

T-Mobile Northeast, LLC

Ryan Clark

Real Estate Consultant
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W. Bridgewater, MA 02379
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August 27, 2021

Members of the Connecticut Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: **Request for Tower Share**
T-Mobile Northeast, LLC ("T-Mobile") Request for Approval of the Shared Use of an
Existing Tower at 147 Baltic Hanover Road, Sprague/Baltic, CT 06330
T-Mobile site: CTNL123A

Dear Members of the Council:

T-Mobile proposes to share an existing telecommunications tower located at 147 Baltic Hanover Road Sprague/Baltic, CT 06330 (the facility). The subject parcel is identified by the Town of Sprague as Map 9, Block 4, Lot 3. The property is owned by the Town of Sprague. The tower is owned by Wireless Solutions, LLC. The property is roughly 239.5± acres and accommodates an existing telecommunication compound with two shelters and one concrete pad with telecommunications carriers' cabinets and a generator, as well as the lattice tower within the fenced compound. The facility is and will continue to be owned and operated by Wireless Solutions, LLC.

Pursuant to Connecticut General Statutes Section 16-50aa (the Statute), T-Mobile requests a finding from the Connecticut Siting Council that the shared use of this facility is technically, legally, environmentally and economically feasible, will meet safety concerns, will avoid the unnecessary proliferation of towers and is in the public interest. It further requests an order approving the shared use of this facility.

The purpose of this request is to use an existing tower to develop T-Mobile's wireless network to provide high speed wireless data and wireless service within the State of Connecticut and in this part of Baltic/Sprague: avoiding the need for an additional tower in Baltic/Sprague.

T-Mobile is licensed by the Federal Communications Commission ("FCC") to provide multiple technologies, including LTE, NR 5G and GSM including (600,700,1900, 2100, 2500 MHz frequencies) in New London County. T-Mobile is building and enhancing its network to take advantage of its licensed spectrum and improve its broadband high speed wireless voice and data services.

Existing Facility & Proposed Modification

The existing facility is and will continue to be a 175' lattice tower located at 147 Baltic Hanover Road Baltic, CT. Site coordinates (NAD83) are N 41.62417000" and W -72.07806000". Currently there are two other major commercial wireless carriers located on this tower, whereby T-Mobile now intends to use the vacant space on the lowest part of the tower, beneath Verizon and AT&T. The site plan of the facility is included in the proposed Modifications drawings and Construction drawings, prepared by Centerline Communications dated August 11, 2021, respectively, and enclosed herewith.

T-Mobile intends to install three (3) RFS-APX16DWV, three (3) RFS- APXVAALL24 (3) AIR6449 antennas, three (3) 4460 B25+B66 and three (3) 4480 B71+B85 RRUs, as shown in the construction drawing, to be attached to the lattice tower at the 155' mount level. T-Mobile will also install three (3) hybrid fiber cable on the tower. In order to enable this installation, the tower will be reinforced per the Modifications drawings. Inside the existing fenced compound, T-Mobile will add a 15' x 15' lease area with one (1) concrete pad and one (1) H-frame. T-Mobile intends to enter into a new agreement, at this tower height, in order to license the portion of space within the existing and proposed compound for the new 15'-0" x 15'-0" concrete pad with four (4) new cabinets and (1) 35 KW diesel generator.

Consistent with the requirements of the Statute, it is feasible for T-Mobile to collocate at this facility. T-Mobile is proposing to collocate on the existing lattice tower that will continue to remain in the ownership of Wireless Solutions, LLC. Included with this application is a Structural Analysis Report from Centerline Communications dated July 23, 2021, that shows that the existing tower can support T-Mobile's proposed equipment once modified and a Structural Mount Assessment Letter dated August 26, 2021 that shows the mounting hardware can support the proposed antennas.

The Proposal is Legally Feasible.

The Council has authority, pursuant to statute, to issue an order approving of the shared use of this tower. By issuing an order approving T-Mobile's shared use of this tower, T-Mobile will be able to proceed with obtaining a building permit for the proposed installation. Wireless Solutions, LLC has executed a Letter of Authorization that approved T-Mobile's Request for Tower Share filing, which approval is included with this application. T-Mobile's proposal is legally feasible.

T-Mobile is a telecommunication provider licensed by the FCC to provide service in the State of Connecticut, including but not limited to New London County. T-Mobile will enter into an agreement with the owner of this facility, Wireless Solutions, LLC, for the location of this proposed equipment on the existing tower so that it may provide telecommunications services to the surrounding community. Consequently, the proposal is legally feasible.

The Proposal is Environmentally Feasible.

Pursuant to the Statute, the proposal will be environmentally feasible for the following reasons:

- The overall impact on the Sprague/Baltic will be decreased with the sharing of a single tower versus the proliferation of multiple towers.
- There will be no material increase in the visibility of the tower with the addition of the antennas and associated equipment on the tower.
- There will be no increased impact on air quality because no air pollutants will be generated during normal operation of the facility.
- There will only be a brief, slight increase in noise pollution while the site is under construction.
- During construction, the proposed project will generate a small amount of traffic as construction takes place. Upon completion, traffic will be limited to an average of one trip per month for maintenance and inspections.
- There will be no adverse impact to the health and safety of the surrounding community or workers at the facility due to the addition of T-Mobile's new antennas to the tower. T-Mobile has performed an analysis of the radio frequency field emanating from the transmitting antennas on the tower to ensure compliance with the National Council on Radiation Protection and measurements (NCRP) standard for maximum permissible exposure (MPE) adopted by the FCC. The analysis indicates that T-Mobile and other antennas on the tower will cumulatively emit 4.83% of the NCRP standard for maximum permissible exposure. The report indicates that maximum level of exposure will be well below the FCC's mandated radio frequency exposure limits. The report is enclosed herewith.
- T-Mobile expects to enhance safety in this portion in the Town of Sprague/Baltic by improving wireless telecommunications for local residents and travelers. T-Mobile is currently developing its network to provide its customers with quality and reliable coverage to comply with their FCC license, the site is a necessary part of T-Mobile's network development.
- Specifically, this proposal is designed to provide reliable wireless coverage for this section of Sprague/Baltic.

Conclusions:

For the reasons stated above, the attachment of T-Mobile's antennas and associated equipment to the tower would meet all the requirements set forth in the Statute. The proposal is legally, technically, economically and environmentally feasible and meets all public safety concerns. Therefore, T-Mobile respectfully requests that the Council approve this request for the shared use of this tower located at 147 Baltic Hanover Road Sprague/Baltic, CT 06330.

Respectfully yours,

Ryan Clark

Real Estate Consultant – Site Acquisition
c/o T-Mobile Northeast, LLC.
Centerline Communications, LLC
750 West Center Street, Floor 3 / Suite 301
West Bridgewater, MA 02379
Mobile: (203) 300-7310
rclark@clinellc.com

cc: Wireless Solutions, LLC, tower owner
Town of Sprague, property owner
Cheryl A. Blanchard, chief elected official, Town of Sprague
Philip Chester, Town Planner, Town of Sprague
T-Mobile Northeast, LLC, carrier

Exhibit A

Letter of Authorization



LETTER OF AUTHORIZATION

SITE No.: CTNL123A

SITE NAME: CTNL123A

ADDRESS: 147 Baltic Hanover Road Baltic, CT 06330

Wireless Solutions, LLC, owner of the above-described property, authorizes T-Mobile Northeast, LLC ("T-Mobile") and/or their agent, to act as our nonexclusive agent for the sole purpose of filing and consummating any land use or building permit application(s) necessary to obtain approval of the applicable jurisdiction for T-Mobile's installation of the antennas and related telecommunications equipment on the above-described property.

We understand that this application may be denied, modified or approved with conditions, and that any such conditions of approval or modifications will be the sole responsibility of the carrier and will be complied with prior to issuance of a building permit.

Signature: _____

Print Name: _____

Title: _____

[Handwritten Signature]
KEVIN THOMAS
FIS' OWNER

Exhibit B

Original Facility Approval



TOWN OF SPRAGUE

Planning and Zoning Commission

1 Main Street

Baltic, Connecticut 06330

860-822-3000 Ext. 223

Fax: 860-822-3016

landuse@ctsprague.org

April 20, 2005

Dennison Allen, First Selectman
Town of Sprague
1 Main Street
Baltic, CT 06330

Dear Mr. Allen:

At the regular meeting of the Sprague Planning and Zoning Commission held on April 13, 2005, your request for a communications tower and building for communications equipment to be located on the western side of the Baltic Reservoir as shown on your revised site plan was reviewed. Please be advised that the Commission voted to approve your application.

If you have any questions, please contact us.

Sincerely yours,

Richard Waterman *gjh*

Richard Waterman, Chairman

RW/cjh

Cc: Joseph Smith, ZEO

Exhibit C

Property Card

0 BALTIC-HANOVER RD

Location	0 BALTIC-HANOVER RD	Mblu	9/ 4/ 3/ /
Acct#	B0001200	Owner	SPRAGUE TOWN OF
PBN		Assessment	\$658,080
Appraisal	\$940,100	PID	12
Building Count	1	Utility	

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2017	\$207,720	\$732,380	\$940,100
Assessment			
Valuation Year	Improvements	Land	Total
2017	\$145,410	\$512,670	\$658,080

Owner of Record

Owner	SPRAGUE TOWN OF	Sale Price	\$0
Co-Owner		Certificate	1
Address	1 MAIN ST	Book & Page	0022/0013
	BALTIC, CT 06330	Sale Date	01/29/1968
		Instrument	00

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
SPRAGUE TOWN OF	\$0	1	0022/0013	00	01/29/1968

Building Information

Building 1 : Section 1

Year Built:		Building Photo
Living Area:	0	 Building Photo
Replacement Cost:	\$0	(http://images.vgsi.com/photos2/SpragueCTPhotos//default.jpg)
Building Percent Good:		

Replacement Cost
Less Depreciation: \$0

Building Attributes	
Field	Description
Style	Vacant Land
Model	
Grade:	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Extra Fixtures	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Num kitchens	
Xtra Openings	
Gas Fireplaces	
Wood/Pellet Stv	
Finished Bsmt	
Usrflid 106	
Bsmt Gar	
Num Park	
Fireplaces	
Rec Room	
Usrflid 101	
Usrflid 102	
Usrflid 100	
Usrflid 300	

Building Layout

(http://images.vgsi.com/photos2/SpragueCTPhotos//Sketches/12_12.jpg)

Building Sub-Areas (sq ft)	<u>Legend</u>
No Data for Building Sub-Areas	

Usrflid 301	
-------------	--

Extra Features

Extra Features	Legend
No Data for Extra Features	

Parcel Information

Use Code	9030
Description	Municipal - Vac
Deeded Acres	239.5

Land

Land Use	Land Line Valuation
Use Code	9030
Description	Municipal - Vac
Zone	BD
Alt Land Appr	No
Category	
	Size (Acres) 239.5
	Frontage
	Depth
	Assessed Value \$512,670
	Appraised Value \$732,380

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FGR1	Garage			864.00 S.F.	\$26,440	1
SHD1	Shed			2850.00 S.F.	\$25,650	1
SHD1	Shed			625.00 S.F.	\$5,630	1
TWR1	Cell Tower			1.00 UNITS	\$150,000	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2019	\$207,720	\$732,380	\$940,100
2018	\$207,720	\$732,380	\$940,100
2018	\$207,720	\$732,380	\$940,100

Assessment			
Valuation Year	Improvements	Land	Total
2019	\$145,410	\$512,670	\$658,080
2018	\$145,410	\$512,670	\$658,080
2018	\$145,410	\$512,670	\$658,080



Exhibit D

Construction Drawings

PROJECT INFORMATION

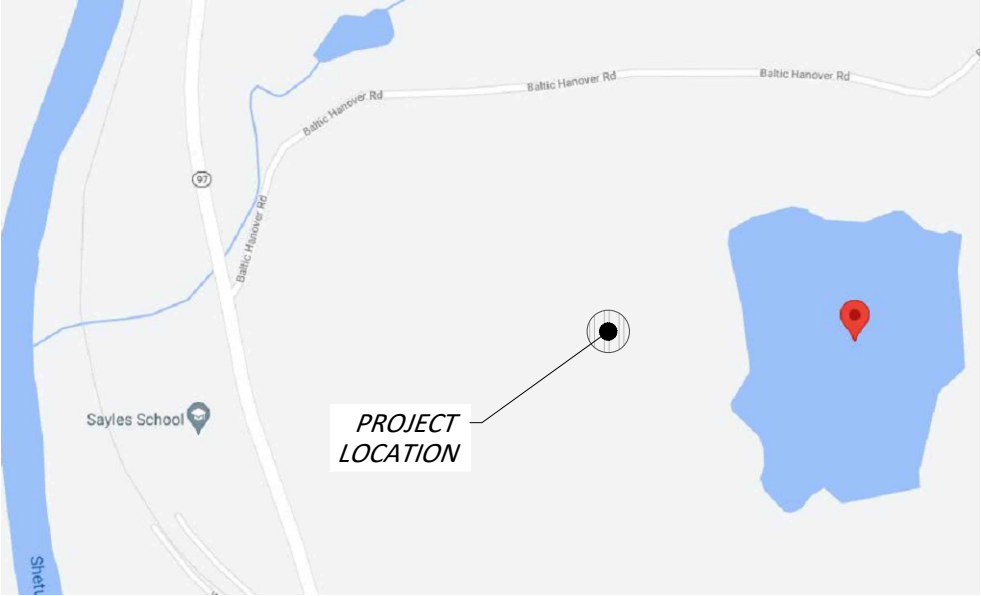
SITE NAME:	CTNL123A
SITE NUMBER:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330
COUNTY	NEW LONDON
MUNICIPALITY:	TOWN OF BALTIC
ZONING:	C
LATITUDE:	N 41.62417000° (NAD83)
LONGITUDE:	W -72.07806000° (NAD83)
TYPE OF SITE:	SELF SUPPORT TOWER
STRUCTURE HEIGHT:	TBD AGL
ANTENNA CENTER:	155'-0" AGL
GROUND ELEVATION:	275' (NAVD 88)
BUILDING OWNER NAME:	TOWN OF SPRAGE
BUILDING OWNER ADDRESS:	1 MAIN ST. BALTIC, CT 06330
APPLICANT:	T-MOBILE NORTHEAST, LLC. 35 GRIFFIN RD S BLOOMFIELD, CONNECTICUT 06002
APPLICANT PHONE:	(860) 692-7100



T - Mobile
NORTHEAST LLC

SITE NAME: CTNL123A
SITE ID: CTNL123A
ADDRESS: 147 BALTIC HANOVER RD
BALTIC, CT 06330

TECHNOLOGY: 67E5A998E 6160
MODIFICATION: COVERAGE STRATEGY_REGIONAL COVERAGE



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

GENERAL NOTES

1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSE OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.
2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THESEEORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.
3. 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.

SCOPE OF WORK

1. INSTALL ONE RBS 6601 CABINET
2. INSTALL ONE 6160 CABINET
3. INSTALL ONE B160 BATTERY CABINET
4. INSTALL NINE ANTENNAS
5. INSTALL SIX RRUs
6. INSTALL ONE CONC. EQUIP PAD
7. REMOVE SECTION EXISTING FENCE
8. INSTALL NEW FENCE SECTION

DRAWING INDEX

NO.	DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES, RF NOTES, CABLING NOTES
A-1	COMPOUND PLAN
A-2	EQUIPMENT LAYOUT
A-3	EQUIPMENT DETAILS
A-4	SOUTHWEST ELEVATION
A-5	ANTENNA PLAN & SCHEDULE
A-6	SECTOR MOUNT DETAIL
A-7	DETAILS
A-8	ATS SPEC SHEET
A-9	GENERATOR DETAIL
S-1	SECTOR MOUNT DETAIL
SN-1	STRUCTURAL NOTES & SPECIAL INSPECTIONS
G-1	GROUNDING & ONE LINE DIAGRAM
G-2	GROUNDING PLAN

DRAWING SCALE NOTES:

THESE DRAWINGS ARE FORMATTED TO BE FULL SIZE AT 22"x34". CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

T - Mobile
NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 026002
PHONE: (860) 629-1700

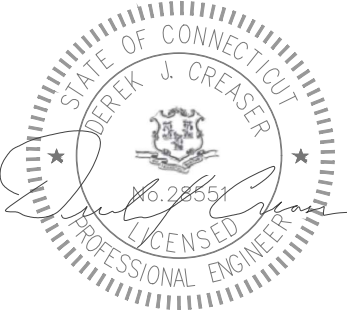


750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
1	08/11/21	ADDED GENERATOR	RL
0	07/23/21	ISSUED FOR CONSTRUCTION	NMT

DESIGNED BY: TRP	APPROVED BY: WRD
---------------------	---------------------



DATE: 08/11/2021

IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT. UNLESS EXPLICITLY AGREED TO BY THE ENGINEER IN WRITING, THE ENGINEER DISCLAIMS ALL LIABILITY ASSOCIATED WITH THE REUSE, ALTERATION OR MODIFICATION OF THE CONTENTS HEREIN.

SITE NAME:	CTNL123A
SITE ID:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON
SHEET TITLE:	TITLE SHEET
DRAWING:	T-1



Know what's below.
Call before you dig.

RF NOTES

1. ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTOR
2. THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.
3. RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.
4. ALL SPECIFIED MATERIAL FOR EACH LOCATION (E.G. OUT DOORS-OCCUPIED, INDOORS-UNOCCUPIED, PLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.
5. RADIO SIGNAL CABLE SHALL BE SUPPORTED AT MINIMUM OF EVERY THREE (3) FEET EXCEPT INSIDE MONOPOLES OR MONOPOLES WHERE CABLE AND CONNECTOR MANUFACTURERS SUPPORT RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURER RECOMMENDATION CABLES SUPPORT ACCESSORIES SHALL BE USED.
6. THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.
7. DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.
8. ALL FEEDER LINE AND JUMPER CONNECTORS SHALL BE 7/16 DIN CABLE CONNECTORS THAT MEET IP68 STANDARDS.
9. 7/16 DIN CONNECTORS REQUIRE NO ADDITIONAL WEATHER PROOFING IN INDOOR APPLICATIONS IF INSTALLED AND TORQUED PROPERLY. IN OUTDOOR APPLICATIONS WEATHER PROOFING IS REQUIRED AND THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED.
10. USING WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURER AND CONTRACTOR START TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR, AND WRAP 2 INCHES TOWARD THE CONNECTOR, THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNTIL THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER INCH OR TWO. PASS THE BUTYL RUBBER AND FINISH WITH A FINAL LAYER OF TAPE.
11. ANTENNAS SHALL BE PAINTED, WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY OF HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS' SURFACES PREPARATION AND PAINTING REQUIREMENTS.
12. CABLE SHIELDS AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF THE TOWERS THAT ARE BETWEEN 60 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 60 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.

ANTENNA CABLE & SCHEDULING NOTES

1. SUBCONTRACTOR SHALL VERIFY THE ACTUAL LENGTH IN THE FIELD BEFORE INSTALLATION.
2. TAG AND COLOR CODE ALL MAIN CABLES AT LOCATIONS PER T-MOBILE ANTENNA CABLE MARKING STANDARD:
 - TOP OF TOWER END OF MAIN COAX
 - BOTTOM OF TOWER END OF MAIN COAX
 - DIRECTLY BEFORE AND AFTER RF EQUIPMENT
 - END OF JUMPERS AT BTS EQUIPMENT
3. ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWN TILT MOUNTING BRACKETS SUPPLIED BY ANTENNA MANUFACTURER.
4. PRIOR APPROVAL IS REQUIRED BEFORE PERFORMING ANY WORK ON EXISTING CELL SITE EQUIPMENT.

GENERAL NOTES

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
- CONTRACTOR - CENTERLINE COMMUNICATIONS
SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
OWNER - T-MOBILE MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.

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	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	SEE	SEEEERENCE		
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED	TYP	TYPICAL

15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 ($F_y = 36$ ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E ($F_y = 36$ ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.

16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF T-MOBILE MOBILITY SITES."

17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.

18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.

19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. 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: IBC 2015 & CONNECTICUT STATE BUILDING CODE 2018
ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
LIGHTNING CODE: NFPA 70-2017

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, FOURTEENTH EDITION;

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

ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; SEEFF
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.

T - Mobile
NORTHEAST LLC

T-MOBILE NORTHEAST, LLC
35 GRIFFIN RD S
BLOOMFIELD, CT 02600
PHONE: (860) 629-1700

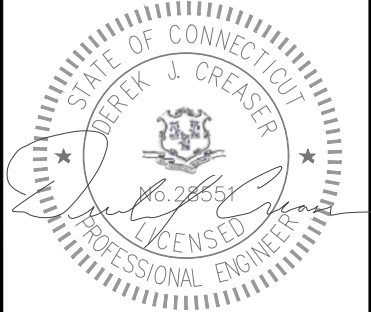


750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

1	08/11/21	ADDED GENERATOR	RL
0	07/23/21	ISSUED FOR CONSTRUCTION	NMT
REV	DATE	DESCRIPTION	BY

DESIGNED BY: TRP	APPROVED BY: WRD
---------------------	---------------------



DATE: 08/11/2021

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SITE NAME:

CTNL123A

SITE ID:

CTNL123A

SITE ADDRESS:

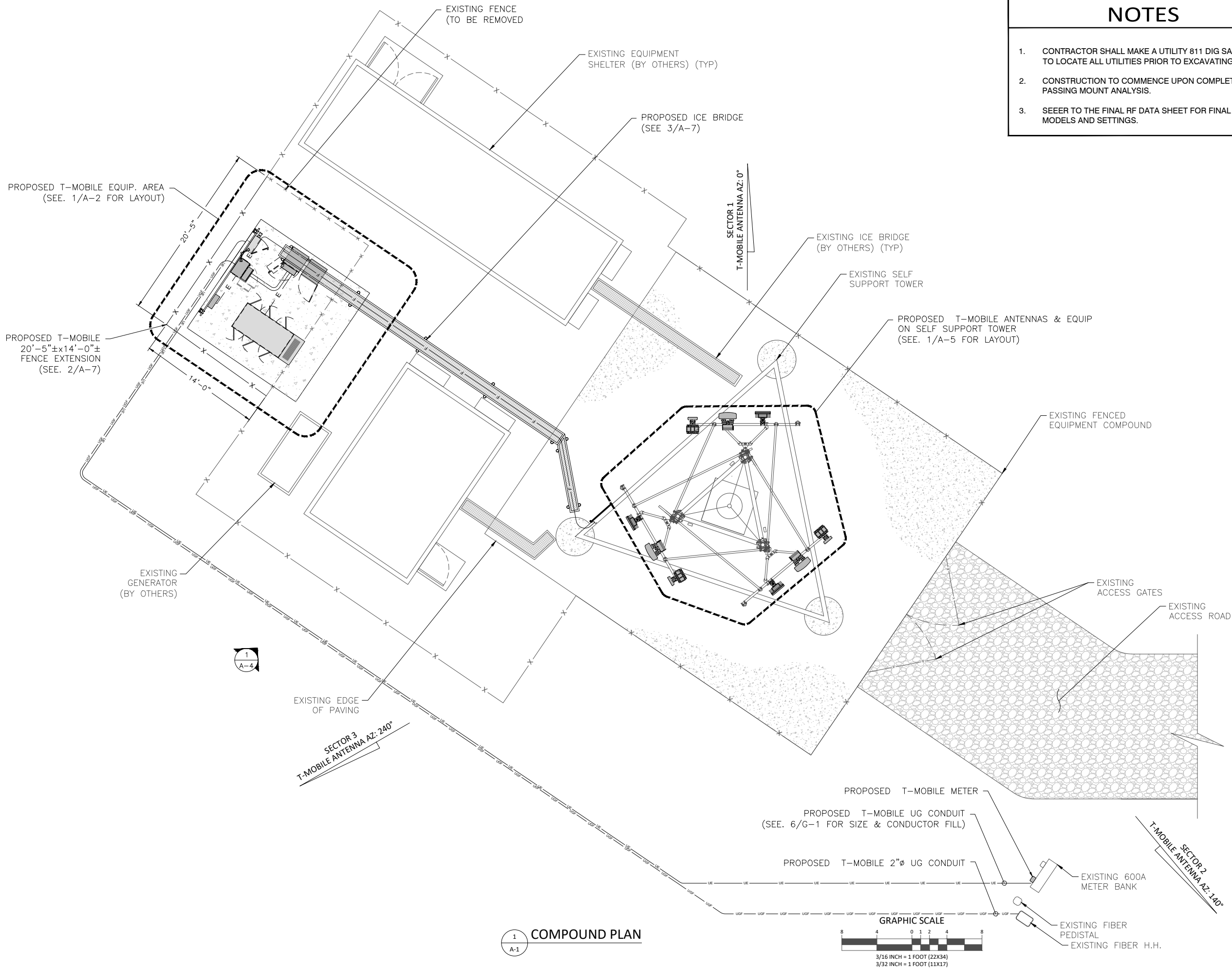
147 BALTIC HANOVER RD
BALTIC, CT 06330
NEW LONDON

SHEET TITLE:

**GENERAL NOTES, RF NOTES,
CABLING NOTES**

DRAWING:

GN-1



NOTES

- 1. CONTRACTOR SHALL MAKE A UTILITY 811 DIG SAFE CALL TO LOCATE ALL UTILITIES PRIOR TO EXCAVATING.
- 2. CONSTRUCTION TO COMMENCE UPON COMPLETION OF A PASSING MOUNT ANALYSIS.
- 3. SEEER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA MODELS AND SETTINGS.

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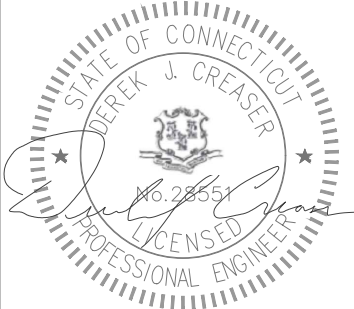


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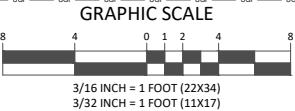
DATE: 08/11/2021

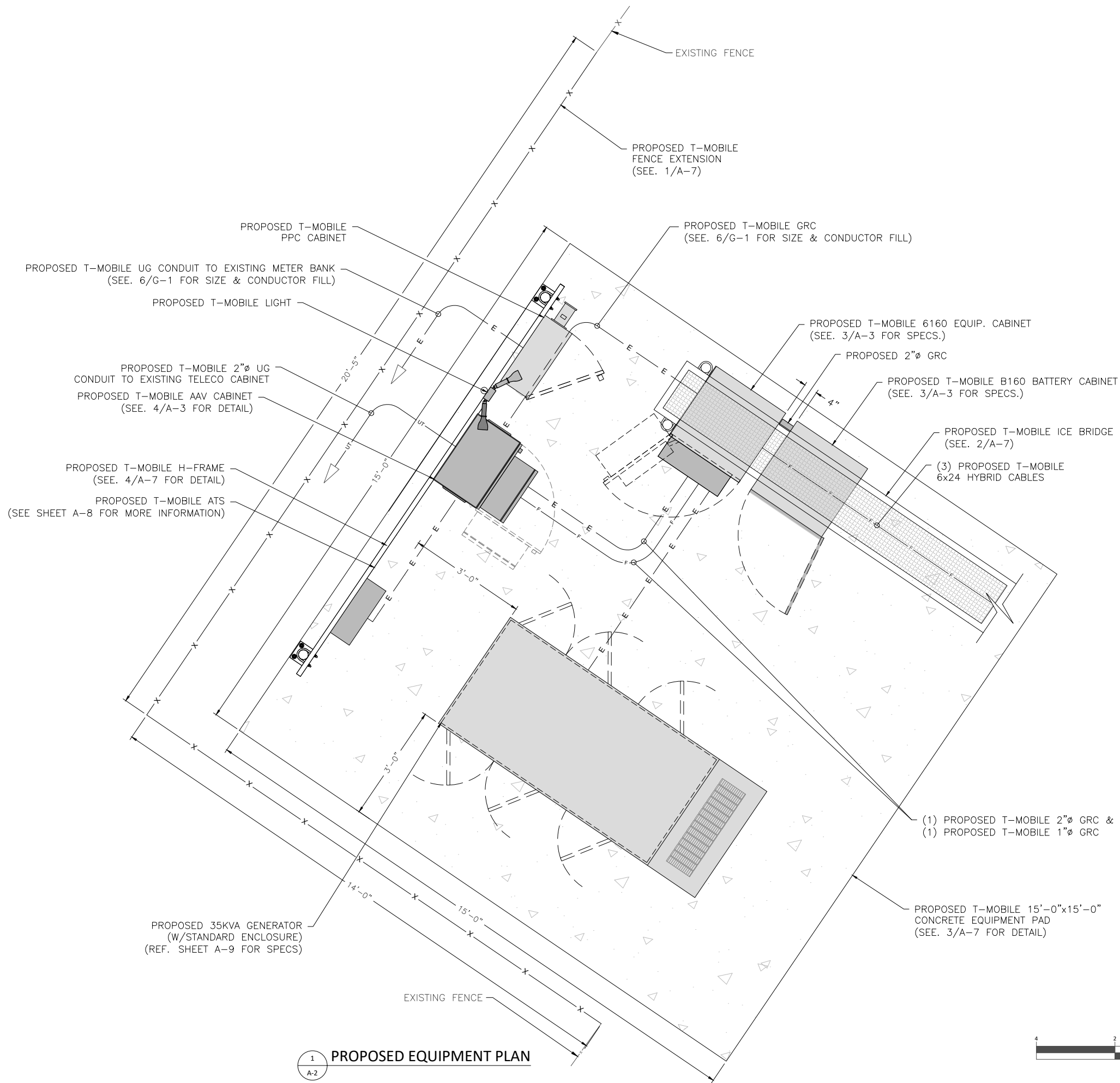
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SITE NAME:	CTNL123A
SITE ID:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON

SHEET TITLE:	COMPOUND PLAN
DRAWING:	A-1

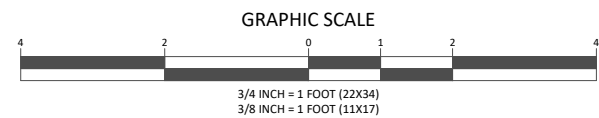
1
A-1
COMPOUND PLAN





1
A-2

PROPOSED EQUIPMENT PLAN



T - Mobile NORTHEAST LLC

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35 GRIFFIN RD S
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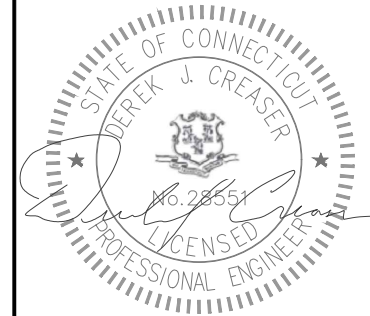


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WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

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SITE NAME:	CTNL123A
SITE ID:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON
SHEET TITLE:	EQUIPMENT LAYOUT
DRAWING:	A-2

RFS APX16DWV-16DWVS-E-A20	
MODEL #	APX16DWV-16DWV-S-E-A20
MANUF.	RFS
HEIGHT	55.9"
WIDTH	13.3"
DEPTH	3.15"
WEIGHT	40.7 LBS

RFS APXVAALL24_43-U-NA20	
MODEL #	APXVAALL24_43-U-NA20
MANUF.	RFS
HEIGHT	95.9"
WIDTH	24.0"
DEPTH	8.5"
WEIGHT	128 LBS/153.3 LBS with Mounting Hardware

ERICSSON AIR 6449 B41	
MODEL #	AIR 6449 B41
MANUF.	ERICSSON
HEIGHT	33.1"
WIDTH	20.6"
DEPTH	8.6"
WEIGHT	104.0 LBS



PLAN



FRONT



SIDE

RADIO DIMENSIONS	
MODEL #	RADIO 4480 B66
MANUF.	ERICSSON
HEIGHT	19.5"
WIDTH	15.1"
DEPTH	7.8"
WEIGHT	87 LBS



PLAN



FRONT



SIDE

RADIO DIMENSIONS	
MODEL #	RADIO 4460 B25_B66
MANUF.	ERICSSON
HEIGHT	15.1"
WIDTH	17.0"
DEPTH	11.9"
WEIGHT	108 LBS



PLAN



FRONT



SIDE

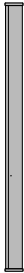
RADIO DIMENSIONS	
MODEL #	RADIO 4415 B25 & B66A
MANUF.	ERICSSON
HEIGHT	14.9"
WIDTH	13.2"
DEPTH	5.4"
WEIGHT	46.3 LBS



PLAN



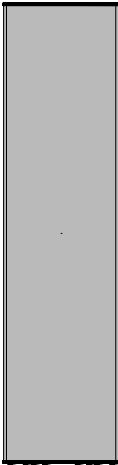
FRONT



SIDE



PLAN



FRONT



SIDE



PLAN



FRONT



SIDE

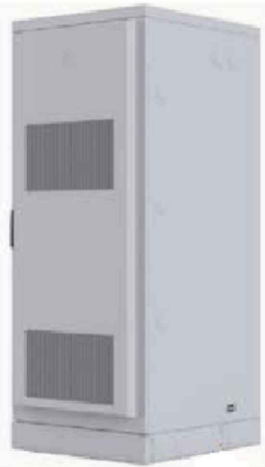
2 RADIO DETAILS
A-3

1 ANTENNA DETAILS
A-3



6160 AC ENCLOSURE

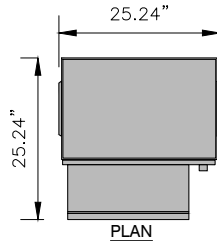
CAPACITY	19U(19" RACK)
RACK SPACE USER EQUIP.	POWER AND CPRI SUPPORT FOR
HARDWARE CAPABILITIES	MULTI-STANDARD REMOTE RADIOS (RRU OR AIR)
	ERS BASEBAND AND TRANSPORT UNITS
	Li-ION BATTERIES
	3PP EQUIPMENT
	ADDITIONAL POWER FEED OPTIONS AVAILABLE
MECHANICAL SPECIFICATIONS	
WEIGHT	320lbs (INCLUDING ACTIVE EQUIPMENT)
DIMENSIONS (HWD)	63"x26"x26" (INCLUDING BASE FRAME)
BASE FRAME HEIGHT	6"
MOUNTING POSITION	GROUND
ENCLOSURE MATERIAL	ALUMINUM
COLOR	POWDER PAINT NCS 2002-B
DOOR	FRONT ACCESS
RACK TYPE	19" (IEC 60297-3-100)
LOCK TYPE	CYLINDER/PAD LOCK
POWER SYSTEM	
INPUT VOLTAGE	3P+N+PE 346/200-415/240 VAC
	2P+N+PE 208/120-220/127 VAC
	1P+N+PE 200-250 VAC



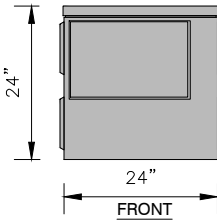
B160 BATTERY ENCLOSURE

CAPACITY	VRLA12V: 100Ah/150Ah/170Ah/190Ah/210Ah
	Li-ION 24U 19"/23"
	SODIUM-NICKEL 3xFIAMM
ELECTRICAL SPECIFICATIONS	
DC OUTPUT	-48VDC/200A
BATTERY BREAKERS	2x125/2p
ALARMS	DOOR OPEN, CLIMATE FAILURE, MCB CONNECTION
MECHANICAL SPECIFICATIONS	
WEIGHT	295 lbs (PLUS 3 STRINGS OF RECOMMENDED 190 aHR FOR ADDITIONAL 1588LBS)
DIMENSIONS (HWD)	63"x26"x26" (INCLUDING BASE FRAME)
BASE FRAME HEIGHT	6"
MATERIAL	GALVANIZED STEEL (180g/m ²)
COLOR	POWDER PAINT NCS 2002-B
LOCKING TYPE	CYLINDER/PAD LOCK

3 PROPOSED EQUIPMENT CABINET SPECIFICATIONS
A-3

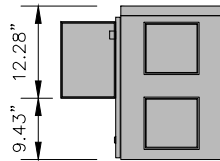


PLAN



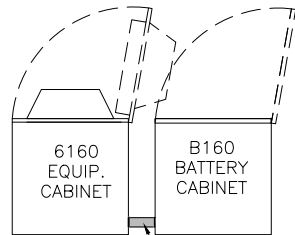
FRONT

AAV CABINET	
MODEL #	NETXTEND 2416
MANUF.	EMERSON
HEIGHT	24.0"
WIDTH	24.0"
DEPTH	16.67"
WEIGHT	64 LBS/100 LBS with (4) BATERIES



SIDE

4 AAV CABINET DETAIL
A-3



(1) PROPOSED 2"ØX 8" GALV. NIPPLE, (4) 2"Ø LOCK RINGS. & (2) 2"Ø PLASTIC BUSHING (NOT SHOWN)

5 PROPOSED EQUIPMENT CONDUIT DETAIL
A-3

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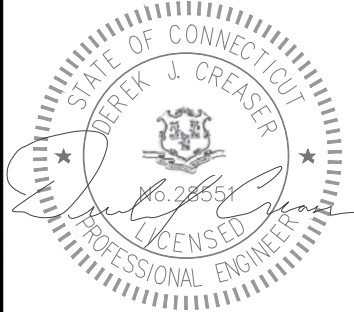


750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

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DESIGNED BY: TRP	APPROVED BY: WRD
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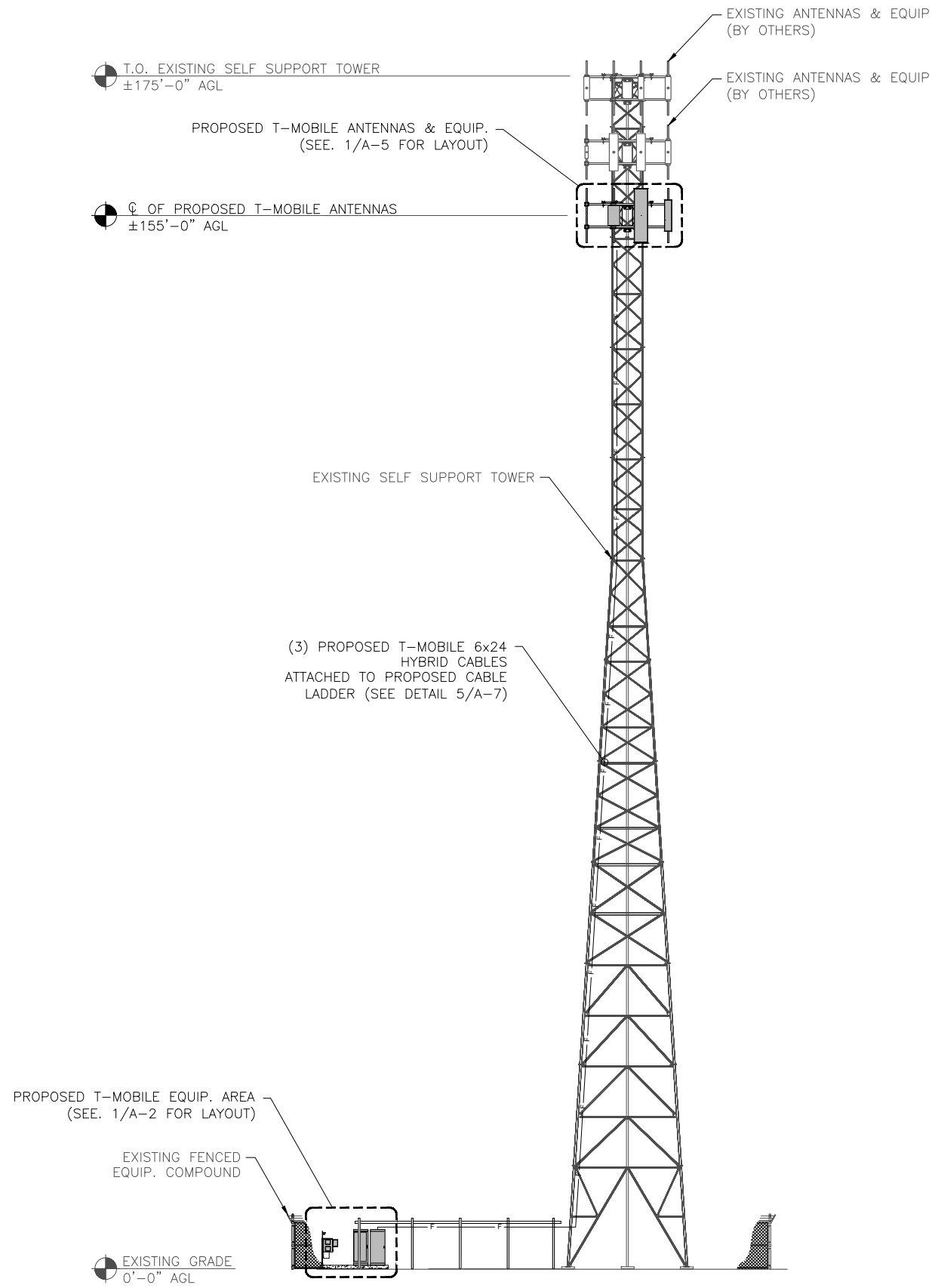


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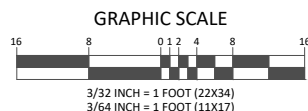
SITE NAME:	CTNL123A
SITE ID:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON

SHEET TITLE:	EQUIPMENT DETAILS
DRAWING:	A-3



1
A-4

SOUTHWEST ELEVATION



T - Mobile NORTHEAST LLC

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35 GRIFFIN RD S
BLOOMFIELD, CT 026002
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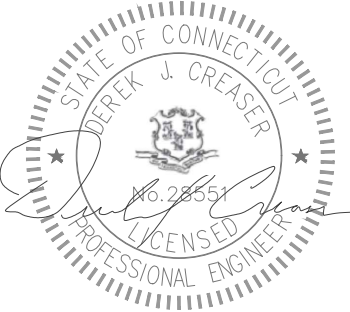
750 W CENTER ST, SUITE 301
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WRD



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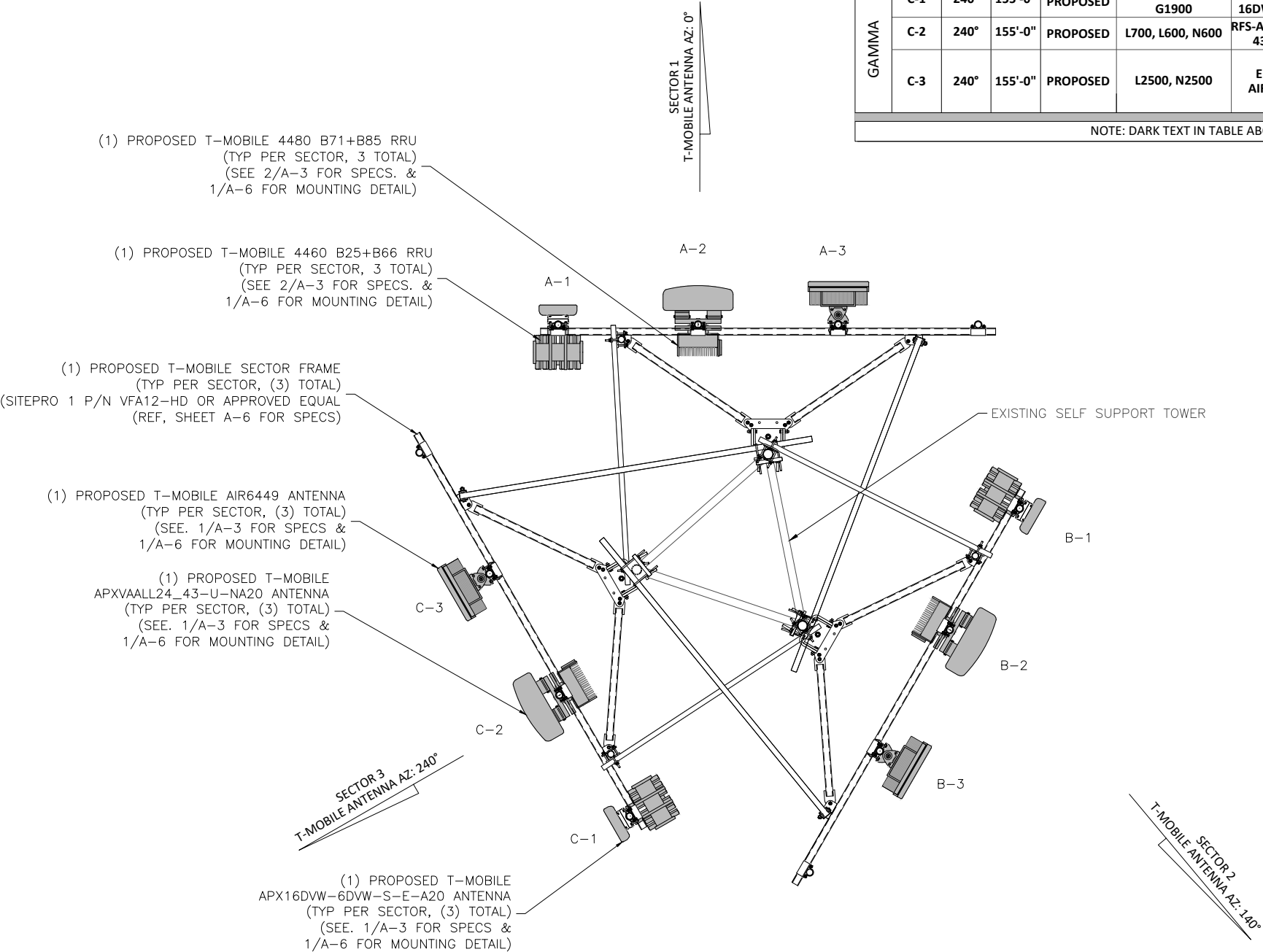
SITE NAME:	CTNL123A
SITE ID:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON
SHEET TITLE:	SOUTHWEST ELEVATION
DRAWING:	A-4



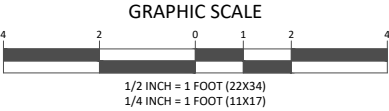
ANTENNA NOTE:
SEEER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

ANTENNA & CABLE SCHEDULE:

	LOCATION	AZIMUTH	RAD CENTER	STATUS	TECHNOLOGY	ANTENNA MODEL NO.	MECH DOWNTILT	ELEC DOWNTILT	CABLES	DIPLEXERS	TMA/RRU	CABLE SIZE	CABLE LENGTH
ALPHA	A-1	0°	155'-0"	PROPOSED	L2100, L1900, G1900	RFS-APX16DWV_16DWV-S-E-A20	0°	2°/2°	(4) COAX JUMPERS	---	4460 B25+B66	6x24 HYBRID	225'
	A-2	0°	155'-0"	PROPOSED	L700, L600, N600	RFS-APXVAALL24_43-U-NA20	0°	2°/2°/2°/2°	(4) COAX JUMPERS	---	4480 B71+B85	SHARED	----
	A-3	0°	155'-0"	PROPOSED	L2500, N2500	ERICSSON AIR6449 B41	0°	2°/2°	---	---	---	SHARED	----
BETA	B-1	140°	155'-0"	PROPOSED	L2100, L1900, G1900	RFS-APX16DWV_16DWV-S-E-A20	0°	2°/2°	(4) COAX JUMPERS	---	4460 B25+B66	6x24 HYBRID	225'
	B-2	140°	155'-0"	PROPOSED	L700, L600, N600	RFS-APXVAALL24_43-U-NA20	0°	2°/2°/2°/2°	(4) COAX JUMPERS	---	4480 B71+B85	SHARED	----
	B-3	140°	155'-0"	PROPOSED	L2500, N2500	ERICSSON AIR6449 B41	0°	2°/2°	---	---	---	SHARED	----
GAMMA	C-1	240°	155'-0"	PROPOSED	L2100, L1900, G1900	RFS-APX16DWV_16DWV-S-E-A20	0°	2°/2°	(4) COAX JUMPERS	---	4460 B25+B66	6x24 HYBRID	225'
	C-2	240°	155'-0"	PROPOSED	L700, L600, N600	RFS-APXVAALL24_43-U-NA20	0°	2°/2°/2°/2°	(4) COAX JUMPERS	---	4480 B71+B85	SHARED	----
	C-3	240°	155'-0"	PROPOSED	L2500, N2500	ERICSSON AIR6449 B41	0°	2°/2°	---	---	---	SHARED	----
NOTE: DARK TEXT IN TABLE ABOVE DENOTES PROPOSED EQUIPMENT											(3) TOTAL 6x12 HYBRID CABLES	675'	



1
A-5
PROPOSED ANTENNA PLAN



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NORTHEAST LLC

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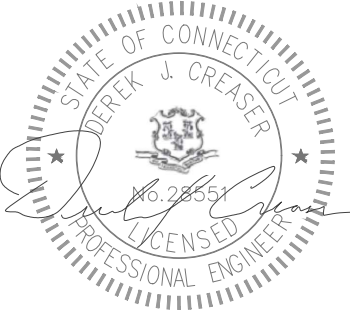


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SITE ID:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON
SHEET TITLE:	ANTENNA PLAN & SCHEDULE
DRAWING:	A-5

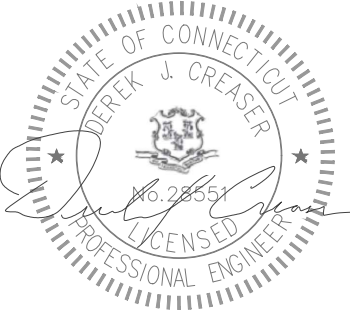


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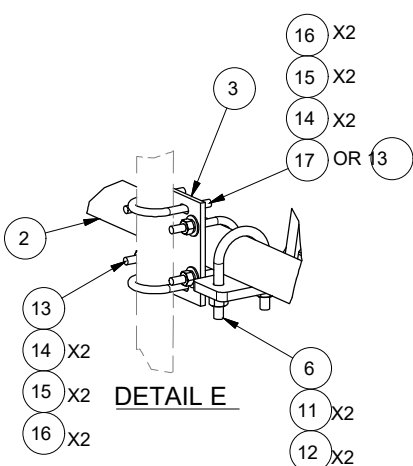
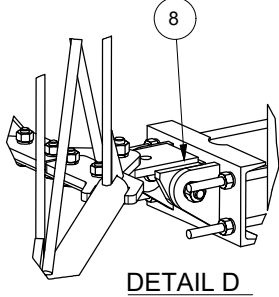
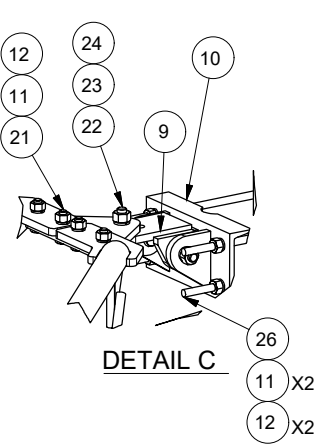
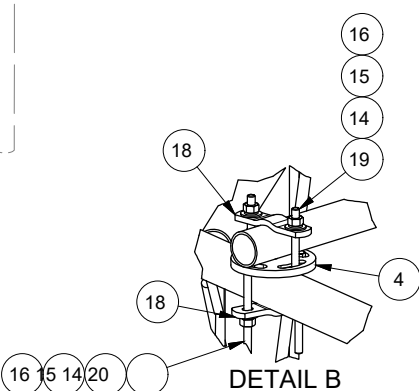
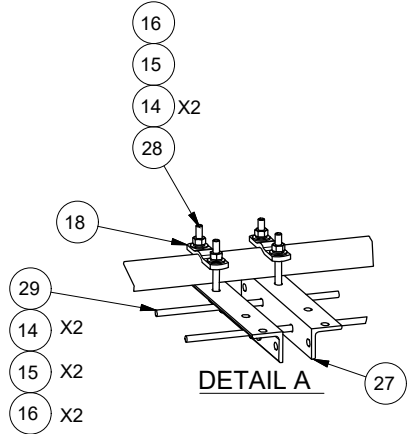
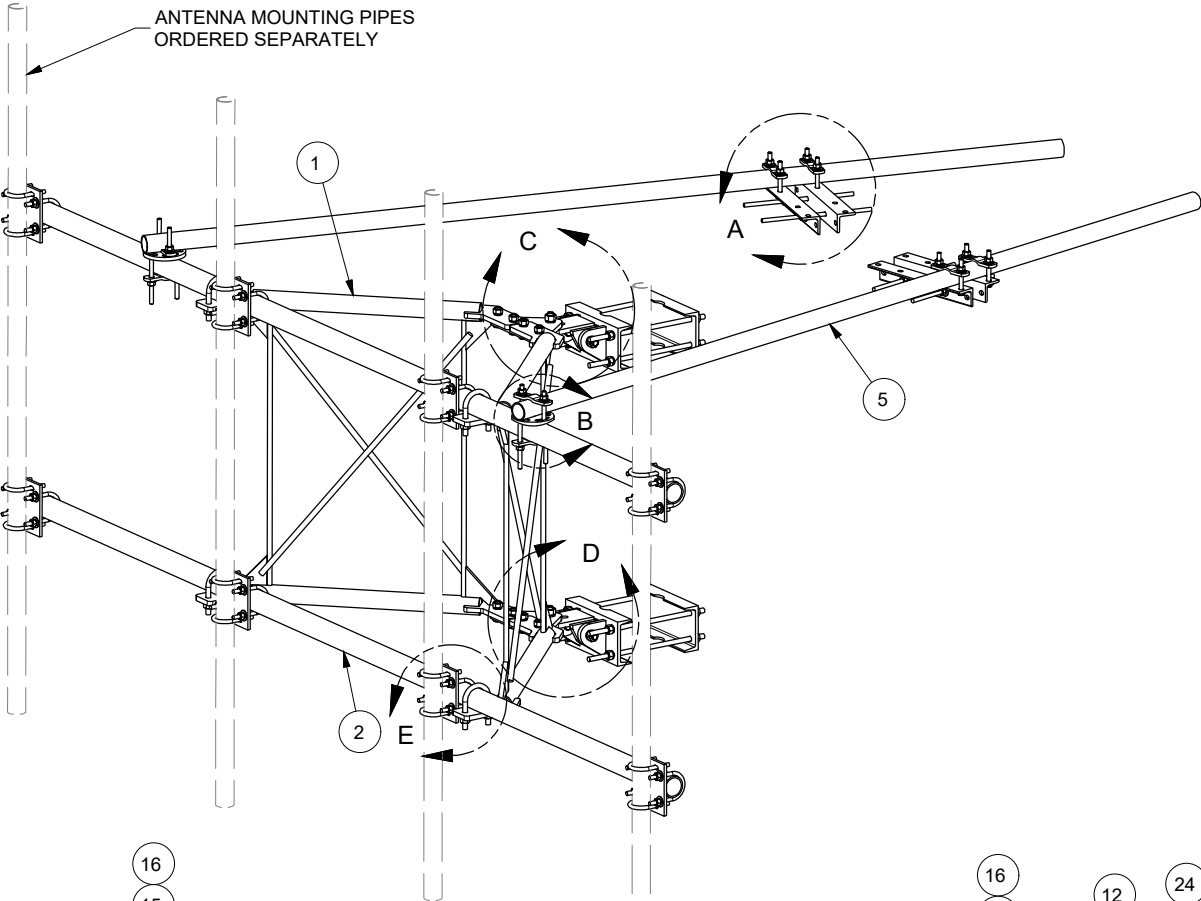


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SITE NAME:	CTNL123A
SITE ID:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON

SHEET TITLE:	SECTOR MOUNT DETAIL
DRAWING:	A-6



PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFAW	SUPPORT ARM		66.80	133.59
2	2	P30150	2-7/8" O.D. X 150" SCH. 40 PIPE	150 in	76.94	153.87
3	8	SCX2	CROSSOVER PLATE	7 in	4.80	38.37
4	2	X-127594	FLAT DISK CLAMP PLATE 4" CENTERS (GALV.)		2.48	4.97
5	2	P2126	2-3/8" OD X 126" SCH 40 GALVANIZED PIPE	126 in	40.75	81.50
6	4	X-UB5300	5/8" X 3" X 5-1/4" X 2-1/2" U-BOLT (HDG.)		1.15	4.60
7	2	X-VFAPL3	VFA-HD PIVOT PLATE	24 in	9.69	19.38
8	1	X-LPB	LOWER PIVOT BRACKET		8.84	8.84
9	1	X-UPB	UPPER PIVOT BRACKET		8.84	8.84
10	2	X-HDPMW	HEAVY DUTY PIPE MOUNT WELDMENT		18.52	37.04
11	32	G58LW	5/8" HDG LOCKWASHER		0.03	0.83
12	32	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	4.16
13	32	X-UB1300	1/2" X 3" X 5" X 2" GALV U-BOLT		0.74	23.64
14	96	G12FW	1/2" HDG USS FLATWASHER		0.03	3.27
15	88	G12LW	1/2" HDG LOCKWASHER		0.01	1.22
16	88	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	6.30
17	16	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.26	4.11
18	8	X-100064	CLAMP (S) (4" V-CLAMP) GALVANIZED		0.91	7.30
19	4	G1204	1/2" x 4" HDG HEX BOLT GR5 FULL THREAD	4 in	0.27	1.08
20	4	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	6 1/2 in	0.41	1.64
21	8	A582114	5/8" x 2-1/4" HDG A325 HEX BOLT	2 1/4 in	0.31	2.50
22	6	A34212	3/4" x 2-1/2" UNC HEX BOLT (A325)	2 1/2 in	0.48	2.87
23	6	G34LW	3/4" HDG LOCKWASHER		0.04	0.26
24	6	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	1.28
25	2	X-HDPMBP	HEAVY DUTY PIPE MOUNT BACKING PLATE	12 in	13.44	26.89
26	8	G58R-18	5/8" x 18" THREADED ROD (HDG.)		0.40	3.19
27	4	X-LLTB	ANGLE BRACKET FOR LLTB	16 1/2 in	7.06	28.25
28	8	G12045	1/2" x 4.5" HDG HEX BOLT GR5 FULL THREAD	4 1/2 in	0.30	2.38
29	4	G12R-15	1/2" x 15" THREADED ROD (HDG.)		0.40	1.60
					TOTAL WT. # 630.79	

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES (± 0.030")
DRILLED AND GAS CUT HOLES (± 0.030") - NO CONING OF HOLES
LASER CUT EDGES AND HOLES (± 0.010") - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING (± 0.030")
ALL OTHER ASSEMBLY (± 0.060")

PROPRIETARY NOTE:
THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION

12'-6" HEAVY DUTY
V-FRAME ASSEMBLY
WITH TWO STIFF ARMS

CPD NO.	DRAWN BY CEK 6/2/2015	ENG. APPROVAL
CLASS SUB 81 02	DRAWING USAGE CUSTOMER	CHECKED BY BMC 6/22/2015



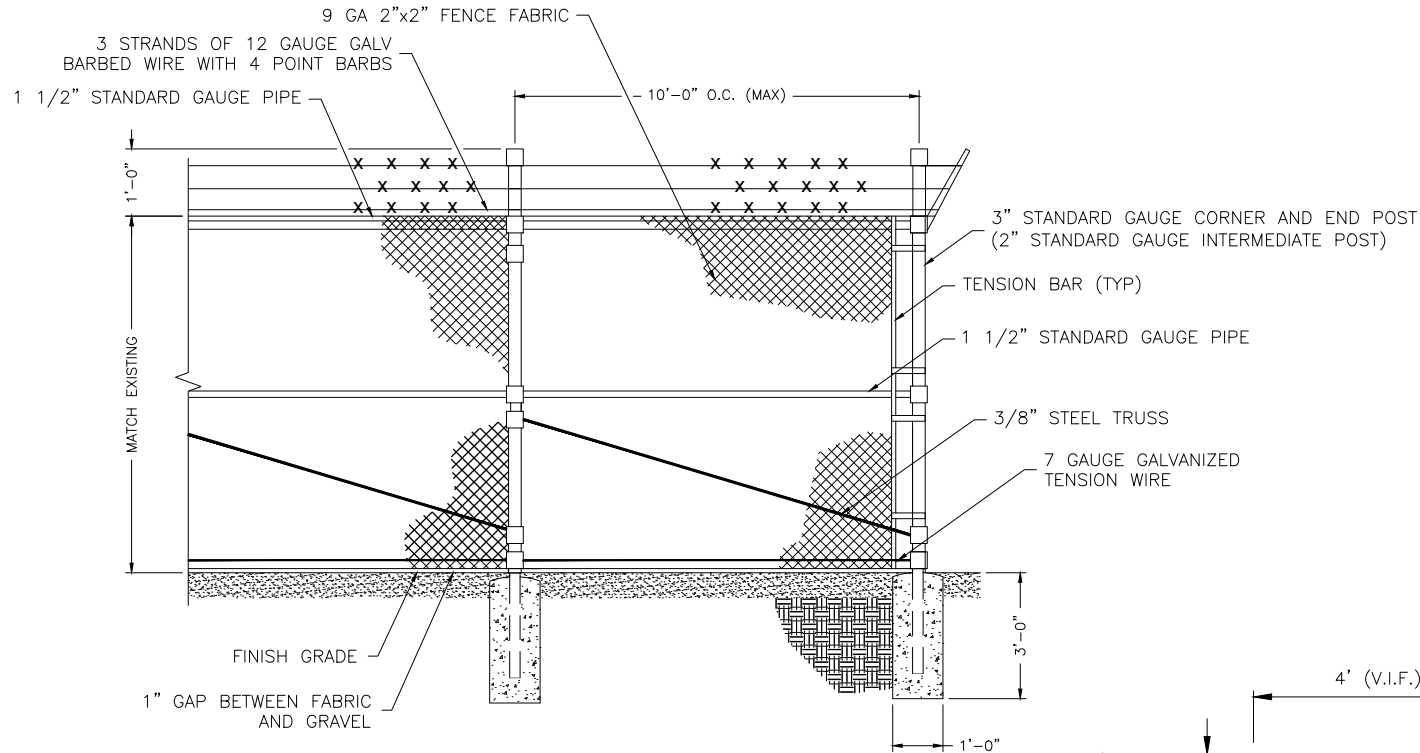
A valmont COMPANY

Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

Engineering
Support Team:
1-888-753-7446

PART NO.	VFA12-HD	PAGE 1 OF 2
DWG. NO.	VFA12-HD	

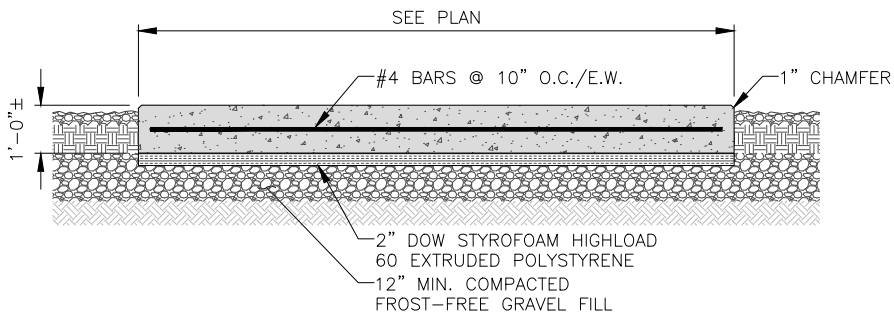
NOTE:
IF APPLICABLE, MATCH EXISTING CONDITIONS AS PRACTICAL



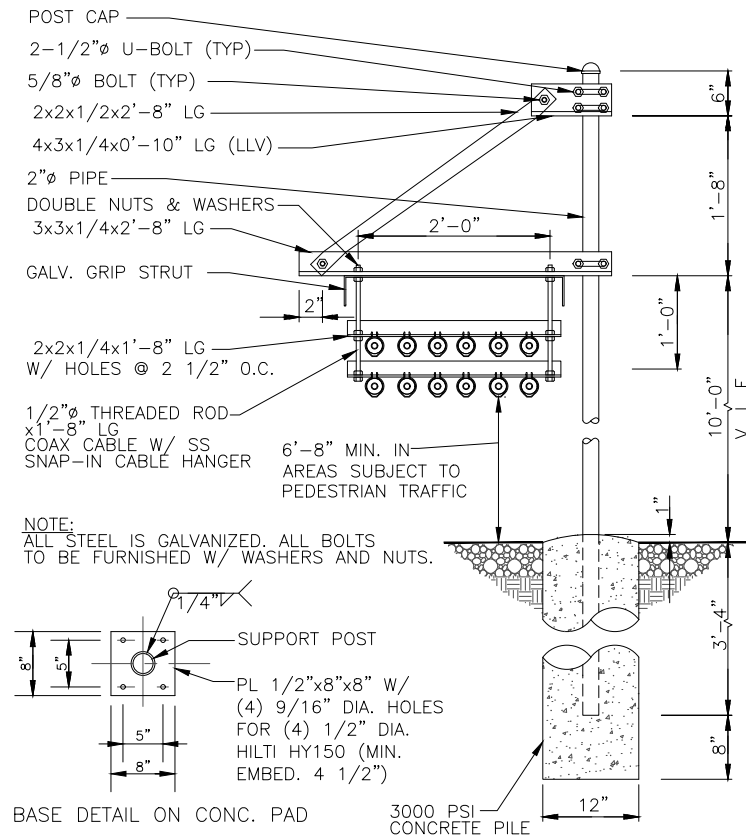
1
A-7
TYPICAL FENCE DETAIL

FOUNDATION NOTES & CONCRETE SPECIFICATIONS:

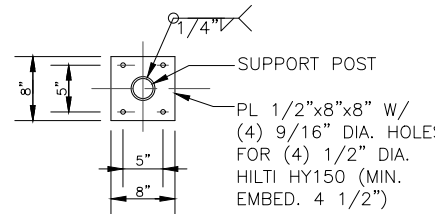
- FOUNDATION AREA SHALL BE EXCAVATED TO THE DEPTH AND DIMENSIONS SHOWN ON THE PLANS. EXISTING LEDGE AND ALL OTHER EXISTING UNSUITABLE MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE. THE SUBGRADE SHALL BE ROLLED WITH A 1-TON, VIBRATORY, WALK-BEHIND ROLLER AT A SPEED OF LESS THAN 2 FPS, 6 PASSES MINIMUM, TO PROVIDE UNYIELDING SURFACE.
- UNDERCUT SOFT OR "WEAVING" AREAS A MINIMUM OF 12 INCHES DEEP. BACKFILL UNDERCUT AREA WITH FILL MEETING THE SPECIFICATIONS OF STRUCTURAL FILL.
- CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'_c)=4000 psi. CONCRETE TO BE AIR ENTRAINED, DESIRED AIR CONTENT TO BE 6% (PLUS OR MINUS 2%)
- REINFORCING BAR TO BE ASTM A615 GRADE 60.
- WELDED WIRE FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A185. WIRES FOR FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A82.
- COORDINATE WITH MANUFACTURER OF PREFABRICATED SHELTER FOR LOCATION OF ATTACHMENTS TO BASE SLAB.
- ALL REINFORCING TO HAVE MINIMUM CONCRETE COVER PER ACI SPECIFICATIONS.
- ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO LATEST EDITION OF ACI 318 AND APPLICABLE STATE BUILDING CODE.



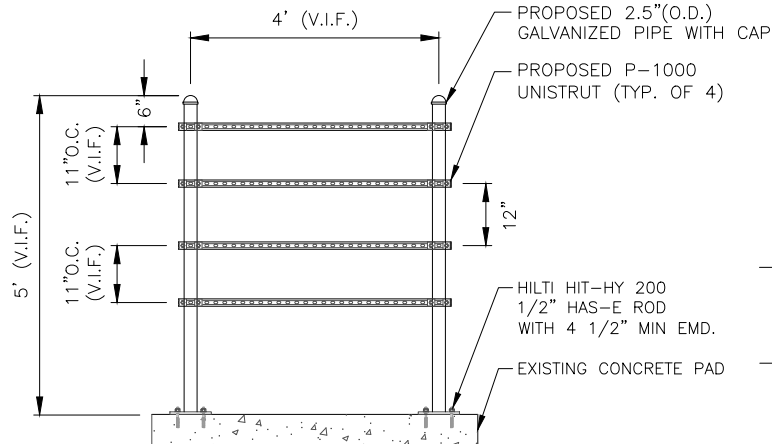
3
A-7
TYPICAL CONCRETE PAD DETAIL



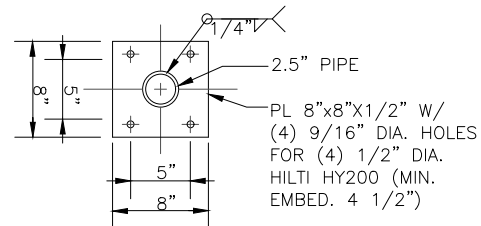
NOTE:
ALL STEEL IS GALVANIZED. ALL BOLTS TO BE FURNISHED W/ WASHERS AND NUTS.



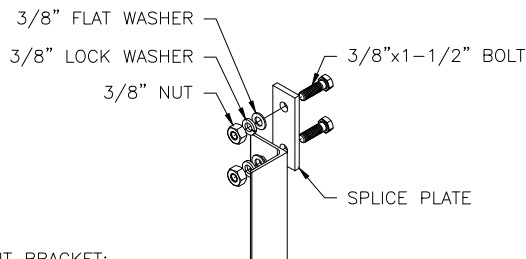
2
A-7
TYPICAL ICE BRIDGE DETAIL



4
A-7
TYPICAL H-FRAME DETAIL

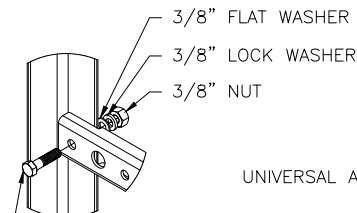


TYPICAL SPLICE:



LADDER RUNG ATTACHMENT:

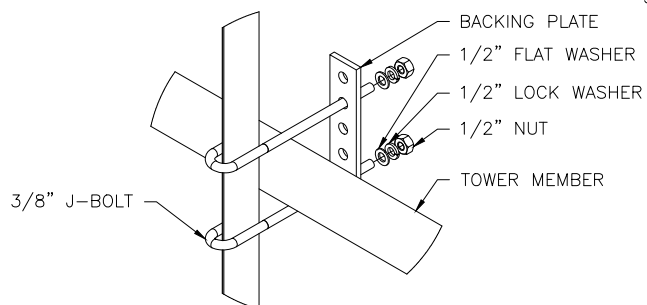
PROPOSED CABLE LADDER KIT (PERFECT 10 P/N: PV-WGL20-6) (OR APPROVED EQUAL)



NOTE:

- CONTRACTOR TO FOLLOW ALL MANUFACTURER INSTALLATION INSTRUCTIONS.
- CABLE LADDER KIT CAN BE ORDERED BOTH 10' OR 20' SECTIONS.

ATTACHMENT BRACKET:



5
A-7
TYPICAL CABLE LADDER DETAIL

T-Mobile
NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 06002
PHONE: (860) 629-1700

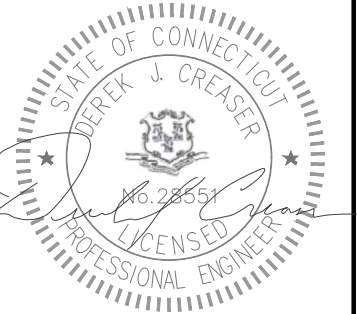


750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
1	08/11/21	ADDED GENERATOR	RL
0	07/23/21	ISSUED FOR CONSTRUCTION	NMT

DESIGNED BY:	APPROVED BY:
TRP	WRD



DATE: 08/11/2021

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SITE NAME:	CTNL123A
SITE ID:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON

SHEET TITLE:	DETAILS
DRAWING:	A-7



Automatic Transfer Switches



GENERAC®

Service and non-Service rated Automatic Smart Transfer Switches

Automatic Transfer Switches

1 of 2 2 of 2

GENERAC®

Automatic Smart Transfer Switches

100-400 Amps, Single Phase

Functions

All timing and sensing functions originate in the generator controller

Utility voltage drop-out.....	<65%
Timer to generator start	10 second factory set, adjustable between 2-1500 seconds by a qualified dealer*
Engine warm up delay	5 seconds
Standby voltage sensor	65% for 5 seconds
Utility voltage pickup.....	>80%
Re-transfer time delay	15 seconds
Engine cool-down timer	60 seconds
Exerciser	5 or 12 minutes adjustable weekly/Bi-weekly/Monthly**

The transfer switch can be operated manually without power applied.

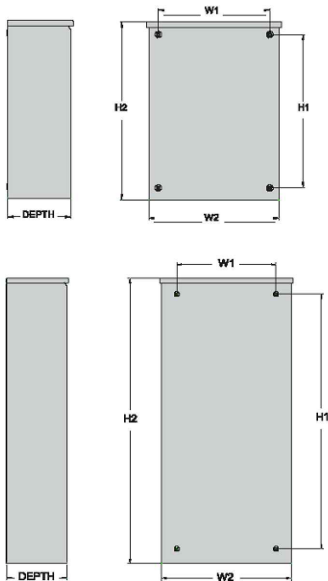
*When used in conjunction with units utilizing Evolution™ controls **Adjustable via the controller

Specifications

Model	RXSC100A3	RXSC200A3
Amps	100	200
Voltage	120/240, 1ø	120/240, 1ø
Load Transition Type (Automatic)	Open Transition	Open Transition
Enclosure Type	NEMA/UL3R	NEMA/UL3R
UL Rating	UL/CUL	UL/CUL
Withstand Rating (Amps)	10,000	10,000
Lug Range	1/0 - #14	250 MCM - #6

Dimensions

Model	RXSC100A3	RXSC200A3
Height (in./mm)	H1	17.24/437.9
	H2	20/508
Width (in./mm)	W1	12.5/317.5
	W2	14.6/370.8
Depth (in./mm)		7.09/180.1
Weight (lbs./kilos)	20/9.07	20/9.07



Description

Generac Automatic Transfer Switches are designed for use with single phase generators that utilize an Evolution™ or Nexus™ Controller. The 100, 200, and 400 amp open transition switches are available in single phase in both service equipment rated and non-service equipment rated configurations. The 150 and 300 amp open transition switches are only available in a service rated equipment configuration.

Standard Features

Service rated (RXSW) Generac Automatic Transfer Switches are housed in an aluminum NEMA/UL Type 3R enclosure*, with electrostatically applied and baked powder paint. The Heavy Duty Generac Contactor is a UL recognized device, designed for years of service. The controller at the generator handles all the timing, sensing, exercising functions, and transfer commands. All switches are covered by a 5 year limited warranty.

* Non-service rated (RXSC) switches are housed in a steel enclosure.

DPM Technology

Through the use of digital power technology (DPM), these switches have the capability to manage up to 4 individual HVAC (24 VAC controlled) loads with no additional hardware. When used in tandem with Smart Management Modules, up to 8 more loads can be managed as well, providing the most installation efficient power management options available.



Generac Power Systems, Inc. • 545 W 29290 HWY. 59, Waukesha, WI 53189 • generac.com
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T-Mobile
NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 026002
PHONE: (860) 629-1700

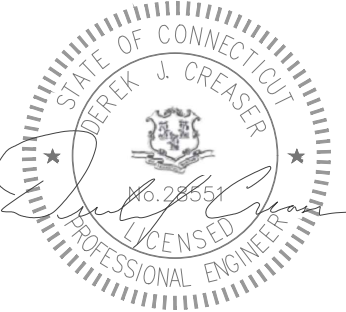


750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

1	08/11/21	ADDED GENERATOR	RL
0	07/23/21	ISSUED FOR CONSTRUCTION	NMT
REV	DATE	DESCRIPTION	BY

DESIGNED BY: TRP	APPROVED BY: WRD
---------------------	---------------------



DATE: 08/11/2021

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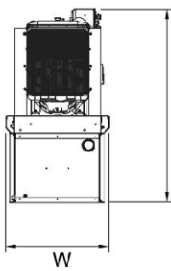
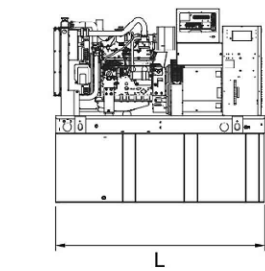
SITE NAME: CTNL123A
SITE ID: CTNL123A
SITE ADDRESS: 147 BALTIC HANOVER RD
BALTIC, CT 06330
NEW LONDON

SHEET TITLE: ATS SPEC SHEET
DRAWING: A-8

SD035 | 3.4L | 35 kW
INDUSTRIAL DIESEL GENERATOR SET

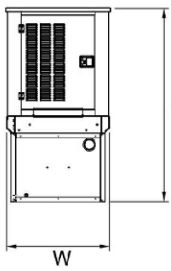
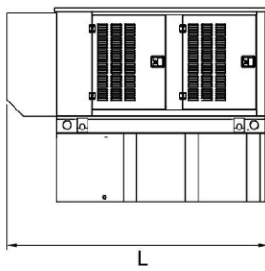
EPA Certified Stationary Emergency

DIMENSIONS AND WEIGHTS*



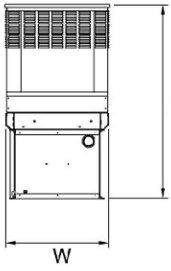
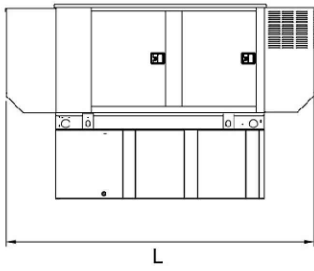
OPEN SET (Includes Exhaust Flex)

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	-	76.7 (1,948) x 37.4 (950) x 45.2 (1,147)	1,719 (780)
17	54 (204.4)	76.7 (1,948) x 37.4 (950) x 58.2 (1,477)	2,199 (998)
42	132 (499.7)	76.7 (1,948) x 37.4 (950) x 70.2 (1,782)	2,429 (1,102)
68	211 (798.7)	76.7 (1,948) x 37.4 (950) x 82.2 (2,087)	2,638 (1,197)
96	300 (1,135.6)	92.9 (2,360) x 37.4 (950) x 85.7 (2,176)	2,701 (1,225)



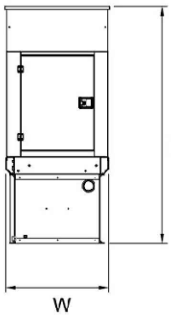
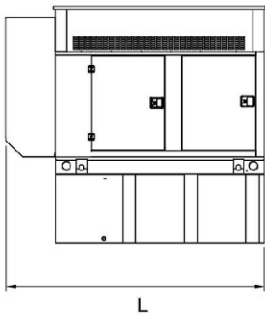
STANDARD ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)	
17	54 (204.4)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)	
42	132 (499.7)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)	
68	211 (798.7)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)	
96	300 (1,135.6)	94.8 (2,409) x 38.0 (965) x 90.0 (2,287)	



LEVEL 1 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only
No Tank	-	112.5 (2,857) x 38.0 (965) x 49.5 (1,258)	
17	54 (204.4)	112.5 (2,857) x 38.0 (965) x 62.5 (1,588)	
42	132 (499.7)	112.5 (2,857) x 38.0 (965) x 74.5 (1,893)	
68	211 (798.7)	112.5 (2,857) x 38.0 (965) x 86.5 (2,198)	
96	300 (1,135.6)	112.5 (2,857) x 38.0 (965) x 90.0 (2,287)	



LEVEL 2 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only
No Tank	-	94.8 (2,409) x 38.0 (965) x 61.9 (1,572)	
17	54 (204.4)	94.8 (2,409) x 38.0 (965) x 74.9 (1,902)	
42	132 (499.7)	94.8 (2,409) x 38.0 (965) x 86.9 (2,207)	
68	211 (798.7)	94.8 (2,409) x 38.0 (965) x 98.9 (2,512)	
96	300 (1,135.6)	94.8 (2,409) x 38.0 (965) x 102.4 (2,601)	

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

SPEC SHEET

SD035 | 3.4L | 35 kW
INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Exhaust Silencer (Enclosed Only)

Fuel System

- Fuel Lockoff Solenoid
- Primary Fuel Filter

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene Glycol Antifreeze
- 120 VAC Coolant Heater

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- GENprotect™
- 12 Leads (3-Phase, Non 600V)
- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Auxiliary Voltage Regulator Power Winding
- Brushless Excitation
- Sealed Bearing
- Automated Manufacturing (Winding, Insertion, Lacing, Varnishing)
- Rotor Dynamically Spin Balanced
- Amortisseur Winding
- Full Load Capacity Alternator
- Protective Thermal Switch

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Only)
- Silencer of Heat Shield

CONTROL SYSTEM



Digital H Control Panel- Dual 4x20 Display

Program Functions

- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable Logic Controller
- RS-232/485 Communications
- 3-Phase Sensing Digital Voltage Regulator
- 2-Wire Start Capability
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Sealed Connectors

Full System Status Display

- Power Output (kW)
- Power Factor
- kW Hours, Total, and Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents

GENERAC® INDUSTRIAL POWER

ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuation Enclosures)
- Gasketed Doors
- Stamped Air-Intake Louvers
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

TANKS (If Selected)

- UL 142
- Double Wall Construction
- Vents
- Sloped Top
- Sloped Bottom
- Factory Pressure Tested (2 psi (14 kPa))
- Rupture Basin Alarm
- Electronic and Visual Fuel Level Indication
- Check Valve In Supply and Return Lines
- RhinoCoat™ - Textured Polyester Powder Coat Paint
- Stainless Steel Hardware

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency

Alarms and Warnings

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Overspeed
- Battery Voltage
- Alarms and Warnings Time and Date Stamped
- Snap Shots of Key Operation Parameters During Alarms and Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)

SPEC SHEET

T - Mobile
NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 026002
PHONE: (860) 629-1700

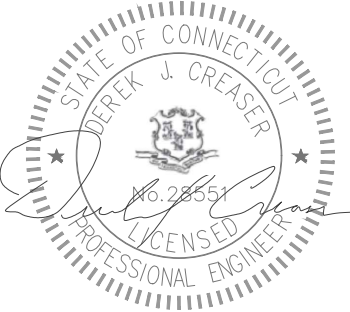


750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
1	08/11/21	ADDED GENERATOR	RL
0	07/23/21	ISSUED FOR CONSTRUCTION	NMT

DESIGNED BY: TRP	APPROVED BY: WRD
---------------------	---------------------



DATE: 08/11/2021

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SITE NAME:	CTNL123A
SITE ID:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON

SHEET TITLE:	GENERATOR DETAIL
DRAWING:	A-9

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
4. STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D.I.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
13. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
15. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
16. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
17. ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
18. NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
19. SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (SEEERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST	
BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
N/A	ENGINEER OF RECORD APPROVED SHOP DRAWINGS ¹
N/A	MATERIAL SPECIFICATIONS REPORT ²
N/A	FABRICATOR NDE INSPECTION
N/A	PACKING SLIPS ³
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS ⁴
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION ⁵
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS ⁶
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

1. REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
2. PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
3. PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
4. HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
5. ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
6. AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

1. ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4"Ø A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
2. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
3. SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
4. VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
5. CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
6. EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

T - Mobile
NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 06002
PHONE: (860) 629-1700

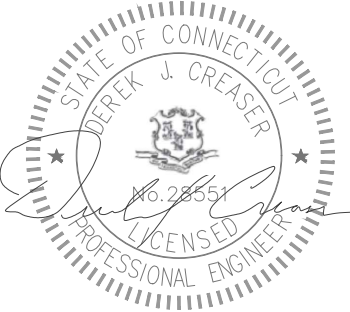


750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

1	08/11/21	ADDED GENERATOR	RL
0	07/23/21	ISSUED FOR CONSTRUCTION	NMT
REV	DATE	DESCRIPTION	BY

DESIGNED BY: TRP	APPROVED BY: WRD
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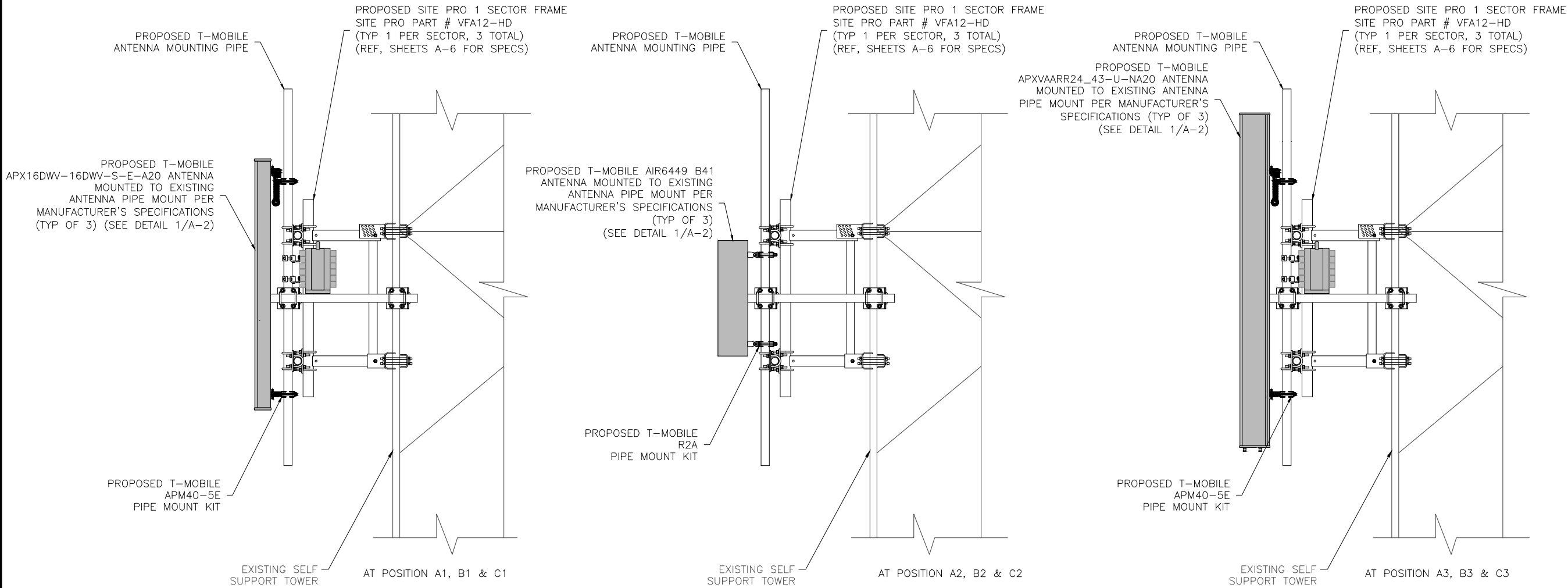


DATE: 08/11/2021

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SITE NAME:	CTNL123A
SITE ID:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON
SHEET TITLE:	STRUCTURAL NOTES & SPECIAL INSPECTIONS
DRAWING:	SN-1

- ANTENNA MOUNT NOTES:
1. APX16DWV-16DWV-S-E-A20: APM40-5E PIPE MOUNT KIT
 2. APXVAARR24-43-U-NA20: APM40-5E PIPE MOUNT KIT
 3. AIR6449: ERICSSON R2A PIPE MOUNT KIT



1 ANTENNA & RRU MOUNTING DETAIL
S-1

T - Mobile NORTHEAST LLC

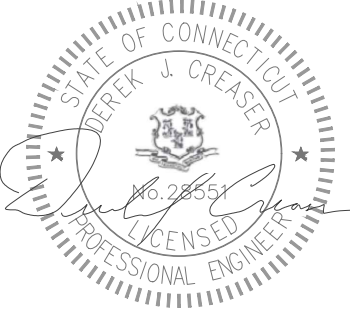
T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 026002
PHONE: (860) 629-1700



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1	08/11/21	ADDED GENERATOR		RL
0	07/23/21	ISSUED FOR CONSTRUCTION	NMT	
REV	DATE	DESCRIPTION	BY	

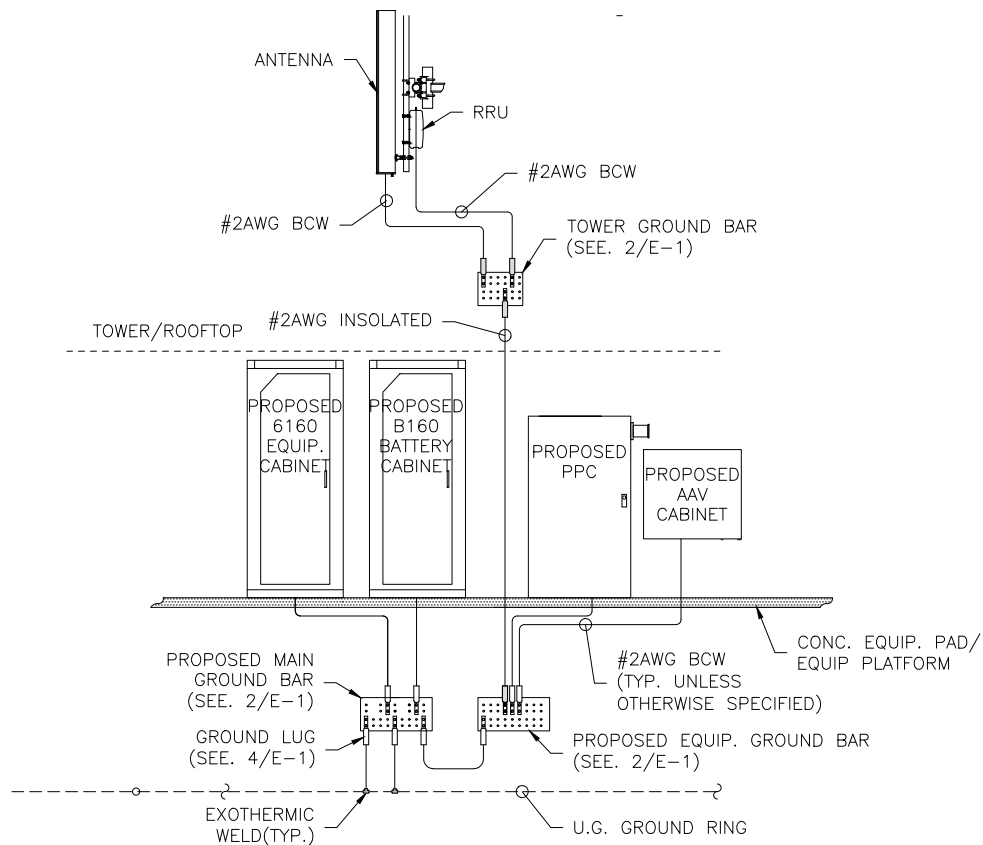
DESIGNED BY: TRP	APPROVED BY: WRD
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DATE: 08/11/2021

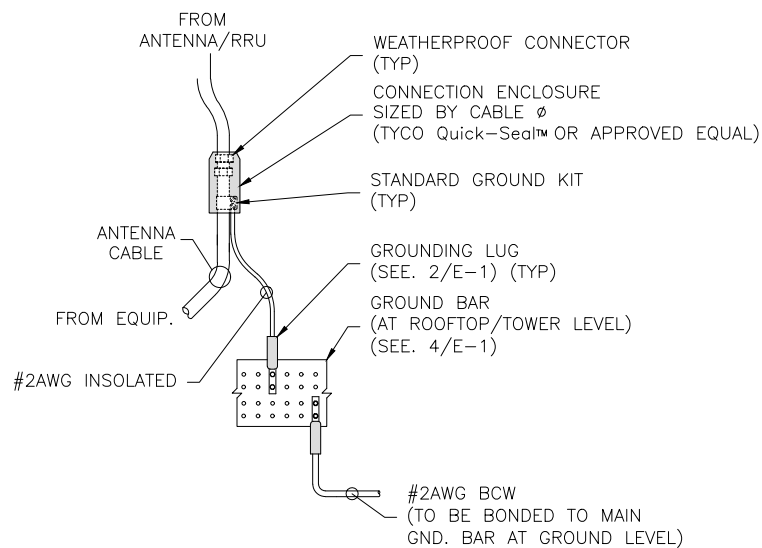
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SITE NAME:	CTNL123A
SITE ID:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON
SHEET TITLE:	ANTENNA & RRU MOUNTING DETAILS
DRAWING:	S-1



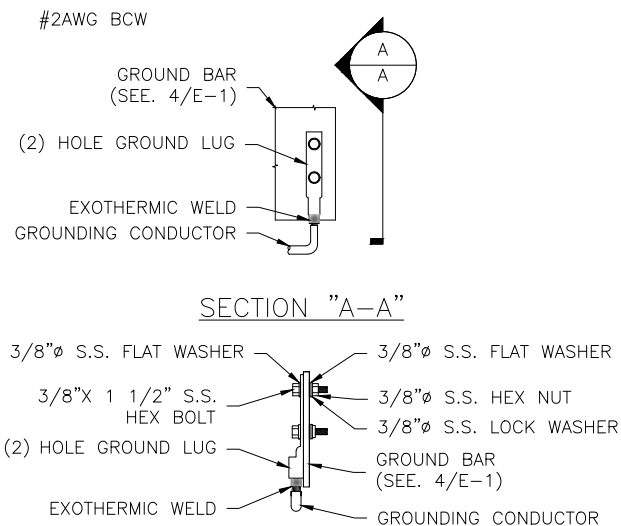
GROUNDING RISER NOTE:
UNLESS OTHERWISE SPECIFIED ALL GROUNDING CONDUCTORS ARE TO BE #2AWG BCW

1
G-1
GROUNDING RISER DIAGRAM



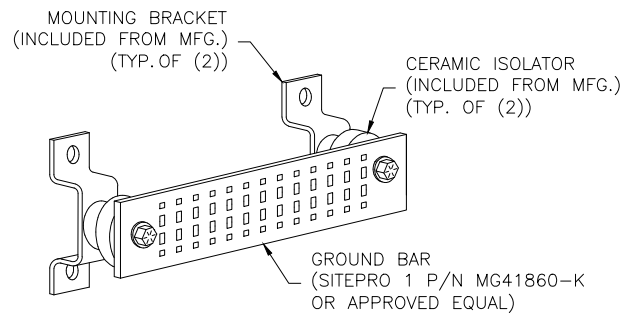
NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT BEND IN CABLE.
2. GROUND CABLES DIRECTLY TO CIGBE
3. JUMPER REQUIRED ONLY WHEN CABLE IS 1 1/4" OR LARGER

4
G-1
ANTENNA/RRU GROUNDING DETAIL



GROUNDING LUG NOTES:
1. DO NOT DOUBLE UP OR STACK LUGS.
2. OXIDE INHIBITING COMPOUND TO BE APPLIED TO ALL LUGS.
3. ALL LUGS ARE TO BE EXOTHERMIC WELDED TO GROUNDING CONDUCTORS.
4. FOR INSULATED GROUNDING CONDUCTORS, EXPOSED BARE COPPER TO BE KEPT TO ABSOLUTE MINIMUM.
5. NO INSULATION IS ALLOWED WITHIN THE BARREL OF THE COMPRESSION TERMINAL.

5
G-1
GROUND LUG DETAIL



2
G-1
GROUND BAR DETAIL

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

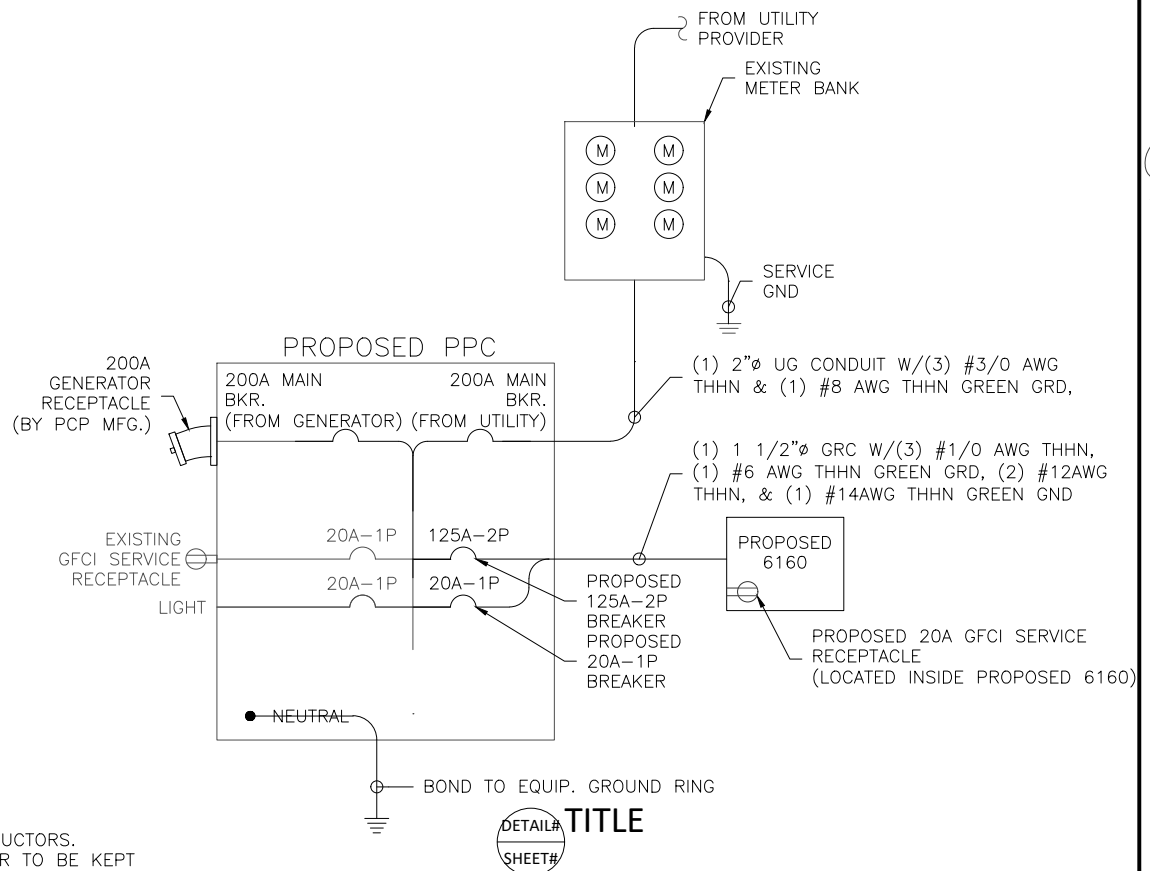
SECTION "P" - SURGE PRODUCERS

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

SECTION "A" - SURGE ABSORBERS

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

3
G-1
GROUND WIRE SCHEDULE



DETAIL A
SHEET#
TITLE

T-Mobile
NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 026002
PHONE: (860) 629-1700

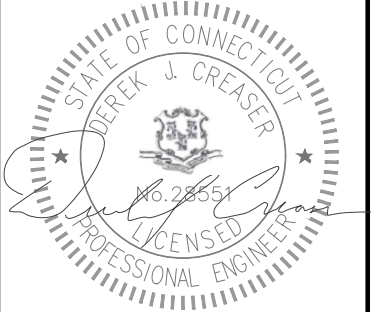


750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
1	08/11/21	ADDED GENERATOR	RL
0	07/23/21	ISSUED FOR CONSTRUCTION	NMT

DESIGNED BY: TRP	APPROVED BY: WRD
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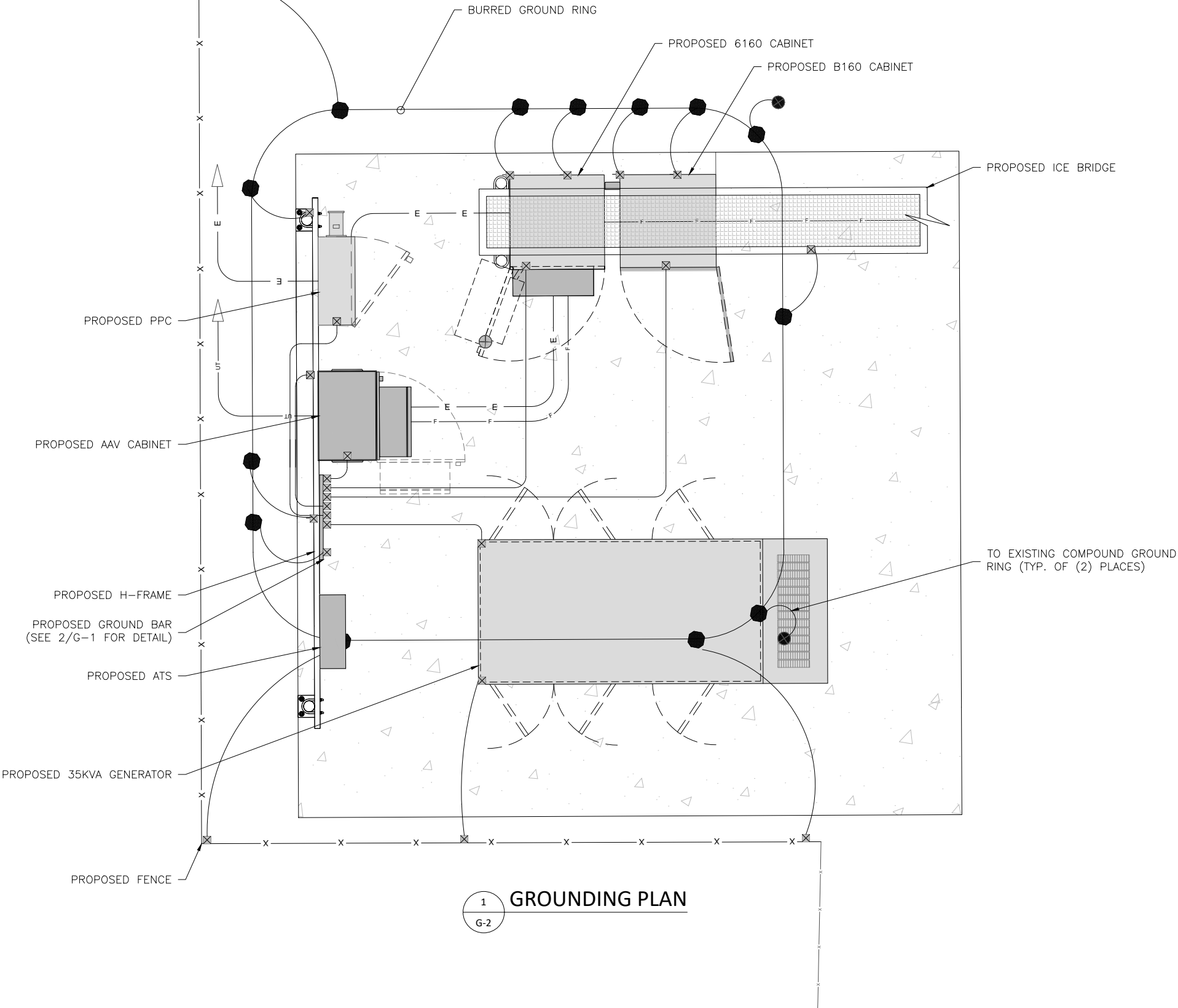
DATE: 08/11/2021

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SITE NAME:	CTNL123A
SITE ID:	CTNL123A
SITE ADDRESS:	147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON

SHEET TITLE:	GROUNDING & ONE LINE DIAGRAM
DRAWING:	G-1

NOTES:
1. EXISTING GROUND WIRES TO BE RELOCATED AS NEEDED.



GROUNDING SYMBOLS

- 3/4"x10' GROUND ROD
- EXOTHERMIC WELD
- GROUND LUG

T-Mobile
NORTHEAST LLC

T-MOBILE NORTHEAST, LLC.
35 GRIFFIN RD S
BLOOMFIELD, CT 026002
PHONE: (860) 629-1700

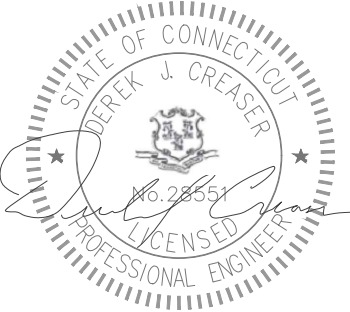


750 W CENTER ST, SUITE 301
WEST BRIDGEWATER, MA 02379
PHONE: 781.713.4725

REVISIONS

REV	DATE	DESCRIPTION	BY
1	08/11/21	ADDED GENERATOR	RL
0	07/23/21	ISSUED FOR CONSTRUCTION	NMT

DESIGNED BY: TRP	APPROVED BY: WRD
---------------------	---------------------



DATE: 08/11/2021

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SITE NAME: CTNL123A
SITE ID: CTNL123A
SITE ADDRESS: 147 BALTIC HANOVER RD BALTIC, CT 06330 NEW LONDON
SHEET TITLE: GROUNDING PLAN
DRAWING: G-2

Exhibit E

Structural Analysis Report

Structural Analysis Report

Site ID:

Site Name:

Project Name: Coverage Strategy

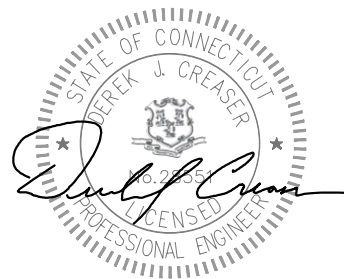
Address: 147 Baltic Hanover Rd
Baltic, CT 06330

Client:



**35 Griffin Rd S
Bloomfield, CT 06002**

Date: 7/23/2021



CN = Derek J. Creaser, P.E.
email = dcreaser@clinellc.
com C = US O = Centerline
Communications OU =
Director - A&E Services
2021.07.23 14:47:39 -04'00'

Scope of Work:

Centerline Communications was authorized by T-Mobile Northeast LLC to perform an analysis of the existing structure to determine its capacity to support the proposed and existing T-Mobile equipment/appurtenances listed in this report.

Existing & Proposed Equipment:

Carrier	Mounting Level (ft)	Center Line Elevation (ft)	Number of Appurtenances	Antenna Manufacturer	Appurtenance Model	Feed Lines (in)
-	181.0	181.0	1	-	3' Lightning Rod	-
-	180.0	180.0	1	-	SRL-420NHD Omni	-
		180.0	1	-	2" STD x 8' Pipe Mount	
AT&T	173.0	175.0	3	Powerwave	7770.00 Panel Antenna	(12) 1-5/8 (1) 3/8 Fiber (2) 3/4 DC
		175.0	3	CCI	TPA-65R-LCUUU-H8 Panel Antenna	
		175.0	1	KMW	AM-X-CD-17-65-00T Panel Antenna	
		175.0	2	Commscope	SBNH-1D6565C Panel Antenna	
		175.0	3	-	RRUS-32 B2 RRH	
		175.0	3	-	RRUS-11 RRH	
		175.0	6	Powerwave	LGP21401 TMA	
		175.0	1	Raycap	DC6-48-60-18-8F Distribution Box	
		173.0	3	-	Sector Frame	
Verizon Wireless	162.0	163.0	6	Amphenol	LPA-80080/4CF Panel Antenna	(18) 1-5/8
		163.0	3	Amphenol	BXA-70063/6CF Panel Antenna	
		163.0	3	Amphenol	BXA-171085/8CF Panel Antenna	
		162.0	3	-	Sector Frame	
T-Mobile	155.0	155.0	3	RFS	APX16DWV-16DWV-S-E-A20 Panel Antenna	(3) 6x24 Hybrid
			3	RFS	APXVAALL24_43-U-NA20 Panel Antenna	
			3	Ericsson	AIR6449 B41 Panel Antenna	
			3	Ericsson	4460 B25+B66 RRH	
			3	Ericsson	4480 B71+B85 RRH	
			3	Site Pro 1	VFA12-HD Sector Mount	

Note: Proposed equipment shown in **bold**.

Design Criteria:**Design Codes:**

2018 Connecticut State Building Code

2015 International Building Code

ASCE 7-10

TIA-222-G Standards

Ultimate Design Wind Speed (V_{ult})	130 mph
Wind Speed with Ice	50 mph
Ice Thickness	0.75 in.
Exposure Category	C
Topographic Category	1
Risk Category	II
Site Soil Class (Assumed)	D – Stiff Soil
Seismic Design Category	B
Spectral Response Acceleration Parameter at a Short Periods, S_s	0.171 g
Spectral Response Acceleration Parameter at a Period of 1 Second, S_1	0.061 g
Short Period Site Coefficient, F_a	1.60
Long Period Site Coefficient, F_v	2.40

***Refer to calculations for additional design criteria.**

Conclusion:

Section Capacity (Summary)

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	175.4 - 165	Leg	2	2	-12824.00	110170.00	11.6	Pass
T2	165 - 150	Leg	2 1/4	35	-56161.40	147977.00	38.0	Pass
T3	150 - 140	Leg	Pirol 105245	80	-71240.90	214859.00	33.2	Pass
T4	140 - 120	Leg	Pirol 105218	88	-127767.00	300681.00	42.5	Pass
T5	120 - 100	Leg	Pirol 105219	104	-174207.00	399868.00	43.6	Pass
T6	100 - 80	Leg	Pirol 105219	119	-217092.00	399868.00	54.3	Pass
T7	80 - 60	Leg	Pirol 105220	134	-259466.00	512375.00	50.6	Pass
T8	60 - 40	Leg	Pirol 112743	149	-283744.00	613145.00	46.3	Pass
T9	40 - 20	Leg	Pirol 112743	158	-330233.00	613145.00	53.9	Pass
T10	20 - 0	Leg	Pirol 112744	167	-363749.00	741993.00	49.0	Pass
T1	175.4 - 165	Diagonal	7/8	10	-2849.58	7715.18	36.9	Pass
T2	165 - 150	Diagonal	1	44	-7848.49	13368.60	58.7	Pass
T3	150 - 140	Diagonal	L3x3x5/16	83	-11878.40	31647.50	37.5	Pass
T4	140 - 120	Diagonal	L3x3x5/16	91	-9801.79	28184.90	34.8	Pass
T5	120 - 100	Diagonal	L3x3x5/16	107	-9547.62	23978.20	39.8	Pass
T6	100 - 80	Diagonal	L3x3x5/16	122	-9823.83	19260.60	51.0	Pass
T7	80 - 60	Diagonal	L3x3x5/16	142	-10400.60	17198.50	60.5	Pass
T8	60 - 40	Diagonal	2L3 1/2x3 1/2x5/16	152	-16770.10	56802.50	29.5	Pass
T9	40 - 20	Diagonal	2L3 1/2x3 1/2x5/16	161	-15150.50	52579.40	28.8	Pass
T10	20 - 0	Diagonal	2L3 1/2x3 1/2x5/16	170	-18447.80	48270.10	38.2	Pass
T1	175.4 - 165	Top Girt	7/8	4	-447.71	3943.57	11.4	Pass
T2	165 - 150	Top Girt	7/8	37	-689.54	3977.79	17.3	Pass
T1	175.4 - 165	Bottom Girt	7/8	7	-896.76	3943.57	22.7	Pass
T2	165 - 150	Bottom Girt	7/8	42	-1070.90	3977.79	26.9	Pass
							Summary	
							Leg (T6)	54.3
							Diagonal (T7)	60.5
							Top Girt (T2)	17.3
							Bottom Girt (T2)	26.9
							Bolt Checks	65.3
							RATING =	65.3

Structure Rating (max from all components) = 65.3%

Foundation Capacity (Summary)

Component	% Capacity	Pass/Fail
Foundation - Soil Rating	53.3	Pass
Foundation - Structural Rating	32.5	Pass

Foundation Rating (max from all components) = 53.3%

Recommendations:

The existing tower and foundation have adequate capacity to support the existing and proposed loading for the final loading configuration. Modifications to the tower structure are not required.

Reference Documents:

- T-Mobile RFDS CTNL123A_Coverage Strategy_1, dated May 18, 2021
- Site Photos and Notes by Centerline Communications, dated May 20, 2021
- Structural Analysis by Centek Engineering, dated June 15, 2015
- Structural Analysis by Fullerton Engineering, dated December 7, 2017
- Structural Analysis by Centek Engineering, dated October 5, 2011
- Tower Drawings by Valmont, dated September 25, 2006

Assumptions and Limitations:

- The tower and structures were built and maintained with the manufacturer's specifications.
- The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in this report and the referenced drawings.

Design Calculations

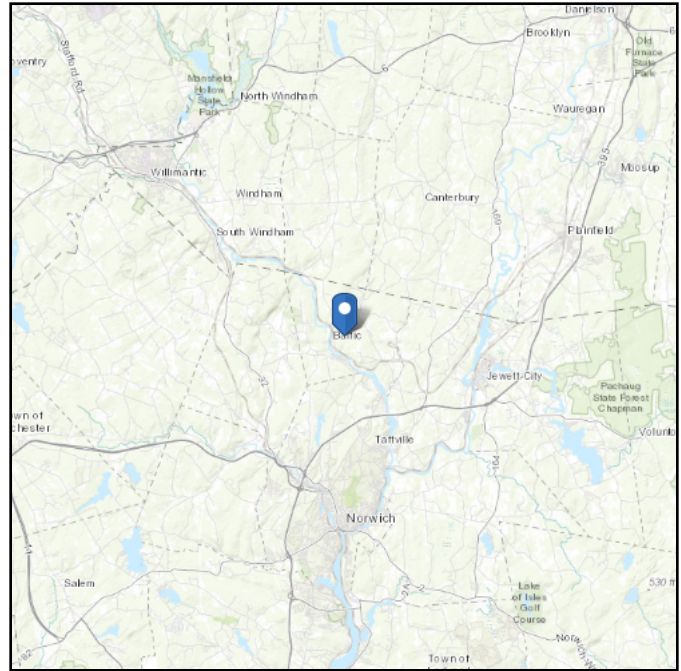


Address:
147 Baltic Hanover Rd
Baltic, Connecticut
06330

ASCE 7 Hazards Report

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 281.67 ft (NAVD 88)
Latitude: 41.626917
Longitude: -72.077616



Wind

Results:

Wind Speed:	131 Vmph
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	97 Vmph
100-year MRI	106 Vmph

Data Sources: ASCE/SEI 2010, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

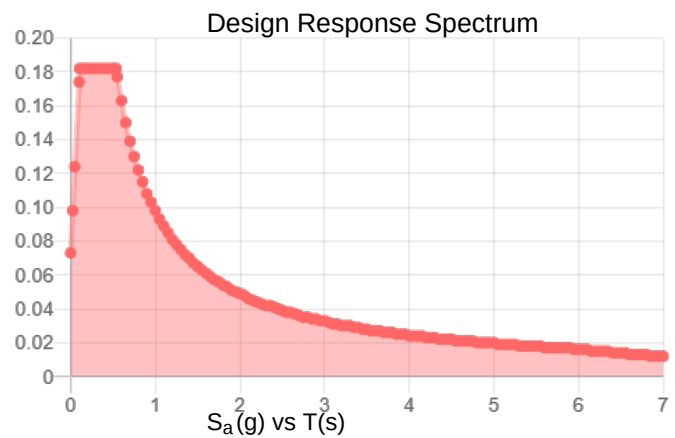
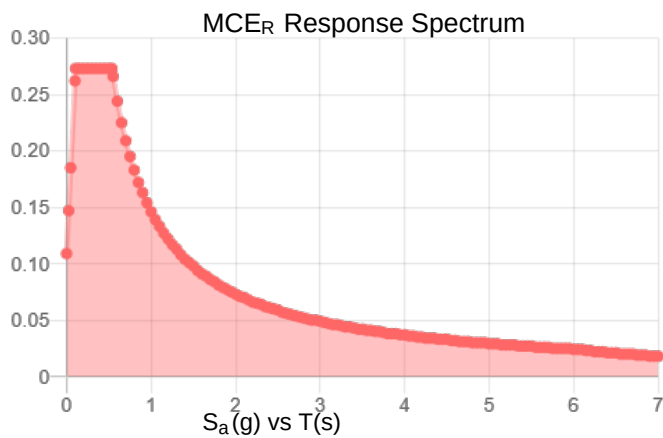
Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Stiff Soil

Results:

S_S :	0.17	S_{DS} :	0.182
S_1 :	0.061	S_{D1} :	0.098
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.085
S_{MS} :	0.273	PGA_M :	0.137
S_{M1} :	0.146	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Fri Jul 23 2021

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 0.75 in.
Concurrent Temperature: 15 F
Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Fri Jul 23 2021

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Snow

Results:

Ground Snow Load, p_g : 30 lb/ft²
Elevation: 281.7 ft

Data Source: ASCE/SEI 7-10, Fig. 7-1.

Date Accessed: Fri Jul 23 2021

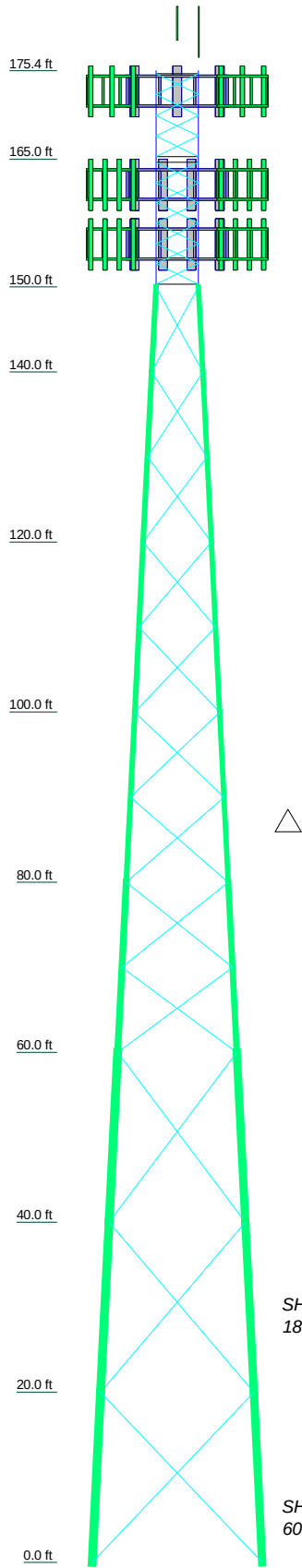
Values provided are ground snow loads. In areas designated "case study required," extreme local variations in ground snow loads preclude mapping at this scale. Site-specific case studies are required to establish ground snow loads at elevations not covered.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided “as is” and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

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Section	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	
Legs	SR 2	SR 2 1/4	Pirol 105245	Pirol 105218	Pirol 105219		Pirol 105220	Pirol 112743	Pirol 112744		
Leg Grade	SR 7/8					A572-50					
Diagonals	SR 1					L3x3x5/16			2L3 1/2x3 1/2x5/16		
Diagonal Grade	A572-50					A36					
Top Girts	SR 7/8					N.A.					
Bottom Girts	SR 7/8					N.A.					
Face Width (ft)	5						14	16	18		
# Panels @ (ft)	6 @ 2.38889				9 @ 10			3 @ 20			
Weight (lb) 42017.4	4 @ 2.43333						7317.3	7429.2	8195.1		
	701.4										

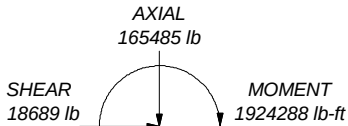


ALL REACTIONS
ARE FACTORED

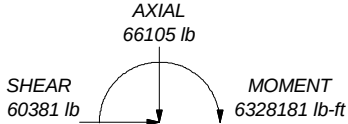
MAX. CORNER REACTIONS AT BASE:

DOWN: 387366 lb
SHEAR: 40635 lb

UPLIFT: -340646 lb
SHEAR: 36237 lb



TORQUE 15035 lb-ft
50 mph WIND - 0.7500 in ICE



TORQUE 43855 lb-ft
REACTIONS - 101 mph WIND

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in New London County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 101 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 65.3%

Centerline Communications

750 West Center Street, Suite 301

West Bridgewater, MA 02379

Phone: (781) 713-4725

FAX:

Job: **CTNL123A**

Project: **Coverage Strategy**

Client: T-Mobile

Drawn by: Joshua Gildert

App'd:

Code: TIA-222-G

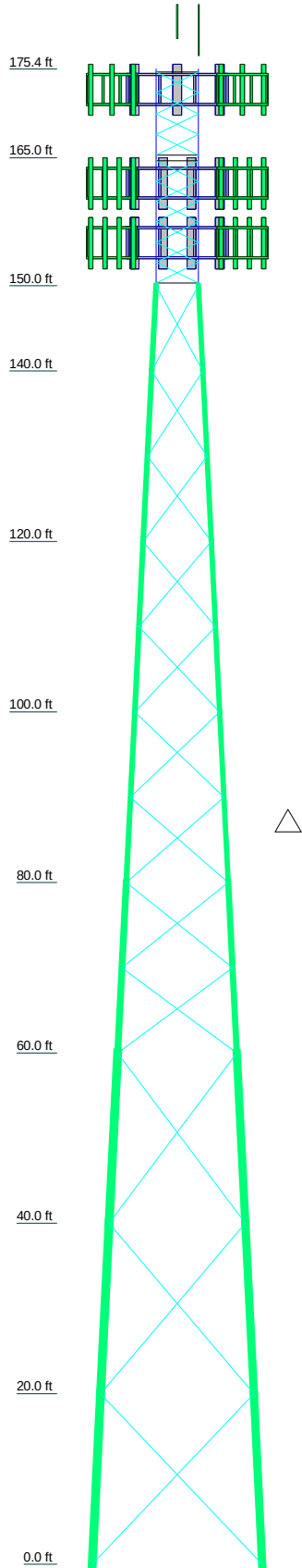
Date: 07/23/21

Scale: NTS

Path:

Dwg No. E-1

Section	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	Pirolod 112744	Pirolod 112743		Pirolod 105220	Pirolod 105219		Pirolod 105218	Pirolod 105245	SR 2 1/4	SR 2
Leg Grade					A572-50					
Diagonals		2L3 1/2x3 1/2x5/16				L3x3x5/16			SR 1	SR 7/8
Diagonal Grade						A36			A572-50	
Top Girts						N.A.			SR 7/8	
Bottom Girts						N.A.			SR 7/8	
Face Width (ft)	20	18	16	14	12	10	8	6		5
# Panels @ (ft)		3 @ 20				9 @ 10			6 @ 2.38889	4 @ 2.43333
Weight (lb) 42017.4	8195.1	7429.2	7317.3	4621.2	3872.6	3864.9	3199.7	1452.5	1263.5	701.4



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 1/2"x3" on 12" Pipe	181	(2) Amphenol LPA-80080/4CF	163
SRL-420NHD Omni	180	(2) Amphenol LPA-80080/4CF	163
2" STD x 8' Pipe Mount	180	Pirolod 15' T-Frame	162
Powerwave 7770.00	175	Pirolod 15' T-Frame	162
Powerwave 7770.00	175	Pirolod 15' T-Frame	162
Powerwave 7770.00	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
KMW AM-X-CD-17-65-00T	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
Commscope SBNH-1D6565C	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
Commscope SBNH-1D6565C	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
RRUS-11	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
RRUS-11	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
RRUS-11	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
(2) Powerwave LGP21401 TMA	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
(2) Powerwave LGP21401 TMA	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
(2) Powerwave LGP21401 TMA	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
Raycap DC6-48-60-18-8F	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
CCI TPA-65R-LCUUUU-H8	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
CCI TPA-65R-LCUUUU-H8	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
CCI TPA-65R-LCUUUU-H8	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
RRUS-32 B2	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
RRUS-32 B2	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
RRUS-32 B2	175	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
Pirolod 15' T-Frame	173	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
Pirolod 15' T-Frame	173	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
Pirolod 15' T-Frame	173	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
Amphenol BXA-70063/6CF	163	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
Amphenol BXA-70063/6CF	163	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
Amphenol BXA-70063/6CF	163	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
Amphenol BXA-171085/8CF	163	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
Amphenol BXA-171085/8CF	163	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
Amphenol BXA-171085/8CF	163	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155
(2) Amphenol LPA-80080/4CF	163	APX16DWV-16DWV-S-E-A20 (T-MOBILE)	155

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

Centerline Communications

750 West Center Street, Suite 301

West Bridgewater, MA 02379

Phone: (781) 713-4725

FAX:

Job: CTNL123A

Project: Coverage Strategy

Client: T-Mobile

Code: TIA-222-G

Path:

Drawn by: Joshua Gildert

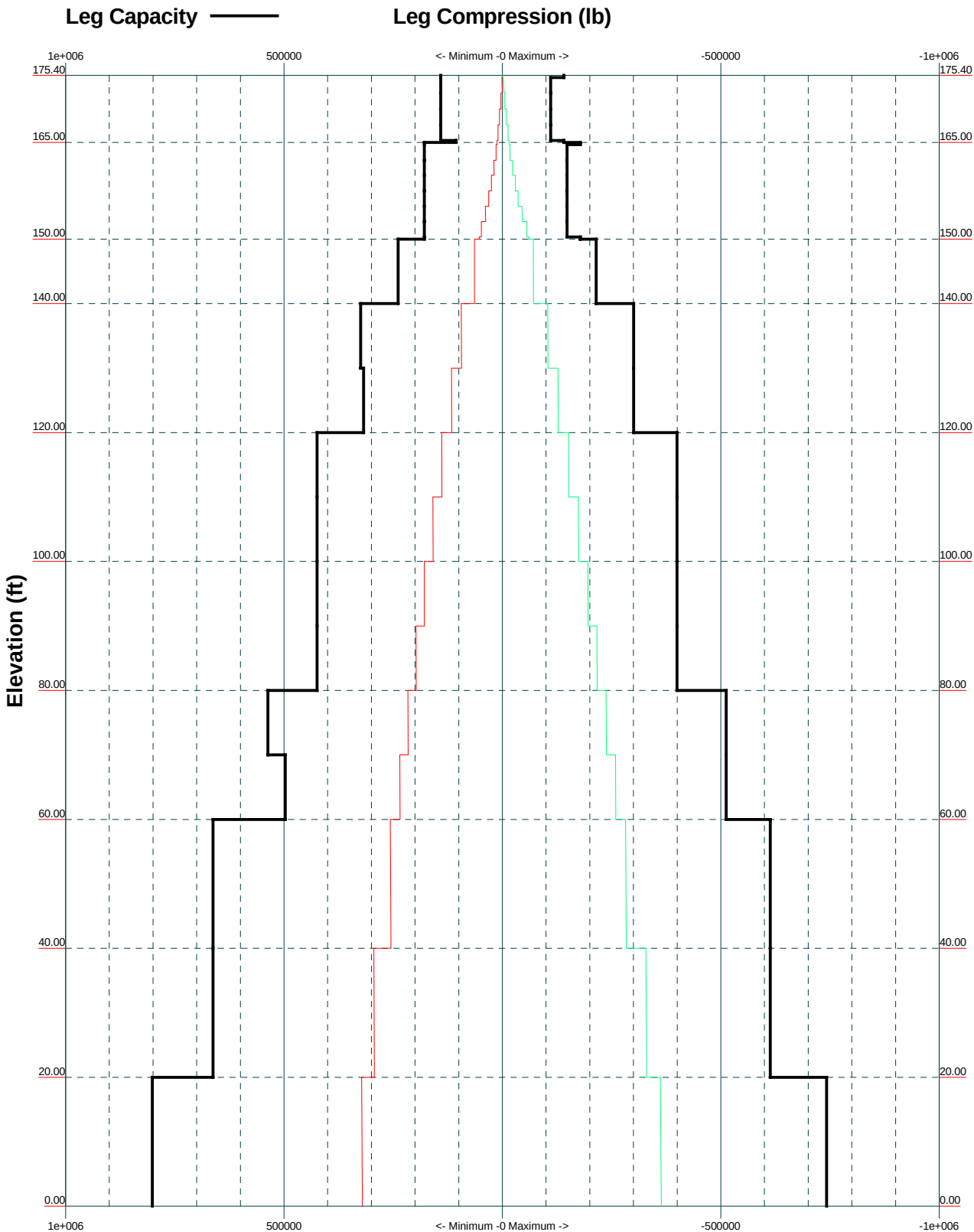
Date: 07/23/21

App'd:

Scale: NTS

Dwg No. E-1

TIA-222-G - 101 mph/50 mph 0.7500 in Ice Exposure C



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Job: CTNL123A		
Project: Coverage Strategy		
Client: T-Mobile	Drawn by: Joshua Gildert	App'd:
Code: TIA-222-G	Date: 07/23/21	Scale: NTS
Path:		Dwg No. E-3

TIA-222-G - 101 mph/50 mph 0.7500 in Ice Exposure C

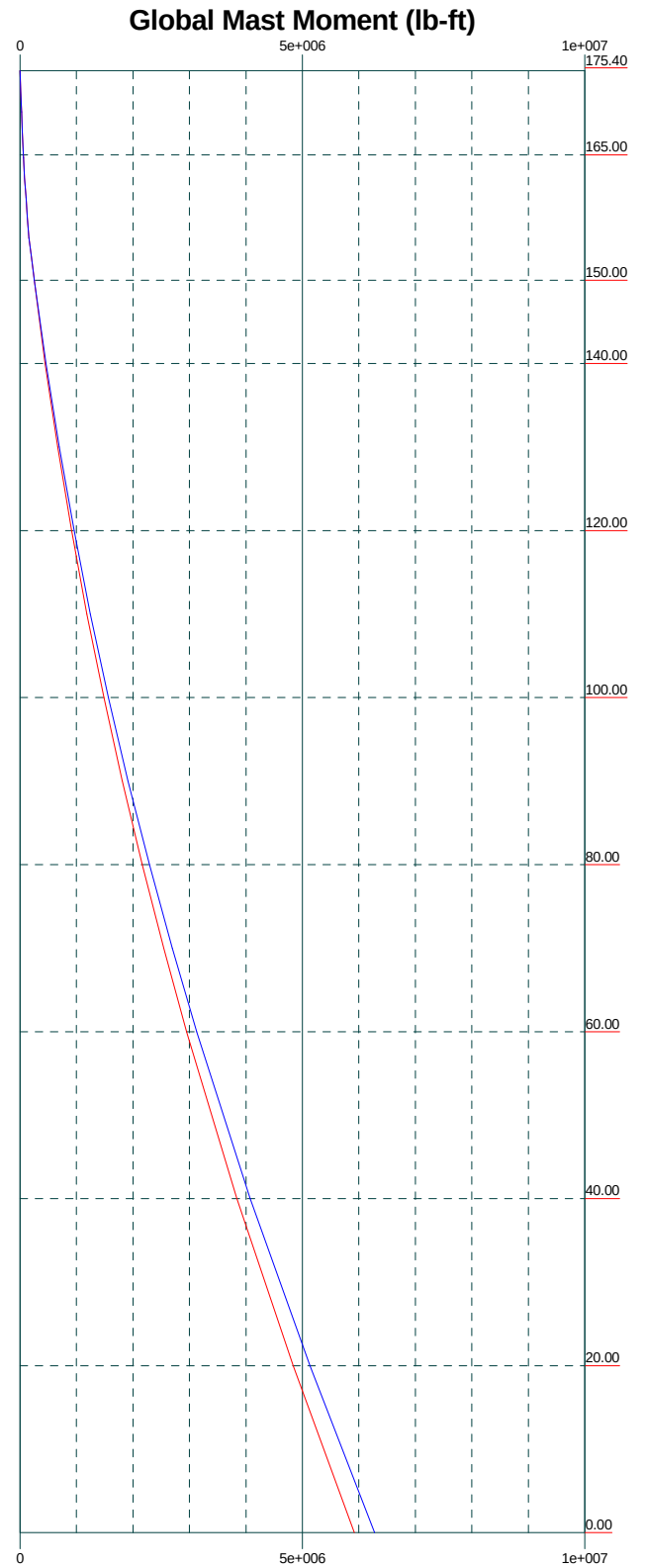
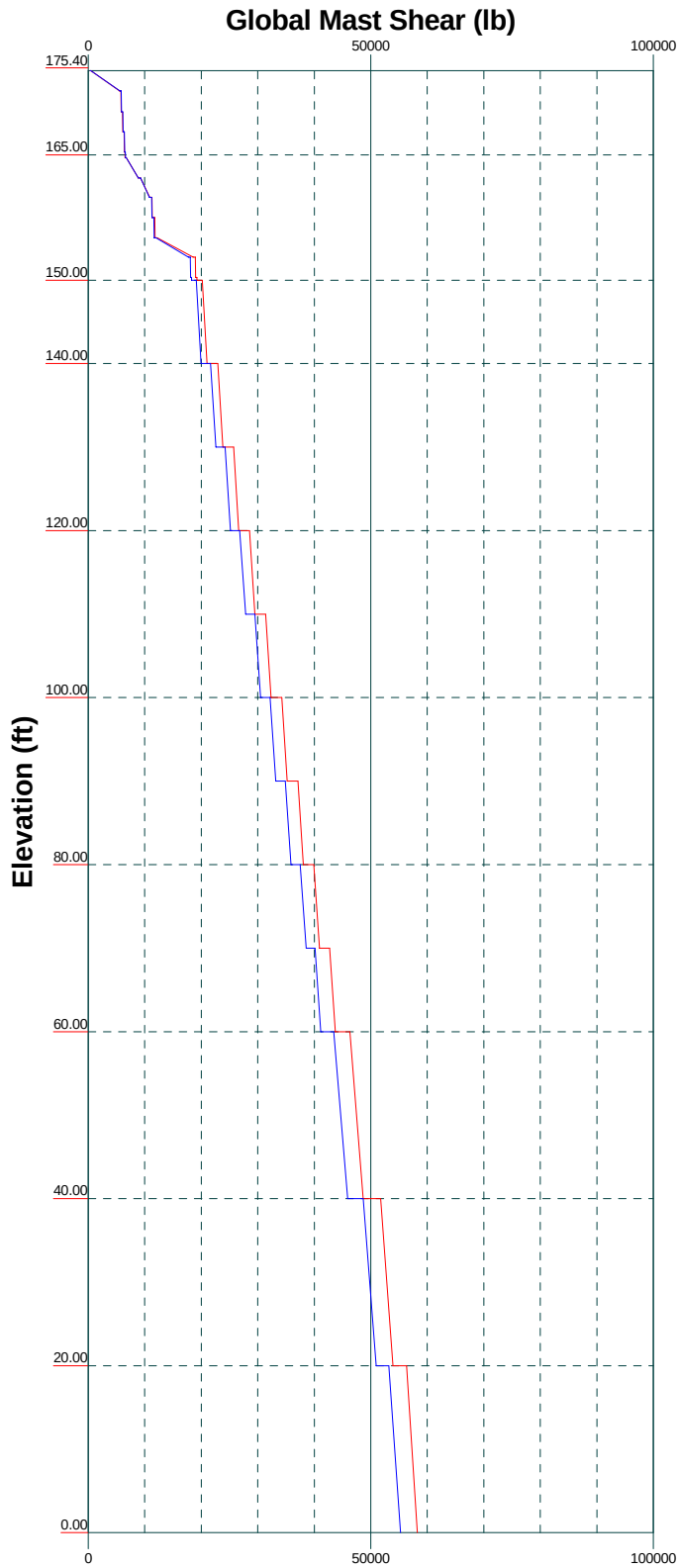
Maximum Values

Vx

Vz

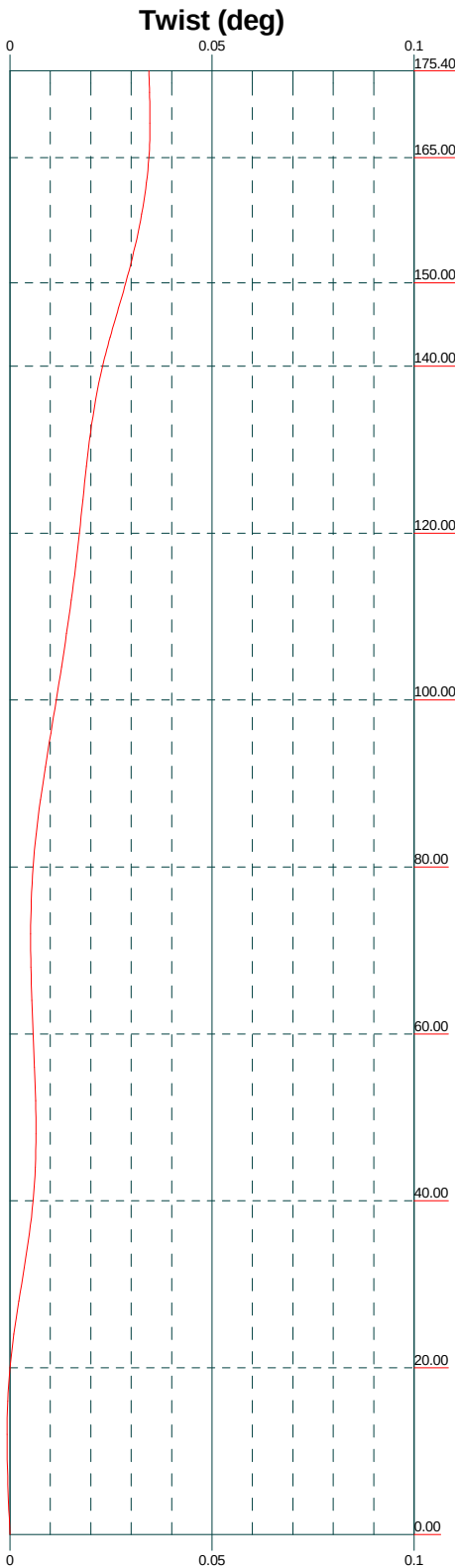
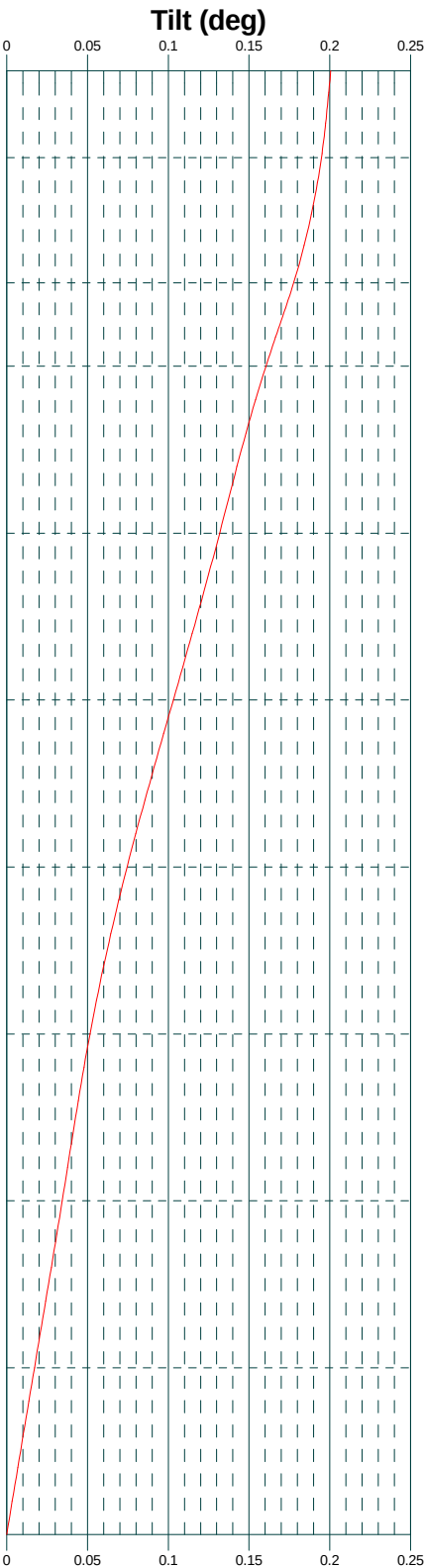
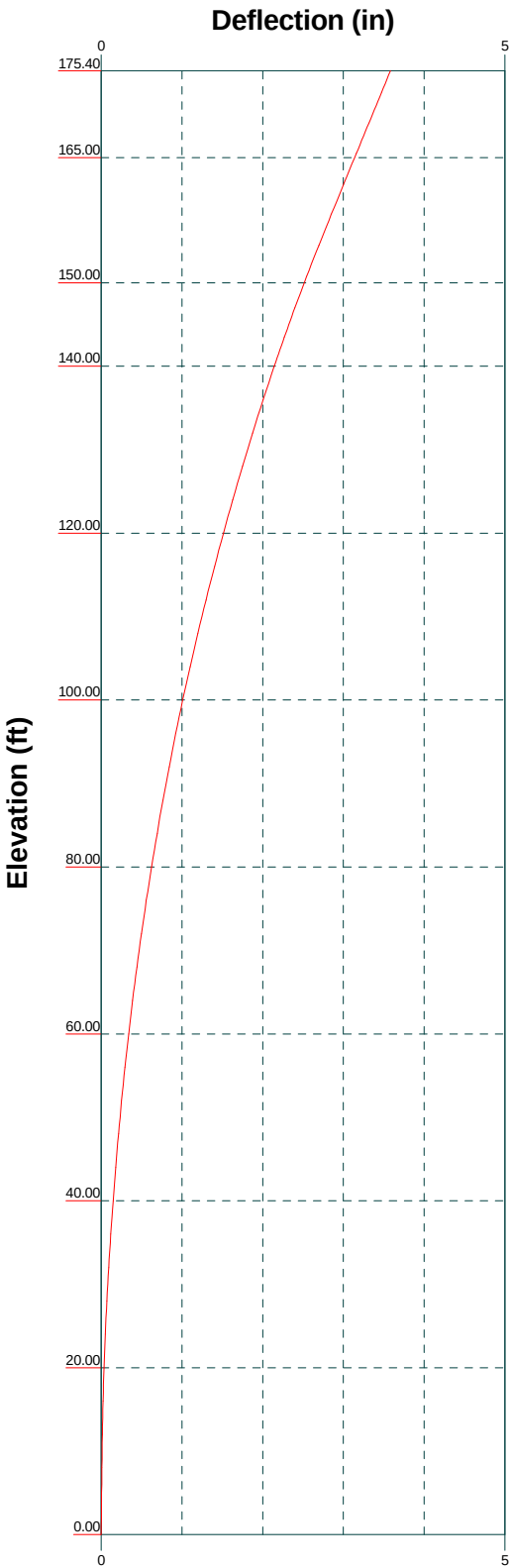
Mx

Mz



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Job: CTNL123A		
Project: Coverage Strategy		
Client: T-Mobile	Drawn by: Joshua Gildert	App'd:
Code: TIA-222-G	Date: 07/23/21	Scale: NTS
Path:		Dwg No. E-4

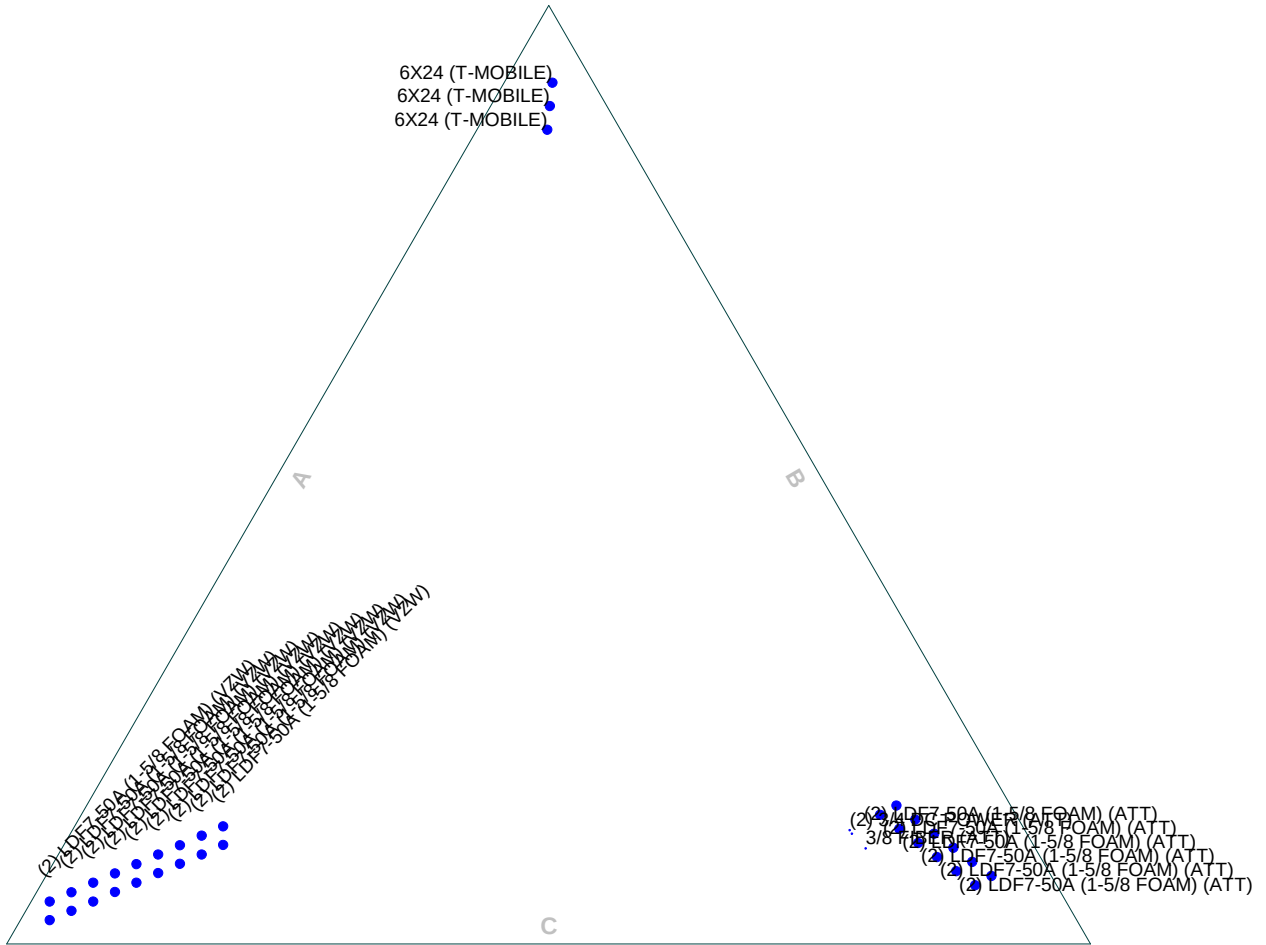


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Phone: (781) 713-4725
FAX:

Job: CTNL123A		
Project: Coverage Strategy		
Client: T-Mobile	Drawn by: Joshua Gildert	App'd:
Code: TIA-222-G	Date: 07/23/21	Scale: NTS
Path:		Dwg No. E-5

Feed Line Plan

Round Flat App In Face App Out Face Truss-Leg



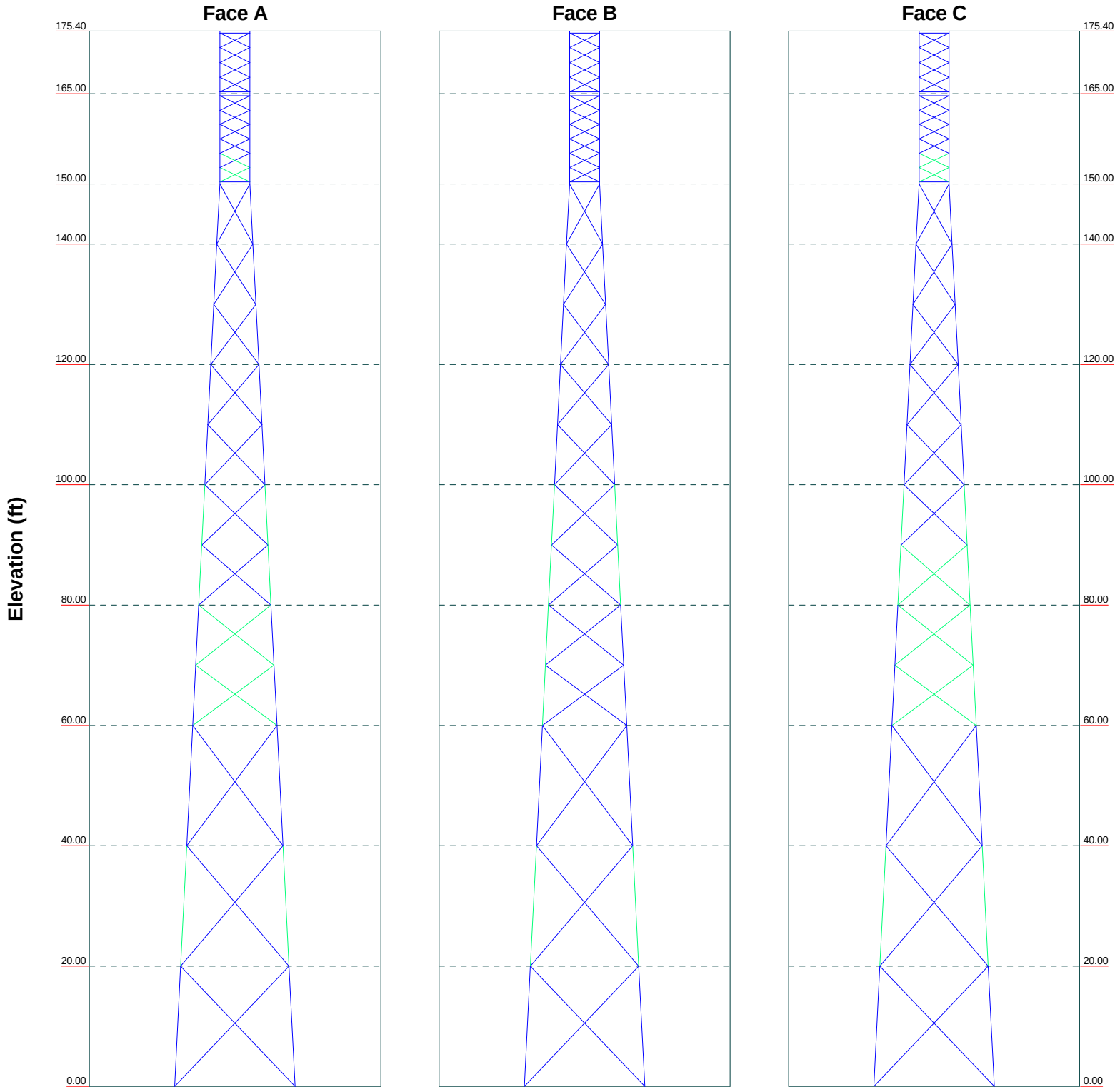
Centerline Communications
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West Bridgewater, MA 02379
Phone: (781) 713-4725
FAX:

Job: CTNL123A		
Project: Coverage Strategy		
Client: T-Mobile	Drawn by: Joshua Gildert	App'd:
Code: TIA-222-G	Date: 07/23/21	Scale: NTS
Path:		Dwg No. E-7

Stress Distribution Chart

0' - 175'4-13/16"

■ > 100%
 ■ 90%-100%
 ■ 75%-90%
 ■ 50%-75%
 ■ < 50% Overstress



Centerline Communications

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Phone: (781) 713-4725

FAX:

Job: **CTNL123A**

Project: **Coverage Strategy**

Client: T-Mobile

Drawn by: Joshua Gildert

App'd:

Code: TIA-222-G

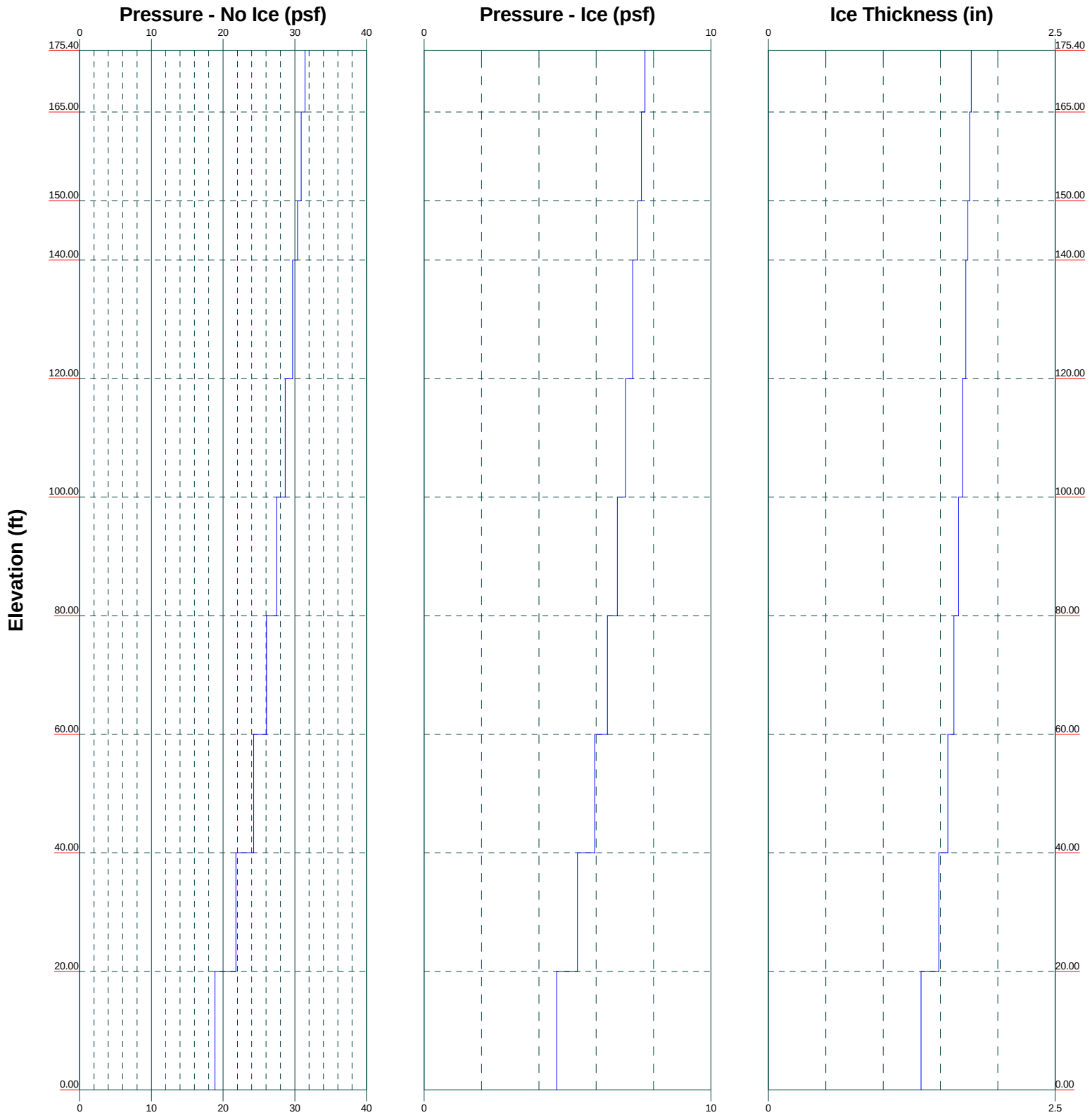
Date: 07/23/21

Scale: NTS

Path:

Dwg No. E-8

Wind Pressures and Ice Thickness
TIA-222-G - 101 mph/50 mph 0.7500 in Ice Exposure C



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Phone: (781) 713-4725
FAX:

Job: CTNL123A		
Project: Coverage Strategy		
Client: T-Mobile	Drawn by: Joshua Gildert	App'd:
Code: TIA-222-G	Date: 07/23/21	Scale: NTS
Path:		Dwg No. E-9

tnxTower Centerline Communications 750 West Center Street, Suite 301 West Bridgewater, MA 02379 Phone: (781) 713-4725 FAX:	Job	CTNL123A	Page	1 of 30
	Project	Coverage Strategy	Date	12:59:44 07/23/21
	Client	T-Mobile	Designed by	Joshua Gildert

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 175.40 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 5.00 ft at the top and 20.00 ft at the base.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in New London County, Connecticut.

ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).

Basic wind speed of 101 mph.

Structure Class II.

Exposure Category C.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 0.7500 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

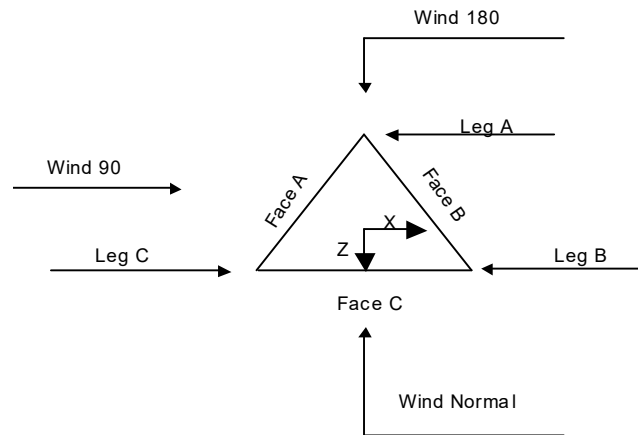
Stress ratio used in tower member design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	√ SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	√ Bypass Mast Stability Checks	√ Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	√ Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-G Bracing Resist. Exemption
Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-G Tension Splice Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
Secondary Horizontal Braces Leg	√ Sort Capacity Reports By Component	√ Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	Pole Without Linear Attachments
		Pole With Shroud Or No Appurtenances
		Outside and Inside Corner Radii Are
		Known

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	Project	Coverage Strategy	Date	12:59:44 07/23/21
	Client	T-Mobile	Designed by	Joshua Gildert



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	175.40-165.00			5.00	1	10.40
T2	165.00-150.00			5.00	1	15.00
T3	150.00-140.00			5.00	1	10.00
T4	140.00-120.00			6.00	1	20.00
T5	120.00-100.00			8.00	1	20.00
T6	100.00-80.00			10.00	1	20.00
T7	80.00-60.00			12.00	1	20.00
T8	60.00-40.00			14.00	1	20.00
T9	40.00-20.00			16.00	1	20.00
T10	20.00-0.00			18.00	1	20.00

Tower Section Geometry (cont'd)

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	175.40-165.00	2.43	X Brace	No	No	4.0000	4.0000
T2	165.00-150.00	2.39	X Brace	No	No	4.0000	4.0000
T3	150.00-140.00	10.00	X Brace	No	No	0.0000	0.0000
T4	140.00-120.00	10.00	X Brace	No	No	0.0000	0.0000
T5	120.00-100.00	10.00	X Brace	No	No	0.0000	0.0000

<i>tnxTower</i> Centerline Communications 750 West Center Street, Suite 301 West Bridgewater, MA 02379 Phone: (781) 713-4725 FAX:	Job	CTNL123A	Page	3 of 30
	Project	Coverage Strategy	Date	12:59:44 07/23/21
	Client	T-Mobile	Designed by	Joshua Gildert

<i>Tower Section</i>	<i>Tower Elevation</i>	<i>Diagonal Spacing</i>	<i>Bracing Type</i>	<i>Has K Brace End Panels</i>	<i>Has Horizontals</i>	<i>Top Girt Offset</i>	<i>Bottom Girt Offset</i>
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T6	100.00-80.00	10.00	X Brace	No	No	0.0000	0.0000
T7	80.00-60.00	10.00	X Brace	No	No	0.0000	0.0000
T8	60.00-40.00	20.00	X Brace	No	No	0.0000	0.0000
T9	40.00-20.00	20.00	X Brace	No	No	0.0000	0.0000
T10	20.00-0.00	20.00	X Brace	No	No	0.0000	0.0000

Tower Section Geometry (cont'd)

<i>Tower Elevation</i>	<i>Leg Type</i>	<i>Leg Size</i>	<i>Leg Grade</i>	<i>Diagonal Type</i>	<i>Diagonal Size</i>	<i>Diagonal Grade</i>
<i>ft</i>						
T1 175.40-165.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	7/8	A572-50 (50 ksi)
T2 165.00-150.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T3 150.00-140.00	Truss Leg	Pirol 105245	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T4 140.00-120.00	Truss Leg	Pirol 105218	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T5 120.00-100.00	Truss Leg	Pirol 105219	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T6 100.00-80.00	Truss Leg	Pirol 105219	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T7 80.00-60.00	Truss Leg	Pirol 105220	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T8 60.00-40.00	Truss Leg	Pirol 112743	A572-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 1/2x5/16	A36 (36 ksi)
T9 40.00-20.00	Truss Leg	Pirol 112743	A572-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 1/2x5/16	A36 (36 ksi)
T10 20.00-0.00	Truss Leg	Pirol 112744	A572-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 1/2x5/16	A36 (36 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation</i>	<i>Top Girt Type</i>	<i>Top Girt Size</i>	<i>Top Girt Grade</i>	<i>Bottom Girt Type</i>	<i>Bottom Girt Size</i>	<i>Bottom Girt Grade</i>
<i>ft</i>						
T1 175.40-165.00	Solid Round	7/8	A572-50 (50 ksi)	Solid Round	7/8	A572-50 (50 ksi)
T2 165.00-150.00	Solid Round	7/8	A572-50 (50 ksi)	Solid Round	7/8	A572-50 (50 ksi)

Tower Section Geometry (cont'd)

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<i>Tower Elevation</i>	<i>Gusset Area (per face)</i>	<i>Gusset Thickness</i>	<i>Gusset Grade</i>	<i>Adjust. Factor A_f</i>	<i>Adjust. Factor A_r</i>	<i>Weight Mult.</i>	<i>Double Angle Stitch Bolt Spacing Diagonals in</i>	<i>Double Angle Stitch Bolt Spacing Horizontals in</i>	<i>Double Angle Stitch Bolt Spacing Redundants in</i>
<i>ft</i>	<i>ft²</i>	<i>in</i>							
T1 175.40-165.00	0.00	0.6250	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T2 165.00-150.00	0.00	0.6250	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T3 150.00-140.00	0.00	0.6250	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T4 140.00-120.00	0.00	0.6250	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T5 120.00-100.00	0.00	0.6250	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T6 100.00-80.00	0.00	0.6250	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T7 80.00-60.00	0.00	0.6250	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T8 60.00-40.00	0.00	0.6250	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T9 40.00-20.00	0.00	0.6250	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T10 20.00-0.00	0.00	0.6250	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000

Tower Section Geometry (cont'd)

<i>Tower Elevation</i>	<i>Calc K Single Angles</i>	<i>Calc K Solid Rounds</i>	<i>Legs</i>	<i>K Factors¹</i>						
				<i>X Brace Diags</i>	<i>K Brace Diags</i>	<i>Single Diags</i>	<i>Girts</i>	<i>Horiz.</i>	<i>Sec. Horiz.</i>	<i>Inner Brace</i>
				<i>X Y</i>	<i>X Y</i>	<i>X Y</i>	<i>X Y</i>	<i>X Y</i>	<i>X Y</i>	<i>X Y</i>
T1 175.40-165.00	Yes	Yes	1	1	1	1	1	1	1	1
T2 165.00-150.00	Yes	Yes	1	1	1	1	1	1	1	1
T3 150.00-140.00	Yes	Yes	1	1	1	1	1	1	1	1
T4 140.00-120.00	Yes	Yes	1	1	1	1	1	1	1	1
T5 120.00-100.00	Yes	Yes	1	1	1	1	1	1	1	1
T6 100.00-80.00	Yes	Yes	1	1	1	1	1	1	1	1
T7 80.00-60.00	Yes	Yes	1	1	1	1	1	1	1	1
T8 60.00-40.00	Yes	Yes	1	1	1	1	1	1	1	1
T9 40.00-20.00	Yes	Yes	1	1	1	1	1	1	1	1
T10 20.00-0.00	Yes	Yes	1	1	1	1	1	1	1	1

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

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Tower Elevation ft	Redundant Horizontal		Redundant Diagonal		Redundant Sub-Diagonal		Redundant Sub-Horizontal		Redundant Vertical		Redundant Hip		Redundant Hip Diagonal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
175.40-165.00														
T2	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
165.00-150.00														
T3	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
150.00-140.00														
T4	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
140.00-120.00														
T5	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
120.00-100.00														
T6	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
100.00-80.00														
T7 80.00-60.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 60.00-40.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 40.00-20.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 20.00-0.00	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1	Sleeve DS	0.7500	5	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
175.40-165.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T2	Flange	1.0000	6	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
165.00-150.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T3	Flange	1.0000	6	1.0000	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
150.00-140.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T4	Flange	1.0000	6	1.0000	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
140.00-120.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T5	Flange	1.2500	6	1.2500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
120.00-100.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T6	Flange	1.2500	6	1.2500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
100.00-80.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T7 80.00-60.00	Flange	1.2500	6	1.2500	1	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T8 60.00-40.00	Flange	1.2500	12	1.0000	2	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T9 40.00-20.00	Flange	1.2500	12	1.0000	2	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T10 20.00-0.00	Flange	1.2500	12	1.0000	2	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A687		A325N		A325N		A325N		A325N		A325N		A325N	

Feed Line/Linear Appurtenances - Entered As Round Or Flat

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Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF7-50A (1-5/8 FOAM) (ATT)	B	No	No	Ar (CaAa)	175.00 - 8.00	-14.000 0	0.4	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (ATT)	B	No	No	Ar (CaAa)	175.00 - 8.00	-16.000 0	0.38	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (ATT)	B	No	No	Ar (CaAa)	175.00 - 8.00	-18.000 0	0.36	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (ATT)	B	No	No	Ar (CaAa)	175.00 - 8.00	-20.000 0	0.34	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (ATT)	B	No	No	Ar (CaAa)	175.00 - 8.00	-22.000 0	0.32	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (ATT)	B	No	No	Ar (CaAa)	175.00 - 8.00	-24.000 0	0.3	2	1	1.9800	1.9800		0.82
3/8 FIBER (ATT)	B	No	No	Ar (CaAa)	175.00 - 8.00	-31.000 0	0.32	1	1	0.4400	0.4400		0.08
3/4 DC POWER (ATT) ***	B	No	No	Ar (CaAa)	175.00 - 8.00	-32.000 0	0.3	2	2	0.4400	0.4400		0.40
LDF7-50A (1-5/8 FOAM) (VZW)	C	No	No	Ar (CaAa)	162.00 - 8.00	-8.0000	0.46	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (VZW)	C	No	No	Ar (CaAa)	162.00 - 8.00	-10.000 0	0.44	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (VZW)	C	No	No	Ar (CaAa)	162.00 - 8.00	-12.000 0	0.42	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (VZW)	C	No	No	Ar (CaAa)	162.00 - 8.00	-14.000 0	0.4	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (VZW)	C	No	No	Ar (CaAa)	162.00 - 8.00	-16.000 0	0.38	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (VZW)	C	No	No	Ar (CaAa)	162.00 - 8.00	-18.000 0	0.36	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (VZW)	C	No	No	Ar (CaAa)	162.00 - 8.00	-20.000 0	0.34	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (VZW)	C	No	No	Ar (CaAa)	162.00 - 8.00	-22.000 0	0.32	2	1	1.9800	1.9800		0.82
LDF7-50A (1-5/8 FOAM) (VZW) *** ***	C	No	No	Ar (CaAa)	162.00 - 8.00	-24.000 0	0.3	2	1	1.9800	1.9800		0.82
6X24 (T-MOBILE)	A	No	No	Ar (CaAa)	155.00 - 8.00	-8.0000	0.44	1	1	1.9800	1.9800		0.82
6X24 (T-MOBILE)	A	No	No	Ar (CaAa)	155.00 - 8.00	-10.000 0	0.42	1	1	1.9800	1.9800		0.82
6X24 (T-MOBILE)	A	No	No	Ar (CaAa)	155.00 - 8.00	-12.000 0	0.4	1	1	1.9800	1.9800		0.82

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Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C _A A _A ft ² /ft	Weight plf

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
T1	175.40-165.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	25.080	0.000	107.20
		C	0.000	0.000	0.000	0.000	0.00
T2	165.00-150.00	A	0.000	0.000	2.970	0.000	12.30
		B	0.000	0.000	37.620	0.000	160.80
		C	0.000	0.000	42.768	0.000	177.12
T3	150.00-140.00	A	0.000	0.000	5.940	0.000	24.60
		B	0.000	0.000	25.080	0.000	107.20
		C	0.000	0.000	35.640	0.000	147.60
T4	140.00-120.00	A	0.000	0.000	11.880	0.000	49.20
		B	0.000	0.000	50.160	0.000	214.40
		C	0.000	0.000	71.280	0.000	295.20
T5	120.00-100.00	A	0.000	0.000	11.880	0.000	49.20
		B	0.000	0.000	50.160	0.000	214.40
		C	0.000	0.000	71.280	0.000	295.20
T6	100.00-80.00	A	0.000	0.000	11.880	0.000	49.20
		B	0.000	0.000	50.160	0.000	214.40
		C	0.000	0.000	71.280	0.000	295.20
T7	80.00-60.00	A	0.000	0.000	11.880	0.000	49.20
		B	0.000	0.000	50.160	0.000	214.40
		C	0.000	0.000	71.280	0.000	295.20
T8	60.00-40.00	A	0.000	0.000	11.880	0.000	49.20
		B	0.000	0.000	50.160	0.000	214.40
		C	0.000	0.000	71.280	0.000	295.20
T9	40.00-20.00	A	0.000	0.000	11.880	0.000	49.20
		B	0.000	0.000	50.160	0.000	214.40
		C	0.000	0.000	71.280	0.000	295.20
T10	20.00-0.00	A	0.000	0.000	7.128	0.000	29.52
		B	0.000	0.000	30.096	0.000	128.64
		C	0.000	0.000	42.768	0.000	177.12

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight lb
T1	175.40-165.00	A	1.767	0.000	0.000	0.000	0.000	0.00

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<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face or Leg</i>	<i>Ice Thickness in</i>	<i>A_R ft²</i>	<i>A_F ft²</i>	<i>C_AA_A In Face ft²</i>	<i>C_AA_A Out Face ft²</i>	<i>Weight lb</i>
		B		0.000	0.000	94.040	0.000	1186.55
		C		0.000	0.000	0.000	0.000	0.00
T2	165.00-150.00	A	1.754	0.000	0.000	8.231	0.000	132.30
		B		0.000	0.000	140.526	0.000	1761.18
		C		0.000	0.000	147.495	0.000	1905.11
T3	150.00-140.00	A	1.739	0.000	0.000	16.376	0.000	261.70
		B		0.000	0.000	93.308	0.000	1161.05
		C		0.000	0.000	122.468	0.000	1570.21
T4	140.00-120.00	A	1.720	0.000	0.000	32.525	0.000	515.87
		B		0.000	0.000	185.634	0.000	2288.11
		C		0.000	0.000	243.775	0.000	3095.23
T5	120.00-100.00	A	1.692	0.000	0.000	32.183	0.000	504.61
		B		0.000	0.000	184.152	0.000	2237.29
		C		0.000	0.000	242.024	0.000	3027.64
T6	100.00-80.00	A	1.658	0.000	0.000	31.780	0.000	491.47
		B		0.000	0.000	182.404	0.000	2178.07
		C		0.000	0.000	239.959	0.000	2948.83
T7	80.00-60.00	A	1.617	0.000	0.000	31.286	0.000	475.62
		B		0.000	0.000	180.266	0.000	2106.61
		C		0.000	0.000	237.433	0.000	2853.70
T8	60.00-40.00	A	1.564	0.000	0.000	30.644	0.000	455.37
		B		0.000	0.000	177.488	0.000	2015.44
		C		0.000	0.000	234.151	0.000	2732.25
T9	40.00-20.00	A	1.486	0.000	0.000	29.709	0.000	426.67
		B		0.000	0.000	173.450	0.000	1886.26
		C		0.000	0.000	229.382	0.000	2560.00
T10	20.00-0.00	A	1.331	0.000	0.000	16.713	0.000	223.39
		B		0.000	0.000	99.271	0.000	985.27
		C		0.000	0.000	131.964	0.000	1340.32

Feed Line Center of Pressure

<i>Section</i>	<i>Elevation</i>	<i>CP_X</i>	<i>CP_Z</i>	<i>CP_X</i>	<i>CP_Z</i>
	<i>ft</i>	<i>in</i>	<i>in</i>	<i>Ice</i>	<i>Ice</i>
				<i>in</i>	<i>in</i>
T1	175.40-165.00	5.1912	10.2961	4.0058	8.3494
T2	165.00-150.00	-2.4722	6.1748	-2.4209	5.3099
T3	150.00-140.00	-2.1935	3.9973	-1.7766	2.9223
T4	140.00-120.00	-1.7646	5.5383	-1.6551	4.9405
T5	120.00-100.00	-1.2504	7.3788	-1.2406	7.7270
T6	100.00-80.00	-0.8126	9.1761	-0.6745	10.4292
T7	80.00-60.00	-0.4074	10.7237	-0.0375	12.7607
T8	60.00-40.00	-0.0431	11.8636	0.5866	14.1971
T9	40.00-20.00	0.2877	13.4212	1.2479	16.1742
T10	20.00-0.00	0.3751	10.4594	1.4262	13.2406

Shielding Factor Ka

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T1	1	LDF7-50A (1-5/8 FOAM)	165.00 -	0.6000	0.4903

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T1	2	LDF7-50A (1-5/8 FOAM)	175.00 165.00 - 175.00	0.6000	0.4903
T1	3	LDF7-50A (1-5/8 FOAM)	165.00 - 175.00	0.6000	0.4903
T1	4	LDF7-50A (1-5/8 FOAM)	165.00 - 175.00	0.6000	0.4903
T1	5	LDF7-50A (1-5/8 FOAM)	165.00 - 175.00	0.6000	0.4903
T1	6	LDF7-50A (1-5/8 FOAM)	165.00 - 175.00	0.6000	0.4903
T1	7	3/8 FIBER	165.00 - 175.00	0.6000	0.4903
T1	8	3/4 DC POWER	165.00 - 175.00	0.6000	0.4903
T2	1	LDF7-50A (1-5/8 FOAM)	150.00 - 165.00	0.6000	0.4896
T2	2	LDF7-50A (1-5/8 FOAM)	150.00 - 165.00	0.6000	0.4896
T2	3	LDF7-50A (1-5/8 FOAM)	150.00 - 165.00	0.6000	0.4896
T2	4	LDF7-50A (1-5/8 FOAM)	150.00 - 165.00	0.6000	0.4896
T2	5	LDF7-50A (1-5/8 FOAM)	150.00 - 165.00	0.6000	0.4896
T2	6	LDF7-50A (1-5/8 FOAM)	150.00 - 165.00	0.6000	0.4896
T2	7	3/8 FIBER	150.00 - 165.00	0.6000	0.4896
T2	8	3/4 DC POWER	150.00 - 165.00	0.6000	0.4896
T2	10	LDF7-50A (1-5/8 FOAM)	150.00 - 162.00	0.6000	0.4896
T2	11	LDF7-50A (1-5/8 FOAM)	150.00 - 162.00	0.6000	0.4896
T2	12	LDF7-50A (1-5/8 FOAM)	150.00 - 162.00	0.6000	0.4896
T2	13	LDF7-50A (1-5/8 FOAM)	150.00 - 162.00	0.6000	0.4896
T2	14	LDF7-50A (1-5/8 FOAM)	150.00 - 162.00	0.6000	0.4896
T2	15	LDF7-50A (1-5/8 FOAM)	150.00 - 162.00	0.6000	0.4896
T2	16	LDF7-50A (1-5/8 FOAM)	150.00 - 162.00	0.6000	0.4896
T2	17	LDF7-50A (1-5/8 FOAM)	150.00 - 162.00	0.6000	0.4896
T2	18	LDF7-50A (1-5/8 FOAM)	150.00 - 162.00	0.6000	0.4896
T2	21	6X24	150.00 - 155.00	0.6000	0.4896
T2	22	6X24	150.00 - 155.00	0.6000	0.4896
T2	23	6X24	150.00 - 155.00	0.6000	0.4896
T3	1	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	2	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	3	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	4	LDF7-50A (1-5/8 FOAM)	140.00 -	0.6000	0.3188

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	Client	T-Mobile	Designed by	Joshua Gildert

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T3	5	LDF7-50A (1-5/8 FOAM)	150.00 140.00 - 150.00	0.6000	0.3188
T3	6	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	7	3/8 FIBER	140.00 - 150.00	0.6000	0.3188
T3	8	3/4 DC POWER	140.00 - 150.00	0.6000	0.3188
T3	10	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	11	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	12	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	13	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	14	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	15	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	16	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	17	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	18	LDF7-50A (1-5/8 FOAM)	140.00 - 150.00	0.6000	0.3188
T3	21	6X24	140.00 - 150.00	0.6000	0.3188
T3	22	6X24	140.00 - 150.00	0.6000	0.3188
T3	23	6X24	140.00 - 150.00	0.6000	0.3188
T4	1	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4114
T4	2	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4114
T4	3	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4114
T4	4	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4114
T4	5	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4114
T4	6	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4114
T4	7	3/8 FIBER	120.00 - 140.00	0.6000	0.4114
T4	8	3/4 DC POWER	120.00 - 140.00	0.6000	0.4114
T4	10	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4114
T4	11	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4114
T4	12	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4114
T4	13	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4114
T4	14	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4114
T4	15	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.4114
T4	16	LDF7-50A (1-5/8 FOAM)	120.00 -	0.6000	0.4114

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T4	17	LDF7-50A (1-5/8 FOAM)	140.00 - 120.00	0.6000	0.4114
T4	18	LDF7-50A (1-5/8 FOAM)	140.00 - 120.00	0.6000	0.4114
T4	21	6X24	140.00 - 120.00	0.6000	0.4114
T4	22	6X24	140.00 - 120.00	0.6000	0.4114
T4	23	6X24	140.00 - 120.00	0.6000	0.4114
T5	1	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	2	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	3	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	4	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	5	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	6	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	7	3/8 FIBER	100.00 - 120.00	0.6000	0.5081
T5	8	3/4 DC POWER	100.00 - 120.00	0.6000	0.5081
T5	10	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	11	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	12	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	13	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	14	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	15	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	16	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	17	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	18	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.5081
T5	21	6X24	100.00 - 120.00	0.6000	0.5081
T5	22	6X24	100.00 - 120.00	0.6000	0.5081
T5	23	6X24	100.00 - 120.00	0.6000	0.5081
T6	1	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	2	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	3	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	4	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	5	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	6	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	7	3/8 FIBER	80.00 - 100.00	0.6000	0.5762
T6	8	3/4 DC POWER	80.00 - 100.00	0.6000	0.5762
T6	10	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	11	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	12	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T6	13	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	14	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	15	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	16	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	17	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	18	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.5762
T6	21	6X24	80.00 - 100.00	0.6000	0.5762
T6	22	6X24	80.00 - 100.00	0.6000	0.5762
T6	23	6X24	80.00 - 100.00	0.6000	0.5762
T7	1	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	2	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	3	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	4	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	5	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	6	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	7	3/8 FIBER	60.00 - 80.00	0.6000	0.6000
T7	8	3/4 DC POWER	60.00 - 80.00	0.6000	0.6000
T7	10	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	11	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	12	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	13	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	14	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	15	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	16	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	17	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	18	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T7	21	6X24	60.00 - 80.00	0.6000	0.6000
T7	22	6X24	60.00 - 80.00	0.6000	0.6000
T7	23	6X24	60.00 - 80.00	0.6000	0.6000
T8	1	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	2	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	3	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	4	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	5	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	6	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	7	3/8 FIBER	40.00 - 60.00	0.6000	0.6000
T8	8	3/4 DC POWER	40.00 - 60.00	0.6000	0.6000
T8	10	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	11	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	12	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	13	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	14	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	15	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	16	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	17	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	18	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T8	21	6X24	40.00 - 60.00	0.6000	0.6000
T8	22	6X24	40.00 - 60.00	0.6000	0.6000
T8	23	6X24	40.00 - 60.00	0.6000	0.6000
T9	1	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	2	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	3	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	4	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	5	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	6	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	7	3/8 FIBER	20.00 - 40.00	0.6000	0.6000
T9	8	3/4 DC POWER	20.00 - 40.00	0.6000	0.6000
T9	10	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	11	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	12	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	13	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	14	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T9	15	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	16	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	17	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	18	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T9	21	6X24	20.00 - 40.00	0.6000	0.6000
T9	22	6X24	20.00 - 40.00	0.6000	0.6000
T9	23	6X24	20.00 - 40.00	0.6000	0.6000
T10	1	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	2	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	3	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	4	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	5	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	6	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	7	3/8 FIBER	8.00 - 20.00	0.6000	0.6000
T10	8	3/4 DC POWER	8.00 - 20.00	0.6000	0.6000
T10	10	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	11	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	12	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	13	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	14	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	15	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	16	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	17	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	18	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T10	21	6X24	8.00 - 20.00	0.6000	0.6000
T10	22	6X24	8.00 - 20.00	0.6000	0.6000
T10	23	6X24	8.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horiz Lateral Vert</i> <i>ft ft ft</i>	<i>Azimuth Adjustment</i> <i>°</i>	<i>Placement</i> <i>ft</i>	<i>C_AA_A Front</i> <i>ft²</i>	<i>C_AA_A Side</i> <i>ft²</i>	<i>Weight</i> <i>lb</i>
Lightning Rod 1/2"x3' on 12' Pipe	A	None		0.0000	181.00	No Ice 2.52 1/2" Ice 3.86 1" Ice 5.10	2.52 3.86 5.10	51.50 79.70 112.42

SRL-420NHD Omni	B	From Leg	0.00 0.00 0.00	0.0000	180.00	No Ice 3.60 1/2" Ice 5.14 1" Ice 6.68	3.60 5.14 6.68	44.20 75.00 105.80
2" STD x 8' Pipe Mount	B	From Leg	0.00 0.00 0.00	0.0000	180.00	No Ice 1.90 1/2" Ice 2.73 1" Ice 3.40	1.90 2.73 3.40	29.28 43.62 63.24

Pirol 15' T-Frame	A	From Leg	1.50 0.00 0.00	0.0000	173.00	No Ice 15.00 1/2" Ice 20.60 1" Ice 26.20	15.00 20.60 26.20	500.00 650.00 800.00
Pirol 15' T-Frame	B	From Leg	1.50 0.00 0.00	0.0000	173.00	No Ice 15.00 1/2" Ice 20.60 1" Ice 26.20	15.00 20.60 26.20	500.00 650.00 800.00
Pirol 15' T-Frame	C	From Leg	1.50	0.0000	173.00	No Ice 15.00	15.00	500.00

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	Client	T-Mobile	Designed by	Joshua Gildert

<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert ft ft ft</i>	<i>Azimuth Adjustment °</i>	<i>Placement ft</i>		<i>C_{AA} Front ft²</i>	<i>C_{AA} Side ft²</i>	<i>Weight lb</i>
			0.00			1/2" Ice	20.60	20.60	650.00
			0.00			1" Ice	26.20	26.20	800.00
Powerwave 7770.00	A	From Leg	3.00	0.0000	175.00	No Ice	5.84	4.35	60.90
			0.00			1/2" Ice	6.32	5.20	109.42
			0.00			1" Ice	6.77	5.92	164.42
Powerwave 7770.00	B	From Leg	3.00	0.0000	175.00	No Ice	5.84	4.35	60.90
			0.00			1/2" Ice	6.32	5.20	109.42
			0.00			1" Ice	6.77	5.92	164.42
Powerwave 7770.00	C	From Leg	3.00	0.0000	175.00	No Ice	5.84	4.35	60.90
			0.00			1/2" Ice	6.32	5.20	109.42
			0.00			1" Ice	6.77	5.92	164.42
KMW AM-X-CD-17-65-00T	A	From Leg	3.00	0.0000	175.00	No Ice	11.55	8.94	107.85
			0.00			1/2" Ice	12.27	10.45	192.95
			0.00			1" Ice	13.00	11.99	287.90
Commscope SBNH-1D6565C	B	From Leg	3.00	0.0000	175.00	No Ice	11.41	9.60	90.05
			0.00			1/2" Ice	12.03	11.02	176.86
			0.00			1" Ice	12.65	12.29	273.42
Commscope SBNH-1D6565C	C	From Leg	3.00	0.0000	175.00	No Ice	11.41	9.60	90.05
			0.00			1/2" Ice	12.03	11.02	176.86
			0.00			1" Ice	12.65	12.29	273.42
RRUS-11	A	From Leg	3.00	0.0000	175.00	No Ice	2.79	1.19	50.00
			0.00			1/2" Ice	3.00	1.34	70.87
			0.00			1" Ice	3.21	1.50	94.78
RRUS-11	B	From Leg	3.00	0.0000	175.00	No Ice	2.79	1.19	50.00
			0.00			1/2" Ice	3.00	1.34	70.87
			0.00			1" Ice	3.21	1.50	94.78
RRUS-11	C	From Leg	3.00	0.0000	175.00	No Ice	2.79	1.19	50.00
			0.00			1/2" Ice	3.00	1.34	70.87
			0.00			1" Ice	3.21	1.50	94.78
(2) Powerwave LGP21401 TMA	A	From Leg	3.00	0.0000	175.00	No Ice	1.09	0.37	14.00
			0.00			1/2" Ice	1.23	0.47	21.03
			0.00			1" Ice	1.38	0.58	29.98
(2) Powerwave LGP21401 TMA	B	From Leg	3.00	0.0000	175.00	No Ice	1.09	0.37	14.00
			0.00			1/2" Ice	1.23	0.47	21.03
			0.00			1" Ice	1.38	0.58	29.98
(2) Powerwave LGP21401 TMA	C	From Leg	3.00	0.0000	175.00	No Ice	1.09	0.37	14.00
			0.00			1/2" Ice	1.23	0.47	21.03
			0.00			1" Ice	1.38	0.58	29.98
Raycap DC6-48-60-18-8F	A	From Leg	0.50	0.0000	175.00	No Ice	0.83	0.83	22.00
			0.00			1/2" Ice	1.34	1.34	37.91
			0.00			1" Ice	1.52	1.52	56.21

Pirot 15' T-Frame	A	From Leg	1.50	0.0000	162.00	No Ice	15.00	15.00	500.00
			0.00			1/2" Ice	20.60	20.60	650.00
			0.00			1" Ice	26.20	26.20	800.00
Pirot 15' T-Frame	B	From Leg	1.50	0.0000	162.00	No Ice	15.00	15.00	500.00
			0.00			1/2" Ice	20.60	20.60	650.00
			0.00			1" Ice	26.20	26.20	800.00
Pirot 15' T-Frame	C	From Leg	1.50	0.0000	162.00	No Ice	15.00	15.00	500.00
			0.00			1/2" Ice	20.60	20.60	650.00
			0.00			1" Ice	26.20	26.20	800.00
(2) Amphenol LPA-80080/4CF	A	From Leg	3.00	0.0000	163.00	No Ice	2.87	7.24	30.25
			0.00			1/2" Ice	3.24	7.95	74.63
			0.00			1" Ice	3.61	8.66	119.01
(2) Amphenol LPA-80080/4CF	B	From Leg	3.00	0.0000	163.00	No Ice	2.87	7.24	30.25
			0.00			1/2" Ice	3.24	7.95	74.63
			0.00			1" Ice	3.61	8.66	119.01

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert ft ft ft</i>	<i>Azimuth Adjustment °</i>	<i>Placement ft</i>		<i>C_{AA} Front ft²</i>	<i>C_{AA} Side ft²</i>	<i>Weight lb</i>
(2) Amphenol LPA-80080/4CF	C	From Leg	3.00 0.00 0.00	0.0000	163.00	No Ice 1/2" Ice 1" Ice	2.87 3.24 3.61	7.24 7.95 8.66	30.25 74.63 119.01
Amphenol BXA-70063/6CF	A	From Leg	3.00 0.00 0.00	0.0000	163.00	No Ice 1/2" Ice 1" Ice	7.99 8.64 9.29	5.82 6.99 8.16	42.55 100.70 158.85
Amphenol BXA-70063/6CF	B	From Leg	3.00 0.00 0.00	0.0000	163.00	No Ice 1/2" Ice 1" Ice	7.99 8.64 9.29	5.82 6.99 8.16	42.55 100.70 158.85
Amphenol BXA-70063/6CF	C	From Leg	3.00 0.00 0.00	0.0000	163.00	No Ice 1/2" Ice 1" Ice	7.99 8.64 9.29	5.82 6.99 8.16	42.55 100.70 158.85
Amphenol BXA-171085/8CF	A	From Leg	3.00 0.00 0.00	0.0000	163.00	No Ice 1/2" Ice 1" Ice	3.17 3.54 3.91	3.34 3.95 4.58	43.25 75.31 112.84
Amphenol BXA-171085/8CF	B	From Leg	3.00 0.00 0.00	0.0000	163.00	No Ice 1/2" Ice 1" Ice	3.17 3.54 3.91	3.34 3.95 4.58	43.25 75.31 112.84
Amphenol BXA-171085/8CF	C	From Leg	3.00 0.00 0.00	0.0000	163.00	No Ice 1/2" Ice 1" Ice	3.17 3.54 3.91	3.34 3.95 4.58	43.25 75.31 112.84

CCI TPA-65R-LCUUUU-H8	A	From Leg	3.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	13.30 13.90 14.50	10.72 12.15 13.43	123.40 223.96 334.50
CCI TPA-65R-LCUUUU-H8	B	From Leg	3.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	13.30 13.90 14.50	10.72 12.15 13.43	123.40 223.96 334.50
CCI TPA-65R-LCUUUU-H8	C	From Leg	3.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	13.30 13.90 14.50	10.72 12.15 13.43	123.40 223.96 334.50
RRUS-32 B2	A	From Leg	3.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.19	1.67 1.86 2.05	60.00 81.11 105.42
RRUS-32 B2	B	From Leg	3.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.19	1.67 1.86 2.05	60.00 81.11 105.42
RRUS-32 B2	C	From Leg	3.00 0.00 0.00	0.0000	175.00	No Ice 1/2" Ice 1" Ice	2.74 2.96 3.19	1.67 1.86 2.05	60.00 81.11 105.42

APX16DWV-16DWV-S-E-A 20 (T-MOBILE)	A	From Leg	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice	6.46 6.83 7.21	2.15 2.49 2.84	40.70 73.65 111.47
APX16DWV-16DWV-S-E-A 20 (T-MOBILE)	B	From Leg	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice	6.46 6.83 7.21	2.15 2.49 2.84	40.70 73.65 111.47
APX16DWV-16DWV-S-E-A 20 (T-MOBILE)	C	From Leg	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice	6.46 6.83 7.21	2.15 2.49 2.84	40.70 73.65 111.47
APXVAALL24_43-U-NA20 (T-MOBILE)	A	From Leg	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice	20.24 20.89 21.54	8.89 9.49 10.09	153.30 265.89 387.02
APXVAALL24_43-U-NA20 (T-MOBILE)	B	From Leg	3.00 0.00 0.00	0.0000	155.00	No Ice 1/2" Ice 1" Ice	20.24 20.89 21.54	8.89 9.49 10.09	153.30 265.89 387.02
APXVAALL24_43-U-NA20	C	From Leg	3.00	0.0000	155.00	No Ice	20.24	8.89	153.30

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert ft ft ft</i>	<i>Azimuth Adjustment °</i>	<i>Placement ft</i>		<i>C_{AA} Front ft²</i>	<i>C_{AA} Side ft²</i>	<i>Weight lb</i>
(T-MOBILE)			0.00			1/2" Ice	20.89	9.49	265.89
			0.00			1" Ice	21.54	10.09	387.02
AIR 6449 B41	A	From Leg	3.00	0.0000	155.00	No Ice	5.68	2.49	104.00
(T-MOBILE)			0.00			1/2" Ice	5.98	2.72	143.12
			0.00			1" Ice	6.29	2.95	186.46
AIR 6449 B41	B	From Leg	3.00	0.0000	155.00	No Ice	5.68	2.49	104.00
(T-MOBILE)			0.00			1/2" Ice	5.98	2.72	143.12
			0.00			1" Ice	6.29	2.95	186.46
AIR 6449 B41	C	From Leg	3.00	0.0000	155.00	No Ice	5.68	2.49	104.00
(T-MOBILE)			0.00			1/2" Ice	5.98	2.72	143.12
			0.00			1" Ice	6.29	2.95	186.46
RADIO 4480 B66	A	From Leg	3.00	0.0000	155.00	No Ice	2.45	1.27	87.00
(T-MOBILE)			0.00			1/2" Ice	2.65	1.42	106.69
			0.00			1" Ice	2.85	1.59	129.33
RADIO 4480 B66	B	From Leg	3.00	0.0000	155.00	No Ice	2.45	1.27	87.00
(T-MOBILE)			0.00			1/2" Ice	2.65	1.42	106.69
			0.00			1" Ice	2.85	1.59	129.33
RADIO 4480 B66	C	From Leg	3.00	0.0000	155.00	No Ice	2.45	1.27	87.00
(T-MOBILE)			0.00			1/2" Ice	2.65	1.42	106.69
			0.00			1" Ice	2.85	1.59	129.33
RADIO 4460 B25_B66	A	From Leg	3.00	0.0000	155.00	No Ice	2.14	1.50	108.00
(T-MOBILE)			0.00			1/2" Ice	2.32	1.65	130.16
			0.00			1" Ice	2.51	1.81	155.36
RADIO 4460 B25_B66	B	From Leg	3.00	0.0000	155.00	No Ice	2.14	1.50	108.00
(T-MOBILE)			0.00			1/2" Ice	2.32	1.65	130.16
			0.00			1" Ice	2.51	1.81	155.36
RADIO 4460 B25_B66	C	From Leg	3.00	0.0000	155.00	No Ice	2.14	1.50	108.00
(T-MOBILE)			0.00			1/2" Ice	2.32	1.65	130.16
			0.00			1" Ice	2.51	1.81	155.36
Site Pro 1 VFA12-HD	A	From Leg	1.50	0.0000	155.00	No Ice	13.20	9.20	658.00
(T-MOBILE)			0.00			1/2" Ice	19.50	14.60	804.00
			0.00			1" Ice	25.80	19.50	1015.00
Site Pro 1 VFA12-HD	B	From Leg	1.50	0.0000	155.00	No Ice	13.20	9.20	658.00
(T-MOBILE)			0.00			1/2" Ice	19.50	14.60	804.00
			0.00			1" Ice	25.80	19.50	1015.00
Site Pro 1 VFA12-HD	C	From Leg	1.50	0.0000	155.00	No Ice	13.20	9.20	658.00
(T-MOBILE)			0.00			1/2" Ice	19.50	14.60	804.00
			0.00			1" Ice	25.80	19.50	1015.00
(4) PIPE MOUNT (8'X2.375"	A	From Leg	3.00	0.0000	155.00	No Ice	1.90	1.90	29.28
(T-MOBILE)			0.00			1/2" Ice	2.73	2.73	43.62
			0.00			1" Ice	3.40	3.40	63.24
(4) PIPE MOUNT (8'X2.375"	B	From Leg	3.00	0.0000	155.00	No Ice	1.90	1.90	29.28
(T-MOBILE)			0.00			1/2" Ice	2.73	2.73	43.62
			0.00			1" Ice	3.40	3.40	63.24
(4) PIPE MOUNT (8'X2.375"	C	From Leg	3.00	0.0000	155.00	No Ice	1.90	1.90	29.28
(T-MOBILE)			0.00			1/2" Ice	2.73	2.73	43.62
			0.00			1" Ice	3.40	3.40	63.24

Truss-Leg Properties

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<i>Section Designation</i>	<i>Area</i>	<i>Area Ice</i>	<i>Self Weight</i>	<i>Ice Weight</i>	<i>Equiv. Diameter</i>	<i>Equiv. Diameter Ice</i>	<i>Leg Area</i>
	<i>in²</i>	<i>in²</i>	<i>lb</i>	<i>lb</i>	<i>in</i>	<i>in</i>	<i>in²</i>
Pirod 105245	1090.3344	3193.6269	676.81	617.08	7.5718	22.1780	5.3014
Pirod 105218	2263.4687	6625.8954	754.52	1186.30	7.8593	23.0066	7.2158
Pirod 105219	2441.8688	6672.7000	944.27	1200.37	8.4787	23.1691	9.4248
Pirod 105219	2441.8688	6642.9857	944.27	1163.79	8.4787	23.0659	9.4248
Pirod 105220	2578.8005	6678.6036	1121.16	1140.57	8.9542	23.1896	11.9282
Pirod 112743	3466.5160	8827.2724	1689.34	1498.68	12.0365	30.6503	14.7262
Pirod 112743	3466.5160	8768.9018	1689.34	1387.39	12.0365	30.4476	14.7262
Pirod 112744	3599.5585	8725.0272	1904.37	1194.40	12.4985	30.2952	17.8187

Load Combinations

<i>Comb. No.</i>	<i>Description</i>
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service

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Comb. No.	Description
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical lb	Horizontal, X lb	Horizontal, Z lb
Leg C	Max. Vert	18	378319.19	34152.47	-19421.74
	Max. H _x	18	378319.19	34152.47	-19421.74
	Max. H _z	7	-330806.50	-30311.02	17211.66
	Min. Vert	7	-330806.50	-30311.02	17211.66
	Min. H _x	7	-330806.50	-30311.02	17211.66
	Min. H _z	18	378319.19	34152.47	-19421.74
Leg B	Max. Vert	10	387366.48	-35794.08	-19234.87
	Max. H _x	23	-340646.45	31985.45	17030.58
	Max. H _z	23	-340646.45	31985.45	17030.58
	Min. Vert	23	-340646.45	31985.45	17030.58
	Min. H _x	10	387366.48	-35794.08	-19234.87
	Min. H _z	10	387366.48	-35794.08	-19234.87
Leg A	Max. Vert	2	363788.68	-119.58	37876.75
	Max. H _x	19	-161662.49	941.44	-17291.31
	Max. H _z	2	363788.68	-119.58	37876.75
	Min. Vert	15	-317993.63	110.42	-33473.82
	Min. H _x	7	190102.28	-862.27	19547.70
	Min. H _z	15	-317993.63	110.42	-33473.82

Tower Mast Reaction Summary

Load Combination	Vertical lb	Shear _x lb	Shear _z lb	Overturning Moment, M _x lb-ft	Overturning Moment, M _z lb-ft	Torque lb-ft
Dead Only	55087.34	-0.00	-0.00	7147.72	3792.95	0.16
1.2 Dead+1.6 Wind 0 deg - No Ice	66104.80	562.95	-55971.21	-5919348.58	-83097.57	-4859.25
0.9 Dead+1.6 Wind 0 deg - No Ice	49578.59	562.91	-55970.21	-5915061.94	-84127.18	-4853.55
1.2 Dead+1.6 Wind 30 deg - No Ice	66104.80	29694.71	-50330.94	-5328449.33	-3175620.23	-1689.44
0.9 Dead+1.6 Wind 30 deg - No Ice	49578.60	29694.82	-50331.12	-5324982.81	-3173386.41	-1690.09
1.2 Dead+1.6 Wind 60 deg - No Ice	66104.80	48775.79	-28174.47	-3007473.42	-5215296.64	8724.48
0.9 Dead+1.6 Wind 60 deg - No Ice	49578.60	48775.97	-28174.58	-3006425.81	-5210893.27	8717.90
1.2 Dead+1.6 Wind 90 deg - No Ice	66104.80	59152.66	-562.81	-78981.38	-6271105.78	35878.15
0.9 Dead+1.6 Wind 90 deg - No Ice	49578.60	59152.88	-562.81	-81023.93	-6265634.49	35866.72
1.2 Dead+1.6 Wind 120 deg - No Ice	66104.80	52565.25	29712.28	3098287.88	-5517833.56	43855.00

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<i>Load Combination</i>	<i>Vertical lb</i>	<i>Shear_x lb</i>	<i>Shear_z lb</i>	<i>Overturning Moment, M_x lb-ft</i>	<i>Overturning Moment, M_z lb-ft</i>	<i>Torque lb-ft</i>
0.9 Dead+1.6 Wind 120 deg - No Ice	49578.59	52564.33	29711.79	3092826.88	-5513031.63	43841.67
1.2 Dead+1.6 Wind 150 deg - No Ice	66104.80	28930.41	50132.49	5293791.39	-3044273.16	35485.31
0.9 Dead+1.6 Wind 150 deg - No Ice	49578.60	28930.51	50132.68	5286076.18	-3042220.92	35474.07
1.2 Dead+1.6 Wind 180 deg - No Ice	66104.80	-562.96	54173.57	5802383.19	92294.37	4857.27
0.9 Dead+1.6 Wind 180 deg - No Ice	49578.60	-562.96	54173.78	5794053.40	91038.28	4851.65
1.2 Dead+1.6 Wind 210 deg - No Ice	66104.80	-29694.96	50330.80	5345662.58	3184769.94	1687.68
0.9 Dead+1.6 Wind 210 deg - No Ice	49578.60	-29695.07	50330.99	5337871.72	3180255.56	1688.38
1.2 Dead+1.6 Wind 240 deg - No Ice	66104.80	-50332.61	29073.30	3091824.00	5340619.75	-8724.94
0.9 Dead+1.6 Wind 240 deg - No Ice	49578.59	-50331.72	29072.78	3086318.66	5333682.56	-8718.24
1.2 Dead+1.6 Wind 270 deg - No Ice	66104.80	-59152.67	563.10	96408.20	6280241.47	-35876.42
0.9 Dead+1.6 Wind 270 deg - No Ice	49578.60	-59152.89	563.10	94145.92	6272478.39	-35865.03
1.2 Dead+1.6 Wind 300 deg - No Ice	66104.80	-51008.43	-28813.44	-3013732.88	5410904.02	-43852.41
0.9 Dead+1.6 Wind 300 deg - No Ice	49578.60	-51008.62	-28813.54	-3012724.30	5404055.86	-43839.26
1.2 Dead+1.6 Wind 330 deg - No Ice	66104.80	-28930.17	-50132.63	-5276448.42	3053626.59	-35485.31
0.9 Dead+1.6 Wind 330 deg - No Ice	49578.60	-28930.28	-50132.81	-5273057.69	3049271.09	-35474.08
1.2 Dead+1.0 Ice+1.0 Temp	165485.23	0.18	-0.30	70508.20	37713.61	1.02
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	165485.23	0.00	-17206.86	-1721714.18	37783.04	-107.70
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	165485.23	8423.69	-14592.11	-1452500.90	-841345.75	817.39
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	165485.23	15100.88	-8719.56	-832970.93	-1527161.91	4359.74
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	165485.23	18331.47	-0.00	70883.30	-1847432.52	12837.18
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	165485.23	16185.00	9345.46	1030403.01	-1623956.44	15035.09
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	165485.23	8944.64	15494.38	1677469.79	-889770.85	7102.87
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	165485.23	0.00	16996.89	1847846.07	37787.49	107.16
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	165485.23	-8423.69	14592.09	1593822.93	917080.19	-817.19
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	165485.23	-15282.69	8824.52	982077.27	1615932.59	-4361.24
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	165485.23	-18331.47	-0.00	70872.58	1922982.65	-12837.32
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	165485.23	-16003.16	-9240.50	-881256.89	1686380.95	-15030.56
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	165485.23	-8944.62	-15494.40	-1536103.44	965220.82	-7102.96
Dead+Wind 0 deg - Service	55087.34	124.17	-12345.39	-1299515.34	-15521.41	-1071.34
Dead+Wind 30 deg - Service	55087.34	6549.70	-11101.34	-1169186.47	-697136.19	-377.36
Dead+Wind 60 deg - Service	55087.34	10758.36	-6214.38	-657623.23	-1146729.89	1923.60
Dead+Wind 90 deg - Service	55087.34	13047.13	-124.16	-12141.58	-1379433.53	7917.37
Dead+Wind 120 deg - Service	55087.34	11594.15	6553.54	688202.11	-1213468.04	9673.91
Dead+Wind 150 deg - Service	55087.34	6381.08	11057.59	1172072.99	-668221.77	7821.74

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<i>Load Combination</i>	<i>Vertical lb</i>	<i>Shear_x lb</i>	<i>Shear_z lb</i>	<i>Overturning Moment, M_x lb-ft</i>	<i>Overturning Moment, M_z lb-ft</i>	<i>Torque lb-ft</i>
Dead+Wind 180 deg - Service	55087.34	-124.17	11948.93	1284202.96	23134.50	1071.13
Dead+Wind 210 deg - Service	55087.34	-6549.71	11101.33	1183521.61	704765.46	377.46
Dead+Wind 240 deg - Service	55087.34	-11101.70	6412.60	686788.42	1179989.80	-1925.36
Dead+Wind 270 deg - Service	55087.34	-13047.13	124.18	26509.57	1387048.36	-7917.44
Dead+Wind 300 deg - Service	55087.34	-11250.80	-6355.31	-659027.15	1195439.41	-9671.56
Dead+Wind 330 deg - Service	55087.34	-6381.07	-11057.60	-1157734.85	675828.49	-7821.75

Solution Summary

<i>Load Comb.</i>	<i>Sum of Applied Forces</i>			<i>Sum of Reactions</i>			<i>% Error</i>
	<i>PX lb</i>	<i>PY lb</i>	<i>PZ lb</i>	<i>PX lb</i>	<i>PY lb</i>	<i>PZ lb</i>	
1	0.00	-55087.34	-0.00	0.00	55087.34	0.00	0.000%
2	562.97	-66104.81	-55971.87	-562.95	66104.80	55971.21	0.001%
3	562.97	-49578.61	-55971.87	-562.91	49578.59	55970.21	0.002%
4	29695.26	-66104.81	-50331.58	-29694.71	66104.80	50330.94	0.001%
5	29695.26	-49578.61	-50331.58	-29694.82	49578.60	50331.12	0.001%
6	48776.61	-66104.81	-28174.94	-48775.79	66104.80	28174.47	0.001%
7	48776.61	-49578.61	-28174.94	-48775.97	49578.60	28174.58	0.001%
8	59153.50	-66104.81	-562.97	-59152.66	66104.80	562.81	0.001%
9	59153.50	-49578.61	-562.97	-59152.88	49578.60	562.81	0.001%
10	52565.86	-66104.81	29712.61	-52565.25	66104.80	-29712.28	0.001%
11	52565.86	-49578.61	29712.61	-52564.33	49578.59	-29711.79	0.002%
12	28930.70	-66104.81	50133.26	-28930.41	66104.80	-50132.49	0.001%
13	28930.70	-49578.61	50133.26	-28930.51	49578.60	-50132.68	0.001%
14	-562.97	-66104.81	54174.48	562.96	66104.80	-54173.57	0.001%
15	-562.97	-49578.61	54174.48	562.96	49578.60	-54173.78	0.001%
16	-29695.26	-66104.81	50331.58	29694.96	66104.80	-50330.80	0.001%
17	-29695.26	-49578.61	50331.58	29695.07	49578.60	-50330.99	0.001%
18	-50333.20	-66104.81	29073.64	50332.61	66104.80	-29073.30	0.001%
19	-50333.20	-49578.61	29073.64	50331.72	49578.59	-29072.78	0.002%
20	-59153.50	-66104.81	562.97	59152.67	66104.80	-563.10	0.001%
21	-59153.50	-49578.61	562.97	59152.89	49578.60	-563.10	0.001%
22	-51009.27	-66104.81	-28813.91	51008.43	66104.80	28813.44	0.001%
23	-51009.27	-49578.61	-28813.91	51008.62	49578.60	28813.54	0.001%
24	-28930.70	-66104.81	-50133.26	28930.17	66104.80	50132.63	0.001%
25	-28930.70	-49578.61	-50133.26	28930.28	49578.60	50132.81	0.001%
26	0.00	-165485.23	-0.00	-0.18	165485.23	0.30	0.000%
27	0.00	-165485.23	-17207.03	-0.00	165485.23	17206.86	0.000%
28	8423.78	-165485.23	-14592.25	-8423.69	165485.23	14592.11	0.000%
29	15101.04	-165485.23	-8719.65	-15100.88	165485.23	8719.56	0.000%
30	18331.66	-165485.23	-0.00	-18331.47	165485.23	0.00	0.000%
31	16185.15	-165485.23	9345.56	-16185.00	165485.23	-9345.46	0.000%
32	8944.72	-165485.23	15494.55	-8944.64	165485.23	-15494.38	0.000%
33	-0.00	-165485.23	16997.08	-0.00	165485.23	-16996.89	0.000%
34	-8423.78	-165485.23	14592.25	8423.69	165485.23	-14592.09	0.000%
35	-15282.85	-165485.23	8824.62	15282.69	165485.23	-8824.52	0.000%
36	-18331.66	-165485.23	-0.00	18331.47	165485.23	0.00	0.000%
37	-16003.34	-165485.23	-9240.59	16003.16	165485.23	9240.50	0.000%
38	-8944.72	-165485.23	-15494.55	8944.62	165485.23	15494.40	0.000%
39	124.17	-55087.34	-12345.53	-124.17	55087.34	12345.39	0.000%
40	6549.78	-55087.34	-11101.47	-6549.70	55087.34	11101.34	0.000%
41	10758.49	-55087.34	-6214.45	-10758.36	55087.34	6214.38	0.000%
42	13047.29	-55087.34	-124.17	-13047.13	55087.34	124.16	0.000%
43	11594.27	-55087.34	6553.61	-11594.15	55087.34	-6553.54	0.000%
44	6381.15	-55087.34	11057.72	-6381.08	55087.34	-11057.59	0.000%
45	-124.17	-55087.34	11949.08	124.17	55087.34	-11948.93	0.000%
46	-6549.78	-55087.34	11101.47	6549.71	55087.34	-11101.33	0.000%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX lb	PY lb	PZ lb	PX lb	PY lb	PZ lb	
47	-11101.82	-55087.34	6412.67	11101.70	55087.34	-6412.60	0.000%
48	-13047.29	-55087.34	124.17	13047.13	55087.34	-124.18	0.000%
49	-11250.94	-55087.34	-6355.39	11250.80	55087.34	6355.31	0.000%
50	-6381.15	-55087.34	-11057.72	6381.07	55087.34	11057.60	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	10	0.00000001	0.00005701
3	Yes	9	0.00000001	0.00012103
4	Yes	10	0.00000001	0.00007058
5	Yes	10	0.00000001	0.00005320
6	Yes	10	0.00000001	0.00008108
7	Yes	10	0.00000001	0.00006311
8	Yes	10	0.00000001	0.00007057
9	Yes	10	0.00000001	0.00005322
10	Yes	10	0.00000001	0.00005620
11	Yes	9	0.00000001	0.00011878
12	Yes	10	0.00000001	0.00006988
13	Yes	10	0.00000001	0.00005252
14	Yes	10	0.00000001	0.00008068
15	Yes	10	0.00000001	0.00006272
16	Yes	10	0.00000001	0.00006933
17	Yes	10	0.00000001	0.00005199
18	Yes	10	0.00000001	0.00005649
19	Yes	9	0.00000001	0.00011952
20	Yes	10	0.00000001	0.00006928
21	Yes	10	0.00000001	0.00005198
22	Yes	10	0.00000001	0.00008106
23	Yes	10	0.00000001	0.00006313
24	Yes	10	0.00000001	0.00006984
25	Yes	10	0.00000001	0.00005249
26	Yes	8	0.00000001	0.00009342
27	Yes	11	0.00000001	0.00004713
28	Yes	11	0.00000001	0.00004771
29	Yes	11	0.00000001	0.00004914
30	Yes	11	0.00000001	0.00004892
31	Yes	11	0.00000001	0.00004860
32	Yes	11	0.00000001	0.00004998
33	Yes	11	0.00000001	0.00005077
34	Yes	11	0.00000001	0.00004960
35	Yes	11	0.00000001	0.00004866
36	Yes	11	0.00000001	0.00004977
37	Yes	11	0.00000001	0.00005079
38	Yes	11	0.00000001	0.00004911
39	Yes	10	0.00000001	0.00005235
40	Yes	10	0.00000001	0.00005513
41	Yes	10	0.00000001	0.00005746
42	Yes	10	0.00000001	0.00005512
43	Yes	10	0.00000001	0.00005225
44	Yes	10	0.00000001	0.00005490
45	Yes	10	0.00000001	0.00005731
46	Yes	10	0.00000001	0.00005491
47	Yes	10	0.00000001	0.00005237

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48	Yes	10	0.00000001	0.00005487
49	Yes	10	0.00000001	0.00005745
50	Yes	10	0.00000001	0.00005486

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	175.4 - 165	3.583	48	0.2002	0.0356
T2	165 - 150	3.138	48	0.1972	0.0349
T3	150 - 140	2.515	48	0.1792	0.0296
T4	140 - 120	2.144	48	0.1622	0.0242
T5	120 - 100	1.514	48	0.1301	0.0174
T6	100 - 80	1.010	43	0.1028	0.0126
T7	80 - 60	0.624	43	0.0744	0.0086
T8	60 - 40	0.340	43	0.0517	0.0051
T9	40 - 20	0.148	43	0.0335	0.0031
T10	20 - 0	0.035	43	0.0149	0.0014

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
181.00	Lightning Rod 1/2"x3' on 12' Pipe	48	3.583	0.2002	0.0356	Inf
180.00	SRL-420NHD Omni	48	3.583	0.2002	0.0356	Inf
175.00	Powerwave 7770.00	48	3.566	0.2002	0.0356	Inf
173.00	Pirol 15' T-Frame	48	3.480	0.1999	0.0356	Inf
163.00	(2) Amphenol LPA-80080/4CF	48	3.052	0.1958	0.0345	137262
162.00	Pirol 15' T-Frame	48	3.010	0.1949	0.0342	106184
155.00	APX16DWV-16DWV-S-E-A20	48	2.716	0.1868	0.0319	38184

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	175.4 - 165	16.228	20	0.9078	0.1616
T2	165 - 150	14.211	20	0.8939	0.1583
T3	150 - 140	11.389	20	0.8118	0.1341
T4	140 - 120	9.711	20	0.7346	0.1097
T5	120 - 100	6.855	20	0.5891	0.0788
T6	100 - 80	4.580	10	0.4655	0.0570
T7	80 - 60	2.827	10	0.3370	0.0389
T8	60 - 40	1.540	10	0.2344	0.0230
T9	40 - 20	0.670	10	0.1516	0.0140
T10	20 - 0	0.161	10	0.0673	0.0065

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Critical Deflections and Radius of Curvature - Design Wind

<i>Elevation</i>	<i>Appurtenance</i>	<i>Gov. Load</i>	<i>Deflection</i>	<i>Tilt</i>	<i>Twist</i>	<i>Radius of Curvature</i>
<i>ft</i>		<i>Comb.</i>	<i>in</i>	<i>°</i>	<i>°</i>	<i>ft</i>
181.00	Lightning Rod 1/2"x3' on 12' Pipe	20	16.228	0.9078	0.1616	230964
180.00	SRL-420NHD Omni	20	16.228	0.9078	0.1616	230964
175.00	Powerwave 7770.00	20	16.151	0.9076	0.1616	230964
173.00	Pirol 15' T-Frame	20	15.763	0.9064	0.1614	230964
163.00	(2) Amphenol LPA-80080/4CF	20	13.824	0.8873	0.1565	30719
162.00	Pirol 15' T-Frame	20	13.631	0.8833	0.1554	23720
155.00	APX16DWV-16DWV-S-E-A20	20	12.300	0.8461	0.1447	8462

Bolt Design Data

<i>Section No.</i>	<i>Elevation</i>	<i>Component Type</i>	<i>Bolt Grade</i>	<i>Bolt Size</i>	<i>Number Of Bolts</i>	<i>Maximum Load per Bolt lb</i>	<i>Allowable Load per Bolt lb</i>	<i>Ratio Load Allowable</i>	<i>Allowable Ratio</i>	<i>Criteria</i>
	<i>ft</i>			<i>in</i>						
T1	175.4	Leg	A325N	0.7500	5	2982.97	35784.70	0.083 ✓	1	Bolt DS
T2	165	Leg	A325N	1.0000	6	8915.94	53014.40	0.168 ✓	1	Bolt Tension
T3	150	Leg	A325N	1.0000	6	10673.10	53014.40	0.201 ✓	1	Bolt Tension
		Diagonal	A325N	1.0000	1	11055.00	16939.50	0.653 ✓	1	Member Block Shear
T4	140	Leg	A325N	1.0000	6	19430.30	53014.40	0.367 ✓	1	Bolt Tension
		Diagonal	A325N	1.0000	1	10250.10	16939.50	0.605 ✓	1	Member Block Shear
T5	120	Leg	A325N	1.2500	6	26533.90	82835.00	0.320 ✓	1	Bolt Tension
		Diagonal	A325N	1.2500	1	9268.52	17138.70	0.541 ✓	1	Member Block Shear
T6	100	Leg	A325N	1.2500	6	32965.40	82835.00	0.398 ✓	1	Bolt Tension
		Diagonal	A325N	1.2500	1	9522.94	17138.70	0.556 ✓	1	Member Block Shear
T7	80	Leg	A325N	1.2500	6	39183.90	82835.00	0.473 ✓	1	Bolt Tension
		Diagonal	A325N	1.2500	1	10033.90	17138.70	0.585 ✓	1	Member Block Shear
T8	60	Leg	A325N	1.2500	12	21377.80	82835.00	0.258 ✓	1	Bolt Tension
		Diagonal	A325N	1.0000	2	7560.00	35525.40	0.213 ✓	1	Member Block Shear
T9	40	Leg	A325N	1.2500	12	24537.60	82835.00	0.296 ✓	1	Bolt Tension
		Diagonal	A325N	1.0000	2	7647.37	35525.40	0.215 ✓	1	Member Block Shear
T10	20	Leg	A687	1.2500	12	26850.10	86286.40	0.311 ✓	1	Bolt Tension
		Diagonal	A325N	1.0000	2	8286.91	35525.40	0.233 ✓	1	Member Block Shear

Compression Checks

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Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	175.4 - 165	2	10.40	2.43	58.4 K=1.00	3.1416	-12824.00	110170.00	0.116 ¹
T2	165 - 150	2 1/4	15.00	2.39	51.0 K=1.00	3.9761	-56161.40	147977.00	0.380 ¹
T3	150 - 140	Pirod 105245	10.02	10.02	37.8 K=1.00	5.3014	-71240.90	214859.00	0.332 ¹
T4	140 - 120	Pirod 105218	20.03	10.02	32.4 K=1.00	7.2158	-127767.00	300681.00	0.425 ¹
T5	120 - 100	Pirod 105219	20.03	10.02	28.4 K=1.00	9.4248	-174207.00	399868.00	0.436 ¹
T6	100 - 80	Pirod 105219	20.03	10.02	28.4 K=1.00	9.4248	-217092.00	399868.00	0.543 ¹
T7	80 - 60	Pirod 105220	20.03	10.02	25.2 K=1.00	11.9282	-259466.00	512375.00	0.506 ¹
T8	60 - 40	Pirod 112743	20.03	20.03	32.6 K=1.00	14.7262	-283744.00	613145.00	0.463 ¹
T9	40 - 20	Pirod 112743	20.03	20.03	32.6 K=1.00	14.7262	-330233.00	613145.00	0.539 ¹
T10	20 - 0	Pirod 112744	20.03	20.03	32.6 K=1.00	17.8187	-363749.00	741993.00	0.490 ¹

¹ P_u / φP_n controls

Truss-Leg Diagonal Data

Section No.	Elevation ft	Diagonal Size	L _d ft	Kl/r	φP _n lb	A in ²	V _u lb	φV _n lb	Stress Ratio
T3	150 - 140	0.5	1.47	120.0	238565.00	0.1963	729.69	3446.37	0.213
T4	140 - 120	0.5	1.46	119.0	324713.00	0.1963	462.48	3377.71	0.138
T5	120 - 100	0.625	1.45	94.4	424115.00	0.3068	263.25	6957.62	0.039
T6	100 - 80	0.625	1.45	94.4	424115.00	0.3068	294.84	6957.62	0.043
T7	80 - 60	0.625	1.43	93.6	536771.00	0.3068	1343.94	7011.35	0.193
T8	60 - 40	0.75	1.73	93.9	662680.00	0.4418	639.83	14363.90	0.045
T9	40 - 20	0.75	1.73	93.9	662680.00	0.4418	877.39	14363.90	0.062
T10	20 - 0	0.75	1.71	93.1	801842.00	0.4418	1438.78	14530.80	0.100

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	Client	T-Mobile	Designed by	Joshua Gildert

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	175.4 - 165	7/8	5.56	2.69	132.7 K=0.90	0.6013	-2849.58	7715.18	0.369 ¹ ✓
T2	165 - 150	1	5.54	2.67	115.2 K=0.90	0.7854	-7848.49	13368.60	0.587 ¹ ✓
T3	150 - 140	L3x3x5/16	11.42	5.02	106.8 K=1.04	1.7800	-11878.40	31647.50	0.375 ¹ ✓
T4	140 - 120	L3x3x5/16	12.50	5.67	116.6 K=1.01	1.7800	-9801.79	28184.90	0.348 ¹ ✓
T5	120 - 100	L3x3x5/16	13.80	6.34	129.1 K=1.00	1.7800	-9547.62	23978.20	0.398 ¹ ✓
T6	100 - 80	L3x3x5/16	15.24	7.09	144.5 K=1.00	1.7800	-9823.83	19260.60	0.510 ¹ ✓
T7	80 - 60	L3x3x5/16	16.01	7.51	152.9 K=1.00	1.7800	-10400.60	17198.50	0.605 ¹ ✓
T8	60 - 40	2L3 1/2x3 1/2x5/16	25.01	11.80	128.5 K=0.98	4.1800	-16770.10	56802.50	0.295 ¹ ✓
T9	40 - 20	2L3 1/2x3 1/2x5/16	26.26	12.45	134.0 K=0.97	4.1800	-15150.50	52579.40	0.288 ¹ ✓
T10	20 - 0	2L3 1/2x3 1/2x5/16	27.59	13.14	139.9 K=0.96	4.1800	-18447.80	48270.10	0.382 ¹ ✓

¹ P_u / φP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	175.4 - 165	7/8	5.00	4.83	185.6 K=0.70	0.6013	-447.71	3943.57	0.114 ¹ ✓
T2	165 - 150	7/8	5.00	4.81	184.8 K=0.70	0.6013	-689.54	3977.79	0.173 ¹ ✓

¹ P_u / φP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	175.4 - 165	7/8	5.00	4.83	185.6 K=0.70	0.6013	-896.76	3943.57	0.227 ¹ ✓
T2	165 - 150	7/8	5.00	4.81	184.8 K=0.70	0.6013	-1070.90	3977.79	0.269 ¹ ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
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¹ P_u / φP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u lb	φP _n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	175.4 - 165	2	10.40	0.33	8.0	2.1885	12358.20	106689.00	0.116 ¹ #
T2	165 - 150	2 1/4	15.00	0.33	7.1	3.9761	53495.60	178924.00	0.299 ¹ ✓
T3	150 - 140	Pirol 105245	10.02	10.02	37.8	5.3014	64038.60	238565.00	0.268 ¹ ✓
T4	140 - 120	Pirol 105218	20.03	10.02	32.4	7.2158	116582.00	324713.00	0.359 ¹ ✓
T5	120 - 100	Pirol 105219	20.03	10.02	28.4	9.4248	159203.00	424115.00	0.375 ¹ ✓
T6	100 - 80	Pirol 105219	20.03	10.02	28.4	9.4248	197792.00	424115.00	0.466 ¹ ✓
T7	80 - 60	Pirol 105220	20.03	10.02	25.2	11.9282	235104.00	536771.00	0.438 ¹ ✓
T8	60 - 40	Pirol 112743	20.03	20.03	32.6	14.7262	256534.00	662680.00	0.387 ¹ ✓
T9	40 - 20	Pirol 112743	20.03	20.03	32.6	14.7262	294452.00	662680.00	0.444 ¹ ✓
T10	20 - 0	Pirol 112744	20.03	20.03	32.6	17.8187	322202.00	801842.00	0.402 ¹ ✓

¹ P_u / φP_n controls

Based on net area of leg in section below

Truss-Leg Diagonal Data

Section No.	Elevation ft	Diagonal Size	L _d ft	Kl/r	φP _n lb	A in ²	V _u lb	φV _n lb	Stress Ratio
T3	150 - 140	0.5	1.47	120.0	238565.00	0.1963	729.69	3446.37	0.213 ✓
T4	140 - 120	0.5	1.46	119.0	324713.00	0.1963	462.48	3377.71	0.138 ✓
T5	120 - 100	0.625	1.45	94.4	424115.00	0.3068	263.25	6957.62	0.039 ✓
T6	100 - 80	0.625	1.45	94.4	424115.00	0.3068	294.84	6957.62	0.043 ✓

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Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	ϕP_n lb	A in ²	V_u lb	ϕV_n lb	Stress Ratio
T7	80 - 60	0.625	1.43	93.6	536771.00	0.3068	1343.94	7011.35	0.193
T8	60 - 40	0.75	1.73	93.9	662680.00	0.4418	639.83	14363.90	0.045
T9	40 - 20	0.75	1.73	93.9	662680.00	0.4418	877.39	14363.90	0.062
T10	20 - 0	0.75	1.71	93.1	801842.00	0.4418	1438.78	14530.80	0.100

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in ²	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	175.4 - 165	7/8	5.56	2.69	147.4	0.6013	2846.32	27059.40	0.105 ¹
T2	165 - 150	1	5.54	2.67	128.0	0.7854	7795.23	35342.90	0.221 ¹
T3	150 - 140	L3x3x5/16	11.42	5.02	67.6	1.0713	11055.00	46602.80	0.237 ¹
T4	140 - 120	L3x3x5/16	11.93	5.42	72.8	1.0713	10250.10	46602.80	0.220 ¹
T5	120 - 100	L3x3x5/16	13.13	6.03	81.0	1.0127	9268.52	44053.90	0.210 ¹
T6	100 - 80	L3x3x5/16	15.24	7.09	94.9	1.0127	9522.94	44053.90	0.216 ¹
T7	80 - 60	L3x3x5/16	16.01	7.51	100.3	1.0127	10033.90	44053.90	0.228 ¹
T8	60 - 40	2L3 1/2x3 1/2x5/16	25.01	11.80	134.3	2.6077	15120.00	113433.00	0.133 ¹
T9	40 - 20	2L3 1/2x3 1/2x5/16	26.26	12.45	141.6	2.6077	15294.70	113433.00	0.135 ¹
T10	20 - 0	2L3 1/2x3 1/2x5/16	27.59	13.14	149.3	2.6077	16573.80	113433.00	0.146 ¹

¹ $P_u / \phi P_n$ controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in ²	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	175.4 - 165	7/8	5.00	4.83	265.1	0.6013	426.58	27059.40	0.016 ¹
T2	165 - 150	7/8	5.00	4.81	264.0	0.6013	688.17	27059.40	0.025 ¹

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¹ $P_u / \phi P_n$ controls

Bottom Girt Design Data (Tension)

Section No.	Elevation <i>ft</i>	Size	<i>L</i> <i>ft</i>	<i>L_u</i> <i>ft</i>	<i>Kl/r</i>	<i>A</i> <i>in²</i>	<i>P_u</i> <i>lb</i>	ϕP_n <i>lb</i>	Ratio $\frac{P_u}{\phi P_n}$
T1	175.4 - 165	7/8	5.00	4.83	265.1	0.6013	917.14	27059.40	0.034 ¹
T2	165 - 150	7/8	5.00	4.81	264.0	0.6013	1188.75	27059.40	0.044 ¹

¹ $P_u / \phi P_n$ controls

Section Capacity Table

Section No.	Elevation <i>ft</i>	Component Type	Size	Critical Element	<i>P</i> <i>lb</i>	ϕP_{allow} <i>lb</i>	% Capacity	Pass Fail
T1	175.4 - 165	Leg	2	2	-12824.00	110170.00	11.6	Pass
T2	165 - 150	Leg	2 1/4	35	-56161.40	147977.00	38.0	Pass
T3	150 - 140	Leg	Pirol 105245	80	-71240.90	214859.00	33.2	Pass
T4	140 - 120	Leg	Pirol 105218	88	-127767.00	300681.00	42.5	Pass
T5	120 - 100	Leg	Pirol 105219	104	-174207.00	399868.00	43.6	Pass
T6	100 - 80	Leg	Pirol 105219	119	-217092.00	399868.00	54.3	Pass
T7	80 - 60	Leg	Pirol 105220	134	-259466.00	512375.00	50.6	Pass
T8	60 - 40	Leg	Pirol 112743	149	-283744.00	613145.00	46.3	Pass
T9	40 - 20	Leg	Pirol 112743	158	-330233.00	613145.00	53.9	Pass
T10	20 - 0	Leg	Pirol 112744	167	-363749.00	741993.00	49.0	Pass
T1	175.4 - 165	Diagonal	7/8	10	-2849.58	7715.18	36.9	Pass
T2	165 - 150	Diagonal	1	44	-7848.49	13368.60	58.7	Pass
T3	150 - 140	Diagonal	L3x3x5/16	83	-11878.40	31647.50	37.5	Pass
T4	140 - 120	Diagonal	L3x3x5/16	91	-9801.79	28184.90	34.8	Pass
T5	120 - 100	Diagonal	L3x3x5/16	107	-9547.62	23978.20	39.8	Pass
T6	100 - 80	Diagonal	L3x3x5/16	122	-9823.83	19260.60	51.0	Pass
T7	80 - 60	Diagonal	L3x3x5/16	142	-10400.60	17198.50	60.5	Pass
T8	60 - 40	Diagonal	2L3 1/2x3 1/2x5/16	152	-16770.10	56802.50	29.5	Pass
T9	40 - 20	Diagonal	2L3 1/2x3 1/2x5/16	161	-15150.50	52579.40	28.8	Pass
T10	20 - 0	Diagonal	2L3 1/2x3 1/2x5/16	170	-18447.80	48270.10	38.2	Pass
T1	175.4 - 165	Top Girt	7/8	4	-447.71	3943.57	11.4	Pass
T2	165 - 150	Top Girt	7/8	37	-689.54	3977.79	17.3	Pass
T1	175.4 - 165	Bottom Girt	7/8	7	-896.76	3943.57	22.7	Pass
T2	165 - 150	Bottom Girt	7/8	42	-1070.90	3977.79	26.9	Pass
Summary								
Leg (T6)							54.3	Pass
Diagonal (T7)							60.5	Pass
Top Girt (T2)							17.3	Pass
Bottom Girt (T2)							26.9	Pass
Bolt Checks							65.3	Pass
RATING =							65.3	Pass

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	Client T-Mobile	Designed by Joshua Gildert

Program Version 8.1.1.0 - 6/3/2021 File:C:/Users/Joshua Gildert/Box/Projects/New England Projects/T-Mobile/SITES/CT/CTNL123A - 147 BALTIC
HANOVER RD - SST/ANCHOR/Structural/Working Files/Analysis/tnx/CTNL123A.eri

SST Unit Base Foundation

BU # :

Site Name: CTNL123A

App. Number:

TIA-222 Revision:

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

Superstructure Analysis Reactions		
Global Moment, M :	6328.181	ft-kips
Global Axial, P :	66.105	kips
Global Shear, V :	60.381	kips
Leg Compression, P_{comp} :	387.366	kips
Leg Comp. Shear, V_{u,comp} :	40.635	kips
Leg Uplift, P_{uplift} :	340.646	kips
Leg Uplift. Shear, V_{u,uplift} :	36.237	kips
Tower Height, H :	175.4	ft
Base Face Width, BW :	20	ft
BP Dist. Above Fdn, bp_{dist} :	3	in
Anchor Bolt Circle, BC :	12	in

Foundation Analysis Checks				
	Capacity	Demand	Rating	Check
<i>Lateral (Sliding) (kips)</i>	286.55	60.38	21.1%	Pass
<i>Bearing Pressure (ksf)</i>	6.00	1.23	20.5%	Pass
<i>Overturning (kip*ft)</i>	12300.40	6554.61	53.3%	Pass
<i>Pad Flexure (kip*ft)</i>	10838.75	1931.46	17.8%	Pass
<i>Pad Shear - 1-way (kips)</i>	1363.69	224.50	16.5%	Pass
<i>Pad Shear - Comp 2-way (ksi)</i>	0.164	0.053	32.5%	Pass

Soil Rating:	53.3%
Structural Rating:	32.5%

Pad Properties		
Depth, D :	3	ft
Pad Width, W :	37.5	ft
Pad Thickness, T :	3.5	ft
Pad Rebar Size (Bottom), Sp :	11	
Pad Rebar Quantity (Bottom), mp :	44	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, Fy :	60	ksi
Concrete Compressive Strength, F'c :	3	ksi
Dry Concrete Density, δc :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	120	pcf
Ultimate Gross Bearing, Qult :	8.000	ksf
Cohesion, Cu :	0.000	ksf
Friction Angle, φ :	30	degrees
SPT Blow Count, N_{blows} :		
Base Friction, μ :	0.45	
Neglected Depth, N :	0.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, gw :	N/A	ft

<-- Toggle between Gross and Net

Exhibit F

Mount Analysis

August 26, 2021



Northeast LLC
15 Commerce Way, Suite B
Norton, MA 02766

Subject: Structural Mount Assessment Letter
Site ID: CTNL123A
Site Name: CTNL123A
Site Address: 147 Baltic Hanover Rd
Baltic, CT 06330

To Whom It May Concern:

Centerline Communications has been authorized by T-Mobile to perform a structural assessment on the proposed antenna mounts located at the above referenced site.

Based on our structural assessment, we have concluded that the proposed antenna mounts Site Pro1 **can support** the proposed T-Mobile equipment listed below:

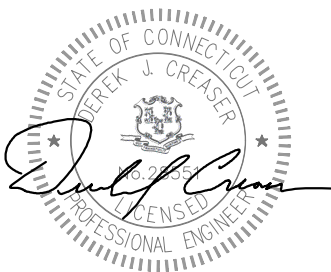
- (3) RFS APX16DWV-16DWV-S-E-A20 Panel Antennas**
- (3) RFS APXVAALL24_43-U-N20 Panel Antennas**
- (3) Ericsson AIR 6449 B41 Panel Antennas**
- (3) Ericsson 4480 B71+B85 RRU**
- (3) Ericsson 4460 B25+B66 RRU**

This assessment was conducted in accordance with the 2015 International Building Code, ASCE 7-10 Minimum Design Loads for Buildings and Other Structures, ANSI/TIA-222-G Structural Standard for Antenna Supporting Structures and Antennas, and the 2018 CT State Building Code.

Should you have any questions, please do not hesitate to contact us.

Sincerely,

Derek J. Creaser, P.E.
Director - A&E Services



CN = Derek J. Creaser, P.
E. email =
dcreaser@clinellc.com C =
US O = Centerline
Communications OU =
Director - A&E Services
2021.08.27 08:25:05 -04'00'

Exhibit G

Power Density/RF Emissions Report



Radio Frequency Emissions Analysis Report

August 26, 2021

Centerline Communications on behalf of T-Mobile

Site Name: CTNL123A

Site Address: 147 Baltic Hanover Rd, Baltic, CT 06330

Site Compliance Summary

Compliance Status:	Compliant
Carrier MPE%	4.82703500%
of FCC General Population Allowable Limit:	
Composite MPE%	4.82714200%
of FCC General Population Allowable Limit:	

750 West Center St. Suite 301 | West Bridgewater, MA 02379



August 26, 2021

T-Mobile Connecticut
Attn: Ryan Clark, Site Acquisition Consultant

Emissions Analysis for Site: **CTNL123A**

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed T-Mobile facility to be located a tower near **147 Baltic Hanover Rd, Baltic CT 06330** for the purpose of determining whether the emissions from the proposed facility 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 population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600MHz (LTE and NR) bands is $400 \mu\text{W}/\text{cm}^2$, for the 700 MHz is $467 \mu\text{W}/\text{cm}^2$, 1900 MHz (LTE and GSM), 2100 (LTE), and 2500 (LTE AND NR) is $1000 \mu\text{W}/\text{cm}^2$.

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, as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means. Additional details can be found in FCC OET 65.



Calculations

Calculations were performed for the proposed facility using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing focused omnidirectional 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. This is a very conservative estimate since the gain reduction in actual applications is typically greater than 10 dB in the direction of ground immediately surrounding the facility. Real world emissions values from this facility are expected to be lower than values listed in this report at ground level. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

RRH #	Frequency Band	Technology	Channel Count	Transmit Power per Channel (W)
1	2100	LTE	4	40
2	700	LTE	4	40
2	600	LTE	2	40
2	600	NR	2	30
3	1900	LTE	4	40
4	1900	GSM	1	15
5	2500	LTE	1	30
5	2500	NR	1	30
5	2500	LTE	1	90
5	2500	NR	1	90
6	2100	LTE	4	40
7	700	LTE	4	40
7	600	LTE	2	40
7	600	NR	2	30
8	1900	LTE	4	40
9	1900	GSM	1	15
10	2500	LTE	1	30



RRH #	Frequency Band	Technology	Channel Count	Transmit Power per Channel (W)
10	2500	NR	1	30
10	2500	LTE	1	90
10	2500	NR	1	90
11	2100	LTE	4	40
12	700	LTE	4	40
12	600	LTE	2	40
12	600	NR	2	30
13	1900	LTE	4	40
14	1900	GSM	1	15
15	2500	LTE	1	30
15	2500	NR	1	30
15	2500	LTE	1	90
15	2500	NR	1	90

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

Table 1: Channel Data Table



The following antennas listed in Table 2 were used in the modeling for transmission in the 600 MHz (LTE and NR), 700 MHz (LTE), 1900 (LTE and GSM), 2100 (LTE), and 2500 (LTE AND NR) frequency bands. This is based on information from the carrier with regard to anticipated antenna selection.

Sector	Antenna Number	Make / Model	Centerline (ft)
A	1	RFS APX16DWV-16DWVS-E-A20	155
A	2	RFS APXVAALL24 43-U-NA20	155
A	2	RFS APXVAALL24 43-U-NA20	155
A	2	RFS APXVAALL24 43-U-NA20	155
A	2	RFS APXVAALL24 43-U-NA20	155
A	2	RFS APXVAALL24 43-U-NA20	155
A	3	ERICSSON AIR6449 LTE BrM	155
A	3	ERICSSON AIR6449 NR BrM	155
A	3	ERICSSON SON_AIR6449 LTE TB	155
A	3	ERICSSON SON_AIR6449 NR TB	155
B	4	RFS APX16DWV-16DWVS-E-A20	155
B	5	RFS APXVAALL24 43-U-NA20	155
B	5	RFS APXVAALL24 43-U-NA20	155
B	5	RFS APXVAALL24 43-U-NA20	155
B	5	RFS APXVAALL24 43-U-NA20	155
B	5	RFS APXVAALL24 43-U-NA20	155
B	6	ERICSSON AIR6449 LTE BrM	155
B	6	ERICSSON AIR6449 NR BrM	155
B	6	ERICSSON SON_AIR6449 LTE TB	155
B	6	ERICSSON SON_AIR6449 NR TB	155
C	7	RFS APX16DWV-16DWVS-E-A20	155
C	8	RFS APXVAALL24 43-U-NA20	155
C	8	RFS APXVAALL24 43-U-NA20	155
C	8	RFS APXVAALL24 43-U-NA20	155
C	8	RFS APXVAALL24 43-U-NA20	155
C	8	RFS APXVAALL24 43-U-NA20	155
C	9	ERICSSON AIR6449 LTE BrM	155
C	9	ERICSSON AIR6449 NR BrM	155
C	9	ERICSSON SON_AIR6449 LTE TB	155
C	9	ERICSSON SON_AIR6449 NR TB	155

Table 2: Antenna Data

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



T-Mobile Results

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

ID	Make / Model	Freq. Band	Gain (dBd)	Centerline (ft)	Channel Count	TX Power (W)	ERP (W)	MPE %
A1	RFS APX16DWV-16DWVS-E-A20	2100	16.25	155.0	4	40	6747.14	0.000002000
A2	RFS APXVAALL24 43-U-NA20	700	13.65	155.0	4	40	3707.83	0.000004000
A2	RFS APXVAALL24 43-U-NA20	600	12.95	155.0	2	40	1577.93	0.000002000
A2	RFS APXVAALL24 43-U-NA20	600	12.95	155.0	2	30	1183.45	0.000001000
A2	RFS APXVAALL24 43-U-NA20	1900	15.45	155.0	4	40	5612.03	0.000001000
A2	RFS APXVAALL24 43-U-NA20	1900	15.45	155.0	1	15	526.12	0.000000000
A3	ERICSSON AIR6449 LTE BrM	2500	15.15	155.0	1	30	982.02	0.000000000
A3	ERICSSON AIR6449 NR BrM	2500	15.15	155.0	1	30	982.02	0.000000000
A3	ERICSSON SON AIR6449 LTE TB	2500	22.35	155.0	1	90	15461.17	0.588401000
A3	ERICSSON SON AIR6449 NR TB	2500	22.35	155.0	1	90	15461.17	0.588401000
B4	RFS APX16DWV-16DWVS-E-A20	2100	16.25	155.0	4	40	6747.14	0.000009000
B5	RFS APXVAALL24 43-U-NA20	700	13.65	155.0	4	40	3707.83	0.000017000
B5	RFS APXVAALL24 43-U-NA20	600	12.95	155.0	2	40	1577.93	0.000009000
B5	RFS APXVAALL24 43-U-NA20	600	12.95	155.0	2	30	1183.45	0.000007000
B5	RFS APXVAALL24 43-U-NA20	1900	15.45	155.0	4	40	5612.03	0.000008000
B5	RFS APXVAALL24 43-U-NA20	1900	15.45	155.0	1	15	526.12	0.000001000
B6	ERICSSON AIR6449 LTE BrM	2500	15.15	155.0	1	30	982.02	0.000002000
B6	ERICSSON AIR6449 NR BrM	2500	15.15	155.0	1	30	982.02	0.000002000
B6	ERICSSON SON AIR6449 LTE TB	2500	22.35	155.0	1	90	15461.17	0.930416000
B6	ERICSSON SON AIR6449 NR TB	2500	22.35	155.0	1	90	15461.17	0.930416000
C7	RFS APX16DWV-16DWVS-E-A20	2100	16.25	155.0	4	40	6747.14	0.000007000
C8	RFS APXVAALL24 43-U-NA20	700	13.65	155.0	4	40	3707.83	0.000014000
C8	RFS APXVAALL24 43-U-NA20	600	12.95	155.0	2	40	1577.93	0.000009000
C8	RFS APXVAALL24 43-U-NA20	600	12.95	155.0	2	30	1183.45	0.000007000



ID	Make / Model	Freq. Band	Gain (dBd)	Centerline (ft)	Channel Count	TX Power (W)	ERP (W)	MPE %
C8	RFS APXVAALL24 43-U-NA20	1900	15.45	155.0	4	40	5612.03	0.000006000
C8	RFS APXVAALL24 43-U-NA20	1900	15.45	155.0	1	15	526.12	0.000001000
C9	ERICSSON AIR6449 LTE BrM	2500	15.15	155.0	1	30	982.02	0.000001000
C9	ERICSSON AIR6449 NR BrM	2500	15.15	155.0	1	30	982.02	0.000001000
C9	ERICSSON SON AIR6449 LTE TB	2500	22.35	155.0	1	90	15461.17	0.894645000
C9	ERICSSON SON AIR6449 NR TB	2500	22.35	155.0	1	90	15461.17	0.894645000
T-Mobile MPE%								4.82703500 %

Table 3: T-Mobile Antenna Inventory & Power Level



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 4* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-Mobile sector(s).

Frequency Band	Technology	Centerline (ft.)	# of Channels	ERP W (Per Channel)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	MPE %
2100	LTE	155.0	4	1686.786014	0.0000180	1000	0.00000200
700	LTE	155.0	4	926.95786	0.0000170	467	0.00000400
600	LTE	155.0	2	788.9690944	0.0000080	400	0.00000200
600	NR	155.0	2	591.7268208	0.0000060	400	0.00000100
1900	LTE	155.0	4	1403.007496	0.0000130	1000	0.00000100
1900	GSM	155.0	1	526.1278109	0.0000010	1000	0.00000000
2500	LTE	155.0	1	982.0220846	0.0000040	1000	0.00000000
2500	NR	155.0	1	982.0220846	0.0000040	1000	0.00000000
2500	LTE	155.0	1	15461.17548	5.8840090	1000	0.58840100
2500	NR	155.0	1	15461.17548	5.8840090	1000	0.58840100
2100	LTE	155.0	4	1686.786014	0.0000930	1000	0.00000900
700	LTE	155.0	4	926.95786	0.0000810	467	0.00001700
600	LTE	155.0	2	788.9690944	0.0000370	400	0.00000900
600	NR	155.0	2	591.7268208	0.0000280	400	0.00000700
1900	LTE	155.0	4	1403.007496	0.0000760	1000	0.00000800
1900	GSM	155.0	1	526.1278109	0.0000070	1000	0.00000100
2500	LTE	155.0	1	982.0220846	0.0000170	1000	0.00000200
2500	NR	155.0	1	982.0220846	0.0000170	1000	0.00000200
2500	LTE	155.0	1	15461.17548	9.3041590	1000	0.93041600
2500	NR	155.0	1	15461.17548	9.3041590	1000	0.93041600
2100	LTE	155.0	4	1686.786014	0.0000750	1000	0.00000700
700	LTE	155.0	4	926.95786	0.0000670	467	0.00001400
600	LTE	155.0	2	788.9690944	0.0000360	400	0.00000900
600	NR	155.0	2	591.7268208	0.0000270	400	0.00000700
1900	LTE	155.0	4	1403.007496	0.0000640	1000	0.00000600
1900	GSM	155.0	1	526.1278109	0.0000060	1000	0.00000100
2500	LTE	155.0	1	982.0220846	0.0000130	1000	0.00000100
2500	NR	155.0	1	982.0220846	0.0000130	1000	0.00000100
2500	LTE	155.0	1	15461.17548	8.9464510	1000	0.89464500
2500	NR	155.0	1	15461.17548	8.9464510	1000	0.89464500
T-Mobile MPE%							4.82703500 %

Table 4: T-Mobile Maximum Sector MPE Power Values



AT&T Results

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 4* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s).

Frequency Band	Technology	Centerline (ft.)	# of Channels	ERP W (Per Channel)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	MPE %
850	-	180.0	1	568.8529308	0.0000070	567	0.00000100
850	-	173.0	1	545.8332546	0.0000040	567	0.00000100
1900	-	173.0	4	970.644038	0.0000110	1000	0.00000100
700	-	173.0	4	1180.483691	0.0000160	467	0.00000300
850	-	173.0	1	545.8332546	0.0000120	567	0.00000200
1900	-	173.0	4	970.644038	0.0000570	1000	0.00000600
700	-	173.0	4	926.95786	0.0000560	467	0.00001200
850	-	173.0	1	545.8332546	0.0000110	567	0.00000200
1900	-	173.0	4	970.644038	0.0000620	1000	0.00000600
AT&T MPE%							0.000044000%



Verizon Results

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 4* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated Verizon sector(s).

Frequency Band	Technology	Centerline# of Channels (ft.)	ERP W (Per Channel)	Total Power Density (μW/cm²)	Allowable MPE (μW/cm²)	MPE %	
850	-	163.0	7	355.655882	0.0000180	567	0.00000300
850	-	163.0	7	563.6765863	0.0000120	567	0.00000200
850	-	163.0	4	981.8835663	0.0000230	567	0.00000400
850	-	163.0	7	355.655882	0.0000480	567	0.00000900
850	-	163.0	7	563.6765863	0.0000620	567	0.00001100
850	-	163.0	4	981.8835663	0.0000480	567	0.00000800
850	-	163.0	7	355.655882	0.0000440	567	0.00000800
850	-	163.0	7	563.6765863	0.0000520	567	0.00000900
850	-	163.0	4	981.8835663	0.0000440	567	0.00000800
Verizon MPE%							0.000062000%



Unknown Carrier Results

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 4* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated Unknown Carrier sector(s).

Frequency Band	Centerline Technology	Centerline (ft.)	# of Channels	ERP W (Per Channel)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	MPE %
850	-	180.0	1	568.8529308	0.0000070	567	0.00000100
Unknown Carrier MPE%							0.00000100%



Summary

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

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

Carrier	Predicted MPE %
T-Mobile	4.82703500%
AT&T	0.00004400%
Verizon	0.00006200%
Unknown	0.00000100%
Composite	4.82714200%

Table 5: Total Predicted MPE(%) by Carrier

Compliance Status:

The anticipated composite MPE value for this site assuming all carriers present is **4.82714200%** of the allowable FCC established general population limit sampled at the ground level.

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.

Erin Kavanaugh
RF Compliance Consultant
Centerline Communications, LLC
750 West Center St. Suite 301
West Bridgewater, MA 02379

Exhibit H

Mailing Receipts/Proof of Notice

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UPS GROUND

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BILLING: P/P

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