

Transcend Wireless
48 Spruce Street
Oakland, NJ 07436
Phone: (845) 401-0965
Gina Rappa
Real Estate Consultant

02/28/2014

Hand Delivered

Ms. Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: T-Mobile Northeast LLC notice of intent to modify an existing telecommunications facility located at, 15 Miner Lane, Waterford, CT, Known to T-Mobile Northeast LLC as site CT11641A.

Dear Ms. Roberts:

In order to accommodate technological changes, implement Global System for Mobile Communications Access (“GSM”) and/or Long Term Evolution (“LTE”) capabilities, and enhance system performance in the state of Connecticut, T-Mobile Northeast LLC plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and its attachments is being sent to the chief elected official of the municipality in which affected cell site is located.

GSM employs Spread-Spectrum technology and special coding scheme to allow multiple users to be multiplexed over the same physical channel. LTE is a new high-performance air interface for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

As part of the project the new multi-mode 800/1900 antenna will replace existing antennas. These antennas will provide more flexibility for optimization by allowing fast and easy electrical tilt adjustment from remote location and will enable the transmission of multiple technologies from a single antenna. As T-Mobile Northeast LLC network evolves to meet the demands of its customers, it is essential for T-Mobile Northeast LLC to install modern equipment and antennas in order to provide reliable wireless voice and data services. The proposed equipment will include multi-mode radios that will allow T-Mobile Northeast LLC to transmit at different frequencies using different technologies, including LTE technology. Likewise, the proposed antennas are quad-pole multi-band

high gain antennas that will allow T-Mobile Northeast LLC to operate using its multiple frequency bands and technologies, including LTE technology. The proposed equipment and antennas will improve the reliability, coverage and capacity of T-Mobile Northeast LLC voice and data networks across T-Mobile Northeast LLC various FCC licensed frequency bands and significantly increase the data speeds of T-Mobile Northeast LLC 's network by utilizing the latest LTE technology. Without the proposed modifications T-Mobile Northeast LLC will be unable to provide reliable wireless voice and data service using the latest technologies.

T-Mobile Northeast LLC will have an interim (testing) period during the modification/installation prior to the final configuration. This antenna configuration is shown on the attached drawings of the planned modifications. Also included is the power density calculation reflecting the change in T-Mobile Northeast LLC operations at the site and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

The changes to the facility do not constitute modification as defined Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for the R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will not be affected.
2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound.
3. The proposed changes will not increase the noise level at the existing facility by 6 decibels or more.
4. Radio Frequency power density may increase due to the use of one or more GSM transmissions. Moreover, LTE will utilize additional radio frequencies newly licensed by the FCC for cellular mobile communications. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons T-Mobile Northeast LLC respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (845) 401-0965 or email grappa@transcendwireless.com with questions concerning this matter. Thank you for your consideration.

Sincerely,

Gina Rappa
(845) 401-0965

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL
TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CT11641A

SSite Waterford MP
15 Miner Lane
Waterford, CT 06385

February 24, 2014

February 24, 2014

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Re: Emissions Values for Site: **CT11641A - SSite Waterford MP**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at 15 Miner Lane, Waterford, CT, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the cellular band is $567 \mu\text{W}/\text{cm}^2$, and the general population exposure limit for the PCS and AWS bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 15 Miner Lane, Waterford, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, the actual antenna pattern gain value in the direction of the sample area was used. For this report the sample point is a 6 foot person standing at the base of the tower

For all calculations, all equipment was calculated using the following assumptions:

- 1) 2 GSM / UMTS channels (1935.000 MHz to 1945.000 MHz / 1983.000 MHz to 1984.000 MHz) were considered for each sector of the proposed installation.
- 2) 4 UMTS / LTE channels (2110.000 to 2120.000 MHz / 2140.000 MHz to 2145.000 MHz) were considered for each sector of the proposed installation
- 3) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 4) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
- 5) The antenna used in this modeling is the Ericsson AIR21 for LTE, UMTS and GSM. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.6 dBd gain value at its main lobe. Actual antenna gain values were used for all calculations as per the manufacturers specifications

- 6) The antenna mounting height centerline of the proposed antennas is **130 feet** above ground level (AGL)
- 7) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CT11641A - Ssite Waterford MP
Site Address	15 Miner Lane, Waterford, CT 06385
Site Type	Monopole

Sector 1																	
Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	130	124	None	0	0	48.326044	1.12991	0.11299%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-	-	-	0	-3.95	130	124	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	130	124	None	0	0	24.163022	0.564955	0.05650%
1b	Ericsson	AIR21 B4A/B2P	Passive	AWS - 2100 MHz	UMTS	40	2	80	-3.95	130	124	None	0	0	32.217363	0.753273	0.07533%
															Sector total Power Density Value: 0.245%		
Sector 2																	
Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	130	124	None	0	0	48.326044	1.12991	0.11299%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-	-	-	0	-3.95	130	124	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	130	124	None	0	0	24.163022	0.564955	0.05650%
1b	Ericsson	AIR21 B4A/B2P	Passive	AWS - 2100 MHz	UMTS	40	2	80	-3.95	130	124	None	0	0	32.217363	0.753273	0.07533%
															Sector total Power Density Value: 0.245%		
Sector 3																	
Antenna Number	Antenna Make	Antenna Model	Status	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	130	124	None	0	0	48.326044	1.12991	0.11299%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-	-	-	0	-3.95	130	124	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	130	124	None	0	0	24.163022	0.564955	0.05650%
1b	Ericsson	AIR21 B4A/B2P	Passive	AWS - 2100 MHz	UMTS	40	2	80	-3.95	130	124	None	0	0	32.217363	0.753273	0.07533%
															Sector total Power Density Value: 0.245%		

Site Composite MPE %	
Carrier	MPE %
T-Mobile	0.734%
AT&T	17.040%
Verizon Wireless	14.590%
Clearwire	1.150%
Town of Waterford	0.400%
USA Mobility	0.250%
Springwich Paging	2.310%
Cingular Yagi	2.740%
Total Site MPE %	39.214%

Summary

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

The anticipated Maximum Composite contributions from the T-Mobile facility are **0.734% (0.245% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **39.214%** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

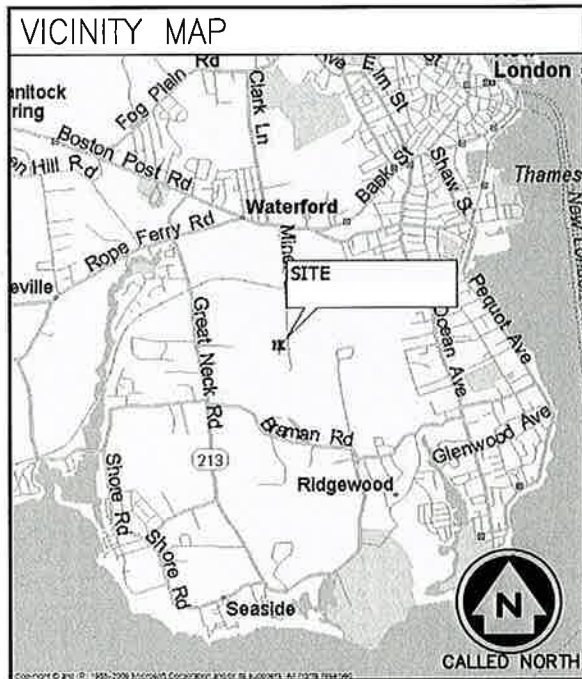
T-MOBILE NORTHEAST LLC

CT11641A

CT641/SSITE WATERFORD_MP

85 MINER LANE
WATERFORD, CT 06385

(2C CONFIGURATION)



GENERAL NOTES

- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONSTRUCT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
- THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE T-MOBILE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF THE CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXPENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
- THE SCOPE OF WORK SHALL INCLUDE FURNISHING OF ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUM OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS AND INSPECTIONS WHICH ARE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC., DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS, AS WELL AS THE LATEST EDITIONS OF ANY PERTINENT STATE SAFETY REGULATIONS.
- THE CONTRACTOR SHALL NOTIFY THE T-MOBILE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE T-MOBILE REPRESENTATIVE.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB.
- THE CONTRACTOR SHALL RETURN ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK.

PROJECT SUMMARY

SITE NUMBER:	CT11641A	APPLICANT:	T-MOBILE NORTHEAST LLC 400 STREET RD BENSALEM, PA 19020
SITE NAME:	CT641/SSITE WATERFORD_MP	PROJECT MANAGER:	AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN, MA 01801
SITE ADDRESS:	85 MINER LANE WATERFORD, CT 06385	CONTACT:	TARA RUSSO 717-695-2942
PROPERTY OWNER:	TBD	ARCHITECT/ENGINEER:	INFINIGY ENGINEERING 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205
PARCEL:	TBD	CONTACT:	AJ DESANTIS 518-690-0790
CURRENT ZONING:	TBD		
JURISDICTION:	TBD		
ATC SITE NUMBER:	310972		
LAT./LONG.:	N 41.32909519' / W 72.1246356'		
CONSTRUCTION TYPE:	-		
USE GROUP:	-		

PROJECT DESCRIPTION

<input checked="" type="checkbox"/> EXISTING MONOPOLE	<input checked="" type="checkbox"/> EXISTING CABINET(S)	<input checked="" type="checkbox"/> OUTDOOR
<input type="checkbox"/> EXISTING LATTICE TOWER	<input type="checkbox"/> EXISTING RBS 2106	<input type="checkbox"/> INDOOR
<input type="checkbox"/> EXISTING TRANSMISSION TOWER	<input type="checkbox"/> EXISTING RBS 3106	<input checked="" type="checkbox"/> EXISTING CONCRETE PAD
<input type="checkbox"/> EXISTING WATER TANK	<input type="checkbox"/> PROPOSED RBS 6102	<input type="checkbox"/> EXISTING STEEL PLATFORM
<input type="checkbox"/> EXISTING BUILDING	<input type="checkbox"/> SITE SUPPORT KIT	<input checked="" type="checkbox"/> EXISTING PPC
<input type="checkbox"/> EXISTING FLAGPOLE	<input type="checkbox"/> SITE SUPPORT CABINET	<input type="checkbox"/> PANELBOARD
<input type="checkbox"/> EXISTING FORT WORTH	<input checked="" type="checkbox"/> GPS	

T-MOBILE NORTHEAST LLC PROPOSES THE MODIFICATION OF AN UNMANNED WIRELESS BROADBAND FACILITY. REPLACEMENT OF EXISTING PANEL ANTENNAS & TTA'S WITH PROPOSED AIR21 PANEL ANTENNAS AND ASSOCIATED CABLING. REUSE EXISTING GPS ANTENNA AND EXISTING EQUIPMENT CABINETS.

SHEET INDEX

SHEET	DESCRIPTION	REVISION
T-1	TITLE SHEET	0
C-1	SITE PLAN	0
C-2	COMPOUND PLAN & ELEVATION	0
C-3	ANTENNA DETAIL & RF SCHEDULE	0
S-1	EQUIPMENT SPECIFICATIONS	0
E-1	GROUNDING AND POWER DIAGRAMS	0
E-2	COAX/FIBER PLUMBING DIAGRAM	0
N-1	GENERAL AND ELECTRICAL NOTES	0

DO NOT SCALE DRAWINGS

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



CALL:

'CALL BEFORE YOU DIG'
WWW.CBYD.COM
CALL 811, OR 1-800-822-4455

CALL THREE WORKING DAYS PRIOR TO DIGGING
SAFETY PRECAUTIONS SHALL BE IMPLEMENTED BY CONTRACTORS AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARDS.

COLOR CODE FOR UTILITY LOCATIONS

ELECTRIC - RED	SEWER - GREEN
GAS/OIL - YELLOW	SURVEY - PINK
TEL/CATV - ORANGE	PROPOSED EXCAVATION - WHITE
WATER - BLUE	RECLAIMED WATER - PURPLE

T-Mobile

T-MOBILE NORTHEAST LLC
400 STREET ROAD
BENSALEM, PA 19020

INFINIGY8
1033 WATERVLIET SHAKER ROAD
ALBANY, NY 12205
OFFICE: (518) 690-0790
FAX: (518) 690-0793

SUBMITTALS

DATE	DESCRIPTION	REVISION
12/10/13	REVIEW	A
1/20/14	FOR PERMIT	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 317-1092
DRAWN BY: JLM
CHECKED BY: AJD



THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED.

NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

SITE NAME

CT11641A

CT641/SSITE WATERFORD_MP
85 MINER LANE
WATERFORD, CT 06385

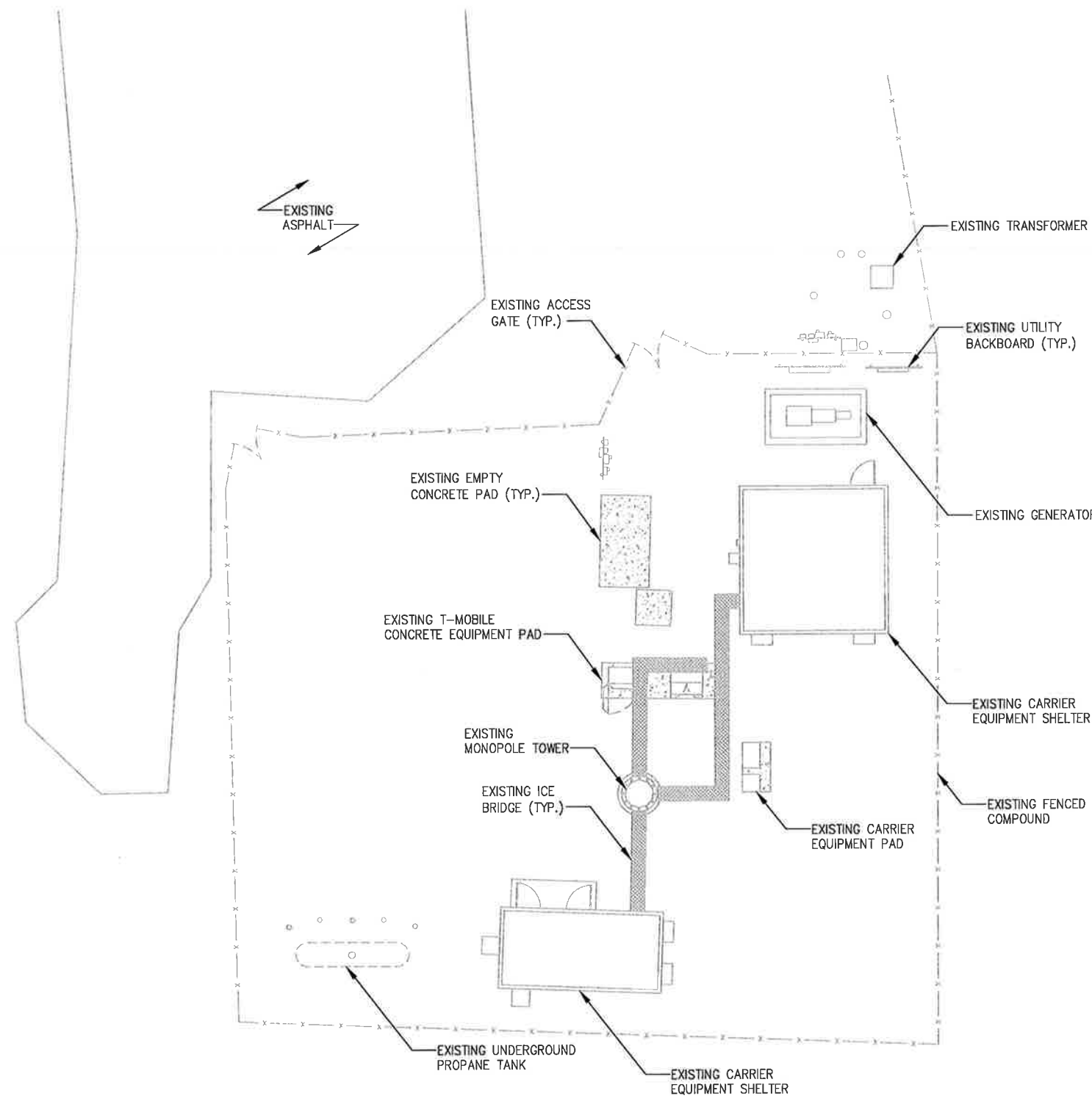
SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

SHEET 1 OF 8 SHEETS

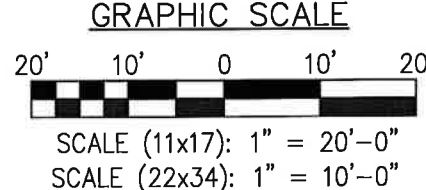


GENERAL SITE NOTES:

1. A COMPLETE BOUNDARY SURVEY OF THE HOST PARCEL HAS NOT BEEN PERFORMED BY INFINIGY ENGINEERING. BOUNDARY INFORMATION WAS OBTAINED FROM INFORMATION PROVIDED BY OTHERS. PROPERTY IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
2. BASEMAPPING INFORMATION BASED ON PROVIDED INFORMATION.
3. CONTRACTOR TO FIELD VERIFY DIMENSIONS AS NECESSARY BEFORE CONSTRUCTION.
4. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE SIGNS OF ADVERTISING.
5. THE PROPOSED DEVELOPMENT IS UNMANNED AND THEREFORE DOES NOT REQUIRE A MEANS OF WATER SUPPLY OR SEWAGE DISPOSAL.
6. NO LANDSCAPING WORK IS PROPOSED IN CONJUNCTION WITH THIS DEVELOPMENT OTHER THAN THAT WHICH IS SHOWN.
7. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.
8. UTILITIES SHOWN ON PLAN ARE TAKEN FROM OWNERS RECORDS AND FIELD LOCATION OF VISIBLE SURFACE FEATURES. THE EXISTENCE, EXTENT AND EXACT HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES HAS NOT BEEN VERIFIED. ANY CONTRACTOR PERFORMING WORK ON THIS SITE MUST CONTACT MISS UTILITY AT LEAST 48 HOURS PRIOR TO COMMENCING WORK.
9. ALL OBSOLETE OR UNUSED FACILITIES SHALL BE REMOVED WITHIN 12 MONTHS OF CESSATION OF OPERATIONS.

SITE LEGEND

- SITE PROPERTY LINE
- STREET OR ROAD
- CHAIN LINK FENCE
- OPAQUE WOODEN FENCE
- BOARD ON BOARD FENCE
- ⊗ DECIDUOUS TREES/SHRUBS
- ⊙ EVERGREEN TREES/SHRUBS
- TREE LINE
- ⊗ UTILITY POLE
- (E) EXISTING
- (N) NEW
- (P) PROPOSED
- (F) FUTURE
- ◐ PROP. GSM ANTENNA
- ◑ PROP. UMTS ANTENNA
- ◒ EX. GSM ANTENNA
- ◓ EX. UMTS ANTENNA



INFINIGY
 Design.
 Build.
 Deliver.
 1033 WATERLUT CHALKER ROAD
 ALBANY, NY 12205
 OFFICE: (518) 680-0790
 FAX: (518) 680-0793

SUBMITTALS

DATE	DESCRIPTION	REVISION
12/10/13	REVIEW	A
1/20/14	FOR PERMIT	D

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
DPS			
CONSTR.			
SITE AC.			

PROJECT NO: 317-1092
 DRAWN BY: JLM
 CHECKED BY: AJD



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NOTE: IF DRAWINGS ARE 22"x34", USE GRAPHICAL SCALE AND/OR 1/2 TIMES OF THE NOTED SCALE.

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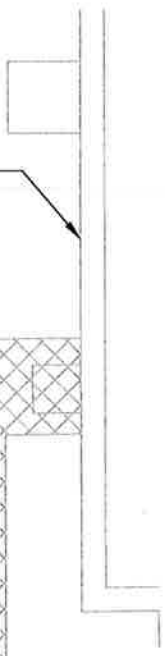
SHEET TITLE
SITE PLAN

SHEET NUMBER
C-1
 SHEET 2 OF 8 SHEETS

EXISTING EMPTY CONCRETE PAD (TYP.)



EXISTING CARRIER EQUIPMENT SHELTER

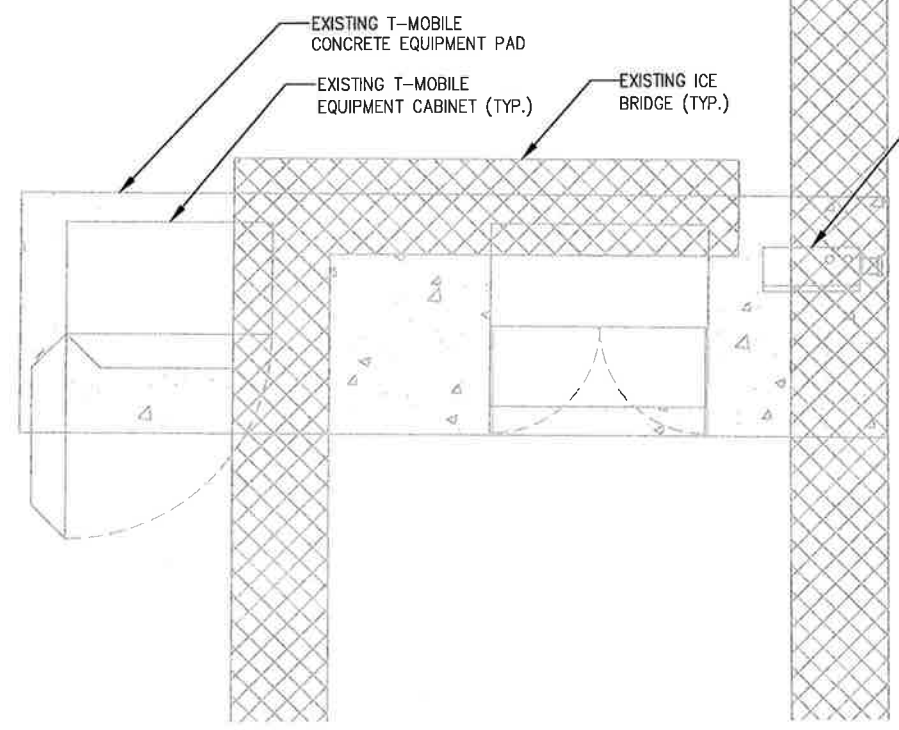


EXISTING T-MOBILE CONCRETE EQUIPMENT PAD

EXISTING T-MOBILE EQUIPMENT CABINET (TYP.)

EXISTING ICE BRIDGE (TYP.)

EXISTING T-MOBILE PPC CABINET



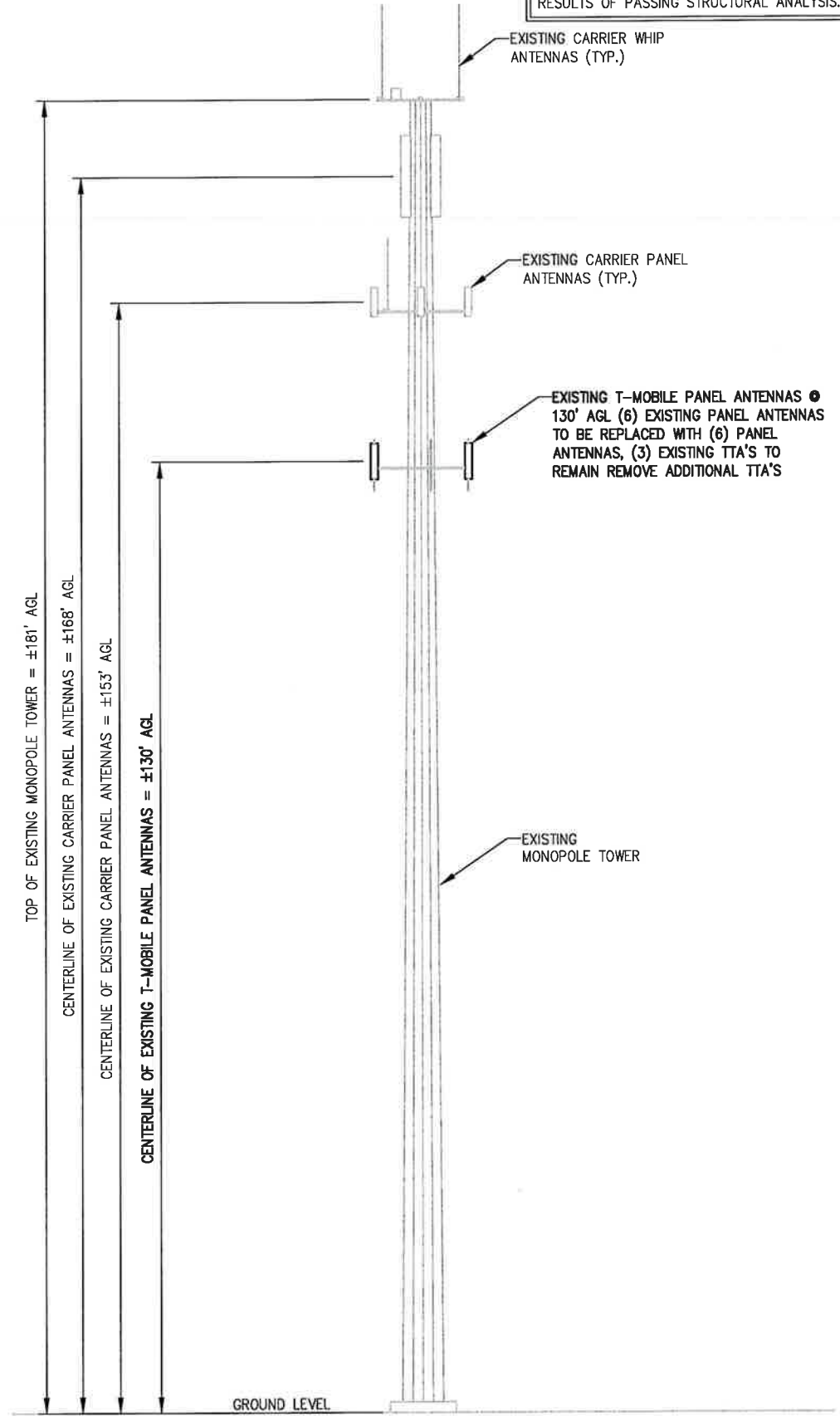
CALLLED NORTH

1 COMPOUND PLAN
SCALE: AS NOTED



SCALE (11x17): 1" = 4'-0"
SCALE (22x34): 1" = 2'-0"

NOTE:
INFINIGY8 ENGINEERING HAS NOT EVALUATED THE TOWER OR LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSIS.



TOP OF EXISTING MONOPOLE TOWER = ±181' AGL

CENTERLINE OF EXISTING CARRIER PANEL ANTENNAS = ±168' AGL

CENTERLINE OF EXISTING CARRIER PANEL ANTENNAS = ±153' AGL

CENTERLINE OF EXISTING T-MOBILE PANEL ANTENNAS = ±130' AGL

2 TOWER ELEVATION
NOT TO SCALE



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INFINIGY8
1033 WATERLIET SHAKER ROAD
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SUBMITTALS

DATE	DESCRIPTION	REVISION
12/10/13	REVIEW	A
1/20/14	FOR PERMIT	D

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 317-1092
DRAWN BY: JLM
CHECKED BY: AJD



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SITE NAME
CT11641A
CT641/SSITE WATERFORD_MP
85 MINER LANE
WATERFORD, CT 06385

SHEET TITLE
COMPOUND PLAN & ELEVATION

SHEET NUMBER
C-2
SHEET 3 OF 8 SHEETS

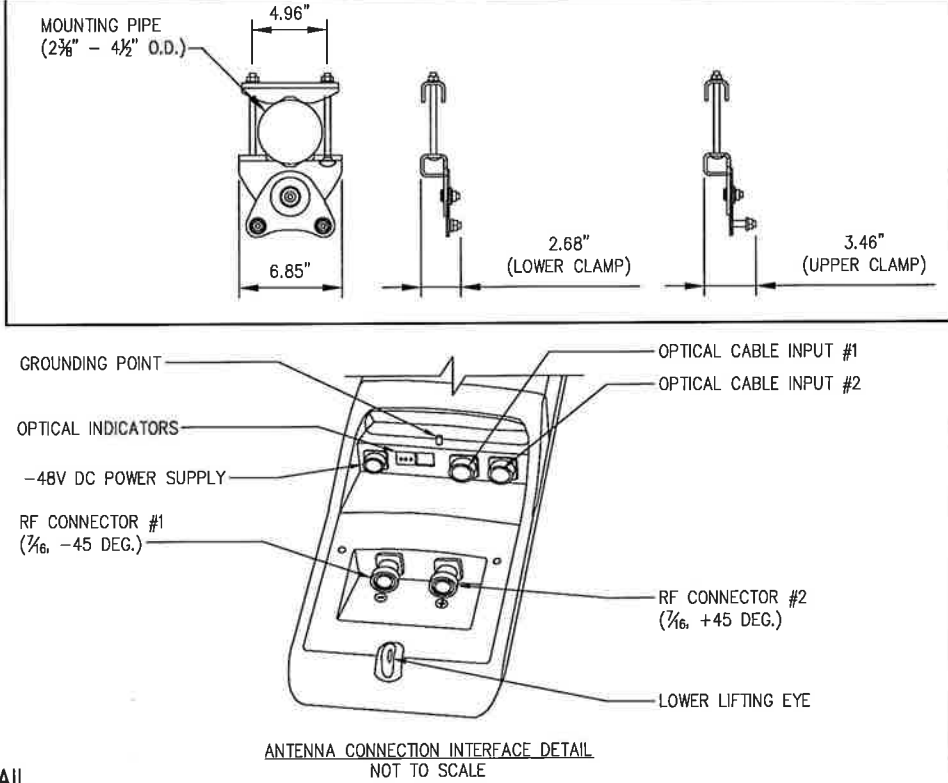
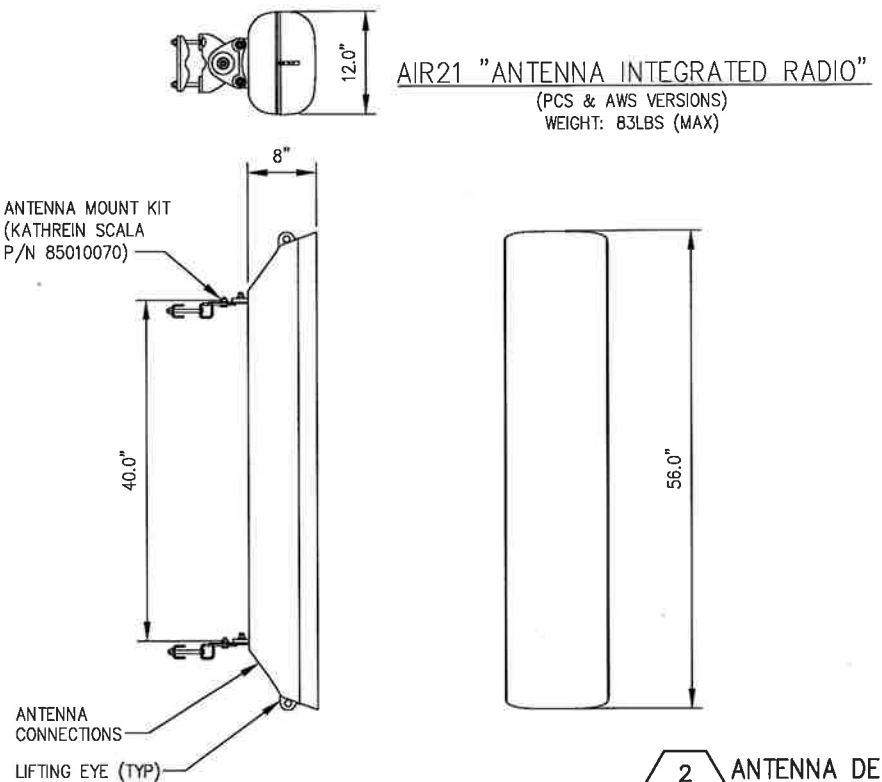
RF SYSTEM SCHEDULE (2C CONFIGURATION)

SECTOR	TECHNOLOGY	ANTENNA PORT	BAND	ANTENNA MODEL #	VENDOR	AZIMUTH	M-TILT	E-TILT	ANTENNA CENTERLINE	TMA MODEL #	VENDOR	CABLE LENGTH	CABLE DIAMETER	CABLE TYPE	CABLE MODEL #	VENDOR	CABLE TAGGING	COLOR CODING	JUMPER TYPE	JUMPER TAGGING	COLOR CODING											
A	UMTS AWS	RF #1	B4P	AIR21	ERICSSON	60°	0°	2'	130'-0"	KRY 112 144/1	N/A	EXISTING	1-5/8"	COAX	EXISTING	N/A	UMTS AWS A1	B	COAX	UMTS AWS A1	B											
		RF #2										EXISTING	1-5/8"	COAX	EXISTING	N/A	UMTS AWS A2	B	COAX	UMTS AWS A2	B											
	LMU	LMU #1	-									EXISTING	1-5/8"	COAX	EXISTING	N/A	LMU A1	-	COAX	LMU A1	-											
		LMU #2										EXISTING	1-5/8"	COAX	EXISTING	N/A	LMU A2	-	COAX	LMU A2	-											
	GSM	OPTICAL #1	B2A									-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	FIBER	GSM 1900 A1	R			
	UMTS	OPTICAL #2																									FIBER	UMTS 1900 A2	G			
LTE AWS	OPTICAL #1	B4A	AIR21	ERICSSON	60°	0°	2'	130'-0"	-	-	-	160'±	-	HYBRID	MASTERLINE EXTREME HYBRID (3x6)	ERICSSON	FIBER 1	0	FIBER	LTE FIBER 1	Y											
B	UMTS AWS	RF #1	B4P	AIR21	ERICSSON	180°	0°	2'	130'-0"	KRY 112 144/1	N/A	EXISTING	1-5/8"	COAX	EXISTING	N/A	UMTS AWS B1	BB	COAX	UMTS AWS B1	BB											
		RF #2										EXISTING	1-5/8"	COAX	EXISTING	N/A	UMTS AWS B1	BB	COAX	UMTS AWS B2	BB											
	LMU	LMU #1	-									EXISTING	1-5/8"	COAX	EXISTING	N/A	LMU B1	-	COAX	LMU B1	-											
		LMU #2										EXISTING	1-5/8"	COAX	EXISTING	N/A	LMU B1	-	COAX	LMU B2	-											
	GSM	OPTICAL #1	B2A									-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	HYBRID	GSM 1900 B1	RR		
	UMTS	OPTICAL #2																										HYBRID	UMTS 1900 B2	GG		
LTE AWS	OPTICAL #1	B4A	AIR21	ERICSSON	180°	0°	2'	130'-0"	-	-	-	-	-	-	-	-	-	-	-	HYBRID	LTE FIBER 2	YY										
C	UMTS AWS	RF #1	B4P	AIR21	ERICSSON	300°	0°	2'	130'-0"	KRY 112 144/1	N/A	EXISTING	1-5/8"	COAX	EXISTING	N/A	UMTS AWS C1	BBB	COAX	UMTS AWS C1	BBB											
		RF #2										EXISTING	1-5/8"	COAX	EXISTING	N/A	UMTS AWS C1	BBB	COAX	UMTS AWS C2	BBB											
	LMU	LMU #1	-									EXISTING	1-5/8"	COAX	EXISTING	N/A	LMU C1	-	COAX	LMU C1	-											
		LMU #2										EXISTING	1-5/8"	COAX	EXISTING	N/A	LMU C1	-	COAX	LMU C2	-											
	GSM	OPTICAL #1	B2A									-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	HYBRID	GSM 1900 C1	RRR
	UMTS	OPTICAL #2																												HYBRID	UMTS 1900 C2	GGG
LTE AWS	OPTICAL #1	B4A	AIR21	ERICSSON	300°	0°	2'	130'-0"	-	-	-	-	-	-	-	-	-	-	-	-	HYBRID	LTE FIBER 3	YYY									

1 RF SCHEDULE
NOT TO SCALE

KEY

EXISTING	R - RED - GSM
PROPOSED	G - GREEN - UMTS 1900
FIBER CONNECTION	B - BLUE - UMTS AWS
	Y - YELLOW - LTE
	O - ORANGE - FIBER CABLE



2 ANTENNA DETAIL
NOT TO SCALE

ANTENNA CONNECTION INTERFACE DETAIL
NOT TO SCALE



- METALLIC TAG NOTES:
- TWO METALLIC TAGS SHALL BE ATTACHED AT EACH END OF EVERY CABLE LONGER THAN (3) THREE FEET.
 - CABLES LESS THAN (3) THREE FEET WILL HAVE TWO METALLIC TAGS ATTACHED AT THE CENTER OF THE CABLE.
 - TAGS WILL BE FASTENED WITH STAINLESS STEEL ZIP TIES APPROPRIATE FOR CABLE DIAMETER.
 - STANDARDIZED METALLIC TAG KITS WILL BE ASSEMBLED WITH TAGS ALREADY ENGRAVED TO ACCOMMODATE ALL CONFIGURATIONS.

3 METALLIC TAG DETAIL
NOT TO SCALE

T-Mobile
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SUBMITTALS

DATE	DESCRIPTION	REVISION
12/10/13	REVIEW	A
1/20/14	FOR PERMIT	B

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 317-1092
DRAWN BY: JLM
CHECKED BY: AJD

STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER

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SITE NAME
CT11641A
CT641/SITE WATERFORD_MP
85 MINER LANE
WATERFORD, CT 06385

SHEET TITLE
ANTENNA DETAIL & RF SCHEDULE

SHEET NUMBER
C-3
SHEET 4 OF 8 SHEETS

STRUCTURAL NOTES:
1. SPECIFICATIONS / CODES:
-CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE ACI CODE.
-STEEL WORK SHALL BE PERFORMED IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL, 9TH EDITION.
-WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-92 "STRUCTURAL WELDING" CODE-STEEL.
-REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI), "MANUAL OF STANDARD PRACTICE."
2. MATERIALS:
-CONCRETE: $f_c' = 3000$ psi. (MIN. U.N.O.)
-REINFORCING STEEL: ASTM A615, GRADE 60.
-WIRE MESH: ASTM A185.
-STRUCTURAL STEEL: ASTM A36.
-ELECTRODES FOR WELDING: E 70xx.
-GALVANIZING: ASTM A153 (BOLTS) OR ASTM A123 (SHAPES, PLATES).
-EXPANSION BOLTS: HILTI KWIK BOLT II, STAINLESS STEEL, 3/4" #x43/4" EMBEDMENT OR AN APPROVED EQUAL.

SUBMITTALS

DATE	DESCRIPTION	REVISION
12/10/13	REVIEW	A
1/20/14	FOR PERMIT	D

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
DPS			
CONSTR.			
SITE AC.			

PROJECT NO: 317-1092
DRAWN BY: JLM
CHECKED BY: AJD



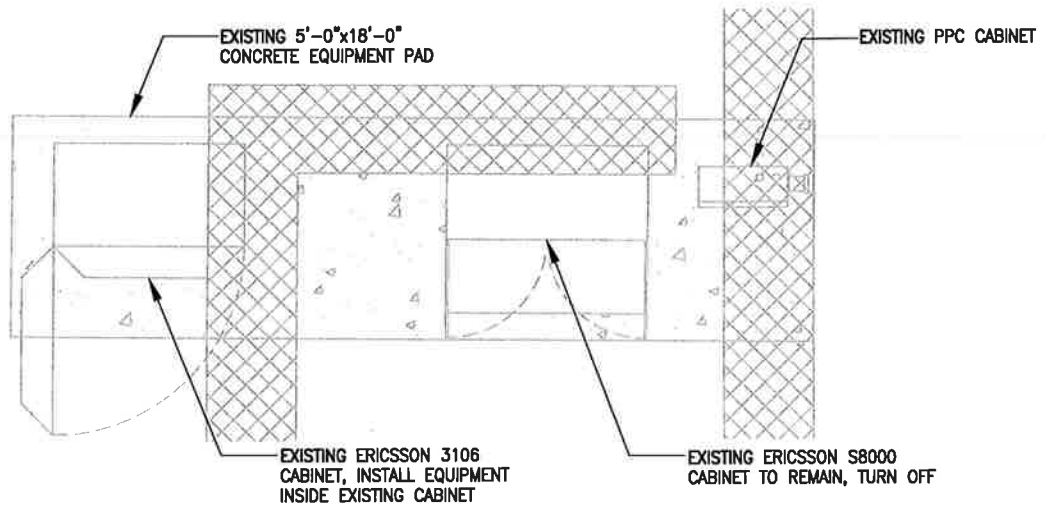
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SITE NAME
CT11641A
CT641/SSITE WATERFORD_MP
85 MINER LANE
WATERFORD, CT 06385

SHEET TITLE
EQUIPMENT SPECIFICATIONS

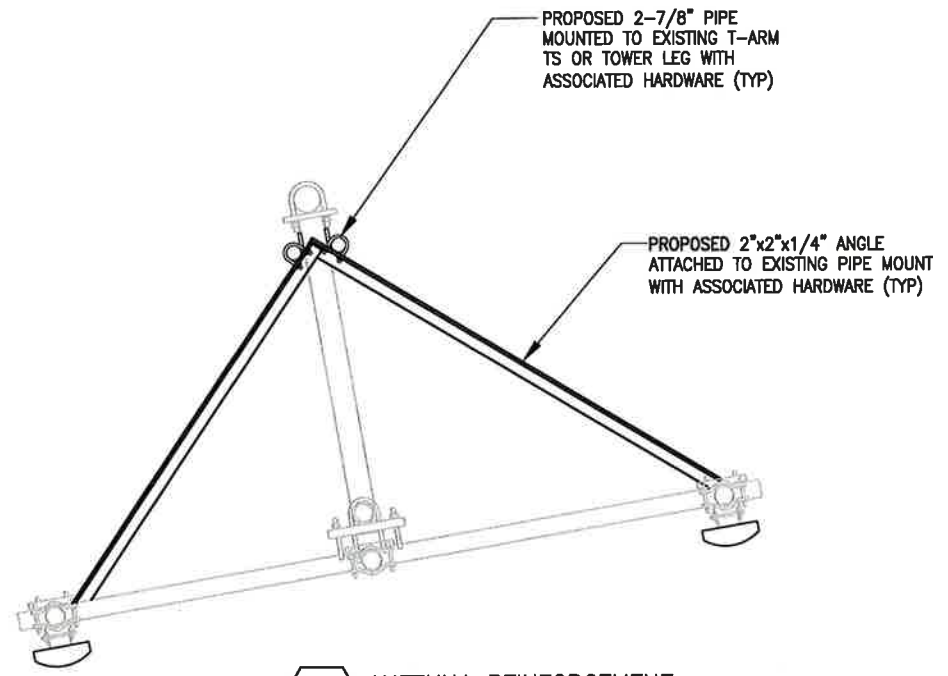
SHEET NUMBER
S-1
SHEET 5 OF 8 SHEETS



CALLLED NORTH

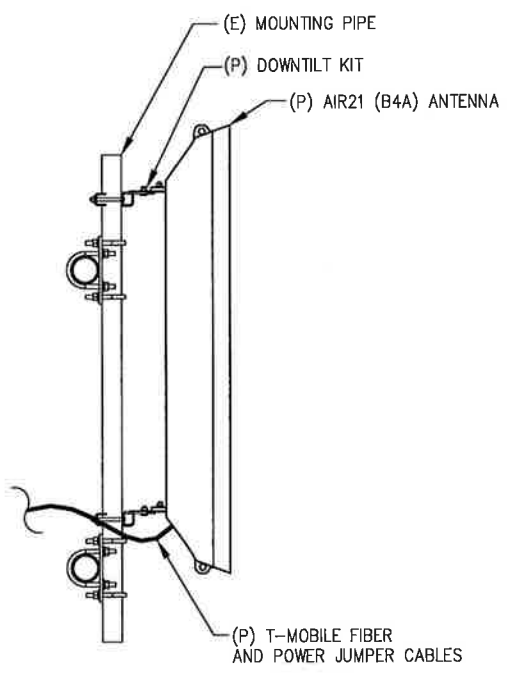
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NOT TO SCALE

2 NOT USED
NOT TO SCALE

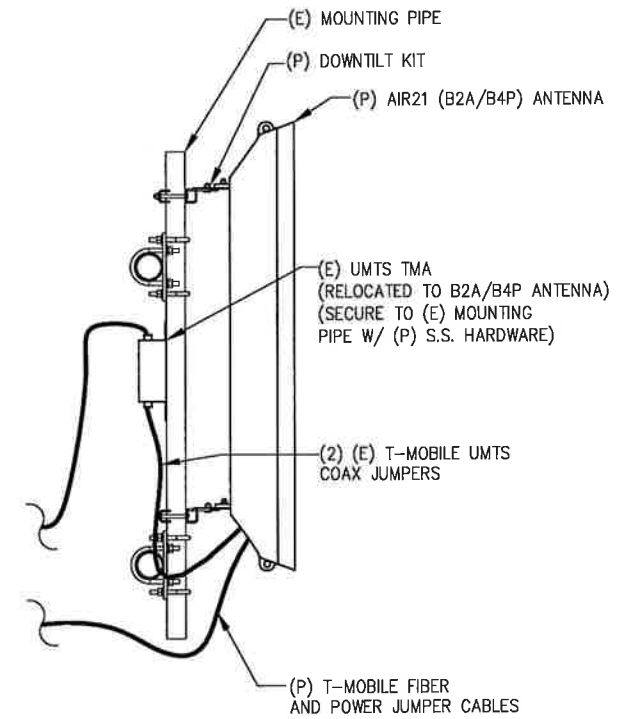


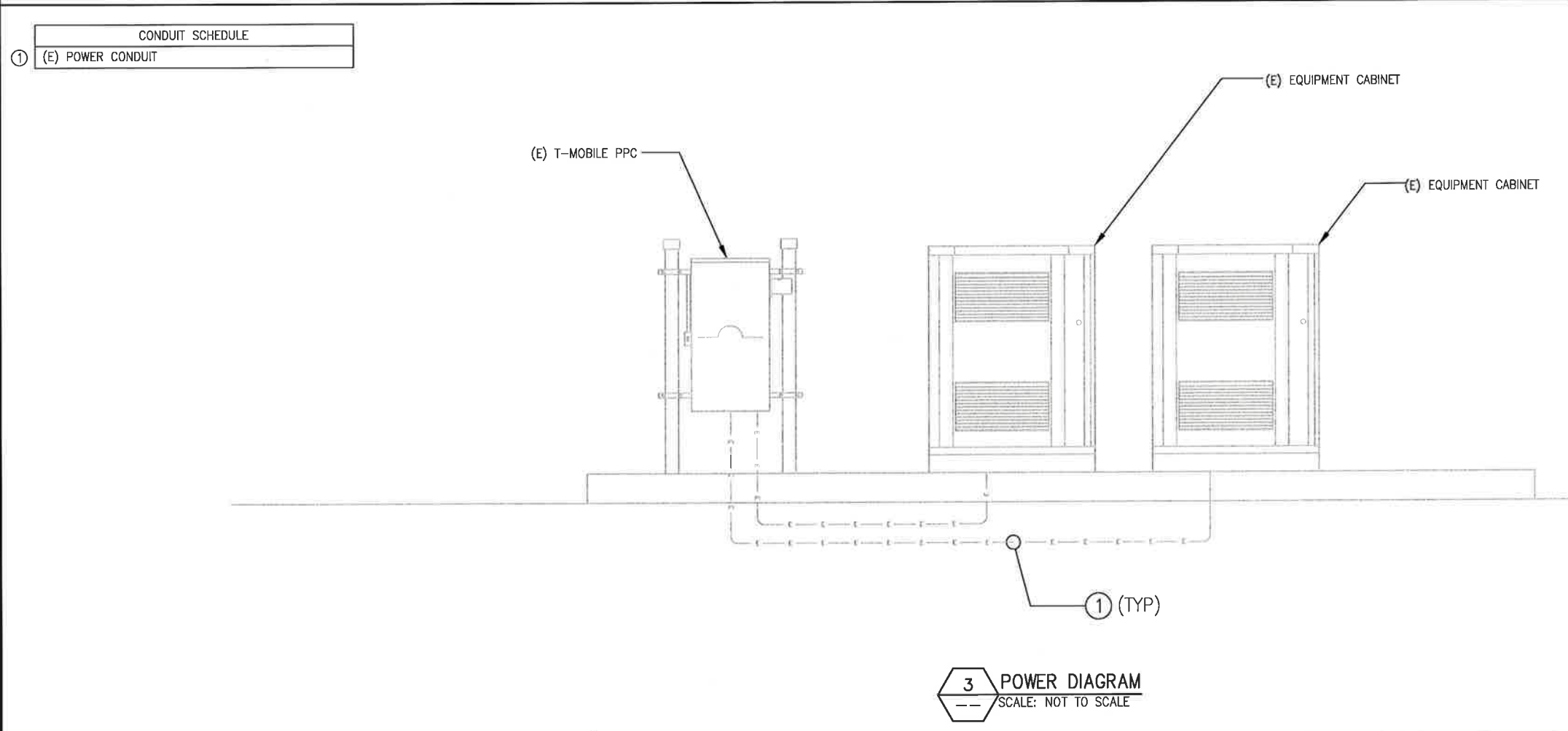
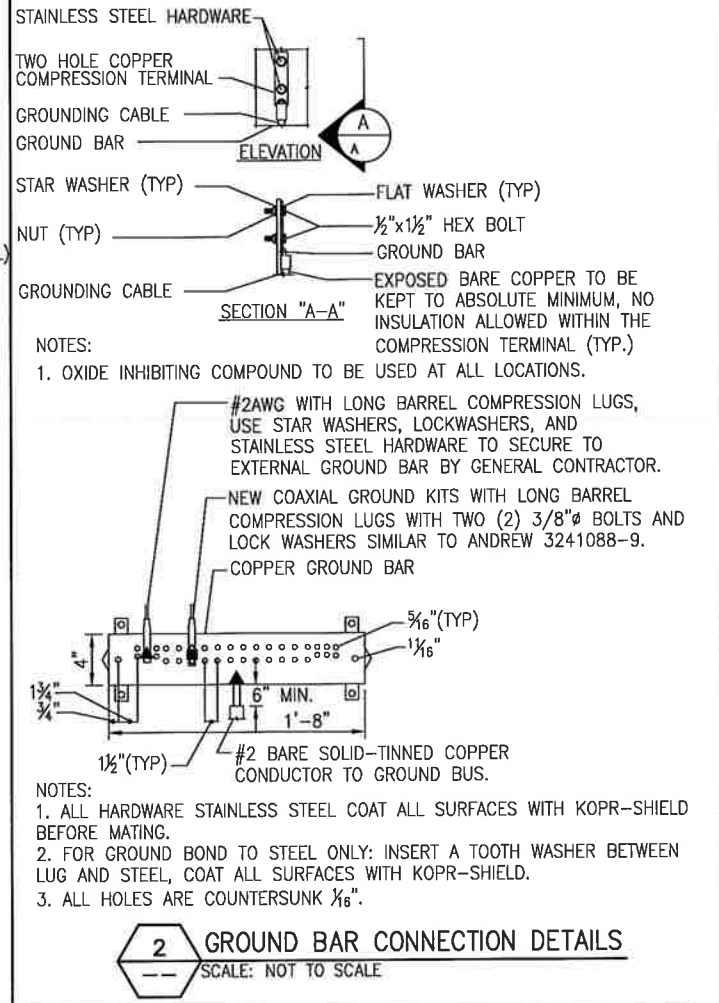
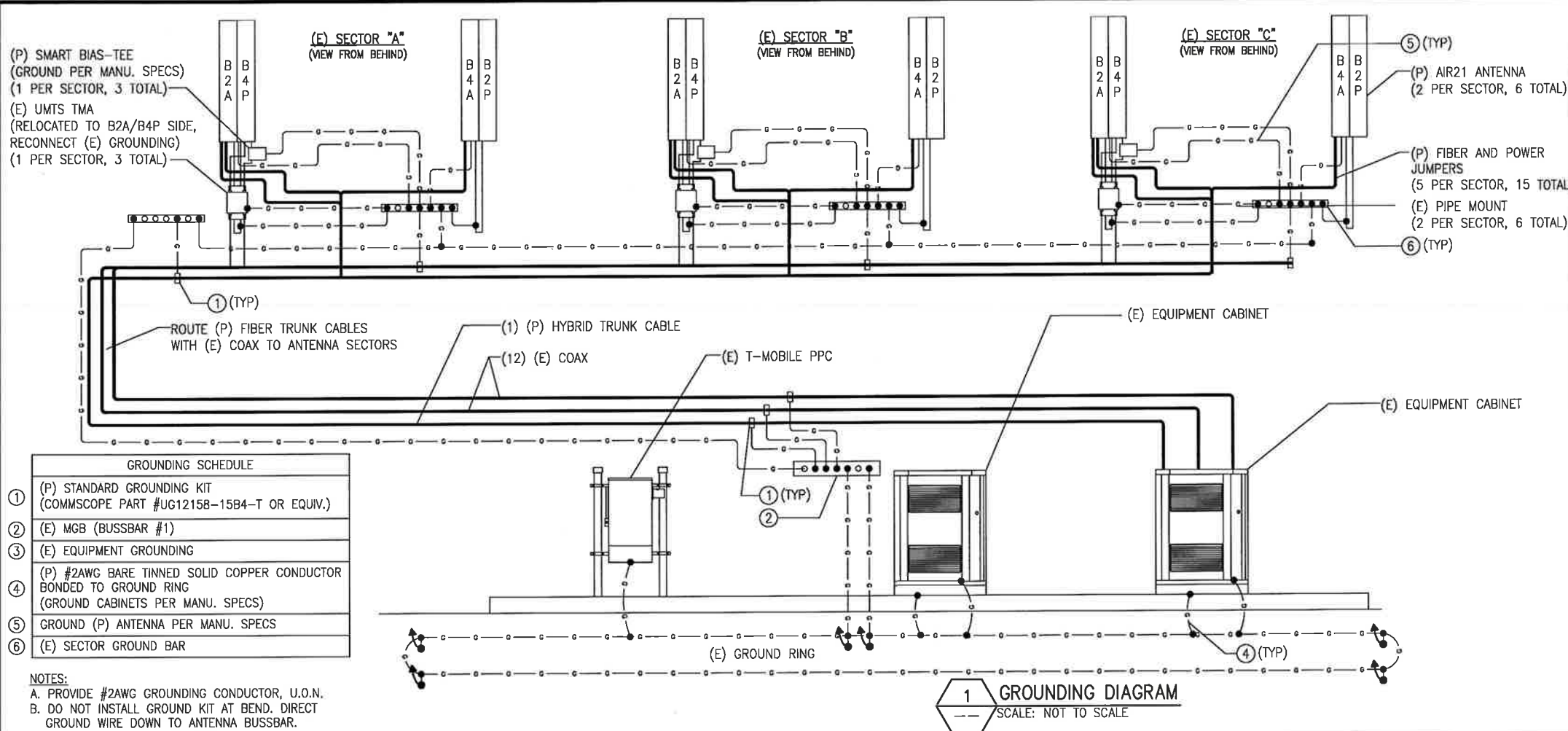
3 ANTENNA REINFORCEMENT
NOT TO SCALE

*USE WHEN EXISTING ANTENNA PIPE MOUNT HAS ONLY ONE POINT OF ATTACHMENT



4 ANTENNA MOUNTING DETAIL
NOT TO SCALE





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DATE	DESCRIPTION	REVISION
12/10/13	REVIEW	A
1/20/14	FOR PERMIT	0

DEPT.	DATE	APP'D	REVISIONS
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 317-1092
 DRAWN BY: JLM
 CHECKED BY: AJD

STATE OF CONNECTICUT
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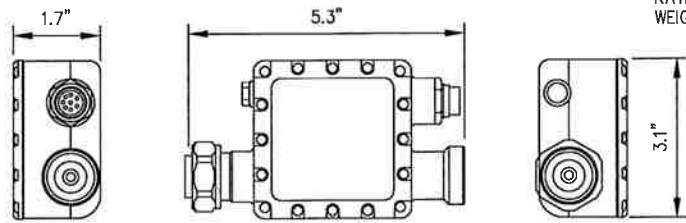
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 CT641/SSITE WATERFORD_MP
 85 MINER LANE
 WATERFORD, CT 06385

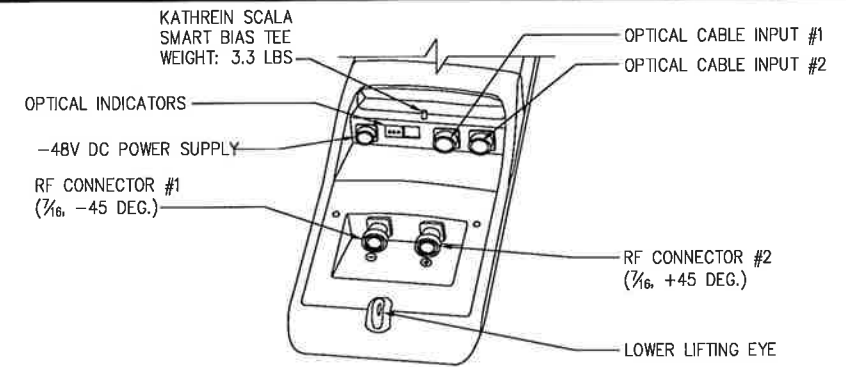
SHEET TITLE
GROUNDING & POWER DIAGRAMS

SHEET NUMBER
E-1

SHEET 6 OF 8 SHEETS



1 SMART BIAS-TEE DETAIL
NOT TO SCALE

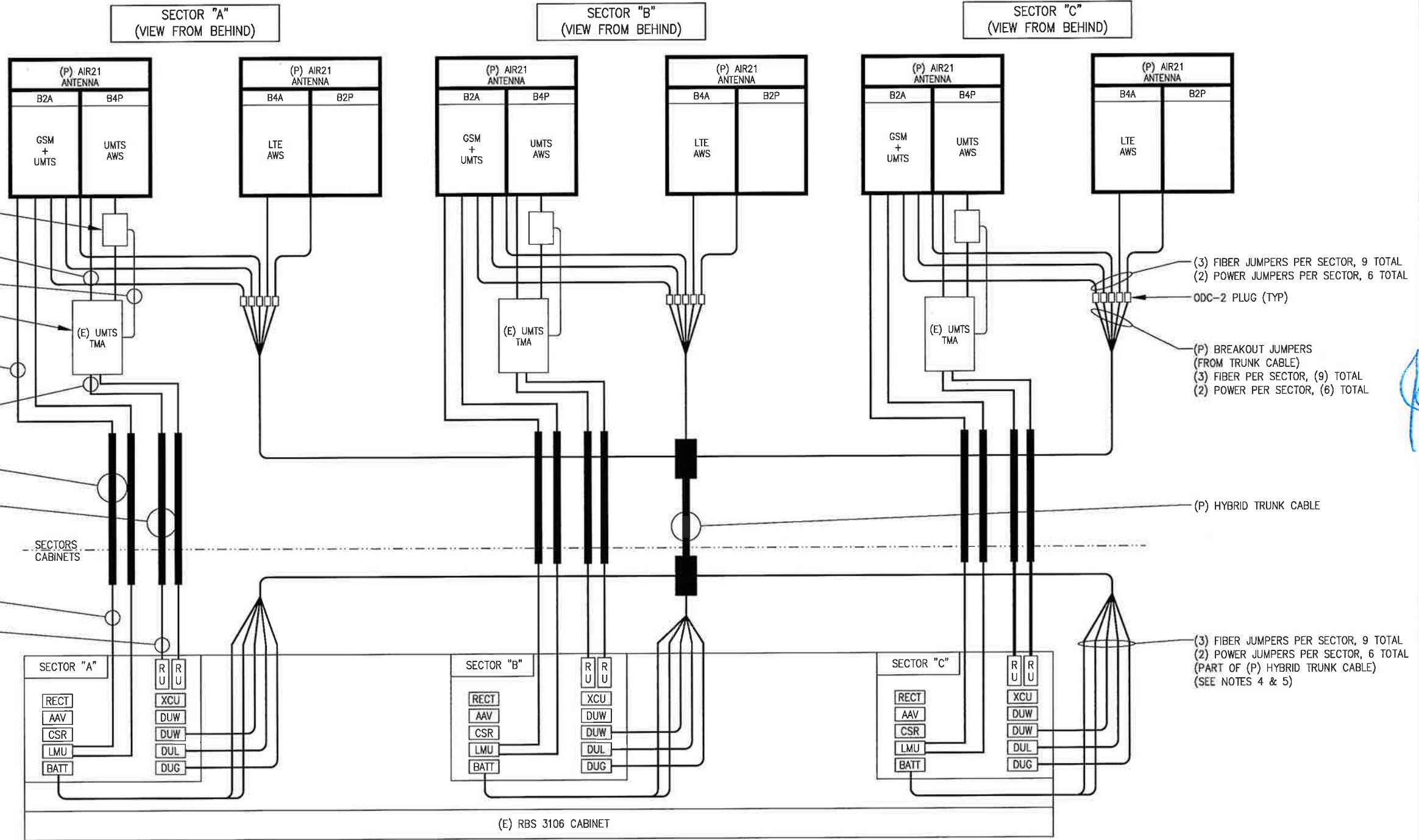


2 ANTENNA CONNECTION INTERFACE
NOT TO SCALE

NOTES:

1. TAG ALL EXISTING AND PROPOSED CABLES/JUMPERS PER T-MOBILE SPECIFICATIONS (SEE RF SCHEDULE/C-3)
2. SEE RF SCHEDULE/C-3 FOR CABLE AND JUMPER LENGTHS.
3. IF NEW GPS ADDED TO SITE, CAP AND WEATHERPROOF ANY UNUSED COAX FOR FUTURE USE.
4. TRIM POWER JUMPERS PER MANU. SPECS TO CORRECT LENGTH FOR CONNECTION.
5. COIL EXCESS FIBER IN CABINET BASE.

- (P) SMART BIAS-TEE
(1) PER SECTOR, (3) TOTAL
- (E) UMTS JUMPERS (TO ANTENNA)
(2) PER SECTOR, (6) TOTAL
- (P) AISG CABLE
(1) PER SECTOR, (3) TOTAL
- (E) UMTS TMA
(1) PER SECTOR, (3) TOTAL
- (E) COAX JUMPERS (TO FEED LMUs AS NECESSARY, SEE NOTE 3)
(2) PER SECTOR, (6) TOTAL
- (E) UMTS JUMPERS (TO TMA)
(2) PER SECTOR, (6) TOTAL
- (E) COAX (TO FEED LMUs AS NECESSARY, SEE NOTE 3)
(2) PER SECTOR, (6) TOTAL
- (E) UMTS COAX
(2) PER SECTOR, (6) TOTAL
- (E) JUMPER (TO FEED LMUs AS NECESSARY, SEE NOTE 3)
(2) PER SECTOR, (6) TOTAL
- (E) UMTS JUMPERS (TO COAX)
(2) PER SECTOR, (6) TOTAL



3 2C CONFIGURATION COAX/FIBER PLUMBING DIAGRAM
NOT TO SCALE

T-Mobile
T-MOBILE NORTHEAST LLC
400 STREET ROAD
BENSALEM, PA 19020

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SUBMITTALS		
DATE	DESCRIPTION	REVISION
12/10/13	REVIEW	A
1/20/14	FOR PERMIT	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: 317-1092
DRAWN BY: JLM
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SITE NAME
CT11641A
CT641/SSITE WATERFORD_MP
85 MINER LANE
WATERFORD, CT 06385

SHEET TITLE
COAX/FIBER PLUMBING DIAGRAM

SHEET NUMBER
E-2
SHEET 7 OF 8 SHEETS

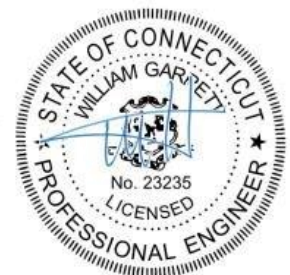


AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 180 ft Monopole
ATC Site Name : Waterford Rebuild CT, CT
ATC Site Number : 310972
Engineering Number : 55433221
Proposed Carrier : T-Mobile
Carrier Site Name : N/A
Carrier Site Number : CT11641A
Site Location : 15 Miner Lane
Waterford, CT 06385-3016
41.329069,-72.124592
County : New London
Date : December 6, 2013
Max Usage : 65%
Result : Pass

Christopher Clark Poe, E.I.
Structural Engineer I



Dec 9 2013 11:42 AM



Table of Contents

Introduction	1
Supporting Documents	1
Analysis	1
Conclusion.....	1
Existing and Reserved Equipment.....	2
Proposed Equipment	2
Structure Usages	3
Foundations	3
Deflection, Twist, and Sway.....	3
Standard Conditions	4
Calculations	Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft monopole to reflect the change in loading by T-Mobile.

Supporting Documents

Tower Drawings	FWT Job #23766000, dated July 18, 2001
Foundation Drawing	ATC Job #42693971, dated December 8, 2008
Geotechnical Report	Tower Engineering Professionals Project #082973.01, dated November 7, 2008
Modifications	ATC Job #426939F3, dated September 22, 2009 ATC Job #442108F2, dated November 9, 2009

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	120 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2003 IBC w/ 2005 CT Supplement & 2009 CT Amendment
Structure Class:	II
Exposure Category:	B
Topographic Category:	1

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



Existing and Reserved Equipment

Mount Elev. ¹ (ft)	Qty.	Antenna	Mount Type	Lines	Carrier
180.0	1	Andrew DB806D-Y	Low Profile Platform	(1) 7/8" Coax	USA Mobility
179.0	2	10' Omni	Flush	(2) 1 5/8" Coax	Town of Waterford
	1	TTA			
170.0	3	KMW HB-X-WM-17-65-00T	Stand-Off	(6) 1 5/8" Coax	Clearwire Corporation
	3	KMW HB-X-WM-17-65-00T-TTLNA			
160.0	6	Antel BXA-70063/6CF	Low Profile Platform	(14) 1 5/8" Coax	Verizon Wireless
	3	Alcatel-Lucent RRH2x40 (700)			
	3	Alcatel-Lucent RRH2x40-AWS			
	6	Antel BXA-171063/12CF_2FP			
	1	RFS DB-T1-6Z-8AB-0Z			
150.0	6	Allgon 7770.00	Low Profile Platform	(12) 1 1/4" Coax (2) 0.74" 8 AWG 7 (1) 0.28" RG-6	AT&T Mobility
	6	Powerwave LGP21401			
	6	Powerwave LGP21903			
	6	Ericsson RRUS 11 (Band 12)			
	3	KMW AM-X-CD-14-65-00T-RET			
	1	Raycap DC6-48-60-18-8F			
	6	RCU			

Proposed Equipment

Elevation ¹ (ft)		Qty.	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
128.0	130.0	3	Ericsson KRY 112 144/1	T-Arms	(12) 1 5/8" Coax (1) 1 1/4" Hybriflex	T-Mobile
		3	Ericsson AIR 21, 1.3M, B2A B4P			
		3	Ericsson AIR 21, 1.3M, B4A B2P			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax inside the pole shaft.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	64%	Pass
Shaft	65%	Pass
Base Plate	27%	Pass
Flanges	24%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Moment (Kips-Ft)	5,552.0	7,495.3	4,681.2	62%
Shear (Kips)	44.4	59.9	39.4	66%

* The design reactions are factored by 1.35 per ANSI/TIA-222-G, Sec. 15.5.1

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Deflection (ft)	Sway (Rotation) (°)
128.0	0.731	0.650

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



Standard Conditions

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

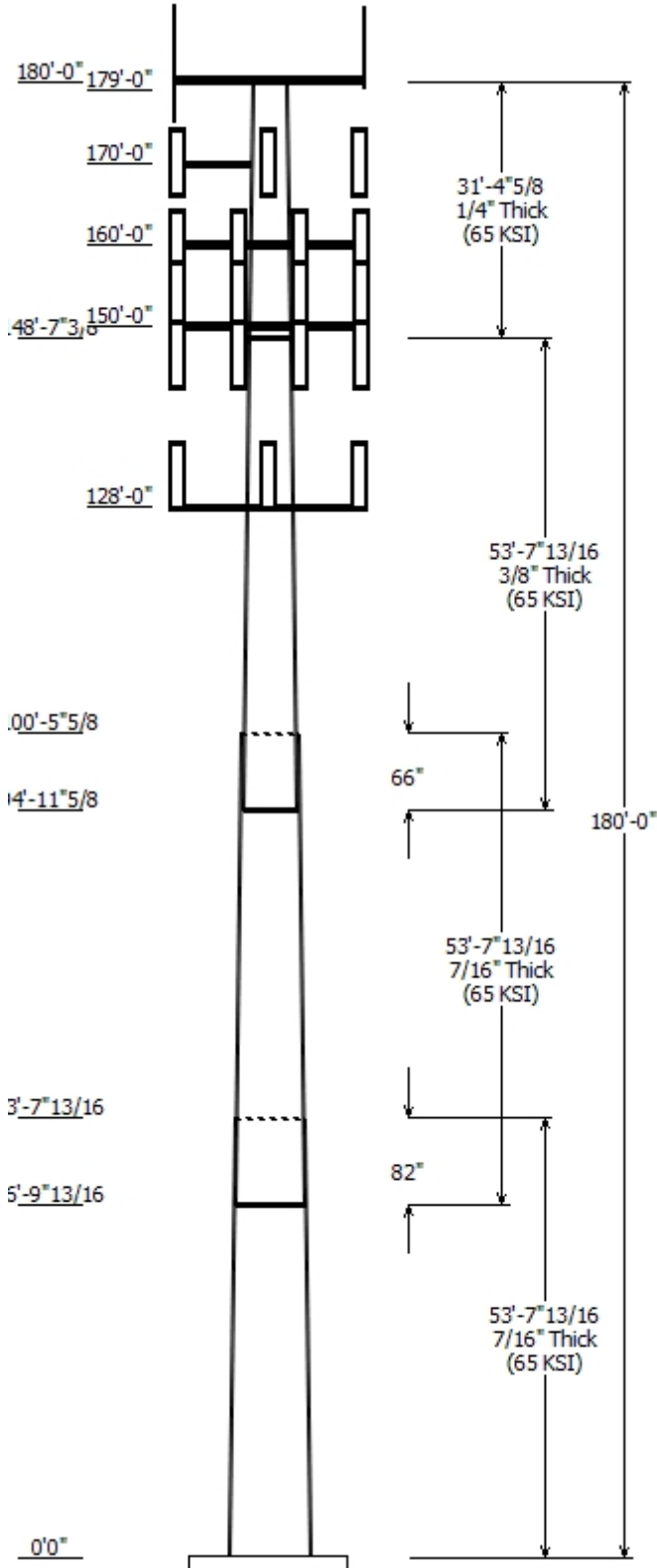
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Tower Services, Inc. and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

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

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Tower Services, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

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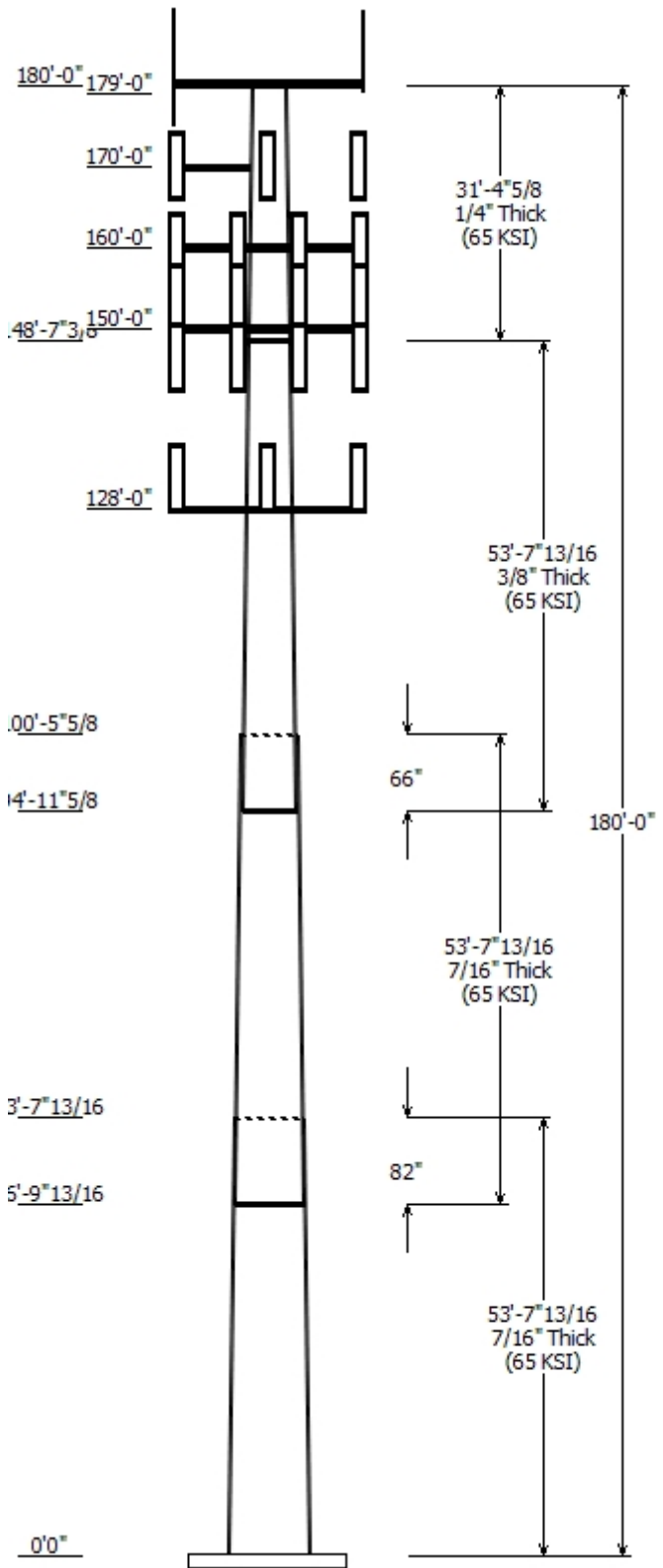


Job Information	
Pole :	310972
Code :	ANSI/TIA-222 Rev G
Description :	180' FWT monopole
Client :	T- Mobile
Struct Class :	II
Location :	Waterford Rebuild CT, CT
Shape :	18 Sides
Exposure :	B
Height :	180.00 (ft)
Topo :	1
Base Elev (ft):	0.00
Taper:	0.22874(in/ft)

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap		Steel Grade (ksi)
		Top	Bottom			Length (in)	Taper (in/ft)	
1	53.650	50.17	62.45	0.438		0.000	0.228740	65
2	53.650	40.34	52.61	0.438	Slip Joint	82.000	0.228740	65
3	53.650	30.08	42.35	0.375	Slip Joint	66.000	0.228740	65
4	31.384	22.90	30.08	0.250	Butt Joint	0.000	0.228740	65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
180.000	180.000	1	Andrew DB806D-Y
180.000	180.000	1	Round Low Profile Platform
179.000	180.000	1	TTA
179.000	185.000	2	10' Omni
170.000	170.000	1	Stand-Off
170.000	170.000	3	KMW HB-X-WM-17-65-00T-
170.000	170.000	3	KMW HB-X-WM-17-65-00T
160.000	160.000	1	RFS DB-T1-6Z-8AB-0Z
160.000	160.000	6	Antel BXA-171063/12CF_2FP
160.000	160.000	1	Flat Low Profile Platform
160.000	160.000	3	Alcatel-Lucent RRH2x40-AWS
160.000	160.000	3	Alcatel-Lucent RRH2x40 (700)
160.000	160.000	6	Antel BXA-70063/6CF
150.000	149.000	6	RCU
150.000	153.000	1	Raycap DC6-48-60-18-8F
150.000	153.000	3	KMW AM-X-CD-14-65-00T-RET
150.000	153.000	6	Ericsson RRUS 11 (Band 12)
150.000	150.000	6	Powerwave LGP21903
150.000	150.000	6	Powerwave LGP21401
150.000	153.000	6	Allgon 7770.00
150.000	150.000	1	Flat Low Profile Platform
128.000	130.000	3	Ericsson AIR 21, 1.3M, B4A B2P
128.000	130.000	3	Ericsson AIR 21, 1.3M, B2A B4P
128.000	130.000	3	Ericsson KRY 112 144/1
128.000	128.000	3	Flat T-Arm

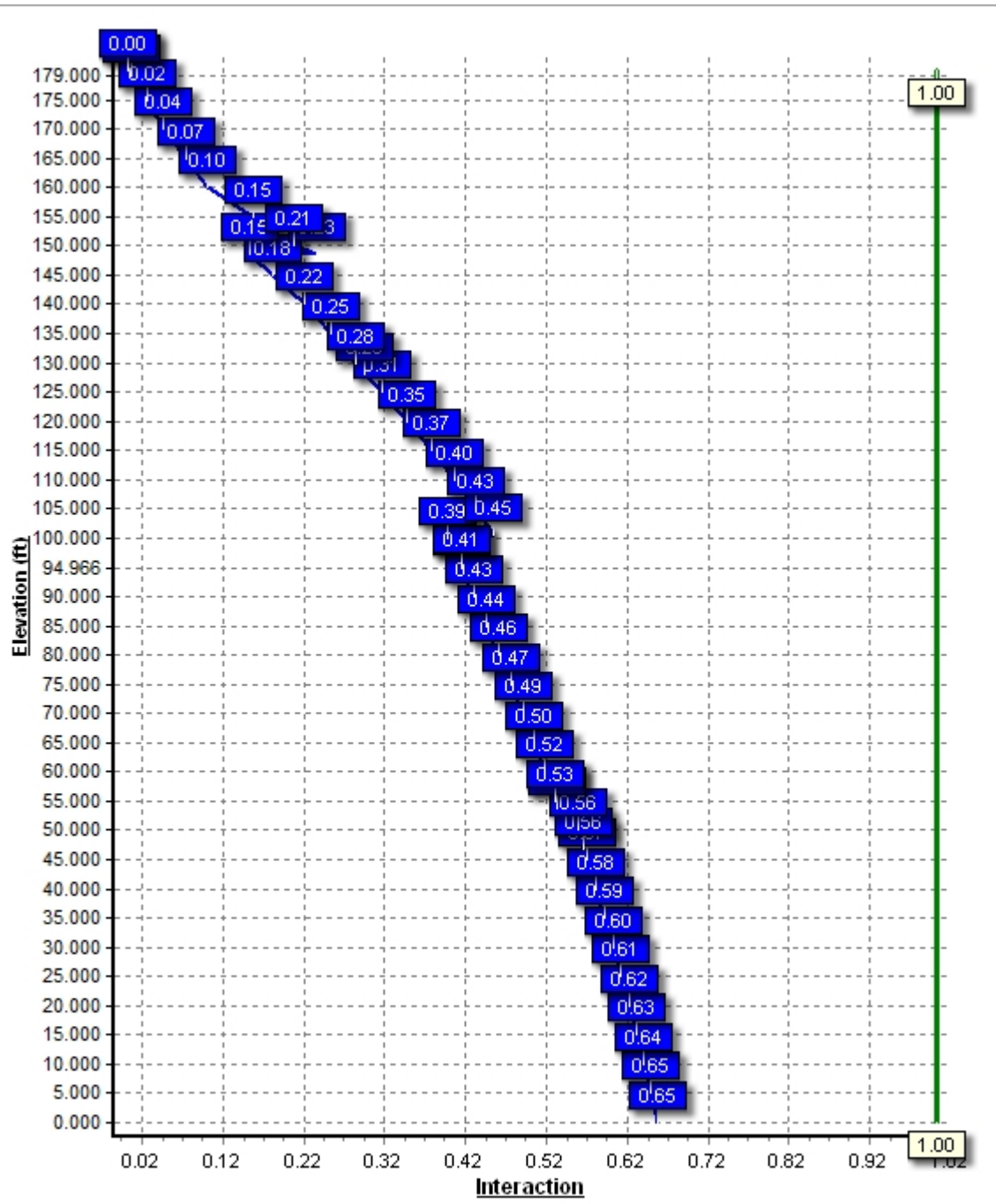
Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
0.000	128.0	1 1/4" Hybriflex	No
0.000	128.0	1 5/8" Coax	No
0.000	150.0	0.28" RG-6	No
0.000	150.0	0.74" 8 AWG 7	No
0.000	150.0	1 1/4" Coax	No
0.000	160.0	1 5/8" Coax	No
0.000	160.0	1 5/8" Coax	No
0.000	170.0	1 5/8" Coax	No
0.000	179.0	1 5/8" Coax	No
0.000	180.0	7/8" Coax	No



Load Cases	
1.2D + 1.6W	120.00 mph with No Ice
0.9D + 1.6W	120.00 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50.00 mph with 0.75 in Radial Ice
1.0D + 1.0W	60.00 mph Serviceability

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.6W	4681.18	39.41	60.43
0.9D + 1.6W	4635.97	39.39	45.31
1.2D + 1.0Di + 1.0Wi	900.24	7.64	84.89
1.0D + 1.0W	727.43	6.16	50.40

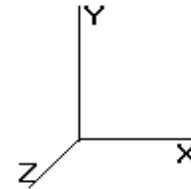
Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000



Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)

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Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Bottom						Top							
							Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper (in/ft)	
1-18	53.650	0.4375	65		0.00	14,165	62.45	0.00	86.11	41837.0	23.76	142.74	50.17	53.65	69.07	21590.2	18.81	114.69	0.228740	
2-18	53.650	0.4375	65	Slip	82.00	11,672	52.61	46.82	72.45	24923.1	19.80	120.27	40.34	100.47	55.41	11149.7	14.85	92.22	0.228740	
3-18	53.650	0.3750	65	Slip	66.00	7,788	42.35	94.97	49.96	11123.0	18.50	112.94	30.08	148.62	35.36	3941.7	12.73	80.21	0.228740	
4-18	31.384	0.2500	65	Butt	0.00	2,224	30.08	148.62	23.67	2661.1	19.81	120.32	22.90	180.00	17.97	1165.2	14.74	91.61	0.228740	
Shaft Weight						35,847														

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice			Ice			Distance From Face (ft)	Vert Ecc (ft)
			Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor		
180.00	Andrew DB806D-Y	1	27.00	3.380	1.00	180.54	7.027	1.00	0.000	0.000
180.00	Round Low Profile Platform	1	1500.00	21.700	1.00	2,161.17	41.292	1.00	0.000	0.000
179.00	10' Omni	2	25.00	3.000	1.00	161.92	5.979	1.00	0.000	6.000
179.00	TTA	1	10.00	1.400	0.33	56.88	1.676	0.33	0.000	1.000
170.00	KMW HB-X-WM-17-65-00T	3	30.00	1.950	1.00	143.15	4.247	1.00	0.000	0.000
170.00	KMW HB-X-WM-17-65-00T-	3	15.90	1.140	0.33	51.35	1.427	0.33	0.000	0.000
170.00	Stand-Off	1	560.00	8.500	1.00	1,035.02	15.710	1.00	0.000	0.000
160.00	Alcatel-Lucent RRH2x40 (700)	3	50.00	2.480	0.50	137.80	2.748	0.50	0.000	0.000
160.00	Alcatel-Lucent RRH2x40-AWS	3	44.00	2.520	0.50	118.13	2.809	0.50	0.000	0.000
160.00	Antel BXA-171063/12CF_2FP	6	15.00	4.790	0.72	136.40	6.009	0.72	0.000	0.000
160.00	Antel BXA-70063/6CF	6	17.00	7.730	0.64	185.55	8.828	0.64	0.000	0.000
160.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,153.42	45.355	1.00	0.000	0.000
160.00	RFS DB-T1-6Z-8AB-0Z	1	110.00	5.600	0.67	248.96	5.680	0.67	0.000	0.000
150.00	Allgon 7770.00	6	35.00	5.880	0.75	170.09	6.560	0.75	0.000	3.000
150.00	Ericsson RRUS 11 (Band 12)	6	50.00	2.990	0.50	131.50	3.221	0.50	0.000	3.000
150.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	2,149.22	45.231	1.00	0.000	0.000
150.00	KMW AM-X-CD-14-65-00T-	3	36.40	5.500	0.76	167.70	5.975	0.76	0.000	3.000
150.00	Powerwave LGP21401	6	14.10	1.290	0.33	47.75	1.564	0.33	0.000	0.000
150.00	Powerwave LGP21903	6	5.50	0.270	0.33	19.05	0.472	0.33	0.000	0.000
150.00	Raycap DC6-48-60-18-8F	1	20.00	1.260	1.00	112.95	2.853	1.00	0.000	3.000
150.00	RCU	6	1.00	0.160	0.33	11.19	0.362	0.33	0.000	-1.000
128.00	Ericsson AIR 21, 1.3M, B2A	3	83.00	6.530	0.69	248.87	7.130	0.69	0.000	2.000
128.00	Ericsson AIR 21, 1.3M, B4A	3	81.50	6.580	0.69	247.33	7.174	0.69	0.000	2.000
128.00	Ericsson KRY 112 144/1	3	11.00	0.410	0.33	27.00	0.629	0.33	0.000	2.000
128.00	Flat T-Arm	3	250.00	12.900	0.67	456.13	20.966	0.67	0.000	0.000
Totals		79	7908.00			17,423.49			Number of Loadings : 25	

Linear Appurtenance Properties

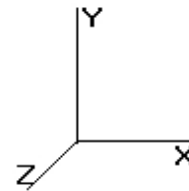
Elev From (ft)	Elev To (ft)	Description	Exposed Width (in)	Exposed To Wind
0.00	180.00	(1) 7/8" Coax	0.00	N
0.00	179.00	(2) 1 5/8" Coax	0.00	N
0.00	170.00	(6) 1 5/8" Coax	0.00	N
0.00	160.00	(12) 1 5/8" Coax	0.00	N
0.00	160.00	(2) 1 5/8" Coax	0.00	N
0.00	150.00	(1) 0.28" RG-6	0.00	N
0.00	150.00	(2) 0.74" 8 AWG7	0.00	N

Pole : 310972
Location : Waterford Rebuild CT, CT
Height : 180.0 (ft)
Base Dia : 62.45 (in)
Top Dia : 22.90 (in)
Shape : 18 Sides
Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
Struct Class : II
Exposure Category : B
Topographic Category : 1
Base Elev : 0.000 (ft)

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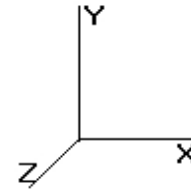


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0.00	150.00	(12) 1 1/4" Coax	0.00	N
0.00	128.00	(1) 1 1/4" Hybriflex	0.00	N
0.00	128.00	(12) 1 5/8" Coax	0.00	N

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
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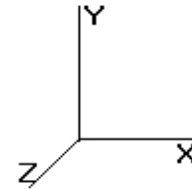
Segment Properties (Max Len : 5 ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	S (in3)	Weight (lb)
0.00		0.4375	62.450	86.109	41,837.0	23.76	142.74	73.5	1319.	0.0
5.00		0.4375	61.306	84.521	39,564.6	23.30	140.13	74.0	1271.	1,451.5
10.00		0.4375	60.163	82.933	37,376.0	22.84	137.51	74.5	1223.	1,424.5
15.00		0.4375	59.019	81.345	35,269.7	22.38	134.90	75.1	1177.	1,397.5
20.00		0.4375	57.875	79.757	33,244.0	21.92	132.29	75.6	1131.	1,370.5
25.00		0.4375	56.731	78.168	31,297.4	21.45	129.67	76.2	1086.	1,343.5
30.00		0.4375	55.588	76.580	29,428.4	20.99	127.06	76.7	1042.	1,316.4
35.00		0.4375	54.444	74.992	27,635.2	20.53	124.44	77.3	999.8	1,289.4
40.00		0.4375	53.300	73.404	25,916.4	20.07	121.83	77.8	957.7	1,262.4
45.00		0.4375	52.157	71.816	24,270.4	19.61	119.22	78.3	916.5	1,235.4
46.82	Bot - Section 2	0.4375	51.741	71.239	23,690.2	19.44	118.27	78.5	901.8	442.1
50.00		0.4375	51.013	70.228	22,695.7	19.15	116.60	78.9	876.3	1,545.6
53.65	Top - Section 1	0.4375	51.053	70.284	22,749.7	19.17	116.69	78.9	877.7	1,745.1
55.00		0.4375	50.744	69.855	22,335.9	19.04	115.99	79.0	867.0	321.9
60.00		0.4375	49.601	68.267	20,846.8	18.58	113.37	79.5	827.8	1,175.0
65.00		0.4375	48.457	66.679	19,425.5	18.12	110.76	80.1	789.6	1,148.0
70.00		0.4375	47.313	65.090	18,070.3	17.66	108.14	80.6	752.3	1,121.0
75.00		0.4375	46.170	63.502	16,779.7	17.20	105.53	81.2	715.8	1,093.9
80.00		0.4375	45.026	61.914	15,552.0	16.74	102.92	81.7	680.3	1,066.9
85.00		0.4375	43.882	60.326	14,385.7	16.28	100.30	82.3	645.7	1,039.9
90.00		0.4375	42.738	58.738	13,279.2	15.81	97.69	82.6	612.0	1,012.9
94.97	Bot - Section 3	0.4375	41.602	57.161	12,237.8	15.36	95.09	82.6	579.4	979.3
95.00		0.4375	41.595	57.150	12,230.9	15.35	95.07	82.6	579.2	12.2
100.0		0.4375	40.451	55.562	11,239.4	14.89	92.46	82.6	547.3	1,797.1
100.4	Top - Section 2	0.3750	41.094	48.464	10,152.6	17.91	109.58	80.3	486.6	165.1
105.0		0.3750	40.057	47.230	9,396.5	17.42	106.82	80.9	462.0	738.1
110.0		0.3750	38.914	45.869	8,607.2	16.89	103.77	81.5	435.7	792.0
115.0		0.3750	37.770	44.508	7,863.4	16.35	100.72	82.2	410.1	768.8
120.0		0.3750	36.626	43.146	7,163.8	15.81	97.67	82.6	385.2	745.7
125.0		0.3750	35.483	41.785	6,506.9	15.27	94.62	82.6	361.2	722.5
128.0		0.3750	34.796	40.968	6,132.8	14.95	92.79	82.6	347.1	422.4
130.0		0.3750	34.339	40.424	5,891.5	14.74	91.57	82.6	337.9	277.0
135.0		0.3750	33.195	39.063	5,316.1	14.20	88.52	82.6	315.4	676.2
140.0		0.3750	32.051	37.701	4,779.5	13.66	85.47	82.6	293.7	653.0
145.0		0.3750	30.908	36.340	4,280.3	13.12	82.42	82.6	272.8	629.9
148.6	Top - Section 3	0.3750	30.080	35.356	3,941.7	12.73	80.21	82.6	258.1	441.1
148.6	Bot - Section 4	0.2500	30.080	23.670	2,661.1	19.81	120.32	78.1	174.2	
150.0		0.2500	29.764	23.419	2,577.3	19.58	119.06	78.4	170.6	110.9
155.0		0.2500	28.620	22.511	2,289.2	18.78	114.48	79.3	157.5	390.7
160.0		0.2500	27.477	21.604	2,023.3	17.97	109.91	80.3	145.0	375.3
165.0		0.2500	26.333	20.696	1,778.9	17.16	105.33	81.2	133.1	359.8
170.0		0.2500	25.189	19.789	1,555.0	16.36	100.76	82.2	121.6	344.4
175.0		0.2500	24.046	18.881	1,350.7	15.55	96.18	82.6	110.6	329.0
179.0		0.2500	23.131	18.155	1,200.8	14.90	92.52	82.6	102.3	252.1
180.0		0.2500	22.902	17.974	1,165.2	14.74	91.61	82.6	100.2	61.5

35,847.5

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)



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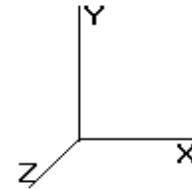
Load Case: 1.2D + 1.6W	120.00 mph with No Ice	24 Iterations
Gust Response Factor : 1.10		Wind Importance Factor : 1.00
Dead Load Factor : 1.20		
Wind Load Factor : 1.60		

Shaft Segment Forces (Factored)

Seg Top Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	24.515	26.96	530.55	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	24.515	26.96	520.83	0.650	0.000	5.00	26.180	17.02	734.2	0.0	1,741.8
10.00		1.00	0.70	24.515	26.96	511.12	0.650	0.000	5.00	25.696	16.70	720.6	0.0	1,709.4
15.00		1.00	0.70	24.515	26.96	501.40	0.650	0.000	5.00	25.213	16.39	707.1	0.0	1,677.0
20.00		1.00	0.70	24.515	26.96	491.68	0.650	0.000	5.00	24.729	16.07	693.5	0.0	1,644.6
25.00		1.00	0.70	24.515	26.96	481.97	0.650	0.000	5.00	24.245	15.76	679.9	0.0	1,612.2
30.00		1.00	0.70	24.535	26.98	472.45	0.650	0.000	5.00	23.761	15.44	666.9	0.0	1,579.7
35.00		1.00	0.73	25.640	28.20	473.03	0.650	0.000	5.00	23.277	15.13	682.8	0.0	1,547.3
40.00		1.00	0.76	26.637	29.30	472.01	0.650	0.000	5.00	22.793	14.82	694.6	0.0	1,514.9
45.00		1.00	0.78	27.549	30.30	469.72	0.650	0.000	5.00	22.309	14.50	703.1	0.0	1,482.5
46.82	Bot - Section 2	1.00	0.79	27.862	30.64	468.62	0.650	0.000	1.82	7.985	5.19	254.5	0.0	530.6
50.00		1.00	0.81	28.391	31.23	466.39	0.650	0.000	3.18	14.076	9.15	457.2	0.0	1,854.7
53.65	Top - Section 1	1.00	0.82	28.968	31.86	463.40	0.650	0.000	3.65	15.897	10.33	526.8	0.0	2,094.1
55.00		1.00	0.83	29.174	32.09	470.29	0.650	0.000	1.35	5.815	3.78	194.1	0.0	386.3
60.00		1.00	0.85	29.909	32.90	465.44	0.650	0.000	5.00	21.228	13.80	726.3	0.0	1,410.0
65.00		1.00	0.87	30.601	33.66	459.94	0.650	0.000	5.00	20.744	13.48	726.2	0.0	1,377.6
70.00		1.00	0.89	31.256	34.38	453.87	0.650	0.000	5.00	20.260	13.17	724.4	0.0	1,345.1
75.00		1.00	0.91	31.878	35.06	447.28	0.650	0.000	5.00	19.776	12.85	721.2	0.0	1,312.7
80.00		1.00	0.92	32.471	35.71	440.24	0.650	0.000	5.00	19.292	12.54	716.6	0.0	1,280.3
85.00		1.00	0.94	33.038	36.34	432.79	0.650	0.000	5.00	18.808	12.23	710.9	0.0	1,247.9
90.00		1.00	0.95	33.582	36.94	424.97	0.650	0.000	5.00	18.324	11.91	704.0	0.0	1,215.4
94.97	Bot - Section 3	1.00	0.97	34.102	37.51	416.86	0.650	0.000	4.97	17.722	11.52	691.4	0.0	1,175.2
95.00		1.00	0.97	34.105	37.51	416.80	0.650	0.000	0.03	0.120	0.08	4.7	0.0	14.7
100.0		1.00	0.98	34.609	38.07	408.32	0.650	0.000	5.00	17.674	11.49	699.7	0.0	2,156.6
100.4	Top - Section 2	1.00	0.99	34.655	38.12	407.52	0.650	0.000	0.47	1.624	1.06	64.4	0.0	198.1
105.0		1.00	1.00	35.094	38.60	407.18	0.650	0.000	4.53	15.566	10.12	624.9	0.0	885.7
110.0		1.00	1.01	35.564	39.12	398.19	0.650	0.000	5.00	16.706	10.86	679.7	0.0	950.4
115.0		1.00	1.02	36.019	39.62	388.95	0.650	0.000	5.00	16.222	10.54	668.4	0.0	922.6
120.0		1.00	1.04	36.459	40.10	379.47	0.650	0.000	5.00	15.738	10.23	656.4	0.0	894.8
125.0		1.00	1.05	36.887	40.57	369.77	0.650	0.000	5.00	15.254	9.92	643.7	0.0	867.0
128.0	Appertunance(s)	1.00	1.06	37.138	40.85	363.85	0.650	0.000	3.00	8.920	5.80	379.0	0.0	506.9
130.0		1.00	1.06	37.303	41.03	359.86	0.650	0.000	2.00	5.850	3.80	249.7	0.0	332.4
135.0		1.00	1.07	37.707	41.47	349.76	0.650	0.000	5.00	14.287	9.29	616.3	0.0	811.4
140.0		1.00	1.08	38.101	41.91	339.46	0.650	0.000	5.00	13.803	8.97	601.6	0.0	783.6
145.0		1.00	1.09	38.485	42.33	329.00	0.650	0.000	5.00	13.319	8.66	586.4	0.0	755.8
148.6	Top - Section 3	1.00	1.10	38.757	42.63	321.32	0.650	0.000	3.62	9.332	6.07	413.7	0.0	529.4
150.0	Appertunance(s)	1.00	1.11	38.859	42.74	318.36	0.650	0.000	1.38	3.503	2.28	155.7	0.0	133.0
155.0		1.00	1.12	39.225	43.14	307.56	0.650	0.000	5.00	12.351	8.03	554.2	0.0	468.9
160.0	Appertunance(s)	1.00	1.13	39.583	43.54	296.62	0.650	0.000	5.00	11.867	7.71	537.4	0.0	450.3
165.0		1.00	1.14	39.932	43.92	285.52	0.650	0.000	5.00	11.383	7.40	520.0	0.0	431.8
170.0	Appertunance(s)	1.00	1.15	40.274	44.30	274.29	0.650	0.000	5.00	10.899	7.08	502.2	0.0	413.3
175.0		1.00	1.16	40.609	44.67	262.92	0.650	0.000	5.00	10.415	6.77	483.9	0.0	394.8
179.0	Appertunance(s)	1.00	1.16	40.872	44.95	253.73	0.650	0.000	4.00	7.984	5.19	373.3	0.0	302.5
180.0	Appertunance(s)	1.00	1.16	40.937	45.03	251.42	0.650	0.000	1.00	1.948	1.27	91.2	0.0	73.8
Totals:									180.00			23,543.0	0.0	43,017.0

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)



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Load Case: 1.2D + 1.6W 120.00 mph with No Ice 24 Iterations

Gust Response Factor : 1.10 Wind Importance Factor : 1.00

Dead Load Factor : 1.20

Wind Load Factor : 1.60

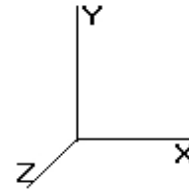
Discrete Appurtenance Segment Forces (Factored)

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Ka	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
128.0	Ericsson KRY 112 144	3	37.303	41.033	0.33	0.80	0.32	0.000	2.000	21.32	0.00	42.64	39.60
128.0	Ericsson AIR 21, 1.3	3	37.303	41.033	0.69	0.80	10.81	0.000	2.000	709.95	0.00	1,419.89	298.80
128.0	Ericsson AIR 21, 1.3	3	37.303	41.033	0.69	0.80	10.90	0.000	2.000	715.38	0.00	1,430.77	293.40
128.0	Flat T-Arm	3	37.138	40.852	0.67	0.75	19.45	0.000	0.000	1,271.09	0.00	0.00	900.00
150.0	Flat Low Profile Pla	1	38.859	42.745	1.00	1.00	26.10	0.000	0.000	1,785.05	0.00	0.00	1,800.00
150.0	Allgon 7770.00	6	39.080	42.988	0.75	0.80	21.17	0.000	3.000	1,455.95	0.00	4,367.85	252.00
150.0	Powerwave LGP21401	6	38.859	42.745	0.33	0.80	2.04	0.000	0.000	139.75	0.00	0.00	101.52
150.0	Powerwave LGP21903	6	38.859	42.745	0.33	0.80	0.43	0.000	0.000	29.25	0.00	0.00	39.60
150.0	Ericsson RRUS 11 (Ba	6	39.080	42.988	0.50	0.80	7.18	0.000	3.000	493.57	0.00	1,480.71	360.00
150.0	KMW AM-X-CD-14-65-	3	39.080	42.988	0.76	0.80	10.03	0.000	3.000	690.01	0.00	2,070.02	131.04
150.0	Raycap DC6-48-60-18-	1	39.080	42.988	1.00	0.80	1.01	0.000	3.000	69.33	0.00	207.99	24.00
150.0	RCU	6	38.785	42.664	0.33	0.80	0.25	0.000	-1.000	17.30	0.00	-17.30	7.20
160.0	Antel BXA-70063/6CF	6	39.583	43.541	0.64	0.80	23.75	0.000	0.000	1,654.31	0.00	0.00	122.40
160.0	Alcatel-Lucent RRH2x	3	39.583	43.541	0.50	0.80	2.98	0.000	0.000	207.32	0.00	0.00	180.00
160.0	Alcatel-Lucent RRH2x	3	39.583	43.541	0.50	0.80	3.02	0.000	0.000	210.67	0.00	0.00	158.40
160.0	Flat Low Profile Pla	1	39.583	43.541	1.00	1.00	26.10	0.000	0.000	1,818.27	0.00	0.00	1,800.00
160.0	Antel BXA-171063/12C	6	39.583	43.541	0.72	0.80	16.55	0.000	0.000	1,153.26	0.00	0.00	108.00
160.0	RFS DB-T1-6Z-8AB-0Z	1	39.583	43.541	0.67	0.80	3.00	0.000	0.000	209.11	0.00	0.00	132.00
170.0	KMW HB-X-WM-17-65-	3	40.274	44.302	1.00	0.80	4.68	0.000	0.000	331.73	0.00	0.00	108.00
170.0	KMW HB-X-WM-17-65-	3	40.274	44.302	0.33	0.80	0.90	0.000	0.000	64.00	0.00	0.00	57.24
170.0	Stand-Off	1	40.274	44.302	1.00	1.00	8.50	0.000	0.000	602.50	0.00	0.00	672.00
179.0	10' Omni	2	41.259	45.385	1.00	0.80	4.80	0.000	6.000	348.56	0.00	2,091.34	60.00
179.0	TTA	1	40.937	45.031	0.33	0.80	0.37	0.000	1.000	26.63	0.00	26.63	12.00
180.0	Andrew DB806D-Y	1	40.937	45.031	1.00	0.80	2.70	0.000	0.000	194.82	0.00	0.00	32.40
180.0	Round Low Profile PI	1	40.937	45.031	1.00	1.00	21.70	0.000	0.000	1,563.47	0.00	0.00	1,800.00
										15,782.59			9,489.60

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)

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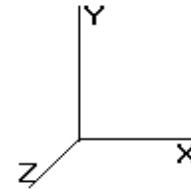
Load Case: 1.2D + 1.6W 120.00 mph with No Ice 24 Iterations
 Gust Response Factor : 1.10 Wind Importance Factor : 1.00
 Dead Load Factor : 1.20
 Wind Load Factor : 1.60

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	734.22	2,006.41	0.00	0.00
10.00	720.65	1,973.99	0.00	0.00
15.00	707.08	1,941.57	0.00	0.00
20.00	693.51	1,909.14	0.00	0.00
25.00	679.94	1,876.72	0.00	0.00
30.00	666.93	1,844.29	0.00	0.00
35.00	682.76	1,811.87	0.00	0.00
40.00	694.57	1,779.45	0.00	0.00
45.00	703.09	1,747.02	0.00	0.00
46.82	254.53	626.69	0.00	0.00
50.00	457.16	2,023.17	0.00	0.00
53.65	526.81	2,287.28	0.00	0.00
55.00	194.07	457.72	0.00	0.00
60.00	726.32	1,674.56	0.00	0.00
65.00	726.18	1,642.13	0.00	0.00
70.00	724.42	1,609.71	0.00	0.00
75.00	721.19	1,577.28	0.00	0.00
80.00	716.64	1,544.86	0.00	0.00
85.00	710.87	1,512.44	0.00	0.00
90.00	703.99	1,480.01	0.00	0.00
94.97	691.39	1,437.99	0.00	0.00
95.00	4.69	16.44	0.00	0.00
100.0	699.75	2,421.14	0.00	0.00
100.4	64.39	222.80	0.00	0.00
105.0	624.94	1,125.63	0.00	0.00
110.0	679.69	1,214.95	0.00	0.00
115.0	668.44	1,187.16	0.00	0.00
120.0	656.43	1,159.37	0.00	0.00
125.0	643.72	1,131.58	0.00	0.00
128.0	3,096.73	2,197.41	0.00	2,893.30
130.0	249.65	412.17	0.00	0.00
135.0	616.28	1,010.96	0.00	0.00
140.0	601.63	983.17	0.00	0.00
145.0	586.38	955.38	0.00	0.00
148.6	413.74	673.68	0.00	0.00
150.0	4,835.95	2,903.60	0.00	8,109.27
155.0	554.24	579.07	0.00	0.00
160.0	5,790.31	3,061.34	0.00	0.00
165.0	520.01	473.14	0.00	0.00
170.0	1,500.41	1,291.86	0.00	0.00
175.0	483.87	406.57	0.00	0.00
179.0	748.50	383.92	0.00	2,117.97
180.0	1,849.50	1,906.56	0.00	0.00
Totals:	39,325.55	60,482.19	0.00	13,120.54

Pole : 310972
Location : Waterford Rebuild CT, CT
Height : 180.0 (ft)
Base Dia : 62.45 (in)
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Shape : 18 Sides
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Code: ANSI/TIA-222 Rev G
Struct Class : II
Exposure Category : B
Topographic Category : 1
Base Elev: 0.000 (ft)



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Load Case: 1.2D + 1.6W 120.00 mph with No Ice 24 Iterations

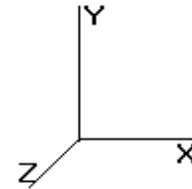
Gust Response Factor : 1.10 Wind Importance Factor : 1.00
Dead Load Factor : 1.20
Wind Load Factor : 1.60

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-60.43	-39.41	0.00	-4,681.18	0.00	4,681.18	5,692.71	2,846.36	14,517.2	7,269.40	0.00	0.00	0.655
5.00	-58.32	-38.83	0.00	-4,484.14	0.00	4,484.14	5,628.96	2,814.48	14,088.0	7,054.50	0.08	-0.16	0.646
10.00	-56.24	-38.26	0.00	-4,289.98	0.00	4,289.98	5,563.66	2,781.83	13,661.1	6,840.71	0.33	-0.31	0.637
15.00	-54.20	-37.69	0.00	-4,098.69	0.00	4,098.69	5,496.81	2,748.41	13,236.6	6,628.15	0.75	-0.47	0.628
20.00	-52.19	-37.13	0.00	-3,910.24	0.00	3,910.24	5,428.41	2,714.21	12,814.8	6,416.93	1.33	-0.63	0.619
25.00	-50.22	-36.57	0.00	-3,724.61	0.00	3,724.61	5,358.46	2,679.23	12,395.9	6,207.17	2.08	-0.80	0.610
30.00	-48.28	-36.01	0.00	-3,541.78	0.00	3,541.78	5,286.96	2,643.48	11,980.1	5,998.96	3.01	-0.96	0.600
35.00	-46.38	-35.43	0.00	-3,361.72	0.00	3,361.72	5,213.91	2,606.96	11,567.6	5,792.42	4.11	-1.13	0.589
40.00	-44.51	-34.83	0.00	-3,184.57	0.00	3,184.57	5,139.31	2,569.66	11,158.7	5,587.66	5.38	-1.30	0.579
45.00	-42.71	-34.17	0.00	-3,010.41	0.00	3,010.41	5,063.16	2,531.58	10,753.5	5,384.79	6.83	-1.47	0.568
46.82	-42.04	-33.97	0.00	-2,948.33	0.00	2,948.33	5,035.11	2,517.56	10,607.3	5,311.57	7.40	-1.53	0.564
50.00	-39.96	-33.54	0.00	-2,840.21	0.00	2,840.21	4,985.46	2,492.73	10,352.4	5,183.92	8.46	-1.64	0.556
53.65	-37.64	-33.00	0.00	-2,717.81	0.00	2,717.81	4,988.22	2,494.11	10,366.4	5,190.93	9.77	-1.77	0.531
55.00	-37.13	-32.86	0.00	-2,673.25	0.00	2,673.25	4,966.99	2,483.49	10,258.8	5,137.03	10.28	-1.82	0.528
60.00	-35.38	-32.18	0.00	-2,508.96	0.00	2,508.96	4,887.37	2,443.69	9,862.91	4,938.79	12.27	-1.98	0.515
65.00	-33.68	-31.49	0.00	-2,348.05	0.00	2,348.05	4,806.21	2,403.11	9,471.50	4,742.79	14.43	-2.15	0.502
70.00	-32.01	-30.80	0.00	-2,190.59	0.00	2,190.59	4,723.50	2,361.75	9,084.80	4,549.15	16.77	-2.31	0.488
75.00	-30.38	-30.10	0.00	-2,036.59	0.00	2,036.59	4,639.24	2,319.62	8,703.02	4,357.98	19.29	-2.48	0.474
80.00	-28.78	-29.40	0.00	-1,886.09	0.00	1,886.09	4,553.42	2,276.71	8,326.39	4,169.38	21.97	-2.65	0.459
85.00	-27.22	-28.70	0.00	-1,739.09	0.00	1,739.09	4,466.06	2,233.03	7,955.13	3,983.48	24.83	-2.81	0.443
90.00	-25.70	-27.99	0.00	-1,595.61	0.00	1,595.61	4,363.94	2,181.97	7,566.55	3,788.90	27.87	-2.98	0.427
94.97	-24.26	-27.26	0.00	-1,456.58	0.00	1,456.58	4,246.74	2,123.37	7,163.57	3,587.11	31.05	-3.14	0.412
95.00	-24.20	-27.29	0.00	-1,455.67	0.00	1,455.67	4,245.95	2,122.97	7,160.88	3,585.76	31.07	-3.14	0.412
100.00	-21.79	-26.49	0.00	-1,319.23	0.00	1,319.23	4,127.96	2,063.98	6,766.40	3,388.23	34.45	-3.30	0.395
100.47	-21.53	-26.44	0.00	-1,306.87	0.00	1,306.87	3,503.95	1,751.97	5,854.84	2,931.77	34.77	-3.32	0.452
105.00	-20.37	-25.81	0.00	-1,187.01	0.00	1,187.01	3,439.09	1,719.55	5,598.79	2,803.55	37.99	-3.46	0.430
110.00	-19.13	-25.11	0.00	-1,057.98	0.00	1,057.98	3,366.08	1,683.04	5,320.51	2,664.21	41.71	-3.63	0.403
115.00	-17.92	-24.41	0.00	-932.44	0.00	932.44	3,291.52	1,645.76	5,046.78	2,527.14	45.60	-3.80	0.375
120.00	-16.74	-23.73	0.00	-810.37	0.00	810.37	3,205.56	1,602.78	4,763.17	2,385.12	49.66	-3.95	0.345
125.00	-15.61	-23.04	0.00	-691.73	0.00	691.73	3,104.43	1,552.22	4,465.87	2,236.25	53.88	-4.10	0.315
128.00	-13.62	-19.81	0.00	-619.73	0.00	619.73	3,043.75	1,521.88	4,292.09	2,149.23	56.49	-4.19	0.293
130.00	-13.20	-19.55	0.00	-580.12	0.00	580.12	3,003.30	1,501.65	4,178.15	2,092.18	58.25	-4.25	0.282
135.00	-12.19	-18.88	0.00	-482.38	0.00	482.38	2,902.16	1,451.08	3,900.01	1,952.91	62.77	-4.37	0.251
140.00	-11.23	-18.23	0.00	-387.96	0.00	387.96	2,801.03	1,400.52	3,631.46	1,818.43	67.41	-4.49	0.218
145.00	-10.29	-17.58	0.00	-296.82	0.00	296.82	2,699.90	1,349.95	3,372.48	1,688.75	72.16	-4.59	0.180
148.62	-9.64	-17.12	0.00	-233.23	0.00	233.23	2,626.75	1,313.38	3,191.14	1,597.94	75.66	-4.66	0.150
148.62	-9.64	-17.12	0.00	-233.23	0.00	233.23	1,663.87	831.93	2,038.41	1,020.72	75.66	-4.66	0.235
150.00	-7.13	-12.08	0.00	-201.43	0.00	201.43	1,651.75	825.87	2,001.92	1,002.45	77.01	-4.68	0.205
155.00	-6.58	-11.48	0.00	-141.05	0.00	141.05	1,606.96	803.48	1,871.53	937.16	81.96	-4.77	0.155
160.00	-4.01	-5.46	0.00	-83.63	0.00	83.63	1,560.63	780.31	1,743.66	873.12	87.00	-4.84	0.098
165.00	-3.58	-4.91	0.00	-56.31	0.00	56.31	1,512.74	756.37	1,618.51	810.46	92.09	-4.89	0.072
170.00	-2.42	-3.30	0.00	-31.78	0.00	31.78	1,463.31	731.65	1,496.32	749.27	97.23	-4.93	0.044
175.00	-2.06	-2.79	0.00	-15.27	0.00	15.27	1,402.77	701.38	1,367.98	685.01	102.39	-4.95	0.024
179.00	-1.74	-2.01	0.00	-2.01	0.00	2.01	1,348.83	674.42	1,264.28	633.08	106.54	-4.96	0.004
180.00	0.00	-1.85	0.00	0.00	0.00	0.00	1,335.35	667.67	1,238.99	620.42	107.57	-4.96	0.000

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)



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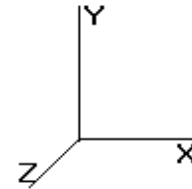
Load Case: 0.9D + 1.6W	120.00 mph with No Ice (Reduced DL)	24 Iterations
Gust Response Factor : 1.10		Wind Importance Factor : 1.00
Dead Load Factor : 0.90		
Wind Load Factor : 1.60		

Shaft Segment Forces (Factored)

Seg Top Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	24.515	26.96	530.55	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	24.515	26.96	520.83	0.650	0.000	5.00	26.180	17.02	734.2	0.0	1,306.4
10.00		1.00	0.70	24.515	26.96	511.12	0.650	0.000	5.00	25.696	16.70	720.6	0.0	1,282.1
15.00		1.00	0.70	24.515	26.96	501.40	0.650	0.000	5.00	25.213	16.39	707.1	0.0	1,257.7
20.00		1.00	0.70	24.515	26.96	491.68	0.650	0.000	5.00	24.729	16.07	693.5	0.0	1,233.4
25.00		1.00	0.70	24.515	26.96	481.97	0.650	0.000	5.00	24.245	15.76	679.9	0.0	1,209.1
30.00		1.00	0.70	24.535	26.98	472.45	0.650	0.000	5.00	23.761	15.44	666.9	0.0	1,184.8
35.00		1.00	0.73	25.640	28.20	473.03	0.650	0.000	5.00	23.277	15.13	682.8	0.0	1,160.5
40.00		1.00	0.76	26.637	29.30	472.01	0.650	0.000	5.00	22.793	14.82	694.6	0.0	1,136.2
45.00		1.00	0.78	27.549	30.30	469.72	0.650	0.000	5.00	22.309	14.50	703.1	0.0	1,111.8
46.82	Bot - Section 2	1.00	0.79	27.862	30.64	468.62	0.650	0.000	1.82	7.985	5.19	254.5	0.0	397.9
50.00		1.00	0.81	28.391	31.23	466.39	0.650	0.000	3.18	14.076	9.15	457.2	0.0	1,391.0
53.65	Top - Section 1	1.00	0.82	28.968	31.86	463.40	0.650	0.000	3.65	15.897	10.33	526.8	0.0	1,570.6
55.00		1.00	0.83	29.174	32.09	470.29	0.650	0.000	1.35	5.815	3.78	194.1	0.0	289.7
60.00		1.00	0.85	29.909	32.90	465.44	0.650	0.000	5.00	21.228	13.80	726.3	0.0	1,057.5
65.00		1.00	0.87	30.601	33.66	459.94	0.650	0.000	5.00	20.744	13.48	726.2	0.0	1,033.2
70.00		1.00	0.89	31.256	34.38	453.87	0.650	0.000	5.00	20.260	13.17	724.4	0.0	1,008.9
75.00		1.00	0.91	31.878	35.06	447.28	0.650	0.000	5.00	19.776	12.85	721.2	0.0	984.5
80.00		1.00	0.92	32.471	35.71	440.24	0.650	0.000	5.00	19.292	12.54	716.6	0.0	960.2
85.00		1.00	0.94	33.038	36.34	432.79	0.650	0.000	5.00	18.808	12.23	710.9	0.0	935.9
90.00		1.00	0.95	33.582	36.94	424.97	0.650	0.000	5.00	18.324	11.91	704.0	0.0	911.6
94.97	Bot - Section 3	1.00	0.97	34.102	37.51	416.86	0.650	0.000	4.97	17.722	11.52	691.4	0.0	881.4
95.00		1.00	0.97	34.105	37.51	416.80	0.650	0.000	0.03	0.120	0.08	4.7	0.0	11.0
100.0		1.00	0.98	34.609	38.07	408.32	0.650	0.000	5.00	17.674	11.49	699.7	0.0	1,617.4
100.4	Top - Section 2	1.00	0.99	34.655	38.12	407.52	0.650	0.000	0.47	1.624	1.06	64.4	0.0	148.6
105.0		1.00	1.00	35.094	38.60	407.18	0.650	0.000	4.53	15.566	10.12	624.9	0.0	664.3
110.0		1.00	1.01	35.564	39.12	398.19	0.650	0.000	5.00	16.706	10.86	679.7	0.0	712.8
115.0		1.00	1.02	36.019	39.62	388.95	0.650	0.000	5.00	16.222	10.54	668.4	0.0	691.9
120.0		1.00	1.04	36.459	40.10	379.47	0.650	0.000	5.00	15.738	10.23	656.4	0.0	671.1
125.0		1.00	1.05	36.887	40.57	369.77	0.650	0.000	5.00	15.254	9.92	643.7	0.0	650.3
128.0	Appertunance(s)	1.00	1.06	37.138	40.85	363.85	0.650	0.000	3.00	8.920	5.80	379.0	0.0	380.1
130.0		1.00	1.06	37.303	41.03	359.86	0.650	0.000	2.00	5.850	3.80	249.7	0.0	249.3
135.0		1.00	1.07	37.707	41.47	349.76	0.650	0.000	5.00	14.287	9.29	616.3	0.0	608.6
140.0		1.00	1.08	38.101	41.91	339.46	0.650	0.000	5.00	13.803	8.97	601.6	0.0	587.7
145.0		1.00	1.09	38.485	42.33	329.00	0.650	0.000	5.00	13.319	8.66	586.4	0.0	566.9
148.6	Top - Section 3	1.00	1.10	38.757	42.63	321.32	0.650	0.000	3.62	9.332	6.07	413.7	0.0	397.0
150.0	Appertunance(s)	1.00	1.11	38.859	42.74	318.36	0.650	0.000	1.38	3.503	2.28	155.7	0.0	99.8
155.0		1.00	1.12	39.225	43.14	307.56	0.650	0.000	5.00	12.351	8.03	554.2	0.0	351.6
160.0	Appertunance(s)	1.00	1.13	39.583	43.54	296.62	0.650	0.000	5.00	11.867	7.71	537.4	0.0	337.8
165.0		1.00	1.14	39.932	43.92	285.52	0.650	0.000	5.00	11.383	7.40	520.0	0.0	323.9
170.0	Appertunance(s)	1.00	1.15	40.274	44.30	274.29	0.650	0.000	5.00	10.899	7.08	502.2	0.0	310.0
175.0		1.00	1.16	40.609	44.67	262.92	0.650	0.000	5.00	10.415	6.77	483.9	0.0	296.1
179.0	Appertunance(s)	1.00	1.16	40.872	44.95	253.73	0.650	0.000	4.00	7.984	5.19	373.3	0.0	226.8
180.0	Appertunance(s)	1.00	1.16	40.937	45.03	251.42	0.650	0.000	1.00	1.948	1.27	91.2	0.0	55.3
Totals:									180.00			23,543.0	0.0	32,262.7

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)



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Load Case: 0.9D + 1.6W 120.00 mph with No Ice (Reduced DL) 24 Iterations

Gust Response Factor : 1.10 Wind Importance Factor : 1.00

Dead Load Factor : 0.90

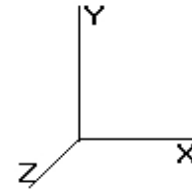
Wind Load Factor : 1.60

Discrete Appurtenance Segment Forces (Factored)

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Ka	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
128.0	Ericsson KRY 112 144	3	37.303	41.033	0.33	0.80	0.32	0.000	2.000	21.32	0.00	42.64	29.70
128.0	Ericsson AIR 21, 1.3	3	37.303	41.033	0.69	0.80	10.81	0.000	2.000	709.95	0.00	1,419.89	224.10
128.0	Ericsson AIR 21, 1.3	3	37.303	41.033	0.69	0.80	10.90	0.000	2.000	715.38	0.00	1,430.77	220.05
128.0	Flat T-Arm	3	37.138	40.852	0.67	0.75	19.45	0.000	0.000	1,271.09	0.00	0.00	675.00
150.0	Flat Low Profile Pla	1	38.859	42.745	1.00	1.00	26.10	0.000	0.000	1,785.05	0.00	0.00	1,350.00
150.0	Allgon 7770.00	6	39.080	42.988	0.75	0.80	21.17	0.000	3.000	1,455.95	0.00	4,367.85	189.00
150.0	Powerwave LGP21401	6	38.859	42.745	0.33	0.80	2.04	0.000	0.000	139.75	0.00	0.00	76.14
150.0	Powerwave LGP21903	6	38.859	42.745	0.33	0.80	0.43	0.000	0.000	29.25	0.00	0.00	29.70
150.0	Ericsson RRUS 11 (Ba	6	39.080	42.988	0.50	0.80	7.18	0.000	3.000	493.57	0.00	1,480.71	270.00
150.0	KMW AM-X-CD-14-65-	3	39.080	42.988	0.76	0.80	10.03	0.000	3.000	690.01	0.00	2,070.02	98.28
150.0	Raycap DC6-48-60-18-	1	39.080	42.988	1.00	0.80	1.01	0.000	3.000	69.33	0.00	207.99	18.00
150.0	RCU	6	38.785	42.664	0.33	0.80	0.25	0.000	-1.000	17.30	0.00	-17.30	5.40
160.0	Antel BXA-70063/6CF	6	39.583	43.541	0.64	0.80	23.75	0.000	0.000	1,654.31	0.00	0.00	91.80
160.0	Alcatel-Lucent RRH2x	3	39.583	43.541	0.50	0.80	2.98	0.000	0.000	207.32	0.00	0.00	135.00
160.0	Alcatel-Lucent RRH2x	3	39.583	43.541	0.50	0.80	3.02	0.000	0.000	210.67	0.00	0.00	118.80
160.0	Flat Low Profile Pla	1	39.583	43.541	1.00	1.00	26.10	0.000	0.000	1,818.27	0.00	0.00	1,350.00
160.0	Antel BXA-171063/12C	6	39.583	43.541	0.72	0.80	16.55	0.000	0.000	1,153.26	0.00	0.00	81.00
160.0	RFS DB-T1-6Z-8AB-0Z	1	39.583	43.541	0.67	0.80	3.00	0.000	0.000	209.11	0.00	0.00	99.00
170.0	KMW HB-X-WM-17-65-	3	40.274	44.302	1.00	0.80	4.68	0.000	0.000	331.73	0.00	0.00	81.00
170.0	KMW HB-X-WM-17-65-	3	40.274	44.302	0.33	0.80	0.90	0.000	0.000	64.00	0.00	0.00	42.93
170.0	Stand-Off	1	40.274	44.302	1.00	1.00	8.50	0.000	0.000	602.50	0.00	0.00	504.00
179.0	10' Omni	2	41.259	45.385	1.00	0.80	4.80	0.000	6.000	348.56	0.00	2,091.34	45.00
179.0	TTA	1	40.937	45.031	0.33	0.80	0.37	0.000	1.000	26.63	0.00	26.63	9.00
180.0	Andrew DB806D-Y	1	40.937	45.031	1.00	0.80	2.70	0.000	0.000	194.82	0.00	0.00	24.30
180.0	Round Low Profile PI	1	40.937	45.031	1.00	1.00	21.70	0.000	0.000	1,563.47	0.00	0.00	1,350.00
										15,782.59			7,117.20

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)



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Load Case: 0.9D + 1.6W 120.00 mph with No Ice (Reduced DL) 24 Iterations

Gust Response Factor : 1.10 Wind Importance Factor : 1.00

Dead Load Factor : 0.90

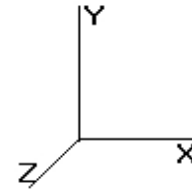
Wind Load Factor : 1.60

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	734.22	1,504.81	0.00	0.00
10.00	720.65	1,480.49	0.00	0.00
15.00	707.08	1,456.17	0.00	0.00
20.00	693.51	1,431.86	0.00	0.00
25.00	679.94	1,407.54	0.00	0.00
30.00	666.93	1,383.22	0.00	0.00
35.00	682.76	1,358.90	0.00	0.00
40.00	694.57	1,334.58	0.00	0.00
45.00	703.09	1,310.27	0.00	0.00
46.82	254.53	470.01	0.00	0.00
50.00	457.16	1,517.38	0.00	0.00
53.65	526.81	1,715.46	0.00	0.00
55.00	194.07	343.29	0.00	0.00
60.00	726.32	1,255.92	0.00	0.00
65.00	726.18	1,231.60	0.00	0.00
70.00	724.42	1,207.28	0.00	0.00
75.00	721.19	1,182.96	0.00	0.00
80.00	716.64	1,158.65	0.00	0.00
85.00	710.87	1,134.33	0.00	0.00
90.00	703.99	1,110.01	0.00	0.00
94.97	691.39	1,078.49	0.00	0.00
95.00	4.69	12.33	0.00	0.00
100.0	699.75	1,815.85	0.00	0.00
100.4	64.39	167.10	0.00	0.00
105.0	624.94	844.22	0.00	0.00
110.0	679.69	911.21	0.00	0.00
115.0	668.44	890.37	0.00	0.00
120.0	656.43	869.53	0.00	0.00
125.0	643.72	848.68	0.00	0.00
128.0	3,096.73	1,648.05	0.00	2,893.30
130.0	249.65	309.12	0.00	0.00
135.0	616.28	758.22	0.00	0.00
140.0	601.63	737.38	0.00	0.00
145.0	586.38	716.53	0.00	0.00
148.6	413.74	505.26	0.00	0.00
150.0	4,835.95	2,177.70	0.00	8,109.27
155.0	554.24	434.30	0.00	0.00
160.0	5,790.31	2,296.01	0.00	0.00
165.0	520.01	354.86	0.00	0.00
170.0	1,500.41	968.89	0.00	0.00
175.0	483.87	304.93	0.00	0.00
179.0	748.50	287.94	0.00	2,117.97
180.0	1,849.50	1,429.92	0.00	0.00
Totals:	39,325.55	45,361.64	0.00	13,120.54

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
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Gust Response Factor : 1.10		Wind Importance Factor : 1.00
Dead Load Factor : 0.90		
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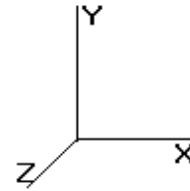
Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-45.31	-39.39	0.00	-4,635.97	0.00	4,635.97	5,692.71	2,846.36	14,517.2	7,269.40	0.00	0.00	0.646
5.00	-43.70	-38.77	0.00	-4,439.04	0.00	4,439.04	5,628.96	2,814.48	14,088.0	7,054.50	0.08	-0.15	0.637
10.00	-42.12	-38.16	0.00	-4,245.19	0.00	4,245.19	5,563.66	2,781.83	13,661.1	6,840.71	0.33	-0.31	0.628
15.00	-40.56	-37.55	0.00	-4,054.40	0.00	4,054.40	5,496.81	2,748.41	13,236.6	6,628.15	0.74	-0.47	0.619
20.00	-39.03	-36.96	0.00	-3,866.64	0.00	3,866.64	5,428.41	2,714.21	12,814.8	6,416.93	1.32	-0.63	0.610
25.00	-37.53	-36.37	0.00	-3,681.86	0.00	3,681.86	5,358.46	2,679.23	12,395.9	6,207.17	2.06	-0.79	0.600
30.00	-36.06	-35.78	0.00	-3,500.03	0.00	3,500.03	5,286.96	2,643.48	11,980.1	5,998.96	2.98	-0.95	0.590
35.00	-34.61	-35.17	0.00	-3,321.13	0.00	3,321.13	5,213.91	2,606.96	11,567.6	5,792.42	4.06	-1.12	0.580
40.00	-33.19	-34.55	0.00	-3,145.26	0.00	3,145.26	5,139.31	2,569.66	11,158.7	5,587.66	5.32	-1.28	0.570
45.00	-31.83	-33.88	0.00	-2,972.52	0.00	2,972.52	5,063.16	2,531.58	10,753.5	5,384.79	6.76	-1.45	0.558
46.82	-31.31	-33.66	0.00	-2,910.98	0.00	2,910.98	5,035.11	2,517.56	10,607.3	5,311.57	7.32	-1.51	0.554
50.00	-29.74	-33.22	0.00	-2,803.83	0.00	2,803.83	4,985.46	2,492.73	10,352.4	5,183.92	8.37	-1.62	0.547
53.65	-27.99	-32.69	0.00	-2,682.58	0.00	2,682.58	4,988.22	2,494.11	10,366.4	5,190.93	9.66	-1.75	0.523
55.00	-27.59	-32.53	0.00	-2,638.45	0.00	2,638.45	4,966.99	2,483.49	10,258.8	5,137.03	10.16	-1.80	0.519
60.00	-26.27	-31.84	0.00	-2,475.79	0.00	2,475.79	4,887.37	2,443.69	9,862.91	4,938.79	12.13	-1.96	0.507
65.00	-24.98	-31.14	0.00	-2,316.59	0.00	2,316.59	4,806.21	2,403.11	9,471.50	4,742.79	14.27	-2.12	0.494
70.00	-23.71	-30.44	0.00	-2,160.88	0.00	2,160.88	4,723.50	2,361.75	9,084.80	4,549.15	16.58	-2.29	0.480
75.00	-22.48	-29.73	0.00	-2,008.69	0.00	2,008.69	4,639.24	2,319.62	8,703.02	4,357.98	19.07	-2.45	0.466
80.00	-21.27	-29.03	0.00	-1,860.01	0.00	1,860.01	4,553.42	2,276.71	8,326.39	4,169.38	21.72	-2.62	0.451
85.00	-20.09	-28.32	0.00	-1,714.87	0.00	1,714.87	4,466.06	2,233.03	7,955.13	3,983.48	24.55	-2.78	0.435
90.00	-18.94	-27.62	0.00	-1,573.26	0.00	1,573.26	4,363.94	2,181.97	7,566.55	3,788.90	27.54	-2.94	0.420
94.97	-17.86	-26.89	0.00	-1,436.10	0.00	1,436.10	4,246.74	2,123.37	7,163.57	3,587.11	30.69	-3.10	0.405
95.00	-17.81	-26.91	0.00	-1,435.20	0.00	1,435.20	4,245.95	2,122.97	7,160.88	3,585.76	30.71	-3.10	0.405
100.00	-15.99	-26.14	0.00	-1,300.63	0.00	1,300.63	4,127.96	2,063.98	6,766.40	3,388.23	34.04	-3.26	0.388
100.47	-15.80	-26.09	0.00	-1,288.44	0.00	1,288.44	3,503.95	1,751.97	5,854.84	2,931.77	34.36	-3.28	0.444
105.00	-14.92	-25.45	0.00	-1,170.17	0.00	1,170.17	3,439.09	1,719.55	5,598.79	2,803.55	37.54	-3.42	0.422
110.00	-13.98	-24.76	0.00	-1,042.90	0.00	1,042.90	3,366.08	1,683.04	5,320.51	2,664.21	41.21	-3.59	0.396
115.00	-13.07	-24.07	0.00	-919.09	0.00	919.09	3,291.52	1,645.76	5,046.78	2,527.14	45.06	-3.75	0.368
120.00	-12.18	-23.39	0.00	-798.73	0.00	798.73	3,205.56	1,602.78	4,763.17	2,385.12	49.06	-3.90	0.339
125.00	-11.34	-22.71	0.00	-681.77	0.00	681.77	3,104.43	1,552.22	4,465.87	2,236.25	53.23	-4.05	0.309
128.00	-9.89	-19.52	0.00	-610.73	0.00	610.73	2,626.75	1,313.38	3,191.14	1,597.94	74.73	-4.60	0.147
130.00	-9.57	-19.26	0.00	-571.69	0.00	571.69	1,663.87	831.93	2,038.41	1,020.72	74.73	-4.60	0.230
135.00	-8.82	-18.61	0.00	-475.37	0.00	475.37	1,651.75	825.87	2,001.92	1,002.45	76.06	-4.62	0.201
140.00	-8.10	-17.97	0.00	-382.32	0.00	382.32	1,606.96	803.48	1,871.53	937.16	80.95	-4.71	0.151
145.00	-7.40	-17.34	0.00	-292.46	0.00	292.46	1,560.63	780.31	1,743.66	873.12	85.91	-4.78	0.096
148.62	-6.92	-16.89	0.00	-229.75	0.00	229.75	1,512.74	756.37	1,618.51	810.46	90.94	-4.83	0.070
148.62	-6.92	-16.89	0.00	-229.75	0.00	229.75	1,663.87	831.93	2,038.41	1,020.72	74.73	-4.60	0.230
150.00	-5.13	-11.90	0.00	-198.27	0.00	198.27	1,463.31	731.65	1,496.32	749.27	96.01	-4.86	0.043
155.00	-4.72	-11.32	0.00	-138.76	0.00	138.76	1,402.77	701.38	1,367.98	685.01	101.11	-4.88	0.023
160.00	-2.91	-5.36	0.00	-82.15	0.00	82.15	1,348.83	674.42	1,264.28	633.08	105.20	-4.89	0.004
165.00	-2.59	-4.82	0.00	-55.33	0.00	55.33	1,335.35	667.67	1,238.99	620.42	106.22	-4.89	0.000
170.00	-1.75	-3.24	0.00	-31.23	0.00	31.23							
175.00	-1.49	-2.73	0.00	-15.02	0.00	15.02							
179.00	-1.27	-1.96	0.00	-1.96	0.00	1.96							
180.00	0.00	-1.85	0.00	0.00	0.00	0.00							

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)

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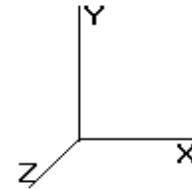
Load Case: 1.2D + 1.0Di + 1.0Wi	50.00 mph with 0.75 in Radial Ice	23 Iterations
Gust Response Factor : 1.10	Ice Dead Load Factor : 1.00	Wind Importance Factor : 1.00
Dead Load Factor : 1.20		Ice Importance Factor : 1.00
Wind Load Factor : 1.00		

Shaft Segment Forces (Factored)

Seg Top Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	4.256	4.682	0.000	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.256	4.682	0.000	1.200	1.242	5.00	27.215	32.66	152.9	486.7	2,228.5
10.00		1.00	0.70	4.256	4.682	0.000	1.200	1.331	5.00	26.806	32.17	150.6	512.8	2,222.2
15.00		1.00	0.70	4.256	4.682	0.000	1.200	1.386	5.00	26.368	31.64	148.1	524.6	2,201.6
20.00		1.00	0.70	4.256	4.682	0.000	1.200	1.427	5.00	25.918	31.10	145.6	530.0	2,174.6
25.00		1.00	0.70	4.256	4.682	0.000	1.200	1.459	5.00	25.461	30.55	143.0	531.8	2,144.0
30.00		1.00	0.70	4.260	4.686	0.000	1.200	1.486	5.00	24.999	30.00	140.6	531.2	2,110.9
35.00		1.00	0.73	4.451	4.897	0.000	1.200	1.509	5.00	24.534	29.44	144.2	528.8	2,076.1
40.00		1.00	0.76	4.625	5.087	0.000	1.200	1.529	5.00	24.067	28.88	146.9	525.2	2,040.1
45.00		1.00	0.78	4.783	5.261	0.000	1.200	1.547	5.00	23.599	28.32	149.0	520.5	2,002.9
46.82	Bot - Section 2	1.00	0.79	4.837	5.321	0.000	1.200	1.553	1.82	8.456	10.15	54.0	188.4	719.0
50.00		1.00	0.81	4.929	5.422	0.000	1.200	1.564	3.18	14.905	17.89	97.0	333.3	2,188.1
53.65	Top - Section 1	1.00	0.82	5.029	5.532	0.000	1.200	1.575	3.65	16.855	20.23	111.9	378.9	2,473.1
55.00		1.00	0.83	5.065	5.572	0.000	1.200	1.579	1.35	6.170	7.40	41.3	139.7	526.0
60.00		1.00	0.85	5.193	5.712	0.000	1.200	1.592	5.00	22.555	27.07	154.6	510.6	1,920.6
65.00		1.00	0.87	5.313	5.844	0.000	1.200	1.605	5.00	22.081	26.50	154.8	503.3	1,880.9
70.00		1.00	0.89	5.426	5.969	0.000	1.200	1.617	5.00	21.608	25.93	154.8	495.6	1,840.8
75.00		1.00	0.91	5.534	6.088	0.000	1.200	1.628	5.00	21.133	25.36	154.4	487.5	1,800.2
80.00		1.00	0.92	5.637	6.201	0.000	1.200	1.639	5.00	20.658	24.79	153.7	479.0	1,759.3
85.00		1.00	0.94	5.736	6.309	0.000	1.200	1.649	5.00	20.182	24.22	152.8	470.2	1,718.1
90.00		1.00	0.95	5.830	6.413	0.000	1.200	1.658	5.00	19.706	23.65	151.7	461.1	1,676.6
94.97	Bot - Section 3	1.00	0.97	5.920	6.512	0.000	1.200	1.667	4.97	19.102	22.92	149.3	448.8	1,624.0
95.00		1.00	0.97	5.921	6.513	0.000	1.200	1.667	0.03	0.130	0.16	1.0	3.1	17.8
100.0		1.00	0.98	6.008	6.609	0.000	1.200	1.676	5.00	19.070	22.88	151.3	450.0	2,606.6
100.4	Top - Section 2	1.00	0.99	6.016	6.618	0.000	1.200	1.677	0.47	1.755	2.11	13.9	41.9	240.0
105.0		1.00	1.00	6.093	6.702	0.000	1.200	1.684	4.53	16.838	20.21	135.4	399.2	1,284.9
110.0		1.00	1.01	6.174	6.792	0.000	1.200	1.692	5.00	18.116	21.74	147.6	430.3	1,380.6
115.0		1.00	1.02	6.253	6.879	0.000	1.200	1.699	5.00	17.638	21.17	145.6	420.1	1,342.7
120.0		1.00	1.04	6.330	6.963	0.000	1.200	1.707	5.00	17.161	20.59	143.4	409.7	1,304.5
125.0		1.00	1.05	6.404	7.044	0.000	1.200	1.714	5.00	16.682	20.02	141.0	399.2	1,266.2
128.0	Appertunance(s)	1.00	1.06	6.448	7.092	0.000	1.200	1.718	3.00	9.779	11.74	83.2	235.7	742.5
130.0		1.00	1.06	6.476	7.124	0.000	1.200	1.720	2.00	6.424	7.71	54.9	155.4	487.7
135.0		1.00	1.07	6.546	7.201	0.000	1.200	1.727	5.00	15.726	18.87	135.9	377.6	1,189.1
140.0		1.00	1.08	6.615	7.276	0.000	1.200	1.733	5.00	15.247	18.30	133.1	366.7	1,150.3
145.0		1.00	1.09	6.681	7.350	0.000	1.200	1.739	5.00	14.768	17.72	130.2	355.6	1,111.4
148.6	Top - Section 3	1.00	1.10	6.729	7.401	0.000	1.200	1.744	3.62	10.382	12.46	92.2	251.3	780.7
150.0	Appertunance(s)	1.00	1.11	6.746	7.421	0.000	1.200	1.745	1.38	3.906	4.69	34.8	95.3	228.3
155.0		1.00	1.12	6.810	7.491	0.000	1.200	1.751	5.00	13.810	16.57	124.1	333.0	801.8
160.0	Appertunance(s)	1.00	1.13	6.872	7.559	0.000	1.200	1.757	5.00	13.331	16.00	120.9	321.5	771.8
165.0		1.00	1.14	6.933	7.626	0.000	1.200	1.762	5.00	12.852	15.42	117.6	309.9	741.7
170.0	Appertunance(s)	1.00	1.15	6.992	7.691	0.000	1.200	1.767	5.00	12.372	14.85	114.2	298.2	711.5
175.0		1.00	1.16	7.050	7.755	0.000	1.200	1.772	5.00	11.892	14.27	110.7	286.4	681.2
179.0	Appertunance(s)	1.00	1.16	7.096	7.805	0.000	1.200	1.776	4.00	9.168	11.00	85.9	221.6	524.0
180.0	Appertunance(s)	1.00	1.16	7.107	7.818	0.000	1.200	1.777	1.00	2.244	2.69	21.1	54.9	128.7
Totals:									180.00			5,089.2	15,804.5	58,821.5

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)



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Load Case: 1.2D + 1.0Di + 1.0Wi	50.00 mph with 0.75 in Radial Ice	23 Iterations
Gust Response Factor : 1.10	Ice Dead Load Factor : 1.00	Wind Importance Factor : 1.00
Dead Load Factor : 1.20		Ice Importance Factor : 1.00
Wind Load Factor : 1.00		

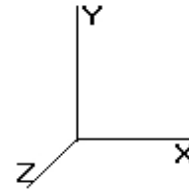
Discrete Appurtenance Segment Forces (Factored)

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Ka	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
128.0	Ericsson KRY 112 144	3	6.476	7.124	0.33	0.80	0.50	0.000	2.000	3.55	0.00	7.10	87.58
128.0	Ericsson AIR 21, 1.3	3	6.476	7.124	0.69	0.80	11.81	0.000	2.000	84.11	0.00	168.22	796.42
128.0	Ericsson AIR 21, 1.3	3	6.476	7.124	0.69	0.80	11.88	0.000	2.000	84.64	0.00	169.27	790.88
128.0	Flat T-Arm	3	6.448	7.092	0.67	0.75	31.61	0.000	0.000	224.16	0.00	0.00	1,326.39
150.0	Flat Low Profile Pla	1	6.746	7.421	1.00	1.00	45.23	0.000	0.000	335.66	0.00	0.00	2,249.22
150.0	Allgon 7770.00	6	6.785	7.463	0.75	0.80	23.62	0.000	3.000	176.25	0.00	528.75	1,062.51
150.0	Powerwave LGP21401	6	6.746	7.421	0.33	0.80	2.48	0.000	0.000	18.38	0.00	0.00	303.41
150.0	Powerwave LGP21903	6	6.746	7.421	0.33	0.80	0.75	0.000	0.000	5.55	0.00	0.00	120.92
150.0	Ericsson RRUS 11 (Ba	6	6.785	7.463	0.50	0.80	7.73	0.000	3.000	57.69	0.00	173.07	848.98
150.0	KMW AM-X-CD-14-65-	3	6.785	7.463	0.76	0.80	10.90	0.000	3.000	81.34	0.00	244.01	524.93
150.0	Raycap DC6-48-60-18-	1	6.785	7.463	1.00	0.80	2.28	0.000	3.000	17.03	0.00	51.10	116.95
150.0	RCU	6	6.734	7.407	0.33	0.80	0.57	0.000	-1.000	4.25	0.00	-4.25	68.32
160.0	Antel BXA-70063/6CF	6	6.872	7.559	0.64	0.80	27.12	0.000	0.000	204.99	0.00	0.00	1,133.70
160.0	Alcatel-Lucent RRH2x	3	6.872	7.559	0.50	0.80	3.30	0.000	0.000	24.92	0.00	0.00	443.39
160.0	Alcatel-Lucent RRH2x	3	6.872	7.559	0.50	0.80	3.37	0.000	0.000	25.48	0.00	0.00	380.79
160.0	Flat Low Profile Pla	1	6.872	7.559	1.00	1.00	45.35	0.000	0.000	342.85	0.00	0.00	2,253.42
160.0	Antel BXA-171063/12C	6	6.872	7.559	0.72	0.80	20.77	0.000	0.000	156.98	0.00	0.00	836.42
160.0	RFS DB-T1-6Z-8AB-0Z	1	6.872	7.559	0.67	0.80	3.04	0.000	0.000	23.01	0.00	0.00	270.96
170.0	KMW HB-X-WM-17-65-	3	6.992	7.691	1.00	0.80	10.19	0.000	0.000	78.40	0.00	0.00	447.44
170.0	KMW HB-X-WM-17-65-	3	6.992	7.691	0.33	0.80	1.13	0.000	0.000	8.69	0.00	0.00	163.58
170.0	Stand-Off	1	6.992	7.691	1.00	1.00	15.71	0.000	0.000	120.83	0.00	0.00	1,027.02
179.0	10' Omni	2	7.163	7.879	1.00	0.80	9.57	0.000	6.000	75.38	0.00	452.26	333.85
179.0	TTA	1	7.107	7.818	0.33	0.80	0.44	0.000	1.000	3.46	0.00	3.46	58.88
180.0	Andrew DB806D-Y	1	7.107	7.818	1.00	0.80	5.62	0.000	0.000	43.95	0.00	0.00	185.94
180.0	Round Low Profile PI	1	7.107	7.818	1.00	1.00	41.29	0.000	0.000	322.82	0.00	0.00	2,261.17
										2,524.36			18,093.09

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
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Code: ANSI/TIA-222 Rev G
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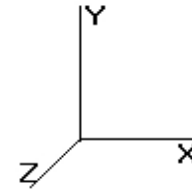
Load Case: 1.2D + 1.0Di + 1.0Wi	50.00 mph with 0.75 in Radial Ice	23 Iterations
Gust Response Factor : 1.10	Ice Dead Load Factor : 1.00	Wind Importance Factor : 1.00
Dead Load Factor : 1.20		Ice Importance Factor : 1.00
Wind Load Factor : 1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	152.89	2,493.11	0.00	0.00
10.00	150.59	2,486.81	0.00	0.00
15.00	148.13	2,466.14	0.00	0.00
20.00	145.60	2,439.16	0.00	0.00
25.00	143.04	2,408.53	0.00	0.00
30.00	140.56	2,375.48	0.00	0.00
35.00	144.16	2,340.71	0.00	0.00
40.00	146.92	2,304.63	0.00	0.00
45.00	148.98	2,267.51	0.00	0.00
46.82	53.99	815.09	0.00	0.00
50.00	96.98	2,356.50	0.00	0.00
53.65	111.89	2,666.21	0.00	0.00
55.00	41.25	597.43	0.00	0.00
60.00	154.59	2,185.17	0.00	0.00
65.00	154.85	2,145.48	0.00	0.00
70.00	154.77	2,105.32	0.00	0.00
75.00	154.38	2,064.77	0.00	0.00
80.00	153.72	2,023.87	0.00	0.00
85.00	152.81	1,982.64	0.00	0.00
90.00	151.66	1,941.12	0.00	0.00
94.97	149.28	1,886.77	0.00	0.00
95.00	1.01	19.53	0.00	0.00
100.0	151.25	2,871.16	0.00	0.00
100.4	13.93	264.70	0.00	0.00
105.0	135.42	1,524.81	0.00	0.00
110.0	147.65	1,645.21	0.00	0.00
115.0	145.59	1,607.23	0.00	0.00
120.0	143.38	1,569.07	0.00	0.00
125.0	141.02	1,530.75	0.00	0.00
128.0	479.69	3,902.55	0.00	344.59
130.0	54.91	567.56	0.00	0.00
135.0	135.89	1,388.60	0.00	0.00
140.0	133.13	1,349.83	0.00	0.00
145.0	130.25	1,310.93	0.00	0.00
148.6	92.21	924.97	0.00	0.00
150.0	730.93	5,578.77	0.00	992.69
155.0	124.14	912.03	0.00	0.00
160.0	899.16	6,200.72	0.00	0.00
165.0	117.61	783.05	0.00	0.00
170.0	322.11	2,390.89	0.00	0.00
175.0	110.67	693.02	0.00	0.00
179.0	164.71	926.21	0.00	455.72
180.0	387.82	2,576.18	0.00	0.00
Totals:	7,613.53	84,890.21	0.00	1,793.00

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)



Load Case: 1.2D + 1.0Di + 1.0Wi 50.00 mph with 0.75 in Radial Ice 23 Iterations

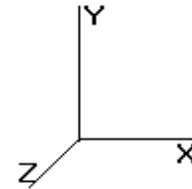
Gust Response Factor : 1.10 Ice Dead Load Factor : 1.00 Wind Importance Factor : 1.00
 Dead Load Factor : 1.20 Ice Importance Factor : 1.00
 Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-84.89	-7.64	0.00	-900.24	0.00	900.24	5,692.71	2,846.36	14,517.2	7,269.40	0.00	0.00	0.139
5.00	-82.39	-7.53	0.00	-862.06	0.00	862.06	5,628.96	2,814.48	14,088.0	7,054.50	0.02	-0.03	0.137
10.00	-79.90	-7.42	0.00	-824.44	0.00	824.44	5,563.66	2,781.83	13,661.1	6,840.71	0.06	-0.06	0.135
15.00	-77.43	-7.31	0.00	-787.36	0.00	787.36	5,496.81	2,748.41	13,236.6	6,628.15	0.14	-0.09	0.133
20.00	-74.99	-7.20	0.00	-750.84	0.00	750.84	5,428.41	2,714.21	12,814.8	6,416.93	0.26	-0.12	0.131
25.00	-72.58	-7.09	0.00	-714.86	0.00	714.86	5,358.46	2,679.23	12,395.9	6,207.17	0.40	-0.15	0.129
30.00	-70.20	-6.98	0.00	-679.42	0.00	679.42	5,286.96	2,643.48	11,980.1	5,998.96	0.58	-0.19	0.127
35.00	-67.85	-6.86	0.00	-644.53	0.00	644.53	5,213.91	2,606.96	11,567.6	5,792.42	0.79	-0.22	0.124
40.00	-65.55	-6.75	0.00	-610.21	0.00	610.21	5,139.31	2,569.66	11,158.7	5,587.66	1.03	-0.25	0.122
45.00	-63.28	-6.61	0.00	-576.48	0.00	576.48	5,063.16	2,531.58	10,753.5	5,384.79	1.31	-0.28	0.120
46.82	-62.46	-6.57	0.00	-564.47	0.00	564.47	5,035.11	2,517.56	10,607.3	5,311.57	1.42	-0.29	0.119
50.00	-60.10	-6.48	0.00	-543.56	0.00	543.56	4,985.46	2,492.73	10,352.4	5,183.92	1.63	-0.32	0.117
53.65	-57.43	-6.37	0.00	-519.89	0.00	519.89	4,988.22	2,494.11	10,366.4	5,190.93	1.88	-0.34	0.112
55.00	-56.83	-6.35	0.00	-511.28	0.00	511.28	4,966.99	2,483.49	10,258.8	5,137.03	1.97	-0.35	0.111
60.00	-54.65	-6.21	0.00	-479.53	0.00	479.53	4,887.37	2,443.69	9,862.91	4,938.79	2.36	-0.38	0.108
65.00	-52.50	-6.07	0.00	-448.48	0.00	448.48	4,806.21	2,403.11	9,471.50	4,742.79	2.77	-0.41	0.105
70.00	-50.39	-5.93	0.00	-418.12	0.00	418.12	4,723.50	2,361.75	9,084.80	4,549.15	3.22	-0.44	0.103
75.00	-48.32	-5.78	0.00	-388.48	0.00	388.48	4,639.24	2,319.62	8,703.02	4,357.98	3.70	-0.48	0.100
80.00	-46.30	-5.64	0.00	-359.56	0.00	359.56	4,553.42	2,276.71	8,326.39	4,169.38	4.22	-0.51	0.096
85.00	-44.31	-5.49	0.00	-331.37	0.00	331.37	4,466.06	2,233.03	7,955.13	3,983.48	4.76	-0.54	0.093
90.00	-42.37	-5.34	0.00	-303.91	0.00	303.91	4,363.94	2,181.97	7,566.55	3,788.90	5.35	-0.57	0.090
94.97	-40.49	-5.19	0.00	-277.37	0.00	277.37	4,246.74	2,123.37	7,163.57	3,587.11	5.96	-0.60	0.087
95.00	-40.46	-5.20	0.00	-277.19	0.00	277.19	4,245.95	2,122.97	7,160.88	3,585.76	5.96	-0.60	0.087
100.00	-37.59	-5.03	0.00	-251.21	0.00	251.21	4,127.96	2,063.98	6,766.40	3,388.23	6.61	-0.63	0.083
100.47	-37.33	-5.02	0.00	-248.86	0.00	248.86	3,503.95	1,751.97	5,854.84	2,931.77	6.67	-0.63	0.096
105.00	-35.80	-4.89	0.00	-226.11	0.00	226.11	3,439.09	1,719.55	5,598.79	2,803.55	7.28	-0.66	0.091
110.00	-34.16	-4.74	0.00	-201.69	0.00	201.69	3,366.08	1,683.04	5,320.51	2,664.21	8.00	-0.69	0.086
115.00	-32.55	-4.59	0.00	-178.00	0.00	178.00	3,291.52	1,645.76	5,046.78	2,527.14	8.74	-0.73	0.080
120.00	-30.98	-4.44	0.00	-155.06	0.00	155.06	3,205.56	1,602.78	4,763.17	2,385.12	9.52	-0.76	0.075
125.00	-29.45	-4.29	0.00	-132.85	0.00	132.85	3,104.43	1,552.22	4,465.87	2,236.25	10.32	-0.78	0.069
128.00	-25.55	-3.76	0.00	-119.64	0.00	119.64	3,043.75	1,521.88	4,292.09	2,149.23	10.82	-0.80	0.064
130.00	-24.98	-3.71	0.00	-112.11	0.00	112.11	3,003.30	1,501.65	4,178.15	2,092.18	11.16	-0.81	0.062
135.00	-23.60	-3.56	0.00	-93.57	0.00	93.57	2,902.16	1,451.08	3,900.01	1,952.91	12.03	-0.84	0.056
140.00	-22.25	-3.42	0.00	-75.76	0.00	75.76	2,801.03	1,400.52	3,631.46	1,818.43	12.92	-0.86	0.050
145.00	-20.94	-3.27	0.00	-58.67	0.00	58.67	2,699.90	1,349.95	3,372.48	1,688.75	13.83	-0.88	0.043
148.62	-20.01	-3.17	0.00	-46.83	0.00	46.83	2,626.75	1,313.38	3,191.14	1,597.94	14.50	-0.89	0.037
148.62	-20.01	-3.17	0.00	-46.83	0.00	46.83	1,663.87	831.93	2,038.41	1,020.72	14.50	-0.89	0.058
150.00	-14.45	-2.36	0.00	-41.45	0.00	41.45	1,651.75	825.87	2,001.92	1,002.45	14.76	-0.90	0.050
155.00	-13.54	-2.22	0.00	-29.68	0.00	29.68	1,606.96	803.48	1,871.53	937.16	15.71	-0.92	0.040
160.00	-7.35	-1.22	0.00	-18.58	0.00	18.58	1,560.63	780.31	1,743.66	873.12	16.68	-0.93	0.026
165.00	-6.57	-1.09	0.00	-12.46	0.00	12.46	1,512.74	756.37	1,618.51	810.46	17.66	-0.94	0.020
170.00	-4.18	-0.73	0.00	-6.99	0.00	6.99	1,463.31	731.65	1,496.32	749.27	18.65	-0.95	0.012
175.00	-3.49	-0.61	0.00	-3.33	0.00	3.33	1,402.77	701.38	1,367.98	685.01	19.65	-0.95	0.007
179.00	-2.57	-0.43	0.00	-0.43	0.00	0.43	1,348.83	674.42	1,264.28	633.08	20.45	-0.96	0.003
180.00	0.00	-0.39	0.00	0.00	0.00	0.00	1,335.35	667.67	1,238.99	620.42	20.65	-0.96	0.000

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)



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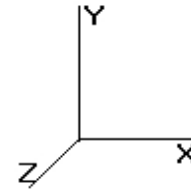
Load Case: 1.0D + 1.0W	60.00 mph Serviceability	23 Iterations
Gust Response Factor : 1.10		Wind Importance Factor : 1.00
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Shaft Segment Forces (Factored)

Seg Top Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Ap (sf)	EPAs (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	6.129	6.742	265.27	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.742	260.41	0.650	0.000	5.00	26.180	17.02	114.7	0.0	1,451.5
10.00		1.00	0.70	6.129	6.742	255.56	0.650	0.000	5.00	25.696	16.70	112.6	0.0	1,424.5
15.00		1.00	0.70	6.129	6.742	250.70	0.650	0.000	5.00	25.213	16.39	110.5	0.0	1,397.5
20.00		1.00	0.70	6.129	6.742	245.84	0.650	0.000	5.00	24.729	16.07	108.4	0.0	1,370.5
25.00		1.00	0.70	6.129	6.742	240.98	0.650	0.000	5.00	24.245	15.76	106.2	0.0	1,343.5
30.00		1.00	0.70	6.134	6.747	236.22	0.650	0.000	5.00	23.761	15.44	104.2	0.0	1,316.4
35.00		1.00	0.73	6.410	7.051	236.51	0.650	0.000	5.00	23.277	15.13	106.7	0.0	1,289.4
40.00		1.00	0.76	6.659	7.325	236.01	0.650	0.000	5.00	22.793	14.82	108.5	0.0	1,262.4
45.00		1.00	0.78	6.887	7.576	234.86	0.650	0.000	5.00	22.309	14.50	109.9	0.0	1,235.4
46.82	Bot - Section 2	1.00	0.79	6.966	7.662	234.31	0.650	0.000	1.82	7.985	5.19	39.8	0.0	442.1
50.00		1.00	0.81	7.098	7.807	233.19	0.650	0.000	3.18	14.076	9.15	71.4	0.0	1,545.6
53.65	Top - Section 1	1.00	0.82	7.242	7.966	231.70	0.650	0.000	3.65	15.897	10.33	82.3	0.0	1,745.1
55.00		1.00	0.83	7.294	8.023	235.15	0.650	0.000	1.35	5.815	3.78	30.3	0.0	321.9
60.00		1.00	0.85	7.477	8.225	232.72	0.650	0.000	5.00	21.228	13.80	113.5	0.0	1,175.0
65.00		1.00	0.87	7.650	8.415	229.97	0.650	0.000	5.00	20.744	13.48	113.5	0.0	1,148.0
70.00		1.00	0.89	7.814	8.595	226.93	0.650	0.000	5.00	20.260	13.17	113.2	0.0	1,121.0
75.00		1.00	0.91	7.969	8.766	223.64	0.650	0.000	5.00	19.776	12.85	112.7	0.0	1,093.9
80.00		1.00	0.92	8.118	8.930	220.12	0.650	0.000	5.00	19.292	12.54	112.0	0.0	1,066.9
85.00		1.00	0.94	8.260	9.086	216.39	0.650	0.000	5.00	18.808	12.23	111.1	0.0	1,039.9
90.00		1.00	0.95	8.396	9.235	212.48	0.650	0.000	5.00	18.324	11.91	110.0	0.0	1,012.9
94.97	Bot - Section 3	1.00	0.97	8.525	9.378	208.43	0.650	0.000	4.97	17.722	11.52	108.0	0.0	979.3
95.00		1.00	0.97	8.526	9.379	208.40	0.650	0.000	0.03	0.120	0.08	0.7	0.0	12.2
100.0		1.00	0.98	8.652	9.517	204.16	0.650	0.000	5.00	17.674	11.49	109.3	0.0	1,797.1
100.4	Top - Section 2	1.00	0.99	8.664	9.530	203.76	0.650	0.000	0.47	1.624	1.06	10.1	0.0	165.1
105.0		1.00	1.00	8.774	9.651	203.59	0.650	0.000	4.53	15.566	10.12	97.6	0.0	738.1
110.0		1.00	1.01	8.891	9.780	199.09	0.650	0.000	5.00	16.706	10.86	106.2	0.0	792.0
115.0		1.00	1.02	9.005	9.905	194.47	0.650	0.000	5.00	16.222	10.54	104.4	0.0	768.8
120.0		1.00	1.04	9.115	10.02	189.73	0.650	0.000	5.00	15.738	10.23	102.6	0.0	745.7
125.0		1.00	1.05	9.222	10.14	184.88	0.650	0.000	5.00	15.254	9.92	100.6	0.0	722.5
128.0	Appertunance(s)	1.00	1.06	9.284	10.21	181.92	0.650	0.000	3.00	8.920	5.80	59.2	0.0	422.4
130.0		1.00	1.06	9.326	10.25	179.93	0.650	0.000	2.00	5.850	3.80	39.0	0.0	277.0
135.0		1.00	1.07	9.427	10.36	174.88	0.650	0.000	5.00	14.287	9.29	96.3	0.0	676.2
140.0		1.00	1.08	9.525	10.47	169.73	0.650	0.000	5.00	13.803	8.97	94.0	0.0	653.0
145.0		1.00	1.09	9.621	10.58	164.50	0.650	0.000	5.00	13.319	8.66	91.6	0.0	629.9
148.6	Top - Section 3	1.00	1.10	9.689	10.65	160.66	0.650	0.000	3.62	9.332	6.07	64.6	0.0	441.1
150.0	Appertunance(s)	1.00	1.11	9.715	10.68	159.18	0.650	0.000	1.38	3.503	2.28	24.3	0.0	110.9
155.0		1.00	1.12	9.806	10.78	153.78	0.650	0.000	5.00	12.351	8.03	86.6	0.0	390.7
160.0	Appertunance(s)	1.00	1.13	9.896	10.88	148.31	0.650	0.000	5.00	11.867	7.71	84.0	0.0	375.3
165.0		1.00	1.14	9.983	10.98	142.76	0.650	0.000	5.00	11.383	7.40	81.3	0.0	359.8
170.0	Appertunance(s)	1.00	1.15	10.069	11.07	137.14	0.650	0.000	5.00	10.899	7.08	78.5	0.0	344.4
175.0		1.00	1.16	10.152	11.16	131.46	0.650	0.000	5.00	10.415	6.77	75.6	0.0	329.0
179.0	Appertunance(s)	1.00	1.16	10.218	11.24	126.86	0.650	0.000	4.00	7.984	5.19	58.3	0.0	252.1
180.0	Appertunance(s)	1.00	1.16	10.234	11.25	125.71	0.650	0.000	1.00	1.948	1.27	14.3	0.0	61.5
Totals:									180.00			3,678.6	0.0	35,847.5

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)



12/6/2013 12:07:28 PM
 Page: 17

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Load Case: 1.0D + 1.0W 60.00 mph Serviceability 23 Iterations

Gust Response Factor : 1.10 Wind Importance Factor : 1.00

Dead Load Factor : 1.00

Wind Load Factor : 1.00

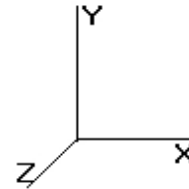
Discrete Appurtenance Segment Forces (Factored)

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orientation Factor	Ka	Total EPAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
128.0	Ericsson KRY 112 144	3	9.326	10.258	0.33	0.80	0.32	0.000	2.000	3.33	0.00	6.66	33.00
128.0	Ericsson AIR 21, 1.3	3	9.326	10.258	0.69	0.80	10.81	0.000	2.000	110.93	0.00	221.86	249.00
128.0	Ericsson AIR 21, 1.3	3	9.326	10.258	0.69	0.80	10.90	0.000	2.000	111.78	0.00	223.56	244.50
128.0	Flat T-Arm	3	9.284	10.213	0.67	0.75	19.45	0.000	0.000	198.61	0.00	0.00	750.00
150.0	Flat Low Profile Pla	1	9.715	10.686	1.00	1.00	26.10	0.000	0.000	278.91	0.00	0.00	1,500.00
150.0	Allgon 7770.00	6	9.770	10.747	0.75	0.80	21.17	0.000	3.000	227.49	0.00	682.48	210.00
150.0	Powerwave LGP21401	6	9.715	10.686	0.33	0.80	2.04	0.000	0.000	21.84	0.00	0.00	84.60
150.0	Powerwave LGP21903	6	9.715	10.686	0.33	0.80	0.43	0.000	0.000	4.57	0.00	0.00	33.00
150.0	Ericsson RRUS 11 (Ba	6	9.770	10.747	0.50	0.80	7.18	0.000	3.000	77.12	0.00	231.36	300.00
150.0	KMW AM-X-CD-14-65-	3	9.770	10.747	0.76	0.80	10.03	0.000	3.000	107.81	0.00	323.44	109.20
150.0	Raycap DC6-48-60-18-	1	9.770	10.747	1.00	0.80	1.01	0.000	3.000	10.83	0.00	32.50	20.00
150.0	RCU	6	9.696	10.666	0.33	0.80	0.25	0.000	-1.000	2.70	0.00	-2.70	6.00
160.0	Antel BXA-70063/6CF	6	9.896	10.885	0.64	0.80	23.75	0.000	0.000	258.49	0.00	0.00	102.00
160.0	Alcatel-Lucent RRH2x	3	9.896	10.885	0.50	0.80	2.98	0.000	0.000	32.39	0.00	0.00	150.00
160.0	Alcatel-Lucent RRH2x	3	9.896	10.885	0.50	0.80	3.02	0.000	0.000	32.92	0.00	0.00	132.00
160.0	Flat Low Profile Pla	1	9.896	10.885	1.00	1.00	26.10	0.000	0.000	284.10	0.00	0.00	1,500.00
160.0	Antel BXA-171063/12C	6	9.896	10.885	0.72	0.80	16.55	0.000	0.000	180.20	0.00	0.00	90.00
160.0	RFS DB-T1-6Z-8AB-0Z	1	9.896	10.885	0.67	0.80	3.00	0.000	0.000	32.67	0.00	0.00	110.00
170.0	KMW HB-X-WM-17-65-	3	10.069	11.075	1.00	0.80	4.68	0.000	0.000	51.83	0.00	0.00	90.00
170.0	KMW HB-X-WM-17-65-	3	10.069	11.075	0.33	0.80	0.90	0.000	0.000	10.00	0.00	0.00	47.70
170.0	Stand-Off	1	10.069	11.075	1.00	1.00	8.50	0.000	0.000	94.14	0.00	0.00	560.00
179.0	10' Omni	2	10.315	11.346	1.00	0.80	4.80	0.000	6.000	54.46	0.00	326.77	50.00
179.0	TTA	1	10.234	11.258	0.33	0.80	0.37	0.000	1.000	4.16	0.00	4.16	10.00
180.0	Andrew DB806D-Y	1	10.234	11.258	1.00	0.80	2.70	0.000	0.000	30.44	0.00	0.00	27.00
180.0	Round Low Profile PI	1	10.234	11.258	1.00	1.00	21.70	0.000	0.000	244.29	0.00	0.00	1,500.00
										2,466.03			7,908.00

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)

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Load Case: 1.0D + 1.0W 60.00 mph Serviceability 23 Iterations

Gust Response Factor : 1.10 Wind Importance Factor : 1.00

Dead Load Factor : 1.00

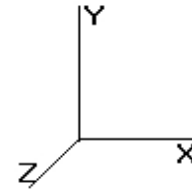
Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	114.72	1,672.01	0.00	0.00
10.00	112.60	1,644.99	0.00	0.00
15.00	110.48	1,617.97	0.00	0.00
20.00	108.36	1,590.95	0.00	0.00
25.00	106.24	1,563.93	0.00	0.00
30.00	104.21	1,536.91	0.00	0.00
35.00	106.68	1,509.89	0.00	0.00
40.00	108.53	1,482.87	0.00	0.00
45.00	109.86	1,455.85	0.00	0.00
46.82	39.77	522.24	0.00	0.00
50.00	71.43	1,685.98	0.00	0.00
53.65	82.31	1,906.06	0.00	0.00
55.00	30.32	381.44	0.00	0.00
60.00	113.49	1,395.46	0.00	0.00
65.00	113.47	1,368.44	0.00	0.00
70.00	113.19	1,341.42	0.00	0.00
75.00	112.69	1,314.40	0.00	0.00
80.00	111.98	1,287.38	0.00	0.00
85.00	111.07	1,260.36	0.00	0.00
90.00	110.00	1,233.34	0.00	0.00
94.97	108.03	1,198.32	0.00	0.00
95.00	0.73	13.70	0.00	0.00
100.0	109.34	2,017.61	0.00	0.00
100.4	10.06	185.67	0.00	0.00
105.0	97.65	938.03	0.00	0.00
110.0	106.20	1,012.46	0.00	0.00
115.0	104.44	989.30	0.00	0.00
120.0	102.57	966.14	0.00	0.00
125.0	100.58	942.98	0.00	0.00
128.0	483.86	1,831.17	0.00	452.08
130.0	39.01	343.47	0.00	0.00
135.0	96.29	842.47	0.00	0.00
140.0	94.00	819.31	0.00	0.00
145.0	91.62	796.15	0.00	0.00
148.6	64.65	561.40	0.00	0.00
150.0	755.62	2,419.66	0.00	1,267.07
155.0	86.60	482.56	0.00	0.00
160.0	904.74	2,551.12	0.00	0.00
165.0	81.25	394.29	0.00	0.00
170.0	234.44	1,076.55	0.00	0.00
175.0	75.60	338.81	0.00	0.00
179.0	116.95	319.93	0.00	330.93
180.0	288.99	1,588.80	0.00	0.00
Totals:	6,144.62	50,401.82	0.00	2,050.08

Pole : 310972
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 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)



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Load Case: 1.0D + 1.0W

60.00 mph Serviceability

23 Iterations

Gust Response Factor : 1.10
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Wind Importance Factor : 1.00

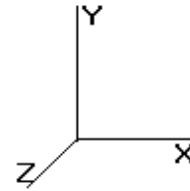
Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-50.40	-6.16	0.00	-727.43	0.00	727.43	5,692.71	2,846.36	14,517.2	7,269.40	0.00	0.00	0.109
5.00	-48.73	-6.06	0.00	-696.65	0.00	696.65	5,628.96	2,814.48	14,088.0	7,054.50	0.01	-0.02	0.107
10.00	-47.08	-5.97	0.00	-666.35	0.00	666.35	5,563.66	2,781.83	13,661.1	6,840.71	0.05	-0.05	0.106
15.00	-45.46	-5.87	0.00	-636.51	0.00	636.51	5,496.81	2,748.41	13,236.6	6,628.15	0.12	-0.07	0.104
20.00	-43.86	-5.78	0.00	-607.14	0.00	607.14	5,428.41	2,714.21	12,814.8	6,416.93	0.21	-0.10	0.103
25.00	-42.30	-5.69	0.00	-578.22	0.00	578.22	5,358.46	2,679.23	12,395.9	6,207.17	0.32	-0.12	0.101
30.00	-40.76	-5.60	0.00	-549.76	0.00	549.76	5,286.96	2,643.48	11,980.1	5,998.96	0.47	-0.15	0.099
35.00	-39.25	-5.51	0.00	-521.74	0.00	521.74	5,213.91	2,606.96	11,567.6	5,792.42	0.64	-0.18	0.098
40.00	-37.76	-5.41	0.00	-494.19	0.00	494.19	5,139.31	2,569.66	11,158.7	5,587.66	0.84	-0.20	0.096
45.00	-36.31	-5.31	0.00	-467.12	0.00	467.12	5,063.16	2,531.58	10,753.5	5,384.79	1.06	-0.23	0.094
46.82	-35.78	-5.28	0.00	-457.48	0.00	457.48	5,035.11	2,517.56	10,607.3	5,311.57	1.15	-0.24	0.093
50.00	-34.09	-5.21	0.00	-440.68	0.00	440.68	4,985.46	2,492.73	10,352.4	5,183.92	1.31	-0.26	0.092
53.65	-32.19	-5.13	0.00	-421.67	0.00	421.67	4,988.22	2,494.11	10,366.4	5,190.93	1.52	-0.27	0.088
55.00	-31.80	-5.10	0.00	-414.75	0.00	414.75	4,966.99	2,483.49	10,258.8	5,137.03	1.60	-0.28	0.087
60.00	-30.41	-5.00	0.00	-389.23	0.00	389.23	4,887.37	2,443.69	9,862.91	4,938.79	1.91	-0.31	0.085
65.00	-29.04	-4.89	0.00	-364.26	0.00	364.26	4,806.21	2,403.11	9,471.50	4,742.79	2.24	-0.33	0.083
70.00	-27.69	-4.78	0.00	-339.82	0.00	339.82	4,723.50	2,361.75	9,084.80	4,549.15	2.60	-0.36	0.081
75.00	-26.38	-4.67	0.00	-315.93	0.00	315.93	4,639.24	2,319.62	8,703.02	4,357.98	2.99	-0.39	0.078
80.00	-25.09	-4.56	0.00	-292.58	0.00	292.58	4,553.42	2,276.71	8,326.39	4,169.38	3.41	-0.41	0.076
85.00	-23.83	-4.45	0.00	-269.78	0.00	269.78	4,466.06	2,233.03	7,955.13	3,983.48	3.86	-0.44	0.073
90.00	-22.59	-4.34	0.00	-247.53	0.00	247.53	4,363.94	2,181.97	7,566.55	3,788.90	4.33	-0.46	0.071
94.97	-21.40	-4.23	0.00	-225.98	0.00	225.98	4,246.74	2,123.37	7,163.57	3,587.11	4.82	-0.49	0.068
95.00	-21.38	-4.23	0.00	-225.84	0.00	225.84	4,245.95	2,122.97	7,160.88	3,585.76	4.83	-0.49	0.068
100.00	-19.36	-4.11	0.00	-204.68	0.00	204.68	4,127.96	2,063.98	6,766.40	3,388.23	5.35	-0.51	0.065
100.47	-19.18	-4.10	0.00	-202.76	0.00	202.76	3,503.95	1,751.97	5,854.84	2,931.77	5.40	-0.51	0.075
105.00	-18.24	-4.00	0.00	-184.17	0.00	184.17	3,439.09	1,719.55	5,598.79	2,803.55	5.90	-0.54	0.071
110.00	-17.23	-3.89	0.00	-164.16	0.00	164.16	3,366.08	1,683.04	5,320.51	2,664.21	6.48	-0.56	0.067
115.00	-16.24	-3.79	0.00	-144.69	0.00	144.69	3,291.52	1,645.76	5,046.78	2,527.14	7.08	-0.59	0.062
120.00	-15.27	-3.68	0.00	-125.75	0.00	125.75	3,205.56	1,602.78	4,763.17	2,385.12	7.71	-0.61	0.057
125.00	-14.33	-3.57	0.00	-107.35	0.00	107.35	3,104.43	1,552.22	4,465.87	2,236.25	8.37	-0.64	0.053
128.00	-12.50	-3.07	0.00	-96.17	0.00	96.17	3,043.75	1,521.88	4,292.09	2,149.23	8.77	-0.65	0.049
130.00	-12.16	-3.03	0.00	-90.03	0.00	90.03	3,003.30	1,501.65	4,178.15	2,092.18	9.05	-0.66	0.047
135.00	-11.31	-2.93	0.00	-74.86	0.00	74.86	2,902.16	1,451.08	3,900.01	1,952.91	9.75	-0.68	0.042
140.00	-10.50	-2.83	0.00	-60.21	0.00	60.21	2,801.03	1,400.52	3,631.46	1,818.43	10.47	-0.70	0.037
145.00	-9.70	-2.73	0.00	-46.07	0.00	46.07	2,699.90	1,349.95	3,372.48	1,688.75	11.21	-0.71	0.031
148.62	-9.14	-2.66	0.00	-36.19	0.00	36.19	2,626.75	1,313.38	3,191.14	1,597.94	11.75	-0.72	0.026
148.62	-9.14	-2.66	0.00	-36.19	0.00	36.19	1,663.87	831.93	2,038.41	1,020.72	11.75	-0.72	0.041
150.00	-6.73	-1.87	0.00	-31.24	0.00	31.24	1,651.75	825.87	2,001.92	1,002.45	11.96	-0.73	0.035
155.00	-6.25	-1.78	0.00	-21.87	0.00	21.87	1,606.96	803.48	1,871.53	937.16	12.73	-0.74	0.027
160.00	-3.71	-0.85	0.00	-12.95	0.00	12.95	1,560.63	780.31	1,743.66	873.12	13.51	-0.75	0.017
165.00	-3.31	-0.76	0.00	-8.72	0.00	8.72	1,512.74	756.37	1,618.51	810.46	14.30	-0.76	0.013
170.00	-2.24	-0.51	0.00	-4.92	0.00	4.92	1,463.31	731.65	1,496.32	749.27	15.10	-0.76	0.008
175.00	-1.90	-0.43	0.00	-2.37	0.00	2.37	1,402.77	701.38	1,367.98	685.01	15.90	-0.77	0.005
179.00	-1.58	-0.31	0.00	-0.31	0.00	0.31	1,348.83	674.42	1,264.28	633.08	16.55	-0.77	0.002
180.00	0.00	-0.29	0.00	0.00	0.00	0.00	1,335.35	667.67	1,238.99	620.42	16.71	-0.77	0.000

Pole : 310972
 Location : Waterford Rebuild CT, CT
 Height : 180.0 (ft)
 Base Dia : 62.45 (in)
 Top Dia : 22.90 (in)
 Shape : 18 Sides
 Taper : 0.228740 (in/ft)

Code: ANSI/TIA-222 Rev G
 Struct Class : II
 Exposure Category : B
 Topographic Category : 1
 Base Elev : 0.000 (ft)

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Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.6W	39.41	0.00	60.43	0.00	0.00	4681.18	0.00	0.65
0.9D + 1.6W	39.39	0.00	45.31	0.00	0.00	4635.97	0.00	0.65
1.2D + 1.0Di + 1.0Wi	7.64	0.00	84.89	0.00	0.00	900.24	0.00	0.14
1.0D + 1.0W	6.16	0.00	50.40	0.00	0.00	727.43	0.00	0.11

Base/Flange Plate	Plate Type	Baseplate
	Pole Diameter	62.45 in
	Pole Thickness	0.4375 in
	Plate Diameter	75 in
	Plate Thickness	2.75 in
	Plate Fy	60 ksi
	Weld Length	0.3125 in
	ϕ_s Resistance	1001.50 k-in
	Applied	273.53 k-in
Stiffeners	#	0

Code Rev. **G**
1.00
 Moment **4681.2 k-ft**
 Axial **60.4 k**

Date **12/6/2013**
 Engineer **CCP**
 Site # **310972**
 Carrier **T-Mobile**

Bolts	#	20
	Bolt Circle (R)adial / (S)quare	69 in R
	Diameter	2.25 in
	Hole Diameter	2.625 in
	Type	A615-75
	Fy	75 ksi
	Fu	100 ksi
	ϕ_s Resistance	259.82 k
	Applied	165.77 k
Reinforcement	#	0
	#	0
Extra Bolts O	#	0

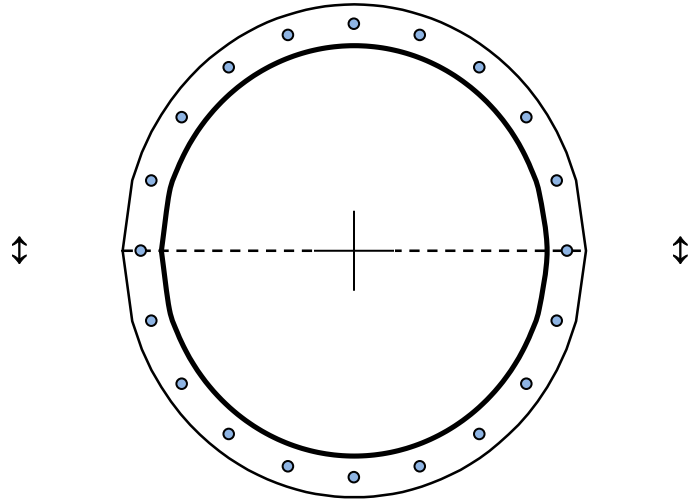


Plate Stress Ratio:
0.27 (Pass)

Bolt Stress Ratio:
0.64 (Pass)

Base/Flange Plate	Plate Type	Flange @ 148.6 ft
	Pole Diameter	30.08 in
	Pole Thickness	0.25 in
	Plate Diameter	37.5 in
	Plate Thickness	2 in
	Plate Fy	50 ksi
	Weld Length	0.3125 in
	Allowable	177.19 k-in
	Applied	17.92 k-in
	Stiffeners	#

Code Rev. **G**

Date **12/6/2013**
 Engineer **CCP**
 Site # **310972**
 Carrier **T-Mobile**

Moment **233.2 k-ft**
 Axial **9.6 k**

Required Flange Thickness:
0.64 in OK

Bolts	#	24
	Bolt Circle	34.5 in
	(R)adial / (S)quare	R
	Diameter	1 in
	Hole Diameter	1.0625 in
	Type	A325
	Fy	92 ksi
	Fu	120 ksi
	Allowable	54.52 k
	Applied	13.11 k
Reinforcement	#	0
Extra Bolts O	#	0

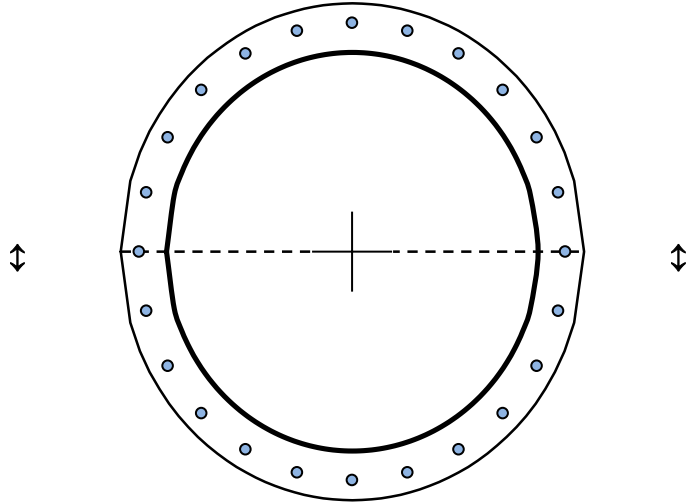


Plate Stress Ratio:
0.10 (Pass)

Bolt Stress Ratio:
0.24 (Pass)