

**METROPCS MASSACHUSETTS, LLC NOTICE OF INTENT TO MODIFY
AN EXISTING TELECOMMUNICATIONS FACILITY AT
100 OLD REDDING ROAD, REDDING, CONNECTICUT**

Pursuant to the Public Utility Environmental Standards Act, Connecticut General Statutes § 16-50g et. Seq. (“PUESA”), and Sections 16-50j-72(b) and 16-50j-73 of the Regulations of Connecticut State Agencies (“R.C.S.A”) adopted pursuant to the PUESA, Metro PCS, Inc., by and through its agent MetroPCS Massachusetts, LLC (“MetroPCS”) and as successor in interest to Pocket Communications hereby notifies the Connecticut Siting Council of its intent to modify an existing facility located at 100 Old Redding Road, Redding, Connecticut. The telecommunications facility is owned by Robert J. Kaufman and leased to MetroPCS.

MetroPCS’ Proposed Wireless Modifications

MetroPCS as successor in interest to Pocket Communications achieved an initial exempt modification approval from the Siting Council to install antennas and related ground equipment on October 13, 2009. The facility consists of a one hundred and eighty two (182’) foot high self-supporting telecommunications tower (the “Tower”) within a fenced compound. MetroPCS now intends to modify the facility as shown on the enclosed plans prepared by Advanced Engineering Group and annexed hereto as Exhibit 1. The modifications will consist of removing three (3) existing antennas and replacing with six (6) new antennas at an AGL of approximately 140’ and adding one (1) 1 5/8” hybridflex cable. One (1) GPS unit to be added to the outside of the equipment shelter. A structural analysis has been completed for the site. Please see report attached in exhibit 3.

In accordance with R.C.S.A Section 16-50j-73, a copy of this submission is being sent to the Town of Redding. A copy of this submission is also being sent to Robert J. Kaufman, the property owner on which the tower is located.

MetroPCS’ Proposed Wireless Modifications Constitutes An “Exempt Modification”

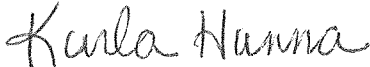
The proposed modification to the Redding, CT Facility constitutes an exempt modification of an existing facility provided for in R.C.S.A Section 16-50j-72(b)(2) and Council regulations promulgated pursuant thereto.

- 1) The proposed modifications will be to swap the existing MetroPCS antennas at the same AGL of approximately 140’ and will not result in an increase in the height of the existing tower.
- 2) The proposed modifications will not require expansion of the site boundaries.
- 3) The proposed modifications will not increase noise levels at the facility by six decibels or more.
- 4) MetroPCS’ proposed facility will not increase the cumulative radio frequency electromagnetic radiation power density at the Tower site’s boundary to or above the standard adopted by the Connecticut Department of Environmental Protection as set

forth in Section 22a-162 of the Connecticut General Statutes and MPE limits established by the Federal Communications Commission. A cumulative General Power Density table for MetroPCS' proposed modified facility is included as Exhibit 2.

For all the foregoing reasons, MetroPCS' respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A Section 16-50j-72(b)(2)

Respectfully submitted,



Karla Hanna (978) 852-7520

On behalf of MetroPCS Massachusetts, LLC
c/o Tower Resource Management, Inc.
16 Chestnut Street, Suite 220
Foxboro, MA 02035

cc: **Town of Redding, CT**
Robert J. Kaufman

Exhibit 1

Site Plan

PROJECT INFORMATION

SCOPE OF WORK: UNMANNED TELECOMMUNICATIONS FACILITY MODIFICATIONS
 SITE ADDRESS: 100 OLD REDDING ROAD
 REDDING, CT 06896
 LATITUDE: 41.28709444
 LONGITUDE: -73.43816111
 JURISDICTION: NATIONAL, STATE & LOCAL CODES OR ORDINANCES
 CURRENT USE: TELECOMMUNICATIONS FACILITY
 PROPOSED USE: TELECOMMUNICATIONS FACILITY
 DESIGN GUIDELINE: 5A

SITE NAME: ATC REDDING LATTICE TOWER

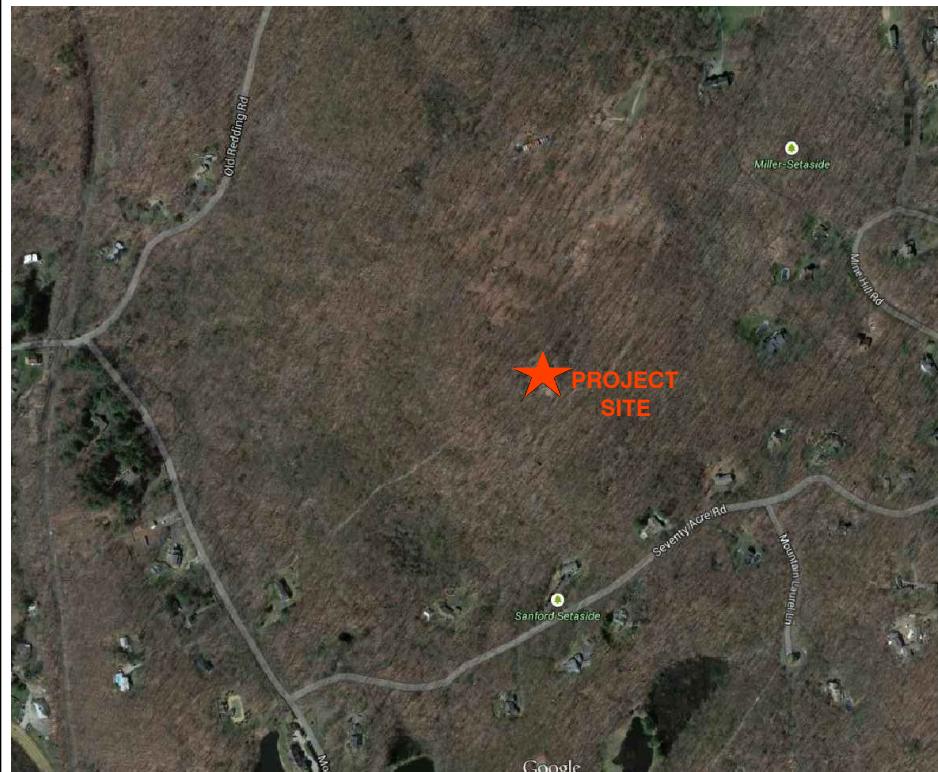
100 OLD REDDING ROAD
 REDDING, CT 06896
 FAIRFIELD COUNTY
 SITE NUMBER: NY6305A
 (CTFF749)

DRAWING INDEX

REV

T-1	TITLE SHEET	1
GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLAN	1
A-2	ELEVATION & ANTENNA PLAN	1
A-3	DETAILS	1
G-1	GROUNDING, ONE-LINE DIAGRAM & DETAILS	1

LOCUS MAP

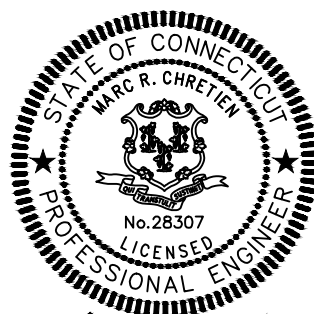


GENERAL NOTES

- THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE NORTHEAST, LLC. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
- THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
- CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE T-MOBILE REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SIGNATURES

CONSTRUCTION	DATE	OPERATIONS	DATE
RF ENGINEERING	DATE	LAND OWNER	DATE
ZONING / SITE ACQ.	DATE		



Marc R. Chretien



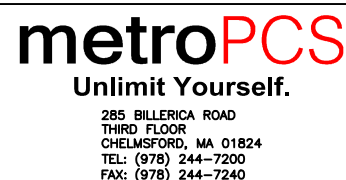
CALL



BEFORE YOU DIG

CALL TOLL FREE 811 OR 888-DIG-SAFE

UNDERGROUND SERVICE ALERT



SITE NUMBER: NY6305A
SITE NAME: ATC REDDING LATTICE TOWER
 100 OLD REDDING ROAD
 REDDING, CT 06896
 FAIRFIELD COUNTY

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	08/12/14	ISSUED FOR CONSTRUCTION	JTG	SNA	SNA
0	07/21/14	ISSUED FOR REVIEW	JTG	SNA	SNA

SCALE: AS SHOWN DESIGNED BY: SNA DRAWN BY: JTG

MetroPCS

TITLE SHEET

JOB NUMBER	DRAWING NUMBER	REV
NY6305A	T-1	1

GENERAL NOTES

1. 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.

2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT 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.

3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE LESEE/LICENSEE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.

4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.

5. 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.

6. 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.

7. 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.

8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.

9. 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 THE CONTRACT.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.

12. 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.

13. 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 THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.

14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.

15. THE CONTRACTOR SHALL NOTIFY THE LESEE/LICENSEE 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 LESEE/LICENSEE REPRESENTATIVE.

16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.

17. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL THE FOLLOWING FOR ALL PRE-CONSTRUCTION NOTIFICATION 72-HOURS PRIOR TO ANY EXCAVATION ACTIVITY: DIG SAFE SYSTEM (MA, ME, NH, RI, VT): 1-888-344-7233 CALL BEFORE YOU DIG (CT): 1-800-922-4455

18. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS SHOWN HEREIN.

19. ALL DIMENSIONS SHOWN THUS ± ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WHICH EFFECT THE CONTRACTORS WORK. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH PROJECT OWNER PRIOR TO CONSTRUCTION.

20. NORTH ARROW SHOWN ON PLANS REFERS TO APPROXIMATE TRUE NORTH. PRIOR TO THE START OF CONSTRUCTION, ORDERING OR FABRICATING OF ANTENNA MOUNTS, CONTRACTOR SHALL CONSULT WITH PROJECT OWNER'S RF ENGINEER AND FIELD VERIFY ALL ANTENNA SECTOR LOCATIONS AND ANTENNA AZIMUTHS.

21. THE CONTRACTOR AND OR HIS SUB CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.

22. ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES AND SUPPORT STRUCTURES.

23. COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE PROJECT OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF PROJECT OWNER SUPPLIED MATERIALS IS ATTACHED TO THE BID DOCUMENTS (SEE EXHIBIT 3). ALL OTHER HARDWARE TO BE PROVIDED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.

24. WHEN "PAINT TO MATCH" IS SPECIFIED FOR ANTENNA CONCEALMENT, PAINT PRODUCT FOR ANTENNA RADOME SHALL BE SHERWIN WILLIAMS COROTHANE II. SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND PROJECT OWNER'S GUIDELINE'S.

25. COORDINATION, LAYOUT, AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

26. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.

27. ALL (E)ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.

28. ALL (E)INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF UTILITY COMPANY ENGINEERING. THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT, DRIVEWAY OR

29. GRAVEL, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED AND COVERED WITH MULCH UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN SOIL EROSION AND SEDIMENTATION CONTROLS AT ALL TIMES

30. DURING CONSTRUCTION. PER FCC MANDATE, ENHANCED EMERGENCY (E911) SERVICE IS REQUIRED TO MEET NATIONWIDE STANDARDS

31. FOR WIRELESS COMMUNICATIONS SYSTEMS. PROJECT OWNER'S IMPLEMENTATION REQUIRES DEPLOYMENT OF EQUIPMENT AND ANTENNAS GENERALLY DEPICTED ON THIS PLAN, ATTACHED TO OR MOUNTED IN CLOSE PROXIMITY TO THE BTS RADIO CABINETS. PROJECT OWNER RESERVES THE RIGHT TO MAKE REASONABLE MODIFICATIONS TO E911 EQUIPMENT AND LOCATION AS TECHNOLOGY EVOLVES TO MEET REQUIRED SPECIFICATIONS.

32. APPLICABLE BUILDING CODES: SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:

2009 INTERNATIONAL BUILDING CODE
2005 CT STATE BUILDING CODE
ELECTRICAL CODE: NEC 2014
LIGHTING CODE: NEC 2014

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:

AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.

2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.

3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.

4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.

5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.

6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.

7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION.

8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.

9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE AND GREENLEE CONDUIT MEASURING TAPE IN EACH INSTALLED TELCO CONDUIT.

10. WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.

11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.

12. PPC SUPPLIED BY PROJECT OWNER.

13. GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".

14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.

15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.

16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.

17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.

18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.

19. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TO EGB PLACED NEAR THE ANTENNA LOCATION.

20. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.

21. CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXISTING TOWER/ (E) MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.

22. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MAXIMUM RESISTANCE REQUIRED.

23. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.



Marc R. Chretien

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	(P)	PROPOSED/NEW	TBR	TO BE REMOVED
(E)	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE		
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED	TYP	TYPICAL
(F)	FUTURE				



SITE NUMBER: NY6305A
SITE NAME: ATC REDDING LATTICE TOWER
100 OLD REDDING ROAD
REDDING, CT 06896
FAIRFIELD COUNTY

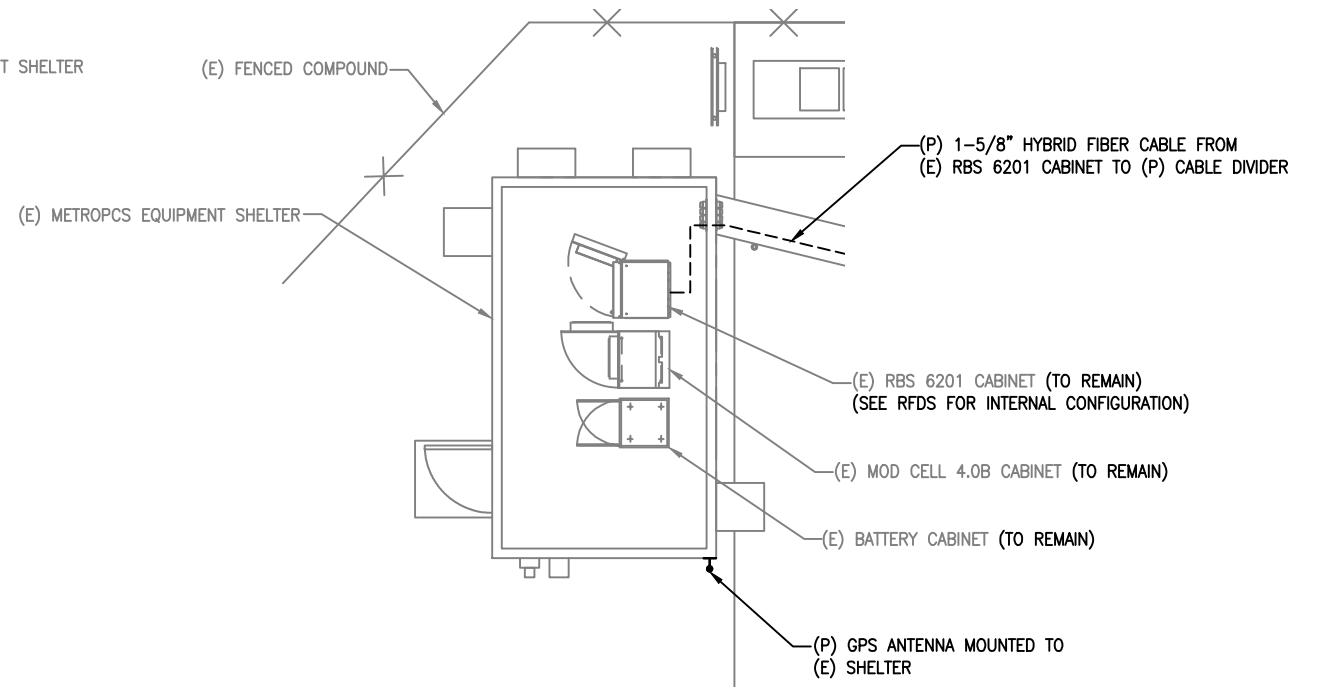
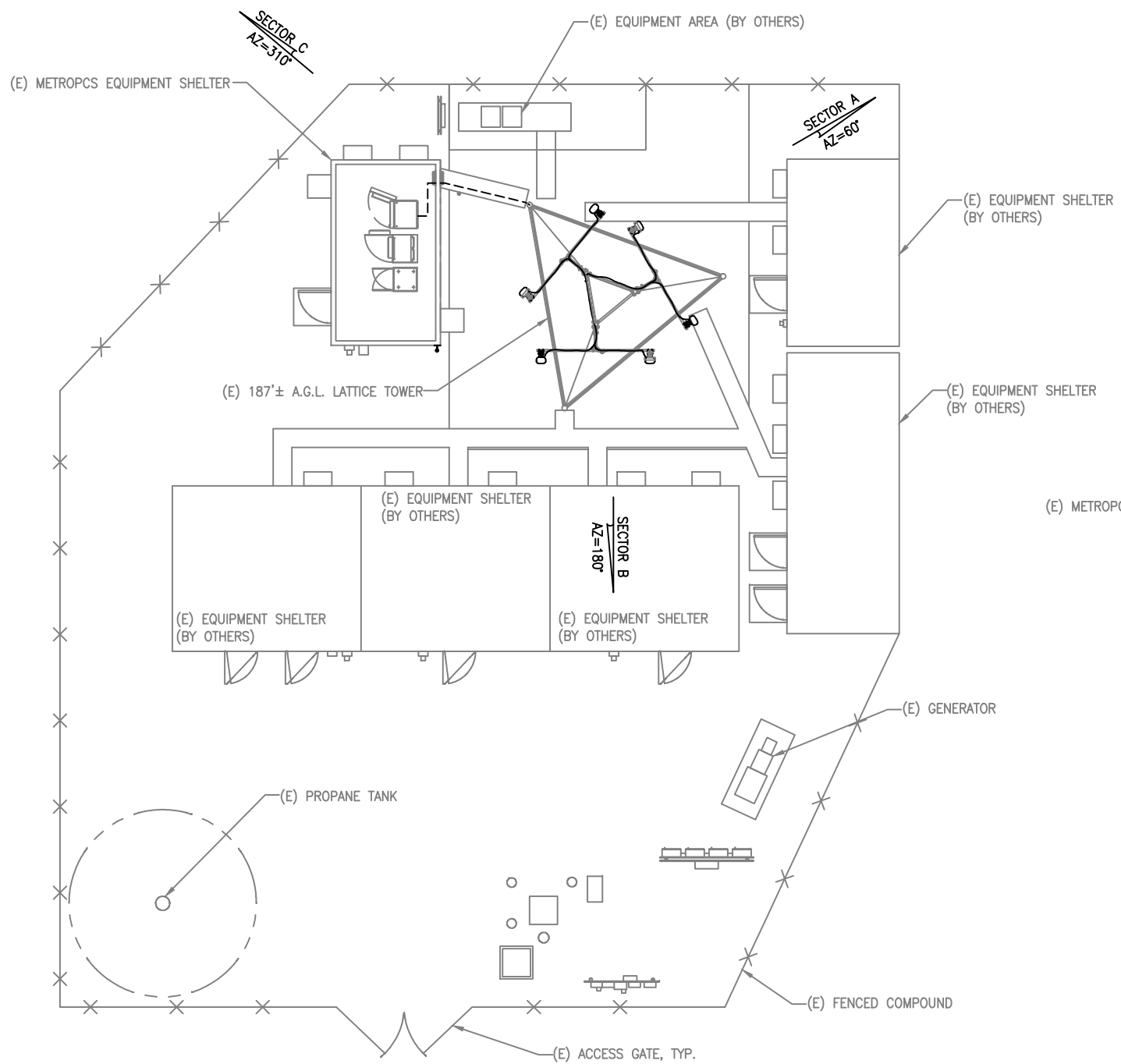
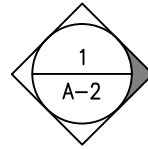
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NO.	DATE	REVISIONS	BY	CHK	APP'D
		SCALE: AS SHOWN	DESIGNED BY: SNA	DRAWN BY: JTG	

MetroPCS

GN-1

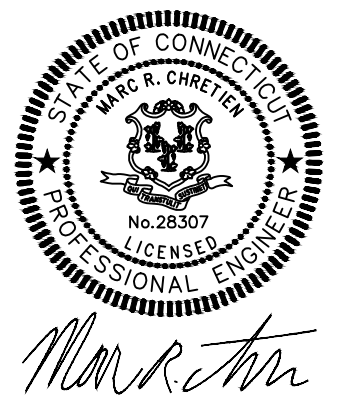
JOB NUMBER	DRAWING NUMBER	REV
NY6305A	GENERAL NOTES	1

- NOTE:
1. A SITE VISIT/SURVEY WAS NOT CONDUCTED BY ADVANCED ENGINEERING GROUP, P.C. SITE INFORMATION AND PLANS ARE BASED UPON INFORMATION PROVIDED BY CLIENT
 2. AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE CONDUCTED PRIOR TO CONSTRUCTION (BY OTHERS.) AEG HAS NOT CONDUCTED A STRUCTURAL ANALYSIS.



EQUIPMENT PLAN 2
SCALE: 1"=5'-0"
0' 2.5' 5' 10'

COMPOUND PLAN 1
SCALE: 1"=16'-0"
0' 8' 16' 32'



EG ADVANCED
ENGINEERING GROUP, P.C.
Civil Engineering - Site Development Surveying - Telecommunications
500 NORTH BROADWAY EAST PROVIDENCE, RI 02914
PH: (401) 354-2403
FAX: (401) 633-6354

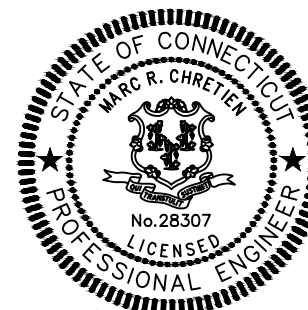
metroPCS
Unlimit Yourself.
285 BILLERICA ROAD
THIRD FLOOR
CHELMSFORD, MA 01824
TEL: (978) 244-7200
FAX: (978) 244-7240

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MetroPCS
COMPOUND & EQUIPMENT PLAN

JOB NUMBER	DRAWING NUMBER	REV
NY6305A	A-1	1



Marc R. Chretien

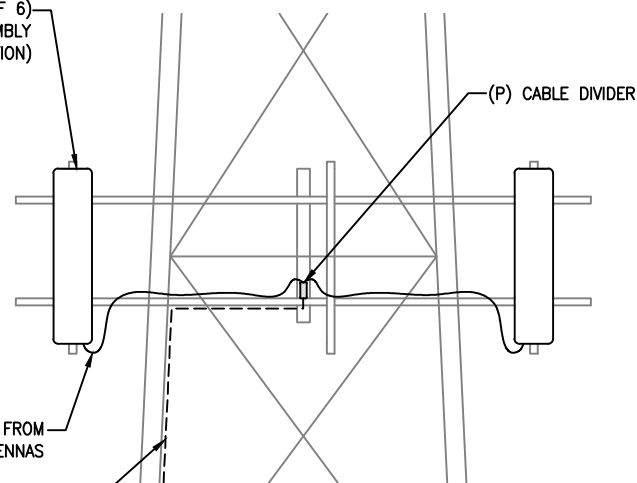
EXISTING ANTENNA SCHEDULE

SECTOR	MAKE	MODEL#	SIZE (INCHES)
SECTOR A:	RFS	APXV18-206517S	6.65x3.15x72
SECTOR B:	RFS	APXV18-206517S	6.65x3.15x72
SECTOR C:	RFS	APXV18-206517S	6.65x3.15x72

PROPOSED ANTENNA SCHEDULE

SECTOR	MAKE	MODEL#	SIZE (INCHES)
SECTOR A:	ERICSSON	AIR21 B2A/B4P	12X8X56
	ERICSSON	AIR21 B4A/B2P	12X8X56
SECTOR B:	ERICSSON	AIR21 B2A/B4P	12X8X56
	ERICSSON	AIR21 B4A/B2P	12X8X56
SECTOR C:	ERICSSON	AIR21 B2A/B4P	12X8X56
	ERICSSON	AIR21 B4A/B2P	12X8X56

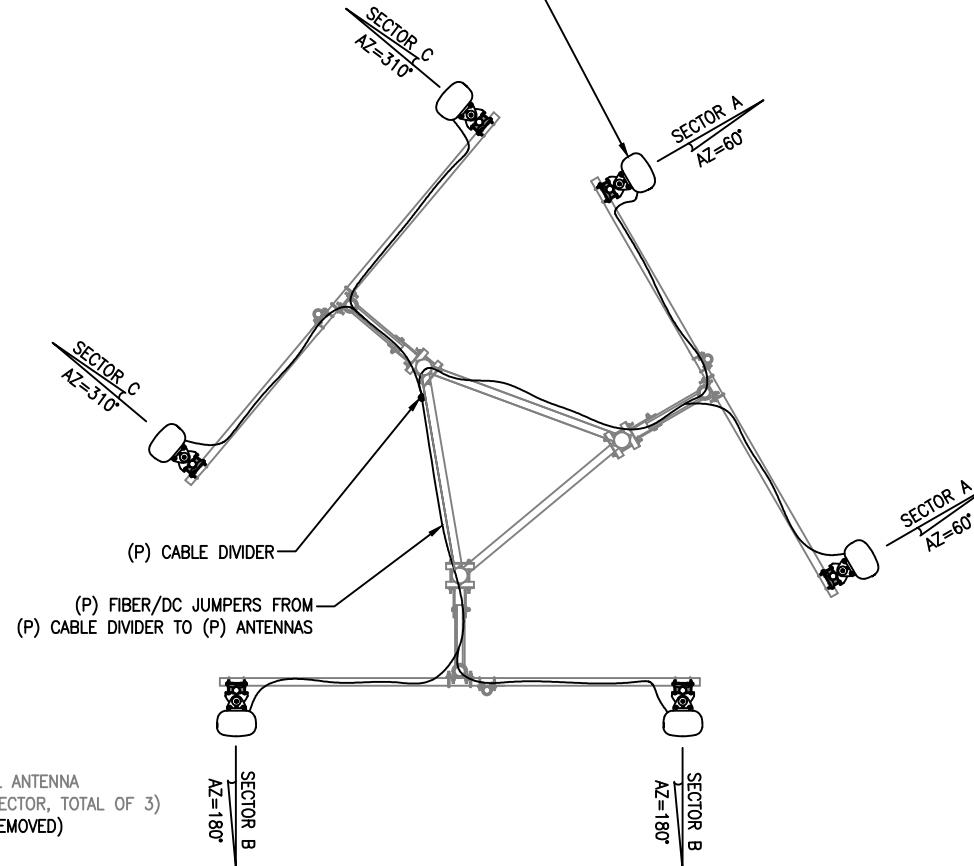
(P) AIR21 ANTENNAS (2 PER SECTOR, TOTAL OF 6) MOUNTED TO (E) ANTENNA MOUNT ASSEMBLY (SEE RFDS FOR FINAL EQUIPMENT CONFIGURATION)



ENLARGED ELEVATION

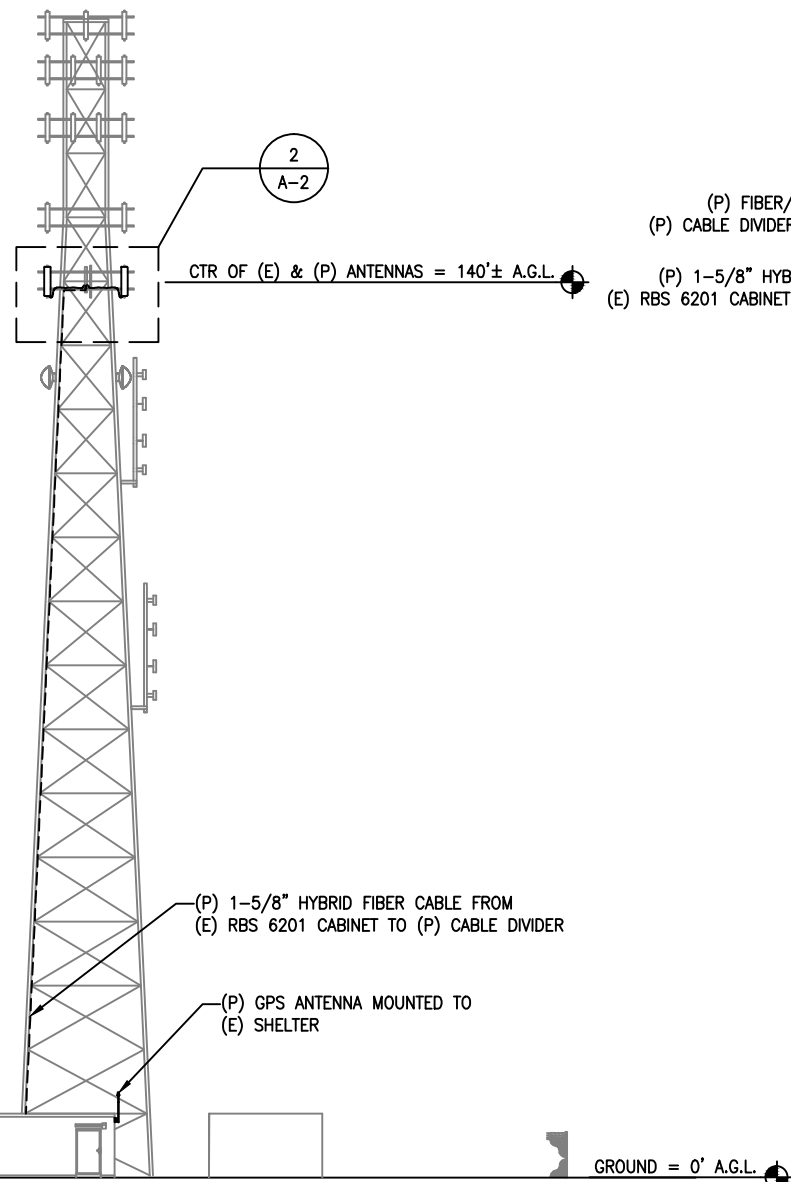
SCALE: 1"=5'-0"

(P) AIR21 ANTENNAS (2 PER SECTOR, TOTAL OF 6) MOUNTED TO (E) ANTENNA MOUNT ASSEMBLY (SEE RFDS FOR FINAL EQUIPMENT CONFIGURATION)



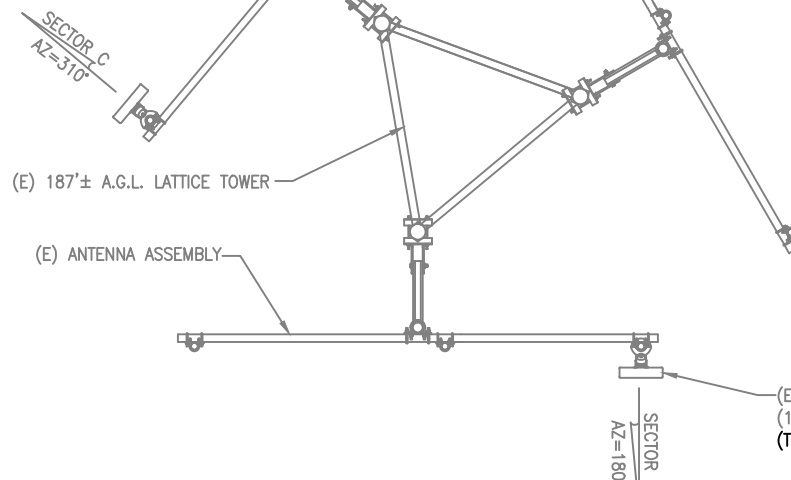
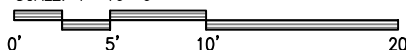
PROPOSED ANTENNA PLAN

SCALE: N.T.S.



ELEVATION

SCALE: 1"=10'-0"



EXISTING ANTENNA PLAN

SCALE: N.T.S.



metroPCS
Unlimit Yourself.
285 BILLERICA ROAD
THIRD FLOOR
CHELMSFORD, MA 01824
TEL: (978) 244-7200
FAX: (978) 244-7240

SITE NUMBER: NY6305A
SITE NAME: ATC REDDING LATTICE TOWER
100 OLD REDDING ROAD
REDDING, CT 06896
FAIRFIELD COUNTY

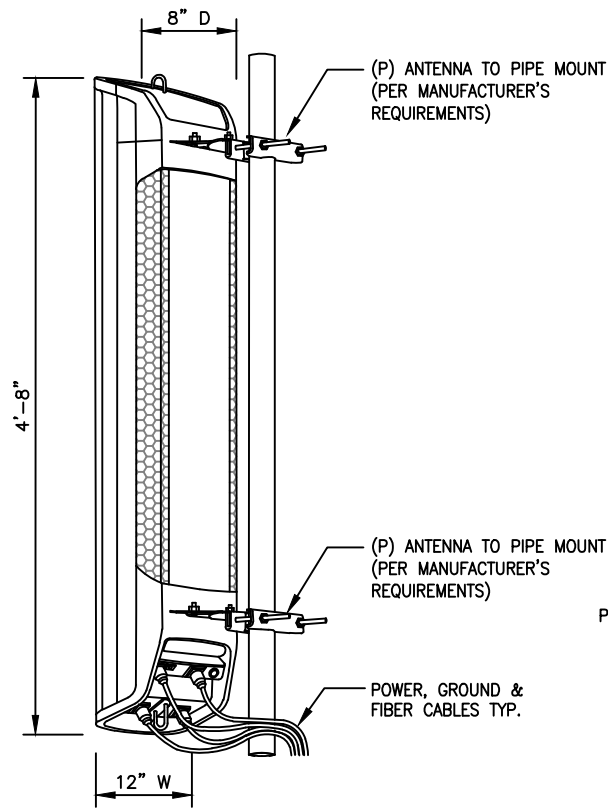
NO.	DATE	REVISIONS	BY	CHK	APP'D
1	08/12/14	ISSUED FOR CONSTRUCTION	JTG	SNA	SNA
0	07/21/14	ISSUED FOR REVIEW	JTG	SNA	SNA

SCALE: AS SHOWN DESIGNED BY: SNA DRAWN BY: JTG

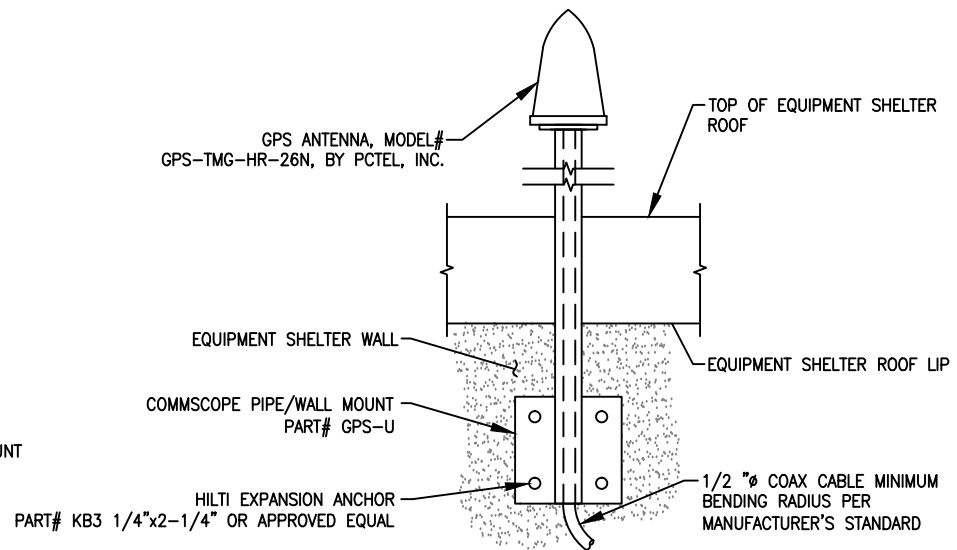
MetroPCS

ELEVATION & ANTENNA PLAN

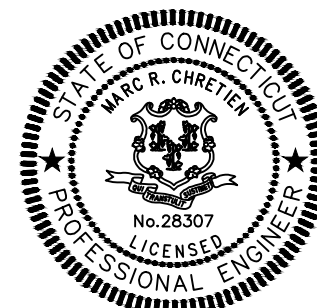
JOB NUMBER	DRAWING NUMBER	REV
NY6305A	A-2	1



AIR21 ANTENNA TYP. 1
A-3
SCALE: N.T.S.



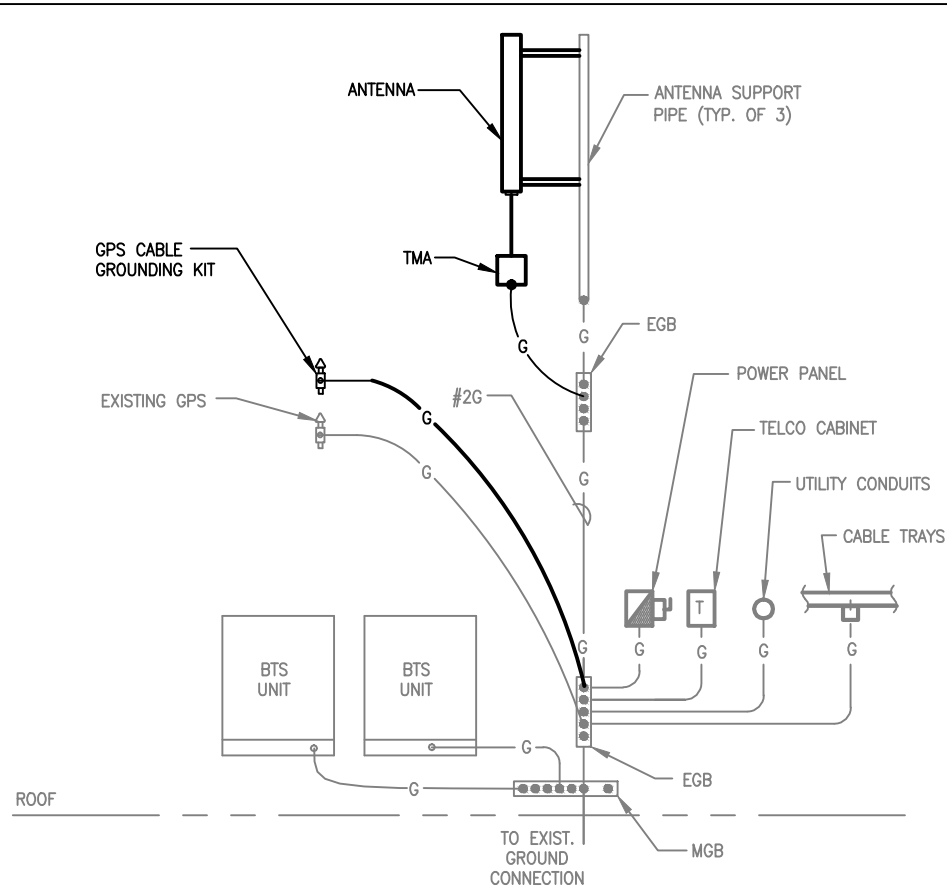
GPS ANTENNA DETAIL 2
A-3
SCALE: N.T.S.



Marc R. Chretien

1	08/12/14	ISSUED FOR CONSTRUCTION	JTG	SNA	SNA
0	07/21/14	ISSUED FOR REVIEW	JTG	SNA	SNA
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BY: SNA	DRAWN BY: JTG		

MetroPCS		
DETAILS		
JOB NUMBER	DRAWING NUMBER	REV
NY6305A	A-3	1



GROUNDING RISER DIAGRAM
SCALE: N.T.S.

1
G-1

NOTE:
1. A SITE VISIT/SURVEY WAS NOT CONDUCTED BY ADVANCED ENGINEERING GROUP, P.C. SITE INFORMATION AND PLANS ARE BASED UPON INFORMATION PROVIDED BY CLIENT CONTRACTOR TO VERIFY IN FIELD

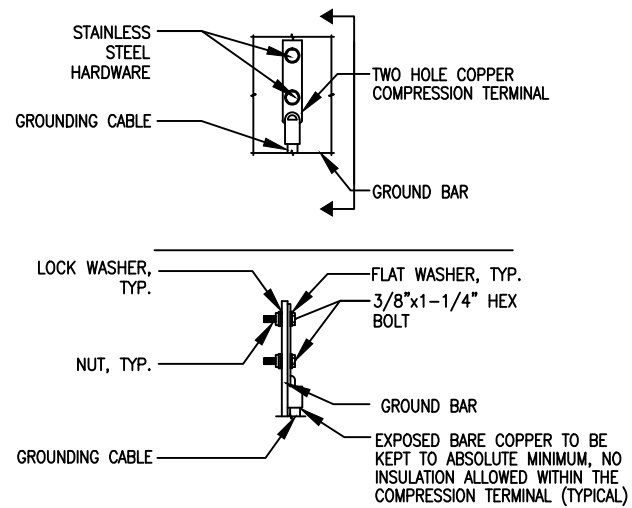


Marc R. Chretien

HYBRID CABLE CONNECTION & GROUNDING DETAIL

SCALE: N.T.S.

4
G-1

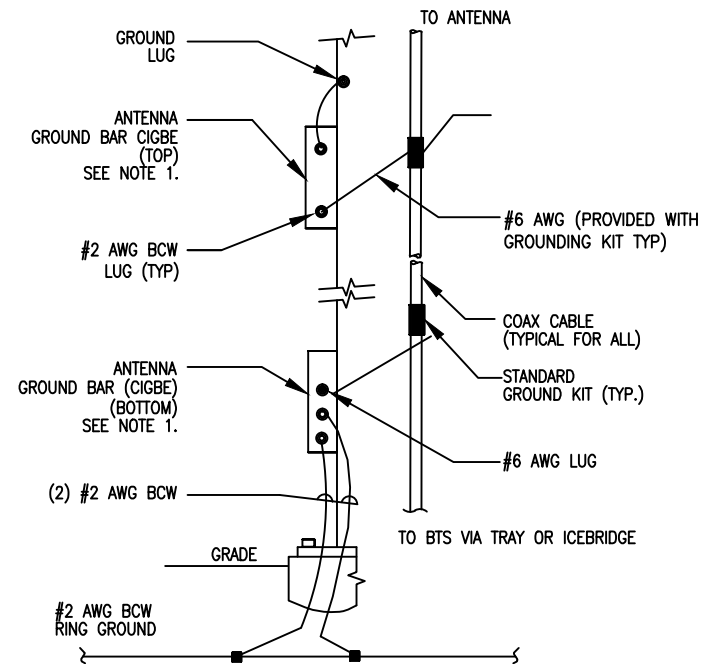


- NOTES:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.
4. ALL GROUND LUGS MUST BE HEAT SHRUNK AT WIRE/LUG CONNECTION

TYP. GROUND BAR CONNECTION DETAIL

SCALE: N.T.S.

2
G-1

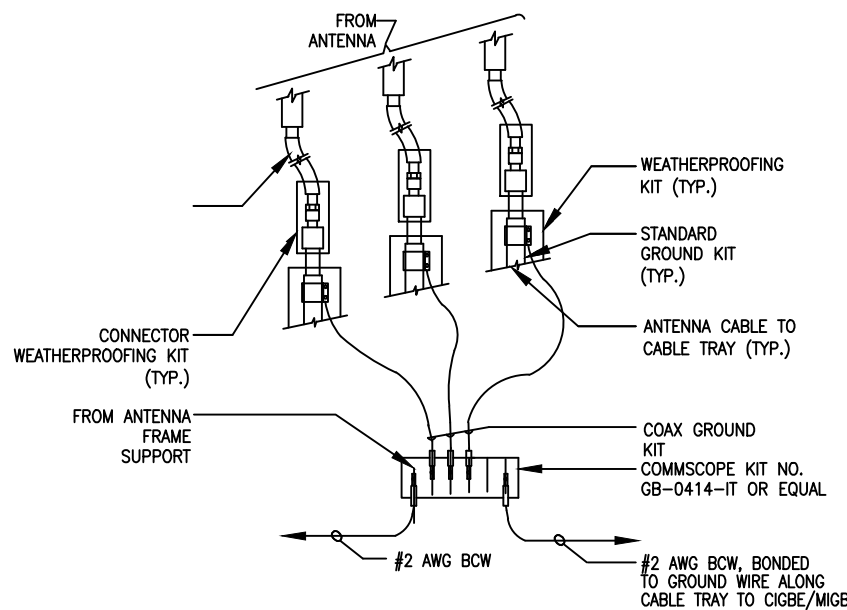


- NOTE:
1. NUMBER OF GROUND BARS MAY VARY DEPENDING ON THE TYPE OF TOWER. ANTENNA LOCATION AND CONNECTION ANTENNA LOCATION AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
2. A SEPARATE GROUND BAR TO BE USED FOR GPS ANTENNA IF REQUIRED.

ANTENNA CABLE GROUNDING

SCALE: N.T.S.

3
G-1

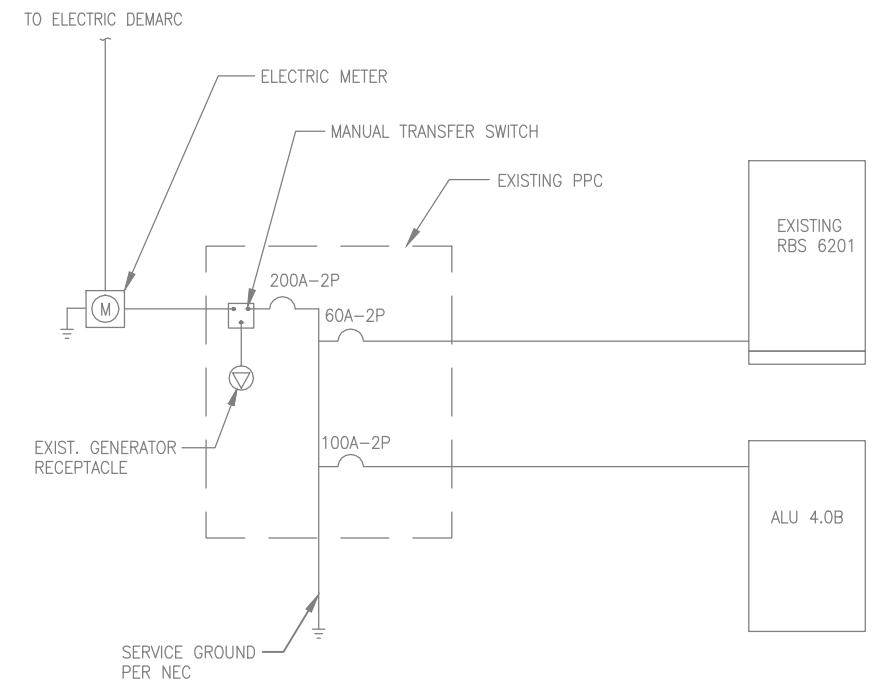


- NOTE:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

GROUND WIRE TO GROUND BAR CONNECTION DETAIL

SCALE: N.T.S.

5
G-1



ONE-LINE POWER DIAGRAM

SCALE: N.T.S.

6
G-1

HALF SIZE PRINT
THIS DRAWING IS SCALEABLE
AT TWICE THE NOTED SCALE

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	08/12/14	ISSUED FOR CONSTRUCTION	JTG	SNA	SNA
0	07/21/14	ISSUED FOR REVIEW	JTG	SNA	SNA

SCALE: AS SHOWN DESIGNED BY: SNA DRAWN BY: JTG

JOB NUMBER	DRAWING NUMBER	REV
NY6305A	G-1	1

Exhibit 2

Power Density Calculation

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

MetroPCS Existing Facility

Site ID: CTFF749A

ATC Redding Lattice Tower
100 Old Redding Road
Redding, CT 06896

September 1, 2014

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	36.44 %

September 1, 2014

MetroPCS USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Emissions Analysis for Site: **CTFF749A – ATC Redding Lattice Tower**

EBI Consulting was directed to analyze the proposed MetroPCS facility located at **100 Old Redding Road, Redding, CT**, for the purpose of determining whether the emissions from the Proposed MetroPCS 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 both 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 MetroPCS Wireless antenna facility located at **100 Old Redding Road, Redding, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since MetroPCS is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

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

- 1) 2 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel
- 2) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 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.

- 5) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 6) The antennas used in this modeling are the **Ericsson AIR21 B4A/B2P** for 1900 MHz (PCS) and 2100 MHz (AWS) channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR21 B4A/B2P** has a maximum gain of **15.9 dBd** at its main lobe. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antenna mounting height centerline of the proposed antennas is **140 feet** above ground level (AGL).
- 8) 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 calculations were done with respect to uncontrolled / general public threshold limits.

MetroPCS Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	140	Height (AGL):	140	Height (AGL):	140
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	2	Channel Count	2	# PCS Channels:	2
Total TX Power:	120	Total TX Power:	120	# AWS Channels:	120
ERP (W):	1,906.06	ERP (W):	1,906.06	ERP (W):	1,906.06
Antenna A1 MPE%	0.93	Antenna B1 MPE%	0.93	Antenna C1 MPE%	0.93
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P	Make / Model:	Ericsson AIR21 B4A/B2P
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	140	Height (AGL):	140	Height (AGL):	140
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power:	120	Total TX Power:	120	Total TX Power:	120
ERP (W):	1,906.06	ERP (W):	1,906.06	ERP (W):	1,906.06
Antenna A2 MPE%	0.93	Antenna B2 MPE%	0.93	Antenna C2 MPE%	0.93

Site Composite MPE %	
Carrier	MPE%
MetroPCS	5.61
AT&T	3.75 %
Verizon Wireless	16.06 %
Sprint	3.40 %
Nextel	2.31 %
State Police	0.01 %
DMV	0.02 %
CMED	0.01 %
FBI	5.27 %
Site Total MPE %:	36.44 %

MetroPCS Sector 1 Total:	1.87 %
MetroPCS Sector 2 Total:	1.87 %
MetroPCS Sector 3 Total:	1.87 %
Site Total:	36.44 %

Summary

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

The anticipated maximum composite contributions from the MetroPCS facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

MetroPCS Sector	Power Density Value (%)
Sector 1:	1.87 %
Sector 2:	1.87 %
Sector 3 :	1.87 %
MetroPCS Total:	5.61 %
Site Total:	36.44 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **36.44%** 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

Exhibit 3
Structural Calculations

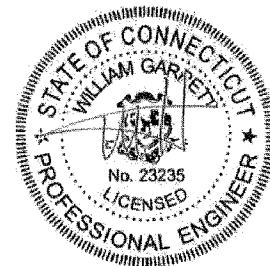


AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 180 ft Self Supported Tower
ATC Site Name : Redding, CT
ATC Site Number : 302522
Engineering Number : 59131321
Proposed Carrier : Metro PCS
Carrier Site Name : Redding
Carrier Site Number : CTFF749A
Site Location : Old Redding Road
West Redding, CT 06896-2702
41.287083,-73.438200
County : Fairfield
Date : June 17, 2014
Max Usage : 99%
Result : Pass

Morteza Ashouri



Jun 18 2014 9:40 AM



Table of Contents

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



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 180 ft self supported tower to reflect the change in loading by Metro PCS.

Supporting Documents

Tower Drawings	Rohn Drawing #C951762, dated December 26, 1995
Foundation Drawing	Rohn Drawing #A953313-1, dated January 1, 1996
Geotechnical Report	Soil Testing Job #591, december 26, 1995

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/EIA-222.

Basic Wind Speed:	85 mph (Fastest Mile)
Basic Wind Speed w/ Ice:	74 mph (Fastest Mile)w/ 1/2" radial ice concurrent
Code:	ANSI/TIA/EIA-222-F / 2003 IBC , Sec. 1609.1.1, Exception (5) & Sec. 3108.4 w/ 2005 CT Supplement & 2009 CT Amendment

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

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
180.0	182.0	3	Powerwave P65-16-XLH-RR	Sector Frames	(12) 1 1/4" Coax (2) 0.74" 8 AWG 7 (1) 0.28" RG6	AT&T Mobility
	180.0	6	Ericsson RRUS 11			
		1	Raycap DC6-48-60-18-8F			
		3	Powerwave TT19-08BP111-001			
		6	Powerwave LGP21401			
		6	Powerwave 7770.00			
172.0	173.0	3	Rymasa MGD3-800T0	Sector Frames	(12) 1 5/8" Coax (1) 1 5/8" Hybriflex	Verizon
	172.0	3	Andrew LNX-6514DS-VTM			
		1	RFS DB-T1-6Z-8AB-OZ			
		3	Andrew HBX-6517DS-VTM			
		1	Swedcom SWCP 2x7014			
		1	Antel BXA-70063/6CF			
		1	RFS APX75-866512-CT2			
		3	Alcatel-Lucent RRH2x40-AWS			
6	RFS FD9R6004/1C-3L					
164.0	164.0	12	Decibel DB844H90E-XY	Sector Frames	(12) 1 5/8" Coax	Sprint Nextel
154.0	157.0	3	Alcatel-Lucent 800MHz RRH	Sector Frames	(6) 1 5/8" Coax (3) 1 1/4" Hybriflex	
		3	Alcatel-Lucent 1900MHz 4x45 RRH			
		3	RFS APXVSP18-C-A20			
		6	Decibel DB980H90E-KL			
142.0	148.0	2	Scala OGT9-840	Side Arms	(4) 1 5/8" Coax (2) 3/8" Coax	Ct State Police
	142.0	2	TX RX 422-86A-99575-18R1			
	136.0	2	Scala OGT9-840			
140.0	142.5	1	Morad VHF 156-Deluxe	Sector Frames	(6) 1 5/8" Coax (1) 5/16" Coax (1) 1/2" Coax	Metro PCS
	140.0	6	Kathrein 860-10025			
136.0	136.0	-	-	Empty Side Arm	-	Unknown
135.0	135.0	1	24" x 24" Ice Shield	Leg	-	Ct State Police
134.0	134.0	1	24" x 24" Ice Shield	Leg	-	
131.0	137.0	1	Andrew DB810K-XT	Side Arms	(2) 1 5/8" Coax	
	125.0	1	Andrew DB810K-XT			
129.0	129.0	1	RFS PA6-65AC w/ Radome	Leg	(1) EW63	
128.0	128.0	1	RFS PA6-65AC w/ Radome	Leg	(1) EW63	
127.0	133.0	1	Sinclair SE419-SF3P4LDF	Side Arms	(2) 1 5/8" Coax (1) 3/8" Coax	
	127.0	1	Bird 432-83H-01-T			
	121.0	1	Sinclair SE419-SF3P4LDF			
126.0	126.0	-	-	Empty Side Arm	-	
119.5	119.5	-	-	Empty Side Arm	-	
118.0	120.5	1	Decibel DB586	Side Arms	(2) 7/8" Coax	Ct Light & Power
	115.5	1	Decibel DB586			
115.5	115.5	-	-	Empty Side Arm	-	Unknown
107.0	115.0	1	Sinclair SD210D	Side Arms	(2) 7/8" Coax	Ct Light & Power
90.0	90.0	1	PCTEL GPS-TMG-HR-26N	Standoff	(1) 1/2" Coax	Sprint Nextel
84.0	94.0	1	Andrew DB264-A	Standoff	(1) 7/8" Coax	Ct State Police
82.0	90.0	1	12' Omni	Standoff	(1) 7/8" Coax	Ct Dmv



Existing and Reserved Equipment - Continued

30.0	30.0	1	GPS	Leg	(1) 1/2" Coax	Verizon
------	------	---	-----	-----	---------------	---------

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
140.0	140.0	6	Kathrein 860-10025	-	(6) 1 5/8" Coax	Metro PCS
		3	Kathrein 800 10504			
		3	Kathrein 742 351			

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
140.0	140.0	3	Ericsson AIR 21, 1.3M, B2A B4P	Sector Frames	(1) 1 5/8" Hybriflex	Metro PCS
		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 alongside existing Metro PCS coax.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	99%	Pass
Diagonals	84%	Pass
Horizontals	33%	Pass
Anchor Bolts	58%	Pass
Leg Bolts	72%	Pass

Foundations

Reaction Component	Original Design Reactions	Analysis Reactions	% of Design
Uplift (Kips)	287.6	283.4	99%
Axial (Kips)	321.3	334.9	104%
Shear (Kips)	56.4	55.7	99%

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, Twist and Sway*

Antenna Elevation (ft)	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
140.0	0.322	0.065	0.272

*Deflection, Twist and Sway was evaluated considering a design wind speed of 50 mph (Fastest Mile) per ANSI/TIA/EIA-222-F.



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.

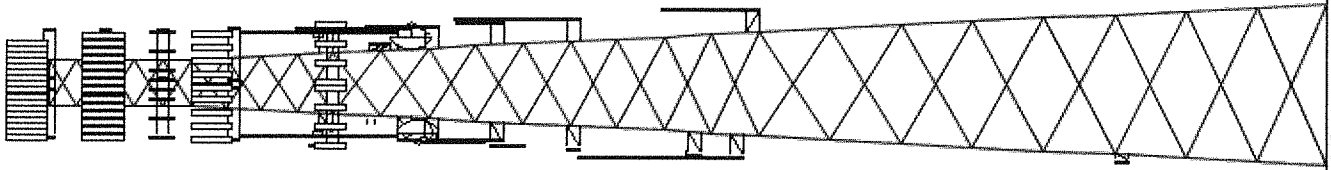
All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Tower Services, Inc. is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

Job Information

Tower : 302522 Location : Redding, CT
 Code : TIA/EIA-222 Rev F Shape : Triangle
 Client : Metro PCS Inc Base Width : 23.00 ft
 Top Width : 6.65 ft

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Loads: 85 mph no ice
 74 mph w/ 1/2" radial ice
 50 mph no ice



Section	Leg Members	Diagonal Members	Horizontal Members
1	PSP 50 ksi ROHN 8 EHS	SAE 50 ksi 4X4X0.3125	
2	PSP 50 ksi ROHN 8 EHS	SAE 50 ksi 4X4X0.25	
3	PX 50 ksi 6" DIA PIPE	SAE 50 ksi 4X4X0.25	
4	PX 50 ksi 6" DIA PIPE	SAE 50 ksi 3.5X3.5X0.25	
5 - 6	PSP 50 ksi ROHN 5 EH	SAE 50 ksi 3X3X0.25	
7	PX 50 ksi 4" DIA PIPE	SAE 50 ksi 2.5X2.5X0.25	SAE 36 ksi 1.75X1.75X0.1875
8	PST 50 ksi 3" DIA PIPE	SAE 50 ksi 2X2X0.25	SAE 36 ksi 1.75X1.75X0.1875
9	PST 50 ksi 2-1/2" DIA PIPE	SAE 50 ksi 1.75X1.75X0.1875	SAE 36 ksi 1.75X1.75X0.1875

Discrete Appurtenance

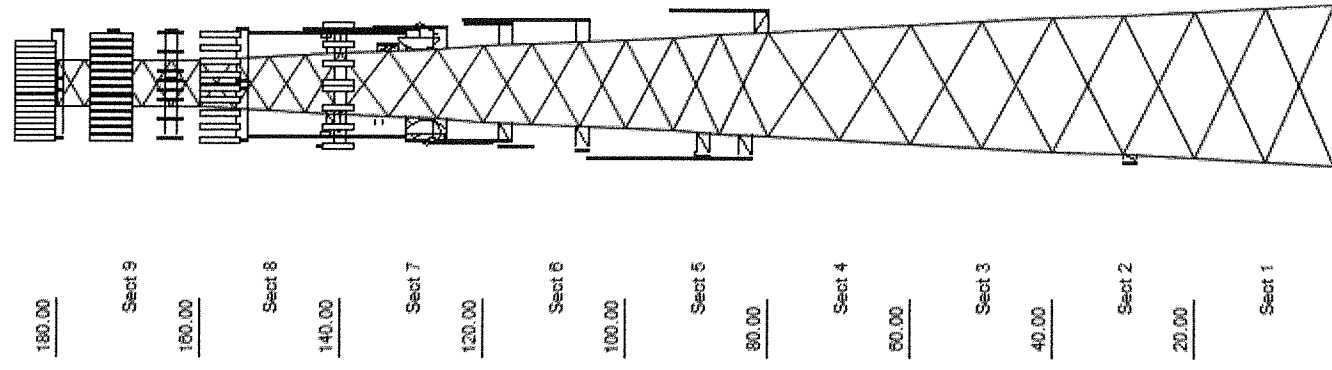
Elev (ft)	Type	Qty	Description
180.00	Panel	3	Powerwave P65-16-XLH-RR
180.00	Panel	6	Ericsson RRUS 11
180.00	Panel	1	Raycap DC6-48-60-18-8F
180.00	Panel	3	Powerwave TT19-08BP111-001
180.00	Panel	6	Powerwave LGP21401
180.00	Panel	6	Powerwave 7770.00
180.00	Mounting Frame	3	Round Sector Frame
172.00	Panel	3	Andrew LNX-6514DS-VTM
172.00	Panel	1	RFS DB-T1-62-8AB-0Z
172.00	Panel	3	Andrew HBX-6517DS-VTM
172.00	Panel	1	Swedcom SWCP 2x7014
172.00	Panel	1	Antel BXA-70063/6CF
172.00	Mounting Frame	3	Round Sector Frame
172.00	Panel	1	RFS APX75-866512-CT2
172.00	Panel	3	Alcatel-Lucent RRH2x40-AWS
172.00	Panel	6	RFS FD9R6004/1C-3L
172.00	Panel	3	Rymasa MGD3-800T0
164.00	Panel	12	Decibel DB844H90E-XY
164.00	Mounting Frame	3	Round Sector Frame
154.00	Panel	3	Alcatel-Lucent 800 MHz RRH
154.00	Panel	3	Alcatel-Lucent 1900 MHz RRH 4x45 R
154.00	Panel	3	RFS APXVSP18-C-A20
154.00	Mounting Frame	3	Round Sector Frame
154.00	Panel	6	Decibel DB980H90E-KL
142.00	Whip	2	Scala OG19-840
142.00	Straight Arm	2	TX RX 422-36A-99575-18R1
142.00	Panel	2	Scala OG19-840
140.00	Whip	3	Ericsson AIR 21, 1.3M, B2A B4P
140.00	Panel	3	Ericsson AIR 21, 1.3M, B4A B2P
140.00	Whip	1	Morad VHF 156-Deluxe
140.00	Panel	6	Kathrein 860-10025
140.00	Mounting Frame	3	Round Sector Frame
136.00	Straight Arm	1	Empty Side Arm
135.00	Panel	1	24" x 24" Ice Shield
134.00	Panel	1	24" x 24" Ice Shield
131.00	Whip	1	Andrew DB810K-XT
131.00	Straight Arm	2	Round Side Arm
131.00	Whip	1	Andrew DB810K-XT
129.00	Dish	1	RFS PA6-65AC w/ Radome
128.00	Dish	1	RFS PA6-65AC w/ Radome
127.00	Whip	1	Sinclair SE419-SF3P4LDF
127.00	Panel	1	Bird 432-83H-01-T
127.00	Whip	1	Sinclair SE419-SF3P4LDF
126.00	Straight Arm	2	Round Side Arm
119.50	Straight Arm	1	Empty Side Arm
118.00	Whip	1	Decibel DB586
118.00	Straight Arm	2	Round Side Arm
118.00	Whip	1	Decibel DB586

Uplift 283.44 k Moment 8,188.57 k-Moment Ice 6,143.50 k-ft
 Vert 334.94 k Tot Down Ice 79.54 k
 Horiz 24.41 k Tot Shear Ice 54.76 k

Job Information

Tower : 302522 Location : Redding, CT Base Width : 23.00 ft
 Code : TIA/EIA-222 Rev F Shape : Triangle Top Width : 6.65 ft
 Client : Metro PCS Inc

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Elev (ft)	From	To	Qty	Description
115.50	115.50	107.00	1	Empty Side Arm
107.00	107.00	107.00	1	Sinclair SD210D
107.00	107.00	90.00	2	Side Arm
90.00	90.00	90.00	1	Standoff
90.00	90.00	84.00	1	Panel
84.00	84.00	84.00	1	PCTEL GPS-TMG-HR-26N
84.00	84.00	82.00	1	Andrew DB264-A
82.00	82.00	82.00	1	Standoff
82.00	82.00	82.00	1	12' Omni
82.00	82.00	82.00	1	Standoff
30.00	30.00	30.00	1	GPS

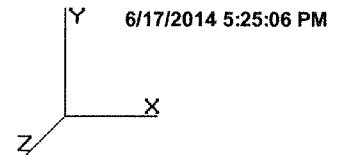
Linear Appurtenance

Elev (ft)	From	To	Qty	Description
0.000	180.00	180.00	1	Wave Guide
0.000	180.00	180.00	12	1 1/4" Coax
0.000	180.00	180.00	2	0.74" 8 ANG 7
0.000	180.00	180.00	1	0.28" RG6
0.000	172.00	172.00	1	Wave Guide
0.000	172.00	172.00	1	1 5/8" Hybriflex
0.000	172.00	172.00	12	1 5/8" Coax
0.000	164.00	164.00	1	Wave Guide
0.000	164.00	164.00	12	1 5/8" Coax
0.000	154.00	154.00	4	1 5/8" Coax
0.000	154.00	154.00	2	1 5/8" Coax
0.000	154.00	154.00	2	1 1/4" Hybriflex
0.000	142.00	142.00	2	3/8" Coax
0.000	142.00	142.00	4	1 5/8" Coax
0.000	140.00	140.00	1	Wave Guide
0.000	140.00	140.00	1	Wave Guide
0.000	140.00	140.00	1	5/16" Coax
0.000	140.00	140.00	1	1/2" Coax
0.000	140.00	140.00	1	1 5/8" Hybriflex
0.000	140.00	140.00	6	1 5/8" Coax
0.000	131.00	129.00	2	1 5/8" Coax
0.000	129.00	129.00	1	EW63
0.000	128.00	128.00	1	EW63
0.000	127.00	127.00	1	3/8" Coax
0.000	127.00	127.00	2	1 5/8" Coax
0.000	118.00	118.00	2	7/8" Coax
0.000	107.00	107.00	2	7/8" Coax
0.000	90.000	90.000	1	1/2" Coax
0.000	84.000	84.000	1	7/8" Coax
0.000	82.000	82.000	1	7/8" Coax
0.000	30.000	30.000	1	1/2" Coax

Uplift 283.44 k Moment 6,188.97 k-Moment Ice 6,143.60 k-ft
 Vert 334.54 k Tot Down 46.87 k Tot Down Ice 79.54 k
 Horiz 34.41 k Tot Shear 55.66 k Tot Shear Ice 54.76 k

Site Number: 302522
 Location: Redding, CT

Code: TIA/EIA-222 Rev F



Gh : 1.12

Section Forces

LoadCase Normal No Ice 85.00 mph Wind Normal To Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Height (ft)	Wind qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Ice Weight (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
9	170.0	29.55	14.42	43.51	0.00	0.43	2.00	1.00	1.00	0.67	43.40	0.00	0.00	1,444.5	0.0	2,874.42	0.00	2,874.42	2
8	150.0	28.51	17.81	55.91	0.00	0.48	1.93	1.00	1.00	0.69	56.17	0.00	0.00	2,271.7	0.0	3,466.31	0.00	3,466.31	1
7	130.0	27.37	19.33	61.23	0.00	0.41	2.04	1.00	1.00	0.66	59.51	0.00	0.00	3,360.5	0.0	3,728.03	0.00	3,728.03	1
6	110.0	26.09	24.69	75.04	0.00	0.42	2.02	1.00	1.00	0.66	74.26	0.00	0.00	4,097.6	0.0	4,393.47	0.00	4,393.47	3
5	90.00	24.64	27.34	75.40	0.00	0.37	2.12	1.00	1.00	0.64	75.62	0.00	0.00	4,268.2	0.0	4,435.17	0.00	4,435.17	3
4	70.00	22.93	26.23	80.61	0.00	0.34	2.20	1.00	1.00	0.63	76.84	0.00	0.00	4,698.5	0.0	4,349.53	0.00	4,349.53	3
3	50.00	20.83	31.58	80.62	0.00	0.31	2.26	1.00	1.00	0.62	81.56	0.00	0.00	5,020.1	0.0	4,307.23	0.00	4,307.23	3
2	30.00	18.50	33.86	87.29	0.00	0.30	2.29	1.00	1.00	0.62	87.70	0.00	0.00	5,436.7	0.0	4,160.56	0.00	4,160.56	3
1	10.00	18.50	36.27	87.29	0.00	0.28	2.35	1.00	1.00	0.61	89.53	0.00	0.00	6,045.2	0.0	4,358.75	0.00	4,358.75	3
														36,643.1	0.0			36,073.48	

LoadCase 60 deg No Ice 85.00 mph Wind at 60 deg From Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Height (ft)	Wind qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Ice Weight (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
9	170.0	29.55	14.42	43.51	0.00	0.43	2.00	0.80	1.00	0.67	40.52	0.00	0.00	1,444.5	0.0	2,683.47	0.00	2,683.47	2
8	150.0	28.51	17.81	55.91	0.00	0.48	1.93	0.80	1.00	0.69	52.61	0.00	0.00	2,271.7	0.0	3,246.52	0.00	3,246.52	1
7	130.0	27.37	19.33	61.23	0.00	0.41	2.04	0.80	1.00	0.66	55.65	0.00	0.00	3,360.5	0.0	3,485.81	0.00	3,485.81	1
6	110.0	26.09	24.69	75.04	0.00	0.42	2.02	0.80	1.00	0.66	69.32	0.00	0.00	4,097.6	0.0	4,101.31	0.00	4,101.31	3
5	90.00	24.64	27.34	75.40	0.00	0.37	2.12	0.80	1.00	0.64	70.15	0.00	0.00	4,268.2	0.0	4,114.44	0.00	4,114.44	3
4	70.00	22.93	26.23	80.61	0.00	0.34	2.20	0.80	1.00	0.63	71.60	0.00	0.00	4,698.5	0.0	4,052.61	0.00	4,052.61	3
3	50.00	20.83	31.58	80.62	0.00	0.31	2.26	0.80	1.00	0.62	75.24	0.00	0.00	5,020.1	0.0	3,973.64	0.00	3,973.64	3
2	30.00	18.50	33.86	87.29	0.00	0.30	2.29	0.80	1.00	0.62	80.93	0.00	0.00	5,436.7	0.0	3,839.29	0.00	3,839.29	3
1	10.00	18.50	36.27	87.29	0.00	0.28	2.35	0.80	1.00	0.61	82.28	0.00	0.00	6,045.2	0.0	4,005.63	0.00	4,005.63	3
														36,643.1	0.0			33,502.73	

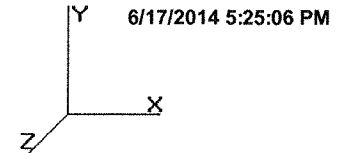
LoadCase 90 deg No Ice 85.00 mph Wind at 90 deg From Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Height (ft)	Wind qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Ice Weight (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
9	170.0	29.55	14.42	43.51	0.00	0.43	2.00	0.85	1.00	0.67	41.24	0.00	0.00	1,444.5	0.0	2,731.21	0.00	2,731.21	2
8	150.0	28.51	17.81	55.91	0.00	0.48	1.93	0.85	1.00	0.69	53.50	0.00	0.00	2,271.7	0.0	3,301.47	0.00	3,301.47	1
7	130.0	27.37	19.33	61.23	0.00	0.41	2.04	0.85	1.00	0.66	56.61	0.00	0.00	3,360.5	0.0	3,546.37	0.00	3,546.37	1

Site Number: 302522
 Location: Redding, CT

Code: TIA/EIA-222 Rev F



Gh : 1.12

Section Forces

6	110.0	26.09	24.69	75.04	0.00	0.42	2.02	0.85	1.00	0.66	70.55	0.00	0.00	4,097.6	0.0	4,174.35	0.00	4,174.35	3
5	90.00	24.64	27.34	75.40	0.00	0.37	2.12	0.85	1.00	0.64	71.51	0.00	0.00	4,268.2	0.0	4,194.62	0.00	4,194.62	3
4	70.00	22.93	26.23	80.61	0.00	0.34	2.20	0.85	1.00	0.63	72.91	0.00	0.00	4,698.5	0.0	4,126.84	0.00	4,126.84	3
3	50.00	20.83	31.58	80.62	0.00	0.31	2.26	0.85	1.00	0.62	76.82	0.00	0.00	5,020.1	0.0	4,057.04	0.00	4,057.04	3
2	30.00	18.50	33.86	87.29	0.00	0.30	2.29	0.85	1.00	0.62	82.62	0.00	0.00	5,436.7	0.0	3,919.61	0.00	3,919.61	3
1	10.00	18.50	36.27	87.29	0.00	0.28	2.35	0.85	1.00	0.61	84.09	0.00	0.00	6,045.2	0.0	4,093.91	0.00	4,093.91	3
														36,643.1	0.0			34,145.41	

LoadCase Normal Ice

73.61 mph Wind Normal To Face with Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Height (ft)	Wind qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Ice Weight (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
9	170.0	22.16	14.42	80.54	37.03	0.71	1.78	1.00	1.00	0.83	81.15	0.00	0.00	2,714.9	1,270.4	3,582.07	0.00	3,582.07	2
8	150.0	21.38	17.81	91.61	35.70	0.71	1.78	1.00	1.00	0.83	93.46	0.00	0.00	4,300.8	2,029.1	3,979.35	0.00	3,979.35	1
7	130.0	20.52	19.33	101.05	40.93	0.61	1.80	1.00	1.00	0.76	96.38	0.00	0.00	6,107.0	2,746.5	3,981.46	0.00	3,981.46	3
6	110.0	19.57	24.69	123.50	48.47	0.63	1.79	1.00	1.00	0.77	119.79	0.00	0.00	7,200.4	3,102.8	4,702.66	0.00	4,702.66	3
5	90.00	18.48	27.34	125.09	49.69	0.55	1.84	1.00	1.00	0.72	117.98	0.00	0.00	7,494.0	3,225.8	4,502.90	0.00	4,502.90	3
4	70.00	17.20	26.23	130.20	49.59	0.49	1.91	1.00	1.00	0.69	116.60	0.00	0.00	7,962.5	3,264.0	4,289.94	0.00	4,289.94	3
3	50.00	15.62	31.58	130.80	50.18	0.45	1.97	1.00	1.00	0.67	119.82	0.00	0.00	8,442.4	3,422.3	4,130.10	0.00	4,130.10	3
2	30.00	13.87	33.86	138.08	50.79	0.43	2.01	1.00	1.00	0.66	125.58	0.00	0.00	9,012.0	3,575.2	3,920.40	0.00	3,920.40	3
1	10.00	13.87	36.27	138.68	51.40	0.40	2.07	1.00	1.00	0.65	126.50	0.00	0.00	9,699.0	3,653.7	4,068.74	0.00	4,068.74	3
														62,932.8	26,289.8			37,157.63	

LoadCase 60 deg Ice

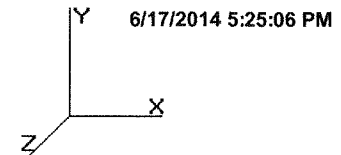
73.61 mph Wind at 60 deg From Face with Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Height (ft)	Wind qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Ice Weight (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
9	170.0	22.16	14.42	80.54	37.03	0.71	1.78	0.80	1.00	0.83	78.27	0.00	0.00	2,714.9	1,270.4	3,454.82	0.00	3,454.82	2
8	150.0	21.38	17.81	91.61	35.70	0.71	1.78	0.80	1.00	0.83	89.90	0.00	0.00	4,300.8	2,029.1	3,827.72	0.00	3,827.72	1
7	130.0	20.52	19.33	101.05	40.93	0.61	1.80	0.80	1.00	0.76	92.52	0.00	0.00	6,107.0	2,746.5	3,821.73	0.00	3,821.73	3
6	110.0	19.57	24.69	123.50	48.47	0.63	1.79	0.80	1.00	0.77	114.85	0.00	0.00	7,200.4	3,102.8	4,508.79	0.00	4,508.79	3
5	90.00	18.48	27.34	125.09	49.69	0.55	1.84	0.80	1.00	0.72	112.51	0.00	0.00	7,494.0	3,225.8	4,294.20	0.00	4,294.20	3
4	70.00	17.20	26.23	130.20	49.59	0.49	1.91	0.80	1.00	0.69	111.36	0.00	0.00	7,962.5	3,264.0	4,096.95	0.00	4,096.95	3
3	50.00	15.62	31.58	130.80	50.18	0.45	1.97	0.80	1.00	0.67	113.51	0.00	0.00	8,442.4	3,422.3	3,912.38	0.00	3,912.38	3
2	30.00	13.87	33.86	138.08	50.79	0.43	2.01	0.80	1.00	0.66	118.81	0.00	0.00	9,012.0	3,575.2	3,708.99	0.00	3,708.99	3
1	10.00	13.87	36.27	138.68	51.40	0.40	2.07	0.80	1.00	0.65	119.24	0.00	0.00	9,699.0	3,653.7	3,835.44	0.00	3,835.44	3
														62,932.8	26,289.8			35,461.01	

Site Number: 302522
 Location: Redding, CT

Code: TIA/EIA-222 Rev F



Gh : 1.12

Section Forces

LoadCase 90 deg Ice

73.61 mph Wind at 90 deg From Face with Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat	Total Round	Ice Round	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear	Linear	Total	Struct Force (lb)	Linear	Total	Eff Face	
			Area (sqft)	Area (sqft)	Area (sqft)							Area (sqft)	Area (sqft)	Weight (lb)		Force (lb)	Force (lb)		
9	170.0	22.16	14.42	80.54	37.03	0.71	1.78	0.85	1.00	0.83	78.99	0.00	0.00	2,714.9	1,270.4	3,486.63	0.00	3,486.63	2
8	150.0	21.38	17.81	91.61	35.70	0.71	1.78	0.85	1.00	0.83	90.79	0.00	0.00	4,300.8	2,029.1	3,865.63	0.00	3,865.63	1
7	130.0	20.52	19.33	101.05	40.93	0.61	1.80	0.85	1.00	0.76	93.48	0.00	0.00	6,107.0	2,746.5	3,861.67	0.00	3,861.67	3
6	110.0	19.57	24.69	123.50	48.47	0.63	1.79	0.85	1.00	0.77	116.08	0.00	0.00	7,200.4	3,102.8	4,557.25	0.00	4,557.25	3
5	90.00	18.48	27.34	125.09	49.69	0.55	1.84	0.85	1.00	0.72	113.88	0.00	0.00	7,494.0	3,225.8	4,346.37	0.00	4,346.37	3
4	70.00	17.20	26.23	130.20	49.59	0.49	1.91	0.85	1.00	0.69	112.67	0.00	0.00	7,962.5	3,264.0	4,145.20	0.00	4,145.20	3
3	50.00	15.62	31.58	130.80	50.18	0.45	1.97	0.85	1.00	0.67	115.09	0.00	0.00	8,442.4	3,422.3	3,966.81	0.00	3,966.81	3
2	30.00	13.87	33.86	138.08	50.79	0.43	2.01	0.85	1.00	0.66	120.50	0.00	0.00	9,012.0	3,575.2	3,761.84	0.00	3,761.84	3
1	10.00	13.87	36.27	138.68	51.40	0.40	2.07	0.85	1.00	0.65	121.06	0.00	0.00	9,699.0	3,653.7	3,893.76	0.00	3,893.76	3
														62,932.8	26,289.8			35,885.17	

LoadCase Normal

50.00 mph Wind Normal To Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat	Total Round	Ice Round	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear	Linear	Total	Struct Force (lb)	Linear	Total	Eff Face	
			Area (sqft)	Area (sqft)	Area (sqft)							Area (sqft)	Area (sqft)	Weight (lb)		Force (lb)	Force (lb)		
9	170.0	10.22	14.42	43.51	0.00	0.43	2.00	1.00	1.00	0.67	43.40	0.00	0.00	1,444.5	0.0	994.61	0.00	994.61	2
8	150.0	9.86	17.81	55.91	0.00	0.48	1.93	1.00	1.00	0.69	56.17	0.00	0.00	2,271.7	0.0	1,199.41	0.00	1,199.41	1
7	130.0	9.47	19.33	61.23	0.00	0.41	2.04	1.00	1.00	0.66	59.51	0.00	0.00	3,360.5	0.0	1,289.98	0.00	1,289.98	1
6	110.0	9.03	24.69	75.04	0.00	0.42	2.02	1.00	1.00	0.66	74.26	0.00	0.00	4,097.6	0.0	1,520.23	0.00	1,520.23	3
5	90.00	8.52	27.34	75.40	0.00	0.37	2.12	1.00	1.00	0.64	75.62	0.00	0.00	4,268.2	0.0	1,534.66	0.00	1,534.66	3
4	70.00	7.93	26.23	80.61	0.00	0.34	2.20	1.00	1.00	0.63	76.84	0.00	0.00	4,698.5	0.0	1,505.03	0.00	1,505.03	3
3	50.00	7.21	31.58	80.62	0.00	0.31	2.26	1.00	1.00	0.62	81.56	0.00	0.00	5,020.1	0.0	1,490.39	0.00	1,490.39	3
2	30.00	6.40	33.86	87.29	0.00	0.30	2.29	1.00	1.00	0.62	87.70	0.00	0.00	5,436.7	0.0	1,439.64	0.00	1,439.64	3
1	10.00	6.40	36.27	87.29	0.00	0.28	2.35	1.00	1.00	0.61	89.53	0.00	0.00	6,045.2	0.0	1,508.22	0.00	1,508.22	3
														36,643.1	0.0			12,482.17	

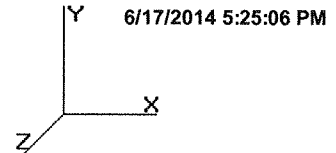
LoadCase 60 deg

50.00 mph Wind at 60 deg From Face with No Ice

Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat	Total Round	Ice Round	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear	Linear	Total	Struct Force (lb)	Linear	Total	Eff Face	
			Area (sqft)	Area (sqft)	Area (sqft)							Area (sqft)	Area (sqft)	Weight (lb)		Force (lb)	Force (lb)		
9	170.0	10.22	14.42	43.51	0.00	0.43	2.00	0.80	1.00	0.67	40.52	0.00	0.00	1,444.5	0.0	928.54	0.00	928.54	2
8	150.0	9.86	17.81	55.91	0.00	0.48	1.93	0.80	1.00	0.69	52.61	0.00	0.00	2,271.7	0.0	1,123.36	0.00	1,123.36	1
7	130.0	9.47	19.33	61.23	0.00	0.41	2.04	0.80	1.00	0.66	55.65	0.00	0.00	3,360.5	0.0	1,206.16	0.00	1,206.16	1
6	110.0	9.03	24.69	75.04	0.00	0.42	2.02	0.80	1.00	0.66	69.32	0.00	0.00	4,097.6	0.0	1,419.14	0.00	1,419.14	3

Site Number: 302522
 Location: Redding, CT
 Code: TIA/EIA-222 Rev F



Gh : 1.12

Section Forces

5	90.00	8.52	27.34	75.40	0.00	0.37	2.12	0.80	1.00	0.64	70.15	0.00	0.00	4,268.2	0.0	1,423.68	0.00	1,423.68	3
4	70.00	7.93	26.23	80.61	0.00	0.34	2.20	0.80	1.00	0.63	71.60	0.00	0.00	4,698.5	0.0	1,402.29	0.00	1,402.29	3
3	50.00	7.21	31.58	80.62	0.00	0.31	2.26	0.80	1.00	0.62	75.24	0.00	0.00	5,020.1	0.0	1,374.96	0.00	1,374.96	3
2	30.00	6.40	33.86	87.29	0.00	0.30	2.29	0.80	1.00	0.62	80.93	0.00	0.00	5,436.7	0.0	1,328.47	0.00	1,328.47	3
1	10.00	6.40	36.27	87.29	0.00	0.28	2.35	0.80	1.00	0.61	82.28	0.00	0.00	6,045.2	0.0	1,386.03	0.00	1,386.03	3
														36,643.1	0.0			11,592.64	

LoadCase 90 deg

50.00 mph Wind at 90 deg From Face with No Ice

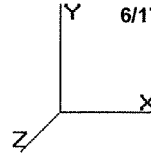
Allow Stress Inc: 1.333
 Dead LF: 1.000
 Wind LF: 1.000

Wind Sect Seq	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Linear Area (sqft)	Total Weight (lb)	Ice Weight (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
9	170.0	10.22	14.42	43.51	0.00	0.43	2.00	0.85	1.00	0.67	41.24	0.00	0.00	1,444.5	0.0	945.06	0.00	945.06	2
8	150.0	9.86	17.81	55.91	0.00	0.48	1.93	0.85	1.00	0.69	53.50	0.00	0.00	2,271.7	0.0	1,142.38	0.00	1,142.38	1
7	130.0	9.47	19.33	61.23	0.00	0.41	2.04	0.85	1.00	0.66	56.61	0.00	0.00	3,360.5	0.0	1,227.12	0.00	1,227.12	1
6	110.0	9.03	24.69	75.04	0.00	0.42	2.02	0.85	1.00	0.66	70.55	0.00	0.00	4,097.6	0.0	1,444.41	0.00	1,444.41	3
5	90.00	8.52	27.34	75.40	0.00	0.37	2.12	0.85	1.00	0.64	71.51	0.00	0.00	4,268.2	0.0	1,451.43	0.00	1,451.43	3
4	70.00	7.93	26.23	80.61	0.00	0.34	2.20	0.85	1.00	0.63	72.91	0.00	0.00	4,698.5	0.0	1,427.97	0.00	1,427.97	3
3	50.00	7.21	31.58	80.62	0.00	0.31	2.26	0.85	1.00	0.62	76.82	0.00	0.00	5,020.1	0.0	1,403.82	0.00	1,403.82	3
2	30.00	6.40	33.86	87.29	0.00	0.30	2.29	0.85	1.00	0.62	82.62	0.00	0.00	5,436.7	0.0	1,356.27	0.00	1,356.27	3
1	10.00	6.40	36.27	87.29	0.00	0.28	2.35	0.85	1.00	0.61	84.09	0.00	0.00	6,045.2	0.0	1,416.58	0.00	1,416.58	3
														36,643.1	0.0			11,815.02	

Site Number: 302522
 Location: Redding, CT

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Code: TIA/EIA-222 Rev F

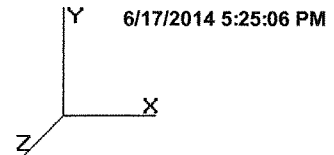


Tower Loading

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice CaAa (sf)	CaAa Factor	Weight (lb)	Ice CaAa (sf)	CaAa Factor	Distance From Face (ft)	X Angle (deg)	Vert Ecc (ft)
180.0	Powerwave P65-16-XLH-RR	3	53.00	8.400	0.79	100.20	9.220	0.79	0.000	0.00	2.000
180.0	Ericsson RRUS 11	6	55.00	2.940	0.50	74.30	3.290	0.50	0.000	0.00	0.000
180.0	Raycap DC6-48-60-18-8F	1	31.80	1.470	1.00	49.50	1.670	1.00	0.000	0.00	0.000
180.0	Powerwave TT19-08BP111-	3	16.00	0.640	0.50	21.80	0.820	0.50	0.000	0.00	0.000
180.0	Powerwave LGP21401	6	14.10	1.290	0.50	21.26	1.530	0.50	0.000	0.00	0.000
180.0	Powerwave 7770.00	6	35.00	5.880	0.77	67.63	6.530	0.77	0.000	0.00	0.000
180.0	Round Sector Frame	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
172.0	Andrew LNX-6514DS-VTM	3	38.80	8.410	0.69	88.90	9.240	0.69	0.000	0.00	0.000
172.0	RFS DB-T1-6Z-8AB-0Z	1	44.00	5.600	1.00	144.50	6.080	1.00	0.000	0.00	0.000
172.0	Andrew HBX-6517DS-VTM	3	13.20	5.240	0.81	45.30	5.849	0.81	0.000	0.00	0.000
172.0	Swedcom SWCP 2x7014	1	30.00	10.440	0.92	101.60	11.370	0.92	0.000	0.00	0.000
172.0	Antel BXA-70063/6CF	1	17.00	7.730	0.75	58.00	8.540	0.75	0.000	0.00	0.000
172.0	Round Sector Frame	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
172.0	RFS APX75-866512-CT2	1	19.80	6.220	0.73	52.80	6.850	0.73	0.000	0.00	0.000
172.0	Alcatel-Lucent RRH2x40-AWS	3	44.00	2.510	0.80	61.40	2.870	0.50	0.000	0.00	0.000
172.0	RFS FD9R6004/1C-3L	6	3.10	0.370	0.50	5.40	0.500	0.50	0.000	0.00	0.000
172.0	Rymsa MGD3-800T0	3	19.80	3.450	0.82	39.87	3.980	0.82	0.000	0.00	1.000
164.0	Decibel DB844H90E-XY	12	14.00	3.730	0.92	40.30	3.570	0.92	0.000	0.00	0.000
164.0	Round Sector Frame	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
154.0	Alcatel-Lucent 800 MHz RRH	3	53.00	2.490	0.50	74.10	2.820	0.50	0.000	0.00	3.000
154.0	Alcatel-Lucent 1900 MHz	3	60.00	2.710	0.50	83.10	3.070	0.50	0.000	0.00	3.000
154.0	RFS APXVSP18-C-A20	3	57.00	8.260	0.83	106.50	9.080	0.83	0.000	0.00	3.000
154.0	Round Sector Frame	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
154.0	Decibel DB980H90E-KL	6	8.50	3.800	0.79	28.62	4.370	0.79	0.000	0.00	3.000
142.0	Scala OGT9-840	2	18.50	2.270	1.00	36.10	3.440	1.00	0.000	0.00	-6.000
142.0	Side Arm	2	150.00	6.300	1.00	230.00	7.000	1.00	0.000	0.00	0.000
142.0	TX RX 422-86A-99575-18R1	2	40.00	3.110	0.50	58.70	3.470	0.50	0.000	0.00	0.000
142.0	Scala OGT9-840	2	18.50	2.270	1.00	36.10	3.440	1.00	0.000	0.00	6.000
140.0	Ericsson AIR 21, 1.3M, B2A	3	91.50	6.580	0.85	155.40	12.240	0.85	0.000	0.00	0.000
140.0	Ericsson AIR 21, 1.3M, B4A	3	90.40	6.580	0.85	132.60	7.200	0.85	0.000	0.00	0.000
140.0	Morad VHF 156-Deluxe	1	0.90	0.260	1.00	3.56	0.570	1.00	0.000	0.00	2.500
140.0	Kathrein 860-10025	6	1.10	0.160	0.50	2.64	0.260	0.50	0.000	0.00	0.000
140.0	Round Sector Frame	3	300.00	14.400	0.75	415.00	19.200	0.75	0.000	0.00	0.000
136.0	Empty Side Arm	1	150.00	6.300	1.00	230.00	7.000	1.00	0.000	0.00	0.000
135.0	24" x 24" Ice Shield	1	50.00	0.930	0.50	350.00	7.500	0.50	0.000	0.00	0.000
134.0	24" x 24" Ice Shield	1	50.00	0.930	0.50	350.00	7.500	0.50	0.000	0.00	0.000
131.0	Andrew DB810K-XT	1	35.00	4.350	1.00	70.00	5.800	1.00	0.000	0.00	-6.000
131.0	Round Side Arm	2	100.00	5.000	1.00	175.00	5.900	0.80	0.000	0.00	0.000
131.0	Andrew DB810K-XT	1	35.00	4.350	1.00	70.00	5.800	1.00	0.000	0.00	6.000
129.0	RFS PA6-65AC w/ Radome	1	308.00	24.410	1.00	453.50	25.090	1.00	0.000	0.00	0.000
128.0	RFS PA6-65AC w/ Radome	1	308.00	24.410	1.00	453.50	25.090	1.00	0.000	0.00	0.000
127.0	Sinclair SE419-SF3P4LDF	1	24.00	9.550	1.00	66.50	10.510	1.00	0.000	0.00	-6.000
127.0	Bird 432-83H-01-T	1	25.00	1.630	1.00	37.44	1.900	1.00	0.000	0.00	0.000
127.0	Sinclair SE419-SF3P4LDF	1	24.00	9.550	1.00	66.50	10.510	1.00	0.000	0.00	6.000
127.0	Round Side Arm	2	100.00	5.000	1.00	175.00	5.900	0.80	0.000	0.00	0.000
126.0	Empty Side Arm	1	150.00	6.300	1.00	230.00	7.000	1.00	0.000	0.00	0.000
119.5	Empty Side Arm	1	150.00	6.300	1.00	230.00	7.000	1.00	0.000	0.00	0.000
118.0	Decibel DB586	1	8.30	0.740	1.00	14.50	1.230	1.00	0.000	0.00	-2.500
118.0	Round Side Arm	2	100.00	5.000	1.00	175.00	5.900	0.80	0.000	0.00	0.000
118.0	Decibel DB586	1	8.30	0.740	1.00	14.50	1.230	1.00	0.000	0.00	2.500

Site Number: 302522
 Location: Redding, CT
 Code: TIA/EIA-222 Rev F



Tower Loading

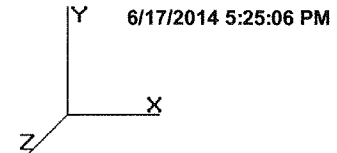
115.5	Empty Side Arm	1	150.00	6.300	1.00	230.00	7.000	1.00	0.000	0.00	0.000
107.0	Sinclair SD210D	1	40.00	4.450	1.00	77.00	7.610	1.00	0.000	0.00	8.000
107.0	Side Arm	2	150.00	6.300	1.00	230.00	7.000	1.00	0.000	0.00	0.000
90.00	Standoff	1	50.00	3.000	1.00	75.00	3.500	1.00	0.000	0.00	0.000
90.00	PCTEL GPS-TMG-HR-26N	1	0.60	0.090	1.00	1.90	0.140	1.00	0.000	0.00	0.000
84.00	Andrew DB264-A	1	36.00	5.900	1.00	89.10	11.380	1.00	0.000	0.00	10.000
84.00	Standoff	1	50.00	3.000	1.00	75.00	3.500	1.00	0.000	0.00	0.000
82.00	12' Omni	1	40.00	3.600	1.00	66.06	4.830	1.00	0.000	0.00	8.000
82.00	Standoff	1	50.00	3.000	1.00	75.00	3.500	1.00	0.000	0.00	0.000
30.00	GPS	1	5.00	0.040	1.00	5.94	0.090	1.00	0.000	0.00	0.000
Totals		141	10223.60			16608.41			Number of Appurtenances : 60		

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Wind	Spread On Faces	Bundling Arrangement
0.00	180.0	0.28" RG6	1	0.28	0.03	100.00	2	Separate
0.00	180.0	0.74" 8 AWG 7	2	0.74	0.49	100.00	2	Separate
0.00	180.0	1 1/4" Coax	12	1.55	0.63	100.00	2	Separate
0.00	180.0	Wave Guide	1	1.50	6.00	100.00	2	Separate
0.00	172.0	1 5/8" Coax	12	1.98	0.82	100.00	1	Separate
0.00	172.0	1 5/8" Hybriflex	1	1.98	1.30	0.00	1	Separate
0.00	172.0	Wave Guide	1	1.50	6.00	100.00	1	Separate
0.00	164.0	1 5/8" Coax	12	1.98	0.82	0.00	1	Separate
0.00	164.0	Wave Guide	1	1.50	6.00	100.00	1	Separate
0.00	154.0	1 1/4" Hybriflex	3	1.54	1.00	0.00	1	Separate
0.00	154.0	1 5/8" Coax	2	1.98	0.82	100.00	3	Separate
0.00	154.0	1 5/8" Coax	4	1.98	0.82	50.00	1	Separate
0.00	142.0	1 5/8" Coax	4	1.98	0.82	100.00	3	Separate
0.00	142.0	3/8" Coax	2	0.44	0.08	100.00	3	Separate
0.00	140.0	1 5/8" Coax	6	1.98	0.82	50.00	3	Separate
0.00	140.0	1 5/8" Hybriflex	1	1.98	1.30	100.00	3	Separate
0.00	140.0	1/2" Coax	1	0.63	0.15	100.00	3	Separate
0.00	140.0	5/16" Coax	1	0.32	0.04	100.00	3	Separate
0.00	140.0	Wave Guide	1	1.50	6.00	100.00	3	Separate
0.00	140.0	Wave Guide	1	1.50	6.00	100.00	3	Separate
0.00	131.0	1 5/8" Coax	2	1.98	0.82	100.00	3	Separate
0.00	129.0	EW63	1	2.01	0.51	100.00	3	Separate
0.00	128.0	EW63	1	2.01	0.51	100.00	3	Separate
0.00	127.0	1 5/8" Coax	2	1.98	0.82	100.00	3	Separate
0.00	127.0	3/8" Coax	1	0.44	0.08	100.00	3	Separate
0.00	118.0	7/8" Coax	2	1.09	0.33	100.00	2	Separate
0.00	107.0	7/8" Coax	2	1.09	0.33	100.00	2	Separate
0.00	90.00	1/2" Coax	1	0.63	0.15	100.00	1	Separate
0.00	84.00	7/8" Coax	1	1.09	0.33	100.00	3	Separate
0.00	82.00	7/8" Coax	1	1.09	0.33	100.00	2	Separate
0.00	30.00	1/2" Coax	1	0.63	0.15	100.00	1	Separate

Site Number: 302522
Location: Redding, CT

Code: TIA/EIA-222 Rev F



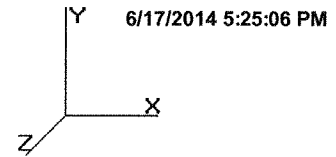
Force/Stress Summary

Section: 1		SSV		Bot Elev (ft): 0.00				Height (ft): 20.000						
		Force	Len	Bracing %			Fa	Member		Shear Bear		Use		
Max Compression Member		(kip)	(ft)	X	Y	Z	(ksi)	Cap	Num	Num	Cap	Cap	%	Controls
		Load Case						(kip)	Bolts	Holes	(kip)	(kip)		
LEG	PSP - ROHN 8 EHS	-328.08	10.02	100	100	100	41.2	34.2	332.64	0	0	0.00	0.00	98 Member X
HORIZ		0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 4X4X0.3125	-10.98	23.71	50	75	50	179.9	6.2	14.77	1	1	14.13	24.37	77 Bolt Shear
Max Tension Member		Force	Fy	Cap	Num	Num	Shear	Bear	Use	Controls				
		(kip)	(ksi)	(kip)	Bolts	Holes	Cap (kip)	Cap (kip)	%					
LEG	PSP - ROHN 8 EHS	277.47	50	388.79	0	0	0.00	0.00	71	Member				
HORIZ		0.00	0	0.00	0	0	0.00	0.00	0					
DIAG	SAE - 4X4X0.3125	11.02	50	69.75	1	1	14.13	15.23	77	Bolt Shear				
Max Splice Forces		Force	Capacity	Use	Num	Bolt Type								
		(kip)	(kip)	%	Bolts									
Top Tension		256.89	0.00	0										
Top Compression		304.09	0.00	0										
Bot Tension		285.41	490.92	58	10	1" A354-BC								
Bot Compression		335.09	0.00	0										

Section: 2		SSV		Bot Elev (ft): 20.00				Height (ft): 20.000						
		Force	Len	Bracing %			Fa	Member		Shear Bear		Use		
Max Compression Member		(kip)	(ft)	X	Y	Z	(ksi)	Cap	Num	Num	Cap	Cap	%	Controls
		Load Case						(kip)	Bolts	Holes	(kip)	(kip)		
LEG	PSP - ROHN 8 EHS	-296.11	10.02	100	100	100	41.2	34.2	332.64	0	0	0.00	0.00	89 Member X
HORIZ		0.00	0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 4X4X0.25	-10.06	22.81	50	75	50	172.2	6.7	13.03	1	1	14.13	19.50	77 Member Z
Max Tension Member		Force	Fy	Cap	Num	Num	Shear	Bear	Use	Controls				
		(kip)	(ksi)	(kip)	Bolts	Holes	Cap (kip)	Cap (kip)	%					
LEG	PSP - ROHN 8 EHS	250.75	50	388.79	0	0	0.00	0.00	64	Member				
HORIZ		0.00	0	0.00	0	0	0.00	0.00	0					
DIAG	SAE - 4X4X0.25	10.34	50	56.45	1	1	14.13	12.19	84	Bolt Bear				
Max Splice Forces		Force	Capacity	Use	Num	Bolt Type								
		(kip)	(kip)	%	Bolts									
Top Tension		228.54	0.00	0										
Top Compression		270.33	0.00	0										
Bot Tension		256.89	368.63	70	8	1 A325								
Bot Compression		304.09	0.00	0										

Site Number: 302522
 Location: Redding, CT

Code: TIA/EIA-222 Rev F



Force/Stress Summary

Section: 3 SSV Bot Elev (ft): 40.00 Height (ft): 20.000

Max Compression Member	Force (kip)	Load Case	Len (ft)	Bracing %				Fa (ksi)	Member		Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
				X	Y	Z	KL/R		Cap (kip)	Num Bolts					
LEG PX - 6" DIA PIPE	-261.99	Normal Ice	10.02	100	100	100	54.8	31.5	264.19	0	0	0.00	0.00	99	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	-9.38	90 deg Ice	20.06	50	75	50	151.4	8.7	16.85	1	1	14.13	19.50	66	Bolt Shear

Max Tension Member	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG PX - 6" DIA PIPE	222.88	60 deg No Ice	50	335.99	0	0	0.00	0.00	66	Member
HORIZ	0.00		0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 4X4X0.25	9.23	90 deg Ice	50	56.45	1	1	14.13	12.19	75	Bolt Bear

Max Splice Forces	Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension	200.25	60 deg No Ice	0.00	0		
Top Compression	236.13	Normal Ice	0.00	0		
Bot Tension	228.54	60 deg No Ice	368.63	62	8	1 A325
Bot Compression	270.33	Normal Ice	0.00	0		

Section: 4 SSV Bot Elev (ft): 60.00 Height (ft): 20.000

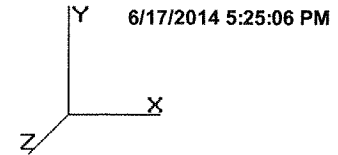
Max Compression Member	Force (kip)	Load Case	Len (ft)	Bracing %				Fa (ksi)	Member		Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
				X	Y	Z	KL/R		Cap (kip)	Num Bolts					
LEG PX - 6" DIA PIPE	-226.43	Normal Ice	10.02	100	100	100	54.8	31.5	264.22	0	0	0.00	0.00	85	Member X
HORIZ	0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	-9.56	90 deg No Ice	19.17	50	75	50	165.7	7.2	12.25	1	1	14.13	19.50	78	Member Z

Max Tension Member	Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG PX - 6" DIA PIPE	193.28	60 deg No Ice	50	335.99	0	0	0.00	0.00	57	Member
HORIZ	0.00		0	0.00	0	0	0.00	0.00	0	
DIAG SAE - 3.5X3.5X0.25	9.54	90 deg Ice	50	48.32	1	1	14.13	12.19	78	Bolt Bear

Max Splice Forces	Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Top Tension	167.41	60 deg No Ice	0.00	0		
Top Compression	197.46	Normal Ice	0.00	0		
Bot Tension	200.25	60 deg No Ice	276.47	72	6	1 A325
Bot Compression	236.13	Normal Ice	0.00	0		

Site Number: 302522
 Location: Redding, CT

Code: TIA/EIA-222 Rev F



Force/Stress Summary

Section: 5 SSV Bot Elev (ft): 80.00 Height (ft): 20.000

		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
Max Compression Member															
LEG	PSP - ROHN 5 EH	-190.52	Normal Ice	6.68	100	100	100	43.6	33.8	206.30	0	0	0.00	0.00	92 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.25	-8.24	90 deg Ice	15.97	50	75	50	161.9	7.6	10.94	1	1	14.13	19.50	75 Member Z

		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
Max Tension Member											
LEG	PSP - ROHN 5 EH	163.05	60 deg No Ice	50	244.39	0	0	0.00	0.00	66	Member
HORIZ		0.00		0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.25	8.19	90 deg Ice	50	40.20	1	1	14.13	12.19	67	Bolt Bear

		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Max Splice Forces							
Top Tension		133.08	60 deg No Ice	0.00	0		
Top Compression		156.58	Normal Ice	0.00	0		
Bot Tension		167.41	60 deg No Ice	276.47	61	6	1 A325
Bot Compression		197.46	Normal Ice	0.00	0		

Section: 6 SSV Bot Elev (ft): 100.0 Height (ft): 20.000

		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
Max Compression Member															
LEG	PSP - ROHN 5 EH	-149.46	Normal Ice	6.68	100	100	100	43.6	33.8	206.30	0	0	0.00	0.00	72 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 3X3X0.25	-8.09	90 deg No Ice	14.16	50	75	50	143.6	9.7	13.91	1	1	14.13	19.50	58 Member Z

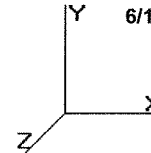
		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
Max Tension Member											
LEG	PSP - ROHN 5 EH	127.59	60 deg No Ice	50	244.39	0	0	0.00	0.00	52	Member
HORIZ		0.00		0	0.00	0	0	0.00	0.00	0	
DIAG	SAE - 3X3X0.25	7.99	90 deg No Ice	50	40.20	1	1	14.13	12.19	65	Bolt Bear

		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type
Max Splice Forces							
Top Tension		94.50	60 deg No Ice	0.00	0		
Top Compression		112.70	Normal Ice	0.00	0		
Bot Tension		133.08	60 deg No Ice	276.47	48	6	1 A325
Bot Compression		156.58	Normal Ice	0.00	0		

Site Number: 302522
 Location: Redding, CT

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Code: TIA/EIA-222 Rev F



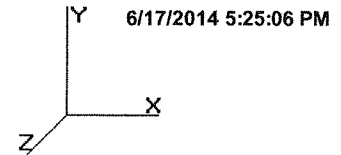
Force/Stress Summary

Section: 7		SSV		Bot Elev (ft): 120.0				Height (ft): 20.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PX - 4" DIA PIPE	-104.85	Normal Ice	6.68	100	100	100	54.2	31.6	139.30	0	0	0.00	0.00	75 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SAE - 2.5X2.5X0.25	-7.60	90 deg No Ice	12.42	50	75	50	151.9	8.6	10.27	1	1	14.13	19.50	74 Member Z
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG	PX - 4" DIA PIPE	88.41	60 deg No Ice	50	176.40	0	0	0.00	0.00	50	Member				
HORIZ		0.00		0	0.00	0	0	0.00	0.00	0					
DIAG	SAE - 2.5X2.5X0.25	7.48	90 deg No Ice	50	32.07	1	1	14.13	12.19	61	Bolt Bear				
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		56.33	60 deg No Ice	0.00	0										
Top Compression		68.27	Normal Ice	0.00	0										
Bot Tension		94.50	60 deg No Ice	184.32	51	4	1 A325								
Bot Compression		112.70	Normal Ice	0.00	0										

Section: 8		SSV		Bot Elev (ft): 140.0				Height (ft): 20.000							
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %			Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PST - 3" DIA PIPE	-62.46	Normal Ice	5.01	100	100	100	51.8	32.1	71.55	0	0	0.00	0.00	87 Member X
HORIZ	SAE - 1.75X1.75X0.18	-0.51	Normal No Ice	6.688	100	100	100	234.0	3.6	2.26	1	1	9.81	10.87	22 Member Z
DIAG	SAE - 2X2X0.25	-4.93	90 deg No Ice	9.863	50	75	50	151.4	8.7	8.17	1	1	9.81	16.25	60 Member Z
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls				
LEG	PST - 3" DIA PIPE	53.33	60 deg No Ice	50	89.20	0	0	0.00	0.00	59	Member				
HORIZ	SAE - 1.75X1.75X0.18	0.51	60 deg No Ice	36	14.27	1	1	9.81	6.80	7	Bolt Bear				
DIAG	SAE - 2X2X0.25	5.00	90 deg No Ice	50	24.96	1	1	9.81	10.16	50	Bolt Shear				
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type								
Top Tension		23.17	60 deg No Ice	0.00	0										
Top Compression		28.52	Normal Ice	0.00	0										
Bot Tension		56.33	60 deg No Ice	141.12	40	4	7/8 A325								
Bot Compression		68.27	Normal Ice	0.00	0										

Site Number: 302522
 Location: Redding, CT

Code: TIA/EIA-222 Rev F

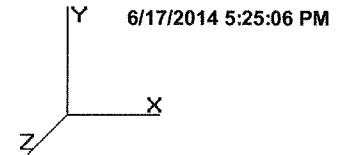


Force/Stress Summary

Section: 9 SSV		Bot Elev (ft): 160.0		Height (ft): 20.000									
Max Compression Member		Force (kip)	Load Case	Len (ft)	Bracing %	Fa (ksi)	Member Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls
LEG	PST - 2-1/2" DIA PIP	-24.04	Normal Ice	4.00	100 100 100	50.7	32.3	55.08	0	0	0.00	0.00	43 Member X
HORIZ	SAE - 1.75X1.75X0.18	-0.77	60 deg No Ice	6.646	100 100 100	232.5	3.7	2.29	1	1	9.81	10.87	33 Member Z
DIAG	SAE - 1.75X1.75X0.18	-4.64	90 deg No Ice	7.789	50 75 50	136.2	10.7	6.66	1	1	9.81	12.19	69 Member Z
Max Tension Member		Force (kip)	Load Case	Fy (ksi)	Cap (kip)	Num Bolts	Num Holes	Shear Cap (kip)	Bear Cap (kip)	Use %	Controls		
LEG	PST - 2-1/2" DIA PIP	19.20	60 deg No Ice	50	68.16	0	0	0.00	0.00	28	Member		
HORIZ	SAE - 1.75X1.75X0.18	1.02	Normal No Ice	36	14.27	1	1	9.81	6.80	14	Bolt Bear		
DIAG	SAE - 1.75X1.75X0.18	4.57	90 deg No Ice	50	15.99	1	1	9.81	7.62	59	Bolt Bear		
Max Splice Forces		Force (kip)	Load Case	Capacity (kip)	Use %	Num Bolts	Bolt Type						
Top Tension		0.00		0.00	0								
Top Compression		1.04	60 deg Ice	0.00	0								
Bot Tension		23.17	60 deg No Ice	106.02	22	4	3/4 A325						
Bot Compression		28.52	Normal Ice	0.00	0								

Site Number: 302522
 Location: Redding, CT

Code: TIA/EIA-222 Rev F



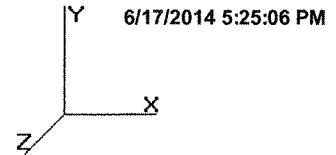
Support Forces Summary

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
90 deg	1b	-7.77	-74.60	-3.79	
	1a	-9.60	105.84	4.85	
	1	-1.21	15.62	-1.06	
60 deg	1b	-8.66	-87.70	-4.99	
	1a	-6.21	67.15	2.41	
	1	-1.02	67.41	-6.59	
Normal	1b	-3.54	-38.05	-3.31	
	1a	3.54	-38.05	-3.31	
	1	0.00	122.97	-12.62	
90 deg Ice	1b	-26.48	-235.03	-13.32	
	1a	-23.64	288.05	11.73	
	1	-3.37	26.52	1.59	
60 deg Ice	1b	-29.18	-273.92	-16.84	
	1a	-13.91	176.36	4.74	
	1	-2.86	177.11	-14.43	
Normal Ice	1b	-14.18	-127.70	-11.68	
	1a	14.18	-127.70	-11.68	
	1	0.00	334.94	-31.40	
90 deg No Ice	1b	-24.31	-245.53	-12.00	
	1a	-25.95	276.77	12.99	
	1	-3.49	15.63	-1.00	
60 deg No Ice	1b	-26.88	-283.44	-15.51	
	1a	-16.17	164.79	5.94	
	1	-2.95	165.52	-16.99	
Normal No Ice	1b	-12.05	-139.73	-10.63	
	1a	12.05	-139.73	-10.63	
	1	0.00	326.34	-34.41	

Max Uplift:	283.44 (kip)	Moment:	6,188.97 (ft-kip)	Normal No Ice
Max Down:	334.94 (kip)	Total Down:	46.87 (kip)	
Max Shear:	34.41 (kip)	Total Shear:	55.68 (kip)	

Site Number: 302522
 Location: Redding, CT

Code: TIA/EIA-222 Rev F

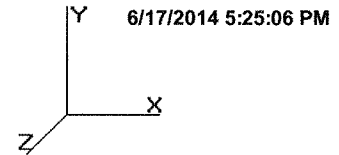


Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
50.00 mph Wind at 60 deg From Face with No Ice	30.00	0.0162	0.0059	0.0547
	80.00	0.0996	0.0242	0.1386
	86.67	0.1167	0.0289	0.1533
	106.67	0.1779	0.0398	0.1942
	113.33	0.2014	0.0428	0.2077
	120.00	0.2263	0.0457	0.2186
	126.67	0.2528	0.0520	0.2354
	133.33	0.2810	0.0583	0.2482
	140.00	0.3107	0.0647	0.2603
	155.00	0.3854	0.1098	0.2904
	164.00	0.4353	0.1079	0.3288
	172.00	0.4818	0.1036	0.3321
50.00 mph Wind at 90 deg From Face with No Ice	30.00	0.0164	0.0047	0.0551
	80.00	0.1003	0.0167	0.1392
	86.67	0.1175	0.0195	0.1526
	106.67	0.1791	0.0261	0.1937
	113.33	0.2027	0.0279	0.2083
	120.00	0.2277	0.0297	0.2192
	126.67	0.2544	0.0332	0.2356
	133.33	0.2828	0.0367	0.2485
	140.00	0.3125	0.0402	0.2603
	155.00	0.3876	0.0632	0.2678
	164.00	0.4376	0.0614	0.3279
	172.00	0.4843	0.0582	0.3299
50.00 mph Wind Normal To Face with No Ice	30.00	0.0172	0.0029	0.0572
	80.00	0.1034	0.0161	0.1462
	86.67	0.1211	0.0199	0.1637
	106.67	0.1845	0.0284	0.2054
	113.33	0.2086	0.0307	0.2157
	120.00	0.2344	0.0330	0.2275
	126.67	0.2619	0.0383	0.2456
	133.33	0.2910	0.0438	0.2597
	140.00	0.3215	0.0494	0.2722
	155.00	0.3990	0.0914	0.3592
	164.00	0.4505	0.0894	0.3463
	172.00	0.4987	0.0844	0.3525
73.61 mph Wind at 60 deg From Face with Ice	30.00	0.0500	0.0239	0.1653
	80.00	0.2916	0.0972	0.4041
	86.67	0.3415	0.1161	0.4448
	106.67	0.5194	0.1587	0.5629
	113.33	0.5874	0.1702	0.6034
	120.00	0.6597	0.1810	0.6351
	126.67	0.7368	0.2045	0.6837
	133.33	0.8186	0.2280	0.7204
	140.00	0.9044	0.2511	0.7537

Site Number: 302522
 Location: Redding, CT

Code: TIA/EIA-222 Rev F

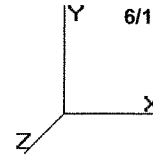


	155.00	1.1209	0.4121	0.8472
	164.00	1.2647	0.4317	0.9500
	172.00	1.3984	0.4431	0.9588
	180.00	1.5328	0.4522	0.9390
73.61 mph Wind at 90 deg From Face with Ice	30.00	0.0494	0.0156	0.1645
	80.00	0.2922	0.0568	0.4040
	86.67	0.3423	0.0666	0.4396
	106.67	0.5208	0.0885	0.5597
	113.33	0.5892	0.0943	0.6035
	120.00	0.6615	0.0998	0.6341
	126.67	0.7389	0.1110	0.6821
	133.33	0.8208	0.1218	0.7194
	140.00	0.9071	0.1324	0.7524
	155.00	1.1238	0.2020	0.7882
	164.00	1.2679	0.2064	0.9457
	172.00	1.4020	0.2061	0.9520
	180.00	1.5363	0.2061	0.8958
73.61 mph Wind Normal To Face with Ice	30.00	0.0482	0.0116	0.1657
	80.00	0.2965	0.0591	0.4203
	86.67	0.3481	0.0725	0.4761
	106.67	0.5302	0.1006	0.5931
	113.33	0.6002	0.1078	0.6211
	120.00	0.6738	0.1147	0.6555
	126.67	0.7528	0.1307	0.7073
	133.33	0.8363	0.1471	0.7484
	140.00	0.9249	0.1637	0.7832
	155.00	1.1465	0.2843	1.0139
	164.00	1.2946	0.2923	0.9878
	172.00	1.4325	0.2909	1.0048
	180.00	1.5701	0.2904	1.0856
85.00 mph Wind at 60 deg From Face with No Ice	30.00	0.0473	0.0237	0.1587
	80.00	0.2886	0.0962	0.4014
	86.67	0.3382	0.1152	0.4435
	106.67	0.5156	0.1621	0.5613
	113.33	0.5835	0.1757	0.6013
	120.00	0.6557	0.1887	0.6337
	126.67	0.7326	0.2168	0.6815
	133.33	0.8143	0.2449	0.7183
	140.00	0.9000	0.2725	0.7522
	155.00	1.1167	0.4659	0.8435
	164.00	1.2609	0.4907	0.9533
	172.00	1.3952	0.5055	0.9616
	180.00	1.5302	0.5171	0.9383
85.00 mph Wind at 90 deg From Face with No Ice	30.00	0.0473	0.0152	0.1593
	80.00	0.2902	0.0551	0.4022
	86.67	0.3402	0.0647	0.4414
	106.67	0.5186	0.0881	0.5602
	113.33	0.5870	0.0947	0.6024
	120.00	0.6594	0.1010	0.6337
	126.67	0.7368	0.1140	0.6813
	133.33	0.8187	0.1266	0.7185
	140.00	0.9051	0.1391	0.7526
	155.00	1.1224	0.2215	0.7737
	164.00	1.2672	0.2268	0.9489
	172.00	1.4021	0.2266	0.9551

Site Number: 302522
Location: Redding, CT

6/17/2014 5:25:06 PM

Code: TIA/EIA-222 Rev F




85.00 mph Wind Normal To Face with No Ice

180.00	1.5370	0.2266	0.8859
30.00	0.0494	0.0111	0.1652
80.00	0.2990	0.0573	0.4229
86.67	0.3502	0.0706	0.4744
106.67	0.5335	0.1017	0.5953
113.33	0.6035	0.1106	0.6253
120.00	0.6781	0.1192	0.6601
126.67	0.7574	0.1387	0.7122
133.33	0.8418	0.1588	0.7532
140.00	0.9302	0.1788	0.7896
155.00	1.1542	0.3245	1.0428
164.00	1.3040	0.3355	1.0017
172.00	1.4437	0.3347	1.0207
180.00	1.5831	0.3345	1.1190
	0.0000	0.0000	0.0000

TOWER RESOURCE MANAGEMENT INC 03/13
BOSTON ACCOUNT
979 S. HIGH ST.
COLUMBUS, OH 43206

2034
65-330/550

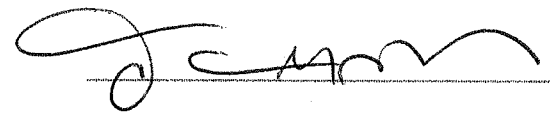
Date 8/12/14

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