Robinson+Cole

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and New York

January 4, 2022

Via Electronic Mail

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

Re: **Request of Cellco Partnership d/b/a Verizon Wireless for an Order to Approve the Shared Use of an Existing (Silo) Tower at 2 Arbor Crossing, East Lyme, Connecticut**

Dear Ms. Bachman:

Pursuant to Connecticut General Statutes ("C.G.S.") §16-50aa, as amended, Cellco Partnership d/b/a Verizon Wireless ("Cellco") hereby requests an order from the Siting Council ("Council") to approve the shared use of an existing telecommunications facility (silo) structure located on a 5.22-acre parcel at 2 Arbor Crossing in East Lyme, Connecticut (the "Property"). The Property is owned by Orchards at East Lyme, Inc. The tower is owned by TowerCo. Cellco identifies this site as its "East Lyme N Facility". The existing 105-foot faux silo structure was approved by the Siting Council ("Council") in Docket No. 463A on December 22, 2016. A copy of the Docket No. 463A Decision and Order is included in Attachment 1.

Cellco requests that the Council find that the proposed shared use of the existing silo structure satisfies the criteria of C.G.S § 16-50aa and issue an order approving this request. A copy of this filing is being sent to Town's Chief Elected Official and Land Use Officer.

Background

Cellco is licensed by the Federal Communications Commission ("FCC") to provide wireless services throughout the State of Connecticut. Cellco and TowerCo have agreed to the proposed shared use of the Arbor Crossing silo structure pursuant to mutually acceptable terms

and conditions. Likewise, TowerCo and Cellco have agreed to the proposed installation of equipment on the ground within the existing shared equipment building. TowerCo has authorized Cellco to apply for all necessary permits and approvals that may be required to share the existing facility. (*See* Attachment 2).

Cellco proposes to install nine (9) antennas and six (6) remote radio heads ("RRHs") inside the faux silo structure at a height of 86 feet above ground level ("AGL"). Cellco will also install two equipment cabinets inside the shared equipment building (barn) adjacent to the silo structure. Included in Attachment 3 are Cellco's project plans showing the location of Cellco's proposed site improvements. Attachment 4 contains specifications for Cellco's antennas and RRHs.

C.G.S. § 16-50aa(c)(1) provides that, upon written request for approval of a proposed shared use, "if the council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such shared use." Cellco respectfully submits that the shared use of the tower structure satisfies these criteria.

A. Technical Feasibility. The existing faux silo structure is structurally capable of supporting Cellco's antennas, RRHs, antenna platform and related equipment. The proposed shared use of this tower is, therefore, technically feasible. A Structural Analysis Report dated July 12, 2021 prepared by Delta Oaks Group confirms that the tower structure can support all of Cellco's proposed loading. A copy of the Structural Analysis Report is included in Attachment 5.

B. Legal Feasibility. Under C.G.S. § 16-50aa, the Council has been authorized to issue orders approving the shared use of an existing structure, such as the existing Arbor Crossing silo structure. This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. In addition, § 16-50x(a) directs the Council to "give such consideration to other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower facilities. Under the statutory authority vested in the Council, an order by the Council approving the requested shared use would permit the Applicant to obtain a building permit for the proposed installations.

C. Environmental Feasibility. The proposed shared use of the existing structure would have minimal environmental effects, for the following reasons:

1. The proposed installation of nine (9) antennas and six (6) RRHs at a height of 86 feet AGL inside the existing 105-foot silo structure would have an insignificant incremental visual impact on the area around the Property. As mentioned above, Cellco's equipment will be located within a shared equipment (barn) building. Cellco's shared use of the existing tower structure would, therefore, not cause any significant change or alteration in the physical or environmental characteristics of the existing site.

2. Noise associated with Cellco's proposed facility will comply with State and local noise standards.

3. Operation of Cellco's antennas at this site would not exceed the RF emissions standards adopted by the Federal Communications Commission ("FCC"). Included in Attachment 6 of this filing is a cumulative power density table that demonstrates that the facility will operate well within the FCC's safety standards.

4. Under ordinary operating conditions, the proposed installation would not require the use of any water or sanitary facilities and would not generate air emissions or discharges to water bodies or sanitary facilities. After construction is complete the proposed installations would not generate any increased traffic to the facility other than periodic maintenance visits to the cell site.

The proposed shared use of the existing silo structure would, therefore, have a minimal environmental effect, and is environmentally feasible.

D. Economic Feasibility. As previously mentioned, Cellco has entered into an agreement with TowerCo for the shared use of the existing tower structure subject to mutually agreeable terms. The proposed shared use of this structure is, therefore, economically feasible.

Public Safety Concerns. As discussed above, the silo structure is capable of supporting Cellco's antennas, antenna mounting frame, RRHs and all related equipment. Cellco is not aware of any public safety concerns relative to the proposed sharing of the existing the Arbor Crossing facility. In fact, the provision of new and improved wireless service through shared use

of the existing tower structure is expected to enhance the safety and welfare of area residents and members of the general public traveling through the Town of East Lyme. A Certificate of Mailing verifying that this filing was sent to the municipal officials, the Property owner, and TowerCo is included in Attachment 7.

Conclusion

For the reasons discussed above, the proposed shared use of the existing silo structure at the Property satisfies the criteria stated in C.G.S. § 16-50aa and advances the General Assembly's and the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. The Applicant, therefore, respectfully requests that the Council issue an order approving the proposed shared use.

Thank you for your consideration of this matter.

Very truly yours,

Kenneth C. Baldwin

Enclosures
Copy to:
Kevin A. Seery, First Selectman
Gary Goeschel, II, Director of Planning
Orchards at East Lyme, Inc., Property Owner
TowerCo, Tower Owner
Tim Parks

ATTACHMENT 1

DOCKET NO. 463A – American Towers, LLC and New Cingular Wireless PCS, LLC amended application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at 351A Boston Post Road, East Lyme, Connecticut or for the construction, maintenance and operation of a telecommunications facility at an alternative site located at 2 Arbor Crossing, East Lyme, Connecticut pursuant to Connecticut General Statutes §4-181a(a).	}	Connecticut
	}	Siting
	}	Council
		December 22, 2016

Decision and Order

Pursuant to Connecticut General Statutes §16-50p, §22a-19 and the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to New Cingular Wireless PCS, LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 2 Arbor Crossing, East Lyme, Connecticut. The Council denies Certification of the proposed site located at 351A Boston Post Road, East Lyme, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a faux silo at a height of 105 feet above ground level to provide the proposed wireless services, sufficient to accommodate the antennas of New Cingular Wireless PCS, LLC and other entities, both public and private. The height of the tower may be extended after the date of this Decision and Order pursuant to regulations of the Federal Communications Commission.

2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of East Lyme for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
    a) final site plan(s) for development of the facility to include specifications for the faux silo tower that employ the governing standard in the State of Connecticut for tower design in accordance with the currently adopted International Building Code, tower foundation, antennas, equipment compound including, but not limited to, fencing, radio equipment, access road, utility line, emergency backup generator, and landscaping ;
    b) construction plans for site clearing, grading, landscaping, water drainage and stormwater control, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended;
    c) provisions for tree clearing restrictions as recommended by the Department of Energy and Environmental Protection and/or the United States Fish and Wildlife Service to protect listed bat species; and
    d) hours of construction.

3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the base of the facility, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. Upon the establishment of any new federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.

6. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.

7. Any request for extension of the time period referred to in Condition 6 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of East Lyme.

8. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council within 90 days from the one year period of cessation of service. The Certificate Holder may submit a written request to the Council for an extension of the 90 day period not later than 60 days prior to the expiration of the 90 day period.

9. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.

10. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.

11. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.

12. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

13. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the faux silo tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.

14. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.

15. This Certificate may be surrendered by the Certificate Holder upon written notification and approval by the Council.

We hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed in the Service List, dated September 29, 2016, and notice of issuance published in The Day.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

ATTACHMENT 2

TowerCo

LETTER OF AUTHORIZATION

APPLICATIONS FOR ZONING/LAND USE/BUILDING PERMITS

TO: Town of East Lyme and Connecticut Siting Council

RE: Cell Tower @ 2 Arbor Crossing, East Lyme, CT 06333 (TowerCo Site ID: CT0025)

TowerCo 2013 LLC, the owner(s) of the above described communication tower authorizes Verizon and its authorized agents to file for and obtain any required zoning/land use and building permit related to their proposed colocation.

This LOA is specific Verizon's installation. Any future zoning and permitting application(s) will require a separate TowerCo authorization.

The undersigned hereby certifies to being the owners of the communication tower described above and that to the best of my/our knowledge the information contained within this authorization is true and correct.

David Hockey

(Signature)

DAVID HOCKEY

(Print name)

12/17/21

Date

ACKNOWLEDGMENT

State of NC

County of WAKE)

On Dec 17, 2021 before me, Charlotte White .

personally appeared David Hockey who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity, and that by his/her/their signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Signature Charlotte White (Seal)

CHARLOTTE WHITE
Notary Public, North Carolina
Chatham County
My Commission Expires
April 06, 2023

5000 Valleystone Dr.
Suite 200
Cary, NC 27519
address
919.653.5700
main
919.469.5530
fax
info@towerco.com
email
towerco.com
website

ATTACHMENT 3

WIRELESS COMMUNICATIONS FACILITY

SITE NAME: EAST LYME NORTH CT

TOWERCO SITE # CT0025
2 ARBOR CROSSING
EAST LYME, CT 06333

PROJECT SUMMARY

VERIZON SITE NAME:	EAST LYME NORTH CT
SITE ADDRESS:	2 ARBOR CROSSING EAST LYME, CT 06333
PROPERTY OWNER & MAILING ADDRESS:	ORCHARDS AT EAST LYME INC. C/O VISION MANAGEMENT LLC P.O. BOX 203, WEST SIMSBURY, CT 06092
TOWER OWNER:	TOWERCO 5000 VALLEYSTONE DR. CARY, NC 27519
PARCEL ID:	29.1-167
TOWER COORDINATES:	41° 21' 58.6" N 72° 14' 32.47" W
APPLICANT:	CELLCO PARTNERSHIP d.b.a. VERIZON WIRELESS 20 ALEXANDER DR. WALLINGFORD, CT 06492
VERIZON WIRELESS CONSTRUCTION:	MIKE HUMPHREYS - CONSTRUCTION STRUCTURE CONSULTING GROUP
LEGAL/REGULATORY COUNSEL:	KENNETH C. BALDWIN, ESQ. ROBINSON & COLE, LLP (860) 275-8345

PROJECT DESCRIPTION

- INSTALLATION OF SEVERAL EQUIPMENT CABINETS LOCATED WITHIN AN EXISTING ROOM WITHIN BUILDING/BARN AND NEW HVAC SPLIT SYSTEM UNITS TO BE INSTALLED
- VERIZON TO UTILIZE EXISTING EMERGENCY "SHARED" GENERATOR
- INSTALLATION OF (9) PANEL ANTENNAS AND ASSOCIATED DEVICES LOCATED WITHIN THE EXISTING SILO
- INSTALLATION OF (1) GPS ANTENNA ON BUILDING FACADE
- INSTALLATION OF CABLING FROM EQUIP. CABINETS TO ANTENNAS
- ELECTRICAL & TELEPHONE SERVICES ROUTED WITHIN BUILDING FROM EXISTING UTILITY DEMARCATION POINTS INSIDE

VICINITY MAP

NOT-TO-SCALE

DRAWING SCHEDULE

SHEET NO.	SHEET DESCRIPTION
T-1	TITLE SHEET
C-1	AREA MAP
A-1	SITE LAYOUT & EAST ELEVATION
A-2	ANTENNA PLAN & DETAILS

verizon
WIRELESS COMMUNICATIONS FACILITY
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 Foundry Pond Rd.
Cold Spring, NY 10516
onair@optonline.net
201-456-4624

LICENSURE

DAVID WEINPAHL, P.E.
CT LIC. NO. 22144

NO.:	DATE:	SUBMISSIONS
0	10.26.21	REVIEW
1	12.05.21	CSC FILING

DRAWN BY:	CHECKED BY:
MF	DW

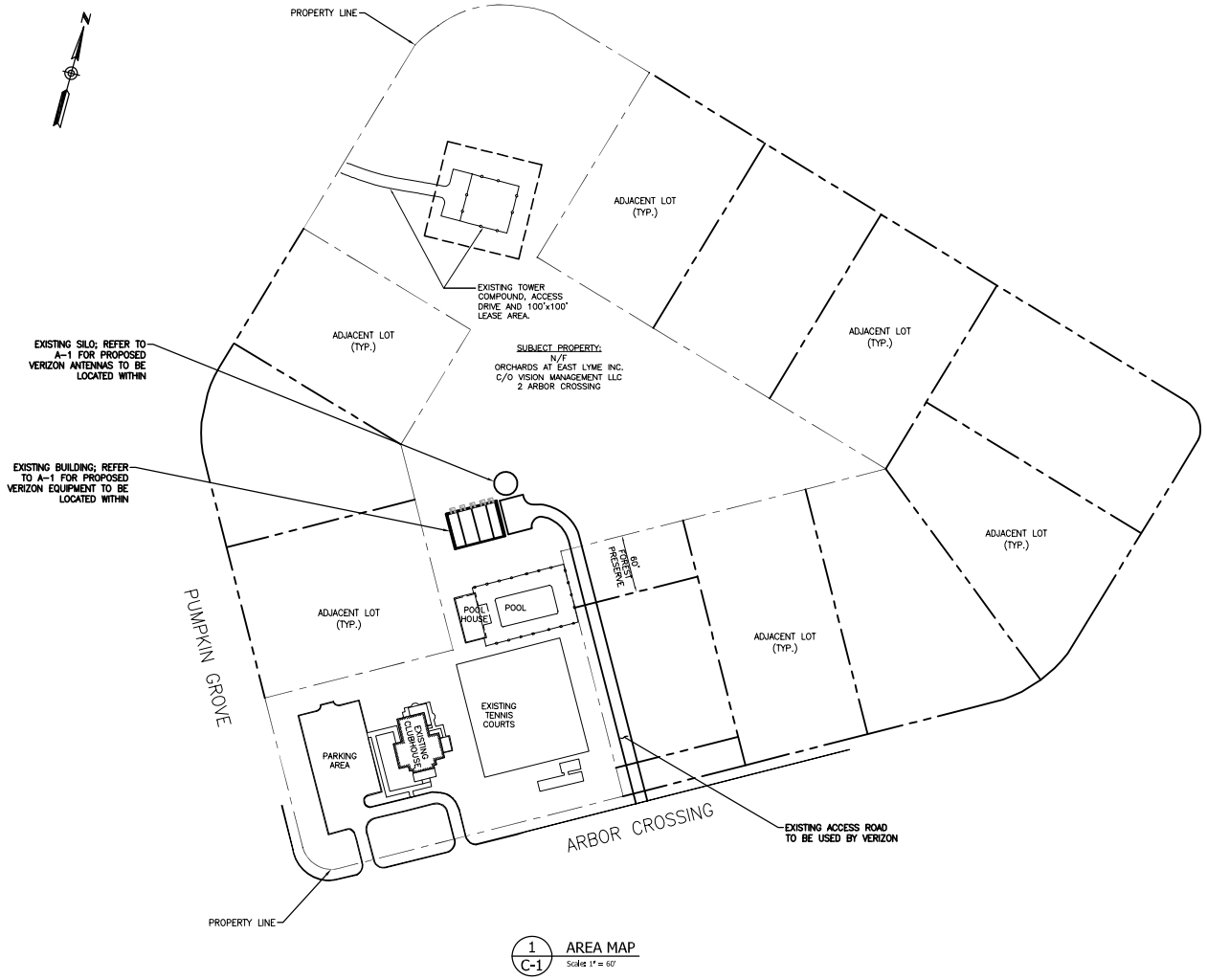
NEW BUILD MACRO

SITE NAME:
EAST LYME NORTH CT

PROJECT INFORMATION:
TOWERCO SITE # CT0025
2 ARBOR CROSSING
EAST LYME, CT 06333

DRAWING TITLE:
TITLE SHEET

SHEET NUMBER:
T-1



1 / C-1 AREA MAP
Scale: 1" = 60'

verizon

WIRELESS COMMUNICATIONS FACILITY

20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
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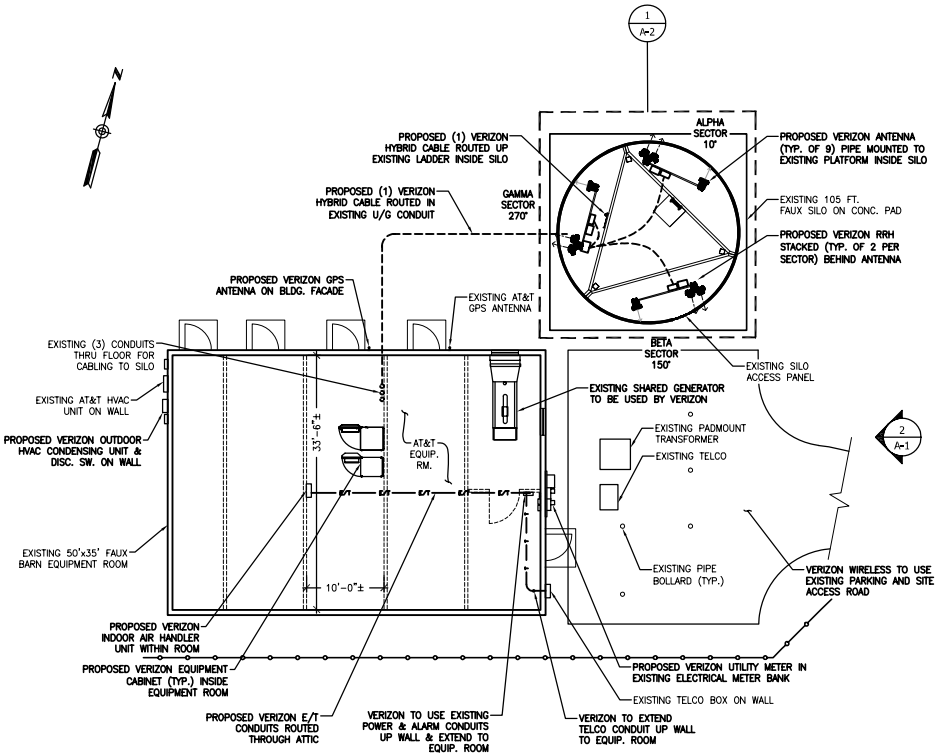
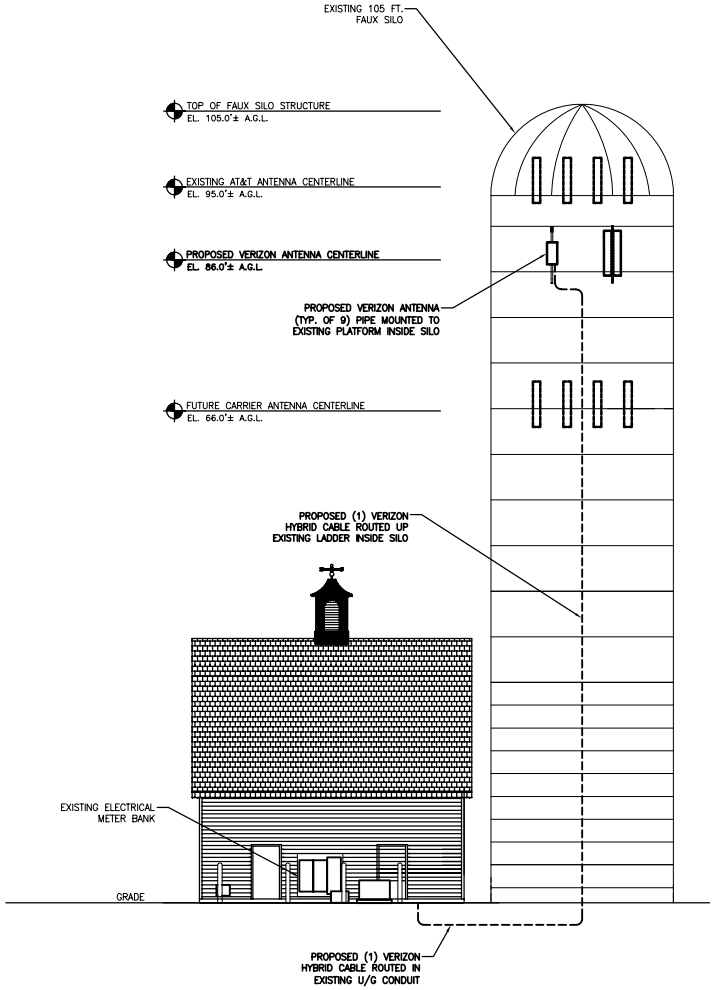
DRAWING TITLE:
AREA MAP

SHEET NUMBER:
C-1



1 A-1 SITE LAYOUT
Scale: 1/8" = 1'-0"



2 A-1 EAST ELEVATION
Scale: 1/8"=1'-0"

verizon
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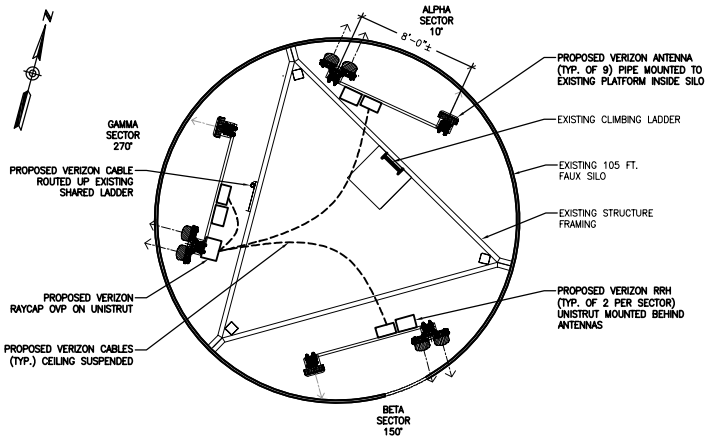
EAST LYME, CT 06333

DRAWING TITLE:
SITE LAYOUT &
EAST ELEVATION

SHEET NUMBER:
A-1



1 / A-2 ANTENNA PLAN @ 86 FT. A.G.L.
Scale: 1/4" = 1'-0"

COMM,SCOPE ANTENNA SPECIFICATIONS				
MODEL #	HEIGHT	WIDTH	DEPTH	WEIGHT
NHH-65B-R2B	72.0"	11.9"	7.1"	XXX LBS

*SIDE-BY-SIDE MOUNTING BRACKET

2 / A-2 ANTENNA DETAIL
Scale: N.T.S.

SAMSUNG ANTENNA SPECIFICATIONS				
MODEL #	HEIGHT	WIDTH	DEPTH	WEIGHT
MT6407	35.1"	16.1"	5.5"	79.4 LBS

*INCLUDES INTEGRATED RRH

3 / A-2 ANTENNA DETAIL
Scale: N.T.S

SAMSUNG RRH AWS/PCS SPECIFICATIONS				
MODEL #	HEIGHT	WIDTH	DEPTH	WEIGHT
B2/B66	15"	15"	10"	97.5 LBS

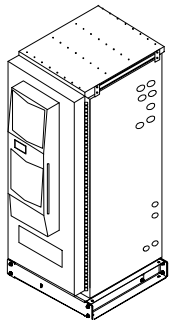
4 / A-2 RRH DETAIL - AWS/PCS
Scale: N.T.S

SAMSUNG RRH 700/850 SPECIFICATIONS				
MODEL #	HEIGHT	WIDTH	DEPTH	WEIGHT
B5/B13	15"	15"	8.1"	82.0 LBS

5 / A-2 RRH DETAIL - 700/850
Scale: N.T.S

RAYCAP SPECIFICATIONS				
MODEL #	HEIGHT	WIDTH	DEPTH	WEIGHT
RVZDC-6627-PF-48	29.5"	16.5"	12.6"	32 LBS

6 / A-2 RAYCAP OVP DETAIL
Scale: N.T.S

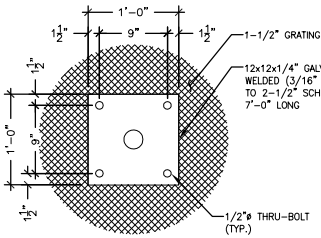


ISOMETRIC

COMMSCOPE EQUIPMENT SPECIFICATIONS				
MODEL #	HEIGHT	WIDTH	DEPTH	WEIGHT
RBA84	85.2"	32.0"	35.4"	1,955 LBS (1)
760238731	6"	32.0"	36.6"	50 LBS (2)

(1) WEIGHT OF CABINET WITH 2-STRINGS OF BATTERIES
(2) APPRXOX. WEIGHT OF SUB-BASE

7 / A-4 RBA84 EQUIPMENT CABINET
Scale: 3" = 1'-0"



8 / A-2 ANTENNA MAST CONN. DETAIL - PROPOSED
Scale: 3/8" = 1'-0"

verizon
WIRELESS COMMUNICATIONS FACILITY

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NEW BUILD MACRO

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PROJECT INFORMATION:
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DRAWING TITLE:
ANTENNA PLAN & DETAILS

SHEET NUMBER:
A-2

ATTACHMENT 4

SAMSUNG

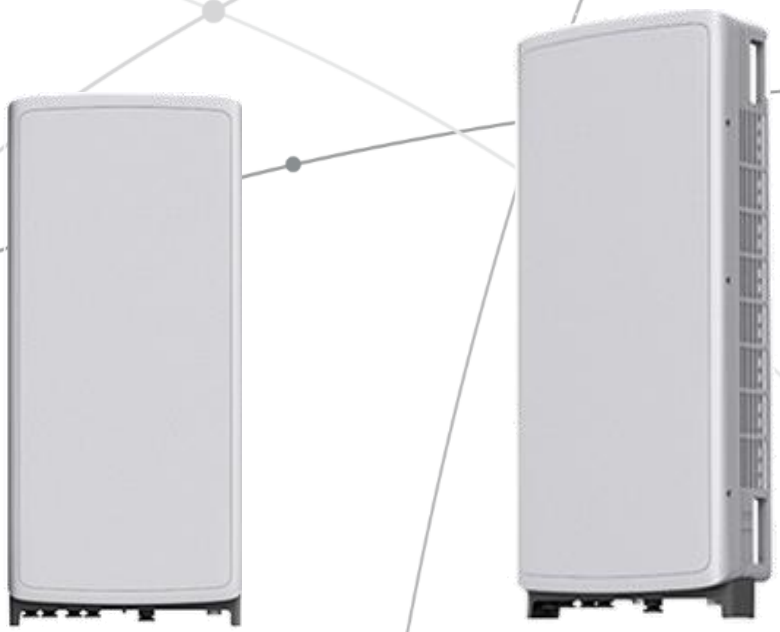
SAMSUNG

C-Band 64T64R Massive MIMO Radio

for High Capacity and Wide Coverage

Samsung C-Band 64T64R Massive MIMO Radio enables mobile operators to increase coverage range, boost data speeds and ultimately offer enriched 5G experiences to users in the U.S..

Model Code : MT6407-77A

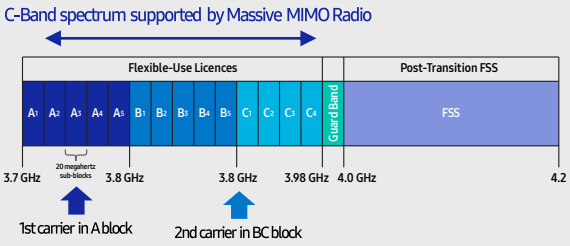


Points of Differentiation

Wide Bandwidth

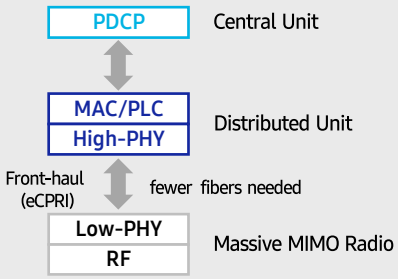
With capability to support up to 2 CC carrier configuration, Samsung C-Band massive MIMO Radio supports 200 MHz bandwidth in the C-Band spectrum.

Samsung C-Band massive MIMO Radio covers the entire C-Band 280 MHz spectrum, so it can meet the operator's needs in current A block and future B/C blocks



Future Proof Product

Samsung C-Band 64T64R Massive MIMO radio supports not only CPRI but also eCPRI as front-haul interface.
It enables operators can cut down on OPEX/CAPEX by reducing front-haul bandwidth through low layer split and using ethernet based higher efficient line.



Enhanced Performance

C-Band massive MIMO Radio creates sharp beams and extends networks' coverage on the critical mid-band spectrum using a large number of antenna elements and high output power to boost data speeds.

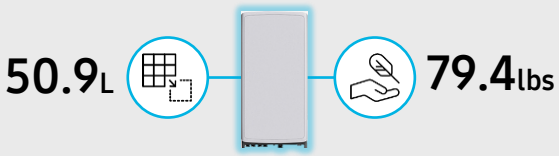
This helps operators reduce their CAPEX as they now need less products to cover the same area than before.

Furthermore, as C-Band massive MIMO Radio supports MU-MIMO(Multi-user MIMO) , it enables to increase user throughput by minimizing interference.

Well Matched Design

Samsung C-Band Massive MIMO radio utilizes 64 antennas, supports up to 280MHz bandwidth, and delivers a 200W output power. despite the above advanced performance, the Radio has a compact size of 50.9L and 79.4lbs. This makes it easy to install the Radio.

It is designed to look solid and compact, with a low profile appearance so that, when installed, harmonizes well with the surrounding environment..



Technical Specifications

Item	Specification
Tech	NR
Band	n77
Frequency Band	3700 - 3980 MHz
EIRP	78.5dBm (53.0 dBm+25.5 dBi)
IBW/OBW	280 MHz / 200 MHz
Installation	Pole/Wall
Size/ Weight	16.06 x 35.06 x 5.51 inch (50.86L)/ 79.4 lbs

SAMSUNG

About Samsung Electronics Co., Ltd.

Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions.

129 Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, Korea

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SAMSUNG

Dual-Band Radio Unit
AWS/PCS (B66/B2)
RFV01U-D1A

Samsung's RFV01U-D1A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.

The RFV01U-D1A RU targets dual-band support across Band 66 (AWS) and Band 2 (PCS), making it an ideal product for broad coverage footprints across multiple common mid-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation
- Built-in Broadcast Auxiliary Services (BAS) filter ensures compliant AWS operation without impacting footprint

Key Technical Specifications

Duplex Type: FDD
Operating Frequencies:
    B66: DL(2,110-2,180MHz)/UL(1,710-1,780MHz)
    B2: DL(1,930-1,990MHz)/UL(1,850-1,910MHz)
Instantaneous Bandwidth:
    70MHz(B66) + 60MHz(B2)
RF Chain: 4T4R/2T4R/2T2R
Output Power: Total 320W
DU-RU Interface: CPRI (10Gbps)
Dimensions: 380 x 380 x 255mm (36.8L)
Weight: 38.3kg
Input Power: -48V DC
Operating Temp.: -40 - 55°(w/o solar load)
Cooling: Natural convection

SAMSUNG

Dual-Band Radio Unit
700/850MHz (B13/B5)
RFV01U-D2A

Samsung's RFV01U-D2A is a compact remote Radio Unit (RU) designed for deployments that require flexibility in installation and rapid onlining, without compromising on coverage, capacity or operational expenses.

The RFV01U-D2A RU targets dual-band support across Band 13 (700MHz) and Band 5 (850MHz), making it an ideal product for broad coverage footprints across multiple common low-end, long-range frequencies.

The RU handles all Radio Frequency (RF) processing in a single, compact unit, and is designed to interface via CPRI with Samsung's CDU baseband offerings, in both distributed- and central-RAN configurations.

In addition to its minimal footprint and ease of installation, the RU is also designed to reduce cost of ownership through its integrated spectrum analyzer, which allows for remote RF monitoring, greatly reducing the need for on-site maintenance visits.

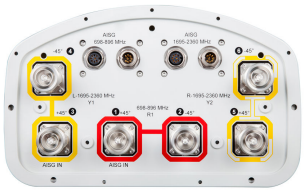
Features and Benefits

- Dual-band support for broad frequency coverage
- Minimal footprint reduces site costs
- Rapid, easy installation
- Flexibly deployable in any location
- Remote RF monitoring capability
- Convection cooled, silent operation

Key Technical Specifications

Duplex Type: FDD
Operating Frequencies:
B13: DL(746-756MHz)/UL(777-787MHz)
B5: DL(869-894MHz)/UL(824-849MHz)
Instantaneous Bandwidth: 10MHz(B13) + 25MHz(B5)
RF Chain: 4T4R/2T4R/2T2R
Output Power: Total 320W
DU-RU Interface: CPRI (10Gbps)
Dimensions: 380 x 380 x 207mm (29.9L)
Weight: 31.9kg
Input Power: -48V DC
Operating Temp.: -40 - 55°(w/o solar load)
Cooling: Natural convection

NHH-65B-R2B



6-port sector antenna, 2x 698–896 and 4x 1695–2360 MHz, 65° HPBW, 2x RET. Both high bands share the same electrical tilt.

- Interleaved dipole technology providing for attractive, low wind load mechanical package
- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- Separate RS-485 RET input/output for low and high band
- One RET for low band and one RET for both high bands to ensure same tilt level for 4x Rx or 4x MIMO

General Specifications

Antenna Type	Sector
Band	Multiband
Color	Light gray
Effective Projective Area (EPA), frontal	0.26 m^2 | 2.799 ft^2
Effective Projective Area (EPA), lateral	0.22 m^2 | 2.368 ft^2
Grounding Type	RF connector body grounded to reflector and mounting bracket
Performance Note	Outdoor usage | Wind loading figures are validated by wind tunnel measurements described in white paper WP-112534-EN
Radome Material	Fiberglass, UV resistant
Radiator Material	Low loss circuit board
Reflector Material	Aluminum
RF Connector Interface	7-16 DIN Female
RF Connector Location	Bottom
RF Connector Quantity, high band	4
RF Connector Quantity, low band	2
RF Connector Quantity, total	6

Remote Electrical Tilt (RET) Information, General

RET Interface	8-pin DIN Female | 8-pin DIN Male
RET Interface, quantity	2 female | 2 male

Dimensions

Width	301 mm | 11.85 in
Length	1828 mm | 71.969 in

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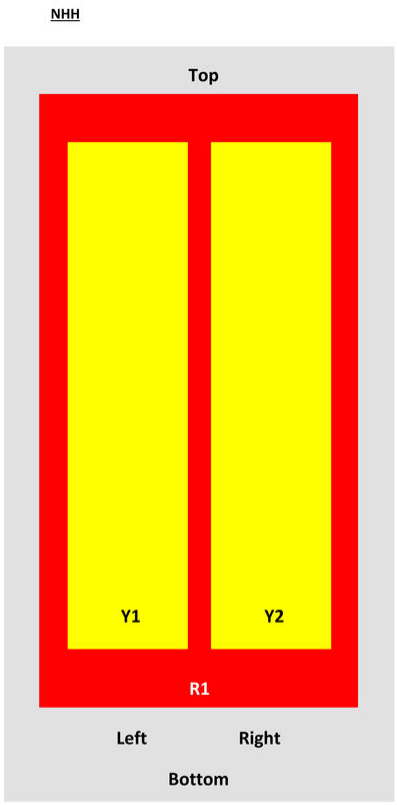
Depth	180 mm | 7.087 in

Array Layout



Array	Freq (MHz)	Conns	RET (SRET)	AISG RET UID
R1	698-896	1-2	1	ANxxxxxxxxxxxxxxx1
Y1	1695-2360	3-4	2	ANxxxxxxxxxxxxxxx2
Y2	1695-2360	5-6		

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

Electrical Specifications

Impedance	50 ohm
Operating Frequency Band	1695 – 2360 MHz | 698 – 896 MHz
Polarization	±45°
Total Input Power, maximum	900 W @ 50 °C

Remote Electrical Tilt (RET) Information, Electrical

Protocol	3GPP/AISG 2.0 (Single RET)
Power Consumption, idle state, maximum	2 W

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NHH-65B-R2B

Power Consumption, normal conditions, maximum	13 W
Input Voltage	10–30 Vdc
Internal Bias Tee	Port 1 | Port 3
Internal RET	High band (1) | Low band (1)

Electrical Specifications

Frequency Band, MHz	**698–806**	**806–896**	**1695–1880**	**1850–1990**	**1920–2200**	**2300–2360**
Gain, dBi	14.9	15	17.7	17.9	18.4	18.7
Beamwidth, Horizontal, degrees	65	60	71	69	64	57
Beamwidth, Vertical, degrees	12.4	11.2	5.7	5.2	4.9	4.6
Beam Tilt, degrees	0–14	0–14	0–7	0–7	0–7	0–7
USLS (First Lobe), dB	13	14	18	18	19	18
Front-to-Back Ratio at 180°, dB	30	29	31	30	29	31
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	30	30	30	30	30	30
VSWR | Return loss, dB	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0	1.5 | 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port at 50° C, maximum, watts	300	300	300	300	300	300

Electrical Specifications, BASTA

Frequency Band, MHz	**698–806**	**806–896**	**1695–1880**	**1850–1990**	**1920–2200**	**2300–2360**
Gain by all Beam Tilts, average, dBi	14.5	14.5	17.3	17.7	18.1	18.5
Gain by all Beam Tilts Tolerance, dB	±0.6	±1.1	±0.4	±0.4	±0.5	±0.3
Gain by Beam Tilt, average, dBi	0 ° | 14.4 7 ° | 14.6 14 ° | 14.3	0 ° | 14.7 7 ° | 14.7 14 ° | 14.1	0 ° | 17.2 4 ° | 17.3 7 ° | 17.3	0 ° | 17.6 4 ° | 17.7 7 ° | 17.7	0 ° | 18.0 4 ° | 18.2 7 ° | 18.1	0 ° | 18.3 4 ° | 18.5 7 ° | 18.6
Beamwidth, Horizontal Tolerance, degrees	±2	±2.1	±3	±4.1	±6.5	±2.9
Beamwidth, Vertical Tolerance, degrees	±0.7	±0.7	±0.3	±0.2	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	13	14	16	16	17	15
Front-to-Back Total Power at 180° ± 30°, dB	23	22	27	27	25	25
CPR at Boresight, dB	22	21	23	23	22	19

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NHH-65B-R2B

CPR at Sector, dB	10	7	16	13	11	4

Mechanical Specifications

Wind Loading at Velocity, frontal	278.0 N @ 150 km/h | 63.6 lbf @ 150 km/h
Wind Loading at Velocity, lateral	230.0 N @ 150 km/h | 51.7 lbf @ 150 km/h
Wind Loading at Velocity, maximum	120.7 lbf @ 150 km/h | 537.0 N @ 150 km/h
Wind Speed, maximum	241 km/h | 149.75 mph

Packaging and Weights

Width, packed	409 mm | 16.102 in
Depth, packed	299 mm | 11.772 in
Length, packed	1952 mm | 76.85 in
Net Weight, without mounting kit	19.8 kg | 43.651 lb
Weight, gross	32.3 kg | 71.209 lb

Regulatory Compliance/Certifications

Agency	Classification
CHINA-ROHS	Below maximum concentration value
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
REACH-SVHC	Compliant as per SVHC revision on www.commscope.com/ProductCompliance
ROHS	Compliant

Included Products

BSAMNT-3	—	Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Performance Note	Severe environmental conditions may degrade optimum performance

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ATTACHMENT 5

TowerCo

PASS
(Foundation, 92% capacity)

DELTA OAKS GROUP

July 12, 2021

Mr. Stephen Rambeau
Director of Engineering
TowerCo
5000 Valleystone Drive
Cary, NC 27519

Subject	**Rigorous Structural Analysis**
Carrier Designation	**Verizon Wireless, Colocation** **Site Number: 2558230** **Site Name: EAST LYME NORTH CT**
TowerCo Designation	**Site Number: CT0025** **Site Name: East Lyme Relo** **JIRA Ticket: ENG-34079**
Engineering Firm Designation	**Delta Oaks Group Project: STR21-10300-02** **Delta Oaks Group Site Number: 07-02012**
Site Data	**2 Arbor Crossing, East Lyme, New London County, CT 06333** **Latitude: N 41.3663°±; Longitude: W 72.2423°±** **Elevation: 340-ft±, Topography Category: 1;** **Exposure Category: "C"; Risk Category: "II";** **105-ft Self-Supporting Silo Structure**

Dear Mr. Rambeau,

To your request, we present our rigorous structural analysis. Our work indicates that with the proposed appurtenance configuration, the tower and foundation **will** satisfy the structural strength requirements of ANSI/TIA-222-G, *Structural Standard for Antenna Supporting Structures and Antennas* and *2018 Connecticut State Building code/2015 International Building Code* / ASCE 7-10 for:

- V_{ult} = 135-mph / V_{asd} = 105-mph three-second gust basic wind speed [per Eqn. 16-33 of the 2015 IBC]
- 50-mph three-second gust basic wind speed with 3/4-in radial ice
- Earthquake design parameters and loading, per USGS Ground Motion Parameter Calculator (ASCE 7-10) and industry standard, respectively, including:
  - S_s = 0.161, S_1 = 0.058

Delta Oaks Group appreciates the opportunity to be of service to TowerCo. Please do not hesitate to contact us if you have any questions or require any additional information.

Sincerely,

Rick Emerson

Rick Emerson, EI
Structural Engineer II

Reviewed By: CH

STATE OF CONNECTICUT
Michael Lassiter
2021.07.12
13:45:34 -04'00'
MICHAEL L. LASSITER
No. 25064
LICENSED
PROFESSIONAL ENGINEER

Michael L. Lassiter

Michael L. Lassiter, SE, PE
Chief Structural Engineer, Vice President
CT PE License PEN.0025064

Table 1: Existing, Proposed and Reserved Appurtenance Configuration

Elevation (AGL, ft)	Carrier	Mount	Equipment	Feedlines	Location
95[1]	AT&T [Existing]	(1) Platform Mount	(9) CCI HPA65R-BU6AA-K (3) KMW EPBQ654L8H6-L2 (3) Ericsson RRUS B14 4478 (3) Ericsson RRUS32 (6) Ericsson RRUS-12 (6) Ericsson RRUS-11 (3) Ericsson RRUS-E2 (3) Raycap DC12-48-60-0-25E (3) Fiber Management Boxes	(6) DC Cables (1) Fiber Trunk	Inside
86[3]	***Verizon [Proposed]***	***(1) Platform Mount***	***(6) Commscope NHH-65B-R2B (3) Samsung MT6407-77A (3) Samsung B2/B66A RRH-BR049 (3) Samsung B5/B13 RRH-BR04 (1) Commscope FE-16148-OVP-B12***	***(1) 12x24 Hybrid***	***Inside***
66[2]	Dish Wireless [Existing]	(1) Platform Mount	(3) JMA MX08FRO665-20_V0F (6) Fujitsu TA08025-B605 (1) Raycap RDIDC-9181-PF-48	(1) 1.6" Hybrid	Inside

1. Existing AT&T loading per previous construction drawings dated 03/07/2017 stamped "As-Built by JDH Contracting.
2. Existing Dish Wireless loading per colocation tenant application dated 05/03/2021 via JIRA Ticket# ENG-33868.
3. Proposed Verizon loading per colocation tenant application dated 06/11/2021 via JIRA Ticket# ENG-34079. Verizon mount per correspondence with TowerCo.

Table 2: Serviceability Requirements: Limit State Deformations[1]

Elevation (AGL, ft)	Equipment	Twist (deg)[2]	Sway (deg)[2]	Deflection (in)	Deflection Limit (in)[3]	Result
91.25	Structure	0.0047	0.0336	0.548	37.8	O. K.

1. See program output for supporting details.
2. Per TIA-222-G Section 2.8.2.1 rotation about the vertical axis (twist) or any horizontal axis (sway) of the structure shall not exceed 4 degrees.
3. Per TIA-222-G Section 2.8.2.2 horizontal displacement shall not exceed 3% of the height of the structure.

Table 3: Tower Structure Results, Percent Capacity Utilized[1]

Structural Component	Capacity	Result
Legs	59	O. K.
Diagonals	**80**	**O. K.**
Girts	16	O. K.
Bolts	**80**	**O. K.**

1. Detailed results and capacities available in the TNX Tower output attached. Percent utilized less than 105% is considered acceptable.

Table 4: Foundation Results, Percent Capacity Utilized

Component	Percent Utilized	Result
Max Utilization – Soil	**92**	**O. K.**
Max Utilization –Structure	42	O. K.

ASSUMPTIONS

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

1. The tower member sizes and shapes are considered accurate as supplied. The material grade is as per data supplied and/or as assumed based on industry standards.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations.
6. Foundations are properly designed and constructed to resist the original design loads indicated in the documents provided.
7. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
8. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
9. All prior structural modifications are assumed to be as per data supplied/available and to have been properly installed.
10. Loading interpreted from photos is accurate to ±5' AGL, antenna size accurate to ±3.3 SF, and coax equal to the number of existing antennas without reserve.
11. Unless otherwise noted, documents reviewed and used in this structural analysis were provided by CLIENT.
12. The proposed coax shall be installed per the attached coax layout plan, Sheet QP-P.
13. Leg A is determined per best industry practice.

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

DISCLAIMER OF WARRANTIES

Delta Oaks Group ("DOG") has not necessarily performed a detailed site visit to the tower to verify the member sizes or antenna/coax loading. Even if a site visit was performed, it is possible that the tower configuration, components, and/or loading has been modified since said site visit. Therefore, if the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation, nor does this report replace a full tower inspection. The tower and foundations are assumed to be in good condition, twist free, and plumb and are also assumed to have been properly fabricated, erected, and maintained.

The engineering services rendered by DOG in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

This report does not include an analysis of the fabrication of the structure (including welding). As it is not feasible to attain all the detailed information necessary to perform a thorough analysis of every structural sub-component and connection of an existing tower, DOG provides a limited scope of service that does not verify the adequacy of every weld, plate connection detail, etc. Therefore, the purpose of this report is to assess the capacity of the major tower components regarding the addition of appurtenances, usually accompanied by transmission lines, to the structure.

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

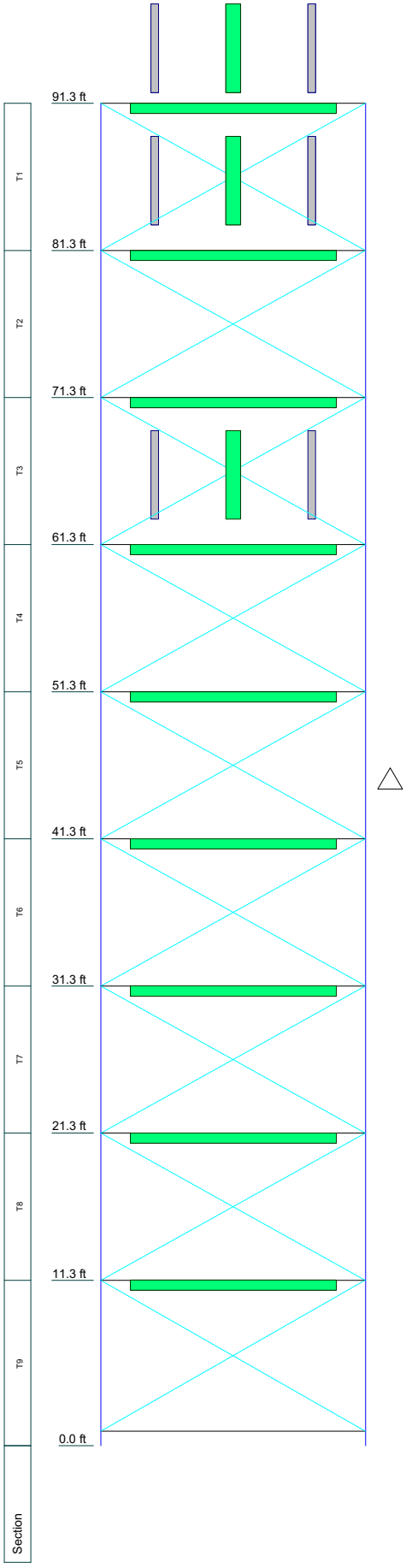
The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable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

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work.

DOG makes no warranties, expressed and/or implied, in connection with this report and disclaim any liability arising from material, fabrication, and erection of this tower.

Attachments:

- Program Input and Output – Wind
- Silo Wind Pressure Calculation
- Foundation Calculations
- Tenant Application



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION
Cannister Section (Tower)	99
(3) CCI HPA65R-BU6AA-K (ATI)	95
(3) CCI HPA65R-BU6AA-K (ATI)	95
KMW EPBQ654L8H6-L2 (ATI)	95
KMW EPBQ654L8H6-L2 (ATI)	95
KMW EPBQ654L8H6-L2 (ATI)	95
Ericsson RRUS-B14 4478 (ATI)	95
Ericsson RRUS-B14 4478 (ATI)	95
Ericsson RRUS-B14 4478 (ATI)	95
Ericsson RRUS32 (ATT) (ATI)	95
Ericsson RRUS32 (ATT) (ATI)	95
Ericsson RRUS32 (ATT) (ATI)	95
(2) Ericsson RRUS-12 (ATI)	95
(2) Ericsson RRUS-12 (ATI)	95
(2) Ericsson RRUS-12 (ATI)	95
(2) Ericsson RRUS-11 (ATI)	95
(2) Ericsson RRUS-11 (ATI)	95
(2) Ericsson RRUS-11 (ATI)	95
Ericsson RRUS-E2 (ATI)	95
Ericsson RRUS-E2 (ATI)	95
Ericsson RRUS-E2 (ATI)	95
Raycap DC6-48-60-18-8F (ATI)	95
(3) CCI HPA65R-BU6AA-K (ATI)	95
Platform (Tower)	91.25
Cannister Section (Tower)	87
(2) Commscope NHH-65B-R2B w/ MP (Verizon)	86
(2) Commscope NHH-65B-R2B w/ MP (Verizon)	86
(2) Commscope NHH-65B-R2B w/ MP (Verizon)	86
Samsung MT6407-77A (Verizon)	86
Samsung MT6407-77A (Verizon)	86
Samsung MT6407-77A (Verizon)	86
Samsung B5/B13 RRH-BR04C (Verizon)	86
Samsung B5/B13 RRH-BR04C (Verizon)	86
Samsung B5/B13 RRH-BR04C (Verizon)	86

TYPE	ELEVATION
Samsung B2/B66A RRH-BR049 (Verizon)	86
Samsung B2/B66A RRH-BR049 (Verizon)	86
Samsung B2/B66A RRH-BR049 (Verizon)	86
Commscope FE-16148-OVP-B12 (Verizon)	86
Platform (Tower)	81.25
Cannister Section (Tower)	76
Platform (Tower)	71.25
Cannister Section (Tower)	66
(2) Fujitsu TA08025-B605 (Dish Wireless)	66
(2) Fujitsu TA08025-B605 (Dish Wireless)	66
(2) Fujitsu TA08025-B605 (Dish Wireless)	66
Raycap RDIDC-9181-PF-48 (Dish Wireless)	66
JMA MX08FRO665-20_V0F (Dish Wireless)	66
JMA MX08FRO665-20_V0F (Dish Wireless)	66
JMA MX08FRO665-20_V0F (Dish Wireless)	66
Platform (Tower)	61.25
Cannister Section (Tower)	56
Platform (Tower)	51.25
Cannister Section (Tower)	46
Platform (Tower)	41.25
Cannister Section (Tower)	36
Platform (Tower)	31.25
Cannister Section (Tower)	26
Platform (Tower)	21.25
Cannister Section (Tower)	16
Platform (Tower)	11.25
Cannister Sections (Tower)	5.5

DELTA OAKS GROUP
CLIENT FOCUSED -- EMPLOYEE DRIVEN

Delta Oaks Group
4904 Professional Ct., 2nd Floor
Raleigh, NC 27609
Phone: (919)-342-8247
FAX:

Job: ***CT0025 East Lyme Relo***			
Project: ***ENG-34079***			
Client: Towerco	Drawn by: RE	App'd:	
Code: TIA-222-G	Date: 07/12/21	Scale: NTS	
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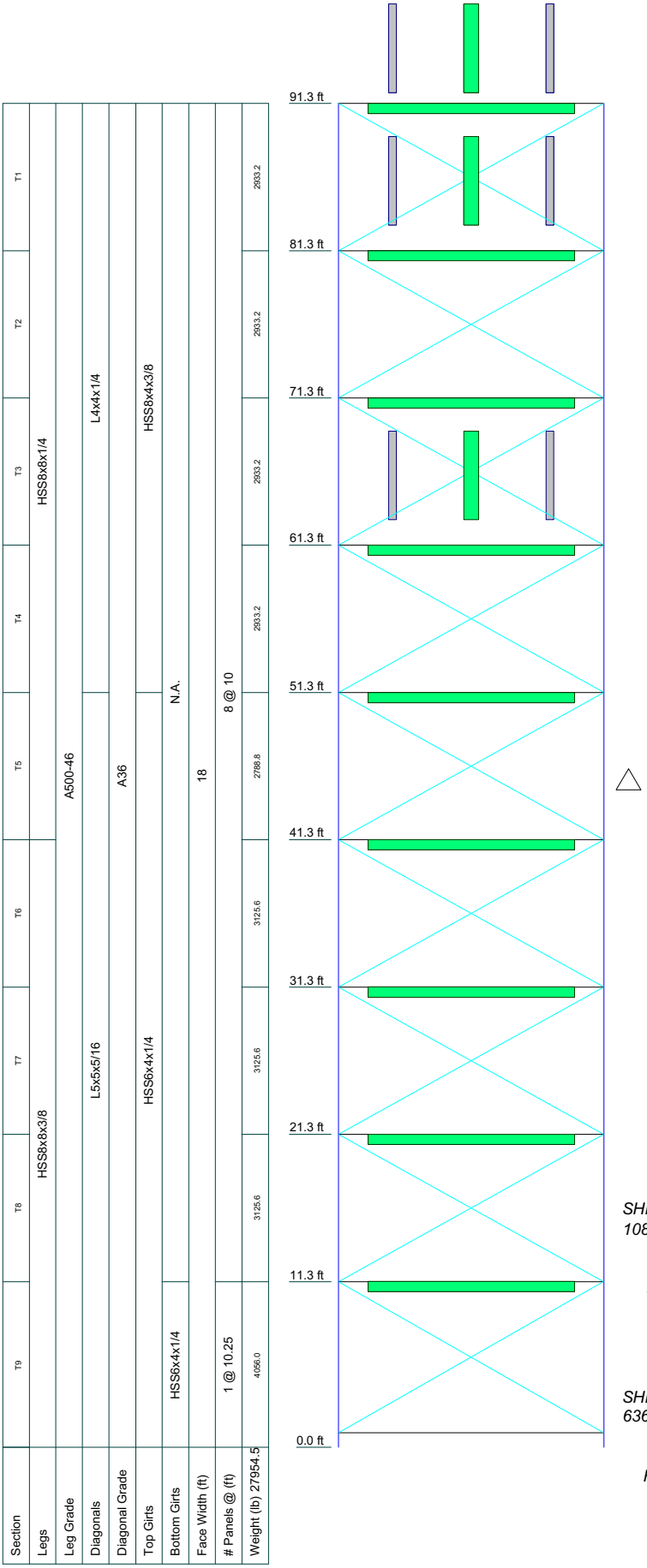


MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500-46	46 ksi	62 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower designed for Exposure C to the TIA-222-G Standard.
2. Tower designed for a 105 mph basic wind in accordance with the TIA-222-G Standard.
3. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 60 mph wind.
5. Tower Structure Class II.
6. Topographic Category 1 with Crest Height of 0.00 ft
7. TOWER RATING: 80.2%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 254618 lb
SHEAR: 26864 lb

UPLIFT: -208844 lb
SHEAR: 26246 lb

AXIAL 172205 lb
SHEAR 10811 lb
MOMENT 659076 lb-ft
TORQUE 23134 lb-ft
50 mph WIND - 0.7500 in ICE

AXIAL 78011 lb
SHEAR 63637 lb
MOMENT 3563747 lb-ft
TORQUE 38237 lb-ft
REACTIONS - 105 mph WIND

DELTA OAKS GROUP
CLIENT FOCUSED -- EMPLOYEE DRIVEN

Delta Oaks Group
4904 Professional Ct., 2nd Floor
Raleigh, NC 27609
Phone: (919)-342-8247
FAX:

Job: ***CT0025 East Lyme Relo***			
Project: ***ENG-34079***			
Client: Towerco	Drawn by: RE		App'd:
Code: TIA-222-G	Date: 07/12/21		Scale: NTS
Path: C:\Users\remerson\OneDrive - Delta Oaks Group\Desktop\Active Models\CT0025\CT0025.eri			Dwg No. E-1

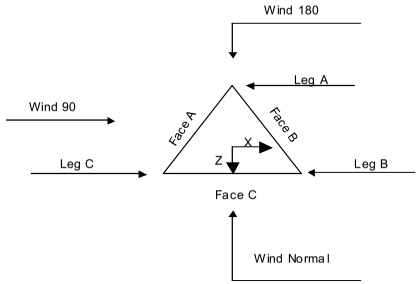
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 91.25 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 18.00 ft at the top and 18.00 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
Basic wind speed of 105 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
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		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	91.25-81.25			18.00	1	10.00
T2	81.25-71.25			18.00	1	10.00
T3	71.25-61.25			18.00	1	10.00
T4	61.25-51.25			18.00	1	10.00
T5	51.25-41.25			18.00	1	10.00
T6	41.25-31.25			18.00	1	10.00
T7	31.25-21.25			18.00	1	10.00
T8	21.25-11.25			18.00	1	10.00
T9	11.25-0.00			18.00	1	11.25

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	91.25-81.25	10.00	X Brace	No	No	0.0000	0.0000
T2	81.25-71.25	10.00	X Brace	No	No	0.0000	0.0000
T3	71.25-61.25	10.00	X Brace	No	No	0.0000	0.0000
T4	61.25-51.25	10.00	X Brace	No	No	0.0000	0.0000
T5	51.25-41.25	10.00	X Brace	No	No	0.0000	0.0000
T6	41.25-31.25	10.00	X Brace	No	No	0.0000	0.0000

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
T7	31.25-21.25	10.00	X Brace	No	No	0.0000	0.0000
T8	21.25-11.25	10.00	X Brace	No	No	0.0000	0.0000
T9	11.25-0.00	10.25	X Brace	No	No	0.0000	12.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 91.25-81.25	Tube	HSS8x8x1/4	A500-46 (46 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T2 81.25-71.25	Tube	HSS8x8x1/4	A500-46 (46 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T3 71.25-61.25	Tube	HSS8x8x1/4	A500-46 (46 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T4 61.25-51.25	Tube	HSS8x8x1/4	A500-46 (46 ksi)	Equal Angle	L4x4x1/4	A36 (36 ksi)
T5 51.25-41.25	Tube	HSS8x8x1/4	A500-46 (46 ksi)	Equal Angle	L5x5x5/16	A36 (36 ksi)
T6 41.25-31.25	Tube	HSS8x8x3/8	A500-46 (46 ksi)	Equal Angle	L5x5x5/16	A36 (36 ksi)
T7 31.25-21.25	Tube	HSS8x8x3/8	A500-46 (46 ksi)	Equal Angle	L5x5x5/16	A36 (36 ksi)
T8 21.25-11.25	Tube	HSS8x8x3/8	A500-46 (46 ksi)	Equal Angle	L5x5x5/16	A36 (36 ksi)
T9 11.25-0.00	Tube	HSS8x8x3/8	A500-46 (46 ksi)	Equal Angle	L5x5x5/16	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 91.25-81.25	Tube	HSS8x4x3/8	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T2 81.25-71.25	Tube	HSS8x4x3/8	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T3 71.25-61.25	Tube	HSS8x4x3/8	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T4 61.25-51.25	Tube	HSS8x4x3/8	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T5 51.25-41.25	Tube	HSS6x4x1/4	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T6 41.25-31.25	Tube	HSS6x4x1/4	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T7 31.25-21.25	Tube	HSS6x4x1/4	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T8 21.25-11.25	Tube	HSS6x4x1/4	A500-46 (46 ksi)	Solid Round		A36 (36 ksi)
T9 11.25-0.00	Tube	HSS6x4x1/4	A500-46 (46 ksi)	Tube	HSS6x4x1/4	A500-46 (46 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft²	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 91.25-81.25	0.00	0.0000	A36 (36 ksi)	0	0	1	36.0000	36.0000	36.0000
T2 81.25-71.25	0.00	0.0000	A36 (36 ksi)	0	0	1	36.0000	36.0000	36.0000
T3 71.25-61.25	0.00	0.0000	A36 (36 ksi)	0	0	1	36.0000	36.0000	36.0000
T4 61.25-51.25	0.00	0.0000	A36 (36 ksi)	0	0	1	36.0000	36.0000	36.0000
T5 51.25-41.25	0.00	0.0000	A36 (36 ksi)	0	0	1	36.0000	36.0000	36.0000
T6 41.25-31.25	0.00	0.0000	A36 (36 ksi)	0	0	1	36.0000	36.0000	36.0000
T7 31.25-21.25	0.00	0.0000	A36 (36 ksi)	0	0	1	36.0000	36.0000	36.0000
T8 21.25-11.25	0.00	0.0000	A36 (36 ksi)	0	0	1	36.0000	36.0000	36.0000
T9 11.25-0.00	0.00	0.0000	A36 (36 ksi)	0	0	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	No	1	1	1	1	1	1	1	1	1	1	1	1	1
91.25-81.25				1	1	1	1	1	1	1	1	1	1	1	1
T2	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
81.25-71.25				1	1	1	1	1	1	1	1	1	1	1	1
T3	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
71.25-61.25				1	1	1	1	1	1	1	1	1	1	1	1
T4	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
61.25-51.25				1	1	1	1	1	1	1	1	1	1	1	1
T5	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
51.25-41.25				1	1	1	1	1	1	1	1	1	1	1	1
T6	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
41.25-31.25				1	1	1	1	1	1	1	1	1	1	1	1
T7	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
31.25-21.25				1	1	1	1	1	1	1	1	1	1	1	1
T8	Yes	No	1	1	1	1	1	1	1	1	1	1	1	1	1
21.25-11.25				1	1	1	1	1	1	1	1	1	1	1	1
T9 11.25-0.00	Yes	No	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

[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		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 91.25-81.25	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
T2 81.25-71.25	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 71.25-61.25	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 61.25-51.25	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 51.25-41.25	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 41.25-31.25	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
T7 31.25-21.25	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
T8 21.25-11.25	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
T9 11.25-0.00	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 Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 91.25-81.25	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 81.25-71.25	0.0000	0.75	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 71.25-61.25	0.0000	0.75	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 61.25-51.25	0.0000	0.75	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 51.25-41.25	0.0000	0.75	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 41.25-31.25	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 31.25-21.25	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 21.25-11.25	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 11.25-0.00	0.0000	0.75	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 91.25-81.25	Flange	0.7500 A325N	8	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 81.25-71.25	Flange	0.7500 A325N	0	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 71.25-61.25	Flange	0.7500 A325N	0	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 61.25-51.25	Flange	0.7500 A325N	0	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 51.25-41.25	Flange	0.7500 A325N	8	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

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.
T6 41.25-31.25	Flange	0.7500 A325N	0	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T7 31.25-21.25	Flange	0.7500 A325N	0	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 21.25-11.25	Flange	0.7500 A325N	0	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 11.25-0.00	Flange	1.2500 A325N	8	0.7500 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#		C_AA_A ft^2/ft	Weight plf
5/8 (AT&T)	C	No	No	CaAa (Out Of Face)	91.25 - 0.00	-0.5000	0	8	No Ice 1/2" Ice 1" Ice	0.09 0.19 0.29	0.27 1.11 2.55
5/8" FIBER (AT&T)	C	No	No	CaAa (Out Of Face)	91.25 - 0.00	-0.5000	0	2	No Ice 1/2" Ice 1" Ice	0.06 0.16 0.26	0.08 0.77 2.07
3/8 RET (AT&T)	C	No	No	CaAa (Out Of Face)	91.25 - 0.00	-0.5000	0	1	No Ice 1/2" Ice 1" Ice	0.04 0.14 0.24	0.08 0.65 1.84
*** 1-5/8 Hybrid (DISH Wireless)	C	No	No	CaAa (Out Of Face)	66.00 - 0.00	-0.2500	0	1	No Ice 1/2" Ice 1" Ice	0.20 0.30 0.40	0.82 2.33 4.46
*** 12x24 Hybriflex (Verizon)	C	No	No	CaAa (Out Of Face)	86.00 - 0.00	0.2500	0	1	No Ice 1/2" Ice 1" Ice	0.19 0.29 0.39	3.20 4.67 6.74

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 lb
T1	91.25-81.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	9.552	39.20
T2	81.25-71.25	A	0.000	0.000	0.000	0.000	0.00

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 lb
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	10.550	56.00
T3	71.25-61.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	11.490	59.90
T4	61.25-51.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	12.530	64.20
T5	51.25-41.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	12.530	64.20
T6	41.25-31.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	12.530	64.20
T7	31.25-21.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	12.530	64.20
T8	21.25-11.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	12.530	64.20
T9	11.25-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	14.096	72.22

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 lb
T1	91.25-81.25	A	1.651	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	47.449	646.01
T2	81.25-71.25	A	1.631	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	49.695	690.38
T3	71.25-61.25	A	1.608	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	51.617	716.20
T4	61.25-51.25	A	1.582	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	53.666	742.62
T5	51.25-41.25	A	1.551	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	52.869	723.31
T6	41.25-31.25	A	1.514	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	51.898	699.80
T7	31.25-21.25	A	1.466	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	50.648	669.52
T8	21.25-11.25	A	1.397	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	48.863	626.30
T9	11.25-0.00	A	1.257	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	50.857	604.97

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	91.25-81.25	-108.0000	62.3538	-108.0000	62.3538
T2	81.25-71.25	-108.0000	62.3538	-108.0000	62.3538
T3	71.25-61.25	-108.0000	62.3538	-108.0000	62.3538
T4	61.25-51.25	-108.0000	62.3538	-108.0000	62.3538
T5	51.25-41.25	-108.0000	62.3538	-108.0000	62.3538
T6	41.25-31.25	-108.0000	62.3538	-108.0000	62.3538
T7	31.25-21.25	-108.0000	62.3538	-108.0000	62.3538
T8	21.25-11.25	-108.0000	62.3538	-108.0000	62.3538
T9	11.25-0.00	-108.0000	62.3538	-108.0000	62.3538

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
(3) CCI HPA65R-BU6AA-K (AT&T)	A	From Face	1.00 0.00 0.00	0.0000	95.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	41.60 41.60 41.60
(3) CCI HPA65R-BU6AA-K (AT&T)	B	From Face	1.00 0.00 0.00	0.0000	95.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	41.60 41.60 41.60
(3) CCI HPA65R-BU6AA-K (AT&T)	C	From Face	1.00 0.00 0.00	0.0000	95.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	41.60 41.60 41.60
KMW EPBQ654L8H6-L2 (AT&T)	A	From Face	1.00 0.00 0.00	0.0000	95.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	73.00 73.00 73.00
KMW EPBQ654L8H6-L2 (AT&T)	B	From Face	1.00 0.00 0.00	0.0000	95.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	73.00 73.00 73.00
KMW EPBQ654L8H6-L2 (AT&T)	C	From Face	1.00 0.00 0.00	0.0000	95.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	73.00 73.00 73.00
Ericsson RRUS-B14 4478 (AT&T)	A	From Face	1.00 0.00 0.00	0.0000	95.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	59.00 59.00 59.00
Ericsson RRUS-B14 4478 (AT&T)	B	From Face	1.00 0.00 0.00	0.0000	95.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	59.00 59.00 59.00
Ericsson RRUS-B14 4478 (AT&T)	C	From Face	1.00 0.00 0.00	0.0000	95.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	59.00 59.00 59.00
Ericsson RRUS32 (AT&T) (AT&T)	A	From Face	1.00 0.00 0.00	0.0000	95.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	60.00 60.00 60.00
Ericsson RRUS32 (AT&T) (AT&T)	B	From Face	1.00 0.00	0.0000	95.00	No Ice 1/2" Ice	0.00 0.00	0.00 0.00	60.00 60.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00					1" Ice	0.00	0.00	60.00
Ericsson RRUS32 (AT&T)	C	From Face	1.00			0.0000	95.00	No Ice	0.00	0.00	60.00
(AT&T)			0.00					1/2" Ice	0.00	0.00	60.00
			0.00					1" Ice	0.00	0.00	60.00
(2) Ericsson RRUS-12	A	From Face	1.00			0.0000	95.00	No Ice	0.00	0.00	80.00
(AT&T)			0.00					1/2" Ice	0.00	0.00	80.00
			0.00					1" Ice	0.00	0.00	80.00
(2) Ericsson RRUS-12	B	From Face	1.00			0.0000	95.00	No Ice	0.00	0.00	80.00
(AT&T)			0.00					1/2" Ice	0.00	0.00	80.00
			0.00					1" Ice	0.00	0.00	80.00
(2) Ericsson RRUS-12	C	From Face	1.00			0.0000	95.00	No Ice	0.00	0.00	80.00
(AT&T)			0.00					1/2" Ice	0.00	0.00	80.00
			0.00					1" Ice	0.00	0.00	80.00
(2) Ericsson RRUS-11	A	From Face	1.00			0.0000	95.00	No Ice	0.00	0.00	55.00
(AT&T)			0.00					1/2" Ice	0.00	0.00	55.00
			0.00					1" Ice	0.00	0.00	55.00
(2) Ericsson RRUS-11	B	From Face	1.00			0.0000	95.00	No Ice	0.00	0.00	55.00
(AT&T)			0.00					1/2" Ice	0.00	0.00	55.00
			0.00					1" Ice	0.00	0.00	55.00
(2) Ericsson RRUS-11	C	From Face	1.00			0.0000	95.00	No Ice	0.00	0.00	55.00
(AT&T)			0.00					1/2" Ice	0.00	0.00	55.00
			0.00					1" Ice	0.00	0.00	55.00
Ericsson RRUS-E2	A	From Face	1.00			0.0000	95.00	No Ice	0.00	0.00	60.00
(AT&T)			0.00					1/2" Ice	0.00	0.00	60.00
			0.00					1" Ice	0.00	0.00	60.00
Ericsson RRUS-E2	B	From Face	1.00			0.0000	95.00	No Ice	0.00	0.00	60.00
(AT&T)			0.00					1/2" Ice	0.00	0.00	60.00
			0.00					1" Ice	0.00	0.00	60.00
Ericsson RRUS-E2	C	From Face	1.00			0.0000	95.00	No Ice	0.00	0.00	60.00
(AT&T)			0.00					1/2" Ice	0.00	0.00	60.00
			0.00					1" Ice	0.00	0.00	60.00
Raycap DC6-48-60-18-8F	A	From Face	1.00			0.0000	95.00	No Ice	0.00	0.00	18.90
(AT&T)			0.00					1/2" Ice	0.00	0.00	18.90
			0.00					1" Ice	0.00	0.00	18.90
***											
JMA MX08FRO665-20_V0F	A	From Face	1.00			0.0000	66.00	No Ice	0.00	0.00	54.00
(Dish Wireless)			0.00					1/2" Ice	0.00	0.00	54.00
			0.00					1" Ice	0.00	0.00	54.00
JMA MX08FRO665-20_V0F	B	From Face	1.00			0.0000	66.00	No Ice	0.00	0.00	54.00
(Dish Wireless)			0.00					1/2" Ice	0.00	0.00	54.00
			0.00					1" Ice	0.00	0.00	54.00
JMA MX08FRO665-20_V0F	C	From Face	1.00			0.0000	66.00	No Ice	0.00	0.00	54.00
(Dish Wireless)			0.00					1/2" Ice	0.00	0.00	54.00
			0.00					1" Ice	0.00	0.00	54.00
(2) Fujitsu TA08025-B605	A	From Face	1.00			0.0000	66.00	No Ice	0.00	0.00	74.95
(Dish Wireless)			0.00					1/2" Ice	0.00	0.00	74.95
			0.00					1" Ice	0.00	0.00	74.95
(2) Fujitsu TA08025-B605	B	From Face	1.00			0.0000	66.00	No Ice	0.00	0.00	74.95
(Dish Wireless)			0.00					1/2" Ice	0.00	0.00	74.95
			0.00					1" Ice	0.00	0.00	74.95
(2) Fujitsu TA08025-B605	C	From Face	1.00			0.0000	66.00	No Ice	0.00	0.00	74.95
(Dish Wireless)			0.00					1/2" Ice	0.00	0.00	74.95
			0.00					1" Ice	0.00	0.00	74.95
Raycap RDIDC-9181-PF-48	A	From Face	1.00			0.0000	66.00	No Ice	0.00	0.00	21.85
(Dish Wireless)			0.00					1/2" Ice	0.00	0.00	21.85
			0.00					1" Ice	0.00	0.00	21.85
***											

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
Platform	C	None				0.0000	11.25	No Ice	0.00	0.00	1800.00
(Tower)								1/2" Ice	0.00	0.00	1800.00
								1" Ice	0.00	0.00	1800.00
Platform	C	None				0.0000	21.25	No Ice	0.00	0.00	1800.00
(Tower)								1/2" Ice	0.00	0.00	1800.00
								1" Ice	0.00	0.00	1800.00
Platform	C	None				0.0000	31.25	No Ice	0.00	0.00	1800.00
(Tower)								1/2" Ice	0.00	0.00	1800.00
								1" Ice	0.00	0.00	1800.00
Platform	C	None				0.0000	41.25	No Ice	0.00	0.00	1800.00
(Tower)								1/2" Ice	0.00	0.00	1800.00
								1" Ice	0.00	0.00	1800.00
Platform	C	None				0.0000	51.25	No Ice	0.00	0.00	1800.00
(Tower)								1/2" Ice	0.00	0.00	1800.00
								1" Ice	0.00	0.00	1800.00
Platform	C	None				0.0000	61.25	No Ice	0.00	0.00	1800.00
(Tower)								1/2" Ice	0.00	0.00	1800.00
								1" Ice	0.00	0.00	1800.00
Platform	C	None				0.0000	71.25	No Ice	0.00	0.00	1800.00
(Tower)								1/2" Ice	0.00	0.00	1800.00
								1" Ice	0.00	0.00	1800.00
Platform	C	None				0.0000	81.25	No Ice	0.00	0.00	1800.00
(Tower)								1/2" Ice	0.00	0.00	1800.00
								1" Ice	0.00	0.00	1800.00
Platform	C	None				0.0000	91.25	No Ice	0.00	0.00	1800.00
(Tower)								1/2" Ice	0.00	0.00	1800.00
								1" Ice	0.00	0.00	1800.00
***											
Cannister Section	C	None				0.0000	99.00	No Ice	195.00	195.00	1884.96
(Tower)								1/2" Ice	195.65	195.65	4089.12
								1" Ice	196.30	196.30	6293.28
Cannister Section	C	None				0.0000	87.00	No Ice	195.00	195.00	1884.96
(Tower)								1/2" Ice	195.65	195.65	4089.12
								1" Ice	196.30	196.30	6293.28
Cannister Section	C	None				0.0000	76.00	No Ice	162.50	162.50	1570.80
(Tower)								1/2" Ice	163.04	163.04	3407.60
								1" Ice	163.58	163.58	5244.40
Cannister Section	C	None				0.0000	66.00	No Ice	162.50	162.50	1570.80
(Tower)								1/2" Ice	163.04	163.04	3407.60
								1" Ice	163.58	163.58	5244.40
Cannister Section	C	None				0.0000	56.00	No Ice	162.50	162.50	1570.80
(Tower)								1/2" Ice	163.04	163.04	3407.60
								1" Ice	163.58	163.58	5244.40
Cannister Section	C	None				0.0000	46.00	No Ice	162.50	162.50	1570.80
(Tower)								1/2" Ice	163.04	163.04	3407.60
								1" Ice	163.58	163.58	5244.40
Cannister Section	C	None				0.0000	36.00	No Ice	162.50	162.50	1570.80
(Tower)								1/2" Ice	163.04	163.04	3407.60
								1" Ice	163.58	163.58	5244.40
Cannister Section	C	None				0.0000	26.00	No Ice	162.50	162.50	1570.80
(Tower)								1/2" Ice	163.04	163.04	3407.60
								1" Ice	163.58	163.58	5244.40
Cannister Section	C	None				0.0000	16.00	No Ice	162.50	162.50	1570.80
(Tower)								1/2" Ice	163.04	163.04	3407.60
								1" Ice	163.58	163.58	5244.40
Cannister Sections	C	None				0.0000	5.50	No Ice	178.75	178.75	1727.88
(Tower)								1/2" Ice	179.35	179.35	3748.36

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
						1" Ice	179.94	179.94	5768.84
***									
(2) Commscope NHH-65B-R2B w/ MP (Verizon)	A	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	72.90 72.90 72.90
(2) Commscope NHH-65B-R2B w/ MP (Verizon)	B	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	72.90 72.90 72.90
(2) Commscope NHH-65B-R2B w/ MP (Verizon)	C	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	72.90 72.90 72.90
Samsung MT6407-77A (Verizon)	A	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	101.70 101.70 101.70
Samsung MT6407-77A (Verizon)	B	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	101.70 101.70 101.70
Samsung MT6407-77A (Verizon)	C	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	101.70 101.70 101.70
Samsung B5/B13 RRH-BR04C (Verizon)	A	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	70.00 70.00 70.00
Samsung B5/B13 RRH-BR04C (Verizon)	B	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	70.00 70.00 70.00
Samsung B5/B13 RRH-BR04C (Verizon)	C	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	70.00 70.00 70.00
Samsung B2/B66A RRH-BR049 (Verizon)	A	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	84.00 84.00 84.00
Samsung B2/B66A RRH-BR049 (Verizon)	B	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	84.00 84.00 84.00
Samsung B2/B66A RRH-BR049 (Verizon)	C	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	84.00 84.00 84.00
Commscope FE-16148-OVP-B12 (Verizon)	A	From Face	1.00 0.00 0.00	0.0000	86.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	15.21 15.21 15.21

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice

Comb. No.	Description
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	18	254618.03	23264.89	-13432.14
	Max. H_x	20	224050.05	24479.11	-4229.19
	Max. H_z	3	-94239.61	-3807.21	19352.18
	Min. Vert	7	-208320.86	-22708.74	13110.79
	Min. H_x	9	-177752.88	-23922.96	3907.85
	Min. H_z	14	140536.77	4363.36	-19673.52
Leg B	Max. Vert	10	253920.00	-23793.90	-12508.75
	Max. H_x	21	-178276.40	23924.51	3910.51

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
	Max. H_z	3	-94763.12	4870.89	17515.19
	Min. Vert	23	-208844.38	23241.35	12193.63
	Min. H_x	8	223352.02	-24477.06	-4225.63
	Min. H_z	14	139838.75	-5423.44	-17830.30
Leg A	Max. Vert	2	253960.04	-1064.18	26860.71
	Max. H_x	21	19348.15	15312.99	272.77
	Max. H_z	2	253960.04	-1064.18	26860.71
	Min. Vert	15	-208814.35	1060.59	-26224.25
	Min. H_x	8	25797.54	-15316.58	363.69
	Min. H_z	15	-208814.35	1060.59	-26224.25

Tower Mast Reaction Summary

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
Dead Only	65008.80	-0.00	0.00	2675.79	5235.16	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	78010.57	-0.00	-63637.16	-3553490.46	6282.20	-33113.93
0.9 Dead+1.6 Wind 0 deg - No Ice	58507.92	-0.00	-63637.16	-3554293.20	4711.65	-33113.93
1.2 Dead+1.6 Wind 30 deg - No Ice	78010.57	31818.58	-55111.39	-3076982.83	-1772068.51	-19118.34
0.9 Dead+1.6 Wind 30 deg - No Ice	58507.92	31818.58	-55111.39	-3077785.57	-1773639.06	-19118.34
1.2 Dead+1.6 Wind 60 deg - No Ice	78010.57	55111.39	-31818.58	-1775139.76	-3073911.58	0.00
0.9 Dead+1.6 Wind 60 deg - No Ice	58507.92	55111.39	-31818.58	-1775942.50	-3075482.13	0.00
1.2 Dead+1.6 Wind 90 deg - No Ice	78010.57	63637.16	0.00	3210.94	-3550419.22	19118.34
0.9 Dead+1.6 Wind 90 deg - No Ice	58507.92	63637.16	0.00	2408.21	-3551989.77	19118.34
1.2 Dead+1.6 Wind 120 deg - No Ice	78010.57	55111.39	31818.58	1781561.65	-3073911.58	33113.94
0.9 Dead+1.6 Wind 120 deg - No Ice	58507.92	55111.39	31818.58	1780758.91	-3075482.13	33113.94
1.2 Dead+1.6 Wind 150 deg - No Ice	78010.57	31818.58	55111.39	3083404.72	-1772068.51	38236.68
0.9 Dead+1.6 Wind 150 deg - No Ice	58507.92	31818.58	55111.39	3082601.98	-1773639.06	38236.68
1.2 Dead+1.6 Wind 180 deg - No Ice	78010.57	-0.00	63637.16	3559912.35	6282.20	33113.93
0.9 Dead+1.6 Wind 180 deg - No Ice	58507.92	-0.00	63637.16	3559109.62	4711.65	33113.93
1.2 Dead+1.6 Wind 210 deg - No Ice	78010.57	-31818.58	55111.39	3083404.72	1784632.90	19118.34
0.9 Dead+1.6 Wind 210 deg - No Ice	58507.92	-31818.58	55111.39	3082601.98	1783062.35	19118.34
1.2 Dead+1.6 Wind 240 deg - No Ice	78010.57	-55111.39	31818.58	1781561.65	3086475.98	-0.00
0.9 Dead+1.6 Wind 240 deg - No Ice	58507.92	-55111.39	31818.58	1780758.91	3084905.43	-0.00
1.2 Dead+1.6 Wind 270 deg - No Ice	78010.57	-63637.16	0.00	3210.94	3562983.61	-19118.34
0.9 Dead+1.6 Wind 270 deg - No Ice	58507.92	-63637.16	0.00	2408.21	3561413.06	-19118.34

Load Combination	Vertical lb	$Shear_x$ lb	$Shear_z$ lb	Overturning Moment, M_x lb-ft	Overturning Moment, M_z lb-ft	Torque lb-ft
1.2 Dead+1.6 Wind 300 deg - No Ice	78010.57	-55111.39	-31818.58	-1775139.76	3086475.98	-33113.94
0.9 Dead+1.6 Wind 300 deg - No Ice	58507.92	-55111.39	-31818.58	-1775942.50	3084905.43	-33113.94
1.2 Dead+1.6 Wind 330 deg - No Ice	78010.57	-31818.58	-55111.39	-3076982.83	1784632.90	-38236.68
0.9 Dead+1.6 Wind 330 deg - No Ice	58507.92	-31818.58	-55111.39	-3077785.57	1783062.35	-38236.68
1.2 Dead+1.0 Ice+1.0 Temp	172204.72	-0.00	0.00	32157.63	56419.33	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	172204.72	-0.00	-10811.35	-561978.55	56419.33	-20034.24
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	172204.72	5405.67	-9362.90	-482379.40	-240648.77	-11566.78
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	172204.72	9362.90	-5405.67	-264910.46	-458117.70	0.00
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	172204.72	10811.35	0.00	32157.63	-537716.86	11566.78
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	172204.72	9362.90	5405.67	329225.73	-458117.70	20034.24
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	172204.72	5405.67	9362.90	546694.67	-240648.77	23133.55
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	172204.72	-0.00	10811.35	626293.82	56419.33	20034.24
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	172204.72	-5405.67	9362.90	546694.67	353487.42	11566.78
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	172204.72	-9362.90	5405.67	329225.73	570956.36	-0.00
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	172204.72	-10811.35	0.00	32157.63	650555.52	-11566.78
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	172204.72	-9362.90	-5405.67	-264910.46	570956.36	-20034.24
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	172204.72	-5405.67	-9362.90	-482379.40	353487.42	-23133.55
Dead+Wind 0 deg - Service	65008.80	-0.00	-12987.17	-723181.64	5235.16	-6757.95
Dead+Wind 30 deg - Service	65008.80	6493.59	-11247.22	-625935.19	-357693.55	-3901.70
Dead+Wind 60 deg - Service	65008.80	11247.22	-6493.59	-360252.93	-623375.81	0.00
Dead+Wind 90 deg - Service	65008.80	12987.17	0.00	2675.79	-720622.27	3901.70
Dead+Wind 120 deg - Service	65008.80	11247.22	6493.59	365604.50	-623375.81	6757.95
Dead+Wind 150 deg - Service	65008.80	6493.59	11247.22	631286.76	-357693.55	7803.40
Dead+Wind 180 deg - Service	65008.80	-0.00	12987.17	728533.22	5235.16	6757.95
Dead+Wind 210 deg - Service	65008.80	-6493.59	11247.22	631286.76	368163.88	3901.70
Dead+Wind 240 deg - Service	65008.80	-11247.22	6493.59	365604.50	633846.14	-0.00
Dead+Wind 270 deg - Service	65008.80	-12987.17	0.00	2675.79	731092.60	-3901.70
Dead+Wind 300 deg - Service	65008.80	-11247.22	-6493.59	-360252.93	633846.14	-6757.95
Dead+Wind 330 deg - Service	65008.80	-6493.59	-11247.22	-625935.19	368163.88	-7803.40

Solution Summary

Load Comb.	Sum of Applied Forces PX lb	PY lb	PZ lb	Sum of Reactions PX lb	PY lb	PZ lb	% Error
1	0.00	-65008.80	0.00	0.00	65008.80	-0.00	0.000%
2	0.00	-78010.57	-63637.15	0.00	78010.57	63637.16	0.000%
3	0.00	-58507.92	-63637.15	0.00	58507.92	63637.16	0.000%
4	31818.57	-78010.57	-55111.39	-31818.58	78010.57	55111.39	0.000%
5	31818.57	-58507.92	-55111.39	-31818.58	58507.92	55111.39	0.000%
6	55111.39	-78010.57	-31818.57	-55111.39	78010.57	31818.58	0.000%
7	55111.39	-58507.92	-31818.57	-55111.39	58507.92	31818.58	0.000%

Load Comb.	Sum of Applied Forces PX lb	PY lb	PZ lb	Sum of Reactions PX lb	PY lb	PZ lb	% Error
8	63637.15	-78010.57	0.00	-63637.16	78010.57	-0.00	0.000%
9	63637.15	-58507.92	0.00	-63637.16	58507.92	-0.00	0.000%
10	55111.39	-78010.57	31818.57	-55111.39	78010.57	-31818.58	0.000%
11	55111.39	-58507.92	31818.57	-55111.39	58507.92	-31818.58	0.000%
12	31818.57	-78010.57	55111.39	-31818.58	78010.57	-55111.39	0.000%
13	31818.57	-58507.92	55111.39	-31818.58	58507.92	-55111.39	0.000%
14	0.00	-78010.57	63637.15	0.00	78010.57	-63637.16	0.000%
15	0.00	-58507.92	63637.15	0.00	58507.92	-63637.16	0.000%
16	-31818.57	-78010.57	55111.39	31818.58	78010.57	-55111.39	0.000%
17	-31818.57	-58507.92	55111.39	31818.58	58507.92	-55111.39	0.000%
18	-55111.39	-78010.57	31818.57	55111.39	78010.57	-31818.58	0.000%
19	-55111.39	-58507.92	31818.57	55111.39	58507.92	-31818.58	0.000%
20	-63637.15	-78010.57	0.00	63637.16	78010.57	-0.00	0.000%
21	-63637.15	-58507.92	0.00	63637.16	58507.92	-0.00	0.000%
22	-55111.39	-78010.57	-31818.57	55111.39	78010.57	31818.58	0.000%
23	-55111.39	-58507.92	-31818.57	55111.39	58507.92	31818.58	0.000%
24	-31818.57	-78010.57	-55111.39	31818.58	78010.57	55111.39	0.000%
25	-31818.57	-58507.92	-55111.39	31818.58	58507.92	55111.39	0.000%
26	0.00	-172204.72	0.00	0.00	172204.72	-0.00	0.000%
27	0.00	-172204.72	-10811.34	0.00	172204.72	10811.35	0.000%
28	5405.67	-172204.72	-9362.90	-5405.67	172204.72	9362.90	0.000%
29	9362.90	-172204.72	-5405.67	-9362.90	172204.72	5405.67	0.000%
30	10811.34	-172204.72	0.00	-10811.35	172204.72	-0.00	0.000%
31	9362.90	-172204.72	5405.67	-9362.90	172204.72	-5405.67	0.000%
32	5405.67	-172204.72	9362.90	-5405.67	172204.72	-9362.90	0.000%
33	-0.00	-172204.72	10811.34	0.00	172204.72	-10811.35	0.000%
34	-5405.67	-172204.72	9362.90	5405.67	172204.72	-9362.90	0.000%
35	-9362.90	-172204.72	5405.67	9362.90	172204.72	-5405.67	0.000%
36	-10811.34	-172204.72	0.00	10811.35	172204.72	-0.00	0.000%
37	-9362.90	-172204.72	-5405.67	9362.90	172204.72	5405.67	0.000%
38	-5405.67	-172204.72	-9362.90	5405.67	172204.72	9362.90	0.000%
39	-0.00	-65008.80	-12987.17	0.00	65008.80	12987.17	0.000%
40	6493.59	-65008.80	-11247.22	-6493.59	65008.80	11247.22	0.000%
41	11247.22	-65008.80	-6493.59	-11247.22	65008.80	6493.59	0.000%
42	12987.17	-65008.80	0.00	-12987.17	65008.80	-0.00	0.000%
43	11247.22	-65008.80	6493.59	-11247.22	65008.80	-6493.59	0.000%
44	6493.59	-65008.80	11247.22	-6493.59	65008.80	-11247.22	0.000%
45	0.00	-65008.80	12987.17	0.00	65008.80	-12987.17	0.000%
46	-6493.59	-65008.80	11247.22	6493.59	65008.80	-11247.22	0.000%
47	-11247.22	-65008.80	6493.59	11247.22	65008.80	-6493.59	0.000%
48	-12987.17	-65008.80	0.00	12987.17	65008.80	-0.00	0.000%
49	-11247.22	-65008.80	-6493.59	11247.22	65008.80	6493.59	0.000%
50	-6493.59	-65008.80	-11247.22	6493.59	65008.80	11247.22	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	91.25 - 81.25	0.548	47	0.0336	0.0047
T2	81.25 - 71.25	0.473	47	0.0331	0.0047
T3	71.25 - 61.25	0.397	47	0.0322	0.0044
T4	61.25 - 51.25	0.321	47	0.0304	0.0041
T5	51.25 - 41.25	0.248	47	0.0276	0.0036
T6	41.25 - 31.25	0.184	47	0.0236	0.0031
T7	31.25 - 21.25	0.128	47	0.0198	0.0026

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T8	21.25 - 11.25	0.079	47	0.0149	0.0019
T9	11.25 - 0	0.041	47	0.0087	0.0013

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
99.00	Cannister Section	47	0.548	0.0336	0.0047	809644
95.00	(3) CCI HPA65R-BU6AA-K	47	0.548	0.0336	0.0047	809644
91.25	Platform	47	0.548	0.0336	0.0047	809644
87.00	Cannister Section	47	0.516	0.0334	0.0047	809644
86.00	(2) Commscope NHH-65B-R2B w/ MP	47	0.509	0.0334	0.0047	771124
81.25	Platform	47	0.473	0.0331	0.0047	510356
76.00	Cannister Section	47	0.433	0.0327	0.0046	Inf
71.25	Platform	47	0.397	0.0322	0.0044	Inf
66.00	JMA MX08FRO665-20_V0F	47	0.357	0.0313	0.0043	Inf
61.25	Platform	47	0.321	0.0304	0.0041	Inf
56.00	Cannister Section	47	0.282	0.0291	0.0038	169633
51.25	Platform	47	0.248	0.0276	0.0036	99468
46.00	Cannister Section	47	0.213	0.0255	0.0033	126953
41.25	Platform	47	0.184	0.0236	0.0031	196938
36.00	Cannister Section	47	0.154	0.0216	0.0029	215927
31.25	Platform	47	0.128	0.0198	0.0026	183232
26.00	Cannister Section	47	0.101	0.0174	0.0022	109437
21.25	Platform	47	0.079	0.0149	0.0019	89111
16.00	Cannister Section	47	0.058	0.0118	0.0016	172525
11.25	Platform	47	0.041	0.0087	0.0013	Inf
5.50	Cannister Sections	47	0.020	0.0044	0.0007	Inf

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	91.25 - 81.25	2.669	18	0.1632	0.0231
T2	81.25 - 71.25	2.306	18	0.1612	0.0228
T3	71.25 - 61.25	1.936	18	0.1565	0.0218
T4	61.25 - 51.25	1.567	18	0.1478	0.0200
T5	51.25 - 41.25	1.208	18	0.1342	0.0174
T6	41.25 - 31.25	0.900	18	0.1146	0.0153
T7	31.25 - 21.25	0.624	18	0.0963	0.0127
T8	21.25 - 11.25	0.384	18	0.0724	0.0095
T9	11.25 - 0	0.198	18	0.0424	0.0062

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
99.00	Cannister Section	18	2.669	0.1632	0.0231	166061
95.00	(3) CCI HPA65R-BU6AA-K	18	2.669	0.1632	0.0231	166061
91.25	Platform	18	2.669	0.1632	0.0231	166061
87.00	Cannister Section	18	2.515	0.1625	0.0230	166061
86.00	(2) Commscope NHH-65B-R2B w/ MP	18	2.479	0.1623	0.0230	158161
81.25	Platform	18	2.306	0.1612	0.0228	104811
76.00	Cannister Section	18	2.112	0.1591	0.0223	384649
71.25	Platform	18	1.936	0.1565	0.0218	262624
66.00	JMA MX08FRO665-20_V0F	18	1.742	0.1524	0.0209	657741
61.25	Platform	18	1.567	0.1478	0.0200	321433
56.00	Cannister Section	18	1.375	0.1416	0.0187	34909
51.25	Platform	18	1.208	0.1342	0.0174	20417
46.00	Cannister Section	18	1.040	0.1241	0.0163	26104
41.25	Platform	18	0.900	0.1146	0.0153	40654
36.00	Cannister Section	18	0.751	0.1052	0.0140	44615
31.25	Platform	18	0.624	0.0963	0.0127	37788
26.00	Cannister Section	18	0.491	0.0845	0.0110	22480
21.25	Platform	18	0.384	0.0724	0.0095	18292
16.00	Cannister Section	18	0.282	0.0575	0.0079	35723
11.25	Platform	18	0.198	0.0424	0.0062	600610
5.50	Cannister Sections	18	0.097	0.0215	0.0033	439762

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	P_n lb	Ratio $\frac{P_u}{P_n}$
T1	91.25 - 81.25	HSS8x8x1/4	10.00	10.00	38.1 K=1.00	7.1000	-11873.60	266601.00	0.045 [1] ✔
T2	81.25 - 71.25	HSS8x8x1/4	10.00	10.00	38.1 K=1.00	7.1000	-24356.30	266601.00	0.091 [1] ✔
T3	71.25 - 61.25	HSS8x8x1/4	10.00	10.00	38.1 K=1.00	7.1000	-41622.00	266601.00	0.156 [1] ✔
T4	61.25 - 51.25	HSS8x8x1/4	10.00	10.00	38.1 K=1.00	7.1000	-62790.30	266601.00	0.236 [1] ✔
T5	51.25 - 41.25	HSS8x8x1/4	10.00	10.00	38.1 K=1.00	7.1000	-87289.80	266601.00	0.327 [1] ✔
T6	41.25 - 31.25	HSS8x8x3/8	10.00	10.00	38.7 K=1.00	10.4000	-117309.00	389277.00	0.301 [1] ✔
T7	31.25 - 21.25	HSS8x8x3/8	10.00	10.00	38.7 K=1.00	10.4000	-150276.00	389277.00	0.386 [1] ✔
T8	21.25 - 11.25	HSS8x8x3/8	10.00	10.00	38.7 K=1.00	10.4000	-186007.00	389277.00	0.478 [1] ✔
T9	11.25 - 0	HSS8x8x3/8	11.25	1.00	3.9 K=1.00	10.4000	-254618.00	430126.00	0.592 [1] ✔

[1] P_u / P_n controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	P_n lb	Ratio $\frac{P_u}{P_n}$
T1	91.25 - 81.25	L4x4x1/4	20.59	9.65	139.6 K=0.96	1.9400	-4775.49	22476.80	0.212 [1] ✔
T2	81.25 - 71.25	L4x4x1/4	20.59	9.65	139.6 K=0.96	1.9400	-8073.46	22476.80	0.359 [1] ✔
T3	71.25 - 61.25	L4x4x1/4	20.59	9.65	139.6 K=0.96	1.9400	-10688.50	22476.80	0.476 [1] ✔
T4	61.25 - 51.25	L4x4x1/4	20.59	9.65	139.6 K=0.96	1.9400	-13236.40	22476.80	0.589 [1] ✔
T5	51.25 - 41.25	L5x5x5/16	20.59	9.65	117.4 K=1.01	3.0300	-16242.70	47047.00	0.345 [1] ✔
T6	41.25 - 31.25	L5x5x5/16	20.59	9.65	117.4 K=1.01	3.0300	-18210.50	47047.00	0.387 [1] ✔
T7	31.25 - 21.25	L5x5x5/16	20.59	9.65	117.4 K=1.01	3.0300	-20892.70	47047.00	0.444 [1] ✔
T8	21.25 - 11.25	L5x5x5/16	20.59	9.65	117.4 K=1.01	3.0300	-21820.40	47047.00	0.464 [1] ✔
T9	11.25 - 0	L5x5x5/16	20.71	9.71	117.9 K=1.01	3.0300	-28699.80	46747.00	0.614 [1] ✔

[1] P_u / P_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	P_n lb	Ratio $\frac{P_u}{P_n}$
T1	91.25 - 81.25	HSS8x4x3/8	18.00	17.33	129.2 K=1.00	7.5800	-1769.46	102597.00	0.017 [1] ✔
T2	81.25 - 71.25	HSS8x4x3/8	18.00	17.33	129.2 K=1.00	7.5800	-421.86	102597.00	0.004 [1] ✔
T3	71.25 - 61.25	HSS8x4x3/8	18.00	17.33	129.2 K=1.00	7.5800	-720.91	102597.00	0.007 [1] ✔
T4	61.25 - 51.25	HSS8x4x3/8	18.00	17.33	129.2 K=1.00	7.5800	-1087.56	102597.00	0.011 [1] ✔
T5	51.25 - 41.25	HSS6x4x1/4	18.00	17.33	129.2 K=1.00	4.3000	-1511.90	58201.40	0.026 [1] ✔
T6	41.25 - 31.25	HSS6x4x1/4	18.00	17.33	129.2 K=1.00	4.3000	-2031.85	58201.40	0.035 [1] ✔
T7	31.25 - 21.25	HSS6x4x1/4	18.00	17.33	129.2 K=1.00	4.3000	-2602.85	58201.40	0.045 [1] ✔
T8	21.25 - 11.25	HSS6x4x1/4	18.00	17.33	129.2 K=1.00	4.3000	-3505.02	58201.40	0.060 [1] ✔
T9	11.25 - 0	HSS6x4x1/4	18.00	17.33	129.2 K=1.00	4.3000	-4410.11	58201.40	0.076 [1] ✔

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	P_n	Ratio $\frac{P_u}{P_n}$
	ft		ft	ft		in^2	lb	lb	

[1] P_u / P_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	P_n	Ratio $\frac{P_u}{P_n}$
	ft		ft	ft		in^2	lb	lb	
T9	11.25 - 0	HSS6x4x1/4	18.00	17.33	129.2 K=1.00	4.3000	-9046.23	58201.40	0.155 [1] ✔

[1] P_u / P_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	P_n	Ratio $\frac{P_u}{P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	91.25 - 81.25	HSS8x8x1/4	10.00	10.00	38.1	7.1000	4266.69	293940.00	0.015 [1] ✔
T2	81.25 - 71.25	HSS8x8x1/4	10.00	10.00	38.1	7.1000	13686.30	293940.00	0.047 [1] ✔
T3	71.25 - 61.25	HSS8x8x1/4	10.00	10.00	38.1	7.1000	26426.20	293940.00	0.090 [1] ✔
T4	61.25 - 51.25	HSS8x8x1/4	10.00	10.00	38.1	7.1000	43010.80	293940.00	0.146 [1] ✔
T5	51.25 - 41.25	HSS8x8x1/4	10.00	10.00	38.1	7.1000	63789.40	293940.00	0.217 [1] ✔
T6	41.25 - 31.25	HSS8x8x3/8	10.00	10.00	38.7	10.4000	88866.30	430560.00	0.206 [1] ✔
T7	31.25 - 21.25	HSS8x8x3/8	10.00	10.00	38.7	10.4000	117464.00	430560.00	0.273 [1] ✔
T8	21.25 - 11.25	HSS8x8x3/8	10.00	10.00	38.7	10.4000	148639.00	430560.00	0.345 [1] ✔
T9	11.25 - 0	HSS8x8x3/8	11.25	1.00	3.9	10.4000	208874.00	430560.00	0.485 [1] ✔

[1] P_u / P_n controls

Diagonal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	P_n	Ratio $\frac{P_u}{P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	91.25 - 81.25	L4x4x1/4	20.59	9.65	95.2	1.2909	4421.57	56155.80	0.079 [1] ✔
T2	81.25 - 71.25	L4x4x1/4	20.59	9.65	95.2	1.2909	7513.76	56155.80	0.134 [1] ✔
T3	71.25 - 61.25	L4x4x1/4	20.59	9.65	95.2	1.2909	9904.15	56155.80	0.176 [1] ✔
T4	61.25 - 51.25	L4x4x1/4	20.59	9.65	95.2	1.2909	12360.40	56155.80	0.220 [1] ✔
T5	51.25 - 41.25	L5x5x5/16	20.59	9.65	75.8	2.0674	14823.00	89932.90	0.165 [1] ✔
T6	41.25 - 31.25	L5x5x5/16	20.59	9.65	75.8	2.0674	17222.70	89932.90	0.192 [1] ✔
T7	31.25 - 21.25	L5x5x5/16	20.59	9.65	75.8	2.0674	19639.00	89932.90	0.218 [1] ✔
T8	21.25 - 11.25	L5x5x5/16	20.59	9.65	75.8	2.0674	20495.40	89932.90	0.228 [1] ✔
T9	11.25 - 0	L5x5x5/16	20.71	9.71	76.2	2.0674	26783.30	89932.90	0.298 [1] ✔

[1] P_u / P_n controls

Top Girt Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	P_n	Ratio $\frac{P_u}{P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	91.25 - 81.25	HSS8x4x3/8	18.00	17.33	129.2	7.5800	1891.73	313812.00	0.006 [1] ✔
T2	81.25 - 71.25	HSS8x4x3/8	18.00	17.33	129.2	7.5800	1082.61	313812.00	0.003 [1] ✔
T3	71.25 - 61.25	HSS8x4x3/8	18.00	17.33	129.2	7.5800	1441.76	313812.00	0.005 [1] ✔
T4	61.25 - 51.25	HSS8x4x3/8	18.00	17.33	129.2	7.5800	1898.06	313812.00	0.006 [1] ✔
T5	51.25 - 41.25	HSS6x4x1/4	18.00	17.33	129.2	4.3000	2964.92	178020.00	0.017 [1] ✔
T6	41.25 - 31.25	HSS6x4x1/4	18.00	17.33	129.2	4.3000	3863.87	178020.00	0.022 [1] ✔
T7	31.25 - 21.25	HSS6x4x1/4	18.00	17.33	129.2	4.3000	3865.07	178020.00	0.022 [1] ✔
T8	21.25 - 11.25	HSS6x4x1/4	18.00	17.33	129.2	4.3000	5634.08	178020.00	0.032 [1] ✔
T9	11.25 - 0	HSS6x4x1/4	18.00	17.33	129.2	4.3000	5565.00	178020.00	0.031 [1] ✔

[1] P_u / P_n controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	P_n lb	Ratio $\frac{P_u}{P_n}$
T9	11.25 - 0	HSS6x4x1/4	18.00	17.33	129.2	4.3000	12095.30	178020.00	0.068 [1] ✔

[1] P_u / P_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	91.25 - 81.25	Leg	HSS8x8x1/4	1	-11873.60	266601.00	4.5	Pass
T2	81.25 - 71.25	Leg	HSS8x8x1/4	13	-24356.30	266601.00	9.1	Pass
T3	71.25 - 61.25	Leg	HSS8x8x1/4	25	-41622.00	266601.00	15.6	Pass
T4	61.25 - 51.25	Leg	HSS8x8x1/4	37	-62790.30	266601.00	23.6	Pass
T5	51.25 - 41.25	Leg	HSS8x8x1/4	49	-87289.80	266601.00	32.7	Pass
T6	41.25 - 31.25	Leg	HSS8x8x3/8	61	-117309.00	389277.00	30.1	Pass
T7	31.25 - 21.25	Leg	HSS8x8x3/8	73	-150276.00	389277.00	38.6	Pass
T8	21.25 - 11.25	Leg	HSS8x8x3/8	85	-186007.00	389277.00	47.8	Pass
T9	11.25 - 0	Leg	HSS8x8x3/8	97	-254618.00	430126.00	59.2	Pass
T1	91.25 - 81.25	Diagonal	L4x4x1/4	11	-4775.49	22476.80	21.2	Pass
T2	81.25 - 71.25	Diagonal	L4x4x1/4	23	-8073.46	22476.80	35.9	Pass
T3	71.25 - 61.25	Diagonal	L4x4x1/4	35	-10688.50	22476.80	47.6	Pass
T4	61.25 - 51.25	Diagonal	L4x4x1/4	47	-13236.40	22476.80	58.9	Pass
T5	51.25 - 41.25	Diagonal	L5x5x5/16	59	-16242.70	47047.00	34.5 45.4 (b)	Pass
T6	41.25 - 31.25	Diagonal	L5x5x5/16	71	-18210.50	47047.00	38.7 50.9 (b)	Pass
T7	31.25 - 21.25	Diagonal	L5x5x5/16	84	-20892.70	47047.00	44.4 58.4 (b)	Pass
T8	21.25 - 11.25	Diagonal	L5x5x5/16	95	-21820.40	47047.00	46.4 61.0 (b)	Pass
T9	11.25 - 0	Diagonal	L5x5x5/16	111	-28699.80	46747.00	61.4 80.2 (b)	Pass
T1	91.25 - 81.25	Top Girt	HSS8x4x3/8	5	-1769.46	102597.00	1.7	Pass
T2	81.25 - 71.25	Top Girt	HSS8x4x3/8	17	-419.90	102597.00	0.7	Pass
T3	71.25 - 61.25	Top Girt	HSS8x4x3/8	30	-720.91	102597.00	0.7	Pass
T4	61.25 - 51.25	Top Girt	HSS8x4x3/8	42	-1087.56	102597.00	1.1	Pass
T5	51.25 - 41.25	Top Girt	HSS6x4x1/4	54	-1511.90	58201.40	2.6	Pass
T6	41.25 - 31.25	Top Girt	HSS6x4x1/4	66	-2031.85	58201.40	3.5	Pass
T7	31.25 - 21.25	Top Girt	HSS6x4x1/4	78	-2602.85	58201.40	4.5	Pass
T8	21.25 - 11.25	Top Girt	HSS6x4x1/4	89	-3505.02	58201.40	6.0	Pass
T9	11.25 - 0	Top Girt	HSS6x4x1/4	102	-4410.11	58201.40	7.6	Pass
T9	11.25 - 0	Bottom Girt	HSS6x4x1/4	104	-9046.23	58201.40	15.5	Pass
							Summary	
							Leg (T9) 59.2	Pass
							Diagonal (T9) 80.2	Pass
							Top Girt (T9) 7.6	Pass
							Bottom Girt (T9) 15.5	Pass
							Bolt Checks 80.2	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
						RATING =	**80.2**	**Pass**

Project No: STR21-10300-02
Date: 07/12/2021
By: RE

Calculation of Drag Coefficient for Canister:

Input - TOWER PARAMETERS

h 105 ft = height of structure (ft)

V 105 mph = Three second gust basic wind speed per TIA-222-G

Exp "C" = Exposure Category (2.6.5.1)

Topo 1 = Topographic Category

H 1 ft = height of crest above surrounding terrain

$Structure_{class}$ "II" = Structure class per Table 2-1 "Classification of Structures" choose: (I,II,III)

D 300 in = diameter at section

spine 0 in = internal spine diameter

n_c "Round" = Number of Sides for canister, Choose (Round, 18, 16,12,8)

n_s "Round" = Number of Sides for canister, Choose (Round, 18, 16,12,8)

Input - SECTION PARAMETERS

z_1 11 ft = Height at top of tower section

z_2 0 ft = Height at bottom of tower section

z $mean(z_1\ z_2)$ = Height above average ground level to midpoint of section

Output - Velocity Pressure Coefficient, Kz (2.6.5.2)

Per Table 2-4 from TIA-222-G

$$\alpha \begin{cases} 7.0 & \text{if Exp = "B"} \\ 9.5 & \text{if Exp = "C"} \\ 11.5 & \text{if Exp = "D"} \end{cases} \qquad \alpha \quad 9.5$$

$$z_g \begin{cases} 1200\ \text{ft} & \text{if Exp = "B"} \\ 900\ \text{ft} & \text{if Exp = "C"} \\ 700\ \text{ft} & \text{if Exp = "D"} \end{cases} \qquad z_g \quad 274.32\ \text{m}$$

$$K_{zmin} \begin{cases} 0.70 & \text{if Exp = "B"} \\ 0.85 & \text{if Exp = "C"} \\ 1.03 & \text{if Exp = "D"} \end{cases} \qquad K_{zmin} \quad 0.85$$

$$K_z \quad 2.01 \left(\frac{z}{z_g}\right)^{\frac{2}{\alpha}}$$

K_z $if(K_z < K_{zmin}, K_{zmin}, K_z)$ K_z $if(K_z > 2.01, 2.01, K_z)$ K_z 0.85

Output - Topographic Factor, Kzt (2.6.6.4)

$$K_t \begin{cases} 1 & \text{if Topo} = 1 \\ 0.43 & \text{if Topo} = 2 \\ 0.53 & \text{if Topo} = 3 \\ 0.72 & \text{if Topo} = 4 \end{cases} \qquad K_t \quad 1$$

$$K_e \begin{cases} 0.90 & \text{if Exp} = \text{"B"} \\ 1.00 & \text{if Exp} = \text{"C"} \\ 1.10 & \text{if Exp} = \text{"D"} \end{cases} \qquad K_e \quad 1$$

$$f \begin{cases} 1.0 & \text{if Topo} = 1 \\ 1.25 & \text{if Topo} = 2 \\ 2.00 & \text{if Topo} = 3 \\ 1.50 & \text{if Topo} = 4 \end{cases} \qquad f \quad 1$$

$$K_h \quad e^{\frac{f\ z}{H}} \qquad K_h \quad 244.692$$

$$K_{zt} \begin{cases} 1 & \text{if Topo} = 1 \\ 1 \quad \left(\frac{K_e\ K_t}{K_h}\right)^2 & \text{if Topo} \quad 1 \end{cases} \qquad K_{zt} \quad 1$$

Output - Importance Factor, I (Table 2-3)

$$I \begin{cases} 0.87 & \text{if Structure}_{class} = \text{"I"} \\ 1.00 & \text{if Structure}_{class} = \text{"II"} \\ 1.15 & \text{if Structure}_{class} = \text{"III"} \end{cases} \qquad I \quad 1$$

Note: For Wind Load without Ice

Output - Velocity Coefficient for round, tubular and polygonal members (canister), C, (Table 2-7)

$$c \quad \left(I\ K_{zt}\ K_z\right)^{0.5}\ V\ D\ \frac{1}{mph\ ft} \qquad c \quad 2.42 \quad 10^3$$

$$C_F \begin{cases} 1.2 & \text{if } (c \quad 32) \\ \frac{25.8}{c^{0.885}} & \text{if } (32 \quad c \quad 64) \\ 0.65 & \text{if } (c \quad 64) \end{cases} \qquad C_F \quad 0.65$$

Output - Velocity Coefficient for round, tubular and polygonal members (spine), C, (Table 2-7)

$$c_{spine} \quad \left(I\ K_{zt}\ K_z\right)^{0.5}\ V\ spine\ \frac{1}{mph\ ft} \qquad c_{spine} \quad 0$$

$$C_{Fspine} \begin{cases} 1.2 & \text{if } (c_{spine} \quad 32) \\ \dfrac{38.4}{c_{spine}^{1.0}} & \text{if } (32 \quad c_{spine} \quad 64) \\ 0.6 & \text{if } (c_{spine} \quad 64) \end{cases}$$

$C_{Fspine} = 1.2$

Output - Effective Area to Input into RISA Tower

$EPA_s = C_F \, D \, (z_1 - z_2) + C_{Fspine} \, spine \, (z_1 - z_2)$

$EPA_s = 178.75 \text{ ft}^2$

$ice = 0.5 \text{ in}$

$EPA_{ice} = C_F \, (D + 2ice) \, (z_1 - z_2) + C_{Fspine} \, (spine) \, (z_1 - z_2)$

$EPA_{ice} = 179.346 \text{ ft}^2$

$ice = 1.0 \text{ in}$

$EPA_{ice} = C_F \, (D + 2ice) \, (z_1 - z_2) + C_{Fspine} \, (spine) \, (z_1 - z_2)$

$EPA_{ice} = 179.942 \text{ ft}^2$

Project No: STR21-10300-02
Date: 07/12/2021
By: RE

Calculation of Drag Coefficient for Canister:

Input - TOWER PARAMETERS

h 105 ft = height of structure (ft)

V 105 mph = Three second gust basic wind speed per TIA-222-G

Exp "C" = Exposure Category (2.6.5.1)

$Topo$ 1 = Topographic Category

H 1 ft = height of crest above surrounding terrain

$Structure_{class}$ "II" = Structure class per Table 2-1 "Classification of Structures" choose: (I,II,III)

D 300 in = diameter at section

$spine$ 0 in = internal spine diameter

n_c "Round" = Number of Sides for canister, Choose (Round, 18, 16,12,8)

n_s "Round" = Number of Sides for canister, Choose (Round, 18, 16,12,8)

Input - SECTION PARAMETERS

z_1 21 ft = Height at top of tower section

z_2 11 ft = Height at bottom of tower section

z $mean(z_1\ z_2)$ = Height above average ground level to midpoint of section

Output - Velocity Pressure Coefficient, Kz (2.6.5.2)

Per Table 2-4 from TIA-222-G

$$\alpha \begin{cases} 7.0 & \text{if } Exp = \text{"B"} \\ 9.5 & \text{if } Exp = \text{"C"} \\ 11.5 & \text{if } Exp = \text{"D"} \end{cases} \qquad \alpha \quad 9.5$$

$$z_g \begin{cases} 1200\ \text{ft} & \text{if } Exp = \text{"B"} \\ 900\ \text{ft} & \text{if } Exp = \text{"C"} \\ 700\ \text{ft} & \text{if } Exp = \text{"D"} \end{cases} \qquad z_g \quad 274.32\ \text{m}$$

$$K_{zmin} \begin{cases} 0.70 & \text{if } Exp = \text{"B"} \\ 0.85 & \text{if } Exp = \text{"C"} \\ 1.03 & \text{if } Exp = \text{"D"} \end{cases} \qquad K_{zmin} \quad 0.85$$

$$K_z \quad 2.01 \left(\frac{z}{z_g}\right)^{\frac{2}{\alpha}}$$

K_z $if(K_z < K_{zmin},\ K_{zmin},\ K_z)$ K_z $if(K_z > 2.01,\ 2.01,\ K_z)$ K_z 0.86

Output - Topographic Factor, Kzt (2.6.6.4)

$$K_t \begin{cases} 1 & \text{if Topo} = 1 \\ 0.43 & \text{if Topo} = 2 \\ 0.53 & \text{if Topo} = 3 \\ 0.72 & \text{if Topo} = 4 \end{cases} \qquad K_t \quad 1$$

$$K_e \begin{cases} 0.90 & \text{if Exp} = \text{"B"} \\ 1.00 & \text{if Exp} = \text{"C"} \\ 1.10 & \text{if Exp} = \text{"D"} \end{cases} \qquad K_e \quad 1$$

$$f \begin{cases} 1.0 & \text{if Topo} = 1 \\ 1.25 & \text{if Topo} = 2 \\ 2.00 & \text{if Topo} = 3 \\ 1.50 & \text{if Topo} = 4 \end{cases} \qquad f \quad 1$$

$$K_h \quad e^{\frac{f\,z}{H}} \qquad K_h \quad 8.886 \quad 10^6$$

$$K_{zt} \begin{cases} 1 & \text{if Topo} = 1 \\ 1 \quad \left(\frac{K_e\,K_t}{K_h}\right)^2 & \text{if Topo} \quad 1 \end{cases} \qquad K_{zt} \quad 1$$

Output - Importance Factor, I (Table 2-3)

$$I \begin{cases} 0.87 & \text{if Structure}_{class} = \text{"I"} \\ 1.00 & \text{if Structure}_{class} = \text{"II"} \\ 1.15 & \text{if Structure}_{class} = \text{"III"} \end{cases} \qquad I \quad 1$$

Note: For Wind Load without Ice

Output - Velocity Coefficient for round, tubular and polygonal members (canister), C, (Table 2-7)

$$c \quad \left(I\,K_{zt}\,K_z\right)^{0.5}\,V\,D\,\frac{1}{mph\ ft} \qquad c \quad 2.435 \quad 10^3$$

$$C_F \begin{cases} 1.2 & \text{if } (c \quad 32) \\ \frac{25.8}{c^{0.885}} & \text{if } (32 \quad c \quad 64) \\ 0.65 & \text{if } (c \quad 64) \end{cases} \qquad C_F \quad 0.65$$

Output - Velocity Coefficient for round, tubular and polygonal members (spine), C, (Table 2-7)

$$c_{spine} \quad \left(I\,K_{zt}\,K_z\right)^{0.5}\,V\,spine\,\frac{1}{mph\ ft} \qquad c_{spine} \quad 0$$

$$C_{Fspine} \begin{cases} 1.2 & \text{if } (c_{spine} \quad 32) \\ \dfrac{38.4}{c_{spine}^{1.0}} & \text{if } (32 \quad c_{spine} \quad 64) \\ 0.6 & \text{if } (c_{spine} \quad 64) \end{cases}$$

$C_{Fspine} = 1.2$

Output - Effective Area to Input into RISA Tower

$EPA_s = C_F \, D \, (z_1 - z_2) + C_{Fspine} \, spine \, (z_1 - z_2)$

$EPA_s = 162.5 \text{ ft}^2$

$ice = 0.5 \text{ in}$

$EPA_{ice} = C_F \, (D + 2ice) \, (z_1 - z_2) + C_{Fspine} \, (spine) \, (z_1 - z_2)$

$EPA_{ice} = 163.042 \text{ ft}^2$

$ice = 1.0 \text{ in}$

$EPA_{ice} = C_F \, (D + 2ice) \, (z_1 - z_2) + C_{Fspine} \, (spine) \, (z_1 - z_2)$

$EPA_{ice} = 163.583 \text{ ft}^2$

Project No: STR21-10300-02
Date: 07/12/2021
By: RE

Calculation of Drag Coefficient for Canister:

Input - TOWER PARAMETERS

h 105 ft = height of structure (ft)

V 105 mph = Three second gust basic wind speed per TIA-222-G

Exp "C" = Exposure Category (2.6.5.1)

Topo 1 = Topographic Category

H 1 ft = height of crest above surrounding terrain

$Structure_{class}$ "II" = Structure class per Table 2-1 "Classification of Structures" choose: (I,II,III)

D 300 in = diameter at section

spine 0 in = internal spine diameter

n_c "Round" = Number of Sides for canister, Choose (Round, 18, 16,12,8)

n_s "Round" = Number of Sides for canister, Choose (Round, 18, 16,12,8)

Input - SECTION PARAMETERS

z_1 93 ft = Height at top of tower section

z_2 81 ft = Height at bottom of tower section

z $mean(z_1\ z_2)$ = Height above average ground level to midpoint of section

Output - Velocity Pressure Coefficient, Kz (2.6.5.2)

Per Table 2-4 from TIA-222-G

$$\alpha \begin{cases} 7.0 & \text{if Exp = "B"} \\ 9.5 & \text{if Exp = "C"} \\ 11.5 & \text{if Exp = "D"} \end{cases} \qquad \alpha \quad 9.5$$

$$z_g \begin{cases} 1200\ \text{ft} & \text{if Exp = "B"} \\ 900\ \text{ft} & \text{if Exp = "C"} \\ 700\ \text{ft} & \text{if Exp = "D"} \end{cases} \qquad z_g \quad 274.32\ \text{m}$$

$$K_{zmin} \begin{cases} 0.70 & \text{if Exp = "B"} \\ 0.85 & \text{if Exp = "C"} \\ 1.03 & \text{if Exp = "D"} \end{cases} \qquad K_{zmin} \quad 0.85$$

$$K_z \quad 2.01 \left(\frac{z}{z_g}\right)^{\frac{2}{\alpha}}$$

K_z $if(K_z < K_{zmin}, K_{zmin}, K_z)$ K_z $if(K_z > 2.01, 2.01, K_z)$ K_z 1.229

Output - Topographic Factor, Kzt (2.6.6.4)

$$K_t \begin{cases} 1 & \text{if Topo} = 1 \\ 0.43 & \text{if Topo} = 2 \\ 0.53 & \text{if Topo} = 3 \\ 0.72 & \text{if Topo} = 4 \end{cases} \qquad K_t \quad 1$$

$$K_e \begin{cases} 0.90 & \text{if Exp} = \text{"B"} \\ 1.00 & \text{if Exp} = \text{"C"} \\ 1.10 & \text{if Exp} = \text{"D"} \end{cases} \qquad K_e \quad 1$$

$$f \begin{cases} 1.0 & \text{if Topo} = 1 \\ 1.25 & \text{if Topo} = 2 \\ 2.00 & \text{if Topo} = 3 \\ 1.50 & \text{if Topo} = 4 \end{cases} \qquad f \quad 1$$

$$K_h \quad e^{\frac{f\,z}{H}} \qquad K_h \quad 6.076 \quad 10^{37}$$

$$K_{zt} \begin{cases} 1 & \text{if Topo} = 1 \\ 1 \quad \dfrac{K_e\,K_t}{K_h}^{2} & \text{if Topo} \quad 1 \end{cases} \qquad K_{zt} \quad 1$$

Output - Importance Factor, I (Table 2-3)

$$I \begin{cases} 0.87 & \text{if Structure}_{class} = \text{"I"} \\ 1.00 & \text{if Structure}_{class} = \text{"II"} \\ 1.15 & \text{if Structure}_{class} = \text{"III"} \end{cases} \qquad I \quad 1$$

Note: For Wind Load without Ice

Output - Velocity Coefficient for round, tubular and polygonal members (canister), C, (Table 2-7)

$$c \quad \left(I\,K_{zt}\,K_z\right)^{0.5}\,V\,D\,\frac{1}{mph\,ft} \qquad c \quad 2.91 \quad 10^{3}$$

$$C_F \begin{cases} 1.2 & \text{if } (c \quad 32) \\ \dfrac{25.8}{c^{0.885}} & \text{if } (32 \quad c \quad 64) \\ 0.65 & \text{if } (c \quad 64) \end{cases} \qquad C_F \quad 0.65$$

Output - Velocity Coefficient for round, tubular and polygonal members (spine), C, (Table 2-7)

$$c_{spine} \quad \left(I\,K_{zt}\,K_z\right)^{0.5}\,V\,spine\,\frac{1}{mph\,ft} \qquad c_{spine} \quad 0$$

$$C_{Fspine} \begin{cases} 1.2 & \text{if } (c_{spine} \quad 32) \\ \dfrac{38.4}{c_{spine}^{1.0}} & \text{if } (32 \quad c_{spine} \quad 64) \\ 0.6 & \text{if } (c_{spine} \quad 64) \end{cases}$$

$C_{Fspine} = 1.2$

Output - Effective Area to Input into RISA Tower

$EPA_s \quad C_F \, D \, (z_1 \quad z_2) \quad C_{Fspine} \, spine \, (z_1 \quad z_2)$

$EPA_s = 195 \text{ ft}^2$

$ice = 0.5 \text{ in}$

$EPA_{ice} \quad C_F \, (D \quad 2ice) \, (z_1 \quad z_2) \quad C_{Fspine} \, (spine) \, (z_1 \quad z_2)$

$EPA_{ice} = 195.65 \text{ ft}^2$

$ice \quad 1.0 \text{ in}$

$EPA_{ice} \quad C_F \, (D \quad 2ice) \, (z_1 \quad z_2) \quad C_{Fspine} \, (spine) \, (z_1 \quad z_2)$

$EPA_{ice} = 196.3 \text{ ft}^2$

SST Unit Base Foundation

Site # :	CT0025
Site Name:	East Lyme Relo
Project #:	STR21-10300-02
TIA-222 Revision:	G

Top & Bot. Pad Rein. Different?:	☑
Tower Centroid Offset?:	☐
Block Foundation?:	☑
Rectangular Pad?:	☐

Superstructure Analysis Reactions		
Global Moment, **M**:	3563.75	ft-kips
Global Axial, **P**:	78.01	kips
Global Shear, **V**:	63.64	kips
Leg Compression, P_{comp}:	254.62	kips
Leg Comp. Shear, V_{u_comp}:	26.86	kips
Leg Uplift, P_{uplift}:	208.84	kips
Leg Uplift. Shear, V_{u_uplift}:	26.25	kips
Tower Height, **H**:	91.25	ft
Base Face Width, **BW**:	18	ft
BP Dist. Above Fdn, bp_{dist}:	2	in
Anchor Bolt Circle, **BC**:	15.25	in

Foundation Analysis Checks	Capacity	Demand	Rating	Check
Lateral (Sliding) (kips)	82.14	63.64	**77.5%**	**Pass**
Bearing Pressure (ksf)	9.21	3.67	**39.8%**	**Pass**
*Overturning (kip*ft)*	4095.85	3765.28	**91.9%**	**Pass**
*Pad Flexure (kip*ft)*	3715.59	1556.97	**41.9%**	**Pass**
Pad Shear - 1-way (kips)	932.37	281.61	**30.2%**	**Pass**
Pad Shear - Comp 2-way (ksi)	0.190	0.052	**27.3%**	**Pass**

Soil Rating:	**91.9%**
Structural Rating:	**41.9%**

Pad Properties		
Depth, **D**:	2.75	ft
Pad Width, W_1:	26.00	ft
Pad Thickness, **T**:	3.00	ft
Pad Rebar Size (Top dir.2), Sp_{top2}:	8	
Pad Rebar Quantity (Top dir. 2), mp_{top2}:	26	
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	34	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties		
Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	4	ksi
Dry Concrete Density, **δc**:	150	pcf

Soil Properties		
Total Soil Unit Weight, **γ**:	100	pcf
Ultimate Net Bearing, Qnet:	12.000	ksf
Cohesion, **Cu**:		ksf
Friction Angle, **ϕ**:		degrees
SPT Blow Count, N_{blows}:		
Base Friction, **μ**:	0.3	
Neglected Depth, **N**:	0.0	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<-- Toggle between Gross and Net

Colocation Application

RETURN THIS APPLICATION TO: (E-MAIL IS PREFERRED)			Date Rec by TowerCo:	6/11/21
TowerCo			Revision Dates:	
5000 Valleystone Dr., Ste. 200	**e-mail:**	colocation@towerco.com		
Cary, NC 27519	**office:**	**919-469-5559**	TowerCo Site Name:	**East Lyme Relo**
Attn: Colocation	**fax:**	**919-469-5530**	TowerCo Site Number:	**CT0025**

TOWERCO SITE INFORMATION

Latitude:	41	21	58.6	N	Existing Structure Type:	
Longitude:	72	14	32.47	W	Existing Structure Height (ft AGL):	
Site Address: 2 Arbor Crossing, East Lyme, CT 06333					County: New London	State: CT

APPLICANT INFORMATION

Applicant (Carrier):	Verizon	Primary Contact Name:	Corey Vaccaro
Applicant Site Name:	EAST LYME NORTH CT	Company Name:	Structure Consulting Group
Applicant Site Number:	2558230	Primary Contact Number:	781-227-1314
Req. Date For Receipt of Agreement:		Primary Contact Fax:	
Proposed Installation Date:		Primary Contact Address:	49 Brattle St Arlington, MA 02474
Proposed ON AIR Date:			
Applicant Entity Name on SA:	**Verizon Wireless**	Primary Contact Email:	cvaccaro@structureconsulting.net
Notice Address for Lease:	**118 Flanders Rd Westborough, MA 01581**		
Billing Address:			

ADDITIONAL CARRIER INFORMATION

Leasing Contact Name/Number/Email	Corey Vaccaro / 781-227-1314 / cvaccaro@structureconsulting.net
RF Contact Name/Number/E mail	
Legal Review Contact Name/Number:	
Zoning Contact Name/Number	
Construction Contact Name/Number:	
Site Tech Contact Name/Number:	
Emergency Contact Name/Number:	

ANTENNAS

	Sector 1	Sector 2	Sector 3	AUX
Desired Rad Center (ft AGL)				
Antenna Quantity	6 total, 2 per sector	3 total, 1 per sector		
Antenna Manufacturer	COMMSCOPE	Samsung		
Antenna Model (Attach Spec Sheet)	NHH-65B-R2B	MT6407-77A		
Antenna Weight (lbs per antenna)	43.651 lb	87.1 lb		
Antenna Dimensions (HxWxD) (in)	71.9 x 11.8 x 7.1 in	16.06 x 35.12 x 5.51		
ERP (watts)	71.26			
Antenna Gain (dB)				
Orientation/Azimuth (Degrees)	10, 150, 270	10, 150, 270		
Mechanical Tilt				
RRU Quantity	3 total, 1 per sector	3 total, 1 per sector		
RRU Manufacturer & Model	Samsung B2/B66A RRH-BR049	Samsung B5/B13 RRH-BR04		
RRU Dimensions (HxWxD) (in)	15 x 15 x 8.1	15 x 15 x 10		
RRU Weight	70.3 lb	84.4 lb		
Surge Suppressor Quantity				
Surge Suppressor Manufacturer & Model				
Surge Suppressor Dimensions (HxWxD)				
Surge Suppressor Weight				

TowerCo

Colocation Application

TMA Quantity				
TMA Manufacturer & Model				
TMA Dimensions (HxWxD)				
TMA Weight				
RET Quantity	1			
RET Manufacturer and Model	Commscope FE-16148-OVP-B12			
RET Dimensions (HxWxD)	16 x 14 x 8			
RET Weight	15.21 lb			
RET Control Cable Diameter				
Mount Mfg and Model	Site Pro RMQP-496-HK			
Tower Mount Mounting Height	86’			
Number of Coax Cables (**Please specify Per ‘ANTENNA’ or Per ‘SECTOR’**)				
Diameter of Coax Cables (in)				
Number of Hybrid Fiber/Power Cables (**Please specify Per ‘ANTENNA’ or Per ‘SECTOR’**)	1			
Diameter of Hybrid Fiber/Power Cables (in)	12 x 24			
Transmit Frequency (MHz)	700, 850, 1900, 2100			
Receive Frequency (MHz)				
Type of Service (i.e. LTE, CDMA,GSM)	LTE			
Is FirstNet being added to this site? ☐ ***YES*** ☐ ***NO***				

Please Note: “AUX” can be used for Microwave, TTA, LNA, or GPS antenna information

GROUND SPACE REQUIREMENTS

Equipment Enclosure Type:	__ BTS Cabinets/Number of BTS Cabinets: __ Outdoor Shelter __ Other:
Leased Area Dimensions (WxD) (ft)	10’ x 35’
Cabinet/BTS/Shelter Dimensions (HxWxD)(ft):	
Concrete Pad Dimensions (WxD)(ft):	
Cabinet/Shelter Manufacturer/Model:	

POWER REQUIREMENTS

AC Power:		Required Voltage and Total Amperage:	

GENERATOR INFORMATION

Generator Ground Space Requirement (HxWxD) (ft):		Fuel Type	**__ Propane ___ Diesel**
Fuel Tank Size (Gallons):		Fuel Tank Location:	**__Attached __Separate __None**
Capacity (KW):			

ADDITIONAL INFORMATION/COMMENTS

Equipment room provided by TowerCo and must be utilized for stealthing. Cable run from shelter to antenna will also need to be underground. There are existing conduits that run from the tower to the individual shelter rooms so Verizon only needs to pull their cables.

TowerCo

Colocation Application

- Ground lessor consent may be required as a condition to the execution of your lease.
- Modifications to the tower site may be subject to local zoning approval.
- If available, attach manufacturer's equipment specifications for antennas, mounts, cabinets, shelters, etc.
- When requesting ground space, do not include a buffer around your desired physical footprint. TowerCo , at its sole discretion, will provide a non-exclusive buffer between your installation and other proposed and/or existing tenants to allow for access and maintenance

ATTACHMENT 6

	General	Power	Density					
Site Name: East Lyme N								
Tower Height: Verizon @ 86ft								
CARRIER	**# OF CHAN.**	**WATTS ERP**	**HEIGHT**	**FREQ.**	**CALC. POWER DENS**	**MAX. PERMISS.EXP.**	**FRACTION MPE**	**Total**
*AT&T-UMTS	1	1028	95	880	0.046672077	0.586666667	0.80%	
*AT&T-UMTS	1	1265	95	1900	0.057432079	1	0.57%	
*AT&T-LTE	2	1254	95	710	0.113865339	0.473333333	2.41%	
*AT&T-LTE	1	1542	95	880	0.070008115	0.586666667	1.19%	
*AT&T-LTE	3	1897	95	1900	0.258376253	1	2.58%	
*AT&T-LTE	1	2179	95	2300	0.098928458	1	0.99%	
VZW 700	**4**	**689**	**86**	**751**	**0.0134**	**0.5007**	**2.68%**	
VZW Cellular	**4**	**351**	**86**	**874**	**0.0068**	**0.5827**	**1.17%**	
VZW PCS	**4**	**1500**	**86**	**1977.5**	**0.0292**	**1.0000**	**2.92%**	
VZW AWS	**4**	**1671**	**86**	**2120**	**0.0325**	**1.0000**	**3.25%**	
VZW CBAND	**2**	**20654**	**86**	**3730.08**	**0.2009**	**1.0000**	**20.09%**	
								38.64%
* Source: Siting Council								

ATTACHMENT 7

UNITED STATES POSTAL SERVICE®

EAST LYME NORTH

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	4	4	neopost 01/04/2022 US POSTAGE $003.35⁰ ZIP 06103 041L12203937
	Postmaster, per *(name of receiving employee)*		

USPS® Tracking Number / Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Kevin A. Seery, First Selectman Town of East Lyme 108 Pennsylvania Avenue Niantic, CT 06357		OLD STATE HOUSE STATION 06103 JAN - 4 2021 USPS		
2.	Gary Goeschel, II, Director of Planning Town of East Lyme 108 Pennsylvania Avenue Niantic, CT 06357				
3.	Orchards at East Lyme, Inc. c/o Northeast Property Group 150 Eugene O'Neill Drive New London, CT 06320				
4.	TowerCo 5000 Valleystone Drive, Suite 200 Cary, NC 27519				
5.					
6.					