EMPIRE telecom
A QualTek Company

March 3, 2017

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

RE: NOTICE OF EXEMPT MODIFICATION
577 Bell Street, Glastonbury, CT 06033

Dear Ms. Bachman:

Enclosed please find and original and two (2) copies of a Notice of Exempt Modification including drawings and a check in the amount of six hundred twenty five ($625.00) for the filing fee. In addition, I have included a single copy of each notification letter mailed this day to the municipality, the Glastonbury Building Official/Zoning Enforcement Officer, the owner of the property and the owner of the tower.

I will submit copies of the structural analysis and the RF table to you via e mail this day.

Please feel free to contact me with any questions or comments. Thank you for your kind cooperation in this matter.

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

Enclosures

EMPIRE telecom
A QualTek Company

Jack Andrews
Zoning Manager, Empire Telecom o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

March 3, 2017

Tracy Worthington
577 Bell Street, LLC
499 Bell Street,
Glastonbury, CT 06033

RE: AT&T Wireless Modifications to Telecommunication Facility –
577 Bell Street, Glastonbury, CT 06033

Dear Ms. Worthington:

AT&T Wireless currently maintains nine (9) antennas at the 90 foot level of an existing 104 foot tall lattice tower located at 577 Bell Street, in Glastonbury, CT. The tower is owned by InSite Wireless Group (successor to Cox Communications). The property is owned by 577 Bell St., LLC.

AT&T Wireless now seeks to replace three (3) antennas and relocate three (3) antennas at the 90 foot level, as well as install three (3) new RRUS32 B2 remote radio heads to be mounted behind the antennas, and relocate three (3) existing RRU-11 units adjoining the antennas at the 90 foot level. For structural reasons, the Applicant also proposes to add three (3) new sector frames to replace the existing antenna mounts. In addition to the nine (9) antennas referenced above, three (3) unused antennas will be removed from the 90 foot level.

This letter is intended to serve as the required notice to the property owner. As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

EMPIRE telecom
A QualTek Company

The enclosed letter to the CSC fully describes AT&T's proposal for the above referenced site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-677-0144 or contact Melanie Bachman, Acting Executive Director of the CSC at 860-872-2935.

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

Enclosures

cc: Melanie Bachman, Connecticut Siting Council

EMPIRE telecom
A QualTek Company

Jack Andrews
Zoning Manager, Empire Telecom o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

March 3, 2017

Mikala Mann, Collocation Coordinator
InSite Wireless Group
1199 North Fairfax Street, Suite 700
Alexandria, VA 22314

RE: AT&T Wireless Modifications to Telecommunication Facility –
577 Bell Street, Glastonbury, CT 06033

Dear Ms. Mann:

AT&T Wireless currently maintains nine (9) antennas at the 90 foot level of an existing 104 foot tall lattice tower located at 577 Bell Street, in Glastonbury, CT. The tower is owned by InSite Wireless Group (successor to Cox Communications). The property is owned by 577 Bell St., LLC.

AT&T Wireless now seeks to replace three (3) antennas and relocate three (3) antennas at the 90 foot level, as well as install three (3) new RRUS32 B2 remote radio heads to be mounted behind the antennas, and relocate three (3) existing RRU-11 units adjoining the antennas at the 90 foot level. For structural reasons, the Applicant also proposes to add three (3) new sector frames to replace the existing antenna mounts. In addition to the nine (9) antennas referenced above, three (3) unused antennas will be removed from the 90 foot level.

This letter is intended to serve as the required notice to the Tower owner. As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

EMPIRE telecom
A QualTek Company

The enclosed letter to the CSC fully describes AT&T's proposal for the above referenced site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-286-4006 or contact Melanie Bachman, Acting Executive Director of the CSC at 860-872-2935.

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

Enclosures

cc: Melanie Bachman, Connecticut Siting Council

EMPIRE telecom
A QualTek Company

Jack Andrews
Zoning Manager, Empire Telecom o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

March 3, 2017

Richard Johnson, Glastonbury Town Manager
Glastonbury Town Hall
2155 Main Street
PO Box 6523
Glastonbury, CT 06033

RE: AT&T Wireless Modifications to Telecommunication Facility –
577 Bell Street, Glastonbury, CT 06033

Dear Mr. Johnson:

AT&T Wireless currently maintains nine (9) antennas at the 90 foot level of an existing 104 foot tall lattice tower located at 577 Bell Street, in Glastonbury, CT. The tower is owned by InSite Wireless Group (successor to Cox Communications). The property is owned by 577 Bell St., LLC.

AT&T Wireless now seeks to replace three (3) antennas and relocate three (3) antennas at the 90 foot level, as well as install three (3) new RRUS32 B2 remote radio heads to be mounted behind the antennas, and relocate three (3) existing RRU-11 units adjoining the antennas at the 90 foot level. For structural reasons, the Applicant also proposes to add three (3) new sector frames to replace the existing antenna mounts. In addition to the nine (9) antennas referenced above, three (3) unused antennas will be removed from the 90 foot level.

This letter is intended to serve as the required notice to the municipality. As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

EMPIRE telecom
A QualTek Company

The enclosed letter to the CSC fully describes AT&T's proposal for the above referenced site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-286-4006 or contact Melanie Bachman, Acting Executive Director of the CSC at 860-872-2935.

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

Enclosures

cc: Melanie Bachman, Connecticut Siting Council

EMPIRE telecom
A QualTek Company

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

March 3, 2017

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

NOTICE OF EXEMPT MODIFICATION
577 Bell Street, Glastonbury, CT 06033

Lat: 41-44-1.11 (41.73364167)
Long. 72-32-58.84 (-72.54967778)

Dear Ms. Bachman:

AT&T Wireless currently maintains nine (9) antennas at the 90 foot level of an existing 104 foot tall lattice tower located at 577 Bell Street, in Glastonbury, CT. The tower is owned by InSite Wireless Group (successor to Cox Communications). The property is owned by 577 Bell St., LLC. AT&T Wireless now seeks to replace three (3) antennas and relocate three (3) antennas at the 90 foot level, as well as install three (3) new RRUS32 B2 remote radio heads to be mounted behind the antennas, and relocate three (3) existing RRU-11 units adjoining the antennas at the 90 foot level. For structural reasons, the Applicant also proposes to add three (3) new sector frames to replace the existing antenna mounts. In addition to the nine (9) antennas referenced above, three (3) unused antennas will be removed from the 90 foot level.

The facility was approved by the Connecticut Siting Council in EM-AT&T-054-140127 on February 14, 2014. Five (5) conditions were enumerated in the Council's decision: 1) Any deviation from the modification as specified in the Notice and supporting documentation shall render the acknowledgement invalid: 2) Any material changes to the modification as proposed shall require the filing of a new Notice with the Council; 3) Not less than 45 days after the completion of construction the Council shall be notified in writing that the construction has been completed; 4) the validity of the action shall expire one year from the date of the letter; and 5) the applicant may request an extension of time beyond the one year deadline provided that such a request is submitted to the Council not less than 60 days prior to the expiration.

The proposed modifications are minimal and will be in compliance with any prior conditions of approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies section 16-50j-73 for construction that constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2). In accordance with RCSA section 16-50j-73, a copy of this letter and attachments is being sent

to Richard Johnson, the Town Manager of the Town of Glastonbury; as well as InSite Wireless Group (the successor to Cox Communications) , the tower owner; and to 577 Bell Street LLC, the property owner. In addition, a copy is being sent to Peter Carey, the Building Official/Zoning Enforcement Officer for the Town of Glastonbury.

The planned modifications to the facility fall squarely within those activities expressly provided for in RCSA section 50j-72(b)(2).

1. The proposed modifications will not result in an increase in height of the existing structure.
2. The proposed modifications will not require an extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that will exceed state and local limits.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

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

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

cc: Richard Johnson, Glastonbury Town Manager - as Notification to Municipality
InSite Wireless Group - as Tower Owner
577 Bell St., LLC - as Property Owner
Peter Carey, the Building Official/Zoning Enforcement Officer - as Notification to Municipal Planning

EMPIRE telecom
A QualTek Company

Jack Andrews
Zoning Manager, Empire Telecom o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144

March 3, 2017

Peter Carey, the Building Official/Zoning Enforcement Officer
Glastonbury Town Hall
2155 Main Street
PO Box 6523
Glastonbury, CT 06033

RE: AT&T Wireless Modifications to Telecommunication Facility –
577 Bell Street, Glastonbury, CT 06033

Dear Mr. Carey:

AT&T Wireless currently maintains nine (9) antennas at the 90 foot level of an existing 104 foot tall lattice tower located at 577 Bell Street, in Glastonbury, CT. The tower is owned by InSite Wireless Group (successor to Cox Communications). The property is owned by 577 Bell St., LLC.

AT&T Wireless now seeks to replace three (3) antennas and relocate three (3) antennas at the 90 foot level, as well as install three (3) new RRUS32 B2 remote radio heads to be mounted behind the antennas, and relocate three (3) existing RRU-11 units adjoining the antennas at the 90 foot level. For structural reasons, the Applicant also proposes to add three (3) new sector frames to replace the existing antenna mounts. In addition to the nine (9) antennas referenced above, three (3) unused antennas will be removed from the 90 foot level.

This letter is intended to serve as the required notice to the Glastonbury Building Inspection/Zoning Enforcement Office. As required by the Regulations of Connecticut State Agencies ("RCSA") section 16-50j-73, the Connecticut Siting Council ("CSC") has been notified of the proposed changes and will review AT&T's proposal. Please accept this letter as notification under RCSA section 16-50j-73 of construction which constitutes an exempt modification pursuant to RCSA section 16-50j-72(b)(2).

EMPIRE telecom
A QualTek Company

The enclosed letter to the CSC fully describes AT&T's proposal for the above referenced site. However, if you have any questions or require any additional information concerning our plans or the CSC procedures, please contact me at 443-286-4007 or contact Melanie Bachman, Acting Executive Director of the CSC at 860-872-2935.

Respectfully submitted,

Jack Andrews
Zoning Manager, Empire Telecom
o/b/o AT&T Wireless
10130 Donleigh Drive
Columbia, MD 21046
443-677-0144
jandrews@empiretelecomm.com

Enclosures

cc: Melanie Bachman, Connecticut Siting Council

Radio Frequency Emissions Analysis Report

AT&T Existing Facility

Site ID: CT1245

Glastonbury - Bell St
577 Bell Street
Glastonbury, CT 6033

February 21, 2017

Centerline Communications Project Number: 950006-036

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**28.71 %**

February 21, 2017

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

Emissions Analysis for Site: **CT1245 – Glastonbury - Bell St**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed AT&T facility located at **577 Bell Street, Glastonbury, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (μW/cm2). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

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

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were performed for the proposed AT&T Wireless antenna facility located at **577 Bell Street, Glastonbury, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

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

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
UMTS	850 MHz	2	30
UMTS	1900 MHz (PCS)	2	30
LTE	700 MHz	2	60
LTE	1900 MHz (PCS)	2	60
GSM	850 MHz	2	30
GSM	1900 MHz (PCS)	2	30

Table 1: Channel Data Table

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

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Kathrein 800-10121	90
A	2	CCI HPA-65R-BUU-H8	90
A	3	KMW AM-X-CD-16-65-00T-RET	90
B	1	Kathrein 800-10121	90
B	2	CCI HPA-65R-BUU-H6	90
B	3	CCI SBNH-1D6565C	90
C	1	Kathrein 800-10121	90
C	2	CCI HPA-65R-BUU-H8	90
C	3	CCI P65-17-XLH-RR	90

Table 2: Antenna Data

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

RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	1.59
Antenna A2	CCI HPA-65R-BUU-H8	700 MHz / 1900 MHz (PCS)	13.15 / 14.95	4	240	6,229.75	4.62
Antenna A3	KMW AM-X-CD-16-65-00T-RET	850 MHz / 1900 MHz (PCS)	13.85 / 15.25	4	120	3,465.76	2.33
						Sector A Composite MPE%	**8.53**
Antenna B1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	1.59
Antenna B2	CCI HPA-65R-BUU-H6	700 MHz / 1900 MHz (PCS)	11.95 / 14.75	4	240	5,462.56	3.88
Antenna B3	CCI SBNH-1D6565C	850 MHz / 1900 MHz (PCS)	14.45 / 15.85	4	120	3,979.22	2.68
						Sector B Composite MPE%	**8.14**
Antenna C1	Kathrein 800-10121	850 MHz / 1900 MHz (PCS)	11.45 / 14.35	4	120	2,471.44	1.59
Antenna C2	CCI HPA-65R-BUU-H8	700 MHz / 1900 MHz (PCS)	13.15 / 14.95	4	240	6,229.75	4.62
Antenna C3	CCI P65-17-XLH-RR	850 MHz / 1900 MHz (PCS)	15.1 / 15.1	4	120	3,883.12	2.73
						Sector C Composite MPE%	**8.93**

Table 3: AT&T Emissions Levels

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

Site Composite MPE%	
Carrier	**MPE%**
AT&T – Max Sector Value	**8.93 %**
Town	0.02 %
Clearwire	0.77 %
T-Mobile	11.06 %
Cox	1.90 %
Verizon Wireless	6.03 %
Site Total MPE %:	**28.71 %**

Table 4: All Carrier MPE Contributions

AT&T Sector A Total:	8.53 %
AT&T Sector B Total:	8.14 %
AT&T Sector C Total:	8.93 %
Site Total:	28.71 %

Table 5: Site MPE Summary

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

AT&T _ Frequency Band / Technology (Sector C)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	418.91	90	4.27	850 MHz	567	0.75%
AT&T 1900 MHz (PCS) UMTS	2	816.81	90	8.32	1900 MHz (PCS)	1000	0.83%
AT&T 700 MHz LTE	2	1,239.23	90	12.63	700 MHz	467	2.70%
AT&T 1900 MHz (PCS) LTE	2	1,875.65	90	19.11	1900 MHz (PCS)	1000	1.91%
AT&T 850 MHz GSM	2	970.78	90	9.89	850 MHz	567	1.74%
AT&T 1900 MHz (PCS) GSM	2	970.78	90	9.89	1900 MHz (PCS)	1000	0.99%
						Total:	8.93%

Table 6: AT&T Maximum Sector MPE Power Values

Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	8.53 %
Sector B:	8.14 %
Sector C:	8.93 %
AT&T Maximum Total (per sector):	8.93 %
Site Total:	28.71 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **28.71 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Scott Heffernan
RF Engineering Director
Centerline Communications, LLC
95 Ryan Drive, Suite 1
Raynham, MA 02767

SITE NAME: GLASTONBURY - BELL ST
PROJECT LTE 2C
FA NUMBER: 10050975
SITE NUMBER: CT1245
577 BELL STREET
GLASTONBURY, CT 06033
GLASTONBURY COUNTY

PROJECT TEAM

CLIENT REPRESENTATIVE

COMPANY:	EMPIRE TELECOM
ADDRESS:	16 ESQUIRE ROAD
CITY, STATE, ZIP:	BILLERICA, MA 01862
CONTACT:	DAVID COOPER
E-MAIL:	DCOOPER@EMPIRETELCOMM.COM

ENGINEER

COMPANY:	MASER CONSULTING CONNECTICUT
ADDRESS:	331 NEWMAN SPRINGS ROAD, SUITE 203
CITY, STATE, ZIP:	RED BANK, NJ 07701
CONTACT:	FRANK PAZDEN
PHONE:	(856) 797-0412 x4505
E-MAIL:	FPAZDEN@MASERCONSULTING.COM

RF ENGINEER

COMPANY:	NEW CINGULAR WIRELESS PCS, LLC
ADDRESS:	550 COCHITUATE ROAD
CITY, STATE, ZIP:	FRAMINGHAM, MA 01701
CONTACT:	MD MATEEN
E-MAIL:	MM093Q@US.ATT.COM

SITE INFORMATION

APPLICANT/LESSEE

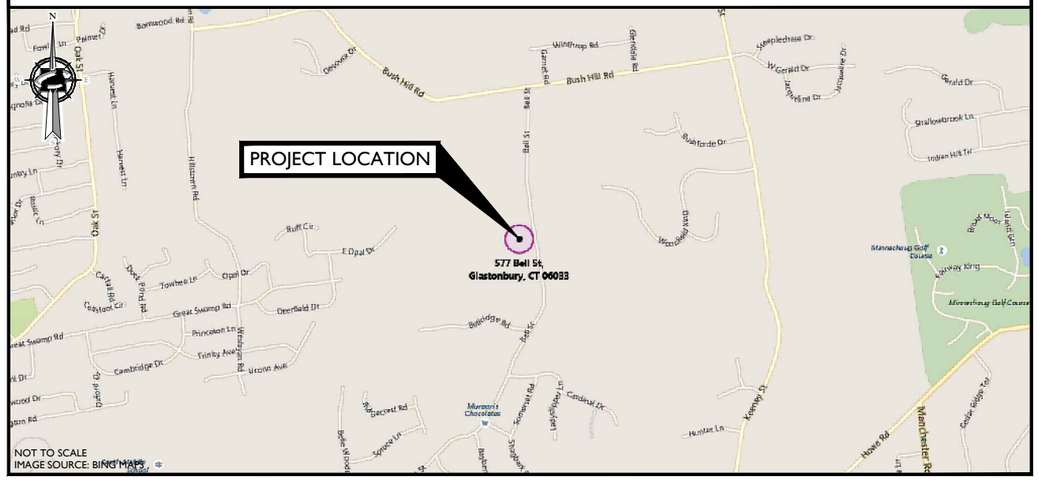
at&t

NEW CINGULAR WIRELESS PCS, LLC
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

PROPERTY OWNER:

NAME:	INSITE WIRELESS GROUP, LLC
ADDRESS:	1199 N. FAIRFAX STREET, SUITE 700
CITY, STATE, ZIP:	ALEXANDRIA, VA 22314
LATITUDE:	41.7336281° N
LONGITUDE:	72.54968° W
LAT./LONG. TYPE:	NAD 83
AREA OF CONSTRUCTION:	TELECOMMUNICATIONS EQUIPMENT SHELTER AND TOWER
ZONING/JURISDICTION:	NATIONAL, STATE & LOCAL CODES OR ORDINANCES
CURRENT/PROPOSED USE:	UNMANNED TELECOMMUNICATIONS FACILITY
HANDICAP REQUIREMENTS:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED.
CONSTRUCTION TYPE:	IIB
USE GROUP:	U

VICINITY MAP



NOT TO SCALE
IMAGE SOURCE: BING MAPS

DRIVING DIRECTIONS

DIRECTIONS FROM AT&T OFFICE AT 550 COCHITUATE ROAD, FARMINGHAM, MA:

DEPART RT-30 W / COCHITUATE RD TOWARD BURR ST. TURN BACK ON RT-30 E / COCHITUATE RD. TAKE RAMP RIGHT FOR I-90 WEST TOWARD WORCESTER / SPRINGFIELD. AT EXIT 9, TAKE RAMP RIGHT FOR I-84 TOWARD NEW YORK CITY / HARTFORD. AT EXIT 59, TAKE RAMP RIGHT FOR I-384 EAST TOWARD SILVER LINE. BEAR LEFT ONTO SPENCER ST. TURN RIGHT ONTO HILLSTOWN RD. TURN LEFT ONTO BUSH HILL RD. TURN RIGHT ONTO BELL ST. IN 0.4 MILES ARRIVE AT SITE.

CODE COMPLIANCE

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

1. CONNECTICUT STATE BUILDING CODE (2016) & ALL SUBSEQUENT AMENDMENTS
2. NATIONAL ELECTRIC CODE 2014
3. NATIONAL FIRE PROTECTION ASSOCIATION 70 - 2014
4. LIGHTNING PROTECTION CODE 201
5. AMERICAN CONCRETE INSTITUTE 318
6. AMERICAN INSTITUTE OF STEEL CONSTRUCTION 360-10
7. EIA/TIA-222 REVISION G
8. TIA 607 FOR GROUNDING
9. INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS 81
10. IEEE C2 LATEST EDITION
11. TELCORDIA GR-1275
12. ANSI T1.311

GENERAL CONTRACTOR NOTES

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

SHEET	DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES
A-1	COMPOUND PLAN AND EQUIPMENT PLAN
A-2	ELEVATION VIEW, ANTENNA SCHEDULE AND DETAILS
A-3	ANTENNA LAYOUT
A-4	DETAILS
A-5	DETAILS
A-6	RF PLUMBING DIAGRAMS
G-1	GROUNDING DETAILS

PROJECT DESCRIPTION/SCOPE OF WORK

THIS PROJECT WILL BE COMPRISED OF:

- ADD (3) NEW AT&T PANEL ANTENNAS TO REPLACE (3) EXISTING ANTENNAS, (1) PER SECTOR
- ADD (3) NEW RRUS-32 B2, (1) PER SECTOR
- RELOCATE (3) EXISTING RRUS-11, (1) PER SECTOR
- UPGRADE DUL TO DUS
- ADD XMU
- ADD (3) NEW SECTOR FRAMES TO REPLACE (3) EXISTING ANTENNA MOUNTS, (1) PER SECTOR
- REMOVE ALL INACTIVE AT&T ANTENNAS

MASER CONSULTING
—CONNECTICUT—

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

EMPIRE telecom

16 ESQUIRE ROAD
BILLERICA, MA 01862

at&t

NEW CINGULAR WIRELESS PCS, LLC
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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

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

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

SCALE : AS SHOWN	JOB NUMBER : 16963028A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
0	02/14/17	FOR CONSTRUCTION	RA	FEP
A	02/06/17	ISSUED FOR REVIEW	AJC	MPC

FRANK E. PAZDEN
CONNECTICUT PROFESSIONAL
ENGINEER - LICENSE NUMBER: PEN.28188

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

SITE NAME:

GLASTONBURY - BELL ST
CT1245

577 BELL STREET
GLASTONBURY, CT 06033
HARTFORD COUNTY

RED BANK OFFICE
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5699
Phone: 732.383.1950
Fax: 732.383.1984

SHEET TITLE :
TITLE SHEET

SHEET NUMBER :
T-1

GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5O HMS OR LESS.
4. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
5. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
6. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
7. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE EQUIPMENT GROUND RING WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
8. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
9. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
10. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
11. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. ALL BENDS SHALL BE MADE WITH 12" RADIUS OR LARGER.
12. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
13. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS EXCEPT FOR GROUND BAR CONNECTION FROM MGB TO OUTSIDE EXTERIOR GROUND SHALL ALL BE CADWELD CONNECTIONS.
14. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
15. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED TO THE TOWER GROUND BAR.
16. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
17. ALL EXTERIOR AND INTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
18. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
19. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND WIRES WITH 1-#2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
20. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G. NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
21. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/4" IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50.
22. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

    CONTRACTOR - EMPIRE TELECOM
    SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
    OWNER - AT&T (NEW CINGULAR WIRELESS PCS, LLC)

23. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
24. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
25. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
26. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
27. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
28. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
29. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
30. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
31. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
32. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE RESPONSIBLE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
33. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED 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.
34. 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.
35. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
36. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
37. THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
38. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
39. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
40. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
41. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
42. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR.
43. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
44. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
45. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS.
46. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
47. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
48. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
49. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION, ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
50. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN ALERT OF DANGEROUS EXPOSURE LEVELS.

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

EMPIRE telecom
16 ESQUIRE ROAD
BILLERICA, MA 01862

at&t
NEW CINGULAR WIRELESS PCS, LLC
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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

SCALE : AS SHOWN
JOB NUMBER : 16963028A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	02/14/17	FOR CONSTRUCTION	RA	FEP
A	02/06/17	ISSUED FOR REVIEW	AJC	MPC

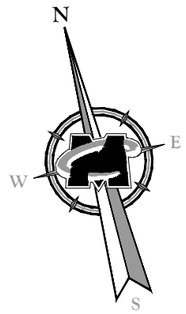
STATE OF CONNECTICUT — FRANK E. PAZDEN — LICENSED PROFESSIONAL ENGINEER
FRANK E. PAZDEN
CONNECTICUT LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: PEN.28[illegible]

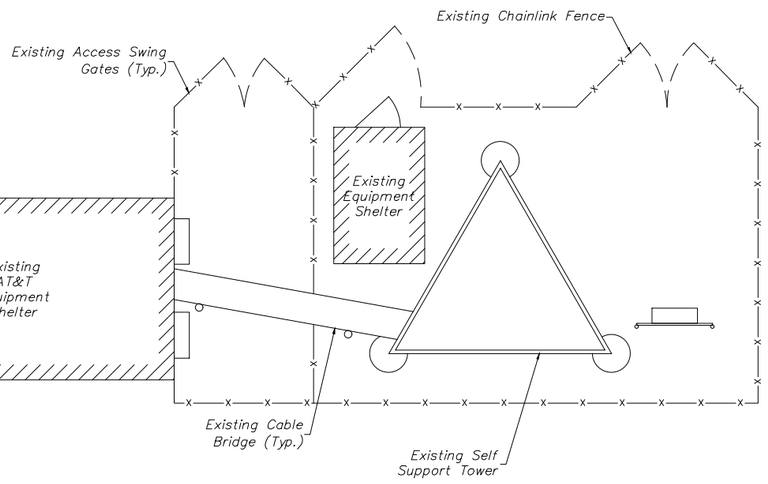
SITE NAME:
GLASTONBURY - BELL ST
CT1245
577 BELL STREET
GLASTONBURY, CT 06033
HARTFORD COUNTY

RED BANK OFFICE
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5699
Phone: 732.383.1950
Fax: 732.383.1984

SHEET TITLE : GENERAL NOTES

SHEET NUMBER : GN-1





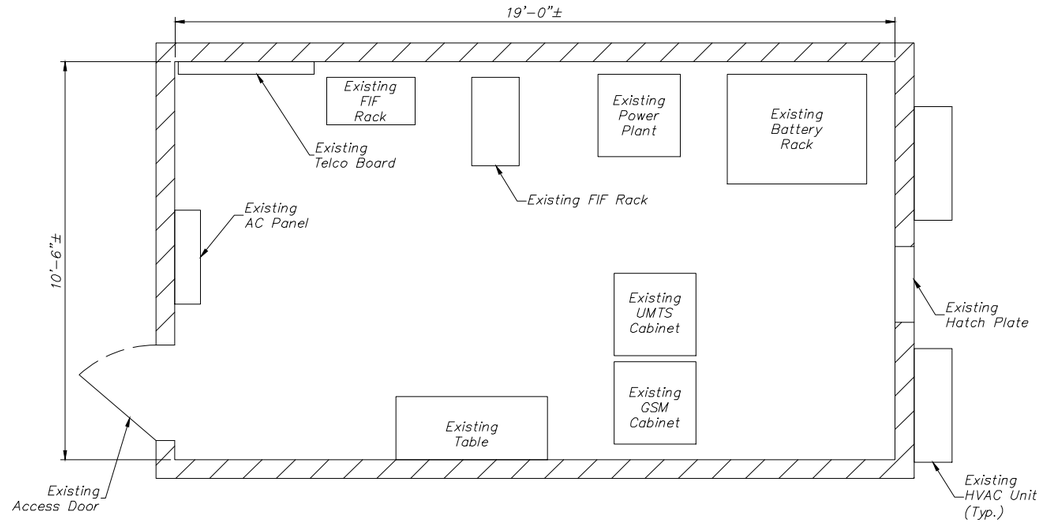
COMPOUND PLAN

GRAPHIC SCALE

5 0 2.5 5 10

(IN FEET)

SCALE: 1" = 5' FOR 24"X36" DRAWINGS
(DO NOT SCALE 11"X17" DRAWINGS)



EQUIPMENT UPGRADE:

- UPGRADE DUL TO DUS
- ADD XMU

EQUIPMENT PLAN

GRAPHIC SCALE

2 0 1 2 4

(IN FEET)

SCALE: 1" = 2' FOR 24"X36" DRAWINGS
(DO NOT SCALE 11"X17" DRAWINGS)

MASER CONSULTING CONNECTICUT

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

EMPIRE telecom

16 ESQUIRE ROAD
BILLERICA, MA 01862

at&t

NEW CINGULAR WIRELESS PCS, LLC
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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

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

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

SCALE : AS SHOWN

JOB NUMBER : 16963028A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	02/14/17	FOR CONSTRUCTION	RA	FEP
A	02/06/17	ISSUED FOR REVIEW	AJC	MPC

STATE OF CONNECTICUT · FRANK E. PAZDEN · 30 · LICENSED PROFESSIONAL ENGINEER

FRANK E. PAZDEN
CONNECTICUT LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: PEN.28[illegible]

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

SITE NAME:

GLASTONBURY - BELL ST
CT1245

577 BELL STREET
GLASTONBURY, CT 06033
HARTFORD COUNTY

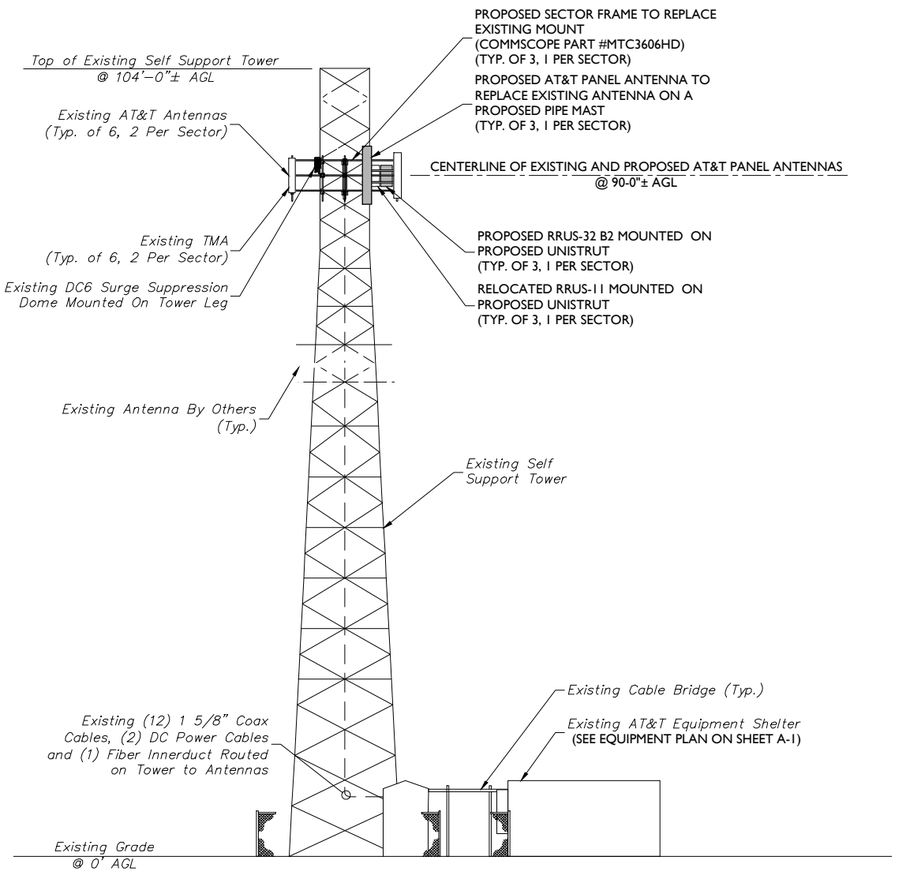
RED BANK OFFICE
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5699
Phone: 732.383.1950
Fax: 732.383.1984

SHEET TITLE :
COMPOUND PLAN AND EQUIPMENT PLAN

SHEET NUMBER :
A-1

NOTE:

IF CRSF EXISTS, REMOVE AND PLUM STRAIGHT



ELEVATION VIEW

GRAPHIC SCALE

10 0 5 10 20

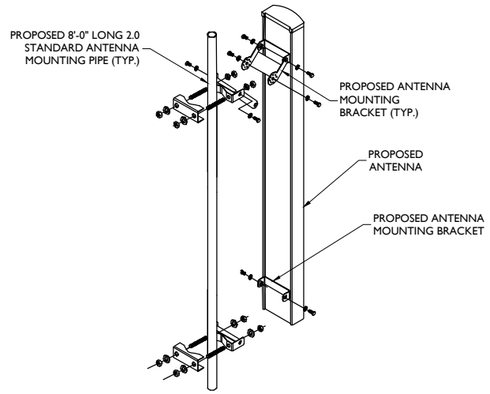
(IN FEET)

SCALE: 1" = 10' FOR 24"X36" DRAWINGS
(DO NOT SCALE 11"X17" DRAWINGS)

PROPOSED ANTENNA AND RRUS CONFIGURATION

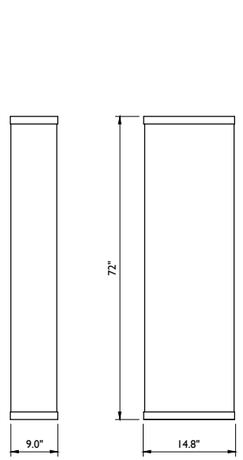
SECTOR		EXISTING ANTENNA CONFIGURATION	PROPOSED ANTENNA CONFIGURATION	TECHNOLOGY	ANTENNA STATUS	HEIGHT (in)	WIDTH (in)	DEPTH (in)	WEIGHT (lbs)	ANTENNA AZIMUTH	ANT. CL. ELEV (ft.)	RRUS CONFIGURATION	STATUS
ALPHA	A1	DUO1417-8686 (REMOVE)	Kathrein 80010121	UMTS 850/1900	RELOCATED	54.50	10.30	5.90	44.10	143°	90.0'	-	-
	B2	Kathrein 80010121	**CCI HPA-65R-BUU-H6**	**LTE 700/1900**	**NEW**	**72.00**	**14.80**	**9.00**	**50.70**	**143°**	**90.0'**	*(1) RRUS-11* **(1) RRUS-32 B2**	*REMAIN* **NEW**
	A4	DUO1417-8686 (REMOVE)	KMW AM-X-CD-16-65-OOT-RET	GSM 850/1900	RELOCATED	72.00	11.80	5.90	48.50	143°	90.0'	-	-
BETA	B1	DUO1417-8686 (REMOVE)	Kathrein 80010121	UMTS 850/1900	RELOCATED	54.50	10.30	5.90	46.30	263°	90.0'	-	-
	G2	Kathrein 80010121	**CCI HPA-65R-BUU-H8**	**LTE 700/1900**	**NEW**	**92.40**	**14.80**	**7.40**	**68.00**	**263°**	**90.0'**	*(1) RRUS-11* **(1) RRUS-32 B2**	*REMAIN* **NEW**
	B4	DUO1417-8686 (REMOVE)	Andrew:SBNH-1D6565C	GSM 850/1900	RELOCATED	96.40	11.90	7.10	60.80	263°	90.0'	-	-
GAMMA	G1	DUO1417-8686 (REMOVE)	Kathrein 80010121	UMTS 850/1900	RELOCATED	54.50	10.30	5.90	44.10	23°	90.0'	-	-
	A2	Kathrein 80010121	**CCI HPA-65R-BUU-H8**	**LTE 700/1900**	**NEW**	**92.40**	**14.80**	**7.40**	**68.00**	**23°**	**90.0'**	*(1) RRUS-11* **(1) RRUS-32 B2**	*REMAIN* **NEW**
	G4	DUO1417-8686 (REMOVE)	P65-17-XLH-RR	GSM 850/1900	RELOCATED	96.00	12.00	6.00	70.00	23°	90.0'	-	-

ANTENNA SCHEDULE



ANTENNA MOUNTING DETAIL

NOT TO SCALE

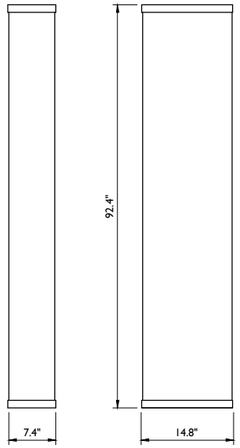


WEIGHT = 50.7 LBS

CCI HPA-65R-BUU-H6

ANTENNA DETAIL

NOT TO SCALE



WEIGHT = 68.0 LBS

CCI HPA-65R-BUU-H8

ANTENNA DETAIL

NOT TO SCALE

STRUCTURAL NOTES:

1. NO CONSTRUCTION OF THE PROPOSED LOADING SHOWN SHALL PROCEED UNTIL ADEQUACY OF THE EXISTING STRUCTURE AND FOUNDATION, INCLUDING THE PROPOSED AT&T ANTENNA MOUNTING CONFIGURATION SHOWN HEREIN, HAS BEEN COMPLETED.
2. THE STRUCTURE ELEVATION IS SHOWN FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT REFLECT AS-BUILT FIELD CONDITIONS FOR ALL EXISTING INVENTORY LOADING/ANTENNAS/APPURTANENCES ON STRUCTURE. REFER TO THE LATEST STRUCTURAL ANALYSIS FOR EXISTING STRUCTURE LOADING AND THE PROPOSED METHOD OF ATTACHMENT OF THE PROPOSED ANTENNAS/CABLES.
3. THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THAT ANY IMPROVEMENTS AND REINFORCEMENTS REQUIRED BY THE STRUCTURAL ANALYSIS CERTIFICATION ARE PROPERLY INSTALLED PRIOR TO THE ADDITION OF ANTENNAS, CABLES, SUPPORTS AND APPURTENANCES PROPOSED ON THESE DRAWINGS OR OTHERWISE NOTED IN THE STRUCTURAL ANALYSIS.

MASER CONSULTING CONNECTICUT

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

EMPIRE telecom

16 ESQUIRE ROAD
BILLERICA, MA 01862

at&t

NEW CINGULAR WIRELESS PCS, LLC
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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

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

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

SCALE : AS SHOWN

JOB NUMBER : 16963028A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	02/14/17	FOR CONSTRUCTION	RA	FEP
A	02/06/17	ISSUED FOR REVIEW	AJC	MPC

STATE OF CONNECTICUT
FRANK E. PAZDEN
10
LICENSED PROFESSIONAL ENGINEER
PROFESSIONAL ENGINEER

FRANK E. PAZDEN
CONNECTICUT LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: PEN.0029

SITE NAME:

GLASTONBURY - BELL ST
CT1245

577 BELL STREET
GLASTONBURY, CT 06033
HARTFORD COUNTY

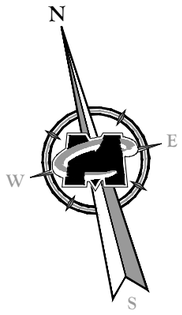
RED BANK OFFICE
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5699
Phone: 732.383.1950
Fax: 732.383.1984

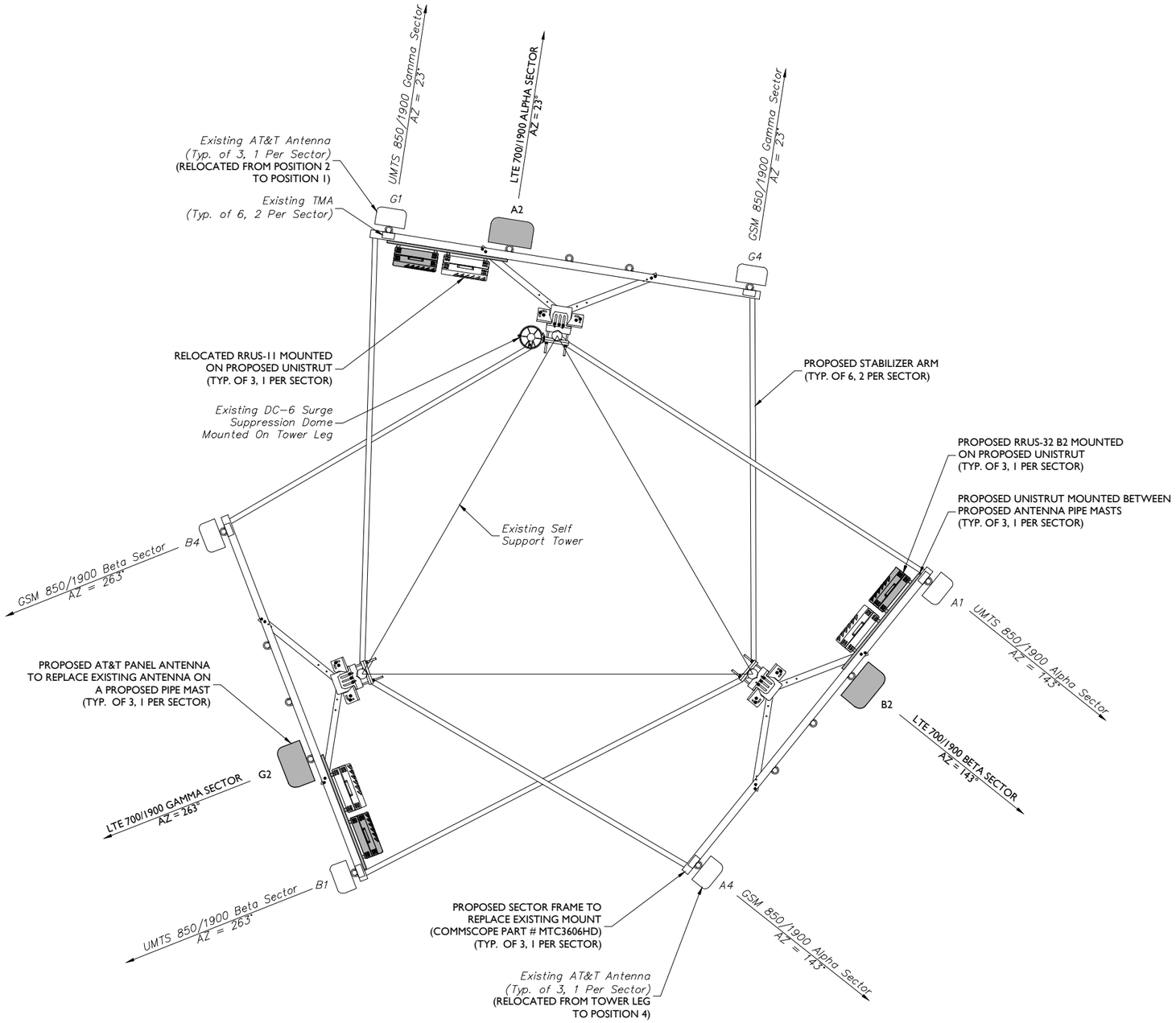
SHEET TITLE :

ELEVATION VIEW AND
ANTENNA SCHEDULE

SHEET NUMBER :

A-2





PROPOSED - ANTENNA LAYOUT

NOT TO SCALE

NOTES:

- IF CRSF EXISTS, REMOVE AND PLUM STRAIGHT
- CONTRACTOR TO REMOVE ALL INACTIVE AT&T ANTENNAS

MASER CONSULTING CONNECTICUT

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

EMPIRE telecom

16 ESQUIRE ROAD
BILLERICA, MA 01862

at&t

NEW CINGULAR WIRELESS PCS, LLC
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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

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

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

SCALE :	JOB NUMBER :
AS SHOWN	16963028A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	02/14/17	FOR CONSTRUCTION	RA	FEP
A	02/06/17	ISSUED FOR REVIEW	AJC	MPC

FRANK E. PAZDEN
CONNECTICUT PROFESSIONAL ENGINEER - LICENSE NUMBER: PEN.0025

SITE NAME:

GLASTONBURY - BELL ST
CT1245

577 BELL STREET
GLASTONBURY, CT 06033
HARTFORD COUNTY

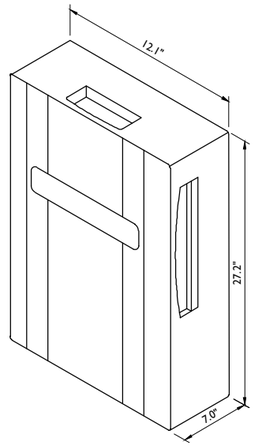
RED BANK OFFICE
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5699
Phone: 732.383.1950
Fax: 732.383.1984

SHEET TITLE :

ANTENNA LAYOUTS

SHEET NUMBER :

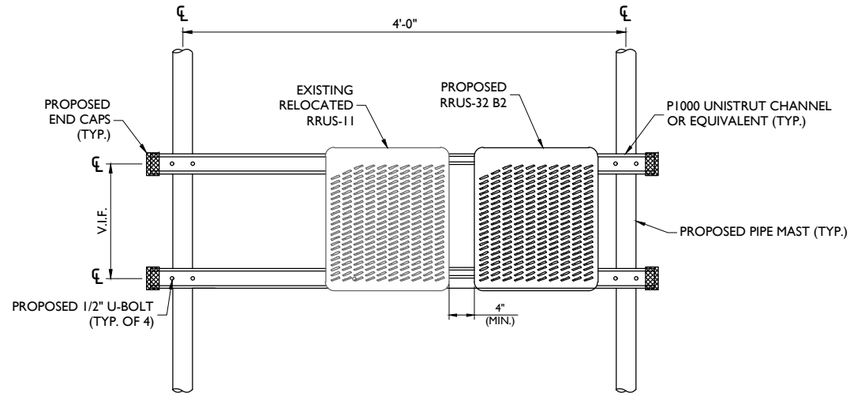
A-3



RRUS-32 B2 DIMENSIONS (H X W X D): 27.2" X 12.1" X 7.0" (INCLUDES SUNSHIELD)
WEIGHT: 53 LBS

RRUS-32 B2 DETAIL

NOT TO SCALE



NOTES:

1. ALL UNISTRUT CHANNELS SHALL BE P1000 UNLESS OTHERWISE NOTED.
2. ALL FIELD CUT ENDS SHALL BE FIELD GALVANIZED ACCORDING TO ATSM-A780.
3. ALL FASTENERS ARE 1/2"Ø. ALL DRILLED HOLES SHALL BE 9/16"Ø.
4. MOUNT RRUS-11 RRUS-32 B2 TO UNISTRUT WITH 3/8"Ø UNISTRUT BOLTING HARDWARE AND SPRING NUTS. TYPICAL FOUR (4) PER DEVICE SUBCONTRACTOR SHALL SUPPLY.
5. NO PAINTING OF THE RRH OR SOLAR SHIELD IS ALLOWED.

RRUS MOUNTING DETAIL

NOT TO SCALE

MASER CONSULTING CONNECTICUT

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

EMPIRE telecom

16 ESQUIRE ROAD
BILLERICA, MA 01862

at&t

NEW CINGULAR WIRELESS PCS, LLC
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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

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

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

SCALE :	JOB NUMBER :
AS SHOWN	16963028A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	02/14/17	FOR CONSTRUCTION	RA	FEP
A	02/06/17	ISSUED FOR REVIEW	AJC	MPC

STATE OF CONNECTICUT
FRANK E. PAZDEN
10
LICENSED PROFESSIONAL ENGINEER

FRANK E. PAZDEN
CONNECTICUT LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: PEN.0025

SITE NAME:

GLASTONBURY - BELL ST
CT1245

577 BELL STREET
GLASTONBURY, CT 06033
HARTFORD COUNTY

RED BANK OFFICE
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5699
Phone: 732.383.1950
Fax: 732.383.1984

SHEET TITLE :

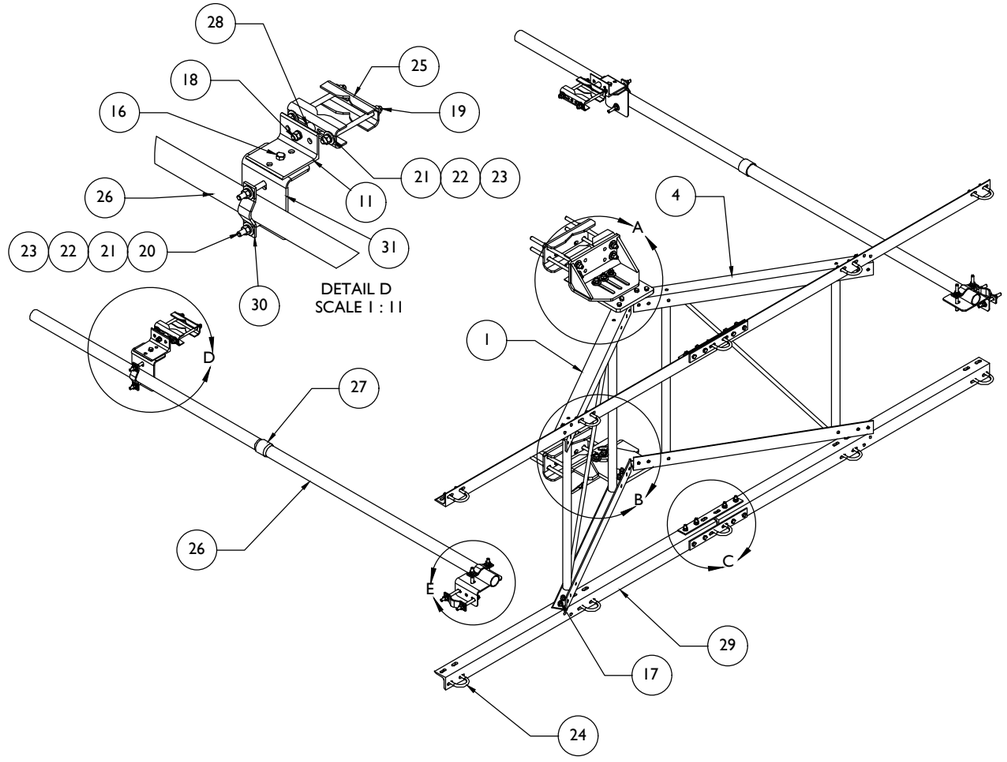
DETAILS

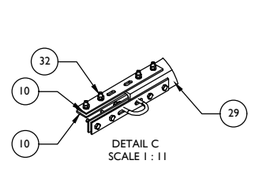
SHEET NUMBER :

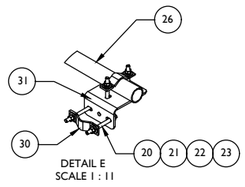
A-4

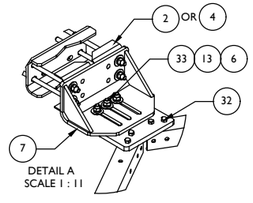
ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	SFQV01	SF-QV Arm Frame Weldment	1	59.92 LBS
2	SFQV12	90 Deg Tower Bracket	2	5.31 LBS
3	SFQV14	60 Deg Tower Bracket	2	5.43 LBS
4	MTC360601	SF-QV Right Arm Frame Weldment	1	59.92 LBS
5	MTC360602	SF-QV Transition Swivel Plate	2	18.40 LBS
6	MTC360603	Taper Plate Bushing	2	0.09 LBS
7	MTC360608	UPPER MOUNT ADJUSTMENT ANGLE	1	28.12 LBS
8	MTC360609	LOWER MOUNT ANGLE WELDMENT	1	24.55 LBS
9	MTC360611	BACK CLAMP	2	11.67 LBS
10	MTC360613	SPLICE PLATE	8	2.04 LBS
11	XA2020.01	CROSS OVER ANGLE	2	2.65 LBS
12	MT-382-14	5/8" X 14" GALV THREADED ROD	8	1.21 LBS
13	GWF-05	5/8" GALV FLAT WASHER	32	0.06 LBS
14	GWL-05	5/8" GALV LOCK WASHER	16	0.03 LBS
15	GN-05	5/8" GALV HEX NUT	22	0.08 LBS
16	GB-04125	1/2" X 1-1/4" GALV BOLT KIT	2	0.12 LBS
17	GB-04145	1/2" X 1-1/2" GALV BOLT KIT	8	0.13 LBS
18	GB-04265	1/2" X 2-3/4" GALV BOLT KIT	2	0.20 LBS
19	MT-379-8	1/2" X 8" GALV THREADED ROD	4	0.44 LBS
20	MT-379-6	1/2" X 6" GALV THREADED ROD	12	0.33 LBS
21	GWF-04	1/2" GALV FLAT WASHER	32	0.03 LBS
22	GWL-04	1/2" GALV LOCK WASHER	32	0.01 LBS
23	GN-04	1/2" GALV HEX NUT	32	0.04 LBS
24	GUB-4240	1/2" X 2-1/2" X 4" GALV U-BOLT	10	0.56 LBS
25	SAB.01	FORMED CLAMP	4	1.35 LBS
26	SAB63.01	2-3/8"O.D. X 64" SCH 40 PIPE NPT 1 END	4	18.98 LBS
27	WT-MPTC	2-3/8" O.D. THREADED PIPE COUPLER	2	1.56 LBS
28	QS15034	3/4" X 1-1/2" OFFSET COLLAR	2	0.14 LBS
29	MTC360612	QV-SF 12' Face Angle	4	42.47 LBS
30	ACP10	1.5" - 3.5" O.D. CLAMP HALF	6	0.61 LBS
31	SABU01	Tie Back Mounting Angle	4	4.05 LBS
32	GB-0420A	1/2" X 2" GALV BOLT KIT (A325)	24	0.16 LBS
33	GB-0524A	5/8" X 2-1/2" GALV BOLT KIT (A325)	6	0.31 LBS

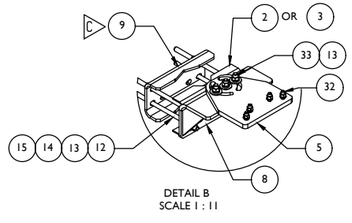
REVISIONS				
REV.	ZONE	DESCRIPTION	BY	DATE
A		INITIAL RELEASE	HC	12/16/13
B		UPDATE DETAILS, NEW SPLICE PLATES, ADD SHEET 4 TWR DETAILS	MSM	02/17/14
C		REPLACE SFQV13 WITH MTC360611	MSM	03/03/14











NOTES:

1. ALL METRIC DIMENSIONS ARE IN BRACKETS.
2. FITS TOWER LEGS UP TO 8" OD, 8" ANGLE 60° OR 6" ANGLE 90°

ALL DIMENSIONS ARE IN INCHES U.O.S.
TOLERANCES UNLESS OTHERWISE SPECIFIED:
.X = ± .12 ANGLES ±2°
.XX = ± .06 FRACTIONS ±1/32
.XXX= ± .03
REMOVE BURRS AND BREAK EDGES .005

DO NOT SCALE THIS PRINT

DRAWN BY: HC	SHEETS: 1 of 4	PART NUMBER: MTC3606HD	
CHECKED BY: TP	SCALE: NTS	DESCRIPTION: Sector Frame Quick-V 12' Face	
DATE: 12/12/13	MATERIAL: A36, A53, A529	DRAWING TYPE: ASSEMBLY DRAWING	
REVISION: C	FINISH: GALV A123	ANDREW®	WESTCHESTER, IL. 60154 U.S.A.
	WEIGHT: 590.20 LBS		

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

EMPIRE telecom

16 ESQUIRE ROAD
BILLERICA, MA 01862

at&t

NEW CINGULAR WIRELESS PCS, LLC
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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

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

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

SCALE:	JOB NUMBER:
AS SHOWN	16963028A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	02/14/17	FOR CONSTRUCTION	RA	FEP
A	02/06/17	ISSUED FOR REVIEW	AJC	MPC

STATE OF CONNECTICUT — FRANK E. PAZDEN — LICENSED PROFESSIONAL ENGINEER

FRANK E. PAZDEN
CONNECTICUT LICENSED PROFESSIONAL ENGINEER - LICENSE NUMBER: PEN.28[illegible]

SITE NAME:

GLASTONBURY - BELL ST
CT1245

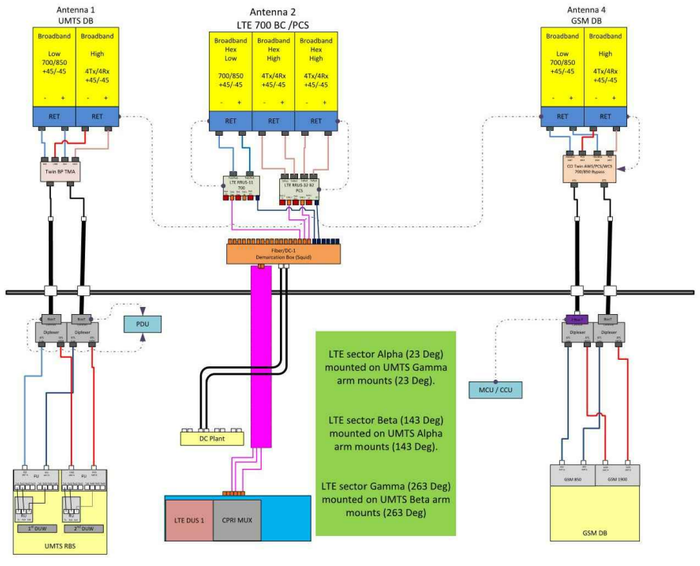
577 BELL STREET
GLASTONBURY, CT 06033
HARTFORD COUNTY

RED BANK OFFICE
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5699
Phone: 732.383.1950
Fax: 732.383.1984

SHEET TITLE:
DETAILS

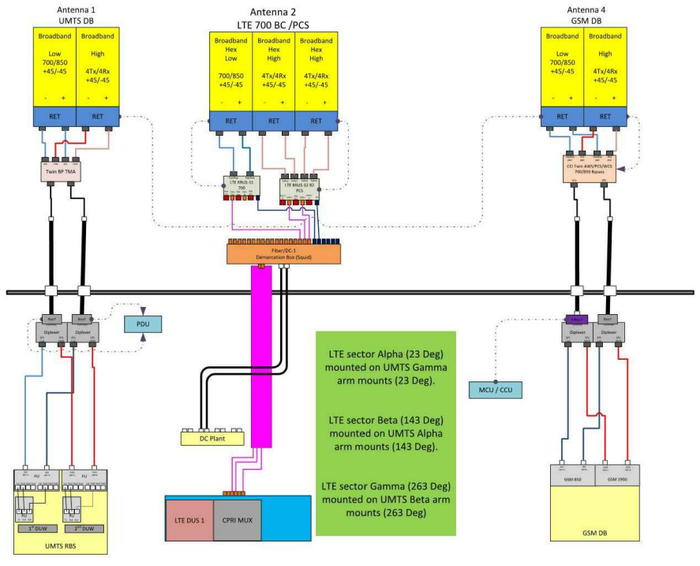
SHEET NUMBER:
A-5

Diagram - Sector: A | Diagram File Name - CT1245_A_B_C_LTE 2C_Brnzstand_Rev1.vsd
Atoll Site Name - CTV1245 | Location Name - GLASTONBURY BELL ST | Market - CONNECTICUT | Market Cluster - NEW ENGLAND
Comments:



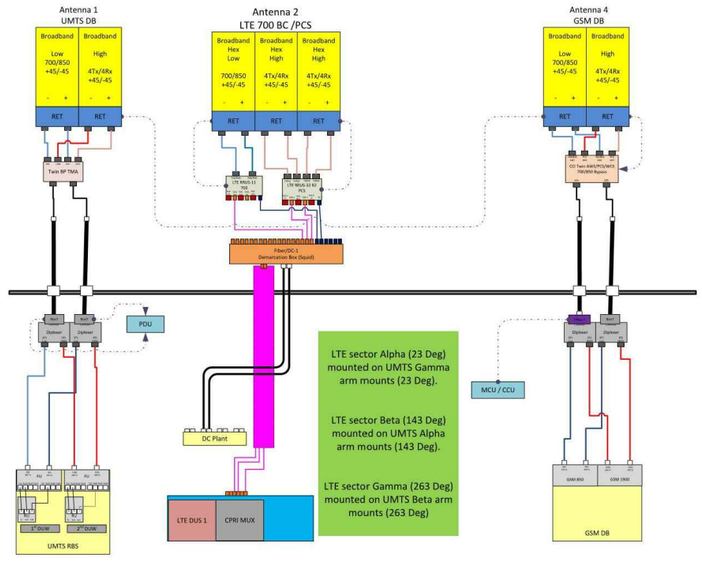
ALPHA SECTOR

Diagram - Sector: B | Diagram File Name - CT1245_A_B_C_LTE 2C_Brnzstand_Rev1.vsd
Atoll Site Name - CTV1245 | Location Name - GLASTONBURY BELL ST | Market - CONNECTICUT | Market Cluster - NEW ENGLAND
Comments:



BETA SECTOR

Diagram - Sector: C | Diagram File Name - CT1245_A_B_C_LTE 2C_Brnzstand_Rev1.vsd
Atoll Site Name - CTV1245 | Location Name - GLASTONBURY BELL ST | Market - CONNECTICUT | Market Cluster - NEW ENGLAND
Comments:



GAMMA SECTOR

NEW-ENGLAND_CONNECTICUT_CTV1245_2017-LTE-Next-Carrier_LTE-2C_mm093q_2051A07A0E_10050975_59445_09-16-2016_Final-Approved_v1.00

RF PLUMBING DIAGRAMS

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

EMPIRE telecom
16 ESQUIRE ROAD
BILLERICA, MA 01862

at&t
NEW CINGULAR WIRELESS PCS, LLC
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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

SCALE : AS SHOWN
JOB NUMBER : 16963028A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
0	02/14/17	FOR CONSTRUCTION	RA	FEP
A	02/06/17	ISSUED FOR REVIEW	AJC	MPC

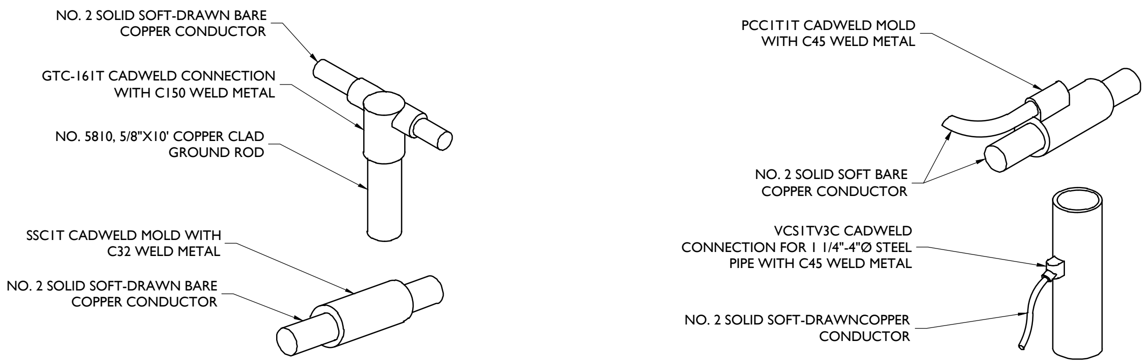
FRANK E. PAZDEN
CONNECTICUT PROFESSIONAL ENGINEER - LICENSE NUMBER: PEN.0024

SITE NAME:
GLASTONBURY - BELL ST
CT1245
577 BELL STREET
GLASTONBURY, CT 06033
HARTFORD COUNTY

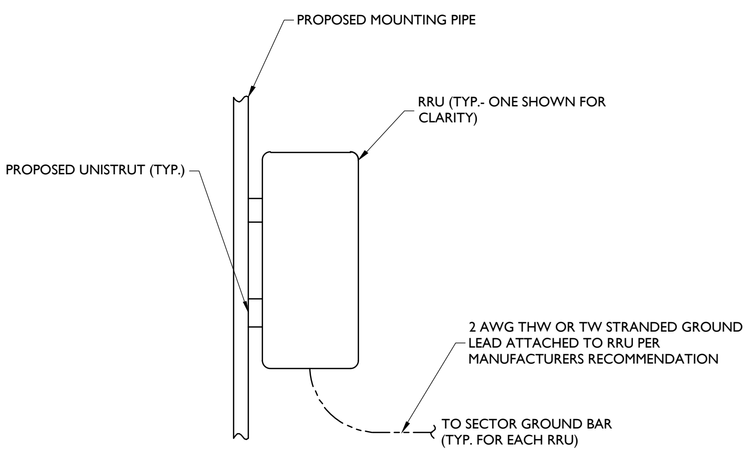
RED BANK OFFICE
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5699
Phone: 732.383.1950
Fax: 732.383.1984

SHEET TITLE : RF PLUMBING DIAGRAMS

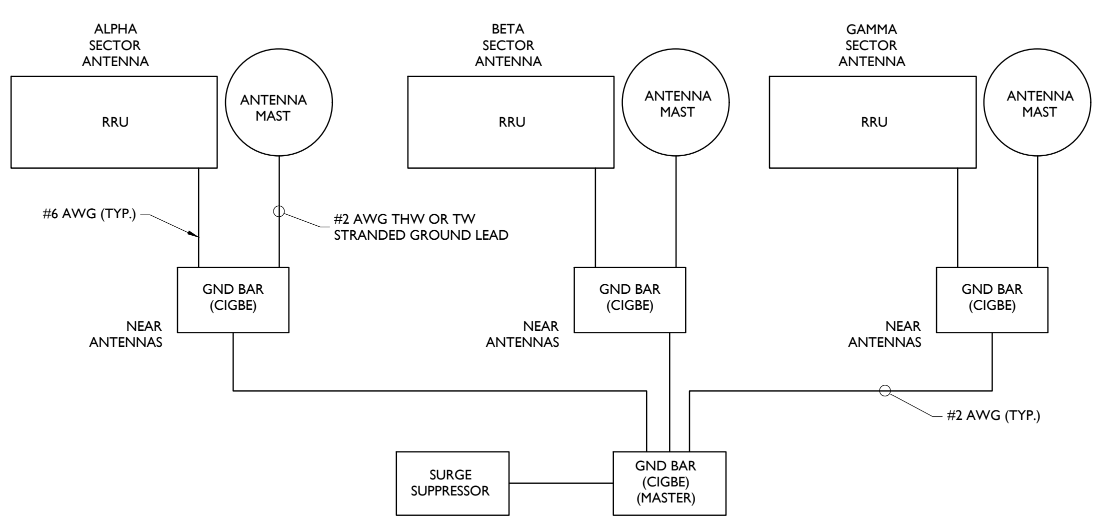
SHEET NUMBER : A-6



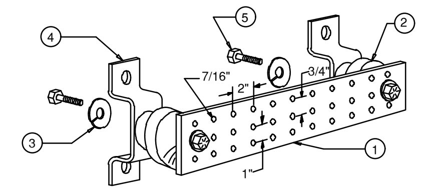
CADWELD DETAILS
NOT TO SCALE



RRU GROUNDING DETAIL
NOT TO SCALE



SCHEMATIC DIAGRAM GROUNDING SYSTEM
NOT TO SCALE



LEGEND

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

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

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

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

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

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

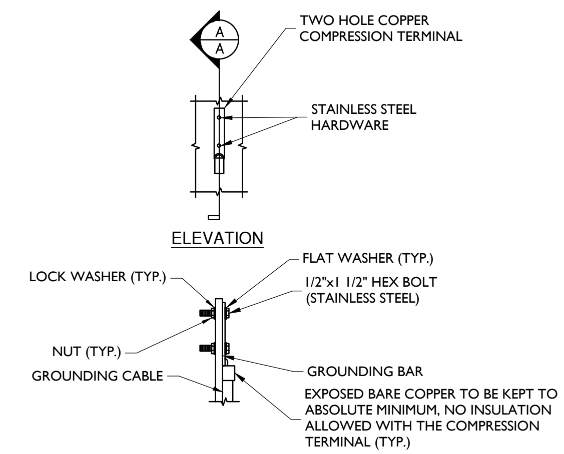
SECTION "P" - SURGE PRODUCERS

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

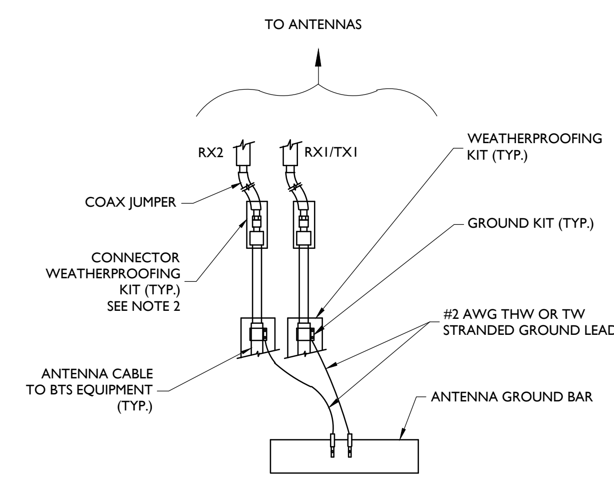
SECTION "A" - SURGE ABSORBERS

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

MASTER GROUND BAR
NOT TO SCALE



TYPICAL GROUND BAR CONNECTION DETAIL
NOT TO SCALE



NOTES:

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

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

TYPICAL GROUND WIRE TO GROUNDING BAR
NOT TO SCALE

MASER CONSULTING
—CONNECTICUT—

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

EMPIRE telecom

16 ESQUIRE ROAD
BILLERICA, MA 01862

at&t

NEW CINGULAR WIRELESS PCS, LLC
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

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

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

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

SCALE :	JOB NUMBER :
AS SHOWN	16963028A

REV	DATE	DESCRIPTION	DRAWN BY	CHECKED BY
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.
0	02/14/17	FOR CONSTRUCTION	RA	FEP
A	02/06/17	ISSUED FOR REVIEW	AJC	MPC

STATE OF CONNECTICUT
FRANK E. PAZDEN
LICENSED PROFESSIONAL ENGINEER

FRANK E. PAZDEN
CONNECTICUT PROFESSIONAL ENGINEER - LICENSE NUMBER: PEN.28188

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

SITE NAME:

GLASTONBURY - BELL ST
CT1245

577 BELL STREET
GLASTONBURY, CT 06033
HARTFORD COUNTY

RED BANK OFFICE
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701-5699
Phone: 732.383.1950
Fax: 732.383.1984

SHEET TITLE :
GROUNDING DETAILS

SHEET NUMBER :
G-1

bennett&pless
Experience Structural Expertise

February 17, 2017

Ms. Mikala Mann
Insite Towers, LLC
1199 N. Fairfax St., Ste. 700
Alexandria, VA 22314

Re: Tower Structural Analysis- AT&T Antenna Installation

Site Number:	CT901	**Site Address:**	577 Bell Street Glastonbury, CT
Site Name:	Glastonbury		
Tower Owner:	N/A	**Latitude:**	41.7338
Tower Type:	104-ft Self-Support Tower	**Longitude:**	-72.5497
Tower Status:	Acceptable (with Proposed Modifications) (95% Tower Capacity)	**B&P Job No:**	17004.002

We have completed our structural analysis of the proposed equipment installation on the foregoing tower to determine its ability to support the new loads proposed by AT&T.

The following information was provided for our tower structural analysis:

- Tower: Member sizes and configuration were obtained from the previous structural analysis by the URS Corporation dated 9/7/2010. Previous modification drawings by Centek dated 2/22/12, post modification inspection report by ETS dated 3/31/16, and previous modification drawings by Bennett and Pless dated 4/29/16 (installed Sept. 2016) and current modification drawings by Bennett and Pless dated 1/20/17 (these modifications have not yet been installed and this analysis is only valid after they have been installed) were also used.
- Foundation: Previous modification drawings and analysis by Centek dated 2/22/12
- Geotechnical: Previous modification drawings and analysis by Centek dated 2/22/12
- Antennas: Proposed antenna loading was obtained from the tenant application provided by Insite Towers, LLC dated 12/21/2016. Existing antenna loading was obtained from the structural analysis listed above.
- Other: General photographs of the tower

Table 1 summarizes the antenna, attachment, and transmission line loading proposed and Table 2 summarizes the design criteria used for our structural analysis. Attached is a copy of the structural calculations, which in addition to detailed results of the analysis also includes a tower profile with member sizes and configuration, and the existing/proposed equipment list with types and location.

Table 1 – Proposed Equipment Loading

Status			Antennas/Attachments			Transmission Lines	
	Carrier	Rad Center	Qty	Manufacturer	Model	# of Feed lines[4]	Feed line Size (in)
New Mount[1]	AT&T	-	3	Commscope	MTC3606HD Sector Mount	-	-
New Panel[2]		90'	3	CCI	HPA-65R-BUU-H8		
New RRU[2]			3	Ericcson	RRUS 32 B2		
New Panel[3]			1	Powerwave	P65-17-XLH-RR		
New Panel[3]			1	KMW	AM-X-CD-16-65-C0T-RET		

[1]Note: Proposed (3) Commscope MTC3606HD to replace existing (3) sector mounts

[2]Note: Proposed (3) CCI HPA-65R-BUU-H8 and (3) Ericcson RRUS 32 B2 to replace existing (3) Powerwave panels and (3) Ericcson RRUS 11.

[3]Note: (1) Powerwave P65-17-XLH-RR and (1) KMW AM-X-CD-16-65-C0T-RET to replace existing (2) Andrew SBNH-1D6565C.

[4]Note: No proposed change to the feed lines.

Table 2 – Design Criteria Used for Structural Analysis

Criterion	Information Used
State Building Code	2016 Connecticut State Bldg Code (IBC 2012)
Tower Standard	TIA-222-G
County	Montgomery
Basic Wind Speed	125 mph (V_{ult}) 97 mph (V_{asd}) 40 mph, 1" ice
Steel Grade Assumed	50 ksi SR legs, 36 ksi all others, A325 bolts
Tower Analysis Software	tnxTower (version 7.0.7.0)

Based on the foregoing information, our structural analysis determined that **the existing tower will be structurally capable of supporting the proposed equipment loads once the proposed structural modifications are installed as detailed in the 1/20/17 Bennett and Pless Tower Modification Drawings** (these modifications have not yet been installed and this analysis is only valid after they have been installed)**.**

The foundations were previously reinforced and the current overturning reactions at the base are 95% of the previous foundation modifications capacity.

The following assumptions were made in conducting our structural analysis:

1. The existing tower has been maintained to manufacturer's specifications and is in good condition.
2. All member connections are assumed to have been designed to meet the load carrying capacity of the connected member.
3. Antenna mount loads have been estimated based on typical industry standards.
4. The mounts for the proposed antennas have been analyzed and designed by others.
5. See additional assumptions contained in the report attached.

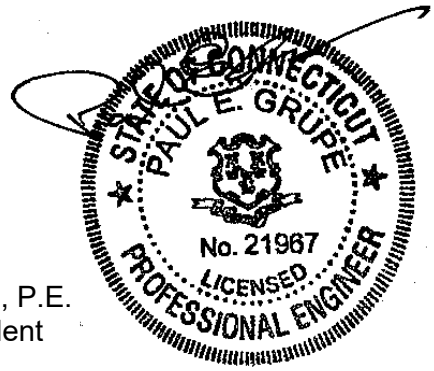
Bennett & Pless, Inc. makes no warranties, expressed or implied, in connection with this report, and disclaims any liability arising from material, fabrication and erection of this tower. Bennett & Pless, Inc. will not be responsible whatsoever for or on account of, consequential or incidental damages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

We appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this please call us anytime.

Yours very truly,
Bennett & Pless, Inc.

Chunhui Song, E.I.T
Design Engineer

Paul Grupe, P.E.
Vice President



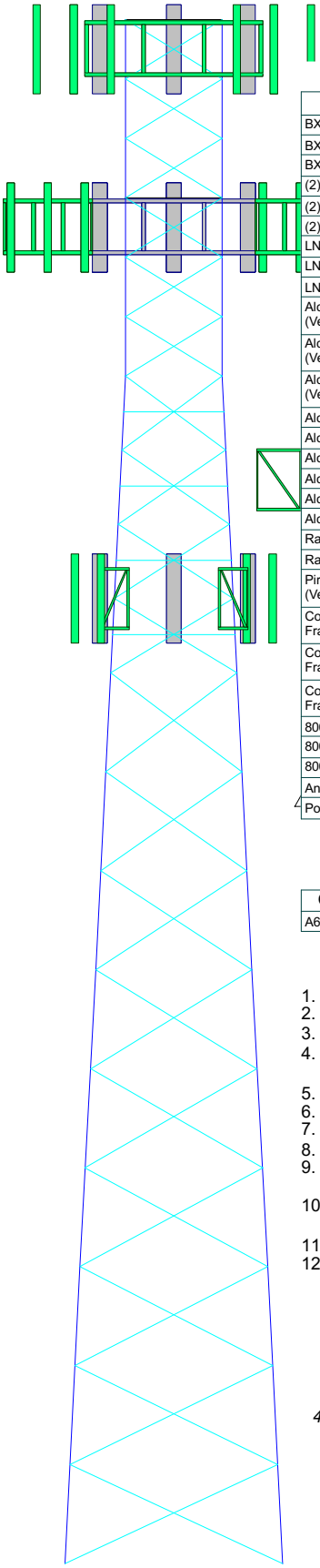
02/20/2017

Appendix A

Tower Profile and Calculations

Section	T1	T2	T3	T4	T5	T6
Legs	P2x.154		P2.5x.203	P2.875x0.203w3/8HP+FF		P3.5x0.3w3/8HP+FF
Leg Grade	A618-50					
Diagonals	L1 1/2x1 1/2x3/16		L2x2x3/16	L2x2x3/8	L2 1/2x2 1/2x3/8	
Diagonal Grade	A36					
Top Girts	L2x2x3/16			N.A.		
Sec. Horizontals	N.A.		L2x2x3/16		N.A.	
Face Width (ft)	6.52		6.56	8.56	10.56	12.6
# Panels @ (ft)	6 @ 4		4 @ 5		9 @ 6.66667	
Weight (K)	0.4	0.4	1.1	2.2	2.6	3.3

104.0 ft
92.0 ft
80.0 ft
60.0 ft
40.0 ft
20.0 ft
0.0 ft
14.65
10.1



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
BXA-70063-6CF-EDIN-0 (Verizon)	102	KMW AM-X-CD-16-65-C0T-RET (ATI)	90
BXA-70063-6CF-EDIN-0 (Verizon)	102	TT19-08BP111-001 (ATI)	90
BXA-70063-6CF-EDIN-0 (Verizon)	102	TT19-08BP111-001 (ATI)	90
(2) SBNH-1D6565B (Verizon)	102	TT19-08BP111-001 (ATI)	90
(2) SBNH-1D6565B (Verizon)	102	CCI DTMABP7819VG12A (ATI)	90
(2) SBNH-1D6565B (Verizon)	102	CCI DTMABP7819VG12A (ATI)	90
LNX-8514DS (Verizon)	102	CCI DTMABP7819VG12A (ATI)	90
LNX-8514DS (Verizon)	102	RRU-11 (ATI)	90
LNX-8514DS (Verizon)	102	RRU-11 (ATI)	90
Alcatel Lucent RRH 4x45 AWS (Verizon)	102	RRU-11 (ATI)	90
		DC6-48-60-18-8F (ATI)	90
Alcatel Lucent RRH 4x45 AWS (Verizon)	102	CCI HPA-65R-BUU-H8 (ATI)	90
		CCI HPA-65R-BUU-H8 (ATI)	90
Alcatel Lucent RRH 4x45 AWS (Verizon)	102	CCI HPA-65R-BUU-H8 (ATI)	90
Alcatel Lucent RRH 4x30 B25 (Verizon)	102	RRUS 32 (ATI)	90
Alcatel Lucent RRH 4x30 B25 (Verizon)	102	RRUS 32 (ATI)	90
Alcatel Lucent RRH 4x30 B25 (Verizon)	102	RRUS 32 (ATI)	90
Alcatel Lucent RRH 4x30 B13 (Verizon)	102	DB806-XT (Town of Glastonbury)	79
Alcatel Lucent RRH 4x30 B13 (Verizon)	102	PR-950 (Town of Glastonbury)	73
Alcatel Lucent RRH 4x30 B13 (Verizon)	102	PiROD 6' Side Mount Standoff (Town of Glastonbury)	73
Raycap DB-T1-6Z-8AB-0Z (Verizon)	102	LNX-6515DS-VTM (Metro PCS)	65
Raycap DB-T1-6Z-8AB-0Z (Verizon)	102	LNX-6515DS-VTM (Metro PCS)	65
Pirod T-Frame Sector Mount (3) (Verizon)	102	Smart Bias T (Metro PCS)	65
Commscope MTC3606HD Sector Frame (ATI)	90	Smart Bias T (Metro PCS)	65
		Smart Bias T (Metro PCS)	65
Commscope MTC3606HD Sector Frame (ATI)	90	3' Stand-Off (Metro PCS)	65
		3' Stand-Off (Metro PCS)	65
Commscope MTC3606HD Sector Frame (ATI)	90	3' Stand-Off (Metro PCS)	65
800 10121 (ATI)	90	(2) AIR 21 (Metro PCS)	65
800 10121 (ATI)	90	(2) AIR 21 (Metro PCS)	65
800 10121 (ATI)	90	LNX-6515DS-VTM (Metro PCS)	65
Andrew SBNH-1D6565C (ATI)	90	Kathrein 742-213 (Unknown)	65
Powerwave P65-17-XLH-RR (ATI)	90	Kathrein 742-213 (Unknown)	65
		Kathrein 742-213 (Unknown)	65
		(2) AIR 21 (Metro PCS)	65

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A618-50	50 ksi	70 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 97 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 40 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. Weld together tower sections have flange connections.
9. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
10. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
11. Welds are fabricated with ER-70S-6 electrodes.
12. TOWER RATING: 95.3%

REACTIONS AT BASE:

79 K
SHEAR 6 K
MOMENT 445 kip-ft
TORQUE 2 kip-ft
40 mph WIND - 1.0000 in ICE
AXIAL 24 K
SHEAR 33 K
MOMENT 2093 kip-ft
TORQUE 11 kip-ft
REACTIONS - 97 mph WIND

bennett&pless
Experience Structural Expertise
Bennett & Pless Inc.
47 Perimeter Center East, Suite 500
Atlanta, GA 30346
Phone: (678) 990-8700
FAX: (678) 990-8701

Job: **CT901 Glastonbury**			
Project: **SST Analysis**			
Client: Insite Towers, LLC	Drawn by: Chunhui Song	App'd:	
Code: TIA-222-G	Date: 02/17/17	Scale: NTS	
Path:		Dwg No. E-1	

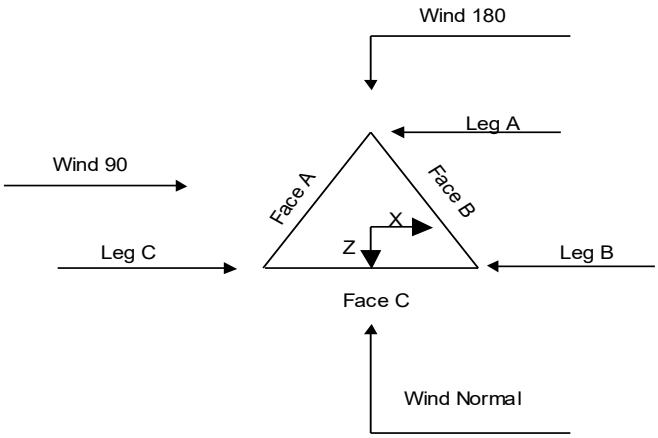
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 104.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 6.52 ft at the top and 14.65 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Hartford County, Connecticut.
Basic wind speed of 97 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 40 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Weld together tower sections have flange connections..
Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications..
Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards..
Welds are fabricated with ER-70S-6 electrodes..
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	√ Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	Bypass Mast Stability Checks	√ Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-G Bracing Resist. Exemption
√ Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-G Tension Splice Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
√ Secondary Horizontal Braces Leg	√ Sort Capacity Reports By Component	Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric		



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation ft	Assembly Database	Description	Section Width ft	Number of Sections	Section Length ft
T1	104.00-92.00			6.52	1	12.00
T2	92.00-80.00			6.52	1	12.00
T3	80.00-60.00			6.56	1	20.00
T4	60.00-40.00			8.56	1	20.00
T5	40.00-20.00			10.56	1	20.00
T6	20.00-0.00			12.60	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T1	104.00-92.00	4.00	X Brace	No	No	0.0000	0.0000
T2	92.00-80.00	4.00	X Brace	No	No	0.0000	0.0000
T3	80.00-60.00	5.00	X Brace	No	Yes	0.0000	0.0000
T4	60.00-40.00	6.67	X Brace	No	No	0.0000	0.0000
T5	40.00-20.00	6.67	X Brace	No	No	0.0000	0.0000
T6	20.00-0.00	6.67	X Brace	No	No	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 104.00-92.00	Pipe	P2x.154	A618-50 (50 ksi)	Single Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T2 92.00-80.00	Pipe	P2x.154	A618-50 (50 ksi)	Single Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T3 80.00-60.00	Pipe	P2.5x.203	A618-50 (50 ksi)	Single Angle	L2x2x3/16	A36 (36 ksi)
T4 60.00-40.00	Arbitrary Shape	P2.875x0.203w3/8HP+FF	A618-50 (50 ksi)	Single Angle	L2x2x3/8	A36 (36 ksi)
T5 40.00-20.00	Arbitrary Shape	P2.875x0.203w3/8HP+FF	A618-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/8	A36 (36 ksi)
T6 20.00-0.00	Arbitrary Shape	P3.5x0.3w3/8HP+FF	A618-50 (50 ksi)	Single Angle	L2 1/2x2 1/2x3/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 104.00-92.00	Single Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T2 92.00-80.00	Single Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Secondary Horizontal Type	Secondary Horizontal Size	Secondary Horizontal Grade	Inner Bracing Type	Inner Bracing Size	Inner Bracing Grade
T3 80.00-60.00	Equal Angle	L2x2x3/16	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 104.00-92.00	0.00	0.2500	A36 (36 ksi)	1.02	1	1	36.0000	36.0000	36.0000
T2 92.00-80.00	0.00	0.2500	A36 (36 ksi)	1.02	1	1	36.0000	36.0000	36.0000
T3 80.00-60.00	0.00	0.2500	A36	1.02	1	1	36.0000	36.0000	36.0000

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T4 60.00-40.00	0.00	0.2500	(36 ksi) A36 (36 ksi)	1.02	1	1	36.0000	36.0000	36.0000
T5 40.00-20.00	0.00	0.2500	(36 ksi) A36 (36 ksi)	1.02	1	1	36.0000	36.0000	36.0000
T6 20.00-0.00	0.00	0.2500	(36 ksi) A36 (36 ksi)	1.02	1	1	36.0000	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X	X Brace Diags Y	Single Diags X	Single Diags Y	Girts X	Girts Y	Horiz. X	Horiz. Y	Sec. Horiz. X	Sec. Horiz. Y	Inner Brace X	Inner Brace Y
T1	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
104.00-92.00				1	1	1	1	1	1	1	1	1	1	1	1
T2	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
92.00-80.00				1	1	1	1	1	1	1	1	1	1	1	1
T3	Yes	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
80.00-60.00				1	1	1	1	1	1	1	1	1	1	1	1
T4	Yes	Yes	1.2	1	1	1	1	1	1	1	1	1	1	1	1
60.00-40.00				1	1	1	1	1	1	1	1	1	1	1	1
T5	Yes	Yes	1.18	1	1	1	1	1	1	1	1	1	1	1	1
40.00-20.00				1	1	1	1	1	1	1	1	1	1	1	1
T6 20.00-0.00	Yes	Yes	1.28	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Net Width Deduct in	Leg U	Diagonal Net Width Deduct in	Diagonal U	Top Girt Net Width Deduct in	Top Girt U	Bottom Girt Net Width Deduct in	Bottom Girt U	Mid Girt Net Width Deduct in	Mid Girt U	Long Horizontal Net Width Deduct in	Long Horizontal U	Short Horizontal Net Width Deduct in	Short Horizontal U
T1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
104.00-92.00														
T2 92.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 20.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 104.00-92.00	Flange	0.6250 A325N	4	0.5000 A325N	1	0.5000 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 92.00-80.00	Flange	0.6250 A325N	4	0.5000 A325N	1	0.5000 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 80.00-60.00	Flange	0.6250 A325N	4	0.5000 A325N	1	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 60.00-40.00	Flange	0.6250 A490N	4	0.5000 A325N	1	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 40.00-20.00	Flange	0.7500 A490N	4	0.5000 A325N	1	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 20.00-0.00	Flange	0.8750 A354-BC	4	0.5000 A325N	1	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1/2 (Town of Glastonbury)	A	No	Ar (CaAa)	73.00 - 6.00	-8.0000	0.27	1	1	0.5000	0.5800		0.25
1/2 (Town of Glastonbury)	A	No	Ar (CaAa)	79.00 - 6.00	-8.0000	0.26	1	1	0.5000	0.5800		0.25
Feedline Ladder (Tower)	B	No	Ar (CaAa)	65.00 - 6.00	0.0000	0.4	1	1	0.5000	1.5000		8.00
LDF7-50A (1 5/8 FOAM) (Verizon)	A	No	Ar (CaAa)	100.00 - 6.00	-2.0000	0.2	18	9	0.5000	1.9800		0.82
Feedline Ladder (Tower)	A	No	Ar (CaAa)	100.00 - 6.00	0.0000	0.2	1	1	0.5000	1.5000		8.00
LDF7-50A (1 5/8 FOAM) (AT&T)	A	No	Ar (CaAa)	90.00 - 6.00	-8.0000	0.2	3	3	0.5000	1.9800		0.82
LDF7-50A (1 5/8 FOAM) (AT&T)	A	No	Ar (CaAa)	90.00 - 6.00	-4.0000	0.43	3	1	0.5000	1.9800		0.82
LDF7-50A (1 5/8 FOAM) (AT&T)	B	No	Ar (CaAa)	90.00 - 6.00	-4.0000	0.43	3	3	0.5000	1.9800		0.82
LDF7-50A (1 5/8 FOAM) (AT&T)	C	No	Ar (CaAa)	90.00 - 6.00	-4.0000	0.43	3	3	0.5000	1.9800		0.82
3/4" DC Power Cable (AT&T)	C	No	Ar (CaAa)	90.00 - 6.00	-4.0000	0.1	2	2	0.7950	0.7950		0.58
3/8" Fiber (AT&T)	C	No	Ar (CaAa)	90.00 - 6.00	-4.0000	-0.01	1	1	0.4400	0.4400		0.08
*** Hybrid Flex	B	No	Ar (CaAa)	65.00 - 6.00	0.0000	0.43	3	3	0.5000	1.9800		0.82

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
(1 5/8 Fiber) (Metro PCS) AVA5-50(7/8 ") (Metro PCS)	B	No	Ar (CaAa)	65.00 - 6.00	0.0000	0.4	6	6	0.5000	1.1020		0.30

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	104.00-92.00	A	0.000	0.000	29.712	0.000	0.18
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T2	92.00-80.00	A	0.000	0.000	56.448	0.000	0.32
		B	0.000	0.000	5.940	0.000	0.02
		C	0.000	0.000	7.970	0.000	0.04
T3	80.00-60.00	A	0.000	0.000	99.896	0.000	0.56
		B	0.000	0.000	18.906	0.000	0.11
		C	0.000	0.000	15.940	0.000	0.07
T4	60.00-40.00	A	0.000	0.000	100.360	0.000	0.56
		B	0.000	0.000	39.984	0.000	0.29
		C	0.000	0.000	15.940	0.000	0.07
T5	40.00-20.00	A	0.000	0.000	100.360	0.000	0.56
		B	0.000	0.000	39.984	0.000	0.29
		C	0.000	0.000	15.940	0.000	0.07
T6	20.00-0.00	A	0.000	0.000	70.252	0.000	0.39
		B	0.000	0.000	27.989	0.000	0.21
		C	0.000	0.000	11.158	0.000	0.05

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	104.00-92.00	A	2.230	0.000	0.000	32.520	0.000	0.79
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
T2	92.00-80.00	A	2.201	0.000	0.000	81.137	0.000	1.78
		B		0.000	0.000	16.268	0.000	0.24
		C		0.000	0.000	31.795	0.000	0.43
T3	80.00-60.00	A	2.156	0.000	0.000	160.656	0.000	3.34
		B		0.000	0.000	52.242	0.000	0.79
		C		0.000	0.000	62.792	0.000	0.84
T4	60.00-40.00	A	2.085	0.000	0.000	162.292	0.000	3.29
		B		0.000	0.000	110.555	0.000	1.72
		C		0.000	0.000	61.522	0.000	0.80
T5	40.00-20.00	A	1.981	0.000	0.000	158.980	0.000	3.13
		B		0.000	0.000	108.057	0.000	1.64
		C		0.000	0.000	59.674	0.000	0.75
T6	20.00-0.00	A	1.775	0.000	0.000	106.694	0.000	1.98
		B		0.000	0.000	72.180	0.000	1.03
		C		0.000	0.000	39.209	0.000	0.46

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
T1	104.00-92.00	-1.8826	-4.3790	-1.0852	-2.4698
T2	92.00-80.00	-1.4781	-3.3595	-0.7710	-2.0948
T3	80.00-60.00	-0.9264	-3.1581	-0.3782	-2.2151
T4	60.00-40.00	0.6070	-2.7554	0.7065	-2.0013
T5	40.00-20.00	0.6588	-3.2818	0.8021	-2.4003
T6	20.00-0.00	0.6585	-3.4880	0.8424	-2.5627

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	4	LDF7-50A (1 5/8 FOAM)	92.00 - 100.00	1.0000	1.0000
T1	5	Feedline Ladder	92.00 - 100.00	1.0000	1.0000
T2	4	LDF7-50A (1 5/8 FOAM)	80.00 - 92.00	1.0000	1.0000
T2	5	Feedline Ladder	80.00 - 92.00	1.0000	1.0000
T2	7	LDF7-50A (1 5/8 FOAM)	80.00 - 90.00	1.0000	1.0000
T2	8	LDF7-50A (1 5/8 FOAM)	80.00 - 90.00	1.0000	1.0000
T2	9	LDF7-50A (1 5/8 FOAM)	80.00 - 90.00	1.0000	1.0000
T2	10	LDF7-50A (1 5/8 FOAM)	80.00 - 90.00	1.0000	1.0000
T2	11	3/4" DC Power Cable	80.00 - 90.00	1.0000	1.0000
T2	12	3/8" Fiber	80.00 - 90.00	1.0000	1.0000
T3	1	1/2	60.00 - 73.00	1.0000	1.0000
T3	2	1/2	60.00 - 79.00	1.0000	1.0000
T3	3	Feedline Ladder	60.00 - 65.00	1.0000	1.0000
T3	4	LDF7-50A (1 5/8 FOAM)	60.00 - 80.00	1.0000	1.0000
T3	5	Feedline Ladder	60.00 - 80.00	1.0000	1.0000
T3	7	LDF7-50A (1 5/8 FOAM)	60.00 - 80.00	1.0000	1.0000
T3	8	LDF7-50A (1 5/8 FOAM)	60.00 - 80.00	1.0000	1.0000
T3	9	LDF7-50A (1 5/8 FOAM)	60.00 - 80.00	1.0000	1.0000
T3	10	LDF7-50A (1 5/8 FOAM)	60.00 - 80.00	1.0000	1.0000
T3	11	3/4" DC Power Cable	60.00 - 80.00	1.0000	1.0000
T3	12	3/8" Fiber	60.00 - 80.00	1.0000	1.0000
T3	14	Hybrid Flex (1 5/8 Fiber)	60.00 - 65.00	1.0000	1.0000
T3	15	AVA5-50(7/8")	60.00 - 65.00	1.0000	1.0000
T4	1	1/2	40.00 - 60.00	1.0000	1.0000
T4	2	1/2	40.00 - 60.00	1.0000	1.0000
T4	3	Feedline Ladder	40.00 - 60.00	1.0000	1.0000
T4	4	LDF7-50A (1 5/8 FOAM)	40.00 - 60.00	1.0000	1.0000
T4	5	Feedline Ladder	40.00 - 60.00	1.0000	1.0000
T4	7	LDF7-50A (1 5/8 FOAM)	40.00 - 60.00	1.0000	1.0000
T4	8	LDF7-50A (1 5/8 FOAM)	40.00 - 60.00	1.0000	1.0000
T4	9	LDF7-50A (1 5/8 FOAM)	40.00 - 60.00	1.0000	1.0000
T4	10	LDF7-50A (1 5/8 FOAM)	40.00 - 60.00	1.0000	1.0000
T4	11	3/4" DC Power Cable	40.00 - 60.00	1.0000	1.0000
T4	12	3/8" Fiber	40.00 - 60.00	1.0000	1.0000
T4	14	Hybrid Flex (1 5/8 Fiber)	40.00 - 60.00	1.0000	1.0000
T4	15	AVA5-50(7/8")	40.00 - 60.00	1.0000	1.0000
T5	1	1/2	20.00 - 40.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T5	2	1/2	20.00 - 40.00	1.0000	1.0000
T5	3	Feedline Ladder	20.00 - 40.00	1.0000	1.0000
T5	4	LDF7-50A (1 5/8 FOAM)	20.00 - 40.00	1.0000	1.0000
T5	5	Feedline Ladder	20.00 - 40.00	1.0000	1.0000
T5	7	LDF7-50A (1 5/8 FOAM)	20.00 - 40.00	1.0000	1.0000
T5	8	LDF7-50A (1 5/8 FOAM)	20.00 - 40.00	1.0000	1.0000
T5	9	LDF7-50A (1 5/8 FOAM)	20.00 - 40.00	1.0000	1.0000
T5	10	LDF7-50A (1 5/8 FOAM)	20.00 - 40.00	1.0000	1.0000
T5	11	3/4" DC Power Cable	20.00 - 40.00	1.0000	1.0000
T5	12	3/8" Fiber	20.00 - 40.00	1.0000	1.0000
T5	14	Hybrid Flex (1 5/8 Fiber)	20.00 - 40.00	1.0000	1.0000
T5	15	AVA5-50(7/8")	20.00 - 40.00	1.0000	1.0000
T6	1	1/2	6.00 - 20.00	1.0000	1.0000
T6	2	1/2	6.00 - 20.00	1.0000	1.0000
T6	3	Feedline Ladder	6.00 - 20.00	1.0000	1.0000
T6	4	LDF7-50A (1 5/8 FOAM)	6.00 - 20.00	1.0000	1.0000
T6	5	Feedline Ladder	6.00 - 20.00	1.0000	1.0000
T6	7	LDF7-50A (1 5/8 FOAM)	6.00 - 20.00	1.0000	1.0000
T6	8	LDF7-50A (1 5/8 FOAM)	6.00 - 20.00	1.0000	1.0000
T6	9	LDF7-50A (1 5/8 FOAM)	6.00 - 20.00	1.0000	1.0000
T6	10	LDF7-50A (1 5/8 FOAM)	6.00 - 20.00	1.0000	1.0000
T6	11	3/4" DC Power Cable	6.00 - 20.00	1.0000	1.0000
T6	12	3/8" Fiber	6.00 - 20.00	1.0000	1.0000
T6	14	Hybrid Flex (1 5/8 Fiber)	6.00 - 20.00	1.0000	1.0000
T6	15	AVA5-50(7/8")	6.00 - 20.00	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
***									
BXA-70063-6CF-EDIN-0	A	From Leg	4.00	0.0000	102.00	No Ice	7.57	4.16	0.02
(Verizon)			0.00			1/2" Ice	8.02	4.60	0.06
			0.00			1" Ice	8.47	5.04	0.11
BXA-70063-6CF-EDIN-0	B	From Leg	4.00	0.0000	102.00	No Ice	7.57	4.16	0.02
(Verizon)			0.00			1/2" Ice	8.02	4.60	0.06
			0.00			1" Ice	8.47	5.04	0.11
BXA-70063-6CF-EDIN-0	C	From Leg	4.00	0.0000	102.00	No Ice	7.57	4.16	0.02
(Verizon)			0.00			1/2" Ice	8.02	4.60	0.06
			0.00			1" Ice	8.47	5.04	0.11
(2) SBNH-1D6565B	A	From Leg	4.00	0.0000	102.00	No Ice	8.17	5.41	0.05
(Verizon)			0.00			1/2" Ice	8.63	5.86	0.10
			0.00			1" Ice	9.10	6.33	0.15
(2) SBNH-1D6565B	B	From Leg	4.00	0.0000	102.00	No Ice	8.17	5.41	0.05
(Verizon)			0.00			1/2" Ice	8.63	5.86	0.10
			0.00			1" Ice	9.10	6.33	0.15
(2) SBNH-1D6565B	C	From Leg	4.00	0.0000	102.00	No Ice	8.17	5.41	0.05
(Verizon)			0.00			1/2" Ice	8.63	5.86	0.10
			0.00			1" Ice	9.10	6.33	0.15
LNX-8514DS	A	From Leg	4.00	0.0000	102.00	No Ice	11.45	7.70	0.05

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(Verizon)			0.00			1/2" Ice	12.06	8.29	0.12
			0.00			1" Ice	12.69	8.89	0.19
LNX-8514DS	B	From Leg	4.00	0.0000	102.00	No Ice	11.45	7.70	0.05
(Verizon)			0.00			1/2" Ice	12.06	8.29	0.12
			0.00			1" Ice	12.69	8.89	0.19
LNX-8514DS	C	From Leg	4.00	0.0000	102.00	No Ice	11.45	7.70	0.05
(Verizon)			0.00			1/2" Ice	12.06	8.29	0.12
			0.00			1" Ice	12.69	8.89	0.19
Alcatel Lucent RRH 4x45	A	From Leg	3.00	0.0000	102.00	No Ice	2.16	1.42	0.04
AWS			0.00			1/2" Ice	2.36	1.59	0.06
(Verizon)			0.00			1" Ice	2.57	1.77	0.08
Alcatel Lucent RRH 4x45	B	From Leg	3.00	0.0000	102.00	No Ice	2.16	1.42	0.04
AWS			0.00			1/2" Ice	2.36	1.59	0.06
(Verizon)			0.00			1" Ice	2.57	1.77	0.08
Alcatel Lucent RRH 4x45	C	From Leg	3.00	0.0000	102.00	No Ice	2.16	1.42	0.04
AWS			0.00			1/2" Ice	2.36	1.59	0.06
(Verizon)			0.00			1" Ice	2.57	1.77	0.08
Alcatel Lucent RRH 4x30	A	From Leg	3.00	0.0000	102.00	No Ice	2.12	1.29	0.05
B25			0.00			1/2" Ice	2.31	1.45	0.07
(Verizon)			0.00			1" Ice	2.50	1.61	0.09
Alcatel Lucent RRH 4x30	B	From Leg	3.00	0.0000	102.00	No Ice	2.12	1.29	0.05
B25			0.00			1/2" Ice	2.31	1.45	0.07
(Verizon)			0.00			1" Ice	2.50	1.61	0.09
Alcatel Lucent RRH 4x30	C	From Leg	3.00	0.0000	102.00	No Ice	2.12	1.29	0.05
B25			0.00			1/2" Ice	2.31	1.45	0.07
(Verizon)			0.00			1" Ice	2.50	1.61	0.09
Alcatel Lucent RRH 4x30	A	From Leg	3.00	0.0000	102.00	No Ice	3.36	1.99	0.06
B13			0.00			1/2" Ice	3.61	2.22	0.08
(Verizon)			0.00			1" Ice	3.88	2.46	0.10
Alcatel Lucent RRH 4x30	B	From Leg	3.00	0.0000	102.00	No Ice	3.36	1.99	0.06
B13			0.00			1/2" Ice	3.61	2.22	0.08
(Verizon)			0.00			1" Ice	3.88	2.46	0.10
Alcatel Lucent RRH 4x30	C	From Leg	3.00	0.0000	102.00	No Ice	3.36	1.99	0.06
B13			0.00			1/2" Ice	3.61	2.22	0.08
(Verizon)			0.00			1" Ice	3.88	2.46	0.10
Raycap DB-T1-6Z-8AB-0Z	A	None		0.0000	102.00	No Ice	4.80	2.00	0.04
(Verizon)						1/2" Ice	5.07	2.19	0.08
						1" Ice	5.35	2.39	0.12
Raycap DB-T1-6Z-8AB-0Z	B	None		0.0000	102.00	No Ice	4.80	2.00	0.04
(Verizon)						1/2" Ice	5.07	2.19	0.08
						1" Ice	5.35	2.39	0.12
Pirod T-Frame Sector Mount	C	None		0.0000	102.00	No Ice	38.60	38.60	1.06
(3)						1/2" Ice	57.40	57.40	1.65
(Verizon)						1" Ice	76.20	76.20	2.24
***									
DB806-XT	B	From Leg	4.00	0.0000	79.00	No Ice	1.14	1.14	0.02
(Town of Glastonbury)			0.00			1/2" Ice	1.68	1.68	0.03
			0.00			1" Ice	2.22	2.22	0.04
PR-950	B	From Leg	4.00	0.0000	73.00	No Ice	6.35	6.35	0.04
(Town of Glastonbury)			0.00			1/2" Ice	11.43	11.43	0.05
			0.00			1" Ice	16.51	16.51	0.06
PiROD 6' Side Mount	B	From Leg	4.00	0.0000	73.00	No Ice	4.97	4.97	0.07
Standoff			0.00			1/2" Ice	6.12	6.12	0.13
(Town of Glastonbury)			0.00			1" Ice	7.27	7.27	0.19
Kathrein 742-213	A	From Leg	1.00	0.0000	65.00	No Ice	3.12	2.94	0.05
(Unknown)			0.00			1/2" Ice	3.45	3.52	0.08
			0.00			1" Ice	3.79	4.12	0.11

Description	*Face or Leg*	*Offset Type*	*Offsets: Horz Lateral Vert* *ft ft ft*	*Azimuth Adjustment* *°*	*Placement* *ft*		C_AA_A *Front* ft^2	C_AA_A *Side* ft^2	*Weight* *K*
Kathrein 742-213	B	From Leg	1.00	0.0000	65.00	No Ice	3.12	2.94	0.05
(Unknown)			0.00			1/2" Ice	3.45	3.52	0.08
			0.00			1" Ice	3.79	4.12	0.11
Kathrein 742-213	C	From Leg	1.00	0.0000	65.00	No Ice	3.12	2.94	0.05
(Unknown)			0.00			1/2" Ice	3.45	3.52	0.08
			0.00			1" Ice	3.79	4.12	0.11
***									
(2) AIR 21	A	From Leg	3.00	0.0000	65.00	No Ice	6.05	4.36	0.09
(Metro PCS)			0.00			1/2" Ice	6.42	4.70	0.13
			0.00			1" Ice	6.80	5.06	0.18
(2) AIR 21	A	From Leg	3.00	0.0000	65.00	No Ice	6.05	4.36	0.09
(Metro PCS)			0.00			1/2" Ice	6.42	4.70	0.13
			0.00			1" Ice	6.80	5.06	0.18
(2) AIR 21	A	From Leg	3.00	0.0000	65.00	No Ice	6.05	4.36	0.09
(Metro PCS)			0.00			1/2" Ice	6.42	4.70	0.13
			0.00			1" Ice	6.80	5.06	0.18
LNX-6515DS-VTM	A	From Leg	3.00	0.0000	65.00	No Ice	11.45	7.70	0.05
(Metro PCS)			0.00			1/2" Ice	12.06	8.29	0.12
			0.00			1" Ice	12.69	8.89	0.19
LNX-6515DS-VTM	B	From Leg	3.00	0.0000	65.00	No Ice	11.45	7.70	0.05
(Metro PCS)			0.00			1/2" Ice	12.06	8.29	0.12
			0.00			1" Ice	12.69	8.89	0.19
LNX-6515DS-VTM	C	From Leg	3.00	0.0000	65.00	No Ice	11.45	7.70	0.05
(Metro PCS)			0.00			1/2" Ice	12.06	8.29	0.12
			0.00			1" Ice	12.69	8.89	0.19
Smart Bias T	A	From Leg	3.00	0.0000	65.00	No Ice	0.20	0.11	0.00
(Metro PCS)			0.00			1/2" Ice	0.27	0.16	0.00
			0.00			1" Ice	0.34	0.23	0.01
Smart Bias T	B	From Leg	3.00	0.0000	65.00	No Ice	0.20	0.11	0.00
(Metro PCS)			0.00			1/2" Ice	0.27	0.16	0.00
			0.00			1" Ice	0.34	0.23	0.01
Smart Bias T	C	From Leg	3.00	0.0000	65.00	No Ice	0.20	0.11	0.00
(Metro PCS)			0.00			1/2" Ice	0.27	0.16	0.00
			0.00			1" Ice	0.34	0.23	0.01
3' Stand-Off	A	From Leg	0.00	0.0000	65.00	No Ice	0.50	0.50	0.01
(Metro PCS)			0.00			1/2" Ice	0.70	0.70	0.01
			0.00			1" Ice	0.90	0.90	0.02
3' Stand-Off	B	From Leg	0.00	0.0000	65.00	No Ice	0.50	0.50	0.01
(Metro PCS)			0.00			1/2" Ice	0.70	0.70	0.01
			0.00			1" Ice	0.90	0.90	0.02
3' Stand-Off	C	From Leg	0.00	0.0000	65.00	No Ice	0.50	0.50	0.01
(Metro PCS)			0.00			1/2" Ice	0.70	0.70	0.01
			0.00			1" Ice	0.90	0.90	0.02
***									
Commscope MTC3606HD	A	From Leg	0.00	0.0000	90.00	No Ice	9.00	4.50	0.59
Sector Frame			0.00			1/2" Ice	9.50	5.50	0.65
(AT&T)			0.00			1" Ice	10.00	6.50	0.71
Commscope MTC3606HD	B	From Leg	0.00	0.0000	90.00	No Ice	9.00	4.50	0.59
Sector Frame			0.00			1/2" Ice	9.50	5.50	0.65
(AT&T)			0.00			1" Ice	10.00	6.50	0.71
Commscope MTC3606HD	C	From Leg	0.00	0.0000	90.00	No Ice	9.00	4.50	0.59
Sector Frame			0.00			1/2" Ice	9.50	5.50	0.65
(AT&T)			0.00			1" Ice	10.00	6.50	0.71
800 10121	A	From Leg	4.00	0.0000	90.00	No Ice	5.15	3.29	0.05
(AT&T)			0.00			1/2" Ice	5.50	3.63	0.08
			0.00			1" Ice	5.86	3.99	0.12
800 10121	B	From Leg	4.00	0.0000	90.00	No Ice	5.15	3.29	0.05

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(AT&T)			0.00				1/2" Ice	5.50	3.63	0.08
			0.00				1" Ice	5.86	3.99	0.12
800 10121	C	From Leg	4.00	0.0000	90.00		No Ice	5.15	3.29	0.05
(AT&T)			0.00				1/2" Ice	5.50	3.63	0.08
			0.00				1" Ice	5.86	3.99	0.12
Andrew SBNH-1D6565C	A	From Leg	4.00	0.0000	90.00		No Ice	11.64	9.84	0.09
(AT&T)			0.00				1/2" Ice	12.37	11.37	0.18
			0.00				1" Ice	13.09	12.89	0.27
Powerwave P65-17-XLH-RR	B	From Leg	4.00	0.0000	90.00		No Ice	11.47	6.80	0.06
(AT&T)			0.00				1/2" Ice	12.08	7.38	0.12
			0.00				1" Ice	12.71	7.98	0.19
KMW	C	From Leg	4.00	0.0000	90.00		No Ice	8.13	4.70	0.05
AM-X-CD-16-65-C0T-RET			0.00				1/2" Ice	8.59	5.15	0.10
(AT&T)			0.00				1" Ice	9.05	5.60	0.15
TT19-08BP111-001	A	From Leg	4.00	0.0000	90.00		No Ice	0.55	0.45	0.02
(AT&T)			0.00				1/2" Ice	0.65	0.53	0.02
			0.00				1" Ice	0.75	0.63	0.03
TT19-08BP111-001	B	From Leg	4.00	0.0000	90.00		No Ice	0.55	0.45	0.02
(AT&T)			0.00				1/2" Ice	0.65	0.53	0.02
			0.00				1" Ice	0.75	0.63	0.03
TT19-08BP111-001	C	From Leg	4.00	0.0000	90.00		No Ice	0.55	0.45	0.02
(AT&T)			0.00				1/2" Ice	0.65	0.53	0.02
			0.00				1" Ice	0.75	0.63	0.03
CCI DTMABP7819VG12A	A	From Leg	4.00	0.0000	90.00		No Ice	0.97	0.34	0.02
(AT&T)			0.00				1/2" Ice	1.10	0.42	0.03
			0.00				1" Ice	1.23	0.51	0.04
CCI DTMABP7819VG12A	B	From Leg	4.00	0.0000	90.00		No Ice	0.97	0.34	0.02
(AT&T)			0.00				1/2" Ice	1.10	0.42	0.03
			0.00				1" Ice	1.23	0.51	0.04
CCI DTMABP7819VG12A	C	From Leg	4.00	0.0000	90.00		No Ice	0.97	0.34	0.02
(AT&T)			0.00				1/2" Ice	1.10	0.42	0.03
			0.00				1" Ice	1.23	0.51	0.04
RRU-11	A	From Leg	4.00	0.0000	90.00		No Ice	4.42	1.19	0.06
(AT&T)			0.00				1/2" Ice	4.71	1.35	0.08
			0.00				1" Ice	4.99	1.52	0.11
RRU-11	B	From Leg	4.00	0.0000	90.00		No Ice	4.42	1.19	0.06
(AT&T)			0.00				1/2" Ice	4.71	1.35	0.08
			0.00				1" Ice	4.99	1.52	0.11
RRU-11	C	From Leg	4.00	0.0000	90.00		No Ice	4.42	1.19	0.06
(AT&T)			0.00				1/2" Ice	4.71	1.35	0.08
			0.00				1" Ice	4.99	1.52	0.11
DC6-48-60-18-8F	C	From Leg	2.00	0.0000	90.00		No Ice	2.05	2.05	0.02
(AT&T)			0.00				1/2" Ice	3.11	3.11	0.06
			0.00				1" Ice	3.37	3.37	0.11
CCI HPA-65R-BUU-H8	A	From Leg	4.00	0.0000	90.00		No Ice	12.98	7.52	0.07
(AT&T)			0.00				1/2" Ice	13.56	8.09	0.14
			0.00				1" Ice	14.15	8.67	0.22
CCI HPA-65R-BUU-H8	B	From Leg	4.00	0.0000	90.00		No Ice	12.98	7.52	0.07
(AT&T)			0.00				1/2" Ice	13.56	8.09	0.14
			0.00				1" Ice	14.15	8.67	0.22
CCI HPA-65R-BUU-H8	C	From Leg	4.00	0.0000	90.00		No Ice	12.98	7.52	0.07
(AT&T)			0.00				1/2" Ice	13.56	8.09	0.14
			0.00				1" Ice	14.15	8.67	0.22
RRUS 32	A	From Leg	4.00	0.0000	90.00		No Ice	2.74	1.67	0.06
(AT&T)			0.00				1/2" Ice	2.96	1.86	0.08
			0.00				1" Ice	3.19	2.05	0.11
RRUS 32	B	From Leg	4.00	0.0000	90.00		No Ice	2.74	1.67	0.06

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(AT&T)			0.00			1/2" Ice	2.96	1.86	0.08
			0.00			1" Ice	3.19	2.05	0.11
RRUS 32	C	From Leg	4.00	0.0000	90.00	No Ice	2.74	1.67	0.06
(AT&T)			0.00			1/2" Ice	2.96	1.86	0.08
			0.00			1" Ice	3.19	2.05	0.11

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	104	Leg	A325N	0.6250	4	1.68	20.71	0.081 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	2.25	6.20	0.364 ✔	1	Member Bearing
		Top Girt	A325N	0.5000	1	0.18	6.20	0.028 ✔	1	Member Bearing
T2	92	Leg	A325N	0.6250	4	6.06	20.71	0.293 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	4.24	6.20	0.684 ✔	1	Member Bearing
		Top Girt	A325N	0.5000	1	0.30	6.20	0.048 ✔	1	Member Bearing
T3	80	Leg	A325N	0.6250	4	13.87	20.71	0.670 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	5.37	6.20	0.867 ✔	1	Member Bearing
T4	60	Leg	A490N	0.6250	4	22.05	26.00	0.848 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	6.38	7.95	0.803 ✔	1	Bolt Shear
T5	40	Leg	A490N	0.7500	4	29.86	37.44	0.798 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	6.82	7.95	0.858 ✔	1	Bolt Shear
T6	20	Leg	A354-BC	0.8750	4	37.03	42.28	0.876 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	7.12	7.95	0.896 ✔	1	Bolt Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	104 - 92	P2x.154	12.00	4.00	61.0 K=1.00	1.0745	-8.61	36.84	0.234 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	92 - 80	P2x.154	12.00	4.00	61.0 K=1.00	1.0745	-28.91	36.84	0.785 [1] ✔
T3	80 - 60	P2.5x.203	20.03	2.58	32.7 K=1.00	1.7040	-63.60	70.92	0.897 [1] ✔
T4	60 - 40	P2.875x0.203w3/8HP+FF	20.03	6.68	95.5 K=1.20	5.9892	-99.72	138.42	0.720 [1] ✔
T5	40 - 20	P2.875x0.203w3/8HP+FF	20.03	6.68	93.9 K=1.18	5.9892	-134.87	141.49	0.953 [1] ✔
T6	20 - 0	P3.5x0.3w3/8HP+FF	20.03	6.68	84.6 K=1.28	8.1008	-167.69	216.06	0.776 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	104 - 92	L1 1/2x1 1/2x3/16	7.65	3.60	147.4 K=1.00	0.5273	-2.22	5.48	0.406 [1] ✔
T2	92 - 80	L1 1/2x1 1/2x3/16	7.68	3.62	148.2 K=1.00	0.5273	-4.38	5.42	0.807 [1] ✔
T3	80 - 60	L2x2x3/16	9.70	4.75	144.7 K=1.00	0.7150	-5.49	7.71	0.712 [1] ✔
T4	60 - 40	L2x2x3/8	12.21	5.99	184.7 K=1.00	1.3600	-6.38	9.00	0.709 [1] ✔
T5	40 - 20	L2 1/2x2 1/2x3/8	13.96	6.87	169.2 K=1.00	1.7300	-6.82	13.65	0.500 [1] ✔
T6	20 - 0	L2 1/2x2 1/2x3/8	15.79	7.76	191.2 K=1.00	1.7300	-7.12	10.69	0.666 [1] ✔

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T3	80 - 60	L2x2x3/16	8.30	8.06	142.6 K=0.91	0.7150	-1.10	7.94	0.139 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	104 - 92	L2x2x3/16	6.52	6.11	186.2 K=1.00	0.7150	-0.17	4.66	0.036 [1] ✔
T2	92 - 80	L2x2x3/16	6.52	6.11	186.2 K=1.00	0.7150	-0.05	4.66	0.011 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	104 - 92	P2x.154	12.00	4.00	61.0	1.0745	6.70	48.35	0.139 [1] ✔
T2	92 - 80	P2x.154	12.00	4.00	61.0	1.0745	24.24	48.35	0.501 [1] ✔
T3	80 - 60	P2.5x.203	20.03	2.43	30.8	1.7040	55.53	76.68	0.724 [1] ✔
T4	60 - 40	P2.875x0.203w3/8HP+FF	20.03	6.68	79.6	5.9892	88.19	269.51	0.327 [1] ✔
T5	40 - 20	P2.875x0.203w3/8HP+FF	20.03	6.68	79.6	5.9892	119.44	269.51	0.443 [1] ✔
T6	20 - 0	P3.5x0.3w3/8HP+FF	20.03	6.68	66.1	8.1008	148.13	364.54	0.406 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	104 - 92	L1 1/2x1 1/2x3/16	7.65	3.60	97.4	0.3076	2.25	13.38	0.169 [1] ✔
T2	92 - 80	L1 1/2x1 1/2x3/16	7.68	3.62	97.9	0.3076	4.24	13.38	0.317 [1] ✔
T3	80 - 60	L2x2x3/16	9.70	4.75	94.4	0.4484	5.37	19.50	0.275 [1] ✔
T4	60 - 40	L2x2x3/8	12.21	5.99	123.1	0.8442	6.28	36.72	0.171 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T5	40 - 20	L2 1/2x2 1/2x3/8	13.96	6.87	111.1	1.1217	6.71	48.79	0.137 [1] ✔
T6	20 - 0	L2 1/2x2 1/2x3/8	15.79	7.76	125.3	1.1217	6.97	48.79	0.143 [1] ✔

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T3	80 - 60	L2x2x3/16	8.30	8.06	156.8	0.7150	1.10	23.17	0.048 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	104 - 92	L2x2x3/16	6.52	6.11	123.0	0.4484	0.18	19.50	0.009 [1] ✔
T2	92 - 80	L2x2x3/16	6.52	6.11	123.0	0.4484	0.30	19.50	0.015 [1] ✔

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	104 - 92	Leg	P2x.154	3	-8.61	36.84	23.4	Pass
T2	92 - 80	Leg	P2x.154	27	-28.91	36.84	78.5	Pass
T3	80 - 60	Leg	P2.5x.203	51	-63.60	70.92	89.7	Pass
T4	60 - 40	Leg	P2.875x0.203w3/8HP+FF	90	-99.72	138.42	72.0 84.8 (b)	Pass
T5	40 - 20	Leg	P2.875x0.203w3/8HP+FF	111	-134.87	141.49	95.3	Pass
T6	20 - 0	Leg	P3.5x0.3w3/8HP+FF	132	-167.69	216.06	77.6 87.6 (b)	Pass
T1	104 - 92	Diagonal	L1 1/2x1 1/2x3/16	17	-2.22	5.48	40.6	Pass
T2	92 - 80	Diagonal	L1 1/2x1 1/2x3/16	36	-4.38	5.42	80.7	Pass
T3	80 - 60	Diagonal	L2x2x3/16	54	-5.49	7.71	71.2 86.7 (b)	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T4	60 - 40	Diagonal	L2x2x3/8	93	-6.38	9.00	70.9 80.3 (b)	Pass
T5	40 - 20	Diagonal	L2 1/2x2 1/2x3/8	114	-6.82	13.65	50.0 85.8 (b)	Pass
T6	20 - 0	Diagonal	L2 1/2x2 1/2x3/8	135	-7.12	10.69	66.6 89.6 (b)	Pass
T3	80 - 60	Secondary Horizontal	L2x2x3/16	59	-1.10	7.94	13.9	Pass
T1	104 - 92	Top Girt	L2x2x3/16	6	-0.17	4.66	3.6	Pass
T2	92 - 80	Top Girt	L2x2x3/16	30	0.30	19.50	1.5 4.8 (b)	Pass
							Summary	
							Leg (T5) 95.3	Pass
							Diagonal (T6) 89.6	Pass
							Secondary Horizontal (T3) 13.9	Pass
							Top Girt (T2) 4.8	Pass
							Bolt Checks 89.6	Pass
							RATING = 95.3	**Pass**

Appendix B

Customer Application

WORKSHEET 1 OF 2 (COMPLETE BOTH WORKSHEET TABS)

CUSTOMER APPLICATION

DATE SUBMITTED: 12/21/16

A Site Application Fee to be paid upon submission of this Customer Application.

CUSTOMER INFORMATION

COMPANY NAME:	New Cingular Wireless PCS, LLC	PHONE:	
ENTITY Type: i.e. Inc., LLP	LLC	FAX:	
STATE of Inc.	Delaware	SERVICE (PCS, SMR):	

CUSTOMER ADDRESSES

COMPANY Address:	575 Morosgo Dr.	CITY/STATE:	Atlanta, GA	ZIP :	30324
BILLING Address:	575 Morosgo Dr.	CITY/STATE:	Atlanta, GA	ZIP :	30324
NOTICE Address 1:	Legal Dept. 208 S. Akard St.	CITY/STATE:	Dallas, TX	ZIP :	75202
NOTICE Address 2:		CITY/STATE:		ZIP :	

CUSTOMER CONTACTS

PRIMARY CONTACT:	Brian Martinelli	PHONE:	856-701-3372
TITLE:	Site Acquisition Manager	E-MAIL Address:	bmartinelli@empiretelecomm.com
SIGNATORY NAME:		PHONE:	
TITLE:		E-MAIL Address:	
EMERGENCY CONTACT:		PHONE:	
TITLE:		E-MAIL Address:	
TECHNICAL/OPS:		PHONE:	
TITLE:		E-MAIL Address:	
RF ENGINEER:		PHONE:	
TITLE:		E-MAIL Address:	
BILLING CONTACT:		PHONE:	
TITLE:		E-MAIL Address:	
LEGAL CONTACT:		PHONE:	
TITLE:		E-MAIL Address:	

SITE INFORMATION

CUSTOMER Site # / Name:	CT1245 Glastonbury-Bell St.			INSITE Site # and Name:	Glastonbury CT901
SITE LATITUDE:				SITE LONGITUDE:	
SITE ADDRESS:	577 Bell St.			CITY:	Glastonbury
STATE:	CT	ZIP:	6033	STRUCTURE TYPE:	Lattice Tower

USE THIS SECTION TO PROVIDE A DESCRIPTION OF COLOCATION OR MODIFICATION REQUEST

Replace 3 of the Powerwave antennas with 3 CCI antennas and move to position 2 and replace 3 of the 6 RRUS (RRUS-11 with RRUS-32)

USE THIS SECTION TO LIST EQUIPMENT TO BE REMOVED

APPLICATION PREPARED BY

NAME:	Brian Martinellli	PHONE:	856-701-3372
COMPANY:	Empire Telecom	ADDRESS:	1150 1st Ave., Suite 600, KOP, PA 19406
TITLE:	856-701-3372	E-MAIL Address:	bmartinelli@empiretelecomm.com

EXHIBIT
Equipment

Site Name and #: **Glastonbury CT901** **Licensee Name:** **New Cingular Wireless PCS, LLC**

The mounting method and exact location of the space and equipment listed herein shall be subject to InSite's approval.

SYSTEM REQUIREMENTS										
POWER provided by:	Utility Company direct					TELCO provided by:	T1			
Power Requirements:	Amps:	200	Volts:	120/240		No. of Outlets:	N/A			
Generator Provided by:	N/A	Make:	N/A	Model:	N/A		Fuel Type:	N/A	Capacity:	N/A
Batteries:	Quantity:	None	Make:	N/A		Model:	N/A			
SPACE REQUIREMENTS & RADIO INVENTORY										
Type of Space Required:	Ground:	Existing	Floor:	N/A		Total Square Feet:	240 sq ft			
Dimensions of Equipment Floor/Ground Space:	12' x 20'					Equipment Height:	N/A			
No. of Transmitters (Tx):	None	Transmitter Make/Model:	N/A				Transmitter Power Output	N/A		
No. of Receivers (Rx):	None	Receiver Make/Model:	N/A				Transmitter ERP:	N/A		

EQUIPMENT LOADING DESCRIPTION (FINAL CONFIGURATION)					
	Sector 1	**Sector 2**	**Sector 3**	**DISH(ES)**	**OTHER**
Antenna Type (1):	Panel	Panel	Panel	N/A	N/A
# of Antennas (1)/ Sector:	One (1)	One (1)	One (1)	None	None
Tx, Rx or Both:	Both	Both	Both	N/A	N/A
Antenna Manufacturer (1):	Kathrein	Kathrein	Kathrein	N/A	N/A
Antenna Model (1):	800-10121	800-10121	800-10121	N/A	N/A
Antenna Dimensions (1):	54.5" x 10.3" x 5.9"	54.5" x 10.3" x 5.9"	54.5" x 10.3" x 5.9"	N/A	N/A
Antenna Weight (1):	46 lbs	46 lbs	46 lbs	N/A	N/A
Antenna RAD Ctr (1):	90 ft	90 ft	90 ft	N/A	N/A
Antenna Type (2):	Panel	Panel	Panel	N/A	N/A
# of Antennas (2)/ Sector:	One (1)	One (1)	One (1)	None	None
Tx, Rx or Both:	Both	Both	Both	N/A	N/A
Antenna Manufacturer (2):	CCI	CCI	CCI	N/A	N/A
Antenna Model (2):	HPA-65R-BUU-H8	HPA-65R-BUU-H8	HPA-65R-BUU-H8	N/A	N/A
Antenna Dimensions (2):	92.8" x 14.4" x 7.3"	92.8" x 14.4" x 7.3"	92.8" x 14.4" x 7.3"	N/A	N/A
Antenna Weight (2):	68 lbs	68 lbs	68 lbs	N/A	N/A
Antenna RAD Ctr (2):	90 ft	90 ft	90 ft	N/A	N/A
Antenna Type (3):	Panel	Panel	Panel	N/A	N/A
# of Antennas (3)/ Sector:	One (1)	One (1)	One (1)	None	None
Tx, Rx or Both:	Both	Both	Both	N/A	N/A
Antenna Manufacturer (3):	KMW	Andrew	Powerwave	N/A	N/A
Antenna Model (3):	AM-X-CD-16-65-COT-RET	SBNH-1D6565C	P65-17-XLH-RR	N/A	N/A
Antenna Dimensions (3):	72" x 12" x 6"	96.4" x 11.9" x 7.1"	96" x 12" x 6"	N/A	N/A
Antenna Weight (3):	49 lbs	61 lbs	70 lbs	N/A	N/A
Antenna RAD Ctr (3):	90 ft	90 ft	90 ft	N/A	N/A
# of RRU/RRHs/ Sector (1):	One (1)	One (1)	One (1)		
RRU/RRH Manufacturer (1):	Ericcson	Ericcson	Ericcson		
RRU/RRH Model (1):	RRUS 11	RRUS 11	RRUS 11		
RRU/RRH Dimensions (1):	19.7" x 17" x 7.2"	19.7" x 17" x 7.2"	19.7" x 17" x 7.2"		
RRU/RRH Weight (1):	50 lbs	50 lbs	50 lbs		
RRU/RRH RAD Ctr (1):	90 ft	90 ft	90 ft		
# of RRU/RRHs/ Sector (2):	One (1)	One (1)	One (1)		
RRU/RRH Manufacturer (2):	Ericcson	Ericcson	Ericcson		
RRU/RRH Model (2):	RRUS 32 B2	RRUS 32 B2	RRUS 32 B2		
RRU/RRH Dimension (2):	27.2" x 12" x 7"	27.2" x 12" x 7"	27.2" x 12" x 7"		
RRU/RRH Weight (2):	53 lbs	53 lbs	53 lbs		
RRU/RRH RAD Ctr (2):	90 ft	90 ft	90 ft		
# of TMAs/ Sector (1):	One (1)	One (1)	One (1)		
TMA Manufacturer (1):	Powerwave	Powerwave	Powerwave		
TMA Model (1):	TT19-08BP 111-001	TT19-08BP 111-001	TT19-08BP 111-001		
TMA Dimensions (1):	9.9" x 6.7" x 5.4"	9.9" x 6.7" x 5.4"	9.9" x 6.7" x 5.4"		
TMA Weight (1):	16 lbs.	16 lbs.	16 ls.		
TMA RAD Ctr (1):	90 ft	90 ft	90 ft		
# of TMAs/ Sector (2):	One (1)	One (1)	One (1)		
TMA Manufacturer (2):	CCI	CCI	CCI		
TMA Model (2):	DTMABP7819VG12A	DTMABP7819VG12A	DTMABP7819VG12A		
TMA Dimensions (2):	10.6" x 11" x 3.8"	10.6" x 11" x 3.8"	10.6" x 11" x 3.8"		
TMA Weight (2):	19 lbs.	19 lbs.	19 lbs.		
TMA RAD Ctr (2):	90 ft	90 ft	90 ft		
# of Diplexers/ Sector:	None	None	None		

EQUIPMENT LOADING DESCRIPTION (FINAL CONFIGURATION)					
	Sector 1	Sector 2	Sector 3	DISH(ES)	OTHER
# of Surge Suppressors/Sctr:	One (1)	None	None		
Surge Suppressor Make:	Raycap	N/A	N/A		
Surge Suppressor Model:	DC6-48-60-18-8F	N/A	N/A		
Surge Supressor Dimensions:	23.5x9.7x9.7"	N/A	N/A		
Surge Supressor Weight:	20 lbs.	N/A	N/A		
Surge Supressors RAD Ctr:	90 ft.	N/A	N/A		
OTHER:	None	None	None		
Transmit Frequencies:	869-880, 890-892 /1930-1945, 1985-1990 /734-745, 2130-2135 MHz			N/A	N/A
Receive Frequencies:	824-835, 845-847/ 1805-1865, 1905-1910 /703-715-1730-1735 MHz			N/A	N/A
# of Lines:	Four (4)	Four (4)	Four (4)	None	None
Line Size:	1-5/8"	1-5/8"	1-5/8"	N/A	N/A
# of Lines:	Two (2)	One (1)	None	None	None
Line Size:	DC Power Line	Fiber Line	N/A	N/A	N/A