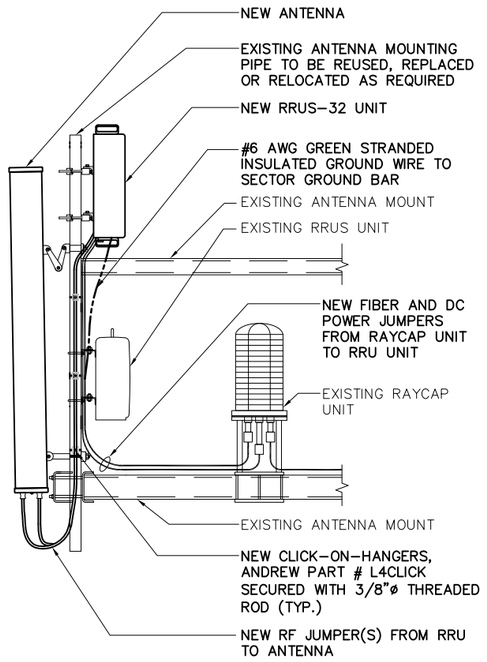
PLAN VIEW SIDE VIEW FRONT VIEW

TPA–65R–LCUUU–H8

12–PORT MULTI–BAND ANTENNA

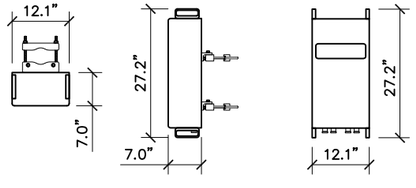
FREQUENCY RANGE	698–798 MHz
	824–896 MHz
	1850–1990 MHz
	1695–1780/2110–2180 MHz
	2305–2360 MHz
ANTENNA	75 Lbs
WITH BRACKET	85 Lbs

ANTENNA SPEC SCALE: N.T.S. 2



ANTENNA SCHEMATIC SCALE: N.T.S. 3

NOT USED SCALE: N.T.S. 3

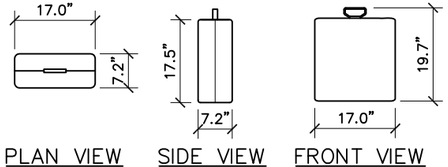


PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON – RRUS 32 B30

UNIT WEIGHT	60 Lbs

RRU SPEC SCALE: N.T.S. 5



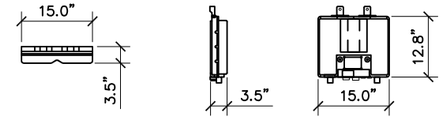
PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON – RRUS 11

WITH SOLAR SHIELD

UNIT WEIGHT	50 Lbs

RRU SPEC SCALE: N.T.S. 6



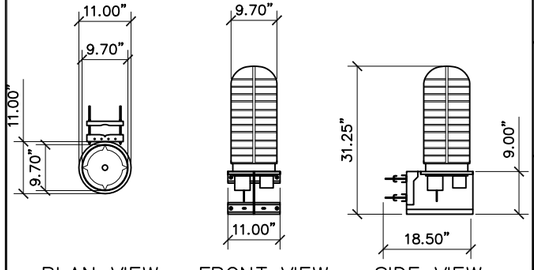
PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON – RRUS A2 MODULE

UNIT WEIGHT	22 Lbs

A2 BOX SPEC SCALE: N.T.S. 7

NOMINAL OPERATING VOLTAGE:	48 VDC
NOMINAL DISCHARGE CURRENT:	20 kA 8/20ms
MAXIMUM DISCHARGE CURRENT:	60 kA 8/20ms
MAXIMUM CONTINUOUS OPERATING VOLTAGE:	75 VDC
VOLTAGE PROTECTION RATING:	400 V
WIND LOADING:	150 MPH SUSTAINED (105.7 lbs) 195 MPH GUST (213.6 lbs)



PLAN VIEW FRONT VIEW SIDE VIEW

RAYCAP – DC6–48–60–0–8F

TOWER DC OVER VOLTAGE PROTECTION POWER CONNECTION SOLUTION

UNIT WEIGHT	32.8 Lbs

CONTRACTOR TO USE "THREAD LUBRICANT" ON MOUNTING BOLTS DURING INSTALLATION ON EXISTING STRUCTURAL MEMBER

RAYCAP SPEC SCALE: N.T.S. 7

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STATE OF CONNECTICUT
HENRY M. BELLAGAMBA
25358
LICENSED
PROFESSIONAL ENGINEER

SITE NAME
LEBANON

SITE NUMBER:
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SITE ADDRESS
244 GATES ROAD
LEBANON, CT 06249

SHEET NAME
EQUIPMENT DETAILS

SHEET NUMBER
A5

FEC# 2016.0428.0017

FINAL ANTENNA CONFIGURATION AND CABLE SCHEDULE
SUPPLIED BY AT&T WIRELESS, FROM RF CONFIGS. DATED (01/21/16 & 01/06/17)

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	(N) GSM/LTE4C ANTENNA	HPA-65R-BUU-H8	CCI	(1) NEW RRUS-32 UNIT	40°	124'-0"	(2) 1-5/8"ø LDF7-50A	180'-0"	(2) DC6-48-60-18-8F UNIT
								SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		
	A-2	(E) UMTS ANTENNA	7770	POWERWAVE	(2) EXISTING TMA UNITS	143°	124'-0"	1-5/8"ø LDF7-50A	180'-0"	
								1-5/8"ø LDF7-50A	180'-0"	
	A-3	-	-	-	-	-	-	-	-	
	A-4	(N) LTE 1C/2C/3C ANTENNA	TPA-65-LCUUUU-H8	CCI	(1) EXISTING RRUS-11 UNIT (1) NEW RRUS-11 UNIT W/A2 MODULES (1) NEW RRUS-32 UNIT	40°	124'-0"	(1) EXISTING FIBER (2) EXISTING DC POWER CABLES	180'-0"	
								(1) NEW FIBER (2) NEW DC POWER CABLES	180'-0"	
BETA	B-1	(N) GSM/LTE4C ANTENNA	HPA-65R-BUU-H8	CCI	(1) NEW RRUS-32 UNIT	160°	124'-0"	(2) 1-5/8"ø LDF7-50A	180'-0"	
								SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		
	B-2	(E) UMTS ANTENNA	7770	POWERWAVE	(2) EXISTING TMA UNITS	263°	124'-0"	1-5/8"ø LDF7-50A	180'-0"	
								1-5/8"ø LDF7-50A	180'-0"	
	B-3	-	-	-	-	-	-	-	-	
	B-4	(N) LTE 1C/2C/3C ANTENNA	TPA-65-LCUUUU-H8	CCI	(1) EXISTING RRUS-11 UNIT (1) NEW RRUS-11 UNIT W/A2 MODULES (1) NEW RRUS-32 UNIT	160°	124'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		
GAMMA	C-1	(N) GSM/LTE4C ANTENNA	HPA-65R-BUU-H8	CCI	(1) NEW RRUS-32 UNIT	270°	124'-0"	(2) 1-5/8"ø LDF7-50A	180'-0"	
								SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		
	C-2	(E) UMTS ANTENNA	7770	POWERWAVE	(2) EXISTING TMA UNITS	23°	124'-0"	1-5/8"ø LDF7-50A	180'-0"	
								1-5/8"ø LDF7-50A	180'-0"	
	C-3	-	-	-	-	-	-	-	-	
	C-4	(N) LTE 1C/2C/3C ANTENNA	TPA-65-LCUUUU-H8	CCI	(1) EXISTING RRUS-11 UNIT (1) NEW RRUS-11 UNIT W/A2 MODULES (1) NEW RRUS-32 UNIT	270°	124'-0"	SEE ANTENNA A-4 FOR CABLE TYPE AND LENGTH		

ANTENNA & CABLE CONFIGURATION

SCALE: N.T.S. | 1

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

SITE NAME
LEBANON

SITE NUMBER:
CTL01065

SITE ADDRESS
244 GATES ROAD
LEBANON, CT 06249

SHEET NAME
ANTENNA & CABLE CONFIGURATION

SHEET NUMBER
A6

FEC# 2016.0428.0017

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.

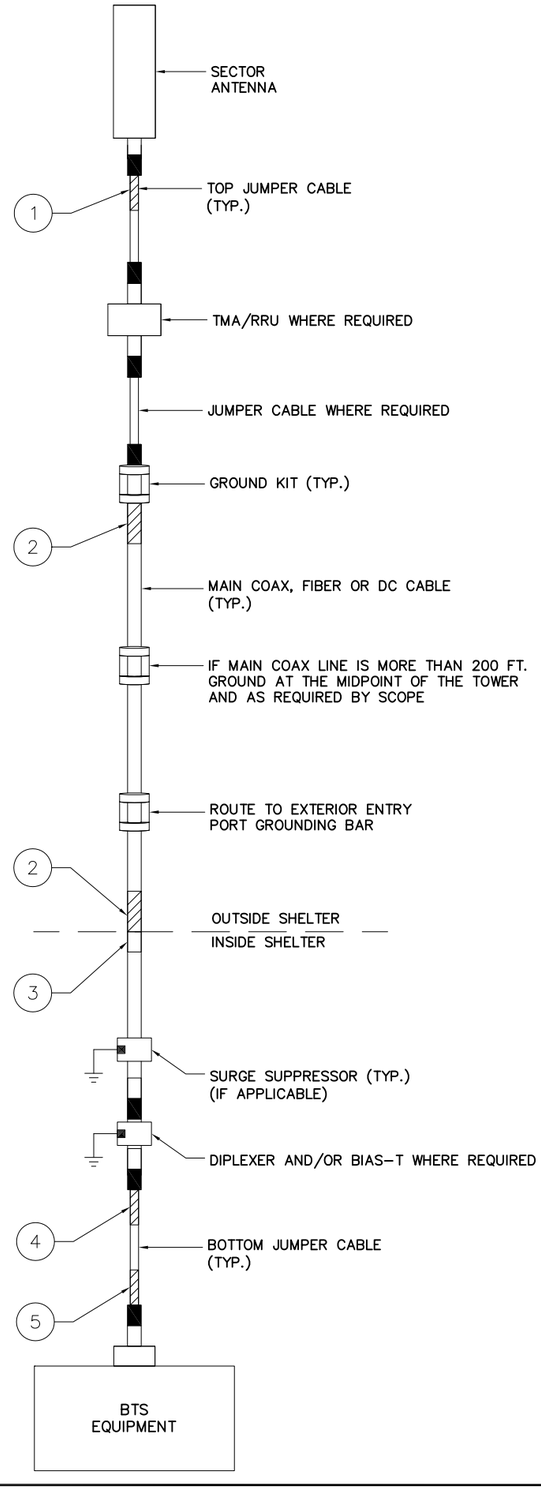
CABLE MARKING DIAGRAM

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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SITE NAME
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SITE NUMBER:
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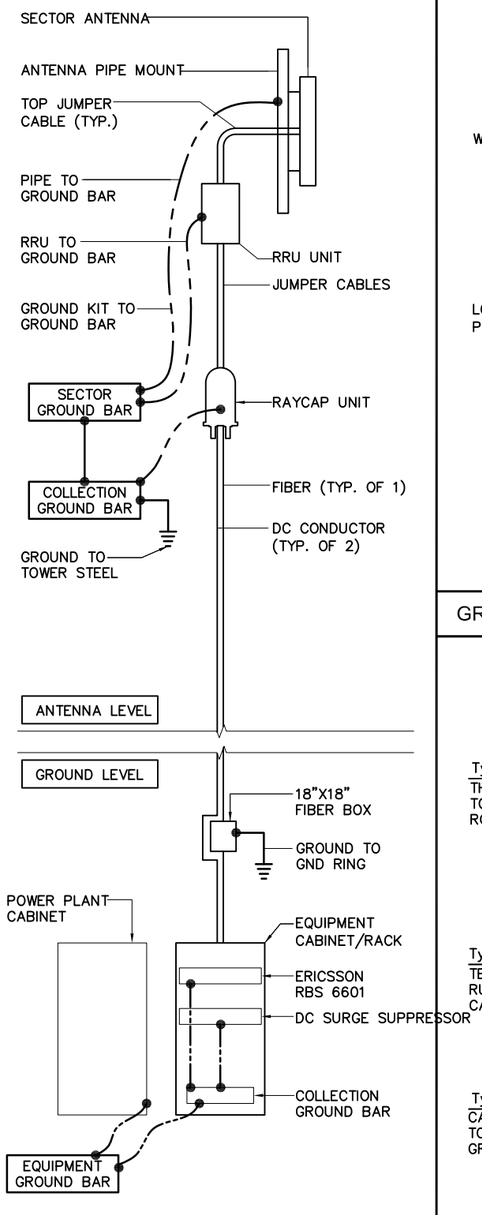
SITE ADDRESS
244 GATES ROAD
LEBANON, CT 06249

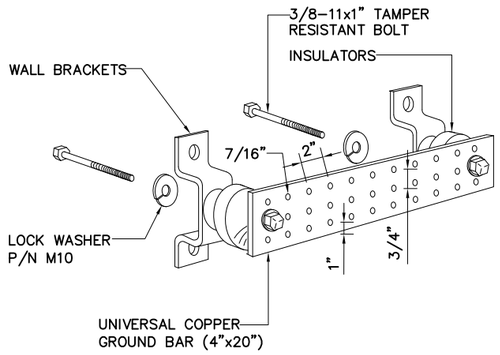
SHEET NAME
CABLE NOTES AND COLOR CODING

SHEET NUMBER
A7

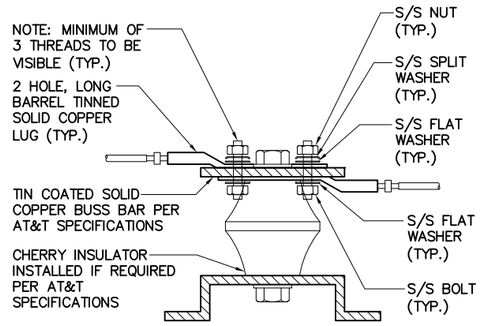
FEC# 2016.0428.0017



GROUNDING SCHEMATIC SCALE: N.T.S. 1



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

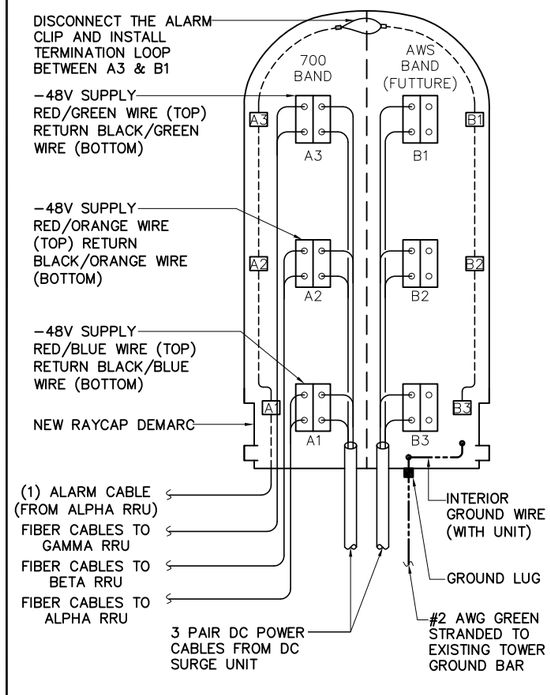


NOTES:

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

FULLERTON ENGINEERING · DESIGN
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0	03/10/17	90% REVIEW	KC
1	03/14/17	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
LEBANON

SITE NUMBER:
CTL01065

SITE ADDRESS
244 GATES ROAD
LEBANON, CT 06249

SHEET NAME
GROUNDING DETAILS

SHEET NUMBER
A8

FEC# 2016.0428.0017