November 29th, 2018

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

Re: **Notice of Exempt Modification – Antenna Swap**
Property Address: **3114 Albany Ave. West Hartford, CT 06117**
Applicant: **AT&T Mobility, LLC**

Dear Ms. Bachman:

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

AT&T currently maintains a wireless telecommunications facility consisting of nine (9) wireless telecommunication antennas at an antenna center line height of 115-feet on an existing 309 - foot guyed tower, owned by SBA Communications Corporation at 8051 Congress Avenue, Boca Raton, FL 33487. AT&T now intends to remove (3) Kathrein 800 10121 panel antennas on position 4 all sectors, remove (2) CCI HPA-65R-BUU-H8 and (1) CCI HPA-65R-BUU-H6 in position 2 all sectors. We will retain (3) Kathrein 800 10121 panel antennas all sectors. We will install (2) Kathrein 800-10966 panel antennas in position 2 sectors A and C. We will install (1) Kathrein 800-10965 panel antenna in position 2, sector B. We will install (2) CCI HPA65R - BU8A in position 4 sectors A and C. We will install (1) CCI HPA65R – BU6A in position 4, sector B, at the 115-foot level. AT&T also intends to install one (2) DC-6 surge suppressors w/ (2) ¾ cables, three (3) RRUS 4478 B14, three (3) RRUS-32, three (3) RRUS 4478-B5, three (3) RRUS 4478-B66 on the existing antenna masts. Inside AT&T's shelter, AT&T proposes to swap the DUS with a 5216, add a second XMU as well as add an RBS 6630.

At a public meeting held July 5 , 2000, the West Hartford Town Plan and Zoning Commission Conditionally approved, by unanimous vote, a new 360'FM broadcasting tower, a 70' fiber glass AM broadcasting tower and a new 20' x 40' equipment building after demolishing the existing equipment building.

The Special Use Permit (SUP #903) complies with the finding requirements of Section 177-42A (5a & 5b) of the West Hartford Code of Ordinances with the following conditions:

1. At the request of the applicant the new tower I reduce to 347' and the 70' FM antenna is withdrawn.

. 2. The applicant shall protect the existing tree screen along Route 44 all the way to the ridge line between the Tower and Route 44. This area shall not be materially altered without first receiving TPZ approval.

The following is a list of subsequent decisions by the Connecticut Siting Council:
EM-AT&T-155-020401, EM-CING-155-040116, EM-CING-023-131-047-155-056-061130, EM-CING-094-145-145-146-155-070914, EM-CING-155-120629, EM-AT&T-155-160927

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. § 16-5l0j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to Shari Cantor, Mayor of West Hartford at 50 South Main Street, West Hartford, CT 06107. The tower owner, SBA Communications Corp. at 8051 Congress Ave. Boca Raton, FL 33487. A copy will also be sent to Tim Mikloiche, The Supervisor of Inspections at 50 South Main Street, West Hartford, CT 06107.

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 115-foot level of the 309-foot guyed 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,

Rodney Joujoute

Enclosures
CC w/enclosures:

Shari Cantor, Mayor of West Hartford
Structure Owner – SBA Communications
Tim Mikloiche, The Supervisor of Inspections

SITESAFE
RF COMPLIANCE EXPERTS

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

Smartlink on behalf of AT&T Mobility, LLC Site FA – 10041811 Site ID – CT1154 (MRCTB032289-MRCTB032214-MRCTB032179-MRCTB032182) USID – 88240 Site Name – West Hartford

3114 Albany Avenue
West Hartford, CT 06117

Latitude: N41-47-48.49
Longitude: W72-47-48.60
Structure Type:Guyed

Report generated date: August 22, 2018
Report by: Leo Romero
Customer Contact: Haleluya Haile

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

Table of Contents

1 General Site Summary

1.1 Report Summary

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

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

RFDS: NEW-ENGLAND_CONNECTICUT_CTV1154_2018-LTE-Next-Carrier_LTE_om636a_2051A0GWH6_10041811_88240_03-14-2018_Final-Approved_v2.00

CD's: 10041811_AE201_180813_CTL01154_REV1

RF Powers Used: RFDS ERP Values

1.2 Signage Summary

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

1.3 Fall Arrest Anchor Point Summary

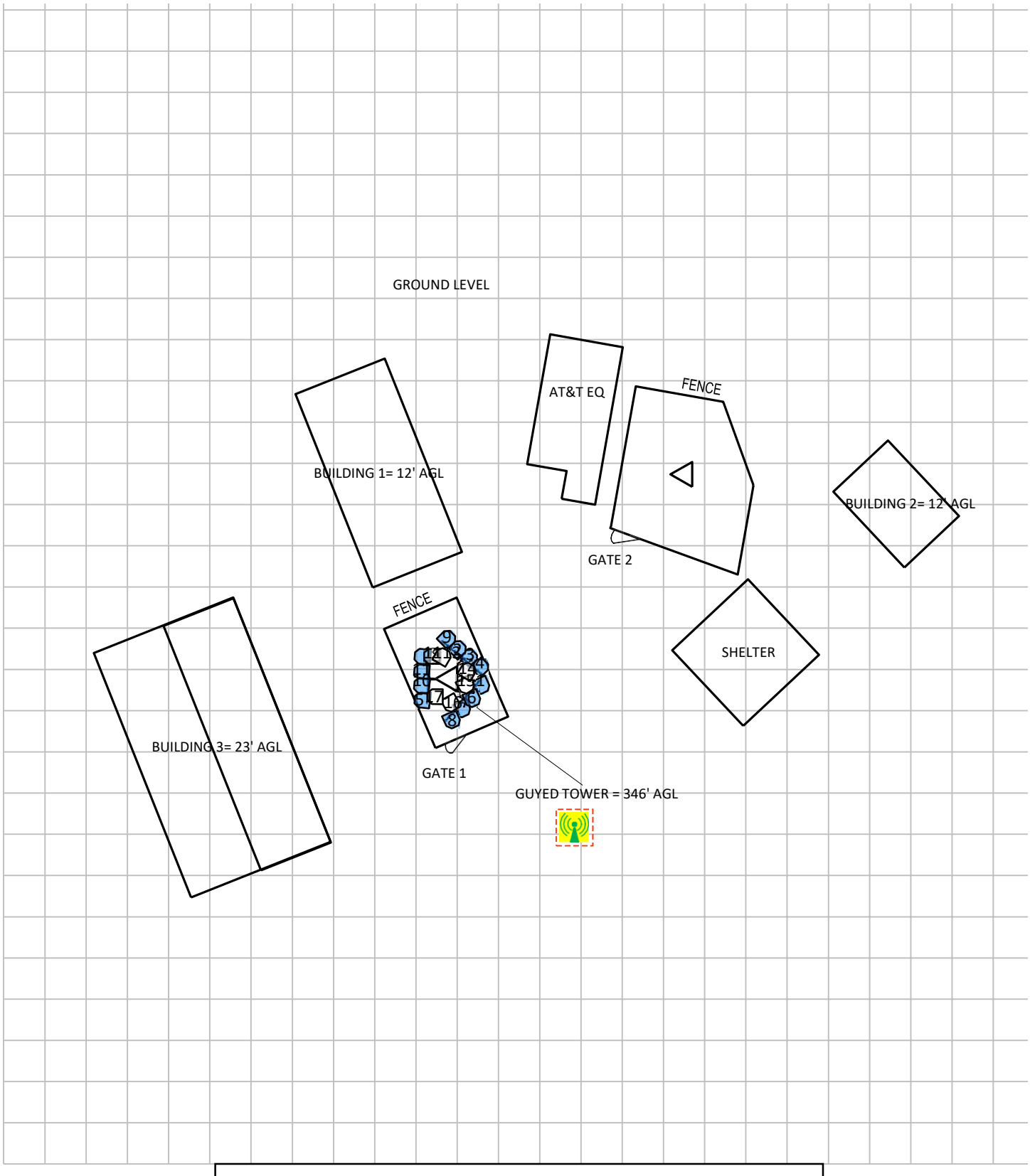
Fall Arrest Anchor & Parapet Info	Parapet Available (Y/N)	Parapet Height (inches)	Fall Arrest Anchor Available (Y/N)
Roof Safety Info	N	N/A	N

2 Scale Maps of Site

The following diagrams are included:

- Site Scale Map
- RF Exposure Diagram
- AT&T Mobility, LLC Contribution
- RF Exposure Diagram – Elevation View

Site Scale Map For: West Hartford



(Feet)

0 10.4 20.7

www.sitesafe.com
Site Name:West Hartford
8/22/2018 12:16:02 PM

Carrier Identification

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

Sign Legend

Caution 1 | Caution 2 | Notice 2 | Notice 1 | Warning | Warning 2 | Info 1 | Info 2 | RF Safety Plan

Barrier

Proposed Barriers/ Signs

3 Antenna Inventory

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

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	X	Y	Z (AGL)
1	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	850	155	87.6	4.5	11.35	1	0	264.2	98.6'	148.9'	112.7'
1	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	1900	155	85.7	4.5	14.32	1	0	407.4	98.6'	148.9'	112.7'
2	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	763	45	67.9	8	13.55	0	1	2951.4	95.1'	154.4'	111'
2	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	850	45	66	8	14.25	0	1	500	95.1'	154.4'	111'
2	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	5G 850	45	66	8	14.25	0	1	500	95.1'	154.4'	111'
2	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	2100	45	64.4	8	16.15	0	1	5070.3	95.1'	154.4'	111'
3	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	1900	45	85.7	4.5	14.32	0	2	3664.4	96.8'	153.1'	112.7'
4	AT&T MOBILITY LLC (Proposed)	Cci Antennas HPA65R-BU8A	Panel	737	45	65.7	8	13.16	0	1	1475.7	98.5'	151.7'	111'
4	AT&T MOBILITY LLC (Proposed)	Cci Antennas HPA65R-BU8A	Panel	2300	45	57.7	8	14.26	0	1	1285.3	98.5'	151.7'	111'
5	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	850	275	87.6	4.5	11.35	1	0	264.2	89.7'	146.6'	112.7'
5	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	1900	275	85.7	4.5	14.32	1	0	407.4	89.7'	146.6'	112.7'
6	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	763	155	63.9	6.6	12.5	0	1	2951.4	97.3'	146.9'	111.7'
6	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	850	155	61.7	6.6	13.62	0	1	500	97.3'	146.9'	111.7'
6	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	5G 850	155	61.7	6.6	13.62	0	1	500	97.3'	146.9'	111.7'
6	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	2100	155	65.2	6.6	16.48	0	1	5070.3	97.3'	146.9'	111.7'
7	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H6	Panel	1900	155	61.1	6	14.53	0	2	3664.4	95.7'	145.3'	112'
8	AT&T MOBILITY LLC (Proposed)	Cci Antennas HPA65R-BU6A	Panel	737	155	64	5.9	12.46	0	1	1475.7	94.2'	143.7'	112'
8	AT&T MOBILITY LLC (Proposed)	Cci Antennas HPA65R-BU6A	Panel	2300	155	63.7	5.9	16.36	0	1	1285.3	94.2'	143.7'	112'
9	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	850	45	87.6	4.5	11.35	1	0	264.2	93.5'	156'	112.7'
9	AT&T MOBILITY LLC	Kathrein-Scala 800-10121	Panel	1900	45	85.7	4.5	14.32	1	0	407.4	93.5'	156'	112.7'
10	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	763	275	67.9	8	13.55	0	1	2951.4	89.6'	148.8'	111'
10	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	850	275	66	8	14.25	0	1	500	89.6'	148.8'	111'

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Ant Gain (dBd)	3G UMTS Radio(s)	4G Radio(s)	Total ERP (Watts)	X	Y	Z (AGL)
10	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	5G 850	275	66	8	14.25	0	1	500	89.6'	148.8'	111'
10	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	2100	275	64.4	8	16.15	0	1	5070.3	89.6'	148.8'	111'
11	AT&T MOBILITY LLC	CCI Antennas HPA-65R-BUU-H8	Panel	1900	275	63.1	7.7	14.76	0	2	3664.4	89.6'	150.9'	111.2'
12	AT&T MOBILITY LLC (Proposed)	Cci Antennas HPA65R-BU8A	Panel	737	275	65.7	8	13.16	0	1	1475.7	89.7'	153.3'	111'
12	AT&T MOBILITY LLC (Proposed)	Cci Antennas HPA65R-BU8A	Panel	2300	275	57.7	8	14.26	0	1	1285.3	89.7'	153.3'	111'
13	UNKNOWN CARRIER	Generic Panel	Panel	850	30	65	4.6	12.77	-	-	1513.9	92.8'	153.3'	122.7'
14	UNKNOWN CARRIER	Generic Panel	Panel	1900	30	65	4.6	15.43	-	-	2094.8	96.6'	151.1'	122.7'
15	UNKNOWN CARRIER	Generic Panel	Panel	850	150	65	4.6	12.77	-	-	1513.9	96.3'	148.9'	122.7'
16	UNKNOWN CARRIER	Generic Panel	Panel	1900	150	65	4.6	15.43	-	-	2094.8	94.1'	146.2'	122.7'
17	UNKNOWN CARRIER	Generic Panel	Panel	850	270	65	4.6	12.77	-	-	1513.9	91.7'	147.2'	122.7'
18	UNKNOWN CARRIER	Generic Panel	Panel	1900	270	65	4.6	15.43	-	-	2094.8	91.1'	153.3'	122.7'

NOTE: X, Y and Z indicate relative position of the bottom of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates the bottom of the antenna height **above the ground level (AGL).** 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.

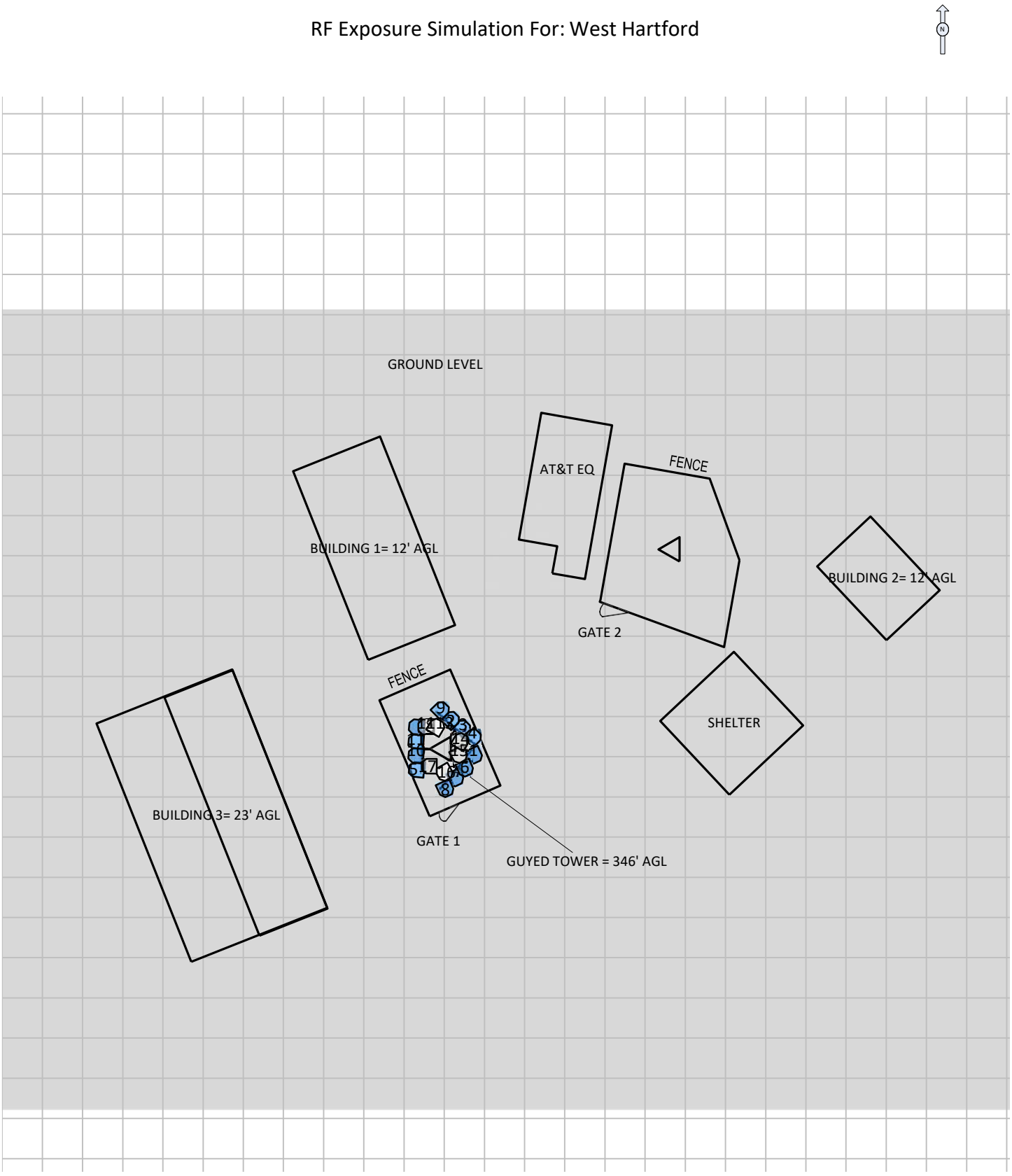
4 Emission Predictions

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

- Ground Level = 0'
- Buildings 1 and 2 = 12'
- Building 3 = 23'

The Antenna Inventory heights are referenced to the same level.

RF Exposure Simulation For: West Hartford



% 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

Barrier

Proposed Barriers/ Signs

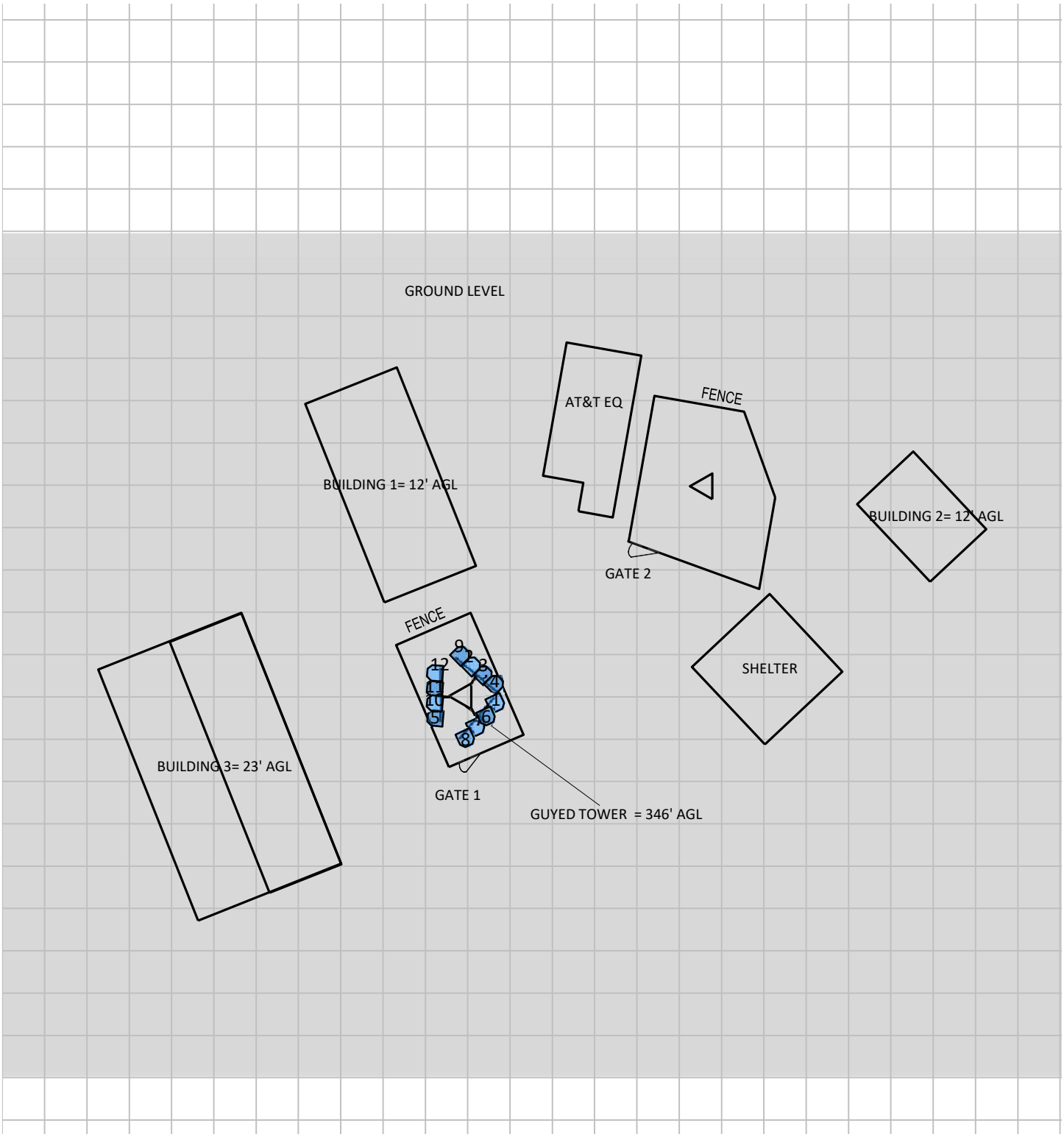
(Feet)

0 10.4 20.9

www.sitesafe.com
Site Name:West Hartford
8/22/2018 12:14:15 PM

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

RF Exposure Simulation For: West Hartford
AT&T Mobility, LLC Contribution



% 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

Barrier

Proposed Barriers/ Signs

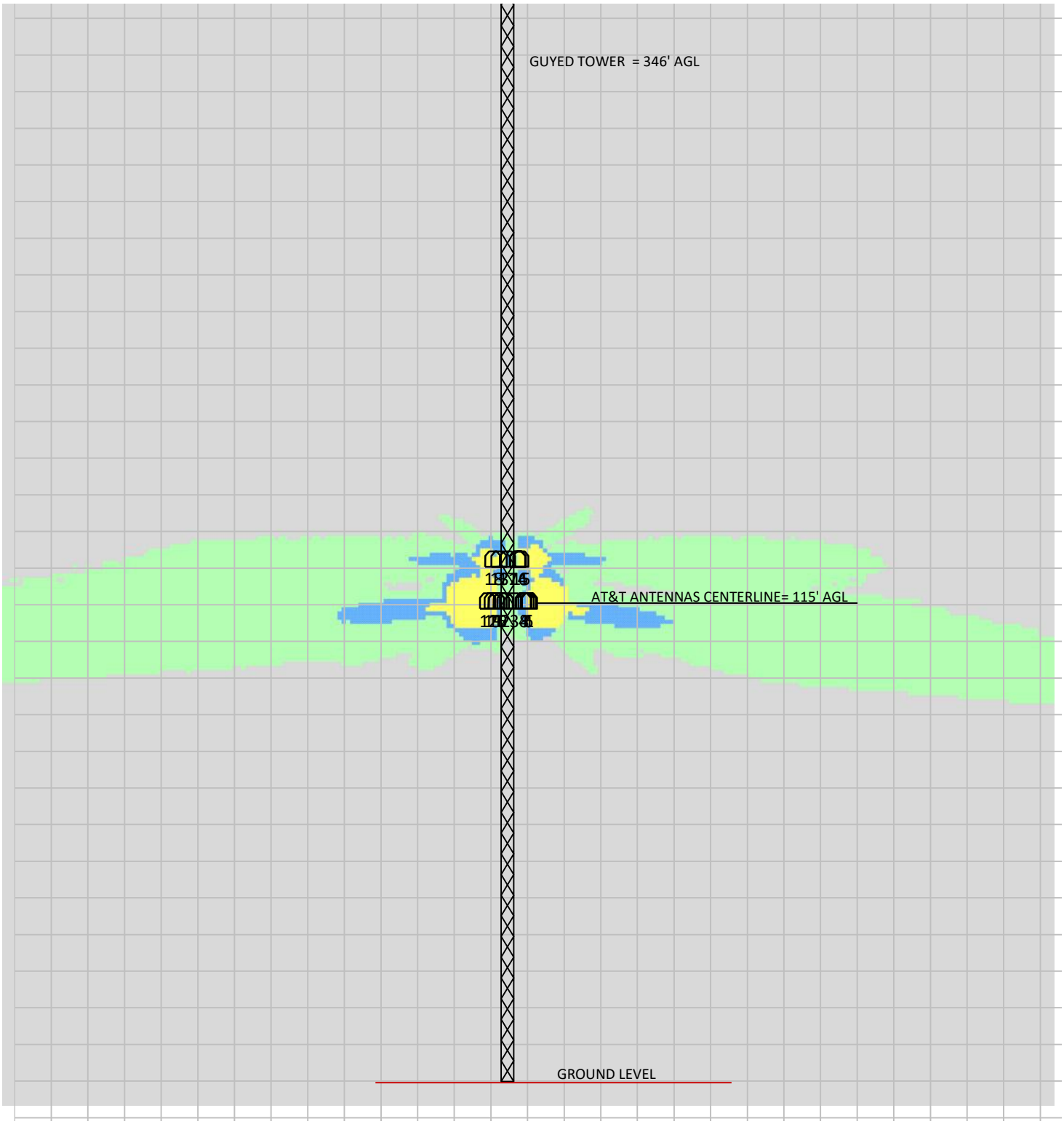
(Feet)

0 10.4 20.9

www.sitesafe.com
Site Name:West Hartford
8/22/2018 12:15:07 PM

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

RF Exposure Simulation For: West Hartford
Elevation View



% of FCC Public Exposure Limit

% of FCC Public Exposure Limit

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

Carrier Identification

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

Barrier

Proposed Barriers/ Signs

(Feet)

0 17.7 35.4

www.sitesafe.com
Site Name:West Hartford
8/22/2018 12:20:41 PM

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

5 Site Compliance

5.1 Site Compliance Statement

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

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

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

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

5.2 Actions for Site Compliance

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

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

Base of Tower

Install a Caution 2B sign.

Notes:

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

6 Reviewer Certification

The reviewer whose signature appears below hereby certifies and affirms:

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

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

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

August 22, 2018

Young Min Kim

Appendix A – Statement of Limiting Conditions

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

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

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

Appendix B – Regulatory Background Information

FCC Rules and Regulations

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

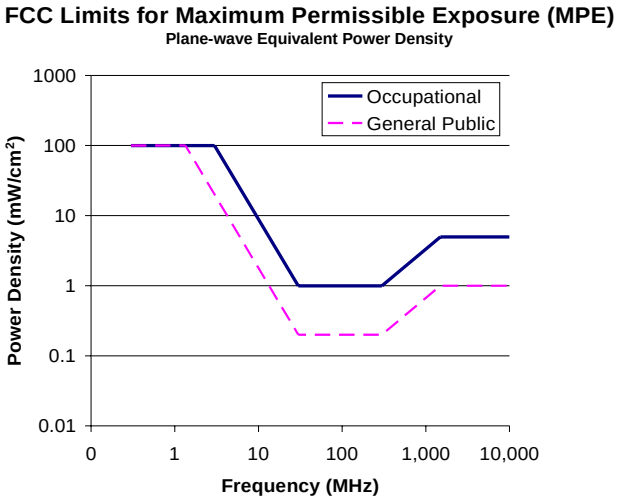
FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible*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

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

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

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

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



Limits for Occupational/Controlled Exposure (MPE)

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

Limits for General Population/Uncontrolled Exposure (MPE)

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

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

OSHA Statement

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

(a) Each employer –

(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and healthstandards promulgated under this Act.

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

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

Appendix C – Safety Plan and Procedures

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

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

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

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

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

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

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

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

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

Appendix D – RF Emissions

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

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

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

Appendix E – Assumptions and Definitions

General Model Assumptions

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

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

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

Use of Generic Antennas

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

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

Definitions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Appendix F – References

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

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

Tower Engineering Solutions
Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 309 ft Eastpointe Guyed Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT15879-A

Customer Site Name: West Hartford

Carrier Name: AT&T

Carrier Site ID / Name: CTL01154 / West Hartford-Albany Ave

Site Location: 3114 Albany Avenue

West Hartford, Connecticut

County

Latitude: 41.796802

Longitude: -72.796830

11/8/18

Analysis Result:

Max Structural Usage: 74.8% [Pass]

Max Foundation Usage: 79.0% [Pass]

Additional Usage Caused by Mount Modification: +2%

Report Prepared By : Tawfeeq Alajaj

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Report Prepared By : Tawfeeq Alajaj

Introduction

The purpose of this report is to summarize the analysis results on the 344 ft Pirod Guyed Tower to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower Engineering Professional Tower Mapping, Project #112343 dated July 12, 2011 FDH, Inc. Tower Mapping, Job #14629H1500 dated May 9, 2014
Foundation Drawing	FDH Engineering, Inc. Mapping, Project #14620E1500 dated May 22, 2014
Geotechnical Report	Clarence Welti Associates, Inc., Site Location: West Hartford, CT dated May 22, 2000
Modification Drawings	N/A

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G**.** In accordance with this standard, the structure was analyzed using **TESTowers,** a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed V_{ult} = 125.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 97.0 mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1” radial ice concurrent
Operational Wind Speed:	60 mph + 0” Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / 2012 IBC / 2016 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.181, S_1 = 0.064

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Mount Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	332.0	1	ERI 3 Bay FM w/ Radome	Direct	(1) 3"	WCCC
2	308.3	1	Scala SCA 4DR-8S	(1) Pipe Mount	(1) 3"	ZGS Hartford
3	265.0	1	SCA CA-2-FM-CP	(1) Pipe Mount	(1) 1/2"	WSDK
4	251.8	1	Antenna Concepts ACB16A	(1) Pipe Mount	(1) 1 5/8" (1) 3/8"	WRDM
5	251.0	1	Decibel DB420-B - Whip	(1) Standoff	(1) 7/8"	Master Combiner
6	243.0	1	Antel WPA-800120/6CF	Pipe Mount (SitePro R5)	(1) 7/8"	Town of West Hartford
7		2	Combilent CP00732 - TMA			
8	235.0	1	Scala 6 ft x 3 ft Grid Dish	Direct	(1) 7/8"	WCCC
9	232.0	2	Site Pro CIS04 - Ice Shield	Pipe Mount	(2) 1/2"	Town of West Hartford
10		2	RFS SC3-W100AC - Dish			
11	225.5	2	34" x 7" x 2" Panel	(2) Pipe Mount	(2) 3/8"	SNEW ISP
12	220.0	1	Antel WPA-800120/6CF	Pipe Mount	(1) 1 5/8"	Town of West Hartford
13	203.0	1	Decibel DB420-B - Whip	(1) Standoff	(1) 1/2"	Master Combiner
14	196.0	1	Cablewave PA6-112 - Dish	(1) Standoff	(1) EW71	WRDM
15		1	T.S. 3"x 3" x 6.5'			
16	180.0	1	Micronetixx LP-1900-B-12	(1) Pipe Mount	(1) 1 5/8"	WRNT (R&C) Tyche Media
17	165.0	1	Antel BCD-80010 - Whip	Pipe Mount	(1) 1 5/8"	Town of West Hartford
18	164.5	1	6810 1 Bay FM	(1) Pipe Mount	(1) 1/2"	91.9 FM
19	160.0	4	RFS APX16DWV-16DWVS - Panel	(3) T-Frame	(12) 1 5/8"	T-Mobile
20		4	Ericsson KRY 112 71			
21	146.5	1	2 ft Dish	(1) Pipe Mount	(1) 3/8"	SNEW ISP
22		1	12" x 4.5" x 6.25" TMA			
23	145.0	1	12' x 1" - Omni	(1) Standoff	(1) 1 5/8"	Ham Radio
24	142.5	-	-	-	(1) 1 5/8"	-
25	140.5	-	-	-	(1) 1 5/8"	-
26	136.5	1	5'x10" Detuner	Direct	(1) ¼"	Ham Radio

Existing Antennas, Mounts and Transmission Lines (continued)

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

27	130.0	2	Andrew HBX-6517DS - Panel	(3) T-Frame	(8) 1 5/8" (1) 1 5/8" Fiber	Verizon
28		2	Andrew LNX-6514DS - Panel			
29		2	Swedcom SLCP 2x6015 - Panel			
30		2	Swedcom SACP 2x5516 - Panel			
31		4	RFS FD9R6004/2C			
32		2	Alcatel Lucent RRH2x40-AWS			
33		1	RFS DB-T1-6Z-8AB-0Z			
34	120.5	3	RFS APXV18-206517S - Panel	(1) Pipe Mount	(6) 1 5/8"	Metro PCS
-	112.0	6	Kathrein 800 10121 - Panel	(3) T-Frame	(12) 1 5/8" (4) 3/4" DC (2) 3/8" Fiber	AT&T
-		2	CCI HPA-65R-BUU-H8 - Panel			
-		1	CCI HPA-65R-BUU-H6 - Panel			
-		3	Ericsson RRUS-11			
-		3	Ericsson RRUS-12			
-		3	Ericsson RRUS A2			
-		6	CCI DTMABP7819VG12A			
-		12	Kathrein 860 10025			
-		1	Raycap DC6-48-60-18-8F			
52	48.0	1	GPS	Direct	(1) 3/8”	Metro PCS
53	21.0	1	14-Element 4.5 ft Yagi	(1) Standoff	(1) 1/2"	Ham Radio

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
35	112.0	3	Kathrein - 800 10121 - Panel	(3) Modified T-Frame with (3) Reinforcement Kit (Site Pro 1 P/N SFR-K-L, and (3) Addition of Horizontal Pipe 2.0 Std. And (3) Addition of Crossover Plate Kit (Site-Pro 1 P/N SCX1-K)	(12) 1 5/8" (6) 3/4" DC (2) 3/8" Fiber	AT&T
36		2	Kathrein - 800-10966 - Panel			
37		1	Kathrein - 800-10965 - Panel			
38		2	CCI - HPA65R-BU8A - Panel			
39		1	CCI - HPA65R-BU6A - Panel			
40		3	Ericsson RRUS 11			
41		3	Ericsson RRUS 12			
42		3	Ericsson RRUS A2			
43		3	Ericsson RRUS 4478 B14			
44		3	Ericsson RRUS 4478 B5			
45		3	Ericsson RRUS 4478 B66			
46		6	Kaelus DBCT108F1V92-1			
47		6	Cci DTMABP7819VG12A TMA			
48		12	Kathrein 860 10025 -			
49		2	Raycap DC6-48-60-18-8F ("Squid")			
50		1	Raycap DC6-48-60-18-8F			
51		3	Ericsson RRUS 32			

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

Tower Component	Legs	Diagonals	Horizontals	Guy Wires
Max. Usage:	**51.4%**	**57.4%**	**24.4%**	**74.8%**
Pass/Fail	**Pass**	**Pass**	**Pass**	**Pass**

Foundations

	Base Reactions		Inner Anchors	
Reactions (kips)	Axial	Shear	Uplift	Shear
Analysis Reactions	376.8	10.3	66.3	79.6

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

The maximum twist and sway of the microwave dishes under the operational wind speed as specified in the Analysis Criteria are listed in the table below:

Elevation (ft)	Antenna / Dish	Carrier	Twist (deg)	Sway (deg)
235.0	6 ft x 3 ft Grid Dish	WCCC	0.582	0.021
232.0	SC3-W100AC - Dish	Town of West Hartford	0.584	0.022
196.0	PA6-112 - Dish	WRDM	0.615	0.027
146.5	2 ft Dish - Dish	SNEW ISP	0.542	0.026

It is recommended that the carriers review the twist and sway values of the microwave dishes.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The analysis is based on the presumption that the tower members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.

3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion.

4. An initial tension of 10% of the break strength on all the existing guy wires was assumed in all the structural analyses of guyed towers unless different values were provided by the client. **TES** cannot take responsibility for the deviations in the analysis results because of differences in the initial tension forces of the existing guy wires.

5. Secondary component or connection secondary components, welds and bolts are assumed to be able to carry their intended original design loads. **TES** cannot take responsibility for verification of the adequacy on the connections, bolts and welds present in the structure.

6. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the EIA/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

7. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

8. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

9. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Structure: CT15879-A-SBA

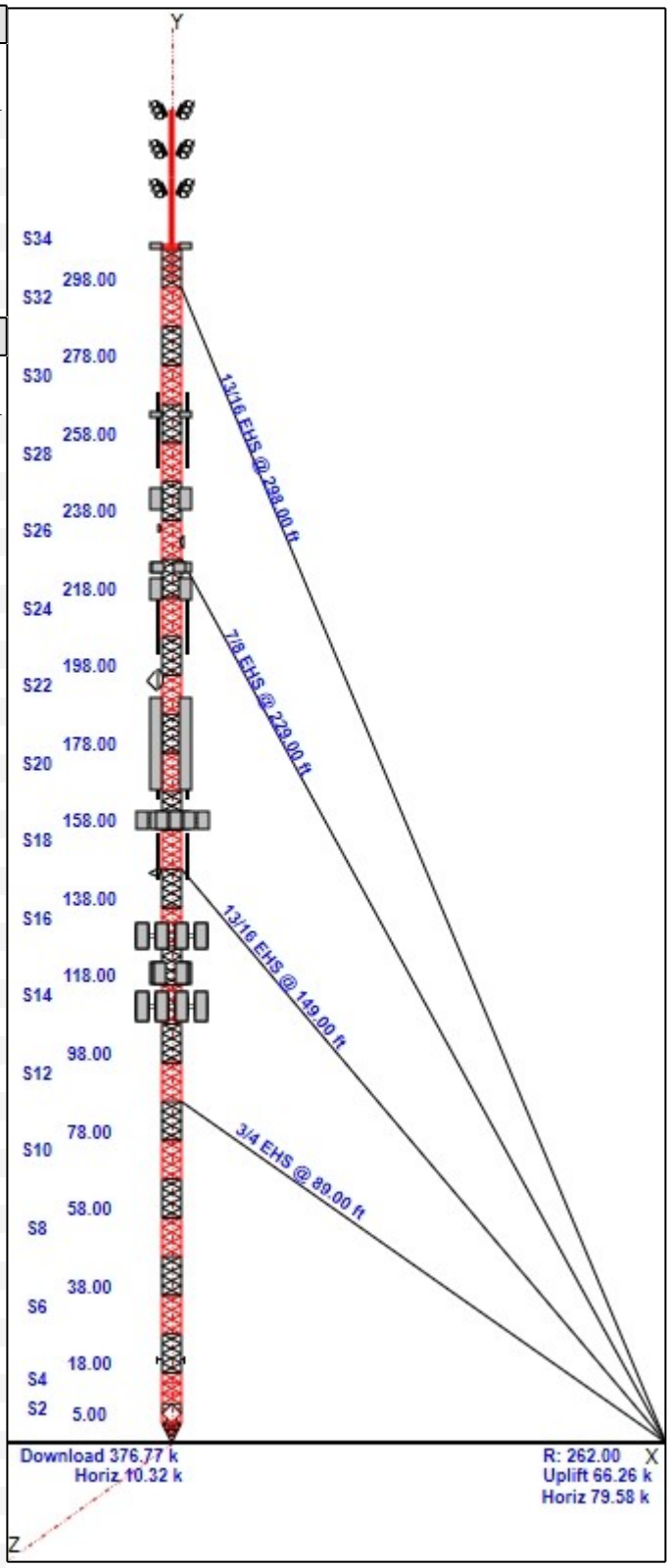
Site Name:	West Hartford			**Code:**	EIA/TIA-222-G	11/8/2018
Type:	Guyed	**Base Shape:**	Triangle	**Basic WS:**	97.00	
Height:	309.00 (ft)	**Base Width:**	0.00	**Basic Ice WS:**	50.00	
Base Elev:	0.00 (ft)	**Top Width:**	5.00	**Operational WS:**	60.00	Page: 1

Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1-3	SOL 3" SOLID	SOL 1 1/4" SOLID	PLT 6" x 3/4"
4	SOL 3" SOLID	SOL 1" SOLID	SOL 7/8" SOLID
5-16	SOL 3" SOLID	SOL 7/8" SOLID	SOL 1" SOLID
17-18	SOL 3" SOLID	SOL 1" SOLID	SOL 1 1/4" SOLID
19-32	SOL 2 7/8" SOLID	SOL 7/8" SOLID	SOL 1" SOLID
33	SOL 2 7/8" SOLID	SOL 7/8" SOLID	SOL 1 1/4" SOLID
34	SOL 2 7/8" SOLID		PLT 6"X1"

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description
344.00	344.00	1	Beacon
344.00	344.00	1	Lightning Rod
342.00	342.00	1	ERI 3 Bay FM w/ Radome
332.00	332.00	1	ERI 3 Bay FM w/ Radome
332.00	332.00	1	2.4" x 18" Pipe
322.00	322.00	1	ERI 3 Bay FM w/ Radome
309.50	309.50	1	10' Mount
308.30	308.30	1	Scala SCA 4DR-8S
265.00	265.00	1	Pipe Mount
265.00	265.00	1	SCA CA-2-FM-CP
251.80	258.50	1	ACB16A
251.80	251.80	1	2.4" x 25' Mount Pipe
251.00	260.71	1	DB420-B
251.00	251.00	1	Side Arm Mount
243.00	243.00	1	WPA-800120/6CF
243.00	243.00	2	Combilent CP00732
243.00	243.00	1	SitePro R5 Pipe Mount
235.00	235.00	1	6 ft x 3 ft Grid Dish
232.00	232.00	2	SC3-W100AC
232.00	232.00	2	SitePro CIS04
232.00	232.00	2	SitePro R5 Pipe Mount
225.50	225.50	2	Pipe Mount
225.50	225.50	2	34" x 7" x 2" Panel
220.00	220.00	1	WPA-800120/6CF
220.00	220.00	1	SitePro R5 Pipe Mount
203.00	203.00	1	Side Arm Mount
203.00	212.71	1	DB420-B
196.00	196.00	1	PA6-112 w/ Radome
196.00	196.00	1	T.S. 3"x 3" x 6.5'
196.00	196.00	1	2.4" x 6.5' Mount Pipe
180.00	180.00	1	LP-1900-B-12
180.00	180.00	1	2.5" x 25' Mount Pipe
165.00	165.00	1	SitePro R5 Pipe Mount
165.00	170.67	1	BCD-80010
164.50	164.50	1	2.4"x 10' Mount Pipe
164.50	164.50	1	6810 1 Bay FM
160.00	160.00	4	APX16DWV-16DWVS
160.00	160.00	4	KRY 112 71
160.00	160.00	3	T-Frame
146.50	146.50	1	2.4"x 4' Mount Pipe
146.50	146.50	1	2 ft Dish w/Radome
146.50	146.50	1	12" x 4.5" x 6.25" TMA



145.00	151.00	1	12' Omni
145.00	145.00	1	30" Sidearm
136.50	136.50	1	5' x 10" Detuner
130.00	130.00	2	HBX-6517DS
130.00	130.00	2	LNX-6514DS
130.00	130.00	2	SLCP 2x6015
130.00	130.00	2	SACP 2x5516
130.00	130.00	4	FD9R6004/2C
130.00	130.00	2	RRH2x40-AWS
130.00	130.00	1	DB-T1-6Z-8AB-0Z
130.00	130.00	3	T-Frame
120.50	120.50	3	APXV18-206517S
112.00	112.00	3	800 10121
112.00	112.00	3	Ericsson RRUS 11
112.00	112.00	3	Ericsson RRUS 12
112.00	112.00	3	Ericsson RRUS A2
112.00	112.00	6	Cci DTMABP7819VG12A TMA
112.00	112.00	12	Kathrein 860 10025
112.00	112.00	2	Raycap DC6-48-60-18-8F ("Squid")
112.00	112.00	3	T-Frame
112.00	112.00	2	800-10966
112.00	112.00	1	800-10965
112.00	112.00	2	HPA65R-BU8A
112.00	112.00	1	HPA65R-BU6A
112.00	112.00	3	Ericsson RRUS 4478 B14
112.00	112.00	3	Ericsson RRUS 4478 B5
112.00	112.00	3	Ericsson RRUS 4478 B66
112.00	112.00	3	Ericsson RRUS 32
112.00	112.00	6	Kaelus DBCT108F1V92-1
112.00	112.00	1	Raycap DC6-48-60-18-8F
112.00	112.00	1	REINFORCING KIT
48.00	48.00	1	1" x 16" Pipe
48.00	48.00	1	GPS
21.00	21.00	1	14-Element 4.5 ft Yagi
21.00	21.00	1	1-ft Side Arm

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Qty	Description
0.00	344.00	1	1" Light Conduit
0.00	332.00	1	3" Coax
0.00	308.30	1	3" Coax
0.00	308.00	1	Safety Cable
0.00	290.00	3	Detuner
0.00	265.00	1	1/2" Coax
0.00	251.80	1	1 5/8" Coax
0.00	251.80	1	3/8" Coax
0.00	251.00	1	7/8" Coax
0.00	243.00	1	7/8" Coax
0.00	235.00	1	7/8" Coax
0.00	232.00	2	1/2" Coax
0.00	225.50	2	3/8" Coax
0.00	220.00	1	1 5/8" Coax
0.00	203.00	1	1/2" Coax
0.00	196.00	1	EW71
0.00	180.00	1	1 5/8" Coax
0.00	165.00	1	1 5/8" Coax

0.00	164.50	1	1/2" Coax
0.00	160.00	12	1 5/8" Coax
0.00	146.50	1	3/8" Coax
0.00	145.00	1	1 5/8" Coax
0.00	142.50	1	1 5/8" Coax
0.00	140.50	1	1 5/8" Coax
0.00	136.50	1	1/4" Coax
0.00	130.00	8	1 5/8" Coax
0.00	130.00	1	1 5/8" Fiber
0.00	120.50	6	1 5/8" Coax
0.00	112.00	12	1 5/8" Coax
0.00	112.00	6	3/4" DC
0.00	112.00	2	3/8" Fiber
0.00	48.00	1	3/8" Coax
0.00	21.00	1	1/2" Coax

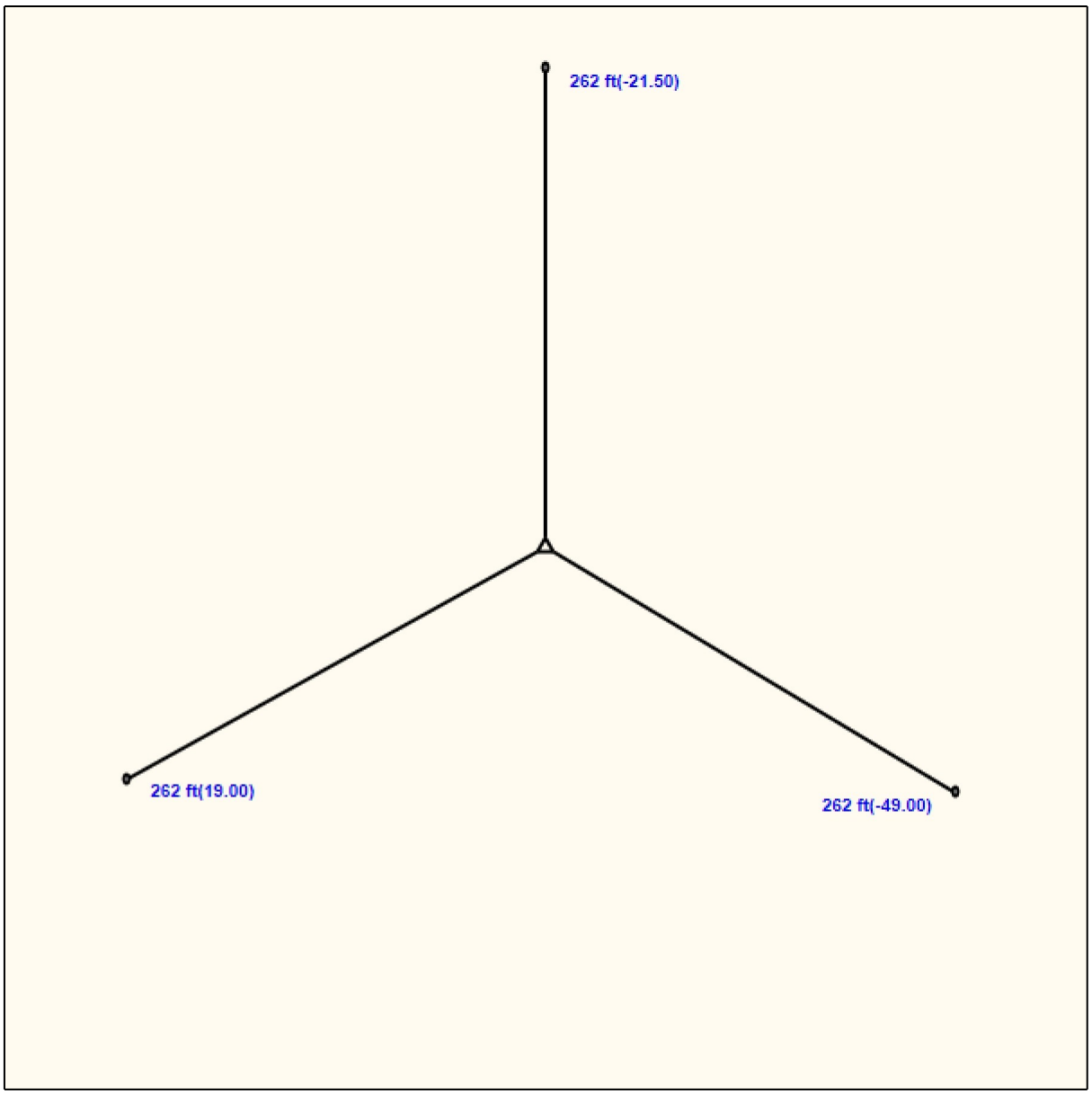
Max Guy Wire

74.82% @ 88 ft - 3/4 EHS

Anchor Drops with Guy Radius - Structure: CT15879-A-SBA

Site Name:	West Hartford			**Code:**	EIA/TIA-222-G	11/8/2018
Type:	Guyed	**Base Shape:**	Triangle	**Basic WS:**	97.00	
Height:	309.00 (ft)	**Base Width:**	0.00	**Basic Ice WS:**	50.00	
Base Elev:	0.00 (ft)	**Top Width:**	5.00	**Operational WS:**	60.00	Page: 5

Tower Engineering Solutions



Loading Summary

Structure:	CT15879-A-SBA		**Code:**	EIA/TIA-222-G	11/8/2018
Site Name:	West Hartford		**Exposure:**	C	
Height:	309.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	II	Page: 7

Tower Engineering Solutions

Discrete Appurtenances Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	Ice Weight (lb)	Ice CaAa (sf)	Len (in)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
344.00	Beacon	1	36.00	2.720	228.96	4.095	28.000	17.500	17.500	1.00	1.00	0.000
344.00	Lightning Rod	1	5.00	0.500	35.34	3.028	72.000	1.000	1.000	1.00	1.00	0.000
342.00	ERI 3 Bay FM w/ Radome	1	157.00	8.980	427.88	21.133	36.000	0.000	0.000	1.00	1.00	0.000
332.00	ERI 3 Bay FM w/ Radome	1	157.00	8.980	427.08	21.097	36.000	0.000	0.000	1.00	1.00	0.000
332.00	2.4" x 18" Pipe	1	10.00	0.240	20.08	0.482	0.000	0.000	0.000	1.00	1.00	0.000
322.00	ERI 3 Bay FM w/ Radome	1	157.00	8.980	426.25	21.060	36.000	0.000	0.000	1.00	1.00	0.000
309.50	10' Mount	1	40.00	4.170	80.02	8.342	0.000	0.000	0.000	1.00	1.00	0.000
308.30	Scala SCA 4DR-8S	1	50.00	16.980	870.58	189.67	24.000	19.500	13.000	1.00	1.00	0.000
265.00	Pipe Mount	1	20.00	1.200	39.69	2.381	0.000	0.000	0.000	1.00	1.00	0.000
265.00	SCA CA-2-FM-CP	1	10.00	2.020	171.81	22.276	24.000	19.500	13.000	1.00	1.00	0.000
251.80	ACB16A	1	80.00	19.230	639.96	75.695	160.800	18.000	2.500	1.00	1.00	6.700
251.80	2.4" x 25' Mount Pipe	1	90.00	5.950	178.27	11.785	0.000	0.000	0.000	1.00	1.00	0.000
251.00	DB420-B	1	34.50	4.480	226.75	19.493	233.000	0.000	0.000	1.00	1.00	9.708
251.00	Side Arm Mount	1	30.00	1.410	59.42	2.793	0.000	0.000	0.000	1.00	1.00	0.000
243.00	WPA-800120/6CF	1	11.00	4.380	154.80	7.606	70.900	5.600	5.600	1.00	1.00	0.000
243.00	Combilent CP00732	2	12.00	1.270	23.72	2.510	0.000	0.000	0.000	1.00	1.00	0.000
243.00	SitePro R5 Pipe Mount	1	136.90	2.700	270.62	5.337	0.000	0.000	0.000	1.00	0.67	0.000
235.00	6 ft x 3 ft Grid Dish	1	198.00	16.790	1160.96	48.370	0.000	0.000	0.000	1.00	1.00	0.000
232.00	SC3-W100AC	2	40.00	10.740	273.45	13.561	39.500	39.500	15.000	1.00	1.00	0.000
232.00	SitePro CIS04	2	290.10	2.920	955.19	6.706	14.000	75.000	48.000	1.00	0.67	0.000
232.00	SitePro R5 Pipe Mount	2	136.90	2.700	270.06	5.326	0.000	0.000	0.000	1.00	1.00	0.000
225.50	Pipe Mount	2	40.00	2.600	78.74	5.118	0.000	0.000	0.000	1.00	1.00	0.000
225.50	34" x 7" x 2" Panel	2	20.00	1.900	77.74	3.749	34.000	6.000	3.000	1.00	1.00	0.000
220.00	WPA-800120/6CF	1	11.00	4.380	153.57	7.578	70.900	5.600	5.600	1.00	1.00	0.000
220.00	SitePro R5 Pipe Mount	1	136.90	2.700	269.48	5.315	0.000	0.000	0.000	1.00	0.67	0.000
203.00	Side Arm Mount	1	30.00	1.410	58.78	2.763	0.000	0.000	0.000	1.00	1.00	0.000
203.00	DB420-B	1	34.50	4.480	222.57	19.166	233.000	0.000	0.000	1.00	1.00	9.708
196.00	PA6-112 w/ Radome	1	308.00	24.410	1279.37	27.649	72.000	72.000	0.000	1.00	1.00	0.000
196.00	T.S. 3"x 3" x 6.5'	1	60.00	3.250	117.27	6.352	0.000	0.000	0.000	1.00	1.00	0.000
196.00	2.4" x 6.5' Mount Pipe	1	20.00	1.540	39.09	3.010	0.000	0.000	0.000	1.00	1.00	0.000
180.00	LP-1900-B-12	1	50.00	7.300	184.68	17.357	282.000	3.500	3.500	1.00	1.00	0.000
180.00	2.5" x 25' Mount Pipe	1	90.00	5.950	175.45	11.599	0.000	0.000	0.000	1.00	1.00	0.000
165.00	SitePro R5 Pipe Mount	1	136.90	2.700	265.39	5.234	0.000	0.000	0.000	1.00	1.00	0.000
165.00	BCD-80010	1	26.50	2.950	239.20	7.646	136.000	2.600	2.600	1.00	1.00	5.667
164.50	2.4"x 10' Mount Pipe	1	40.00	2.380	77.54	4.614	0.000	0.000	0.000	1.00	1.00	0.000
164.50	6810 1 Bay FM	1	12.00	0.560	19.41	1.270	7.900	7.900	0.000	1.00	1.00	0.000
160.00	APX16DWV-16DWVS	4	39.60	6.080	229.24	7.555	53.000	13.000	3.200	0.80	0.62	0.000
160.00	KRY 112 71	4	13.20	0.680	37.87	1.550	12.500	5.600	3.700	0.80	0.50	0.000
160.00	T-Frame	3	339.80	11.700	696.99	19.606	0.000	0.000	0.000	0.75	0.75	0.000
146.50	2.4"x 4' Mount Pipe	1	10.00	0.870	19.26	1.676	0.000	0.000	0.000	1.00	1.00	0.000
146.50	2 ft Dish w/Radome	1	17.00	2.710	313.43	3.775	0.000	0.000	0.000	1.00	1.00	0.000
146.50	12" x 4.5" x 6.25" TMA	1	20.00	0.450	52.77	0.869	12.000	4.500	6.250	1.00	1.00	0.000
145.00	12' Omni	1	40.00	1.200	160.72	3.104	144.000	3.000	3.000	1.00	1.00	6.000
145.00	30" Sidearm	1	20.00	0.350	38.53	0.674	0.000	0.000	0.000	1.00	1.00	0.000
136.50	5' x 10" Detuner	1	30.00	1.250	57.59	2.400	0.000	0.000	0.000	1.00	1.00	0.000
130.00	HBX-6517DS	2	12.10	5.240	137.45	8.469	74.900	6.500	3.300	0.80	0.75	0.000
130.00	LNX-6514DS	2	33.10	8.090	263.26	11.773	72.000	11.900	7.100	0.80	0.80	0.000
130.00	SLCP 2x6015	2	30.00	9.960	355.14	13.871	77.000	14.000	11.000	0.80	0.89	0.000

Loading Summary

Structure:	CT15879-A-SBA		**Code:**	EIA/TIA-222-G	11/8/2018
Site Name:	West Hartford		**Exposure:**	C	
Height:	309.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	II	Page: 8

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130.00	SACP 2x5516	2	16.00	5.090	171.49	7.964	56.000	9.700	6.500	0.80	0.84	0.000
130.00	FD9R6004/2C	4	3.10	0.370	13.67	0.970	5.800	6.500	1.500	0.80	0.62	0.000
130.00	RRH2x40-AWS	2	44.00	2.160	124.00	3.541	24.400	10.600	6.700	0.80	0.67	0.000
130.00	DB-T1-6Z-8AB-0Z	1	18.90	4.800	219.16	5.976	24.000	24.000	10.000	0.80	0.71	0.000
130.00	T-Frame	3	356.40	10.900	723.50	18.117	0.000	0.000	0.000	0.75	0.75	0.000
120.50	APXV18-206517S	3	22.00	5.030	187.07	6.667	71.700	6.600	3.200	1.00	1.00	0.000
112.00	800 10121	3	46.30	5.150	195.18	7.881	54.500	10.300	5.900	0.80	0.67	0.000
112.00	Ericsson RRUS 11	3	51.00	2.520	144.67	3.341	17.000	17.800	7.200	0.80	0.67	0.000
112.00	Ericsson RRUS 12	3	60.00	2.700	146.86	3.555	18.200	17.800	8.000	0.80	0.67	0.000
112.00	Ericsson RRUS A2	3	21.20	1.860	68.00	3.122	12.800	15.000	3.400	0.80	0.62	0.000
112.00	Cci DTMABP7819VG12A TMA	6	19.20	1.140	52.28	2.137	10.600	11.000	3.800	0.80	0.67	0.000
112.00	Kathrein 860 10025	12	1.20	0.180	8.97	0.671	7.600	2.400	2.000	0.80	0.92	0.000
112.00	Raycap DC6-48-60-18-8F ("Squid")	2	31.80	0.920	111.93	1.488	24.000	11.000	11.000	0.80	0.75	0.000
112.00	T-Frame	3	344.92	17.500	694.45	28.900	0.000	0.000	0.000	0.75	0.75	0.000
112.00	800-10966	2	125.70	17.360	0.00	0.000	96.000	20.000	6.900	0.80	0.72	0.000
112.00	800-10965	1	108.60	13.810	0.00	0.000	78.700	20.000	6.900	0.80	1.00	0.000
112.00	HPA65R-BU8A	2	54.00	11.230	0.00	0.000	96.000	11.700	7.600	0.80	0.93	0.000
112.00	HPA65R-BU6A	1	51.00	7.840	0.00	0.000	71.000	11.700	7.600	0.80	1.00	0.000
112.00	Ericsson RRUS 4478 B14	3	59.40	1.650	0.00	0.000	15.000	13.200	7.300	0.80	0.67	0.000
112.00	Ericsson RRUS 4478 B5	3	59.90	1.840	0.00	0.000	16.500	13.400	7.700	0.80	0.67	0.000
112.00	Ericsson RRUS 4478 B66	3	48.50	1.150	0.00	0.000	14.900	9.300	4.000	0.80	0.67	0.000
112.00	Ericsson RRUS 32	3	53.00	2.740	0.00	0.000	27.200	12.100	7.000	0.80	0.67	0.000
112.00	Kaelus DBCT108F1V92-1	6	6.60	0.410	0.00	0.000	8.000	6.200	3.700	0.80	0.80	0.000
112.00	Raycap DC6-48-60-18-8F	1	31.80	0.920	0.00	0.000	24.000	11.000	11.000	0.80	1.00	0.000
112.00	REINFORCING KIT	1	650.00	18.000	800.00	20.000	0.000	0.000	0.000	1.00	1.00	0.000
48.00	1" x 16" Pipe	1	10.00	0.110	18.21	0.200	0.000	0.000	0.000	1.00	1.00	0.000
48.00	GPS	1	10.00	1.000	44.50	1.838	12.000	9.000	6.000	1.00	1.00	0.000
21.00	14-Element 4.5 ft Yagi	1	6.50	1.500	65.76	4.734	16.500	44.000	0.000	1.00	1.00	0.000
21.00	1-ft Side Arm	1	30.00	0.350	53.15	0.620	0.000	0.000	0.000	1.00	1.00	0.000
	Totals:	**145**	**9,783.46**		**26,162.30**					**Number of Appurtenances :**		**77**

Linear Appurtenances Properties

Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	344.00	1" Light Conduit	1	1.00	1.00	100.00	3	Individual NR		N	1.00	1.00	
0.00	332.00	3" Coax	1	3.02	1.78	100.00	1	Individual NR		N	1.00	1.00	
0.00	308.30	3" Coax	1	3.02	1.78	100.00	1	Individual NR		N	1.00	1.00	
0.00	308.00	Safety Cable	1	0.38	0.27	100.00	1	Individual NR		N	1.00	1.00	
0.00	290.00	Detuner	3	0.19	0.02	100.00	1,2,3	Individual NR		Y	1.00	1.00	
0.00	265.00	1/2" Coax	1	0.65	0.16	100.00	2	Individual NR		N	1.00	1.00	
0.00	251.80	1 5/8" Coax	1	1.98	1.04	100.00	3	Individual NR		N	1.00	1.00	
0.00	251.80	3/8" Coax	1	0.44	0.08	100.00	3	Individual NR		N	1.00	1.00	
0.00	251.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	1.00	1.00	
0.00	243.00	7/8" Coax	1	1.11	0.52	100.00	1	Individual NR		N	1.00	1.00	
0.00	235.00	7/8" Coax	1	1.11	0.52	100.00	1	Individual NR		N	1.00	1.00	
0.00	232.00	1/2" Coax	2	0.65	0.16	100.00	1	Individual NR		N	1.00	1.00	
0.00	225.50	3/8" Coax	2	0.44	0.08	100.00	1	Individual NR		N	1.00	1.00	
0.00	220.00	1 5/8" Coax	1	1.98	1.04	100.00	1	Individual NR		N	1.00	1.00	
0.00	203.00	1/2" Coax	1	0.65	0.16	100.00	3	Individual NR		N	1.00	1.00	
0.00	196.00	EW71	1	1.11	0.29	100.00	3	Individual NR		N	1.00	1.00	
0.00	180.00	1 5/8" Coax	1	1.98	1.04	100.00	3	Individual NR		N	1.00	1.00	
0.00	165.00	1 5/8" Coax	1	1.98	1.04	100.00	1	Individual NR		N	1.00	1.00	
0.00	164.50	1/2" Coax	1	0.65	0.16	100.00	3	Individual NR		N	1.00	1.00	
0.00	160.00	1 5/8" Coax	12	1.98	1.04	50.00	2	Block		N	1.00	1.00	
0.00	146.50	3/8" Coax	1	0.44	0.08	100.00	1	Individual NR		N	1.00	1.00	
0.00	145.00	1 5/8" Coax	1	1.98	1.04	100.00	1	Individual NR		N	1.00	1.00	
0.00	142.50	1 5/8" Coax	1	1.98	1.04	100.00	2	Individual NR		N	1.00	1.00	
0.00	140.50	1 5/8" Coax	1	1.98	1.04	100.00	2	Individual NR		N	1.00	1.00	
0.00	136.50	1/4" Coax	1	0.25	0.04	100.00	1	Individual NR		N	1.00	1.00	
0.00	130.00	1 5/8" Coax	8	1.98	1.04	100.00	3	Individual NR		N	1.00	1.00	
0.00	130.00	1 5/8" Fiber	1	2.00	1.10	100.00	3	Individual NR		N	1.00	1.00	
0.00	120.50	1 5/8" Coax	6	1.98	1.04	100.00	1	Individual NR		N	1.00	1.00	
0.00	112.00	1 5/8" Coax	12	1.98	1.04	50.00	2	Block		N	1.00	1.00	
0.00	112.00	3/4" DC	6	0.75	0.40	50.00	2	Block		N	1.00	1.00	
0.00	112.00	3/8" Fiber	2	0.38	0.06	100.00	2	Individual NR		N	1.00	1.00	
0.00	48.00	3/8" Coax	1	0.44	0.08	100.00	1	Individual NR		N	1.00	1.00	
0.00	21.00	1/2" Coax	1	0.65	0.16	100.00	3	Individual NR		N	1.00	1.00	

Section Forces

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 10	

Tower Engineering Solutions

Load Case: 1.2D + 1.6W Normal Wind — 1.2D + 1.6W 97 mph Wind at Normal To Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

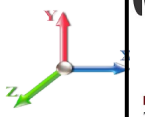
Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	17.40	0.578	4.75	0.00	0.39	2.09	1.00	1.00	0.00	3.64	42.24	0.00	1,663.3	0.0	179.92	782.43	962.35
2	6.3	17.40	0.290	2.25	0.00	0.19	2.62	1.00	1.00	0.00	1.60	21.12	0.00	799.9	0.0	99.18	391.21	490.40
3	8.8	17.40	0.290	2.11	0.00	0.18	2.66	1.00	1.00	0.00	1.52	21.12	0.00	787.6	0.0	95.23	391.21	486.44
4	14.0	17.40	0.000	7.75	0.00	0.18	2.65	1.00	1.00	0.00	4.53	67.58	0.00	1,692.6	0.0	284.22	1251.88	1,536.10
5	23.0	19.02	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	84.10	0.00	1,992.9	0.0	361.93	1702.89	2,064.82
6	33.0	20.52	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	83.94	0.00	1,944.2	0.0	375.71	1834.10	2,209.81
7	43.0	21.69	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	83.94	0.00	1,992.3	0.0	412.89	1939.20	2,352.09
8	53.0	22.67	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	83.57	0.00	1,943.2	0.0	415.12	2018.33	2,433.45
9	63.0	23.51	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	83.57	0.00	1,991.4	0.0	447.46	2093.13	2,540.59
10	73.0	24.25	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	83.57	0.00	1,943.2	0.0	444.06	2159.07	2,603.13
11	83.0	24.92	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	83.57	0.00	1,991.4	0.0	474.20	2218.22	2,692.42
12	93.0	25.52	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	83.57	0.00	1,943.2	0.0	467.29	2271.98	2,739.27
13	103.0	26.07	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	83.57	0.00	1,991.4	0.0	496.25	2321.36	2,817.61
14	113.0	26.59	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	72.50	0.00	1,835.2	0.0	486.85	2023.95	2,510.80
15	123.0	27.07	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	57.70	0.00	1,755.2	0.0	515.14	1630.74	2,145.88
16	133.0	27.52	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	43.30	0.00	1,597.9	0.0	503.84	1269.83	1,773.67
17	143.0	27.94	0.000	9.55	0.00	0.18	2.66	1.00	1.00	0.00	5.58	37.45	0.00	1,757.8	0.0	563.78	1129.44	1,693.22
18	153.0	28.34	0.000	9.05	0.00	0.17	2.69	1.00	1.00	0.00	5.27	34.83	0.00	1,664.4	0.0	546.79	1072.87	1,619.67
19	163.0	28.72	0.000	8.70	0.00	0.17	2.71	1.00	1.00	0.00	5.06	22.89	0.00	1,390.1	0.0	536.13	672.43	1,208.57
20	173.0	29.08	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	18.57	0.00	1,302.0	0.0	521.78	537.86	1,059.63
21	183.0	29.43	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	17.25	0.00	1,340.2	0.0	549.34	506.22	1,055.56
22	193.0	29.76	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	16.74	0.00	1,288.9	0.0	533.93	496.91	1,030.85
23	203.0	30.08	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	15.72	0.00	1,333.2	0.0	561.46	472.46	1,033.92
24	213.0	30.38	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	15.45	0.00	1,284.1	0.0	545.13	469.21	1,014.34
25	223.0	30.68	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	13.95	0.00	1,321.8	0.0	572.68	428.60	1,001.28
26	233.0	30.96	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	12.14	0.00	1,265.6	0.0	555.53	377.77	933.30
27	243.0	31.24	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	10.60	0.00	1,304.7	0.0	583.13	333.92	917.05
28	253.0	31.50	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	8.24	0.00	1,240.7	0.0	565.24	263.96	829.20
29	263.0	31.76	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	7.03	0.00	1,281.3	0.0	592.92	228.60	821.52
30	273.0	32.01	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	6.65	0.00	1,231.8	0.0	574.37	218.52	792.89
31	283.0	32.26	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	6.65	0.00	1,279.9	0.0	602.14	220.18	822.32
32	293.0	32.49	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	6.27	0.00	1,231.3	0.0	582.98	201.64	784.63
33	303.0	32.72	0.000	8.41	0.00	0.16	2.73	1.00	1.00	0.00	4.88	6.18	0.00	1,258.2	0.0	593.08	198.00	791.08
34	308.5	32.85	0.793	0.48	0.00	0.24	2.46	1.00	1.00	0.00	1.07	0.41	0.00	818.7	0.0	117.86	13.20	131.06
														51,459.5	**0.0**			**49,898.92**

Section Forces

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 11	



Tower Engineering Solutions

Load Case: 1.2D + 1.6W 60° Wind — 1.2D + 1.6W 97 mph Wind at 60° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

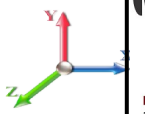
Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	17.40	0.578	4.75	0.00	0.39	2.09	0.80	1.00	0.00	3.52	42.24	0.00	1,663.3	0.0	174.20	782.43	956.63
2	6.3	17.40	0.290	2.25	0.00	0.19	2.62	0.80	1.00	0.00	1.54	21.12	0.00	799.9	0.0	95.58	391.21	486.80
3	8.8	17.40	0.290	2.11	0.00	0.18	2.66	0.80	1.00	0.00	1.46	21.12	0.00	787.6	0.0	91.58	391.21	482.79
4	14.0	17.40	0.000	7.75	0.00	0.18	2.65	0.80	1.00	0.00	4.53	67.58	0.00	1,692.6	0.0	284.22	1251.88	1,536.10
5	23.0	19.02	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	84.10	0.00	1,992.9	0.0	361.93	1702.89	2,064.82
6	33.0	20.52	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	83.94	0.00	1,944.2	0.0	375.71	1834.10	2,209.81
7	43.0	21.69	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	83.94	0.00	1,992.3	0.0	412.89	1939.20	2,352.09
8	53.0	22.67	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	83.57	0.00	1,943.2	0.0	415.12	2018.33	2,433.45
9	63.0	23.51	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	83.57	0.00	1,991.4	0.0	447.46	2093.13	2,540.59
10	73.0	24.25	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	83.57	0.00	1,943.2	0.0	444.06	2159.07	2,603.13
11	83.0	24.92	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	83.57	0.00	1,991.4	0.0	474.20	2218.22	2,692.42
12	93.0	25.52	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	83.57	0.00	1,943.2	0.0	467.29	2271.98	2,739.27
13	103.0	26.07	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	83.57	0.00	1,991.4	0.0	496.25	2321.36	2,817.61
14	113.0	26.59	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	72.50	0.00	1,835.2	0.0	486.85	2023.95	2,510.80
15	123.0	27.07	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	57.70	0.00	1,755.2	0.0	515.14	1630.74	2,145.88
16	133.0	27.52	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	43.30	0.00	1,597.9	0.0	503.84	1269.83	1,773.67
17	143.0	27.94	0.000	9.55	0.00	0.18	2.66	0.80	1.00	0.00	5.58	37.45	0.00	1,757.8	0.0	563.78	1129.44	1,693.22
18	153.0	28.34	0.000	9.05	0.00	0.17	2.69	0.80	1.00	0.00	5.27	34.83	0.00	1,664.4	0.0	546.79	1072.87	1,619.67
19	163.0	28.72	0.000	8.70	0.00	0.17	2.71	0.80	1.00	0.00	5.06	22.89	0.00	1,390.1	0.0	536.13	672.43	1,208.57
20	173.0	29.08	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	18.57	0.00	1,302.0	0.0	521.78	537.86	1,059.63
21	183.0	29.43	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	17.25	0.00	1,340.2	0.0	549.34	506.22	1,055.56
22	193.0	29.76	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	16.74	0.00	1,288.9	0.0	533.93	496.91	1,030.85
23	203.0	30.08	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	15.72	0.00	1,333.2	0.0	561.46	472.46	1,033.92
24	213.0	30.38	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	15.45	0.00	1,284.1	0.0	545.13	469.21	1,014.34
25	223.0	30.68	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	13.95	0.00	1,321.8	0.0	572.68	428.60	1,001.28
26	233.0	30.96	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	12.14	0.00	1,265.6	0.0	555.53	377.77	933.30
27	243.0	31.24	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	10.60	0.00	1,304.7	0.0	583.13	333.92	917.05
28	253.0	31.50	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	8.24	0.00	1,240.7	0.0	565.24	263.96	829.20
29	263.0	31.76	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	7.03	0.00	1,281.3	0.0	592.92	228.60	821.52
30	273.0	32.01	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	6.65	0.00	1,231.8	0.0	574.37	218.52	792.89
31	283.0	32.26	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	6.65	0.00	1,279.9	0.0	602.14	220.18	822.32
32	293.0	32.49	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	6.27	0.00	1,231.3	0.0	582.98	201.64	784.63
33	303.0	32.72	0.000	8.41	0.00	0.16	2.73	0.80	1.00	0.00	4.88	6.18	0.00	1,258.2	0.0	593.08	198.00	791.08
34	308.5	32.85	0.793	0.48	0.00	0.24	2.46	0.80	1.00	0.00	0.91	0.41	0.00	818.7	0.0	100.43	13.20	113.63
														51,459.5	**0.0**			**49,868.52**

Section Forces

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 12	



Tower Engineering Solutions

Load Case: 1.2D + 1.6W 90° Wind — 1.2D + 1.6W 97 mph Wind at 90° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

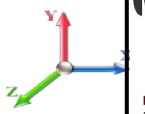
Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	17.40	0.578	4.75	0.00	0.39	2.09	0.85	1.00	0.00	3.55	42.24	0.00	1,663.3	0.0	175.63	782.43	958.06
2	6.3	17.40	0.290	2.25	0.00	0.19	2.62	0.85	1.00	0.00	1.56	21.12	0.00	799.9	0.0	96.48	391.21	487.70
3	8.8	17.40	0.290	2.11	0.00	0.18	2.66	0.85	1.00	0.00	1.47	21.12	0.00	787.6	0.0	92.49	391.21	483.70
4	14.0	17.40	0.000	7.75	0.00	0.18	2.65	0.85	1.00	0.00	4.53	67.58	0.00	1,692.6	0.0	284.22	1251.88	1,536.10
5	23.0	19.02	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	84.10	0.00	1,992.9	0.0	361.93	1702.89	2,064.82
6	33.0	20.52	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	83.94	0.00	1,944.2	0.0	375.71	1834.10	2,209.81
7	43.0	21.69	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	83.94	0.00	1,992.3	0.0	412.89	1939.20	2,352.09
8	53.0	22.67	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	83.57	0.00	1,943.2	0.0	415.12	2018.33	2,433.45
9	63.0	23.51	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	83.57	0.00	1,991.4	0.0	447.46	2093.13	2,540.59
10	73.0	24.25	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	83.57	0.00	1,943.2	0.0	444.06	2159.07	2,603.13
11	83.0	24.92	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	83.57	0.00	1,991.4	0.0	474.20	2218.22	2,692.42
12	93.0	25.52	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	83.57	0.00	1,943.2	0.0	467.29	2271.98	2,739.27
13	103.0	26.07	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	83.57	0.00	1,991.4	0.0	496.25	2321.36	2,817.61
14	113.0	26.59	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	72.50	0.00	1,835.2	0.0	486.85	2023.95	2,510.80
15	123.0	27.07	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	57.70	0.00	1,755.2	0.0	515.14	1630.74	2,145.88
16	133.0	27.52	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	43.30	0.00	1,597.9	0.0	503.84	1269.83	1,773.67
17	143.0	27.94	0.000	9.55	0.00	0.18	2.66	0.85	1.00	0.00	5.58	37.45	0.00	1,757.8	0.0	563.78	1129.44	1,693.22
18	153.0	28.34	0.000	9.05	0.00	0.17	2.69	0.85	1.00	0.00	5.27	34.83	0.00	1,664.4	0.0	546.79	1072.87	1,619.67
19	163.0	28.72	0.000	8.70	0.00	0.17	2.71	0.85	1.00	0.00	5.06	22.89	0.00	1,390.1	0.0	536.13	672.43	1,208.57
20	173.0	29.08	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	18.57	0.00	1,302.0	0.0	521.78	537.86	1,059.63
21	183.0	29.43	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	17.25	0.00	1,340.2	0.0	549.34	506.22	1,055.56
22	193.0	29.76	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	16.74	0.00	1,288.9	0.0	533.93	496.91	1,030.85
23	203.0	30.08	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	15.72	0.00	1,333.2	0.0	561.46	472.46	1,033.92
24	213.0	30.38	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	15.45	0.00	1,284.1	0.0	545.13	469.21	1,014.34
25	223.0	30.68	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	13.95	0.00	1,321.8	0.0	572.68	428.60	1,001.28
26	233.0	30.96	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	12.14	0.00	1,265.6	0.0	555.53	377.77	933.30
27	243.0	31.24	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	10.60	0.00	1,304.7	0.0	583.13	333.92	917.05
28	253.0	31.50	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	8.24	0.00	1,240.7	0.0	565.24	263.96	829.20
29	263.0	31.76	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	7.03	0.00	1,281.3	0.0	592.92	228.60	821.52
30	273.0	32.01	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	6.65	0.00	1,231.8	0.0	574.37	218.52	792.89
31	283.0	32.26	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	6.65	0.00	1,279.9	0.0	602.14	220.18	822.32
32	293.0	32.49	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	6.27	0.00	1,231.3	0.0	582.98	201.64	784.63
33	303.0	32.72	0.000	8.41	0.00	0.16	2.73	0.85	1.00	0.00	4.88	6.18	0.00	1,258.2	0.0	593.08	198.00	791.08
34	308.5	32.85	0.793	0.48	0.00	0.24	2.46	0.85	1.00	0.00	0.95	0.41	0.00	818.7	0.0	104.79	13.20	117.99
														51,459.5	**0.0**			**49,876.12**

Section Forces

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 13	



Tower Engineering Solutions

Load Case: 0.9D + 1.6W Normal Wind — 0.9D + 1.6W 97 mph Wind at Normal To Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

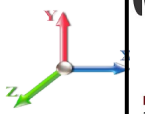
Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	17.40	0.578	4.75	0.00	0.39	2.09	1.00	1.00	0.00	3.64	42.24	0.00	1,247.5	0.0	179.92	782.43	962.35
2	6.3	17.40	0.290	2.25	0.00	0.19	2.62	1.00	1.00	0.00	1.60	21.12	0.00	599.9	0.0	99.18	391.21	490.40
3	8.8	17.40	0.290	2.11	0.00	0.18	2.66	1.00	1.00	0.00	1.52	21.12	0.00	590.7	0.0	95.23	391.21	486.44
4	14.0	17.40	0.000	7.75	0.00	0.18	2.65	1.00	1.00	0.00	4.53	67.58	0.00	1,269.4	0.0	284.22	1251.88	1,536.10
5	23.0	19.02	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	84.10	0.00	1,494.7	0.0	361.93	1702.89	2,064.82
6	33.0	20.52	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	83.94	0.00	1,458.2	0.0	375.71	1834.10	2,209.81
7	43.0	21.69	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	83.94	0.00	1,494.2	0.0	412.89	1939.20	2,352.09
8	53.0	22.67	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	83.57	0.00	1,457.4	0.0	415.12	2018.33	2,433.45
9	63.0	23.51	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	83.57	0.00	1,493.5	0.0	447.46	2093.13	2,540.59
10	73.0	24.25	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	83.57	0.00	1,457.4	0.0	444.06	2159.07	2,603.13
11	83.0	24.92	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	83.57	0.00	1,493.5	0.0	474.20	2218.22	2,692.42
12	93.0	25.52	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	83.57	0.00	1,457.4	0.0	467.29	2271.98	2,739.27
13	103.0	26.07	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	83.57	0.00	1,493.5	0.0	496.25	2321.36	2,817.61
14	113.0	26.59	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	72.50	0.00	1,376.4	0.0	486.85	2023.95	2,510.80
15	123.0	27.07	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	57.70	0.00	1,316.4	0.0	515.14	1630.74	2,145.88
16	133.0	27.52	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	43.30	0.00	1,198.4	0.0	503.84	1269.83	1,773.67
17	143.0	27.94	0.000	9.55	0.00	0.18	2.66	1.00	1.00	0.00	5.58	37.45	0.00	1,318.4	0.0	563.78	1129.44	1,693.22
18	153.0	28.34	0.000	9.05	0.00	0.17	2.69	1.00	1.00	0.00	5.27	34.83	0.00	1,248.3	0.0	546.79	1072.87	1,619.67
19	163.0	28.72	0.000	8.70	0.00	0.17	2.71	1.00	1.00	0.00	5.06	22.89	0.00	1,042.6	0.0	536.13	672.43	1,208.57
20	173.0	29.08	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	18.57	0.00	976.5	0.0	521.78	537.86	1,059.63
21	183.0	29.43	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	17.25	0.00	1,005.1	0.0	549.34	506.22	1,055.56
22	193.0	29.76	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	16.74	0.00	966.6	0.0	533.93	496.91	1,030.85
23	203.0	30.08	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	15.72	0.00	999.9	0.0	561.46	472.46	1,033.92
24	213.0	30.38	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	15.45	0.00	963.1	0.0	545.13	469.21	1,014.34
25	223.0	30.68	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	13.95	0.00	991.3	0.0	572.68	428.60	1,001.28
26	233.0	30.96	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	12.14	0.00	949.2	0.0	555.53	377.77	933.30
27	243.0	31.24	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	10.60	0.00	978.5	0.0	583.13	333.92	917.05
28	253.0	31.50	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	8.24	0.00	930.5	0.0	565.24	263.96	829.20
29	263.0	31.76	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	7.03	0.00	961.0	0.0	592.92	228.60	821.52
30	273.0	32.01	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	6.65	0.00	923.9	0.0	574.37	218.52	792.89
31	283.0	32.26	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	6.65	0.00	960.0	0.0	602.14	220.18	822.32
32	293.0	32.49	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	6.27	0.00	923.4	0.0	582.98	201.64	784.63
33	303.0	32.72	0.000	8.41	0.00	0.16	2.73	1.00	1.00	0.00	4.88	6.18	0.00	943.6	0.0	593.08	198.00	791.08
34	308.5	32.85	0.793	0.48	0.00	0.24	2.46	1.00	1.00	0.00	1.07	0.41	0.00	614.0	0.0	117.86	13.20	131.06
														38,594.6	**0.0**			**49,898.92**

Section Forces

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 14	



Tower Engineering Solutions

Load Case: 0.9D + 1.6W 60° Wind — 0.9D + 1.6W 97 mph Wind at 60° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

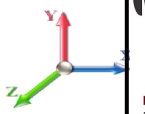
Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	17.40	0.578	4.75	0.00	0.39	2.09	0.80	1.00	0.00	3.52	42.24	0.00	1,247.5	0.0	174.20	782.43	956.63
2	6.3	17.40	0.290	2.25	0.00	0.19	2.62	0.80	1.00	0.00	1.54	21.12	0.00	599.9	0.0	95.58	391.21	486.80
3	8.8	17.40	0.290	2.11	0.00	0.18	2.66	0.80	1.00	0.00	1.46	21.12	0.00	590.7	0.0	91.58	391.21	482.79
4	14.0	17.40	0.000	7.75	0.00	0.18	2.65	0.80	1.00	0.00	4.53	67.58	0.00	1,269.4	0.0	284.22	1251.88	1,536.10
5	23.0	19.02	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	84.10	0.00	1,494.7	0.0	361.93	1702.89	2,064.82
6	33.0	20.52	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	83.94	0.00	1,458.2	0.0	375.71	1834.10	2,209.81
7	43.0	21.69	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	83.94	0.00	1,494.2	0.0	412.89	1939.20	2,352.09
8	53.0	22.67	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	83.57	0.00	1,457.4	0.0	415.12	2018.33	2,433.45
9	63.0	23.51	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	83.57	0.00	1,493.5	0.0	447.46	2093.13	2,540.59
10	73.0	24.25	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	83.57	0.00	1,457.4	0.0	444.06	2159.07	2,603.13
11	83.0	24.92	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	83.57	0.00	1,493.5	0.0	474.20	2218.22	2,692.42
12	93.0	25.52	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	83.57	0.00	1,457.4	0.0	467.29	2271.98	2,739.27
13	103.0	26.07	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	83.57	0.00	1,493.5	0.0	496.25	2321.36	2,817.61
14	113.0	26.59	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	72.50	0.00	1,376.4	0.0	486.85	2023.95	2,510.80
15	123.0	27.07	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	57.70	0.00	1,316.4	0.0	515.14	1630.74	2,145.88
16	133.0	27.52	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	43.30	0.00	1,198.4	0.0	503.84	1269.83	1,773.67
17	143.0	27.94	0.000	9.55	0.00	0.18	2.66	0.80	1.00	0.00	5.58	37.45	0.00	1,318.4	0.0	563.78	1129.44	1,693.22
18	153.0	28.34	0.000	9.05	0.00	0.17	2.69	0.80	1.00	0.00	5.27	34.83	0.00	1,248.3	0.0	546.79	1072.87	1,619.67
19	163.0	28.72	0.000	8.70	0.00	0.17	2.71	0.80	1.00	0.00	5.06	22.89	0.00	1,042.6	0.0	536.13	672.43	1,208.57
20	173.0	29.08	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	18.57	0.00	976.5	0.0	521.78	537.86	1,059.63
21	183.0	29.43	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	17.25	0.00	1,005.1	0.0	549.34	506.22	1,055.56
22	193.0	29.76	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	16.74	0.00	966.6	0.0	533.93	496.91	1,030.85
23	203.0	30.08	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	15.72	0.00	999.9	0.0	561.46	472.46	1,033.92
24	213.0	30.38	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	15.45	0.00	963.1	0.0	545.13	469.21	1,014.34
25	223.0	30.68	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	13.95	0.00	991.3	0.0	572.68	428.60	1,001.28
26	233.0	30.96	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	12.14	0.00	949.2	0.0	555.53	377.77	933.30
27	243.0	31.24	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	10.60	0.00	978.5	0.0	583.13	333.92	917.05
28	253.0	31.50	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	8.24	0.00	930.5	0.0	565.24	263.96	829.20
29	263.0	31.76	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	7.03	0.00	961.0	0.0	592.92	228.60	821.52
30	273.0	32.01	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	6.65	0.00	923.9	0.0	574.37	218.52	792.89
31	283.0	32.26	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	6.65	0.00	960.0	0.0	602.14	220.18	822.32
32	293.0	32.49	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	6.27	0.00	923.4	0.0	582.98	201.64	784.63
33	303.0	32.72	0.000	8.41	0.00	0.16	2.73	0.80	1.00	0.00	4.88	6.18	0.00	943.6	0.0	593.08	198.00	791.08
34	308.5	32.85	0.793	0.48	0.00	0.24	2.46	0.80	1.00	0.00	0.91	0.41	0.00	614.0	0.0	100.43	13.20	113.63
														38,594.6	**0.0**			**49,868.52**

Section Forces

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 15	



Tower Engineering Solutions

Load Case: 0.9D + 1.6W 90° Wind — 0.9D + 1.6W 97 mph Wind at 90° From Face

Wind Load Factor: 1.60 — **Wind Importance Factor:** 1.00

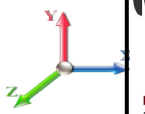
Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	17.40	0.578	4.75	0.00	0.39	2.09	0.85	1.00	0.00	3.55	42.24	0.00	1,247.5	0.0	175.63	782.43	958.06
2	6.3	17.40	0.290	2.25	0.00	0.19	2.62	0.85	1.00	0.00	1.56	21.12	0.00	599.9	0.0	96.48	391.21	487.70
3	8.8	17.40	0.290	2.11	0.00	0.18	2.66	0.85	1.00	0.00	1.47	21.12	0.00	590.7	0.0	92.49	391.21	483.70
4	14.0	17.40	0.000	7.75	0.00	0.18	2.65	0.85	1.00	0.00	4.53	67.58	0.00	1,269.4	0.0	284.22	1251.88	1,536.10
5	23.0	19.02	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	84.10	0.00	1,494.7	0.0	361.93	1702.89	2,064.82
6	33.0	20.52	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	83.94	0.00	1,458.2	0.0	375.71	1834.10	2,209.81
7	43.0	21.69	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	83.94	0.00	1,494.2	0.0	412.89	1939.20	2,352.09
8	53.0	22.67	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	83.57	0.00	1,457.4	0.0	415.12	2018.33	2,433.45
9	63.0	23.51	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	83.57	0.00	1,493.5	0.0	447.46	2093.13	2,540.59
10	73.0	24.25	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	83.57	0.00	1,457.4	0.0	444.06	2159.07	2,603.13
11	83.0	24.92	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	83.57	0.00	1,493.5	0.0	474.20	2218.22	2,692.42
12	93.0	25.52	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	83.57	0.00	1,457.4	0.0	467.29	2271.98	2,739.27
13	103.0	26.07	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	83.57	0.00	1,493.5	0.0	496.25	2321.36	2,817.61
14	113.0	26.59	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	72.50	0.00	1,376.4	0.0	486.85	2023.95	2,510.80
15	123.0	27.07	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	57.70	0.00	1,316.4	0.0	515.14	1630.74	2,145.88
16	133.0	27.52	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	43.30	0.00	1,198.4	0.0	503.84	1269.83	1,773.67
17	143.0	27.94	0.000	9.55	0.00	0.18	2.66	0.85	1.00	0.00	5.58	37.45	0.00	1,318.4	0.0	563.78	1129.44	1,693.22
18	153.0	28.34	0.000	9.05	0.00	0.17	2.69	0.85	1.00	0.00	5.27	34.83	0.00	1,248.3	0.0	546.79	1072.87	1,619.67
19	163.0	28.72	0.000	8.70	0.00	0.17	2.71	0.85	1.00	0.00	5.06	22.89	0.00	1,042.6	0.0	536.13	672.43	1,208.57
20	173.0	29.08	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	18.57	0.00	976.5	0.0	521.78	537.86	1,059.63
21	183.0	29.43	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	17.25	0.00	1,005.1	0.0	549.34	506.22	1,055.56
22	193.0	29.76	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	16.74	0.00	966.6	0.0	533.93	496.91	1,030.85
23	203.0	30.08	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	15.72	0.00	999.9	0.0	561.46	472.46	1,033.92
24	213.0	30.38	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	15.45	0.00	963.1	0.0	545.13	469.21	1,014.34
25	223.0	30.68	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	13.95	0.00	991.3	0.0	572.68	428.60	1,001.28
26	233.0	30.96	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	12.14	0.00	949.2	0.0	555.53	377.77	933.30
27	243.0	31.24	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	10.60	0.00	978.5	0.0	583.13	333.92	917.05
28	253.0	31.50	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	8.24	0.00	930.5	0.0	565.24	263.96	829.20
29	263.0	31.76	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	7.03	0.00	961.0	0.0	592.92	228.60	821.52
30	273.0	32.01	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	6.65	0.00	923.9	0.0	574.37	218.52	792.89
31	283.0	32.26	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	6.65	0.00	960.0	0.0	602.14	220.18	822.32
32	293.0	32.49	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	6.27	0.00	923.4	0.0	582.98	201.64	784.63
33	303.0	32.72	0.000	8.41	0.00	0.16	2.73	0.85	1.00	0.00	4.88	6.18	0.00	943.6	0.0	593.08	198.00	791.08
34	308.5	32.85	0.793	0.48	0.00	0.24	2.46	0.85	1.00	0.00	0.95	0.41	0.00	614.0	0.0	104.79	13.20	117.99
														38,594.6	**0.0**			**49,876.12**

Section Forces

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 16	



Tower Engineering Solutions

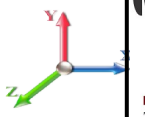
Load Case: 1.2D + 1.0Di + 1.0Wi Normal Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	4.62	0.578	14.19	9.44	0.98	2.06	1.00	1.00	1.55	15.36	46.00	60.52	4,232.2	2568.9	124.55	28.53	153.08
2	6.3	4.62	0.290	7.07	4.82	0.53	1.86	1.00	1.00	1.69	5.28	23.18	33.16	2,264.1	1464.2	38.66	135.54	174.20
3	8.8	4.62	0.290	7.09	4.98	0.53	1.86	1.00	1.00	1.75	5.30	23.26	34.30	2,286.7	1499.1	38.78	138.24	177.02
4	14.0	4.62	0.000	27.63	19.89	0.62	1.79	1.00	1.00	1.84	21.07	74.76	115.0	6,420.5	4727.9	148.44	375.85	524.29
5	23.0	5.05	0.000	32.93	24.02	0.59	1.81	1.00	1.00	1.93	24.45	93.54	148.8	8,149.3	6156.4	190.01	563.49	753.50
6	33.0	5.45	0.000	31.75	23.24	0.57	1.83	1.00	1.00	2.00	23.12	93.73	153.3	8,308.9	6364.7	195.72	650.69	846.40
7	43.0	5.76	0.000	34.48	25.58	0.62	1.79	1.00	1.00	2.05	26.15	94.00	157.4	8,727.2	6734.9	229.97	629.38	859.36
8	53.0	6.02	0.000	32.88	24.37	0.59	1.81	1.00	1.00	2.10	24.31	93.85	157.2	8,708.2	6765.0	225.62	703.23	928.85
9	63.0	6.25	0.000	35.48	26.57	0.63	1.79	1.00	1.00	2.13	27.28	94.03	160.0	9,056.1	7064.7	258.94	663.94	922.88
10	73.0	6.44	0.000	33.67	25.16	0.60	1.80	1.00	1.00	2.17	25.17	94.19	162.3	9,040.7	7097.5	248.69	746.86	995.55
11	83.0	6.62	0.000	36.22	27.31	0.65	1.78	1.00	1.00	2.19	28.15	94.33	164.4	9,355.7	7364.4	282.39	695.81	978.21
12	93.0	6.78	0.000	34.29	25.78	0.61	1.80	1.00	1.00	2.22	25.85	94.45	166.3	9,304.6	7361.4	267.88	780.91	1,048.79
13	103.0	6.93	0.000	36.82	27.91	0.65	1.78	1.00	1.00	2.24	28.85	94.57	168.0	9,600.5	7609.1	302.43	721.10	1,023.54
14	113.0	7.06	0.000	34.80	26.28	0.62	1.79	1.00	1.00	2.26	26.41	79.20	165.1	8,874.8	7039.5	284.52	743.57	1,028.09
15	123.0	7.19	0.000	37.32	28.41	0.66	1.78	1.00	1.00	2.28	29.44	61.50	146.3	8,125.2	6370.0	320.11	583.03	903.14
16	133.0	7.31	0.000	35.23	26.72	0.63	1.79	1.00	1.00	2.30	26.90	47.13	113.6	6,850.8	5253.0	299.33	517.41	816.74
17	143.0	7.42	0.000	38.39	28.84	0.68	1.78	1.00	1.00	2.32	30.80	41.31	97.46	6,793.9	5036.1	345.20	408.01	753.21
18	153.0	7.53	0.000	36.15	27.09	0.64	1.78	1.00	1.00	2.33	28.00	38.72	89.38	6,362.3	4697.9	319.75	425.21	744.96
19	163.0	7.63	0.000	37.93	29.22	0.67	1.78	1.00	1.00	2.35	30.20	23.67	87.40	5,676.3	4286.2	348.05	348.51	696.56
20	173.0	7.73	0.000	35.74	27.43	0.63	1.79	1.00	1.00	2.36	27.50	18.57	82.61	5,224.1	3922.1	322.70	352.93	675.63
21	183.0	7.82	0.000	38.27	29.56	0.68	1.78	1.00	1.00	2.37	30.62	17.25	79.91	5,345.1	4005.0	361.44	315.55	676.99
22	193.0	7.91	0.000	36.04	27.73	0.64	1.78	1.00	1.00	2.39	27.85	16.74	78.75	5,135.9	3847.0	334.06	341.75	675.81
23	203.0	7.99	0.000	38.58	29.87	0.68	1.78	1.00	1.00	2.40	31.00	15.72	73.95	5,235.6	3902.3	373.94	300.48	674.42
24	213.0	8.07	0.000	36.31	28.00	0.64	1.78	1.00	1.00	2.41	28.17	15.45	72.30	5,022.5	3738.4	344.69	323.84	668.53
25	223.0	8.15	0.000	38.86	30.15	0.69	1.78	1.00	1.00	2.42	31.35	13.95	67.39	5,094.5	3772.7	385.68	282.63	668.31
26	233.0	8.23	0.000	36.57	28.26	0.65	1.78	1.00	1.00	2.43	28.46	12.14	54.71	4,617.7	3352.1	354.69	266.28	620.97
27	243.0	8.30	0.000	39.12	30.41	0.69	1.78	1.00	1.00	2.44	31.67	10.60	46.80	4,633.6	3328.9	396.78	223.71	620.49
28	253.0	8.37	0.000	36.80	28.49	0.65	1.78	1.00	1.00	2.45	28.74	8.24	37.02	4,173.1	2932.4	364.16	205.51	569.67
29	263.0	8.44	0.000	39.36	30.65	0.70	1.78	1.00	1.00	2.46	31.97	7.03	31.59	4,244.7	2963.4	407.32	177.50	584.83
30	273.0	8.51	0.000	37.02	28.71	0.66	1.78	1.00	1.00	2.47	28.99	6.65	28.82	3,990.8	2759.0	373.16	179.09	552.25
31	283.0	8.57	0.000	39.58	30.88	0.70	1.78	1.00	1.00	2.48	32.26	6.65	28.93	4,213.7	2933.7	417.38	172.04	589.42
32	293.0	8.63	0.000	37.22	28.91	0.66	1.78	1.00	1.00	2.49	29.23	6.27	19.08	3,827.7	2596.5	381.75	91.25	473.00
33	303.0	8.69	0.000	37.42	29.01	0.66	1.78	1.00	1.00	2.50	29.48	6.18	16.64	3,831.4	2573.2	387.49	68.49	455.98
34	308.5	8.73	0.793	5.48	5.00	1.00	2.10	1.00	1.00	2.50	6.55	0.41	0.96	1,600.9	782.3	102.02	0.00	102.02
														204,329.5	**152870.0**			**22,936.68**

Section Forces

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 17	



Tower Engineering Solutions

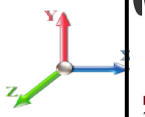
Load Case: 1.2D + 1.0Di + 1.0Wi 60° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	4.62	0.578	14.19	9.44	0.98	2.06	0.80	1.00	1.55	15.25	46.00	60.52	4,232.2	2568.9	123.61	28.53	152.15
2	6.3	4.62	0.290	7.07	4.82	0.53	1.86	0.80	1.00	1.69	5.22	23.18	33.16	2,264.1	1464.2	38.23	135.54	173.78
3	8.8	4.62	0.290	7.09	4.98	0.53	1.86	0.80	1.00	1.75	5.24	23.26	34.30	2,286.7	1499.1	38.35	138.24	176.59
4	14.0	4.62	0.000	27.63	19.89	0.62	1.79	0.80	1.00	1.84	21.07	74.76	115.0	6,420.5	4727.9	148.44	375.85	524.29
5	23.0	5.05	0.000	32.93	24.02	0.59	1.81	0.80	1.00	1.93	24.45	93.54	148.8	8,149.3	6156.4	190.01	563.49	753.50
6	33.0	5.45	0.000	31.75	23.24	0.57	1.83	0.80	1.00	2.00	23.12	93.73	153.3	8,308.9	6364.7	195.72	650.69	846.40
7	43.0	5.76	0.000	34.48	25.58	0.62	1.79	0.80	1.00	2.05	26.15	94.00	157.4	8,727.2	6734.9	229.97	629.38	859.36
8	53.0	6.02	0.000	32.88	24.37	0.59	1.81	0.80	1.00	2.10	24.31	93.85	157.2	8,708.2	6765.0	225.62	703.23	928.85
9	63.0	6.25	0.000	35.48	26.57	0.63	1.79	0.80	1.00	2.13	27.28	94.03	160.0	9,056.1	7064.7	258.94	663.94	922.88
10	73.0	6.44	0.000	33.67	25.16	0.60	1.80	0.80	1.00	2.17	25.17	94.19	162.3	9,040.7	7097.5	248.69	746.86	995.55
11	83.0	6.62	0.000	36.22	27.31	0.65	1.78	0.80	1.00	2.19	28.15	94.33	164.4	9,355.7	7364.4	282.39	695.81	978.21
12	93.0	6.78	0.000	34.29	25.78	0.61	1.80	0.80	1.00	2.22	25.85	94.45	166.3	9,304.6	7361.4	267.88	780.91	1,048.79
13	103.0	6.93	0.000	36.82	27.91	0.65	1.78	0.80	1.00	2.24	28.85	94.57	168.0	9,600.5	7609.1	302.43	721.10	1,023.54
14	113.0	7.06	0.000	34.80	26.28	0.62	1.79	0.80	1.00	2.26	26.41	79.20	165.1	8,874.8	7039.5	284.52	743.57	1,028.09
15	123.0	7.19	0.000	37.32	28.41	0.66	1.78	0.80	1.00	2.28	29.44	61.50	146.3	8,125.2	6370.0	320.11	583.03	903.14
16	133.0	7.31	0.000	35.23	26.72	0.63	1.79	0.80	1.00	2.30	26.90	47.13	113.6	6,850.8	5253.0	299.33	517.41	816.74
17	143.0	7.42	0.000	38.39	28.84	0.68	1.78	0.80	1.00	2.32	30.80	41.31	97.46	6,793.9	5036.1	345.20	408.01	753.21
18	153.0	7.53	0.000	36.15	27.09	0.64	1.78	0.80	1.00	2.33	28.00	38.72	89.38	6,362.3	4697.9	319.75	425.21	744.96
19	163.0	7.63	0.000	37.93	29.22	0.67	1.78	0.80	1.00	2.35	30.20	23.67	87.40	5,676.3	4286.2	348.05	348.51	696.56
20	173.0	7.73	0.000	35.74	27.43	0.63	1.79	0.80	1.00	2.36	27.50	18.57	82.61	5,224.1	3922.1	322.70	352.93	675.63
21	183.0	7.82	0.000	38.27	29.56	0.68	1.78	0.80	1.00	2.37	30.62	17.25	79.91	5,345.1	4005.0	361.44	315.55	676.99
22	193.0	7.91	0.000	36.04	27.73	0.64	1.78	0.80	1.00	2.39	27.85	16.74	78.75	5,135.9	3847.0	334.06	341.75	675.81
23	203.0	7.99	0.000	38.58	29.87	0.68	1.78	0.80	1.00	2.40	31.00	15.72	73.95	5,235.6	3902.3	373.94	300.48	674.42
24	213.0	8.07	0.000	36.31	28.00	0.64	1.78	0.80	1.00	2.41	28.17	15.45	72.30	5,022.5	3738.4	344.69	323.84	668.53
25	223.0	8.15	0.000	38.86	30.15	0.69	1.78	0.80	1.00	2.42	31.35	13.95	67.39	5,094.5	3772.7	385.68	282.63	668.31
26	233.0	8.23	0.000	36.57	28.26	0.65	1.78	0.80	1.00	2.43	28.46	12.14	54.71	4,617.7	3352.1	354.69	266.28	620.97
27	243.0	8.30	0.000	39.12	30.41	0.69	1.78	0.80	1.00	2.44	31.67	10.60	46.80	4,633.6	3328.9	396.78	223.71	620.49
28	253.0	8.37	0.000	36.80	28.49	0.65	1.78	0.80	1.00	2.45	28.74	8.24	37.02	4,173.1	2932.4	364.16	205.51	569.67
29	263.0	8.44	0.000	39.36	30.65	0.70	1.78	0.80	1.00	2.46	31.97	7.03	31.59	4,244.7	2963.4	407.32	177.50	584.83
30	273.0	8.51	0.000	37.02	28.71	0.66	1.78	0.80	1.00	2.47	28.99	6.65	28.82	3,990.8	2759.0	373.16	179.09	552.25
31	283.0	8.57	0.000	39.58	30.88	0.70	1.78	0.80	1.00	2.48	32.26	6.65	28.93	4,213.7	2933.7	417.38	172.04	589.42
32	293.0	8.63	0.000	37.22	28.91	0.66	1.78	0.80	1.00	2.49	29.23	6.27	19.08	3,827.7	2596.5	381.75	91.25	473.00
33	303.0	8.69	0.000	37.42	29.01	0.66	1.78	0.80	1.00	2.50	29.48	6.18	16.64	3,831.4	2573.2	387.49	68.49	455.98
34	308.5	8.73	0.793	5.48	5.00	1.00	2.10	0.80	1.00	2.50	6.39	0.41	0.96	1,600.9	782.3	99.55	0.00	99.55
														204,329.5	**152870.0**			**22,932.42**

Section Forces

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 18	



Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 90° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.20
Ice Dead Load Factor: 1.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	4.62	0.578	14.19	9.44	0.98	2.06	0.85	1.00	1.55	15.27	46.00	60.52	4,232.2	2568.9	123.85	28.53	152.38
2	6.3	4.62	0.290	7.07	4.82	0.53	1.86	0.85	1.00	1.69	5.24	23.18	33.16	2,264.1	1464.2	38.34	135.54	173.88
3	8.8	4.62	0.290	7.09	4.98	0.53	1.86	0.85	1.00	1.75	5.26	23.26	34.30	2,286.7	1499.1	38.46	138.24	176.70
4	14.0	4.62	0.000	27.63	19.89	0.62	1.79	0.85	1.00	1.84	21.07	74.76	115.0	6,420.5	4727.9	148.44	375.85	524.29
5	23.0	5.05	0.000	32.93	24.02	0.59	1.81	0.85	1.00	1.93	24.45	93.54	148.8	8,149.3	6156.4	190.01	563.49	753.50
6	33.0	5.45	0.000	31.75	23.24	0.57	1.83	0.85	1.00	2.00	23.12	93.73	153.3	8,308.9	6364.7	195.72	650.69	846.40
7	43.0	5.76	0.000	34.48	25.58	0.62	1.79	0.85	1.00	2.05	26.15	94.00	157.4	8,727.2	6734.9	229.97	629.38	859.36
8	53.0	6.02	0.000	32.88	24.37	0.59	1.81	0.85	1.00	2.10	24.31	93.85	157.2	8,708.2	6765.0	225.62	703.23	928.85
9	63.0	6.25	0.000	35.48	26.57	0.63	1.79	0.85	1.00	2.13	27.28	94.03	160.0	9,056.1	7064.7	258.94	663.94	922.88
10	73.0	6.44	0.000	33.67	25.16	0.60	1.80	0.85	1.00	2.17	25.17	94.19	162.3	9,040.7	7097.5	248.69	746.86	995.55
11	83.0	6.62	0.000	36.22	27.31	0.65	1.78	0.85	1.00	2.19	28.15	94.33	164.4	9,355.7	7364.4	282.39	695.81	978.21
12	93.0	6.78	0.000	34.29	25.78	0.61	1.80	0.85	1.00	2.22	25.85	94.45	166.3	9,304.6	7361.4	267.88	780.91	1,048.79
13	103.0	6.93	0.000	36.82	27.91	0.65	1.78	0.85	1.00	2.24	28.85	94.57	168.0	9,600.5	7609.1	302.43	721.10	1,023.54
14	113.0	7.06	0.000	34.80	26.28	0.62	1.79	0.85	1.00	2.26	26.41	79.20	165.1	8,874.8	7039.5	284.52	743.57	1,028.09
15	123.0	7.19	0.000	37.32	28.41	0.66	1.78	0.85	1.00	2.28	29.44	61.50	146.3	8,125.2	6370.0	320.11	583.03	903.14
16	133.0	7.31	0.000	35.23	26.72	0.63	1.79	0.85	1.00	2.30	26.90	47.13	113.6	6,850.8	5253.0	299.33	517.41	816.74
17	143.0	7.42	0.000	38.39	28.84	0.68	1.78	0.85	1.00	2.32	30.80	41.31	97.46	6,793.9	5036.1	345.20	408.01	753.21
18	153.0	7.53	0.000	36.15	27.09	0.64	1.78	0.85	1.00	2.33	28.00	38.72	89.38	6,362.3	4697.9	319.75	425.21	744.96
19	163.0	7.63	0.000	37.93	29.22	0.67	1.78	0.85	1.00	2.35	30.20	23.67	87.40	5,676.3	4286.2	348.05	348.51	696.56
20	173.0	7.73	0.000	35.74	27.43	0.63	1.79	0.85	1.00	2.36	27.50	18.57	82.61	5,224.1	3922.1	322.70	352.93	675.63
21	183.0	7.82	0.000	38.27	29.56	0.68	1.78	0.85	1.00	2.37	30.62	17.25	79.91	5,345.1	4005.0	361.44	315.55	676.99
22	193.0	7.91	0.000	36.04	27.73	0.64	1.78	0.85	1.00	2.39	27.85	16.74	78.75	5,135.9	3847.0	334.06	341.75	675.81
23	203.0	7.99	0.000	38.58	29.87	0.68	1.78	0.85	1.00	2.40	31.00	15.72	73.95	5,235.6	3902.3	373.94	300.48	674.42
24	213.0	8.07	0.000	36.31	28.00	0.64	1.78	0.85	1.00	2.41	28.17	15.45	72.30	5,022.5	3738.4	344.69	323.84	668.53
25	223.0	8.15	0.000	38.86	30.15	0.69	1.78	0.85	1.00	2.42	31.35	13.95	67.39	5,094.5	3772.7	385.68	282.63	668.31
26	233.0	8.23	0.000	36.57	28.26	0.65	1.78	0.85	1.00	2.43	28.46	12.14	54.71	4,617.7	3352.1	354.69	266.28	620.97
27	243.0	8.30	0.000	39.12	30.41	0.69	1.78	0.85	1.00	2.44	31.67	10.60	46.80	4,633.6	3328.9	396.78	223.71	620.49
28	253.0	8.37	0.000	36.80	28.49	0.65	1.78	0.85	1.00	2.45	28.74	8.24	37.02	4,173.1	2932.4	364.16	205.51	569.67
29	263.0	8.44	0.000	39.36	30.65	0.70	1.78	0.85	1.00	2.46	31.97	7.03	31.59	4,244.7	2963.4	407.32	177.50	584.83
30	273.0	8.51	0.000	37.02	28.71	0.66	1.78	0.85	1.00	2.47	28.99	6.65	28.82	3,990.8	2759.0	373.16	179.09	552.25
31	283.0	8.57	0.000	39.58	30.88	0.70	1.78	0.85	1.00	2.48	32.26	6.65	28.93	4,213.7	2933.7	417.38	172.04	589.42
32	293.0	8.63	0.000	37.22	28.91	0.66	1.78	0.85	1.00	2.49	29.23	6.27	19.08	3,827.7	2596.5	381.75	91.25	473.00
33	303.0	8.69	0.000	37.42	29.01	0.66	1.78	0.85	1.00	2.50	29.48	6.18	16.64	3,831.4	2573.2	387.49	68.49	455.98
34	308.5	8.73	0.793	5.48	5.00	1.00	2.10	0.85	1.00	2.50	6.43	0.41	0.96	1,600.9	782.3	100.17	0.00	100.17
														204,329.5	**152870.0**			**22,933.48**

Section Forces

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 19	

Tower Engineering Solutions

Load Case: 1.0D + 1.0W Normal Wind — 1.0D + 1.0W 60 mph Wind at Normal To Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

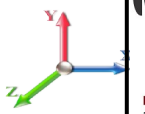
Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	6.66	0.578	4.75	0.00	0.39	2.09	1.00	1.00	0.00	3.64	42.24	0.00	1,386.1	0.0	43.02	187.10	230.13
2	6.3	6.66	0.290	2.25	0.00	0.19	2.62	1.00	1.00	0.00	1.60	21.12	0.00	666.6	0.0	23.72	93.55	117.27
3	8.8	6.66	0.290	2.11	0.00	0.18	2.66	1.00	1.00	0.00	1.52	21.12	0.00	656.3	0.0	22.77	93.55	116.32
4	14.0	6.66	0.000	7.75	0.00	0.18	2.65	1.00	1.00	0.00	4.53	67.58	0.00	1,410.5	0.0	67.97	299.37	367.33
5	23.0	7.28	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	84.10	0.00	1,660.7	0.0	86.55	407.22	493.77
6	33.0	7.85	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	83.94	0.00	1,620.2	0.0	89.84	438.59	528.44
7	43.0	8.30	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	83.94	0.00	1,660.3	0.0	98.74	463.73	562.46
8	53.0	8.67	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	83.57	0.00	1,619.4	0.0	99.27	482.65	581.92
9	63.0	9.00	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	83.57	0.00	1,659.5	0.0	107.00	500.54	607.54
10	73.0	9.28	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	83.57	0.00	1,619.4	0.0	106.19	516.30	622.49
11	83.0	9.53	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	83.57	0.00	1,659.5	0.0	113.40	530.45	643.85
12	93.0	9.76	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	83.57	0.00	1,619.4	0.0	111.74	543.31	655.05
13	103.0	9.98	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	83.57	0.00	1,659.5	0.0	118.67	555.11	673.78
14	113.0	10.17	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	72.50	0.00	1,529.4	0.0	116.42	483.99	600.41
15	123.0	10.36	0.000	8.91	0.00	0.17	2.70	1.00	1.00	0.00	5.18	57.70	0.00	1,462.7	0.0	123.19	389.96	513.15
16	133.0	10.53	0.000	8.51	0.00	0.16	2.73	1.00	1.00	0.00	4.94	43.30	0.00	1,331.5	0.0	120.48	303.66	424.14
17	143.0	10.69	0.000	9.55	0.00	0.18	2.66	1.00	1.00	0.00	5.58	37.45	0.00	1,464.9	0.0	134.82	270.09	404.90
18	153.0	10.84	0.000	9.05	0.00	0.17	2.69	1.00	1.00	0.00	5.27	34.83	0.00	1,387.0	0.0	130.76	256.56	387.32
19	163.0	10.99	0.000	8.70	0.00	0.17	2.71	1.00	1.00	0.00	5.06	22.89	0.00	1,158.4	0.0	128.21	160.80	289.01
20	173.0	11.13	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	18.57	0.00	1,085.0	0.0	124.77	128.62	253.39
21	183.0	11.26	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	17.25	0.00	1,116.8	0.0	131.36	121.05	252.42
22	193.0	11.39	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	16.74	0.00	1,074.0	0.0	127.68	118.83	246.51
23	203.0	11.51	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	15.72	0.00	1,111.0	0.0	134.26	112.98	247.24
24	213.0	11.63	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	15.45	0.00	1,070.1	0.0	130.36	112.20	242.56
25	223.0	11.74	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	13.95	0.00	1,101.5	0.0	136.95	102.49	239.44
26	233.0	11.85	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	12.14	0.00	1,054.6	0.0	132.85	90.34	223.18
27	243.0	11.95	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	10.60	0.00	1,087.2	0.0	139.45	79.85	219.30
28	253.0	12.05	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	8.24	0.00	1,033.9	0.0	135.17	63.12	198.29
29	263.0	12.15	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	7.03	0.00	1,067.7	0.0	141.79	54.67	196.45
30	273.0	12.25	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	6.65	0.00	1,026.5	0.0	137.35	52.25	189.61
31	283.0	12.34	0.000	8.71	0.00	0.17	2.71	1.00	1.00	0.00	5.06	6.65	0.00	1,066.6	0.0	143.99	52.65	196.64
32	293.0	12.43	0.000	8.31	0.00	0.16	2.74	1.00	1.00	0.00	4.81	6.27	0.00	1,026.0	0.0	139.41	48.22	187.63
33	303.0	12.52	0.000	8.41	0.00	0.16	2.73	1.00	1.00	0.00	4.88	6.18	0.00	1,048.5	0.0	141.83	47.35	189.17
34	308.5	12.57	0.793	0.48	0.00	0.24	2.46	1.00	1.00	0.00	1.07	0.41	0.00	682.2	0.0	28.18	3.16	31.34
														42,882.9	**0.0**			**11,932.46**

Section Forces

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 20	



Tower Engineering Solutions

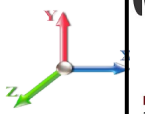
Load Case: 1.0D + 1.0W 60° Wind — 1.0D + 1.0W 60 mph Wind at 60° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.00
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	6.66	0.578	4.75	0.00	0.39	2.09	0.80	1.00	0.00	3.52	42.24	0.00	1,386.1	0.0	41.66	187.10	228.76
2	6.3	6.66	0.290	2.25	0.00	0.19	2.62	0.80	1.00	0.00	1.54	21.12	0.00	666.6	0.0	22.86	93.55	116.41
3	8.8	6.66	0.290	2.11	0.00	0.18	2.66	0.80	1.00	0.00	1.46	21.12	0.00	656.3	0.0	21.90	93.55	115.45
4	14.0	6.66	0.000	7.75	0.00	0.18	2.65	0.80	1.00	0.00	4.53	67.58	0.00	1,410.5	0.0	67.97	299.37	367.33
5	23.0	7.28	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	84.10	0.00	1,660.7	0.0	86.55	407.22	493.77
6	33.0	7.85	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	83.94	0.00	1,620.2	0.0	89.84	438.59	528.44
7	43.0	8.30	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	83.94	0.00	1,660.3	0.0	98.74	463.73	562.46
8	53.0	8.67	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	83.57	0.00	1,619.4	0.0	99.27	482.65	581.92
9	63.0	9.00	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	83.57	0.00	1,659.5	0.0	107.00	500.54	607.54
10	73.0	9.28	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	83.57	0.00	1,619.4	0.0	106.19	516.30	622.49
11	83.0	9.53	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	83.57	0.00	1,659.5	0.0	113.40	530.45	643.85
12	93.0	9.76	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	83.57	0.00	1,619.4	0.0	111.74	543.31	655.05
13	103.0	9.98	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	83.57	0.00	1,659.5	0.0	118.67	555.11	673.78
14	113.0	10.17	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	72.50	0.00	1,529.4	0.0	116.42	483.99	600.41
15	123.0	10.36	0.000	8.91	0.00	0.17	2.70	0.80	1.00	0.00	5.18	57.70	0.00	1,462.7	0.0	123.19	389.96	513.15
16	133.0	10.53	0.000	8.51	0.00	0.16	2.73	0.80	1.00	0.00	4.94	43.30	0.00	1,331.5	0.0	120.48	303.66	424.14
17	143.0	10.69	0.000	9.55	0.00	0.18	2.66	0.80	1.00	0.00	5.58	37.45	0.00	1,464.9	0.0	134.82	270.09	404.90
18	153.0	10.84	0.000	9.05	0.00	0.17	2.69	0.80	1.00	0.00	5.27	34.83	0.00	1,387.0	0.0	130.76	256.56	387.32
19	163.0	10.99	0.000	8.70	0.00	0.17	2.71	0.80	1.00	0.00	5.06	22.89	0.00	1,158.4	0.0	128.21	160.80	289.01
20	173.0	11.13	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	18.57	0.00	1,085.0	0.0	124.77	128.62	253.39
21	183.0	11.26	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	17.25	0.00	1,116.8	0.0	131.36	121.05	252.42
22	193.0	11.39	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	16.74	0.00	1,074.0	0.0	127.68	118.83	246.51
23	203.0	11.51	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	15.72	0.00	1,111.0	0.0	134.26	112.98	247.24
24	213.0	11.63	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	15.45	0.00	1,070.1	0.0	130.36	112.20	242.56
25	223.0	11.74	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	13.95	0.00	1,101.5	0.0	136.95	102.49	239.44
26	233.0	11.85	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	12.14	0.00	1,054.6	0.0	132.85	90.34	223.18
27	243.0	11.95	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	10.60	0.00	1,087.2	0.0	139.45	79.85	219.30
28	253.0	12.05	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	8.24	0.00	1,033.9	0.0	135.17	63.12	198.29
29	263.0	12.15	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	7.03	0.00	1,067.7	0.0	141.79	54.67	196.45
30	273.0	12.25	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	6.65	0.00	1,026.5	0.0	137.35	52.25	189.61
31	283.0	12.34	0.000	8.71	0.00	0.17	2.71	0.80	1.00	0.00	5.06	6.65	0.00	1,066.6	0.0	143.99	52.65	196.64
32	293.0	12.43	0.000	8.31	0.00	0.16	2.74	0.80	1.00	0.00	4.81	6.27	0.00	1,026.0	0.0	139.41	48.22	187.63
33	303.0	12.52	0.000	8.41	0.00	0.16	2.73	0.80	1.00	0.00	4.88	6.18	0.00	1,048.5	0.0	141.83	47.35	189.17
34	308.5	12.57	0.793	0.48	0.00	0.24	2.46	0.80	1.00	0.00	0.91	0.41	0.00	682.2	0.0	24.02	3.16	27.17
														42,882.9	**0.0**			**11,925.20**

Section Forces

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 21	



Tower Engineering Solutions

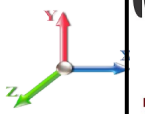
Load Case: 1.0D + 1.0W 90° Wind — 1.0D + 1.0W 60 mph Wind at 90° From Face

Wind Load Factor: 1.00
Dead Load Factor: 1.00
Ice Dead Load Factor: 0.00
Wind Importance Factor: 1.00
Ice Importance Factor: 1.00

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	2.5	6.66	0.578	4.75	0.00	0.39	2.09	0.85	1.00	0.00	3.55	42.24	0.00	1,386.1	0.0	42.00	187.10	229.10
2	6.3	6.66	0.290	2.25	0.00	0.19	2.62	0.85	1.00	0.00	1.56	21.12	0.00	666.6	0.0	23.07	93.55	116.62
3	8.8	6.66	0.290	2.11	0.00	0.18	2.66	0.85	1.00	0.00	1.47	21.12	0.00	656.3	0.0	22.12	93.55	115.67
4	14.0	6.66	0.000	7.75	0.00	0.18	2.65	0.85	1.00	0.00	4.53	67.58	0.00	1,410.5	0.0	67.97	299.37	367.33
5	23.0	7.28	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	84.10	0.00	1,660.7	0.0	86.55	407.22	493.77
6	33.0	7.85	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	83.94	0.00	1,620.2	0.0	89.84	438.59	528.44
7	43.0	8.30	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	83.94	0.00	1,660.3	0.0	98.74	463.73	562.46
8	53.0	8.67	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	83.57	0.00	1,619.4	0.0	99.27	482.65	581.92
9	63.0	9.00	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	83.57	0.00	1,659.5	0.0	107.00	500.54	607.54
10	73.0	9.28	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	83.57	0.00	1,619.4	0.0	106.19	516.30	622.49
11	83.0	9.53	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	83.57	0.00	1,659.5	0.0	113.40	530.45	643.85
12	93.0	9.76	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	83.57	0.00	1,619.4	0.0	111.74	543.31	655.05
13	103.0	9.98	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	83.57	0.00	1,659.5	0.0	118.67	555.11	673.78
14	113.0	10.17	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	72.50	0.00	1,529.4	0.0	116.42	483.99	600.41
15	123.0	10.36	0.000	8.91	0.00	0.17	2.70	0.85	1.00	0.00	5.18	57.70	0.00	1,462.7	0.0	123.19	389.96	513.15
16	133.0	10.53	0.000	8.51	0.00	0.16	2.73	0.85	1.00	0.00	4.94	43.30	0.00	1,331.5	0.0	120.48	303.66	424.14
17	143.0	10.69	0.000	9.55	0.00	0.18	2.66	0.85	1.00	0.00	5.58	37.45	0.00	1,464.9	0.0	134.82	270.09	404.90
18	153.0	10.84	0.000	9.05	0.00	0.17	2.69	0.85	1.00	0.00	5.27	34.83	0.00	1,387.0	0.0	130.76	256.56	387.32
19	163.0	10.99	0.000	8.70	0.00	0.17	2.71	0.85	1.00	0.00	5.06	22.89	0.00	1,158.4	0.0	128.21	160.80	289.01
20	173.0	11.13	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	18.57	0.00	1,085.0	0.0	124.77	128.62	253.39
21	183.0	11.26	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	17.25	0.00	1,116.8	0.0	131.36	121.05	252.42
22	193.0	11.39	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	16.74	0.00	1,074.0	0.0	127.68	118.83	246.51
23	203.0	11.51	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	15.72	0.00	1,111.0	0.0	134.26	112.98	247.24
24	213.0	11.63	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	15.45	0.00	1,070.1	0.0	130.36	112.20	242.56
25	223.0	11.74	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	13.95	0.00	1,101.5	0.0	136.95	102.49	239.44
26	233.0	11.85	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	12.14	0.00	1,054.6	0.0	132.85	90.34	223.18
27	243.0	11.95	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	10.60	0.00	1,087.2	0.0	139.45	79.85	219.30
28	253.0	12.05	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	8.24	0.00	1,033.9	0.0	135.17	63.12	198.29
29	263.0	12.15	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	7.03	0.00	1,067.7	0.0	141.79	54.67	196.45
30	273.0	12.25	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	6.65	0.00	1,026.5	0.0	137.35	52.25	189.61
31	283.0	12.34	0.000	8.71	0.00	0.17	2.71	0.85	1.00	0.00	5.06	6.65	0.00	1,066.6	0.0	143.99	52.65	196.64
32	293.0	12.43	0.000	8.31	0.00	0.16	2.74	0.85	1.00	0.00	4.81	6.27	0.00	1,026.0	0.0	139.41	48.22	187.63
33	303.0	12.52	0.000	8.41	0.00	0.16	2.73	0.85	1.00	0.00	4.88	6.18	0.00	1,048.5	0.0	141.83	47.35	189.17
34	308.5	12.57	0.793	0.48	0.00	0.24	2.46	0.85	1.00	0.00	0.95	0.41	0.00	682.2	0.0	25.06	3.16	28.22
														42,882.9	**0.0**			**11,927.01**

Force/Stress Compression Summary

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 22	



TES Tower Engineering Solutions

LEG MEMBERS

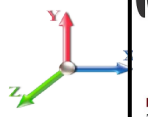
Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	5	SOL - 3" SOLID	-150.37	1.2D + 1.0Di + 1.0Wi 90° Wind	1.92	50	50	50	15.40	50.00	312.64	48.1	Member X
2	7.5	SOL - 3" SOLID	-129.18	1.2D + 1.0Di + 1.0Wi 90° Wind	2.50	50	50	50	20.00	50.00	308.94	41.8	Member X
3	10	SOL - 3" SOLID	-132.91	1.2D + 1.0Di + 1.0Wi 60° Wind	2.50	50	50	50	20.00	50.00	308.94	43.0	Member X
4	18	SOL - 3" SOLID	-135.84	1.2D + 1.0Di + 1.0Wi 60° Wind	2.67	100	100	100	42.67	50.00	278.46	48.8	Member X
5	28	SOL - 3" SOLID	-142.00	1.2D + 1.0Di + 1.0Wi 60° Wind	2.50	100	100	100	40.00	50.00	282.98	50.2	Member X
6	38	SOL - 3" SOLID	-144.66	1.2D + 1.0Di + 1.0Wi 60° Wind	2.50	100	100	100	40.00	50.00	282.98	51.1	Member X
7	48	SOL - 3" SOLID	-145.40	1.2D + 1.0Di + 1.0Wi 60° Wind	2.50	100	100	100	40.00	50.00	282.98	51.4	Member X
8	58	SOL - 3" SOLID	-144.22	1.2D + 1.0Di + 1.0Wi 60° Wind	2.50	100	100	100	40.00	50.00	282.98	51.0	Member X
9	68	SOL - 3" SOLID	-140.80	1.2D + 1.0Di + 1.0Wi 60° Wind	2.50	100	100	100	40.00	50.00	282.98	49.8	Member X
10	78	SOL - 3" SOLID	-134.70	1.2D + 1.0Di + 1.0Wi 60° Wind	2.50	100	100	100	40.00	50.00	282.98	47.6	Member X
11	88	SOL - 3" SOLID	-125.73	1.2D + 1.0Di + 1.0Wi 60° Wind	2.50	100	100	100	40.00	50.00	282.98	44.4	Member X
12	98	SOL - 3" SOLID	-108.00	1.2D + 1.0Di + 1.0Wi 90° Wind	2.50	100	100	100	40.00	50.00	282.98	38.2	Member X
13	108	SOL - 3" SOLID	-108.80	1.2D + 1.0Di + 1.0Wi 60° Wind	2.50	100	100	100	40.00	50.00	282.98	38.4	Member X
14	118	SOL - 3" SOLID	-108.42	1.2D + 1.6W 90° Wind	2.50	100	100	100	40.00	50.00	282.98	38.3	Member X
15	128	SOL - 3" SOLID	-102.54	1.2D + 1.6W 90° Wind	2.50	100	100	100	40.00	50.00	282.98	36.2	Member X
16	138	SOL - 3" SOLID	-92.80	1.2D + 1.0Di + 1.0Wi 90° Wind	2.50	100	100	100	40.00	50.00	282.98	32.8	Member X
17	148	SOL - 3" SOLID	-81.86	1.2D + 1.0Di + 1.0Wi Normal	2.50	100	100	100	40.00	50.00	282.98	28.9	Member X
18	158	SOL - 3" SOLID	-66.73	1.2D + 1.0Di + 1.0Wi 90° Wind	2.50	100	100	100	40.00	50.00	282.98	23.6	Member X
19	168	SOL - 2 7/8" SOLID	-63.79	1.2D + 1.0Di + 1.0Wi 90° Wind	2.50	100	100	100	41.78	50.00	257.05	24.8	Member X
20	178	SOL - 2 7/8" SOLID	-61.94	1.2D + 1.0Di + 1.0Wi 90° Wind	2.50	100	100	100	41.78	50.00	257.05	24.1	Member X
21	188	SOL - 2 7/8" SOLID	-61.94	1.2D + 1.0Di + 1.0Wi 90° Wind	2.50	100	100	100	41.78	50.00	257.05	24.1	Member X
22	198	SOL - 2 7/8" SOLID	-60.74	1.2D + 1.0Di + 1.0Wi 90° Wind	2.50	100	100	100	41.78	50.00	257.05	23.6	Member X
23	208	SOL - 2 7/8" SOLID	-57.98	1.2D + 1.0Di + 1.0Wi 90° Wind	2.50	100	100	100	41.78	50.00	257.05	22.6	Member X
24	218	SOL - 2 7/8" SOLID	-53.50	1.2D + 1.0Di + 1.0Wi Normal	2.50	100	100	100	41.78	50.00	257.05	20.8	Member X
25	228	SOL - 2 7/8" SOLID	-50.01	1.2D + 1.0Di + 1.0Wi 60° Wind	2.50	100	100	100	41.78	50.00	257.05	19.5	Member X
26	238	SOL - 2 7/8" SOLID	-39.23	1.2D + 1.0Di + 1.0Wi Normal	2.50	100	100	100	41.78	50.00	257.05	15.3	Member X
27	248	SOL - 2 7/8" SOLID	-30.54	1.2D + 1.0Di + 1.0Wi 60° Wind	2.50	100	100	100	41.78	50.00	257.05	11.9	Member X
28	258	SOL - 2 7/8" SOLID	-27.40	1.2D + 1.0Di + 1.0Wi 90° Wind	2.50	100	100	100	41.78	50.00	257.05	10.7	Member X
29	268	SOL - 2 7/8" SOLID	-26.70	1.2D + 1.0Di + 1.0Wi Normal	2.50	100	100	100	41.78	50.00	257.05	10.4	Member X
30	278	SOL - 2 7/8" SOLID	-25.15	1.2D + 1.0Di + 1.0Wi Normal	2.50	100	100	100	41.78	50.00	257.05	9.8	Member X
31	288	SOL - 2 7/8" SOLID	-22.94	1.2D + 1.0Di + 1.0Wi Normal	2.50	100	100	100	41.78	50.00	257.05	8.9	Member X
32	298	SOL - 2 7/8" SOLID	-25.48	1.2D + 1.6W Normal Wind	2.50	100	100	100	41.78	50.00	257.05	9.9	Member X
33	308	SOL - 2 7/8" SOLID	-22.84	1.2D + 1.6W Normal Wind	2.50	100	100	100	41.78	50.00	257.05	8.9	Member X
34	309	SOL - 2 7/8" SOLID	-0.92	1.2D + 1.0Di + 1.0Wi Normal	1.00	100	100	100	16.71	50.00	286.15	0.3	Member X

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	5										0.00	0	0				
2	7.5										0.00	0	0				
3	10	PLT - 6" x 3/4"	-3.18	0.9D + 1.6W 90° Wind	2.50	100	100	100	96.77	50.00	102.10	0	0			3	Member Y
4	18										0.00	0	0				
5	28										0.00	0	0				
6	38	SOL - 1" SOLID	-0.04	0.9D + 1.6W 60° Wind	5.00	100	100	100	168.00	50.00	6.29	0	0			1	Member X
7	48	SOL - 1" SOLID	-0.09	0.9D + 1.6W 60° Wind	5.00	100	100	100	168.00	50.00	6.29	0	0			1	Member X
8	58	SOL - 1" SOLID	-0.06	0.9D + 1.6W 60° Wind	5.00	100	100	100	168.00	50.00	6.29	0	0			1	Member X
9	68	SOL - 1" SOLID	-0.06	0.9D + 1.6W 60° Wind	5.00	100	100	100	168.00	50.00	6.29	0	0			1	Member X
10	78										0.00	0	0				
11	88										0.00	0	0				
12	98										0.00	0	0				
13	108	SOL - 1" SOLID	-0.06	0.9D + 1.6W 60° Wind	5.00	100	100	100	168.00	50.00	6.29	0	0			1	Member X

Force/Stress Compression Summary

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 23	



Tower Engineering Solutions

HORIZONTAL MEMBERS

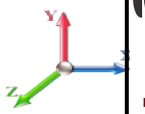
Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
14	118	SOL - 1" SOLID	-0.04	0.9D + 1.6W 60° Wind	5.00	100	100	100	168.00	50.00	6.29	0	0			1	Member X
15	128	SOL - 1" SOLID	-0.04	0.9D + 1.6W 60° Wind	5.00	100	100	100	168.00	50.00	6.29	0	0			1	Member X
16	138										0.00	0	0				
17	148										0.00	0	0				
18	158										0.00	0	0				
19	168										0.00	0	0				
20	178										0.00	0	0				
21	188										0.00	0	0				
22	198	SOL - 1" SOLID	0.00	0.9D + 1.6W Normal Wind	5.00	100	100	100	168.00	50.00	6.29	0	0			0	Member X
23	208	SOL - 1" SOLID	0.00	0.9D + 1.6W Normal Wind	5.00	100	100	100	168.00	50.00	6.29	0	0			0	Member X
24	218										0.00	0	0				
25	228										0.00	0	0				
26	238	SOL - 1" SOLID	0.00	0.9D + 1.6W 60° Wind	5.00	100	100	100	168.00	50.00	6.29	0	0			0	Member X
27	248	SOL - 1" SOLID	0.00	0.9D + 1.6W 60° Wind	5.00	100	100	100	168.00	50.00	6.29	0	0			0	Member X
28	258										0.00	0	0				
29	268										0.00	0	0				
30	278										0.00	0	0				
31	288										0.00	0	0				
32	298										0.00	0	0				
33	308	SOL - 1 1/4" SOLID	-0.12	1.2D + 1.0Di + 1.0Wi 60° Wind	5.00	100	100	100	134.40	50.00	15.35	0	0			1	Member X
34	309	PLT - 6"X1"	-2.90	1.2D + 1.6W Normal Wind	5.00	100	100	100	145.48	50.00	64.05	0	0			5	Member Y

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	5	SOL - 1 1/4" SOLID	-8.28	1.2D + 1.0Di + 1.0Wi 90° Wind	3.04	50	50	50	40.90	50.00	48.87	0	0			17	Member X
2	7.5	SOL - 1 1/4" SOLID	-5.38	1.2D + 1.6W 90° Wind	3.54	50	50	50	47.52	50.00	46.82	0	0			11	Member X
3	10	SOL - 1 1/4" SOLID	-5.55	1.2D + 1.6W 90° Wind	3.54	50	50	50	47.52	50.00	46.82	0	0			12	Member X
4	18	SOL - 1" SOLID	-5.20	1.2D + 1.6W Normal Wind	5.67	50	50	50	95.20	50.00	18.22	0	0			29	Member X
5	28	SOL - 7/8" SOLID	-3.58	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			31	Member X
6	38	SOL - 7/8" SOLID	-2.76	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			24	Member X
7	48	SOL - 7/8" SOLID	-1.86	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			16	Member X
8	58	SOL - 7/8" SOLID	-0.84	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			7	Member X
9	68	SOL - 7/8" SOLID	-1.48	1.2D + 1.6W 60° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			13	Member X
10	78	SOL - 7/8" SOLID	-2.40	1.2D + 1.6W 60° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			21	Member X
11	88	SOL - 7/8" SOLID	-3.36	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			29	Member X
12	98	SOL - 7/8" SOLID	-3.48	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			30	Member X
13	108	SOL - 7/8" SOLID	-2.41	1.2D + 1.6W 60° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			21	Member X
14	118	SOL - 7/8" SOLID	-1.67	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			14	Member X
15	128	SOL - 7/8" SOLID	-2.71	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			23	Member X
16	138	SOL - 7/8" SOLID	-4.31	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			37	Member X
17	148	SOL - 1" SOLID	-5.16	1.2D + 1.6W 90° Wind	5.59	50	50	50	93.91	50.00	18.55	0	0			28	Member X
18	158	SOL - 1" SOLID	-2.68	0.9D + 1.6W 60° Wind	5.59	50	50	50	93.91	50.00	18.55	0	0			14	Member X
19	168	SOL - 7/8" SOLID	-1.89	1.2D + 1.6W 60° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			16	Member X
20	178	SOL - 7/8" SOLID	-1.04	1.2D + 1.6W 60° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			9	Member X
21	188	SOL - 7/8" SOLID	-0.68	1.2D + 1.6W 60° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			6	Member X
22	198	SOL - 7/8" SOLID	-1.15	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			10	Member X
23	208	SOL - 7/8" SOLID	-1.69	1.2D + 1.6W Normal Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			14	Member X
24	218	SOL - 7/8" SOLID	-1.99	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			17	Member X
25	228	SOL - 7/8" SOLID	-2.63	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			23	Member X
26	238	SOL - 7/8" SOLID	-2.69	0.9D + 1.6W 60° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			23	Member X

Force/Stress Compression Summary

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 24	



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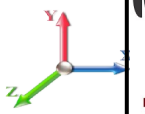
DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
27	248	SOL - 7/8" SOLID	-1.46	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			12	Member X
28	258	SOL - 7/8" SOLID	-1.16	0.9D + 1.6W Normal Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			10	Member X
29	268	SOL - 7/8" SOLID	-0.35	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			3	Member X
30	278	SOL - 7/8" SOLID	-0.57	1.2D + 1.6W Normal Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			5	Member X
31	288	SOL - 7/8" SOLID	-0.82	1.2D + 1.6W Normal Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			7	Member X
32	298	SOL - 7/8" SOLID	-1.20	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			10	Member X
33	308	SOL - 7/8" SOLID	-6.69	1.2D + 1.6W 90° Wind	5.59	50	50	50	107.31	50.00	11.66	0	0			57	Member X
34	309				0.00						0.00	0	0				

Force/Stress Tension Summary

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 25	



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LEG MEMBERS

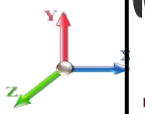
Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	5				0	0.00		
2	7.5				0	0.00		
3	10				0	0.00		
4	18				0	0.00		
5	28	SOL - 3" SOLID	16.98	0.9D + 1.6W Normal Wind	50	318.11	5.3	Member
6	38	SOL - 3" SOLID	32.67	0.9D + 1.6W Normal Wind	50	318.11	10.3	Member
7	48	SOL - 3" SOLID	42.63	0.9D + 1.6W Normal Wind	50	318.11	13.4	Member
8	58	SOL - 3" SOLID	46.47	0.9D + 1.6W Normal Wind	50	318.11	14.6	Member
9	68	SOL - 3" SOLID	46.46	0.9D + 1.6W Normal Wind	50	318.11	14.6	Member
10	78	SOL - 3" SOLID	42.42	0.9D + 1.6W Normal Wind	50	318.11	13.3	Member
11	88	SOL - 3" SOLID	31.95	0.9D + 1.6W Normal Wind	50	318.11	10.0	Member
12	98	SOL - 3" SOLID	34.06	0.9D + 1.6W Normal Wind	50	318.11	10.7	Member
13	108	SOL - 3" SOLID	46.34	0.9D + 1.6W Normal Wind	50	318.11	14.6	Member
14	118	SOL - 3" SOLID	50.81	0.9D + 1.6W Normal Wind	50	318.11	16.0	Member
15	128	SOL - 3" SOLID	46.01	0.9D + 1.6W Normal Wind	50	318.11	14.5	Member
16	138	SOL - 3" SOLID	31.26	0.9D + 1.6W Normal Wind	50	318.11	9.8	Member
17	148	SOL - 3" SOLID	7.27	0.9D + 1.6W 90° Wind	50	318.11	2.3	Member
18	158				0	0.00		
19	168	SOL - 2 7/8" SOLID	2.83	0.9D + 1.6W 90° Wind	50	292.05	1.0	Member
20	178	SOL - 2 7/8" SOLID	5.30	0.9D + 1.6W 90° Wind	50	292.05	1.8	Member
21	188	SOL - 2 7/8" SOLID	5.59	0.9D + 1.6W 90° Wind	50	292.05	1.9	Member
22	198	SOL - 2 7/8" SOLID	4.44	0.9D + 1.6W 90° Wind	50	292.05	1.5	Member
23	208	SOL - 2 7/8" SOLID	0.11	0.9D + 1.6W 90° Wind	50	292.05	0.0	Member
24	218				0	0.00		
25	228				0	0.00		
26	238	SOL - 2 7/8" SOLID	12.15	0.9D + 1.6W 60° Wind	50	292.05	4.2	Member
27	248	SOL - 2 7/8" SOLID	1.11	0.9D + 1.6W 60° Wind	50	292.05	0.4	Member
28	258				0	0.00		
29	268				0	0.00		
30	278				0	0.00		
31	288				0	0.00		
32	298	SOL - 2 7/8" SOLID	1.52	0.9D + 1.6W 60° Wind	50	292.05	0.5	Member
33	308	SOL - 2 7/8" SOLID	18.94	0.9D + 1.6W 60° Wind	50	292.05	6.5	Member
34	309				0	0.00		

HORIZONTAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	5	PLT - 6" x 3/4"	21.63	1.2D + 1.0Di + 1.0Wi 90	50	202.50	0	0				10.7	Member
2	7.5	PLT - 6" x 3/4"	22.78	1.2D + 1.0Di + 1.0Wi 90	50	202.50	0	0				11.2	Member
3	10	PLT - 6" x 3/4"	4.79	1.2D + 1.6W Normal Wi	50	202.50	0	0				2.4	Member
4	18	SOL - 7/8" SOLID	2.45	1.2D + 1.0Di + 1.0Wi No	50	27.06	0	0				9.1	Member
5	28	SOL - 1" SOLID	1.10	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				3.1	Member
6	38	SOL - 1" SOLID	0.61	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				1.7	Member
7	48	SOL - 1" SOLID	1.05	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				3.0	Member
8	58	SOL - 1" SOLID	0.60	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				1.7	Member
9	68	SOL - 1" SOLID	0.99	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				2.8	Member
10	78	SOL - 1" SOLID	0.56	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				1.6	Member
11	88	SOL - 1" SOLID	8.64	1.2D + 1.6W Normal Wi	50	35.34	0	0				24.4	Member
12	98	SOL - 1" SOLID	0.49	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				1.4	Member
13	108	SOL - 1" SOLID	0.82	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				2.3	Member

Force/Stress Tension Summary

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 26	



IES Tower Engineering Solutions

HORIZONTAL MEMBERS

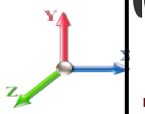
Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
14	118	SOL - 1" SOLID	0.47	1.2D + 1.6W Normal Wi	50	35.34	0	0				1.3	Member
15	128	SOL - 1" SOLID	0.71	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				2.0	Member
16	138	SOL - 1" SOLID	0.35	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				1.0	Member
17	148	SOL - 1 1/4" SOLID	9.66	1.2D + 1.6W Normal Wi	50	55.22	0	0				17.5	Member
18	158	SOL - 1 1/4" SOLID	0.41	1.2D + 1.0Di + 1.0Wi No	50	55.22	0	0				0.7	Member
19	168	SOL - 1" SOLID	0.51	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				1.4	Member
20	178	SOL - 1" SOLID	0.29	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				0.8	Member
21	188	SOL - 1" SOLID	0.49	1.2D + 1.0Di + 1.0Wi 90	50	35.34	0	0				1.4	Member
22	198	SOL - 1" SOLID	0.28	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				0.8	Member
23	208	SOL - 1" SOLID	0.45	1.2D + 1.0Di + 1.0Wi 90	50	35.34	0	0				1.3	Member
24	218	SOL - 1" SOLID	0.24	1.2D + 1.0Di + 1.0Wi 90	50	35.34	0	0				0.7	Member
25	228	SOL - 1" SOLID	7.16	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				20.3	Member
26	238	SOL - 1" SOLID	0.18	1.2D + 1.0Di + 1.0Wi 90	50	35.34	0	0				0.5	Member
27	248	SOL - 1" SOLID	0.24	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				0.7	Member
28	258	SOL - 1" SOLID	0.16	1.2D + 1.0Di + 1.0Wi 90	50	35.34	0	0				0.5	Member
29	268	SOL - 1" SOLID	0.20	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				0.6	Member
30	278	SOL - 1" SOLID	0.11	1.2D + 1.0Di + 1.0Wi 90	50	35.34	0	0				0.3	Member
31	288	SOL - 1" SOLID	0.19	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				0.5	Member
32	298	SOL - 1" SOLID	5.74	1.2D + 1.0Di + 1.0Wi No	50	35.34	0	0				16.2	Member
33	308	SOL - 1 1/4" SOLID			50	0.00	0	0					
34	309	PLT - 6"X1"	1.31	0.9D + 1.6W 60° Wind	50	270.00	0	0				0.5	Member

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	5	SOL - 1 1/4" SOLID	0.00		50	0.00	0	0					
2	7.5	SOL - 1 1/4" SOLID	5.56	1.2D + 1.6W 90° Wind	50	55.22	0	0				10.1	Member
3	10	SOL - 1 1/4" SOLID	5.37	1.2D + 1.6W 90° Wind	50	55.22	0	0				9.7	Member
4	18	SOL - 1" SOLID	3.57	1.2D + 1.6W 90° Wind	50	35.34	0	0				10.1	Member
5	28	SOL - 7/8" SOLID	3.32	1.2D + 1.6W 90° Wind	50	27.06	0	0				12.3	Member
6	38	SOL - 7/8" SOLID	2.44	1.2D + 1.6W 90° Wind	50	27.06	0	0				9.0	Member
7	48	SOL - 7/8" SOLID	1.52	1.2D + 1.6W 90° Wind	50	27.06	0	0				5.6	Member
8	58	SOL - 7/8" SOLID	0.60	0.9D + 1.6W Normal Wi	50	27.06	0	0				2.2	Member
9	68	SOL - 7/8" SOLID	1.18	1.2D + 1.6W 60° Wind	50	27.06	0	0				4.4	Member
10	78	SOL - 7/8" SOLID	2.10	1.2D + 1.6W 60° Wind	50	27.06	0	0				7.8	Member
11	88	SOL - 7/8" SOLID	3.74	1.2D + 1.6W 90° Wind	50	27.06	0	0				13.8	Member
12	98	SOL - 7/8" SOLID	3.89	0.9D + 1.6W 90° Wind	50	27.06	0	0				14.4	Member
13	108	SOL - 7/8" SOLID	2.12	0.9D + 1.6W 90° Wind	50	27.06	0	0				7.8	Member
14	118	SOL - 7/8" SOLID	1.45	1.2D + 1.6W Normal Wi	50	27.06	0	0				5.4	Member
15	128	SOL - 7/8" SOLID	2.51	1.2D + 1.6W 90° Wind	50	27.06	0	0				9.3	Member
16	138	SOL - 7/8" SOLID	4.15	1.2D + 1.6W 90° Wind	50	27.06	0	0				15.4	Member
17	148	SOL - 1" SOLID	5.44	1.2D + 1.6W 90° Wind	50	35.34	0	0				15.4	Member
18	158	SOL - 1" SOLID	3.03	0.9D + 1.6W 60° Wind	50	35.34	0	0				8.6	Member
19	168	SOL - 7/8" SOLID	1.79	0.9D + 1.6W 60° Wind	50	27.06	0	0				6.6	Member
20	178	SOL - 7/8" SOLID	0.92	1.2D + 1.6W 60° Wind	50	27.06	0	0				3.4	Member
21	188	SOL - 7/8" SOLID	0.54	1.2D + 1.6W 90° Wind	50	27.06	0	0				2.0	Member
22	198	SOL - 7/8" SOLID	1.20	1.2D + 1.6W Normal Wi	50	27.06	0	0				4.4	Member
23	208	SOL - 7/8" SOLID	1.62	1.2D + 1.6W 90° Wind	50	27.06	0	0				6.0	Member
24	218	SOL - 7/8" SOLID	1.86	1.2D + 1.6W 90° Wind	50	27.06	0	0				6.9	Member
25	228	SOL - 7/8" SOLID	3.01	1.2D + 1.6W 90° Wind	50	27.06	0	0				11.1	Member
26	238	SOL - 7/8" SOLID	3.04	0.9D + 1.6W 60° Wind	50	27.06	0	0				11.2	Member

Force/Stress Tension Summary

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 27	



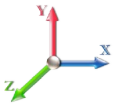
Tower Engineering Solutions

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
27	248	SOL - 7/8" SOLID	1.40	0.9D + 1.6W 90° Wind	50	27.06	0	0				5.2	Member
28	258	SOL - 7/8" SOLID	1.19	1.2D + 1.6W Normal Wi	50	27.06	0	0				4.4	Member
29	268	SOL - 7/8" SOLID	0.23	1.2D + 1.6W 60° Wind	50	27.06	0	0				0.9	Member
30	278	SOL - 7/8" SOLID	0.46	0.9D + 1.6W Normal Wi	50	27.06	0	0				1.7	Member
31	288	SOL - 7/8" SOLID	0.73	0.9D + 1.6W Normal Wi	50	27.06	0	0				2.7	Member
32	298	SOL - 7/8" SOLID	1.49	0.9D + 1.6W 60° Wind	50	27.06	0	0				5.5	Member
33	308	SOL - 7/8" SOLID	6.31	0.9D + 1.6W 90° Wind	50	27.06	0	0				23.3	Member
34	309	-	0.00		50	0.00	0	0					

Support Forces Summary

Structure:	CT15879-A-SBA	**Code:**	EIA/TIA-222-G	11/8/2018	
Site Name:	West Hartford	**Exposure:**	C		
Height:	309.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	II	Page: 28	



Tower Engineering Solutions

Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal Wind	1	-0.06	166.61	-10.15	
	A1	0.00	-2.94	2.49	
	A1b	56.33	-38.24	-34.70	
	A1a	-56.46	-55.24	-34.82	
1.2D + 1.6W 60° Wind	1	-8.22	158.71	-4.65	
	A1	-1.68	-12.62	14.46	
	A1b	11.92	-10.41	-8.76	
	A1a	-68.91	-66.26	-39.80	
1.2D + 1.6W 90° Wind	1	-9.84	170.03	0.45	
	A1	-2.25	-30.91	41.03	
	A1b	3.84	-3.91	-3.03	
	A1a	-68.87	-65.23	-38.56	
0.9D + 1.6W Normal Wind	1	-0.07	150.73	-10.32	
	A1	0.00	-2.95	2.50	
	A1b	56.21	-38.19	-34.62	
	A1a	-56.33	-55.15	-34.74	
0.9D + 1.6W 60° Wind	1	-8.34	143.01	-4.72	
	A1	-1.68	-12.67	14.51	
	A1b	11.96	-10.45	-8.79	
	A1a	-68.84	-66.23	-39.76	
0.9D + 1.6W 90° Wind	1	-10.01	154.16	0.48	
	A1	-2.25	-30.87	40.94	
	A1b	3.86	-3.93	-3.04	
	A1a	-68.72	-65.14	-38.48	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.16	373.44	-2.39	
	A1	-0.02	-17.79	29.18	
	A1b	52.85	-33.00	-32.58	
	A1a	-53.19	-48.47	-32.83	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-1.84	374.28	-1.13	
	A1	-1.79	-24.95	38.36	
	A1b	32.46	-19.35	-20.74	
	A1a	-62.35	-56.62	-35.98	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-2.16	376.77	0.05	
	A1	-2.27	-33.46	50.18	
	A1b	26.67	-14.84	-16.29	
	A1a	-60.82	-54.52	-34.04	
1.0D + 1.0W Normal Wind	1	-0.05	107.06	-2.52	
	A1	0.00	-9.10	11.57	
	A1b	23.05	-15.93	-13.76	
	A1a	-22.97	-22.70	-13.73	
1.0D + 1.0W 60° Wind	1	-2.10	107.82	-1.19	
	A1	-0.40	-12.27	15.82	
	A1b	13.55	-9.87	-8.27	
	A1a	-27.19	-26.54	-15.70	

1.0D + 1.0W 90° Wind	1	-2.49	108.20	0.06
	A1	-0.50	-15.89	21.00
	A1b	10.48	-7.69	-6.25
	A1a	-26.09	-25.34	-14.83

Max Reactions (kips)	Base	Anchor 1
Vertical	376.77	66.26
Horizontal	10.32	79.58

Cable Forces Summary

Structure:	CT15879-A-SBA		**Code:**	EIA/TIA-222-G	11/8/2018
Site Name:	West Hartford		**Exposure:**	C	
Height:	309.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	II	Page: 30

Load Case	Elevation (ft)	Cable	Node 1	Node 2	Allow Tension (kips)	Applied Tension (kips)	Use %
1.2D + 1.6W Normal	88.00	3/4 EHS	A1	37	34.98	0.76	2
			A1b	37a	34.98	19.55	56
			A1a	37b	34.98	21.60	62
	148.00	13/16	A1	61	43.20	0.17	0
			A1b	61a	43.20	23.02	53
			A1a	61b	43.20	25.62	59
	228.00	7/8 EHS	A1	93	47.82	0.98	2
			A1b	93a	47.82	20.24	42
			A1a	93b	47.82	23.20	49
	298.00	13/16	A1	121	43.20	3.07	7
			A1b	121a	43.20	15.98	37
			A1a	121b	43.20	18.11	42
1.2D + 1.6W 60° Wind	88.00	3/4 EHS	A1	37	34.98	3.13	9
			A1b	37a	34.98	3.08	9
			A1a	37b	34.98	25.95	74
	148.00	13/16	A1	61	43.20	4.14	10
			A1b	61a	43.20	3.78	9
			A1a	61b	43.20	30.16	70
	228.00	7/8 EHS	A1	93	47.82	6.11	13
			A1b	93a	47.82	5.63	12
			A1a	93b	47.82	27.84	58
	298.00	13/16	A1	121	43.20	7.24	17
			A1b	121a	43.20	6.85	16
			A1a	121b	43.20	21.99	51
1.2D + 1.6W 90° Wind	88.00	3/4 EHS	A1	37	34.98	12.11	35
			A1b	37a	34.98	1.01	3
			A1a	37b	34.98	26.17	75
	148.00	13/16	A1	61	43.20	14.85	34
			A1b	61a	43.20	1.00	2
			A1a	61b	43.20	30.49	71
	228.00	7/8 EHS	A1	93	47.82	14.16	30
			A1b	93a	47.82	1.91	4
			A1a	93b	47.82	27.29	57
	298.00	13/16	A1	121	43.20	12.13	28
			A1b	121a	43.20	3.38	8
			A1a	121b	43.20	20.82	48
0.9D + 1.6W Normal	88.00	3/4 EHS	A1	37	34.98	0.77	2
			A1b	37a	34.98	19.46	56
			A1a	37b	34.98	21.49	61
	148.00	13/16	A1	61	43.20	0.17	0
			A1b	61a	43.20	22.95	53
			A1a	61b	43.20	25.54	59
	228.00	7/8 EHS	A1	93	47.82	0.99	2
			A1b	93a	47.82	20.23	42
			A1a	93b	47.82	23.18	48
	298.00	13/16	A1	121	43.20	3.09	7
			A1b	121a	43.20	16.00	37
			A1a	121b	43.20	18.13	42
0.9D + 1.6W 60° Wind	88.00	3/4 EHS	A1	37	34.98	3.14	9
			A1b	37a	34.98	3.09	9
			A1a	37b	34.98	25.88	74
	148.00	13/16	A1	61	43.20	4.15	10
			A1b	61a	43.20	3.80	9

0.9D + 1.6W 60° Wind	148.00	13/16	A1a	61b	43.20	30.12	70
	228.00	7/8 EHS	A1	93	47.82	6.13	13
			A1b	93a	47.82	5.65	12
			A1a	93b	47.82	27.85	58
	298.00	13/16	A1	121	43.20	7.27	17
			A1b	121a	43.20	6.87	16
			A1a	121b	43.20	22.01	51
0.9D + 1.6W 90° Wind	88.00	3/4 EHS	A1	37	34.98	12.04	34
			A1b	37a	34.98	1.01	3
			A1a	37b	34.98	26.06	74
	148.00	13/16	A1	61	43.20	14.80	34
			A1b	61a	43.20	1.01	2
			A1a	61b	43.20	30.40	70
	228.00	7/8 EHS	A1	93	47.82	14.16	30
			A1b	93a	47.82	1.91	4
			A1a	93b	47.82	27.28	57
	298.00	13/16	A1	121	43.20	12.16	28
			A1b	121a	43.20	3.39	8
			A1a	121b	43.20	20.84	48
1.2D + 1.0Di + 1.0Wi	88.00	3/4 EHS	A1	37	34.98	9.70	28
			A1b	37a	34.98	16.91	48
			A1a	37b	34.98	18.89	54
	148.00	13/16	A1	61	43.20	10.34	24
			A1b	61a	43.20	19.64	45
			A1a	61b	43.20	22.49	52
	228.00	7/8 EHS	A1	93	47.82	11.82	25
			A1b	93a	47.82	21.43	45
			A1a	93b	47.82	24.72	52
	298.00	13/16	A1	121	43.20	11.06	26
			A1b	121a	43.20	20.38	47
			A1a	121b	43.20	23.12	54
1.2D + 1.0Di + 1.0Wi	88.00	3/4 EHS	A1	37	34.98	11.87	34
			A1b	37a	34.98	11.14	32
			A1a	37b	34.98	21.26	61
	148.00	13/16	A1	61	43.20	13.17	30
			A1b	61a	43.20	12.08	28
			A1a	61b	43.20	25.68	59
	228.00	7/8 EHS	A1	93	47.82	15.01	31
			A1b	93a	47.82	13.81	29
			A1a	93b	47.82	28.44	59
	298.00	13/16	A1	121	43.20	14.65	34
			A1b	121a	43.20	13.67	32
			A1a	121b	43.20	26.44	61
1.2D + 1.0Di + 1.0Wi	88.00	3/4 EHS	A1	37	34.98	14.93	43
			A1b	37a	34.98	9.43	27
			A1a	37b	34.98	20.75	59
	148.00	13/16	A1	61	43.20	17.15	40
			A1b	61a	43.20	9.95	23
			A1a	61b	43.20	24.96	58
	228.00	7/8 EHS	A1	93	47.82	19.06	40
			A1b	93a	47.82	11.48	24
			A1a	93b	47.82	27.48	57
	298.00	13/16	A1	121	43.20	18.31	42
			A1b	121a	43.20	11.16	26
			A1a	121b	43.20	25.52	59
1.0D + 1.0W Normal	88.00	3/4 EHS	A1	37	34.98	3.07	9
			A1b	37a	34.98	7.41	21
			A1a	37b	34.98	8.14	23
	148.00	13/16	A1	61	43.20	3.31	8
			A1b	61a	43.20	8.66	20
			A1a	61b	43.20	9.75	23
	228.00	7/8 EHS	A1	93	47.82	4.87	10
			A1b	93a	47.82	8.82	18
			A1a	93b	47.82	10.03	21
	298.00	13/16	A1	121	43.20	4.75	11
			A1b	121a	43.20	7.80	18
			A1a	121b	43.20	8.77	20

1.0D + 1.0W 60° Wind	88.00	3/4 EHS	A1	37	34.98	4.23	12
			A1b	37a	34.98	4.04	12
			A1a	37b	34.98	9.69	28
	148.00	13/16	A1	61	43.20	5.02	12
			A1b	61a	43.20	4.60	11
			A1a	61b	43.20	11.53	27
	228.00	7/8 EHS	A1	93	47.82	6.21	13
			A1b	93a	47.82	5.78	12
			A1a	93b	47.82	11.55	24
	298.00	13/16	A1	121	43.20	5.91	14
			A1b	121a	43.20	5.52	13
			A1a	121b	43.20	9.99	23
1.0D + 1.0W 90° Wind	88.00	3/4 EHS	A1	37	34.98	5.91	17
			A1b	37a	34.98	3.07	9
			A1a	37b	34.98	9.26	26
	148.00	13/16	A1	61	43.20	7.05	16
			A1b	61a	43.20	3.21	7
			A1a	61b	43.20	11.01	25
	228.00	7/8 EHS	A1	93	47.82	7.76	16
			A1b	93a	47.82	4.72	10
			A1a	93b	47.82	11.07	23
	298.00	13/16	A1	121	43.20	7.05	16
			A1b	121a	43.20	4.59	11
			A1a	121b	43.20	9.57	22

Max Reactions

Base:	376.77 (Vertical)	10.32 (Horizontal)
Anchor 1:	66.26 (Vertical)	79.58 (Horizontal)

Max Usages

Max Leg: 51.4% (1.2D + 1.0Di + 1.0Wi 60° Wind - Sect 7)
Max Diag: 57.4% (1.2D + 1.6W 90° Wind - Sect 33)
Max Horiz: 24.4% (1.2D + 1.6W Normal Wind - Sect 11)
Max Cable: 74.8% (1.2D + 1.6W 90° Wind) - Elev: 88 ft

Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.6W 97 mph Wind at 60° From Face	20.50	0.3088	0.7358	0.7591
	48.00	0.6289	0.8988	0.5659
	113.00	1.0394	1.2864	0.1958
	120.50	1.0605	1.3314	0.1384
	130.50	1.0789	1.3915	0.0777
	135.50	1.0841	1.4216	0.0509
	145.50	1.0912	1.4819	0.0396
	160.50	1.1107	1.5604	0.0847
	165.50	1.1174	1.5907	0.0740
	180.50	1.1336	1.6812	0.0529
	195.50	1.1423	1.7720	0.0233
	203.00	1.1425	1.7355	0.0379
	220.50	1.1395	1.6503	0.0251
	225.50	1.1384	1.6260	0.0306
	233.00	1.1419	1.5897	0.0582
	235.50	1.1442	1.5776	0.0464
	243.00	1.1507	1.4827	0.0587
	250.50	1.1580	1.3877	0.0621
	253.00	1.1603	1.3559	0.0774
	265.50	1.1723	1.1944	0.0606
	308.00	1.2275	0.6967	0.2501
	309.00	1.2327	0.6975	0.3104
	326.50	1.4500	0.6924	1.1292
	344.00	1.8299	0.6924	1.3020

0.9D + 1.6W 97 mph Wind at 90° From Face	20.50	0.4066	0.9697	0.9878
	48.00	0.8315	1.1378	0.7706
	113.00	1.4085	1.5363	0.2722
	120.50	1.4383	1.5825	0.1985
	130.50	1.4654	1.6443	0.1159
	135.50	1.4735	1.6752	0.0779
	145.50	1.4838	1.7370	0.0436
	160.50	1.5011	1.8180	0.0719
	165.50	1.5052	1.8492	0.0534
	180.50	1.5088	1.9428	0.0580
	195.50	1.4982	2.0366	0.0934
	203.00	1.4865	2.0015	0.1294
	220.50	1.4511	1.9184	0.1433
	225.50	1.4399	1.8948	0.1493
	233.00	1.4276	1.8594	0.1134
	235.50	1.4245	1.8476	0.1035
	243.00	1.4143	1.7535	0.1143
	250.50	1.4045	1.6595	0.1217
	253.00	1.4008	1.6277	0.1597
	265.50	1.3830	1.4650	0.1254
	308.00	1.3355	0.9610	0.1626
	309.00	1.3383	0.9616	0.2108
	326.50	1.4957	0.9578	1.0022
	344.00	1.8351	0.9580	1.1738
0.9D + 1.6W 97 mph Wind at Normal To Face	20.50	0.3715	0.1868	1.0017
	48.00	0.8020	0.3437	0.7783
	113.00	1.3721	0.7170	0.2512
	120.50	1.3990	0.7604	0.1763
	130.50	1.4218	0.8183	0.0955
	135.50	1.4278	0.8474	0.0623
	145.50	1.4340	0.9055	0.0434
	160.50	1.4450	0.9806	0.0399
	165.50	1.4470	1.0096	0.0319
	180.50	1.4447	1.0965	0.0428
	195.50	1.4287	1.1838	0.0904
	203.00	1.4160	1.1455	0.0940
	220.50	1.3787	1.0561	0.1347
	225.50	1.3674	1.0306	0.1362
	233.00	1.3548	0.9924	0.0827
	235.50	1.3485	0.9797	0.0842
	243.00	1.3416	0.8829	0.0791
	250.50	1.3322	0.7862	0.0696
	253.00	1.3294	0.7540	0.0272
	265.50	1.3130	0.5929	0.0827
	308.00	1.2672	0.1031	0.1129
	309.00	1.2699	0.1035	0.1750
	326.50	1.4689	0.0992	0.9913
	344.00	1.8047	0.0992	1.1637

1.0D + 1.0W 60 mph Wind at 60° From Face	20.50	0.0724	0.2554	0.1651
	48.00	0.1411	0.2723	0.1192
	113.00	0.2215	0.3279	0.0317
	120.50	0.2246	0.3362	0.0186
	130.50	0.2265	0.3479	0.0046
	135.50	0.2266	0.3540	0.0031
	145.50	0.2260	0.3669	0.0101
	160.50	0.2276	0.3849	0.0090
	165.50	0.2283	0.3922	0.0062
	180.50	0.2296	0.4158	0.0031
	195.50	0.2295	0.4415	0.0055
	203.00	0.2285	0.4354	0.0118
	220.50	0.2254	0.4233	0.0132
	225.50	0.2245	0.4203	0.0161
	233.00	0.2243	0.4162	0.0066
	235.50	0.2244	0.4149	0.0026
	243.00	0.2249	0.3973	0.0053
	250.50	0.2256	0.3800	0.0062
	253.00	0.2258	0.3743	0.0135
	265.50	0.2269	0.3465	0.0063
	308.00	0.2353	0.2638	0.0628
	309.00	0.2366	0.2640	0.0834
	326.50	0.2934	0.2633	0.3170
	344.00	0.4002	0.2633	0.3664
1.0D + 1.0W 60 mph Wind at 90° From Face	20.50	0.0830	0.4097	0.1699
	48.00	0.1538	0.4330	0.1223
	113.00	0.2330	0.4996	0.0270
	120.50	0.2353	0.5086	0.0151
	130.50	0.2360	0.5211	0.0109
	135.50	0.2353	0.5276	0.0150
	145.50	0.2333	0.5409	0.0203
	160.50	0.2325	0.5592	0.0117
	165.50	0.2324	0.5665	0.0134
	180.50	0.2311	0.5896	0.0164
	195.50	0.2281	0.6142	0.0223
	203.00	0.2256	0.6074	0.0299
	220.50	0.2187	0.5928	0.0295
	225.50	0.2167	0.5890	0.0308
	233.00	0.2147	0.5835	0.0206
	235.50	0.2143	0.5818	0.0168
	243.00	0.2130	0.5627	0.0183
	250.50	0.2119	0.5438	0.0189
	253.00	0.2115	0.5376	0.0295
	265.50	0.2096	0.5066	0.0187
	308.00	0.2079	0.4129	0.0483
	309.00	0.2089	0.4130	0.0682
	326.50	0.2514	0.4124	0.3001
	344.00	0.3520	0.4124	0.3494

1.0D + 1.0W 60 mph Wind at Normal To Face	20.50	0.0602	0.0080	0.1618
	48.00	0.1272	0.0073	0.1143
	113.00	0.1956	0.0238	0.0168
	120.50	0.1962	0.0278	0.0126
	130.50	0.1947	0.0342	0.0216
	135.50	0.1929	0.0378	0.0272
	145.50	0.1888	0.0461	0.0319
	160.50	0.1843	0.0581	0.0195
	165.50	0.1829	0.0637	0.0197
	180.50	0.1777	0.0834	0.0270
	195.50	0.1707	0.1081	0.0338
	203.00	0.1666	0.1028	0.0318
	220.50	0.1560	0.0954	0.0396
	225.50	0.1531	0.0946	0.0400
	233.00	0.1495	0.0945	0.0271
	235.50	0.1484	0.0947	0.0265
	243.00	0.1458	0.0822	0.0229
	250.50	0.1431	0.0708	0.0199
	253.00	0.1424	0.0672	0.0086
	265.50	0.1380	0.0510	0.0220
	308.00	0.1276	0.0137	0.0359
	309.00	0.1284	0.0139	0.0556
	326.50	0.1849	0.0134	0.2896
	344.00	0.2810	0.0134	0.3388
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	20.50	0.1492	0.1885	0.3865
	48.00	0.3149	0.2309	0.3017
	113.00	0.5557	0.3354	0.1455
	120.50	0.5733	0.3480	0.1268
	130.50	0.5933	0.3650	0.1053
	135.50	0.6019	0.3736	0.0974
	145.50	0.6181	0.3909	0.0941
	160.50	0.6474	0.4147	0.1184
	165.50	0.6575	0.4239	0.1134
	180.50	0.6862	0.4519	0.1046
	195.50	0.7112	0.4806	0.0884
	203.00	0.7219	0.4797	0.0729
	220.50	0.7444	0.4772	0.0749
	225.50	0.7504	0.4766	0.0780
	233.00	0.7622	0.4758	0.1086
	235.50	0.7667	0.4756	0.0982
	243.00	0.7799	0.4469	0.1038
	250.50	0.7934	0.4183	0.1013
	253.00	0.7976	0.4086	0.0903
	265.50	0.8189	0.3577	0.0962
	308.00	0.8895	0.2030	0.1662
	309.00	0.8926	0.2033	0.1942
	326.50	1.0006	0.2019	0.5091
	344.00	1.1695	0.2019	0.5765

1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	20.50	0.1753	0.4031	0.4268
	48.00	0.3593	0.4462	0.3359
	113.00	0.6249	0.5514	0.1534
	120.50	0.6431	0.5640	0.1306
	130.50	0.6633	0.5809	0.1045
	135.50	0.6717	0.5894	0.0940
	145.50	0.6867	0.6066	0.0863
	160.50	0.7126	0.6301	0.1051
	165.50	0.7211	0.6393	0.0964
	180.50	0.7437	0.6670	0.0855
	195.50	0.7606	0.6953	0.0683
	203.00	0.7666	0.6941	0.0519
	220.50	0.7765	0.6913	0.0619
	225.50	0.7787	0.6905	0.0672
	233.00	0.7844	0.6896	0.0840
	235.50	0.7868	0.6893	0.0686
	243.00	0.7936	0.6604	0.0758
	250.50	0.8004	0.6315	0.0717
	253.00	0.8023	0.6217	0.0595
	265.50	0.8120	0.5716	0.0712
	308.00	0.8432	0.4178	0.1233
	309.00	0.8454	0.4180	0.1486
	326.50	0.9250	0.4172	0.4526
	344.00	1.0768	0.4173	0.5193
1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	20.50	0.1483	0.0579	0.4010
	48.00	0.3203	0.0892	0.3104
	113.00	0.5544	0.1724	0.1216
	120.50	0.5681	0.1832	0.0995
	130.50	0.5822	0.1980	0.0730
	135.50	0.5875	0.2056	0.0633
	145.50	0.5965	0.2212	0.0553
	160.50	0.6115	0.2428	0.0625
	165.50	0.6162	0.2514	0.0594
	180.50	0.6268	0.2782	0.0394
	195.50	0.6310	0.3064	0.0314
	203.00	0.6310	0.3055	0.0291
	220.50	0.6258	0.3044	0.0463
	225.50	0.6239	0.3044	0.0517
	233.00	0.6225	0.3045	0.0348
	235.50	0.6208	0.3047	0.0280
	243.00	0.6224	0.2771	0.0272
	250.50	0.6219	0.2498	0.0256
	253.00	0.6220	0.2407	0.0343
	265.50	0.6194	0.1948	0.0348
	308.00	0.6060	0.0576	0.0483
	309.00	0.6072	0.0579	0.0746
	326.50	0.6824	0.0566	0.3870
	344.00	0.8102	0.0566	0.4539

1.2D + 1.6W 97 mph Wind at 60° From Face	20.50	0.3105	0.7358	0.7637
	48.00	0.6324	0.8988	0.5686
	113.00	1.0440	1.2864	0.1955
	120.50	1.0649	1.3314	0.1379
	130.50	1.0833	1.3916	0.0770
	135.50	1.0884	1.4217	0.0501
	145.50	1.0953	1.4820	0.0389
	160.50	1.1146	1.5606	0.0841
	165.50	1.1213	1.5908	0.0733
	180.50	1.1373	1.6814	0.0525
	195.50	1.1458	1.7722	0.0233
	203.00	1.1459	1.7357	0.0386
	220.50	1.1428	1.6506	0.0258
	225.50	1.1416	1.6263	0.0313
	233.00	1.1451	1.5900	0.0579
	235.50	1.1473	1.5779	0.0461
	243.00	1.1537	1.4830	0.0586
	250.50	1.1611	1.3881	0.0621
	253.00	1.1633	1.3562	0.0777
	265.50	1.1753	1.1947	0.0606
	308.00	1.2304	0.6972	0.2502
	309.00	1.2355	0.6981	0.3108
	326.50	1.4530	0.6929	1.1303
	344.00	1.8333	0.6929	1.3033
1.2D + 1.6W 97 mph Wind at 90° From Face	20.50	0.4098	0.9679	0.9968
	48.00	0.8384	1.1361	0.7771
	113.00	1.4191	1.5350	0.2729
	120.50	1.4490	1.5813	0.1987
	130.50	1.4761	1.6431	0.1155
	135.50	1.4841	1.6740	0.0772
	145.50	1.4943	1.7359	0.0426
	160.50	1.5112	1.8170	0.0709
	165.50	1.5153	1.8482	0.0527
	180.50	1.5184	1.9419	0.0589
	195.50	1.5072	2.0358	0.0955
	203.00	1.4953	2.0007	0.1317
	220.50	1.4592	1.9177	0.1458
	225.50	1.4477	1.8941	0.1517
	233.00	1.4351	1.8588	0.1158
	235.50	1.4319	1.8470	0.1058
	243.00	1.4215	1.7529	0.1166
	250.50	1.4113	1.6589	0.1239
	253.00	1.4075	1.6271	0.1622
	265.50	1.3892	1.4644	0.1277
	308.00	1.3401	0.9603	0.1624
	309.00	1.3429	0.9609	0.2104
	326.50	1.4999	0.9571	1.0015
	344.00	1.8390	0.9574	1.1733

1.2D + 1.6W 97 mph Wind at Normal To Face	20.50	0.3747	0.1868	1.0105
	48.00	0.8089	0.3437	0.7846
	113.00	1.3825	0.7170	0.2518
	120.50	1.4095	0.7604	0.1764
	130.50	1.4323	0.8183	0.0950
	135.50	1.4381	0.8473	0.0618
	145.50	1.4442	0.9054	0.0430
	160.50	1.4549	0.9806	0.0390
	165.50	1.4569	1.0095	0.0310
	180.50	1.4542	1.0965	0.0440
	195.50	1.4378	1.1838	0.0919
	203.00	1.4249	1.1454	0.0955
	220.50	1.3871	1.0560	0.1364
	225.50	1.3756	1.0305	0.1378
	233.00	1.3628	0.9924	0.0843
	235.50	1.3564	0.9797	0.0858
	243.00	1.3493	0.8829	0.0806
	250.50	1.3397	0.7862	0.0710
	253.00	1.3369	0.7539	0.0282
	265.50	1.3201	0.5929	0.0842
	308.00	1.2731	0.1031	0.1115
	309.00	1.2758	0.1036	0.1738
	326.50	1.4746	0.0993	0.9908
	344.00	1.8102	0.0993	1.1635

Guyed Tower Base Design

			Date: 11/8/2018
Customer Name:	SBA Communications Corp	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	309
Site Nmber:	CT15879-A-SBA	**Engineer Name:**	T. Alajaj
Engr. Number:	64137	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Structure Type: Guyed Tower

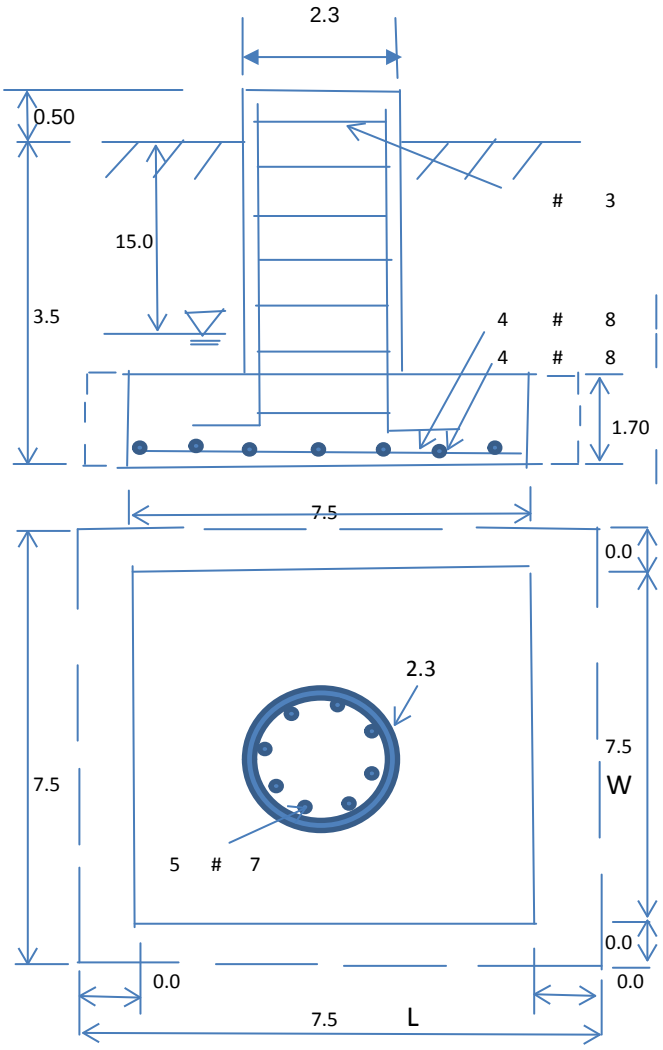
Analysis or Design? Analysis

Base Reactions (Factored):

Axial Load (Kips):	376.8	Shear Force (Kips):	10.3
Uplift Force (Kips):	0.0	Moment (Kips-ft):	
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	2.3	Depth of Base BG (ft.):	3.5
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	1.70
Length of Pad (ft.):	7.5	Width of Pad (ft.):	7.5
Final Length of pad (ft)	7.5	Final width of pad (ft):	7.5



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	7	Tie / Stirrup Size #:	3	
Qty. of Vertical Rebars:	5	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	8	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	4	Qty. of Rebar in Pad (W):	4	

Soil Design Parameters:

Soil Unit Weight (pcf):	115.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	15.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	50000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	30
					Angle from Bottm of Pad:	25

Foundation Analysis and Design: Uplift Strength Reduction Factor: 0.75 — Compression Strength Reduction Factor: 0.6

Total Dry Soil Volume (cu. Ft.):	93.77	Total Dry Soil Weight (Kips):	10.78
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	10.78	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	105.18	Total Dry Concrete Weight (Kips):	15.78
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	15.78	Total Vertical Load on Base (Kips):	403.33

Check Soil Capacities:

					Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	7321.2	<	Allowable Factored Soil Bearing (psf):	30000	0.24	OK!
Calculated Foundation Allowable Axail Capacity (Kips):	1687.5	>	Design Factored Axial Load (Kips):	381	0.23	OK!

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00		
				Load/ Capacity Ratio	
(1) Concrete Pier:					
Vertical Steel Rebar Area (sq. in./each):	0.60	Tie / Stirrup Area (sq. in./each):	0.11		
Calculated Moment Capacity (Mn,Kips-Ft):	89.5	> Design Factored Moment (Mu, Kips-Ft	23.7	0.27	OK!
Calculated Shear Capacity (Kips):	73.4	> Design Factored Shear (Kips):	10.3	0.14	OK!
Calculated Tension Capacity (Tn, Kips):	162.0	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	789.3	> Design Factored Axial Load (Pu Kips):	376.8	0.48	OK!
Moment & Axial Strength Combination(Pu/Pn+Mu/Mn):	0.74	OK!			
Pier Reinforcement Ratio:	0.005				
(2).Concrete Pad:					
One-Way Design Shear Capacity (L-Dir. Kips);	125.0	> One-Way Factored Shear (L-Dir Kips):	60.5	0.48	OK!
One-Way Design Shear Capacity (W-Dir. Kips):	125.0	> One-Way Factored Shear (W-Dir Kips)	60.5	0.48	OK!
Two-Way Design Shear Capacity (Kips):	388.2	> Two-Way Factored Shear (Kips):	305.3	0.79	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0021	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0021		OK!
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	234.4	> Moment at Bottom (L-Direct. K-Ft):	171.6	0.73	OK!
Lower Steel Pad Moment Capacity (W-Dir. Kips-ft):	234.4	> Moment at Bottom (W-Dir. Kips-Ft):	171.6	0.73	OK!

TES Tower Engineering Solutions	**Guy Anchor Analysis and Design**			Date 43412
	Customer Name:	SBA Comm unications C orp	**EIA/TIA Standard:**	EA-222-G
	Site Name:	0	**Structure Height (Ft.):**	309
	Site Nmber:	CT15879-A-SBA	**Engineer Name:**	T. Ala a
	Engr. Number:	64137	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calc ulations **Number of Anchors:** *1 Set*

Soil Design Parameters:

Soil nit Weight (pcf):	*135.0*	*Soil uoant Weight:*	*65.0*	*cf*	*Cohesion of Soils (psf):*		*0*
Water Table . .S . (ft):	*15.0*	*nit W eight of Water:*	*62.4*	*pcf*	Internal Angle of Friction (°)		*30*
Iti mate lateral ressure (psf):	*0*	*ltimate Sin Fr iction:*	*0*	*sf*	*Coefficient of Shear Friction:*		*0.30*
Conical Failure Angle from Top:	*30*	*Failure Angle from o ttm*	*20*				

Material Properties:

Concrete Strength (psi):	*3000*	*ni t Weight of Concrete:*	*150.0*	*psf*	*Horiontal Rebar Y ield (psi):*		*60000*
Shear Strength Reduction Factor:	*0.75*				*Fleure Streng th Reduction Factor:*		*0.9*

A. Inner Anchors:

Radius (ft.): *262*

1. Design Reactions (Factored):

plift (ips:)	*66.3*	*Shear (ips)*	*79.6*		*Angle of force resultant (Ø):*		*39.8*

2. Foundation Geometries:

loc ase Dept h .. S. (ft):	*10.0*	*loc with/without toe*	*o*		*Water Table below grade (ft):*		*15.00*
Length of Anchor loc (L ft .):	*20.5*	*Width of Anchor loc:*	*4.0*	*ft.*	*Thicness of Anchor loc (ft.):*		*3.8*
Concrete loc top of Anchor	*o*						

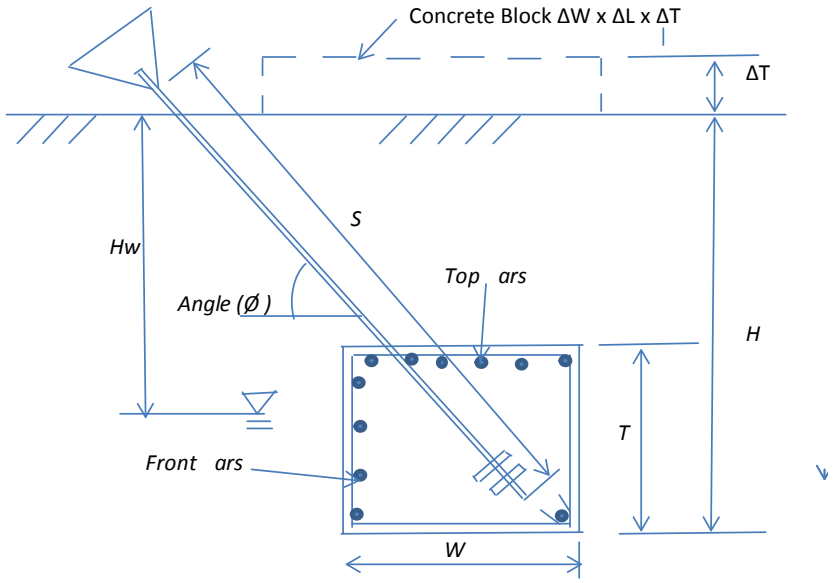
(1). Inner Anchors: Radius ft.): 262

H (ft.):	10.0	Hw (ft.):	15.0
L (ft.):	20.5	W (ft.):	4.0
T (ft.):	3.8	Angle (Ø)	39.8
S (ft):	16.41		

Top bars: 5 # 7

Front bars: 4 # 7

Concrete Volume (Cu. Yd.)/Each: 11.54



3. Foundation Ana lysis and Design:

Total Dry Soil Volume (cu. Ft.):	1105.10	Total Dry Soil Weight (Kips):	200.94
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	149.19	Weight of the Concrete Block at Top (Kips):	0.00
Total Dry Concrete Volume (cu. Ft.):	311.60	Total Dry Concrete Weight (Kip):	46.74
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	46.74	Weight Reduction Factor:	0.9
Uplift Strength Reduction Factor on Soil:	0.75	Shear Strength Reduction Factor on Soil:	0.75

4. Check Soil and Foundat ion Capacities:

Nominal Factored Uplift Resistance:	164.25	Kips >	Design Uplift Force (Kips):	66.3	OK!	
Ultimate Shear Friction Resistance at base:	22.79	Kips	Ultimate Resistance Pressure:	3280.5	Psf	
Factored Shear Resistance:	208.76	Kips >	Design Shear Force (Kips):	79.6	OK!	

5. Design Concrete Block:

Rebar Size (#):	7	Wind Load Factor on Concrete Design:	1.00		
Qty. of the Rebar at top of the block:	5	Qty. of the Rebar in the front of the block:	4		
Area of Single Rebar (sq. in.):	0.60	Factor for concrete compression zone:	0.85		
One Way Shear due to Shear Force (Kips):	39.8	One Way Shear Capacity for shear (kips):	164.8	OK!	
One Way Shear due to Uplift (Kips):	33.1	One Way Shear Capacity for uplift (kips):	164.1	OK!	
Moment due to Shear Load (Kips-ft):	203.9	Flexural Capacity for Shear Load (Kips-ft):	475.0	OK!	
Moment due to uplift Load (Kips-ft):	169.8	Flexural Capacity for uplift Load (Kips-ft):	561.4	OK!	
Ratio of Design Moment/Moment capacity:	0.43				
Max. Ratio of Shear Force/Shear capacity:	0.24	OK!			

PROJECT:	LTE 3C/4C/5C/6C
SITE NUMBER:	CTL01154
FA NUMBER:	10041811
PTN NUMBER:	2051A0GWH6, 2051A0GWHG, 2051A0GWHR, 2051A0GWF1
PACE NUMBER:	MRCTB032289, MRCTB032214, MRCTB032179, MRCTB032182
SBA#:	CT15879
SITE NAME:	WEST HARTFORD
SITE ADDRESS:	3114 ALBANY AVENUE WEST HARTFORD, CT 06117

PROJECT INFORMATION

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PACE NUMBER:	MRCTB032289, MRCTB032214, MRCTB032179, MRCTB032182
USID NUMBER:	88240
SBA NUMBER:	CT15879
APPLICANT:	AT&T WIRELESS 550 COCHITUATE ROAD SUITE 550 13 AND 14 FRAMINGHAM, MA 01701
TOWER OWNER:	SBA COMMUNICATIONS CORPORATION 8051 CONGRESS AVENUE BOCA RATON, FL 33487
JURISDICTION:	HARTFORD COUNTY
COUNTY:	HARTFORD
SITE COORDINATES FROM	(RFDS)
LATITUDE:	41.796803°
LONGITUDE:	−72.796832°
GROUND ELEV.:	681'
PROPOSED USE:	TELECOMMUNICATIONS FACILITY
AT&T RF MANAGER:	DEEPAK RATHORE
PHONE:	(860) 965−3068
EMAIL:	dr701e@att.com

PROJECT CONSULTANTS

PROJECT MANAGER:	SMARTLINK
ADDRESS:	85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT:	EDWARD WEISSMAN (917) 528−1857
EMAIL:	Edward.Weissman@smartlinkllc.com
SITE AQUISITION:	SMARTLINK
ADDRESS:	85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT:	SHARON KEEFE (978) 930−3918
EMAIL:	Sharon.Keefe@smartlinkllc.com
ENGINEER/ARCHITECT:	FULLERTON ENGINEERING
ADDRESS:	1100 E. WOODFIELD ROAD, SUITE 500 SCHAUMBURG, IL 60173
CONTACT:	MILEN DIMITROV (847) 908−8439
EMAIL:	MDimitrov@FullertonEngineering.com
CONSTRUCTION:	SMARTLINK
ADDRESS:	85 RANGEWAY ROAD, SUITE 102 NORTH BILLERICA, MA 01862
CONTACT:	MARK DONNELLY (617) 515−2080
EMAIL:	mark.donnelly@smartlinkllc.com

SCOPE OF WORK

LTE WCS/AWS/850/700 WILL BE 3C/4C/5C/6C AT THE SITE WITH BRONZE CONFIGURATION. PROPOSED 4C PROJECT SCOPE HEREIN BASED ON RFDS ID # 2283356, VERSION 2.00 LAST UPDATED 06/13/18.

- (6) NEW ANTENNAS TO REPLACE (3) EXISTING ANTENNAS
- (3) NEW RRUS−32
- (3) NEW RRUS−4478 B14
- (3) NEW RRUS−4478
- (3) NEW RRUS 4426 B66
- (2) NEW RAYCAP UNITS, (1) NEW FIBER CABLE AND (4) NEW DC POWER CABLES
- UPGRADE DUS TO 2x 5216, INSTALL 2ND XMU, ADD IDLe,
- INSTALL 6630 FOR 5G
- INSTALL (1) DC12−48−60−RM

- 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

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
A9	PLUMBING DIAGRAMS

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	07/02/18	90% REVIEW	KC
1	08/21/18	FOR PERMIT	KC
2	09/17/18	FOR CONSTRUCTION	KC

I HEREBY CERTIFY THAT THESE DRAWINGS 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
WEST HARTFORD

SITE NUMBER:
CTL01154

SITE ADDRESS
3114 ALBANY AVENUE
WEST HARTFORD, CT 06117

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

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

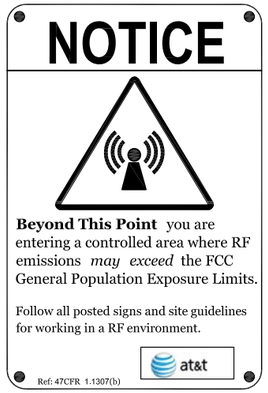
SITE NAME
WEST HARTFORD

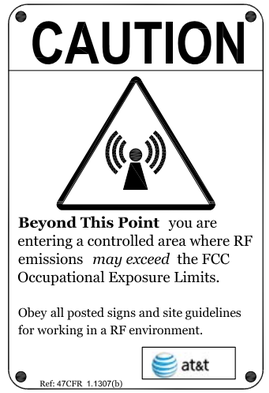
SITE NUMBER:
CTL01154

SITE ADDRESS
3114 ALBANY AVENUE
WEST HARTFORD, CT 06117

SHEET NAME
NOTES AND SPECIFICATIONS

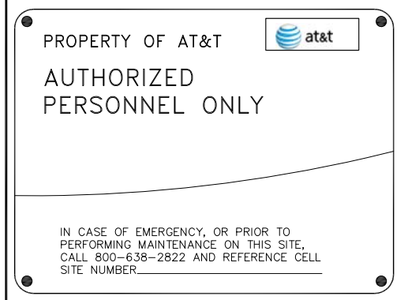
SHEET NUMBER
SP1





ALERTING SIGNS

ALERTING SIGN



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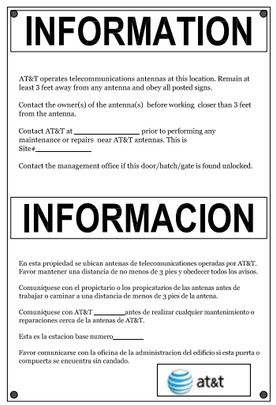

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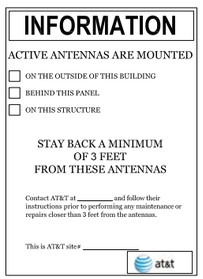

INFO SIGN #2

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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SITE NAME
WEST HARTFORD

SITE NUMBER:
CTL01154

SITE ADDRESS
3114 ALBANY AVENUE
WEST HARTFORD, CT 06117

SHEET NAME
NOTES AND SPECIFICATIONS

SHEET NUMBER
SP2

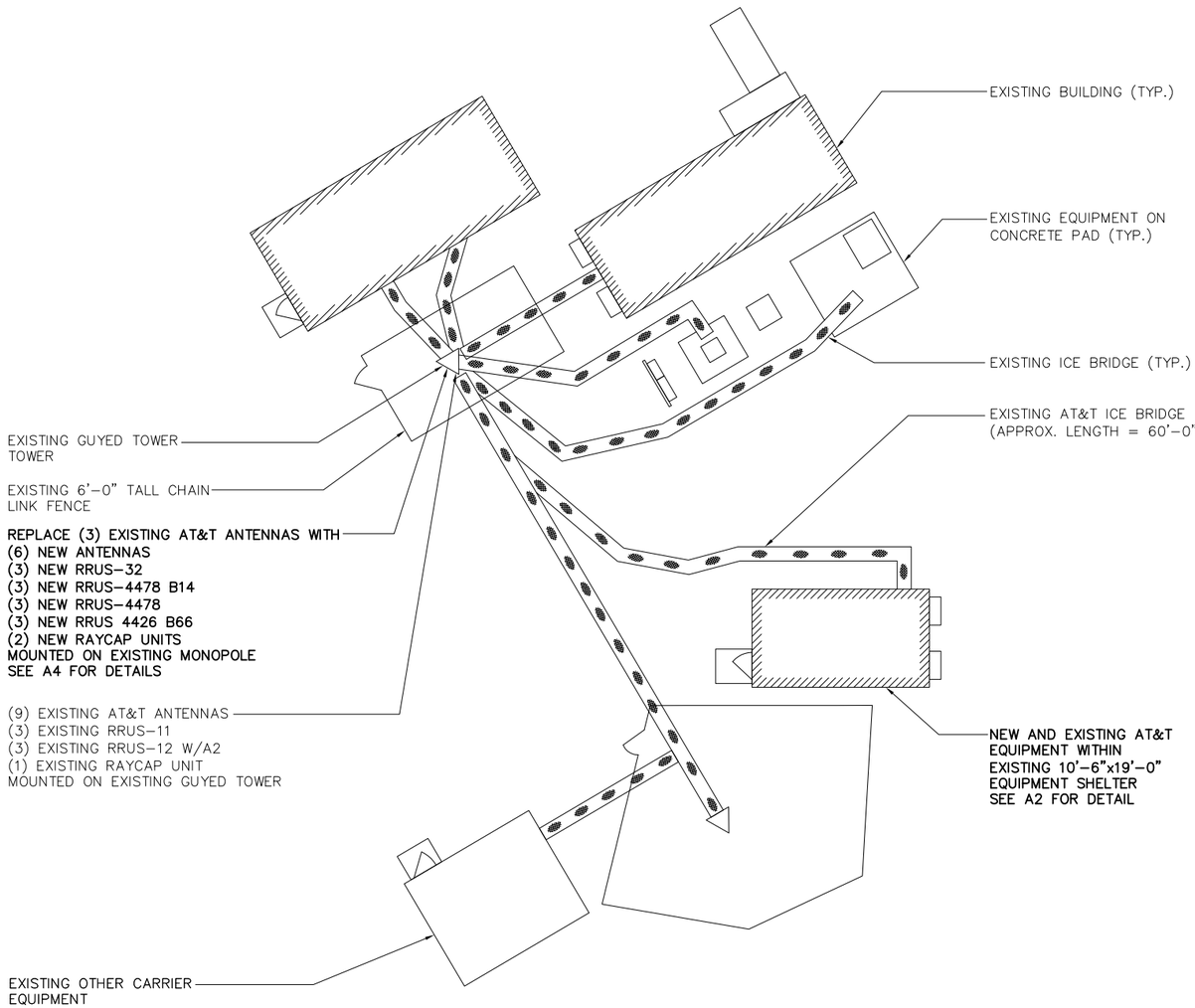
PROJECT# 2018.0171. 0007

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: 1/16" = 1'-0" — 1

SITE PHOTO 1 — SCALE: N.T.S. — 2

SITE PHOTO 2 — SCALE: N.T.S. — 3

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SITE NAME
WEST HARTFORD

SITE NUMBER:
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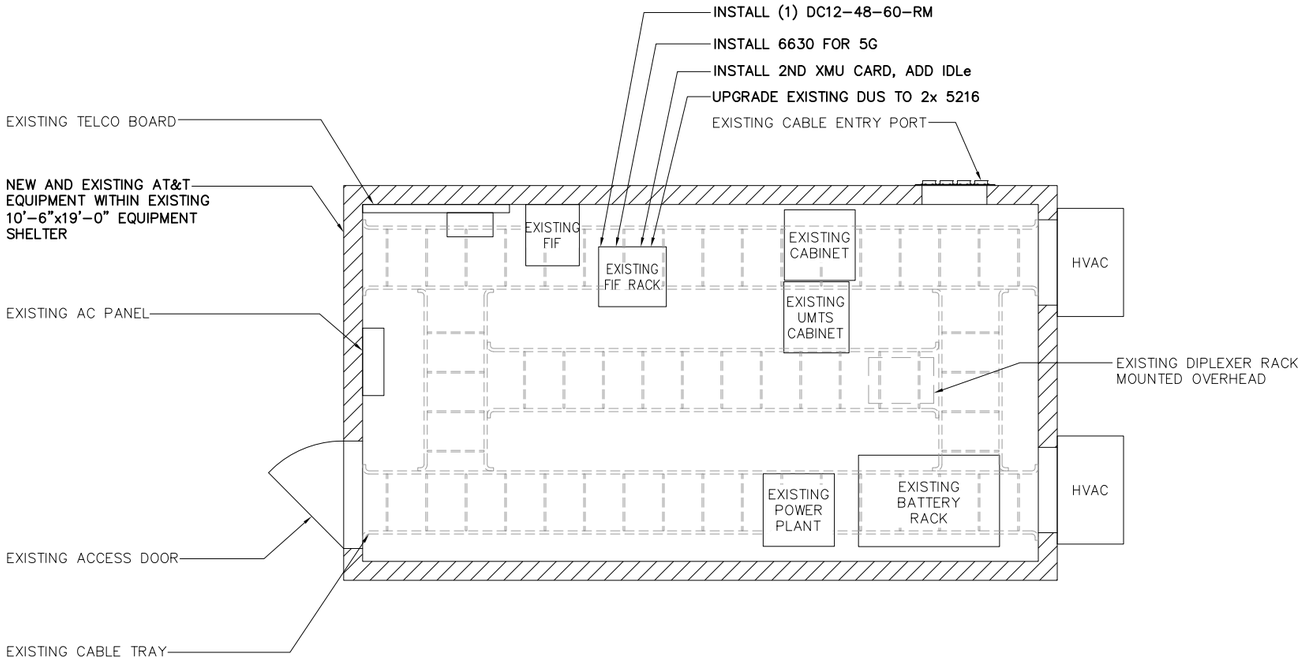
SITE ADDRESS
3114 ALBANY AVENUE
WEST HARTFORD, CT 06117

SHEET NAME
COMPOUND PLAN

SHEET NUMBER
A1

PROJECT# 2018.0171. 0007



EQUIPMENT PLAN

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

1

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WEST HARTFORD, CT 06117

SHEET NAME

EQUIPMENT PLAN

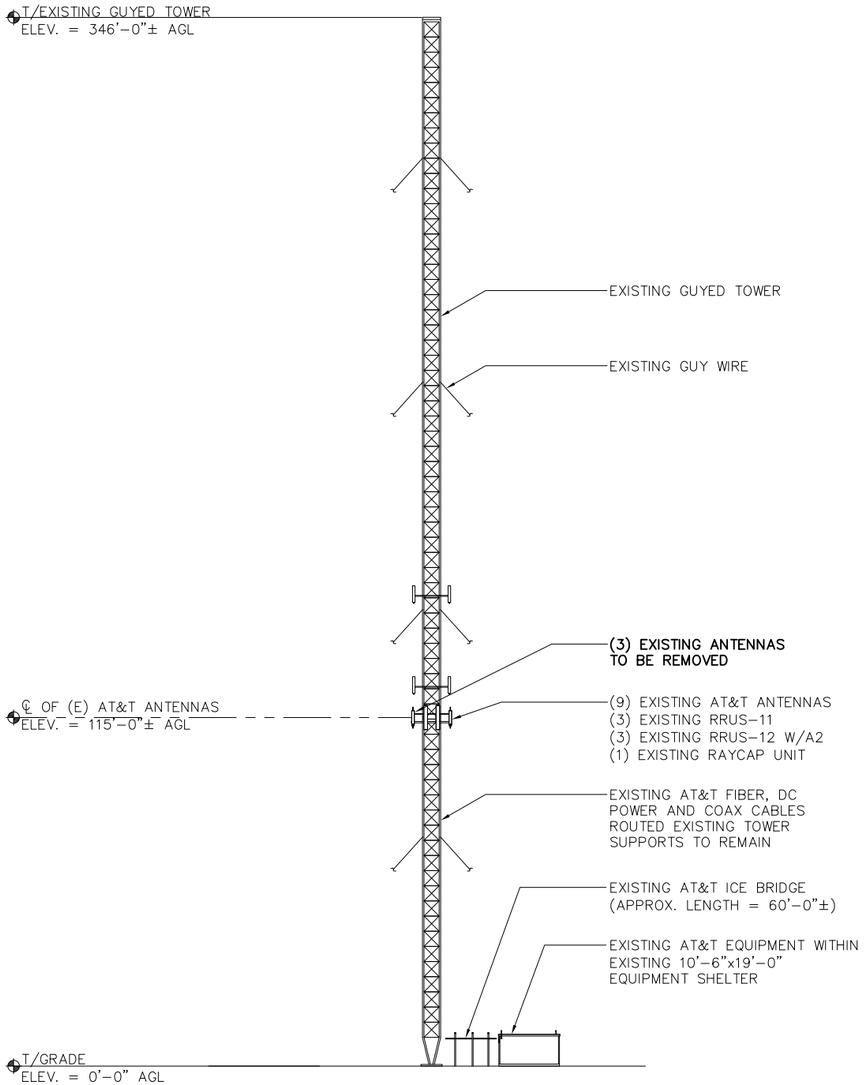
SHEET NUMBER

A2

PROJECT# 2018.0171. 0007

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



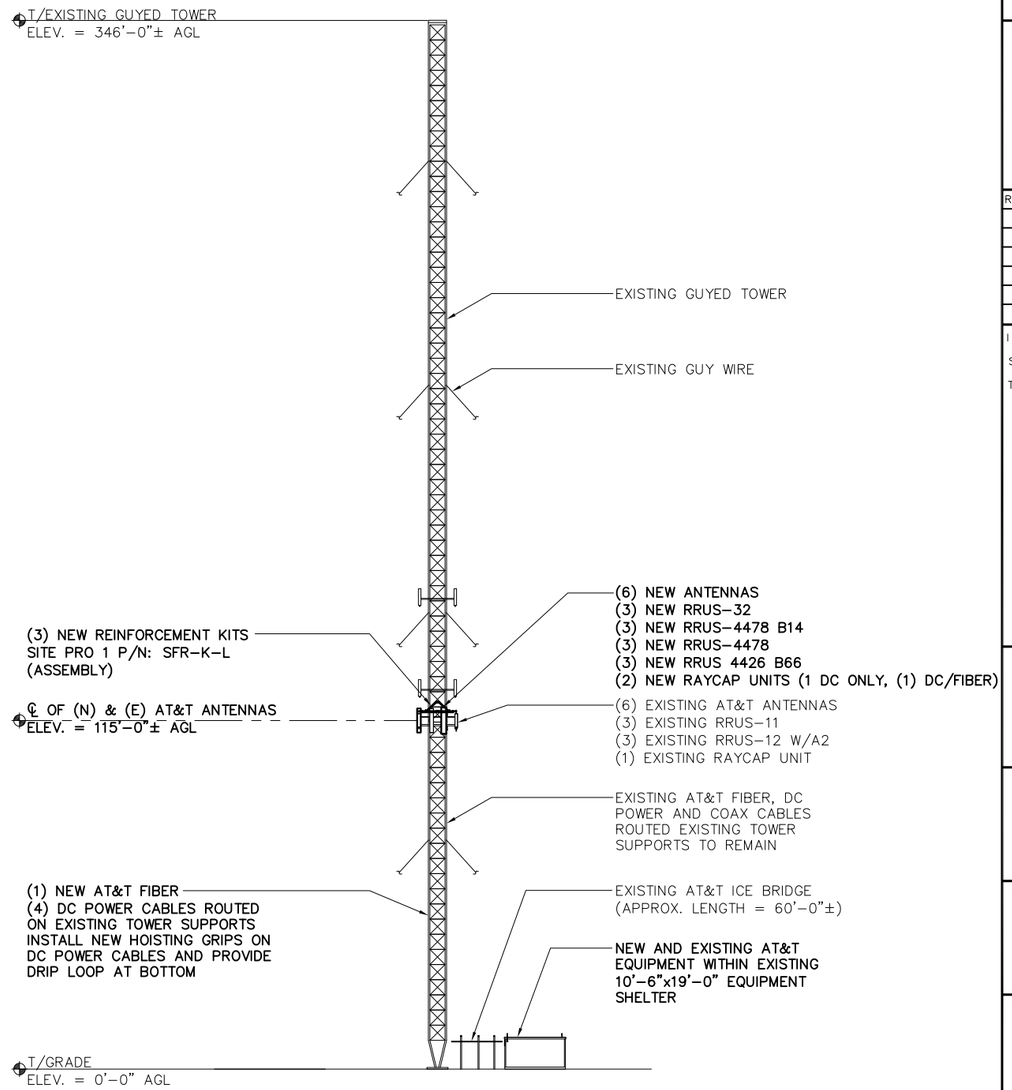
EXISTING ELEVATION — SCALE: N.T.S. — 1

NOTES:

1. 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
2. 6 FEET MINIMUM SEPARATION BETWEEN 700DE & 700BC

PAINT NOTE:

ALL NEW AND EXISTING ANTENNAS, RRH EQUIPMENT, AND MOUNTING HARDWARE TO BE PAINTED TO MATCH THE COLORS AND/OR SIMULATE THE MATERIALS OF THE STRUCTURE ON WHICH THEY ARE MOUNTED.



NEW ELEVATION — SCALE: N.T.S. — 2

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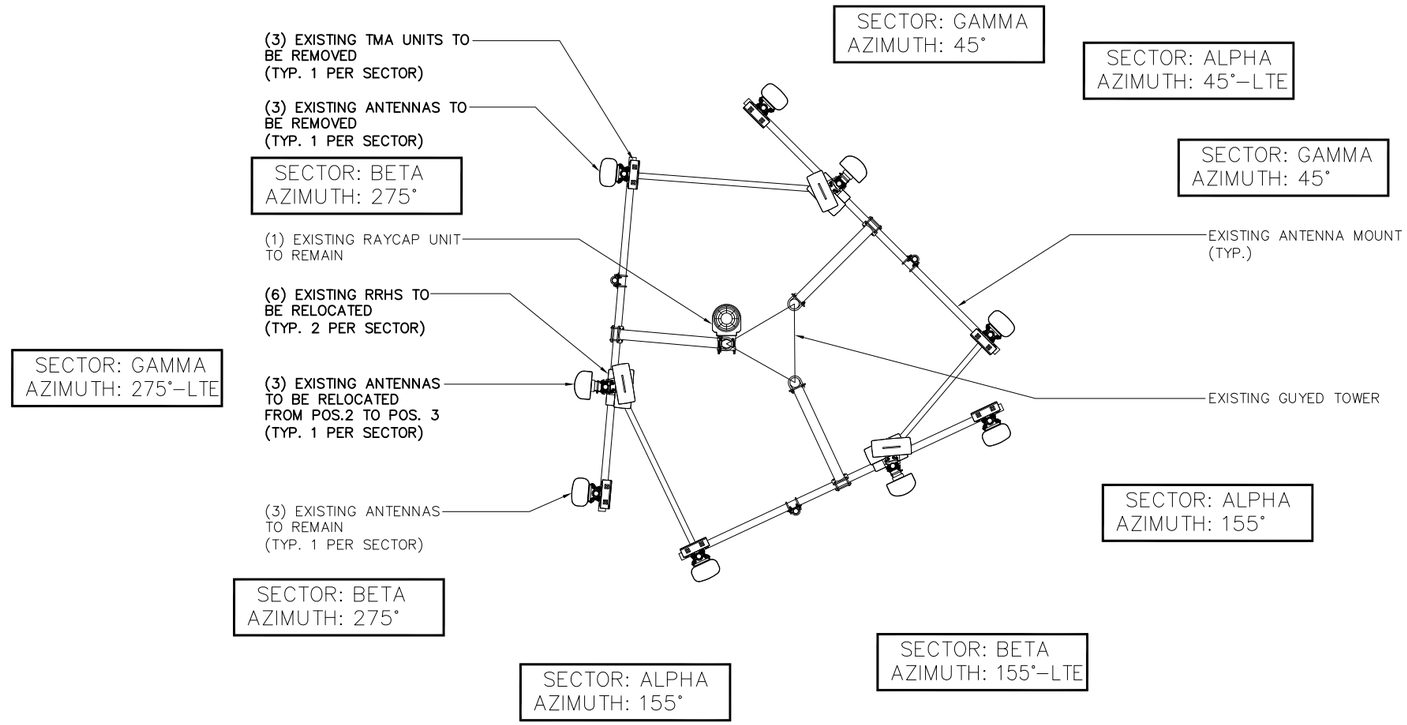
WEST HARTFORD, CT 06117

SHEET NAME
ELEVATIONS

SHEET NUMBER
A3

PROJECT# 2018.0171. 0007

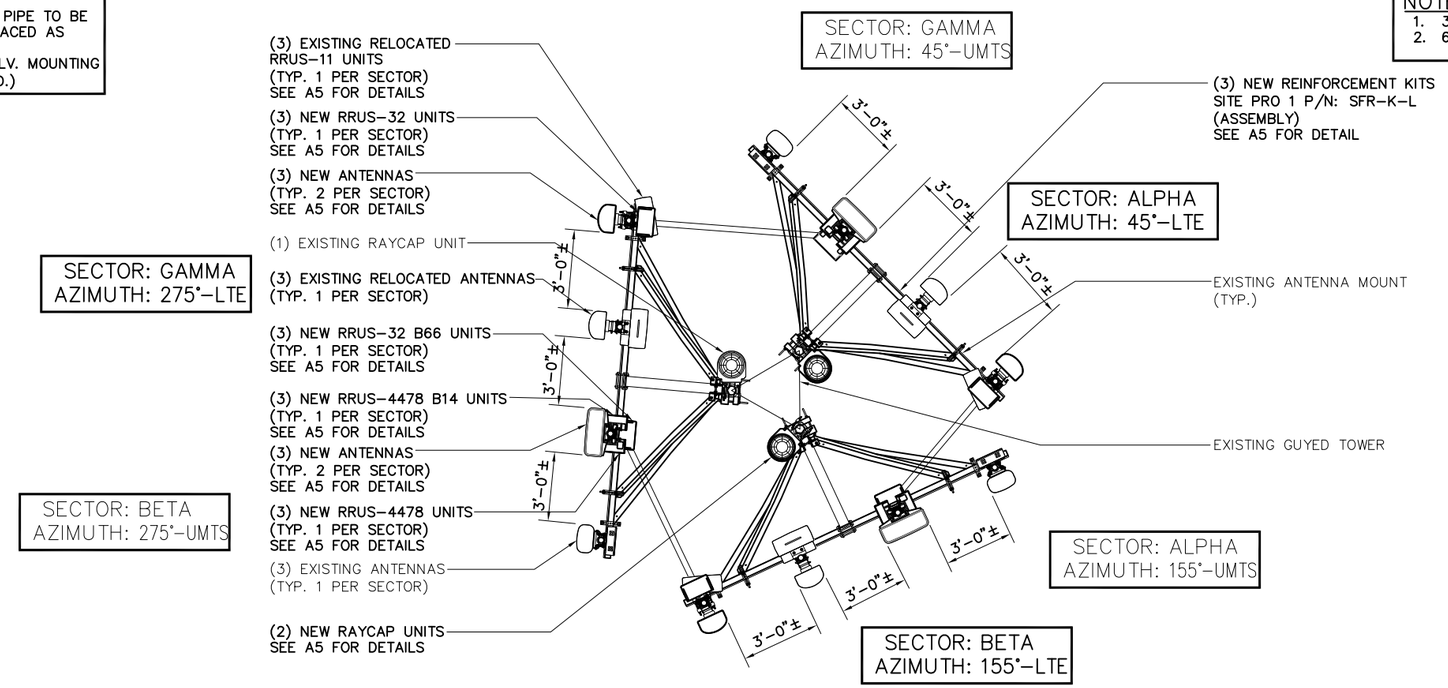


EXISTING ANTENNA PLAN

SCALE: 3/16" = 1'–0" | 1

NOTES:
1. EXISTING ANTENNA MOUNTING PIPE TO BE REUSED, RELOCATED OR REPLACED AS REQUIRED
2. IF REQUIRED INSTALL NEW GALV. MOUNTING PIPE(S) 2.5 STD. (2–7/8" O.D.)

NOTES:
1. 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
2. 6 FEET MINIMUM SEPARATION BETWEEN 700DE & 700BC



FINAL ANTENNA PLAN

SCALE: 3/16" = 1'–0" | 2

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SITE NUMBER:
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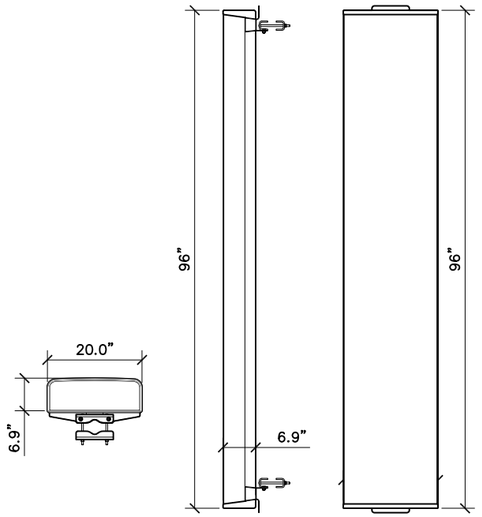
3114 ALBANY AVENUE
WEST HARTFORD, CT 06117

SHEET NAME
ANTENNA PLANS

SHEET NUMBER
A4

PROJECT# 2018.0171. 0007

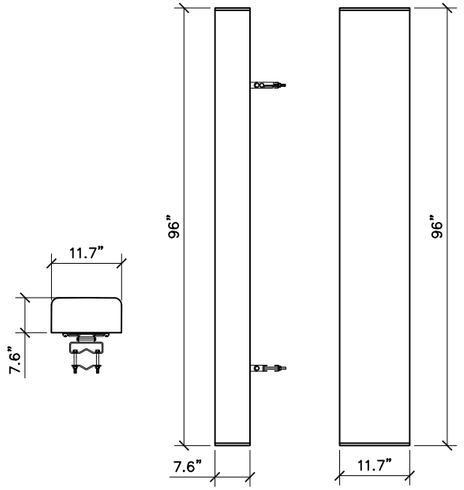


PLAN VIEW SIDE VIEW FRONT VIEW

KATHREIN – 800 10966

8–PORT ANTENNA DUAL POLARIZATION

ANTENNA SPEC SCALE: N.T.S. 1

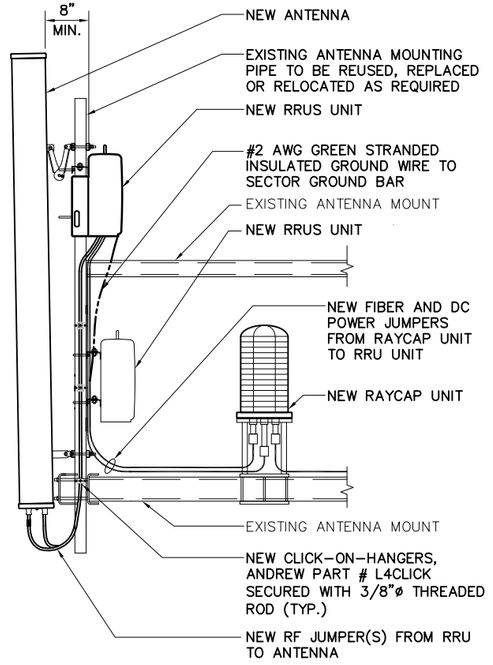


PLAN VIEW SIDE VIEW FRONT VIEW

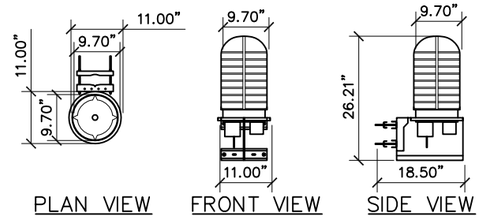
CCI – HPA–65R–BUU–H8

HEXPORT MULTI–BAND ANTENNA

ANTENNA SPEC SCALE: N.T.S. 2



ANTENNA SCHEMATIC SCALE: N.T.S. 3



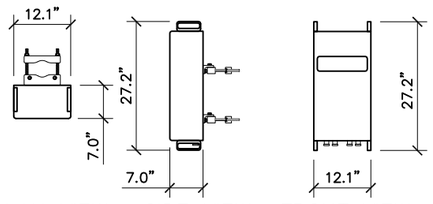
PLAN VIEW FRONT VIEW SIDE VIEW

RAYCAP – DC6–48–60–18–8F

TOWER DC OVER VOLTAGE PROTECTION POWER CONNECTION SOLUTION

UNIT WEIGHT 32.8 Lbs

RAYCAP SPEC SCALE: N.T.S. 4

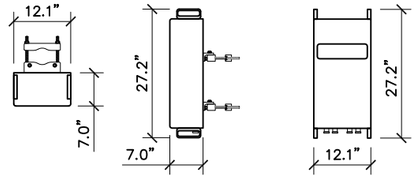


PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON – RRUS 32

UNIT WEIGHT 60 Lbs

RRU SPEC SCALE: N.T.S. 5

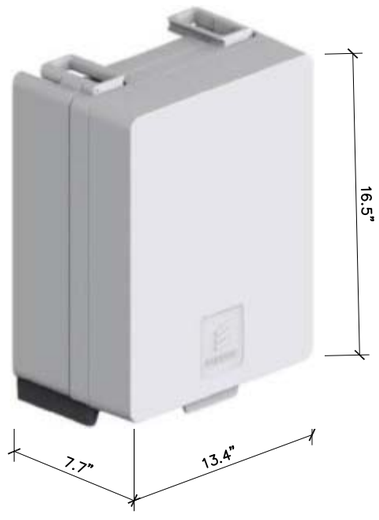


PLAN VIEW SIDE VIEW FRONT VIEW

ERICSSON – RRUS 32 B66

UNIT WEIGHT 60 Lbs

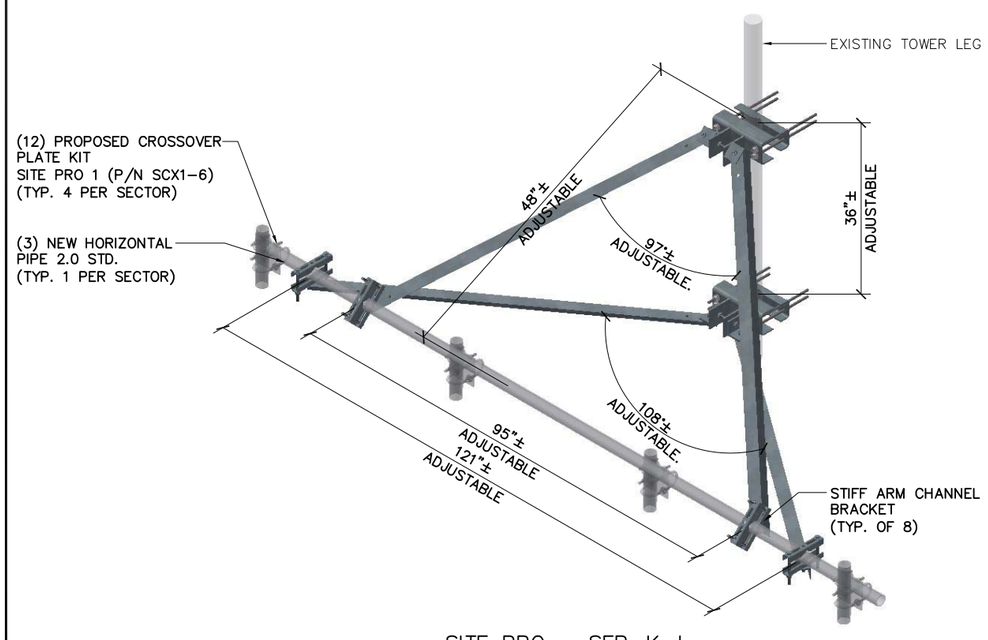
RRU SPEC SCALE: N.T.S. 6



ERICSSON – RRUS 4478 B14

FREQUENCY RANGE	TX	758–768 MHz
	RX	788–798 MHz
TOTAL WEIGHT		59.9 Lbs

RRU SPEC SCALE: N.T.S. 7



NOTE:
ANY RRH UNITS INTERFERING WITH REINFORCEMENT KIT SHALL BE RELOCATED

SITE PRO – SFR–K–L

XLD (EXTREME LOAD DESIGN) SECTOR FRAME REINFORCEMENT KIT

36" TO 48" STANDOFF

TOTAL WEIGHT 132 Lbs

MOUNT MODIFICATION SCALE: N.T.S. 8

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SITE ADDRESS

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WEST HARTFORD, CT 06117

SHEET NAME

EQUIPMENT DETAILS

SHEET NUMBER

A5

PROJECT# 2018.0171. 0007

FINAL ANTENNA CONFIGURATION AND CABLE SCHEDULE
SUPPLIED BY AT&T WIRELESS, FROM RF CONFIG. DATED (06/13/18)

SECTOR	ANTENNA NUMBER	ANTENNA STATUS & TYPE	ANTENNA MODEL NUMBER	ANTENNA VENDOR	TMA/RRU UNIT	AZIMUTH	ANTENNA CL FROM GROUND	CABLE FEEDER TYPE	CABLE FEEDER LENGTH	RAYCAP UNIT
ALPHA	A-1	(E) UMTS ANTENNA	800-10121	KATHREIN	(1) EXISTING TMA UNIT(S)	155°	115'-0"	1-5/8"ø LDF7-50A	190'-0"	(1) (E) DC6-48-60-18-8F UNIT (2) (N) DC6-48-60-18-8F UNIT
								1-5/8"ø LDF7-50A	190'-0"	
	A-2	(N) LTE 4C/5C/6C ANTENNA	800-10966	KATHERIN	(1) NEW RRUS-4478 B14 UNIT (1) NEW RRUS-4478 B5 UNIT (1) NEW RRUS-32 B66 UNIT (2) LOW BAND COMBINERS	45°	115'-0"	SEE ANTENNA A-3 FOR CABLE TYPE AND LENGTH		
	A-3	(E) LTE 1C/2C ANTENNA	HPA-65R-BUU-H8	CCI	(1) EXISTING RRUS-12 UNIT W/ A2 MODULE	45°	115'-0"	(2) 1-5/8"ø LDF7-50A	190'-0"	
								(1) (E) FIBER CABLE (2) (E) DC POWER CABLES	190'-0"	
	A-4	(N) LTE 3C ANTENNA	HPA65R-BU8A	CCI	(1) EXISTING RRUS-11 UNIT (1) NEW RRUS-32 UNIT	45°	115'-0"	SEE ANTENNA A-3 FOR CABLE TYPE AND LENGTH		
BETA	B-1	(E) UMTS ANTENNA	800-10121	KATHREIN	(1) EXISTING TMA UNIT(S)	275°	115'-0"	1-5/8"ø LDF7-50A	190'-0"	
								1-5/8"ø LDF7-50A	190'-0"	
	B-2	(N) LTE 4C/5C/6C ANTENNA	800-10965	KATHERIN	(1) NEW RRUS-4478 B14 UNIT (1) NEW RRUS-4478 B5 UNIT (1) NEW RRUS-32 B66 UNIT (2) LOW BAND COMBINERS	155°	115'-0"	(1) NEW FIBER CABLE	190'-0"	
								(2) NEW DC POWER CABLES	190'-0"	
	B-3	(E) LTE 1C/2C ANTENNA	HPA-65R-BUU-H6	CCI	(1) EXISTING RRUS-12 UNIT W/ A2 MODULE	155°	115'-0"	(2) 1-5/8"ø LDF7-50A	190'-0"	
								SEE ANTENNA A-3 FOR CABLE TYPE AND LENGTH		
	B-4	(N) LTE 3C ANTENNA	HPA65R-BU8A	CCI	(1) EXISTING RRUS-11 UNIT (1) NEW RRUS-32 UNIT	155°	115'-0"	SEE ANTENNA B-2 FOR CABLE TYPE AND LENGTH		
GAMMA	C-1	(E) UMTS ANTENNA	800-10121	KATHREIN	(1) EXISTING TMA UNIT(S)	45°	115'-0"	1-5/8"ø LDF7-50A	190'-0"	
								1-5/8"ø LDF7-50A	190'-0"	
	C-2	(N) LTE 4C/5C/6C ANTENNA	800-10966	KATHERIN	(1) NEW RRUS-4478 B14 UNIT (1) NEW RRUS-4478 B5 UNIT (1) NEW RRUS-32 B66 UNIT (2) LOW BAND COMBINERS	275°	115'-0"	SEE ANTENNA B-2 FOR FIBER CABLE		
								(2) NEW DC POWER CABLES	190'-0"	
	C-3	(E) LTE 1C/2C ANTENNA	HPA-65R-BUU-H8	CCI	(1) EXISTING RRUS-12 UNIT W/ A2 MODULE	275°	115'-0"	(2) 1-5/8"ø LDF7-50A	190'-0"	
								SEE ANTENNA A-3 FOR CABLE TYPE AND LENGTH		
	C-4	(N) LTE 3C ANTENNA	HPA65R-BU8A	CCI	(1) EXISTING RRUS-11 UNIT (1) NEW RRUS-32 UNIT	275°	115'-0"	SEE ANTENNA C-2 FOR CABLE TYPE AND LENGTH		

ANTENNA & CABLE CONFIGURATION

SCALE: N.T.S.

1

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

SITE NAME
WEST HARTFORD

SITE NUMBER:
CTL01154

SITE ADDRESS
3114 ALBANY AVENUE
WEST HARTFORD, CT 06117

SHEET NAME
ANTENNA & CABLE CONFIGURATION

SHEET NUMBER
A6

PROJECT# 2018.0171. 0007

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.

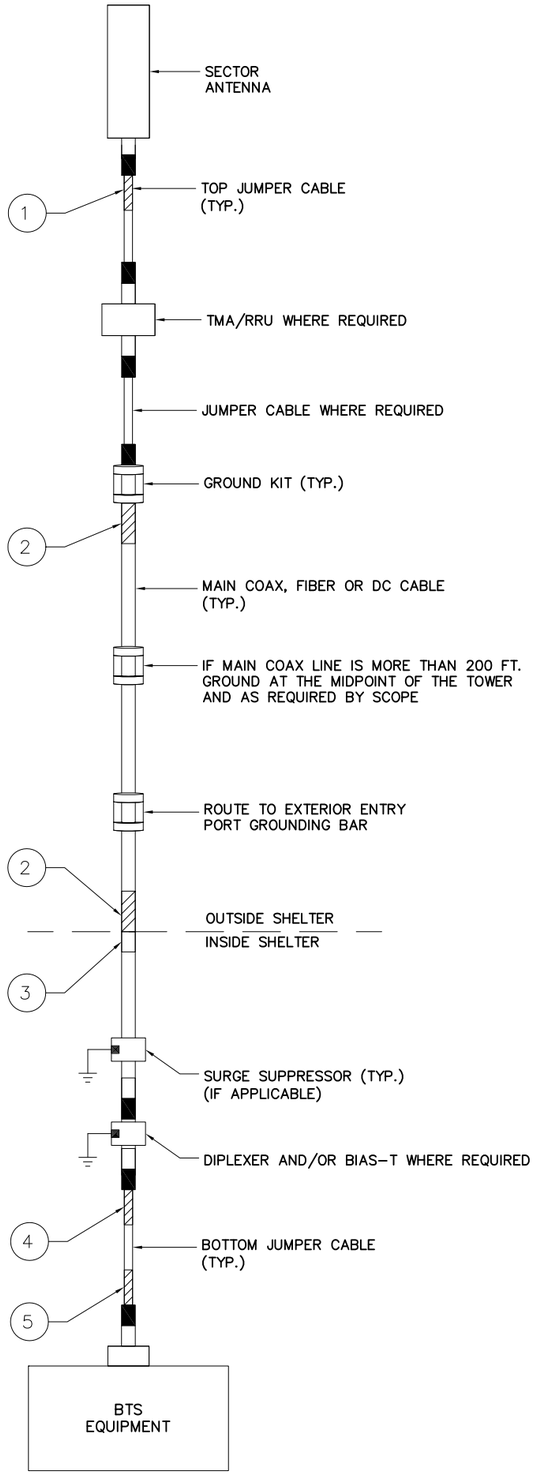
CABLE MARKING DIAGRAM

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

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	07/02/18	90% REVIEW	KC
1	08/21/18	FOR PERMIT	KC
2	09/17/18	FOR CONSTRUCTION	KC

I HEREBY CERTIFY THAT THESE DRAWINGS 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
WEST HARTFORD

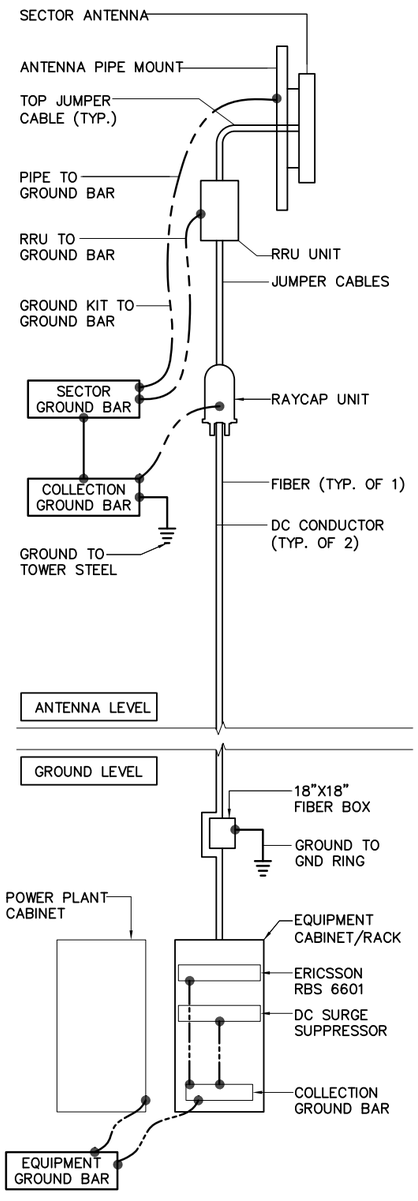
SITE NUMBER:
CTL01154

SITE ADDRESS
3114 ALBANY AVENUE
WEST HARTFORD, CT 06117

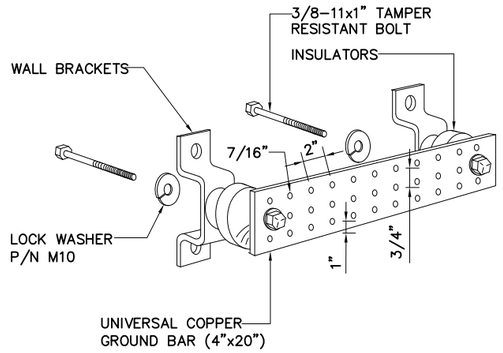
SHEET NAME
CABLE NOTES AND COLOR CODING

SHEET NUMBER
A7

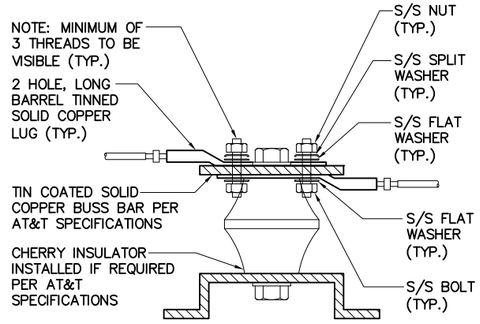
PROJECT# 2018.0171. 0007



GROUNDING SCHEMATIC SCALE: N.T.S. 1



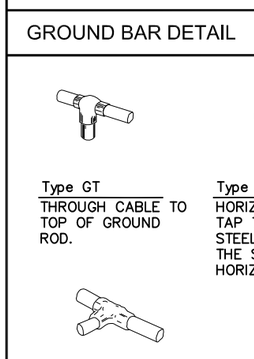
GROUND BAR DETAIL SCALE: N.T.S. 2



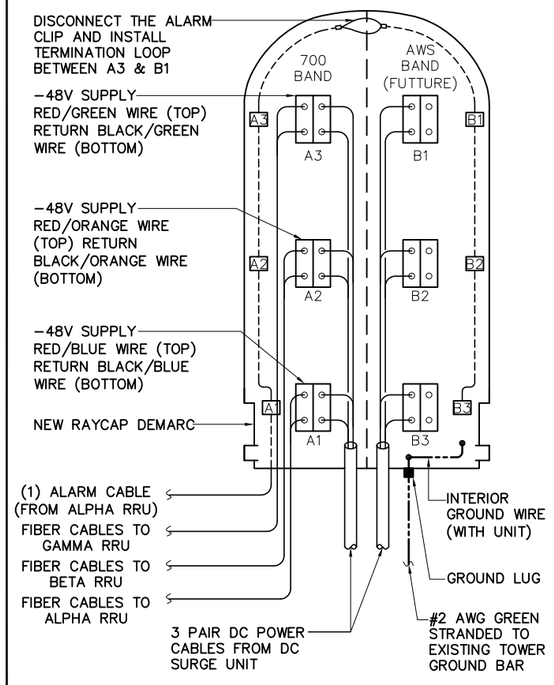
NOTES:

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
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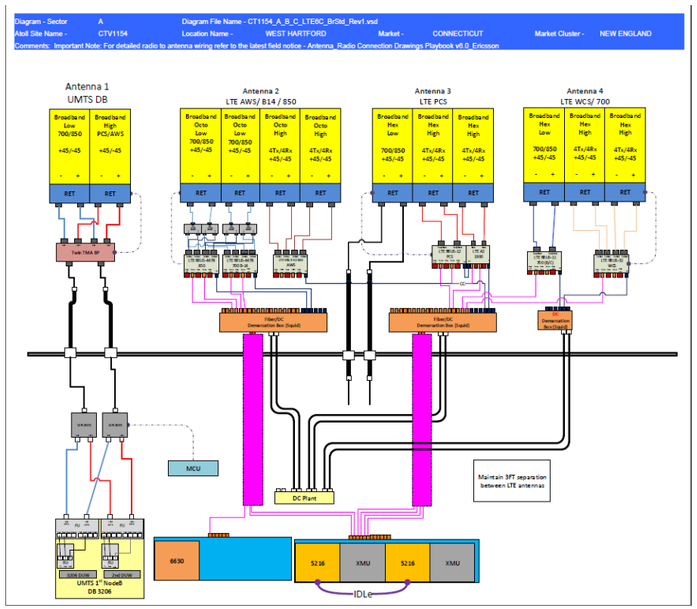
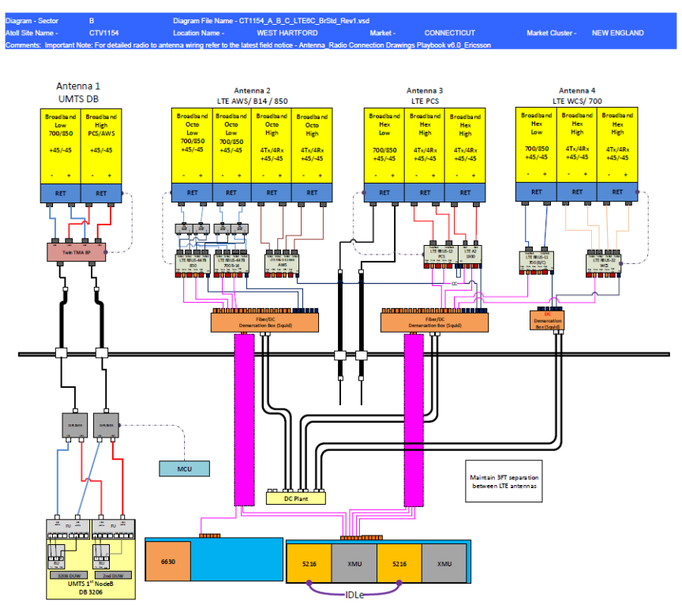
3114 ALBANY AVENUE
WEST HARTFORD, CT 06117

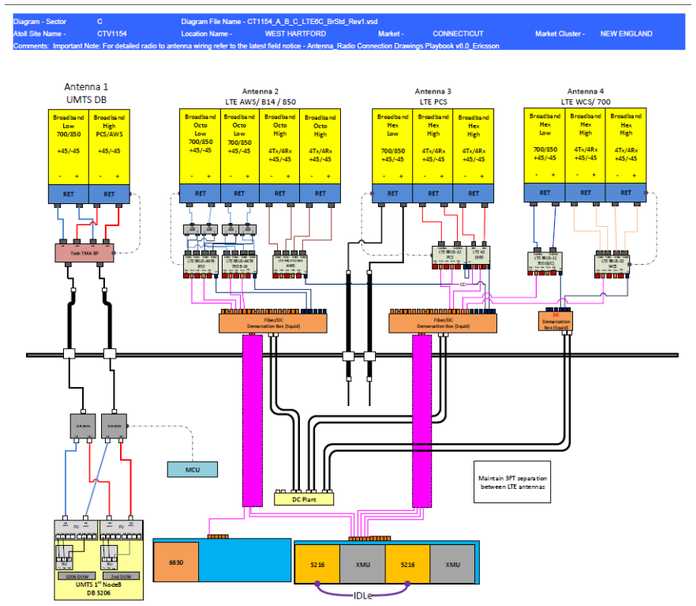
SHEET NAME
GROUNDING DETAILS

SHEET NUMBER
A8

PROJECT# 2018.0171. 0007







*BASED ON RFDS V2.0, DATED (06/13/18)

PLUMBING DIAGRAMS

SCALE: N.T.S.

1

at&t
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SHEET NAME
PLUMBING DIAGRAMS

SHEET NUMBER
A9

PROJECT# 2018.0171. 0007

TOWN PLAN AND ZONING COMMISSION

CERTIFIED MAIL

July 11, 2000

John Ramsey
Marlin Broadcasting, Inc.
1039 Asylum Avenue
Hartford, CT 06105

SUBJECT: 3114 Albany Avenue – Radio Tower – Marlin Broadcasting, Inc.

Dear Mr. Ramsey:

At its regular meeting of July 5, 2000 the West Hartford Town Plan and Zoning Commission gave consideration to the following item:

> **3114 Albany Avenue** – Application (SUP #903) of Marlin Broadcasting, Inc. (Paul J. Aparo, Attorney) requesting Special Use Permit approval to authorize a new 360' FM broadcasting tower, construct a new 70' fiber glass AM broadcasting tower and a new 20' x 40' equipment building and demolish the existing equipment building. (Submitted for TPZ receipt on June 5, 2000. Suggest required public hearing be scheduled for Wednesday, July 5, 2000.)
> R-10 ZONE

After a review of the application and its related exhibits and after consideration of staff technical comments on the public hearing record, the TPZ acted by **unanimous vote** (Motion/Wirth; Second/Davidoff) (Meck seated for Kearns; Begley seated for Kappes) to **CONDITIONALLY APPROVE** the subject application. During its discussions and deliberations on this matter, the Commission made the following findings:

The proposed Special Use Permit will comply with the finding requirements of Section 177-42A(5a & 5b) of the West Hartford Code of Ordinances with the following conditions:

1. **At the request of the applicant the new tower is reduced to 347 feet, and the 70 foot FM antenna is withdrawn.**
2. **The applicant shall protect the existing tree screen along Route 44 all the way to the ridge line between the Tower and Route 44. This area shall not be materially altered without first receiving a TPZ approval.**

You should now contact the Planning Staff to discuss the submission requirements for your plans. A ten dollar ($10) filing fee is required to file a notice of approval on the West Hartford Land Records. My staff will happy to assist you in completing these requirements. The TPZ approval is not final until the legal requirements for filing are completed. The effective date of approval is July 28, 2000.

If you have questions, please feel free to call the Planning Staff at 523-3123.

Very truly yours,

Donald R. Foster
Town Planner

C: Ronald Van Winkle, Director of Community
Kevin O'Connor, Corporation Counsel
Norma Cronin, Town Clerk
William Farrell, Town Engineer
Subject TPZ File

3114Albany-July00

WEST HARTFORD,CT

VISION GOVERNMENT SOLUTIONS

3114 ALBANY AVENUE

Sales | Print | Map It

Location	3114 ALBANY AVENUE	**Mblu**	A2/ 0031/ 3114/ /
Parcel ID	0031 2 3114 0001	**Owner**	EDUCATIONAL MEDIA FOUNDATION
Assessment	$392,490	**Appraisal**	$560,700
Vision Id #	402	**Building Count**	6

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$217,700	$343,000	$560,700
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$152,390	$240,100	$392,490

Owner of Record

Owner	EDUCATIONAL MEDIA FOUNDATION	**Sale Price**	$600,000
Co-Owner		**Certificate**	
Address	5700 WEST OAKS BOULEVARD ROCKLIN, CA 95765	**Book & Page**	4884/ 163
		Sale Date	11/04/2014
		Instrument	Q

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
EDUCATIONAL MEDIA FOUNDATION	$600,000		4884/ 163	Q	11/04/2014
MARLIN TOWER LLC	$0	1	2810/ 50	U	12/19/2001
MARLIN BROADCASTING LLC	$107,500	1	2580/ 300	U	08/03/2000
MARLIN BROADCASTING INC	$130,000	1	2309/ 253	U	05/26/1998

GREATER HARTFORD	$0	1	472/ 900	U	

Building Information

Building 1 : Section 1

Year Built: 1960
Living Area: 208
Replacement Cost: $28,140
Building Percent Good: 61
Replacement Cost Less Depreciation: $17,200

Building Attributes	
Field	**Description**
STYLE	Telephone Exchange
MODEL	Comm/Ind
Grade	C 1.00
Stories:	1
Occupancy	
Exterior Wall 1	Concrete Block
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Comp - Shingle
Interior Wall 1	Typical
Interior Wall 2	
Floor Type	Concrete Slab
Floor Cover	None
Heating Fuel	Typical
Heating Type	None
AC Type	None
As Built Use	PHON
Bldg Use	Commercial
# of Bedrooms	
Total Baths	

Building Photo

Building Layout

Building Sub-Areas (sq ft)			Legend Legend
Code	**Description**	**Gross Area**	**Living Area**
PHN	TELEPHONE EXCHANGE	208	208

		208	208

Type	01
Wet Sprinkler	
Dry Sprinkler	
1st Floor Use:	
Class	Class D
Frame Type	Conc Reinf
Plumbing	LIGHT
Ceiling	Not Applicable
Group	IND
Wall Height	8
Adjustment	

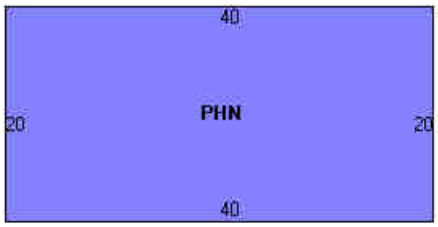
Building 2 : Section 1

Year Built: 2002
Living Area: 800
Replacement Cost: $108,272
Building Percent Good: 86
Replacement Cost Less Depreciation: $93,100

Building Attributes : Bldg 2 of 6	
Field	**Description**
STYLE	Telephone Exchange
MODEL	Comm/Ind
Grade	C 1.00
Stories:	1
Occupancy	1
Exterior Wall 1	Concrete Block
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Floor Type	
Floor Cover	
Heating Fuel	
Heating Type	

Building Photo

Building Layout



AC Type	
As Built Use	
Bldg Use	Commercial
# of Bedrooms	
Total Baths	
Type	
Wet Sprinkler	
Dry Sprinkler	
1st Floor Use:	
Class	
Frame Type	
Plumbing	
Ceiling	
Group	
Wall Height	
Adjustment	

Building Sub-Areas (sq ft)			Legend<u>Legend</u>
Code	**Description**	**Gross Area**	**Living Area**
PHN	TELEPHONE EXCHANGE	800	800
		800	800

Building 3 : Section 1

Year Built: 2002
Living Area: 240
Replacement Cost: $32,428
Building Percent Good: 86
Replacement Cost Less Depreciation: $27,900

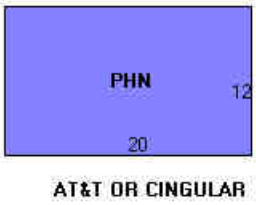
Building Photo

Building Attributes : Bldg 3 of 6	
Field	**Description**
STYLE	Telephone Exchange
MODEL	Comm/Ind
Grade	C 1.00
Stories:	1

Occupancy	1
Exterior Wall 1	Concrete Block
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Floor Type	
Floor Cover	
Heating Fuel	
Heating Type	
AC Type	
As Built Use	
Bldg Use	Commercial
# of Bedrooms	
Total Baths	
Type	
Wet Sprinkler	
Dry Sprinkler	
1st Floor Use:	
Class	
Frame Type	
Plumbing	
Ceiling	
Group	
Wall Height	
Adjustment	

Building 4 : Section 1

Building Layout



Building Sub-Areas (sq ft)			Legend Legend
Code	Description	Gross Area	Living Area
PHN	TELEPHONE EXCHANGE	240	240
		240	240

Year Built: 2002
Living Area: 360
Replacement Cost: $48,776
Building Percent Good: 86
Replacement Cost Less Depreciation: $41,900

Building Attributes : Bldg 4 of 6	
Field	**Description**
STYLE	Telephone Exchange
MODEL	Comm/Ind
Grade	C 1.00
Stories:	1
Occupancy	1
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Floor Type	
Floor Cover	
Heating Fuel	
Heating Type	
AC Type	
As Built Use	
Bldg Use	Commercial
# of Bedrooms	
Total Baths	
Type	
Wet Sprinkler	
Dry Sprinkler	
1st Floor Use:	
Class	
Frame Type	
Plumbing	
Ceiling	
Group	
Wall Height	
Adjustment	

Building 5 : Section 1

Building Photo

Building Layout

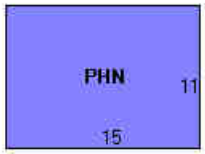
Building Sub-Areas (sq ft)			Legend Legend
Code	**Description**	**Gross Area**	**Living Area**
PHN	TELEPHONE EXCHANGE	360	360
		360	360

Year Built: 2002
Living Area: 165
Replacement Cost: $22,378
Building Percent Good: 86
Replacement Cost Less Depreciation: $19,200

Building Attributes : Bldg 5 of 6	
Field	**Description**
STYLE	Telephone Exchange
MODEL	Comm/Ind
Grade	C 1.00
Stories:	1
Occupancy	1
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Floor Type	
Floor Cover	
Heating Fuel	
Heating Type	
AC Type	
As Built Use	
Bldg Use	Commercial
# of Bedrooms	
Total Baths	
Type	
Wet Sprinkler	
Dry Sprinkler	
1st Floor Use:	
Class	
Frame Type	
Plumbing	
Ceiling	
Group	
Wall Height	
Adjustment	

Building Photo

Building Layout



this building has backup generator power s

Building Sub-Areas (sq ft)			Legend Legend
Code	**Description**	**Gross Area**	**Living Area**
PHN	TELEPHONE EXCHANGE	165	165
		165	165

Building 6 : Section 1

Year Built: 1980
Living Area: 192
Replacement Cost: $25,996
Building Percent Good: 68
Replacement Cost Less Depreciation: $17,700

Building Attributes : Bldg 6 of 6	
Field	**Description**
STYLE	Telephone Exchange
MODEL	Comm/Ind
Grade	C 1.00
Stories:	1
Occupancy	
Exterior Wall 1	Concrete Block
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Floor Type	
Floor Cover	
Heating Fuel	
Heating Type	
AC Type	
As Built Use	
Bldg Use	Exempt Commercial
# of Bedrooms	
Total Baths	
Type	
Wet Sprinkler	
Dry Sprinkler	
1st Floor Use:	
Class	
Frame Type	
Plumbing	
Ceiling	
Group	
Wall Height	
Adjustment	

Building Photo

Building Layout

Building Sub-Areas (sq ft)			Legend Legend
Code	**Description**	**Gross Area**	**Living Area**
PHN	TELEPHONE EXCHANGE	192	192
		192	192

Extra Features

Extra Features	LegendLegend
No Data for Extra Features	

Land

Land Use

Use Code	902
Description	Exempt Commercial
Zone	R-20
Neighborhood	
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	11.7
Frontage	
Depth	
Assessed Value	$240,100
Appraised Value	$343,000

Outbuildings

Outbuildings						LegendLegend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
CP16	Chn Link Fence 6' hght			100 LF	$700	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$217,700	$343,000	$560,700
2016	$217,700	$343,000	$560,700
2015	$165,500	$313,100	$478,600

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$152,390	$240,100	$392,490
2016	$152,390	$240,100	$392,490
2015	$115,850	$219,170	$335,020

November 30,2018

Dear Customer:

The following is the proof-of-delivery for tracking number **773841437163**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Guard/Security Station
Signed for by:	M.WALTER	**Delivery location:**	8051 CONGRESS AVENUE BOCA RATON, FL 33487
Service type:	FedEx First Overnight	**Delivery date:**	Nov 30, 2018 08:05
Special Handling:	Deliver Weekday No Signature Required		

Shipping Information:

Tracking number:	773841437163	**Ship date:**	Nov 29, 2018
		Weight:	0.5 lbs/0.2 kg

Recipient:
Carla Shorter
SBA Communications Corp.
8051 Congress Avenue
BOCA RATON, FL 33487 US

Shipper:
Rodney Joujoute
Smartlink LLC
85 Rangeway Road
Bldg. 3 - Suite 102
North Billerica, MA 01862 US

Reference
MAL05057/10072394

Thank you for choosing FedEx.

November 30,2018

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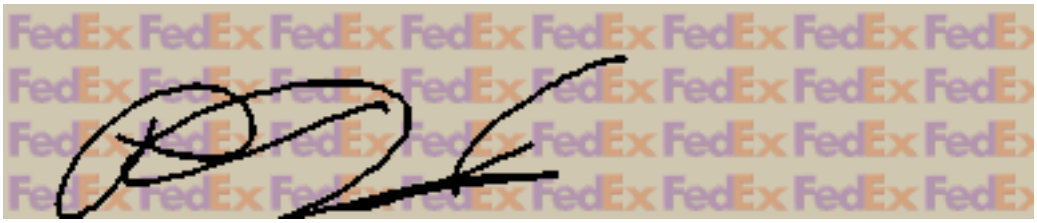
Delivery Information:

Status:	Delivered	**Delivered to:**	Mailroom
Signed for by:	R.RIZZIO	**Delivery location:**	50 S MAIN ST WEST HARTFORD, CT 06107
Service type:	FedEx First Overnight	**Delivery date:**	Nov 30, 2018 07:46
Special Handling:	Deliver Weekday No Signature Required		



Shipping Information:

Tracking number:	773841353053	**Ship date:**	Nov 29, 2018
		Weight:	0.5 lbs/0.2 kg

Recipient:
Shari Cantor
City of West Hartford
50 South Main St
WEST HARTFORD, CT 06107 US

Shipper:
Rodney Joujoute
Smartlink LLC
85 Rangeway Road
Bldg. 3 - Suite 102
North Billerica, MA 01862 US

Thank you for choosing FedEx.

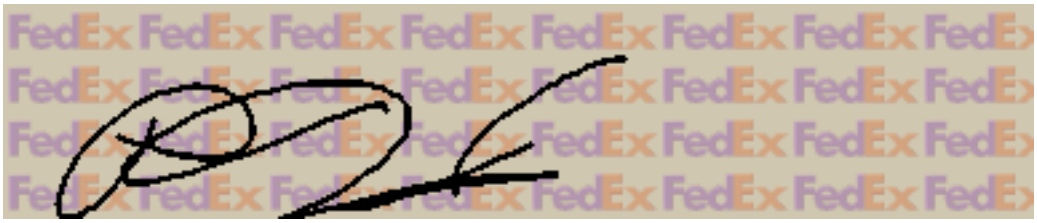
November 30,2018

Dear Customer:

The following is the proof-of-delivery for tracking number **773841416978**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Mailroom
Signed for by:	R.RIZZIO	**Delivery location:**	50 S MAIN ST WEST HARTFORD, CT 06107
Service type:	FedEx First Overnight	**Delivery date:**	Nov 30, 2018 07:46
Special Handling:	Deliver Weekday No Signature Required		



Shipping Information:

Tracking number:	773841416978	**Ship date:**	Nov 29, 2018
		Weight:	0.5 lbs/0.2 kg

Recipient:
Tim Mikloiche
West Hartford Town Hall
50 South Main Street, Room 208
WEST HARTFORD, CT 06107 US

Shipper:
Rodney Joujoute
Smartlink LLC
85 Rangeway Road
Bldg. 3 - Suite 102
North Billerica, MA 01862 US

Thank you for choosing FedEx.