

September 8, 2020

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

Regarding: Notice of Exempt Modification – T-Mobile Site #: CTNL194_Anchor
Address: 1375 North Road, Killingly, CT

Dear Ms. Bachman:

T-Mobile currently maintains twelve (12) antennae at the 277-foot level of the existing +/- 288-foot self-support tower at the above-referenced address, latitude 41.871500, longitude -71.821500. The tower is operated by American Tower Corporation.

T-Mobile now intends to modify its existing telecommunications facility by swapping four (4) antennae, adding four (4) remote radio units (RRU), adding four (4) diplexers and adding four (4) hybrid cables as more particularly detailed and described in the enclosed Construction Drawings prepared by A.T. Engineering Service, PLLC, last revised August 31, 2020. The centerline height of the existing and proposed antennas is and will remain at 277 feet.

Planned Modifications:

Remove and Replace:

- (4) APX16DWV-16DWVS-E-A20 Antennae – remove; (4) AIR6449 B41 Antennae – proposed/replace

Add:

- (4) 4415 B25 RRU
- (4) CBC1923Q-43 Diplexers
- (4) 1-1/4" Hybrid Cables

Existing to Remain:

- (8) Antennae
- (12) RRU
- (4) Diplexer
- (4) 1-5/8" Hybrid Cables

Please accept this letter as notification pursuant to R.C.S.A §16-50j-73 for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to American Tower Corporation as tower operator and property owner, Jason Anderson, Chairman of the Town of Killingly Town Council as chief elected official and Ann-Marie L. Aubrey, Director of Planning & Development of the Town of Killingly. Please note, the original tower approval was requested from the Town of Killingly, but to date, no records have been received. A copy of the original building permit is attached, but unfortunately is fairly illegible. Should any additional documentation be provided, I will supplement my filing with same.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2). Specifically:

1. The proposed modifications will not result in an increase in the height of the existing structure.
2. The proposed modifications will not require an extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. *Please see the RF emissions calculation for T-Mobile's modified facility dated July 27, 2020 and prepared by EBI Consulting enclosed herewith.*
5. The proposed modifications will not cause an ineligible change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading. *Please see the structural analysis dated July 9, 2020 and prepared by American Tower Corporation enclosed herewith.*

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above referenced telecommunications facility constitute an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Respectfully submitted,



Jennifer Iliades
Site Acquisition Consultant
Centerline Communications, LLC
750 West Center Street, Suite 301
West Bridgewater, MA 02379
jiliades@clinellc.com

Enclosures: Exhibit A – Original Facility Approval
 Exhibit B – Property Card and GIS
 Exhibit C – Construction Drawings
 Exhibit D – Structural Analysis Report
 Exhibit E – Mount Analysis
 Exhibit F – Power Density/RF Emissions Report

cc: American Tower Corporation, as tower operator and property owner
 Jason Anderson, Chairman, Town of Killingly Town Council, as chief elected official
 and property owner
 Ann-Marie L. Aubrey, Director of Planning & Development, Town of Killingly

Exhibit A

Original Facility Approval

BUILDING PERMIT

Joseph Pajak
 Building Official
 (860) 779-5315
 Fax (860) 779-5381

TOWN OF KILLINGLY
 DEPARTMENT OF BUILDING SAFETY AND INSPECTION

DATE _____

GIS MAP NO. _____ LOT _____

Flood Hazard Yes _____ No _____ Zoning Permit No. _____ Driveway Permit No. _____

- 1. Location of Building _____ List# _____
- 2. Applicant _____ Address _____ Tel: _____
- 3. Owner _____ Address _____ Tel: _____
- 4. Building Contractor _____ Address _____ Tel: _____
- 5. Elec. Cont. _____ Address _____ Tel: _____
- 5a. CRS No. _____
- 6. Plumbing - Htg. Cont. _____ Address _____ Tel: _____

- 7. TYPE OF IMPROVEMENT**
- New building
 - Addition (If residential, enter number of new housing units added, if any, in Part 9)
 - Renovations
 - Repair, replacement
 - Demolition (If multifamily residential, enter number of units in building in Part 9).
 - Miscellaneous
 - Moving (relocation)
 - Foundation only

- 8. PROPOSED USE**
- Residential
- One family
 - Two or more family - Enter number of units _____
 - Garage
 - Carport
 - Other - Specify _____

- Nonresidential
- Amusement, recreational
 - Church, other religious
 - Industrial
 - Parking garage
 - Service station, repair garage
 - Hospital, institutional
 - Office, bank, professional
 - Public Utility
 - School, library, other educational
 - Stores, mercantile
 - Tanks, towers
 - Other - Specify INSTALL WIRE FACILITY

9a. ESTIMATED COST
 \$ 7500

- 10. TYPE OF SEWAGE DISPOSAL**
- Private
 - Public

- 11. TYPE OF WATER SUPPLY**
- Private
 - Public

NONRESIDENTIAL - Describe in detail proposed use of buildings, e.g., food processing plant, machine shop, laundry building at hospital, elementary school, secondary school, college, parochial school, parking garage for department store, rental office building, office building at industrial plant. If use of existing building is being changed, enter proposed use.

- 12. PRINCIPAL TYPE OF FRAME**
- Masonry (wall bearing)
 - Wood frame
 - Structural steel
 - Reinforced concrete
 - Other - Specify _____

- 13. PRINCIPAL TYPE OF HVAC**
- | | |
|---|--|
| <p>HEATING</p> <ul style="list-style-type: none"> <input type="checkbox"/> Gas <input type="checkbox"/> Oil <input type="checkbox"/> Steam <input type="checkbox"/> Water <input type="checkbox"/> Air <input type="checkbox"/> Electric <input type="checkbox"/> Fireplace <input type="checkbox"/> Woodstove | <p>COOLING</p> <ul style="list-style-type: none"> <input type="checkbox"/> Central <input type="checkbox"/> Sleeve <input type="checkbox"/> Hydroair |
|---|--|

REQUIRE EXISTING BUILDING FOR WIRE FACILITY TO INCLUDE INSTALL OF EXISTING TOWER

The owner of this building and the undersigned agree to conform to the State of Conn. basic building Code. The Connecticut Fire Safety Code, and the laws of this jurisdiction and to notify the Building Official of any changes in plans for which this permit is requested.

 Signature of Applicant

 Date

Signature of Building Official _____

Date permit issued _____

Contractor's Reg. or Lic. No. 900617
 Expiration Date 6-30-06

Exhibit B

Property Card

Situs : 1375 NORTH RD

Map ID: 000072

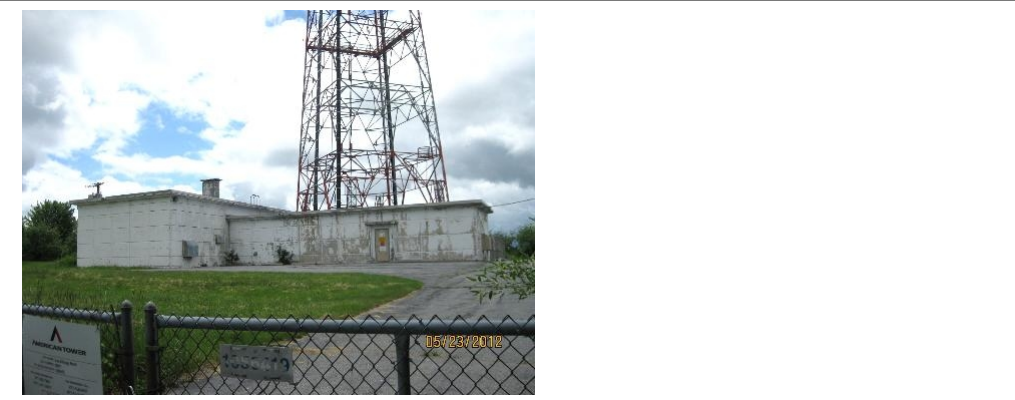
Class: Communication Towers

Card: 1 of 1

Printed: June 4, 2020

CURRENT OWNER
AMERICAN TOWERS INC
PO BOX 723597
ATLANTA GA 31139

GENERAL INFORMATION
Living Units
Neighborhood 117
Alternate Id 50-3
Vol / Pg 772/5
District 4
Zoning RURAL DEVELOPMENT
Class COMMERCIAL



Property Notes
AT&T TRANSFER STATION

Land Information

Type	Size	Influence Factors	Influence %	Value
Primary	AC 2.0700			67,870

Total Acres: 2.07
Spot: _____ Location: _____

Assessment Information

	Assessed	Appraised	Cost	Income	Market
Land	47,530	67,900	67,900	0	0
Building	193,130	275,900	275,900	0	0
Total	240,660	343,800	343,800	0	0

Manual Override Reason
Base Date of Value 10/01/2019
Effective Date of Value 10/01/2020

Value Flag COST APPROACH
Gross Building: _____

Entrance Information

Date	ID	Entry Code	Source
05/17/12	DB	View ed	Other
05/16/12	DB	View ed	Other
12/11/06	DH	Exterior	Other

Permit Information

Date Issued	Number	Price	Purpose	% Complete
09/18/19	27112	20,000	97 BPP Install 6 Repl Antennas, Rrus & Otl	995
08/21/18	26263	20,000	73 CREP Replace Existing Antennas With N	997
07/09/18	26159	80,000	51 BLDG Install Tmobile Cabinets On Concre	995
11/15/17	25690	15,000	97 BPP Repl 6 Antennae Panels & Add 6 F	995
08/09/17	25460	55,000	72 CREN Structural Modifications To Existing	997

Sales/Ownership History

Transfer Date	Price	Type	Validity	Deed Reference	Deed Type	Grantee
02/16/00	186,528	Land & Bldg	Love And Affection Sale	772/5		AMERICAN TOWERS INC

Inspection Witnessed By _____

Situs : 1375 NORTH RD

Parcel Id: 000072

Class: Communication Towers

Card: 1 of 1

Printed: June 4, 2020

Building Information

Year Built/Eff Year 1960 /
 Building # 1
 Structure Type Radio/Tv Transmitter
 Identical Units 1
 Total Units
 Grade B-
 # Covered Parking
 # Uncovered Parking
 DBA AMERICAN TOWER

Building Other Features

Line	Type	+/-	Meas1	Meas2	# Stops	Ident	Units	Line	Type	+/-	Meas1	Meas2	# Stops	Ident	Units
------	------	-----	-------	-------	---------	-------	-------	------	------	-----	-------	-------	---------	-------	-------

Interior/Exterior Information

Line	Level From	To	Int Fin	Area	Perim	Use Type	Wall Height	Ext Walls	Construction	Partitions	Heating	Cooling	Plumbing	Physical	Functional
1	01	01	100	2,048	158	Light Manufacturin	16	Concrete Bl	Wood Frame/Joist/B	Normal	None	None	Normal	4	4
2	01	01	100	1,575	151	Light Manufacturin	12	Concrete Bl	Wood Frame/Joist/B	Normal	None	None	Normal	4	4

Interior/Exterior Valuation Detail

Line	Area	Use Type	% Good	% Complete	Use Value/RCNLD
1	2,048	Light Manufacturing	60		77,300
2	1,575	Light Manufacturing	60		57,830

Outbuilding Data

Line	Type	Yr Blt	Meas1	Meas2	Qty	Area	Grade	Phy	Fun	Value
1	Fence Chai	1960	6	240	1	1,440	C	3	3	1,780
2	Asph Pav	1960	1	3,700	1	3,700	C	3	3	4,000
3	Tow er Cell	1960	1	300	1	300	C	3	3	135,000

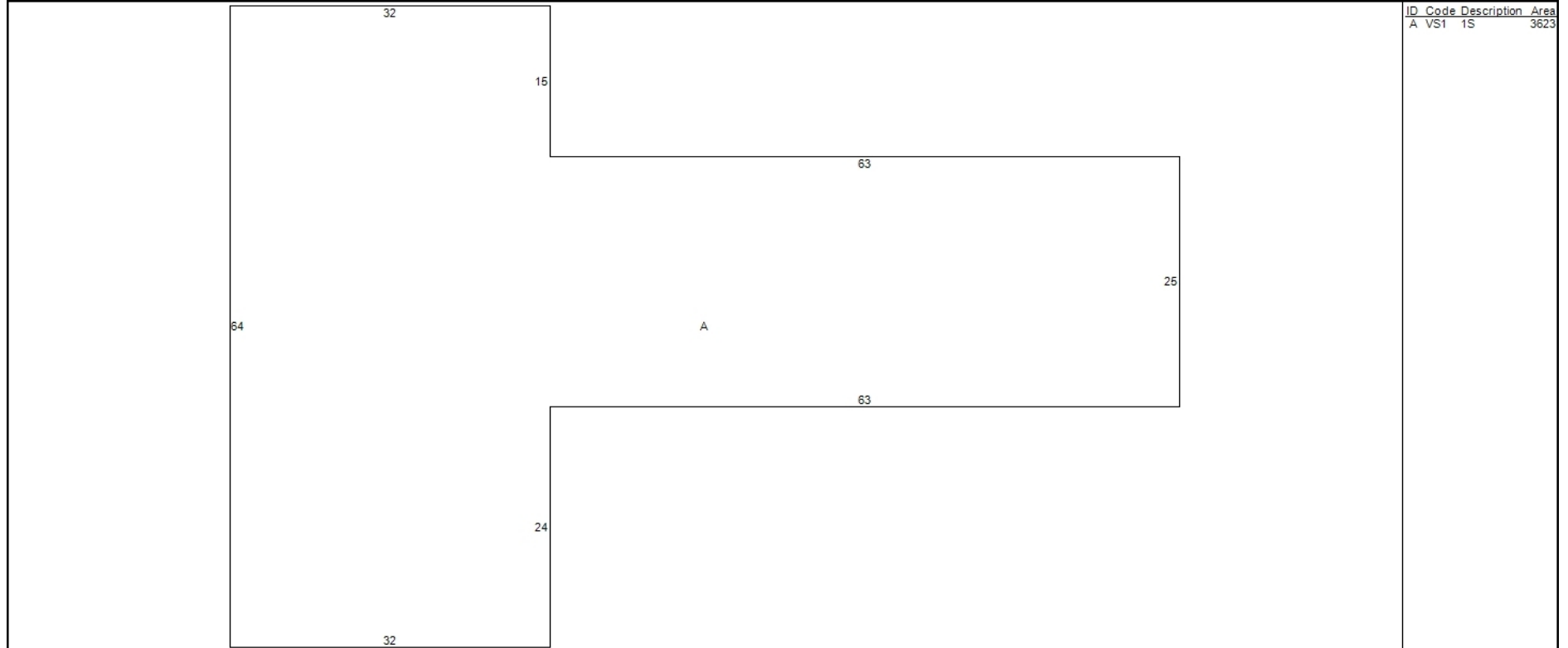
Situs : 1375 NORTH RD

Parcel Id: 000072

Class: Communication Towers

Card: 1 of 1

Printed: June 4, 2020



Additional Property Photos



Situs : 1375 NORTH RD

Parcel Id: 000072

Class: Communication Towers

Card: 1 of 1

Printed: June 4, 2020

Income Detail (Includes all Buildings on Parcel)

Use Mod Grp	Inc Type	Model Description	Units	Net Area	Income Rate	Econ Adjust	Potential Gross Income	Vac Model	Vac Adj	Additional Income	Effective Gross Income	Expense Model %	Expense Adj %	Expense Adj	Other Expenses	Total Expenses	Net Operating Income
07	S	Light Manuf/Warehouse	0	3,623						0							

Apartment Detail - Building 1 of 1

Line	Use Type	Per Bldg	Beds	Baths	Units	Rent	Income

Building Cost Detail - Building 1 of 1

Total Gross Building Area	3,623
Replace, Cost New Less Depr	135,130
Percent Complete	100
Number of Identical Units	1
Economic Condition Factor	
Final Building Value	135,130
Value per SF	37.30

Notes - Building 1 of 1

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Income Summary (Includes all Building on Parcel)

Total Net Income	
Capitalization Rate	0.000000
Sub total	
Residual Land Value	
Final Income Value	
Total Gross Rent Area	3,623
Total Gross Building Area	3,623

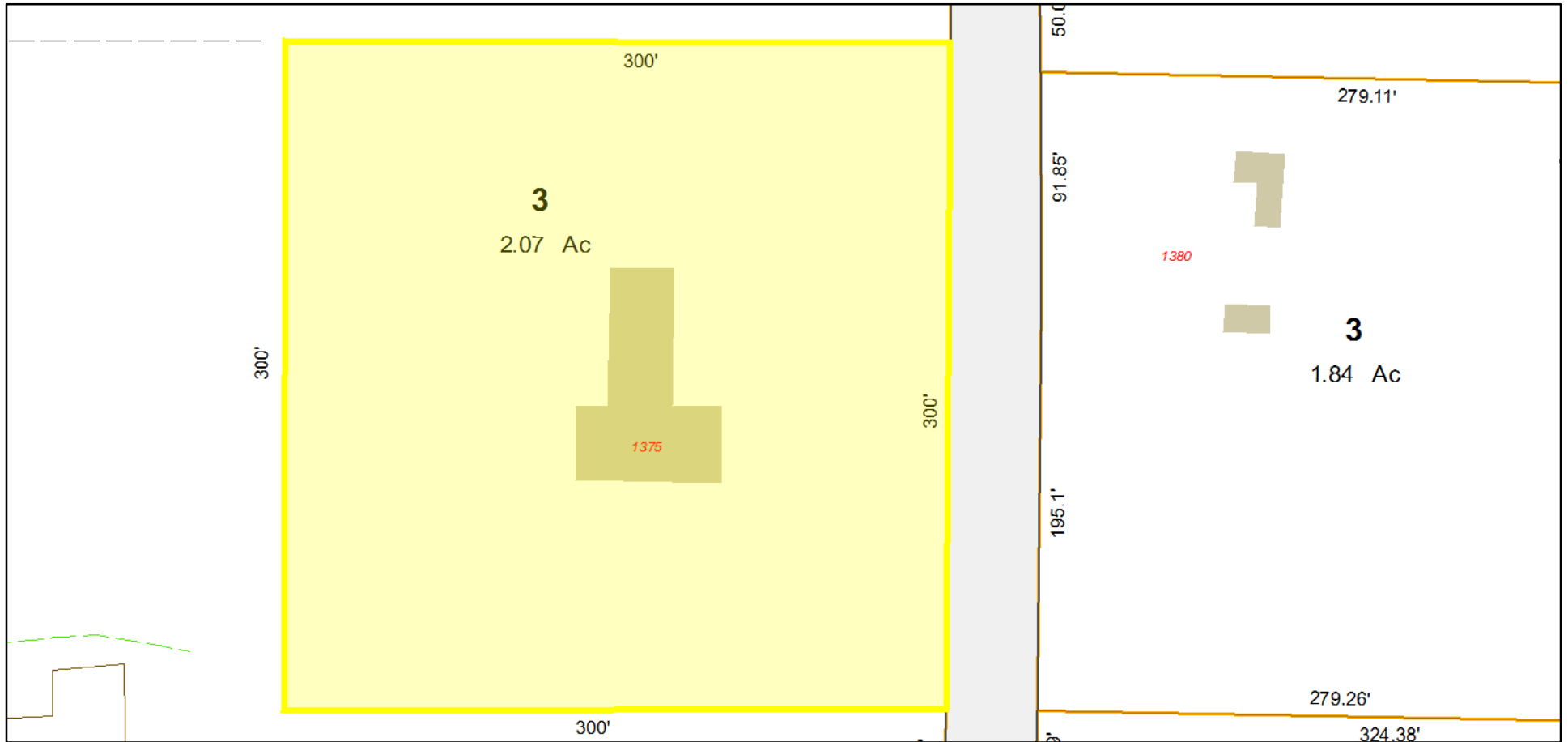


Killingly, CT

1 inch = 70 Feet



September 8, 2020

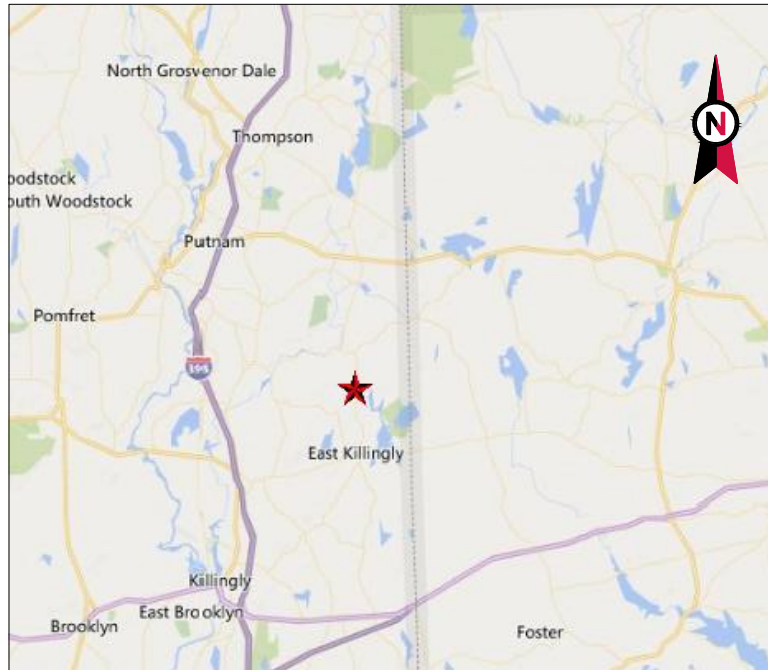


	PROPERTYLINE		CEMETERY		Right of Ways
	ROAD		RW		
	PROPERTYLINE		TRAIL		
	ROAD		Buildings		

Data shown on this map is provided for planning and informational purposes only. The municipality and CAI Technologies are not responsible for any use for other purposes or misuse or misrepresentation of this map.

Exhibit C

Construction Drawings



VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: EAST KILLINGLY NORTH
 ATC SITE NUMBER: 88011
 T-MOBILE SITE NAME: CTNL194A
 T-MOBILE SITE NUMBER: CTNL194A
 SITE ADDRESS: 1375 NORTH ROAD
 KILLINGLY, CT 06241



LOCATION MAP

**T-MOBILE ANCHOR ANTENNA AMENDMENT PLAN
 4SEC-675A997DB CONFIGURATION**

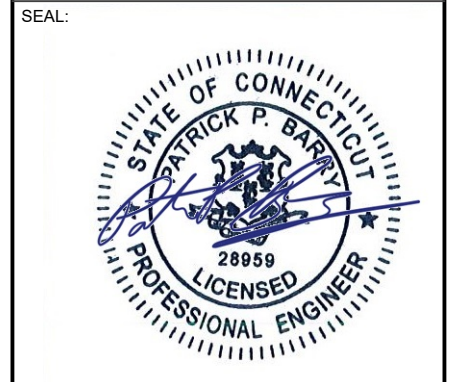


AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER WHETHER OR NOT THE PROJECT IS EXECUTED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MR	07/20/20
1	MA & UPDATE CONFIG.	MR	08/06/20
2	UPDATE CONFIGURATION	MR	08/11/20
3	EQPT SPACING	JB	08/31/20

ATC SITE NUMBER:
88011
 ATC SITE NAME:
EAST KILLINGLY NORTH
 T-MOBILE SITE NAME:
CTNL194A
 SITE ADDRESS:
 1375 NORTH ROAD
 KILLINGLY, CT 06241



DATE DRAWN:	07/20/20
ATC JOB NO:	13251814_D1
CUSTOMER ID:	CTNL194A
CUSTOMER #:	CTNL194A

TITLE SHEET

SHEET NUMBER:
G-001

REVISION:
3

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 1. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 1375 NORTH ROAD KILLINGLY, CT 06241 COUNTY: WINDHAM <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.871525 LONGITUDE: -71.82154444 GROUND ELEVATION: 745' AMSL	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (4) ANTENNA(S) INSTALL (4) ANTENNA(S), (4) RRH(S), (4) DIPLEXERS, AND (4) 1-1/4" HYBRID CABLES EXISTING (8) ANTENNA(S), (12) RRH(S), (4) DIPLEXERS, AND (4) 1-5/8" HYBRID CABLE(S) TO REMAIN <u>GROUND WORK:</u> INSTALL (1) ENCLOSURE 6160, AND (1) B160 BATTERY CABINET EXISTING (1) RBS 6102 CABINET TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>PROJECT TEAM</u> <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> ATC TOWER SERVICES, LLC 3500 REGENCY PKWY STE 100 CARY, NC 27518 <u>PROPERTY OWNER:</u> AMERICAN TOWER 116 HUNTINGTON AVE BOSTON, MA 02116	<u>PROJECT NOTES</u> 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED.					
<u>UTILITY COMPANIES</u> POWER COMPANY: CT LIGHT & POWER PHONE: (800) 286-2000 TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 921-8102		<u>PROJECT LOCATION DIRECTIONS</u> TAKE ROUTE 395 TO EXIT 97. AT END OF THE RAMP, TAKE A LEFT ONTO 44 EAST. AFTER YOU CROSS FIVE MILE RIVER, GO ABOUT ANOTHER .5 MILES AND TAKE A RIGHT ONTO EAST PUTNUM ROAD. AT THE 3RD STOP SIGN, TAKE A LEFT. LOOK FOR NORTH ROAD ON YOUR RIGHT. TAKE NORTH ROAD. TOWER IS ON THE RIGHT.					



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GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, T-MOBILE "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
 - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
 - B. AC/TELCO INTERFACE BOX (PPC)
 - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
 - D. TOWERS, MONOPOLES
 - E. TOWER LIGHTING
 - F. GENERATORS & LIQUID PROPANE TANK
 - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
 - H. ANTENNAS (INSTALLED BY OTHERS)
 - I. TRANSMISSION LINE
 - J. TRANSMISSION LINE JUMPERS
 - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
 - L. TRANSMISSION LINE GROUND KITS
 - M. HANGERS
 - N. HOISTING GRIPS
 - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF T-MOBILE TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSIEIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH T-MOBILE AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.

22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
27. CONTRACTOR SHALL NOTIFY T-MOBILE REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE REP. ANY WORK FOUND BY THE T-MOBILE REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
32. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
33. T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO T-MOBILE OR THEIR ARCHITECT/ENGINEER.

COAXIAL CABLE (NOT WITHIN BENDS)

SPECIAL CONSTRUCTION

ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:
 - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY T-MOBILE UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND
 - B. INSTALL ANTENNA AS INDICATE ON DRAWINGS AND T-MOBILE SPECIFICATIONS.
 - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS
 - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT TEST.
 - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
 - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
 - G. ANTENNA AND COAXIAL CABLE GROUNDING:
2. ALL EXTERIOR #6 GREED GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.



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A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MR	07/20/20

ATC SITE NUMBER:
88011
 ATC SITE NAME:
EAST KILLINGLY NORTH
 T-MOBILE SITE NAME:
CTNL194A
 SITE ADDRESS:
 1375 NORTH ROAD
 KILLINGLY, CT 06241

SEAL:



DATE DRAWN:	07/20/20
ATC JOB NO:	13251814_D1
CUSTOMER ID:	CTNL194A
CUSTOMER #:	CTNL194A

GENERAL NOTES

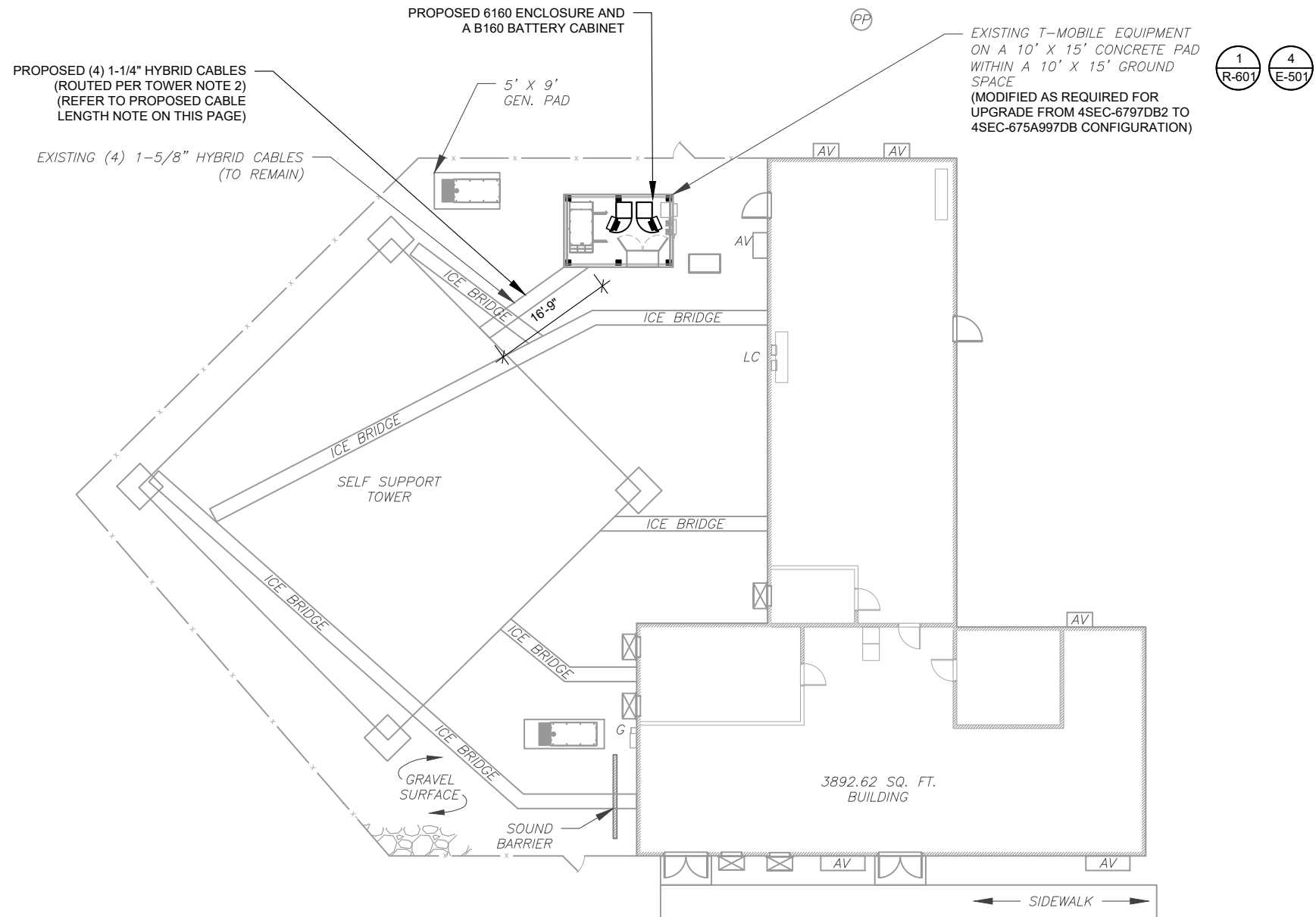
SHEET NUMBER: G-002	REVISION: 0
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SITE PLAN NOTES:

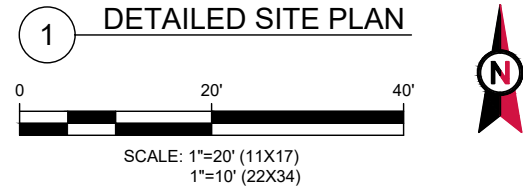
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. THIS PROJECT INCLUDES NO INSTALL OR MODIFICATION AT GRADE.

LEGEND	
⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
— x —	CHAINLINK FENCE



PROPOSED CABLE LENGTH:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **340'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES), CDS DEFER TO GREATEST CABLE LENGTH.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).

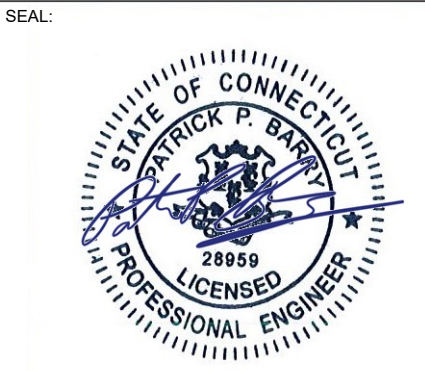


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REV.	DESCRIPTION	BY	DATE
①	FOR CONSTRUCTION	MR	07/20/20
②	UPDATE CONFIGURATION	MR	08/11/20
③	EQPT SPACING	JB	08/31/20
△			
△			

ATC SITE NUMBER:
88011
 ATC SITE NAME:
EAST KILLINGLY NORTH
 T-MOBILE SITE NAME:
CTNL194A
 SITE ADDRESS:
 1375 NORTH ROAD
 KILLINGLY, CT 06241



DATE DRAWN:	07/20/20
ATC JOB NO:	13251814_D1
CUSTOMER ID:	CTNL194A
CUSTOMER #:	CTNL194A

DETAILED SITE PLAN

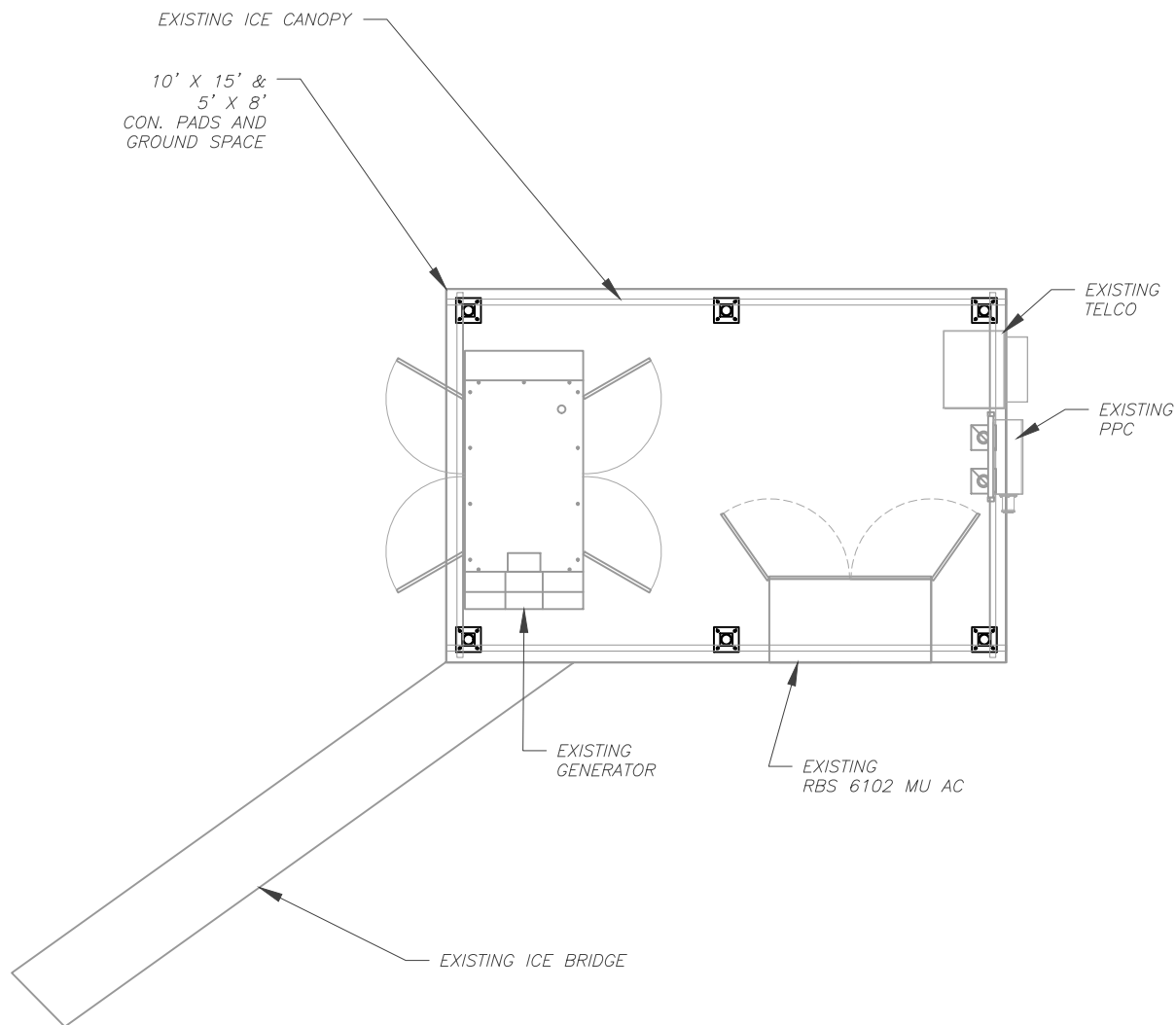
SHEET NUMBER:	REVISION:
C-101	3

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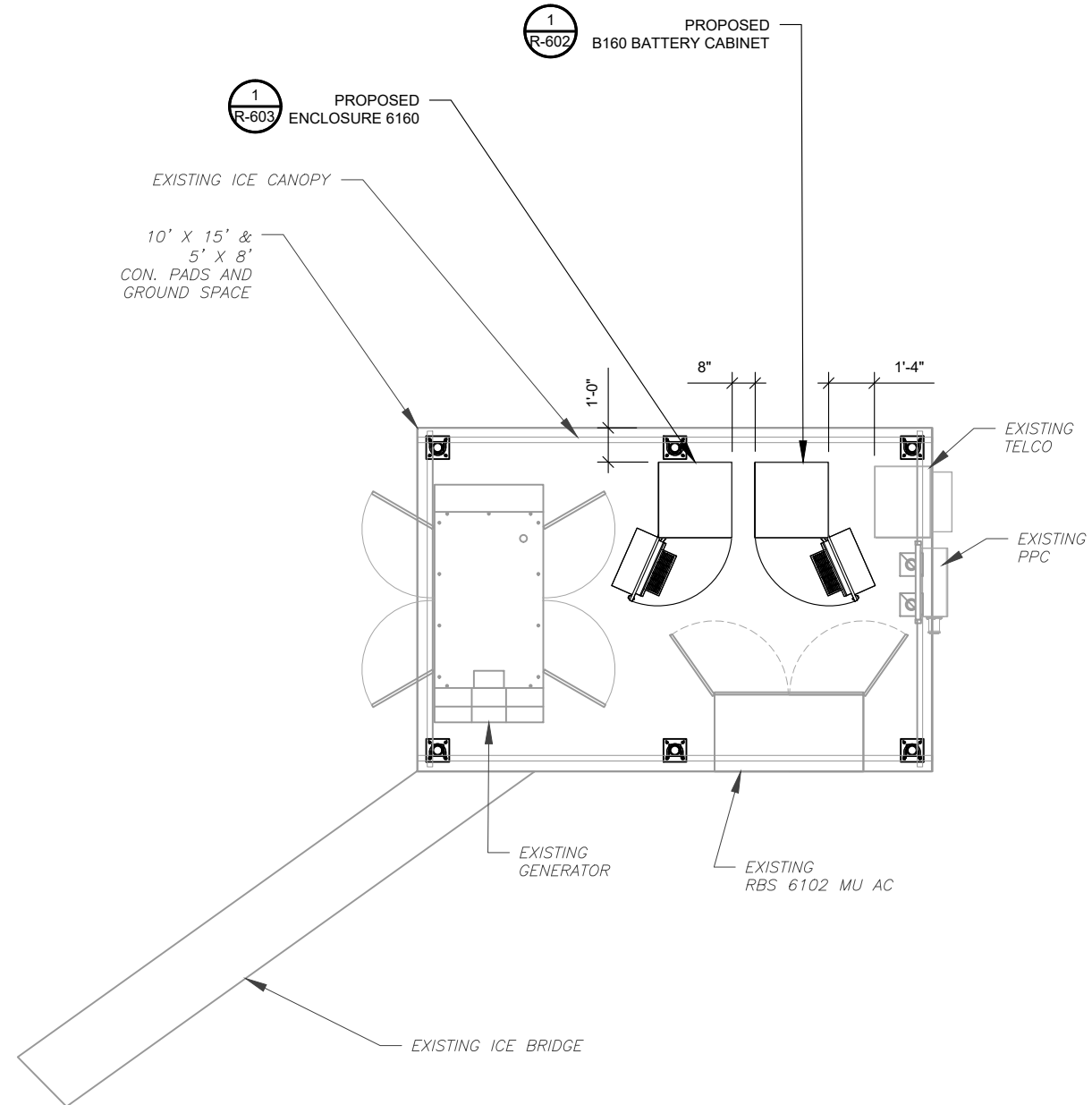
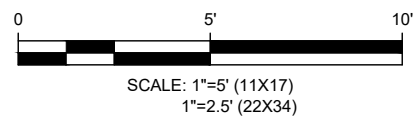
SITE PLAN NOTES:

1. CONTRACTOR TO VERIFY THERE IS NO LIVE AAV FIBER RUNNING THROUGH EXISTING DEAD EQUIPMENT. IF SO, THIS WILL NEED TO BE RERUN THROUGH CONDUIT PRIOR TO REMOVING DEAD 2G (6201 CABS) EQUIPMENT.
2. REMOVE EXISTING 2G CABINETS, AND POWER / TELCO WHIPS ASSOCIATED WITH THE DEAD EQUIPMENT IF APPLICABLE.
3. ALL OPEN PORTS NEED TO BE SEALED / WEATHERPROOFED PROPERLY
4. ALL UNNEEDED / EXCESS EQUIPMENT AND GARBAGE TO BE REMOVED FROM EQUIPMENT AREA. DISPOSE OF MATERIALS PROPERLY OFF SITE.

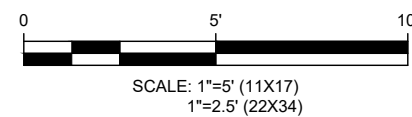
T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS



1 EXISTING GROUND EQUIPMENT LAYOUT



2 PROPOSED GROUND EQUIPMENT LAYOUT



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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MR	07/20/20
1	MA & UPDATE CONFIG.	MR	08/06/20
2	UPDATE CONFIGURATION	MR	08/11/20
3	EQPT SPACING	JB	08/31/20

ATC SITE NUMBER:
88011
ATC SITE NAME:
EAST KILLINGLY NORTH
T-MOBILE SITE NAME:
CTNL194A
SITE ADDRESS:
1375 NORTH ROAD
KILLINGLY, CT 06241

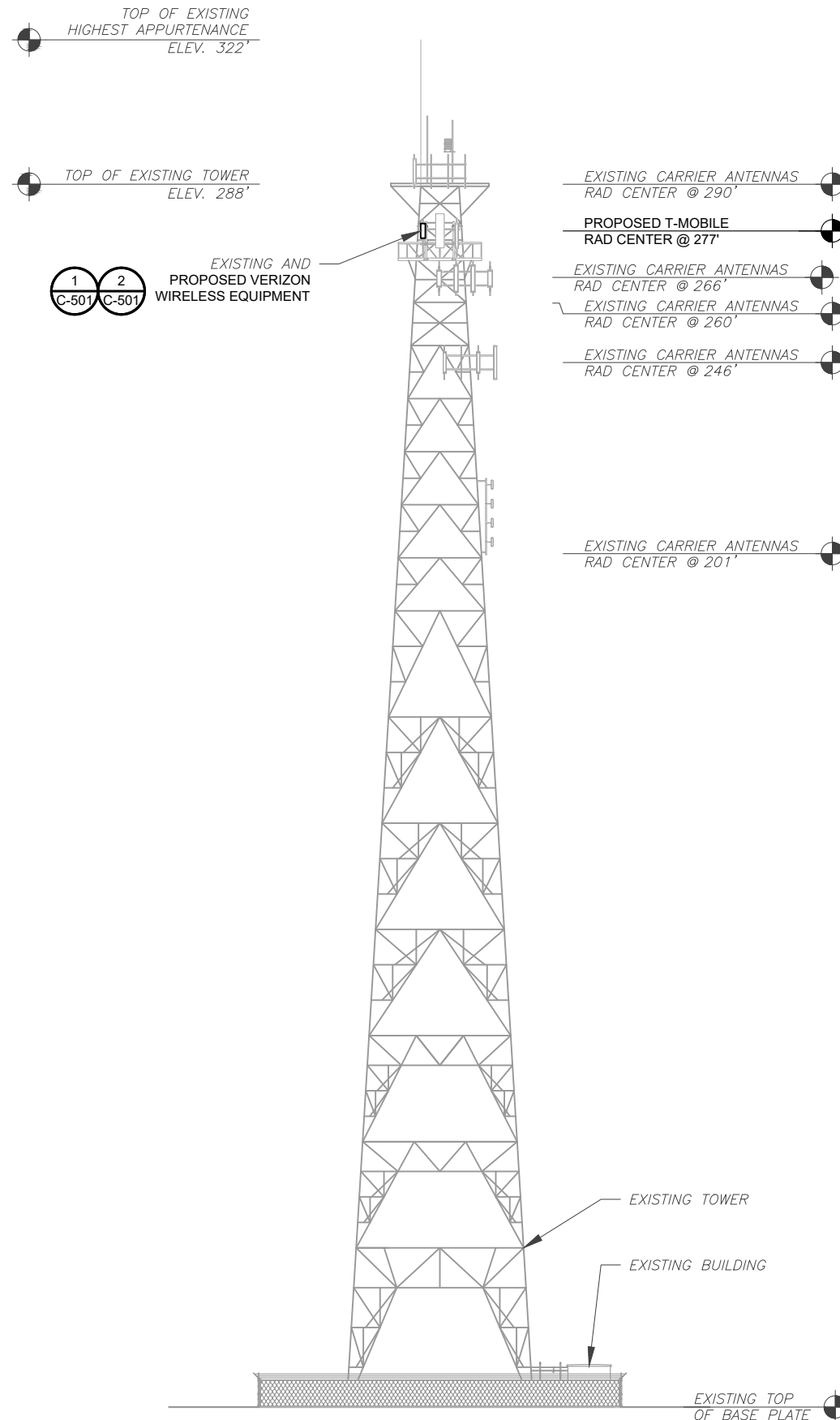
SEAL:



DATE DRAWN:	07/20/20
ATC JOB NO:	13251814_D1
CUSTOMER ID:	CTNL194A
CUSTOMER #:	CTNL194A

DETAILED GROUND PLAN

SHEET NUMBER:	REVISION:
C-102	3



PER MOUNT ANALYSIS COMPLETED BY INFINIGY, DATED 07/01/20, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



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 SUITE 100
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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MR	07/20/20
1	MA & UPDATE CONFIG.	MR	08/06/20

ATC SITE NUMBER:
88011
 ATC SITE NAME:
EAST KILLINGLY NORTH
 T-MOBILE SITE NAME:
CTNL194A
 SITE ADDRESS:
 1375 NORTH ROAD
 KILLINGLY, CT 06241

SEAL:



DATE DRAWN:	07/20/20
ATC JOB NO:	13251814_D1
CUSTOMER ID:	CTNL194A
CUSTOMER #:	CTNL194A

TOWER ELEVATION

SHEET NUMBER:
C-201
 REVISION:
1

TOWER NOTE:

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
- ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).
- TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

1 TOWER ELEVATION
 SCALE: N.T.S.



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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MR	07/20/20
1	MA & UPDATE CONFIG.	MR	08/06/20

ATC SITE NUMBER:
88011
 ATC SITE NAME:
EAST KILLINGLY NORTH
 T-MOBILE SITE NAME:
CTNL194A
 SITE ADDRESS:
 1375 NORTH ROAD
 KILLINGLY, CT 06241



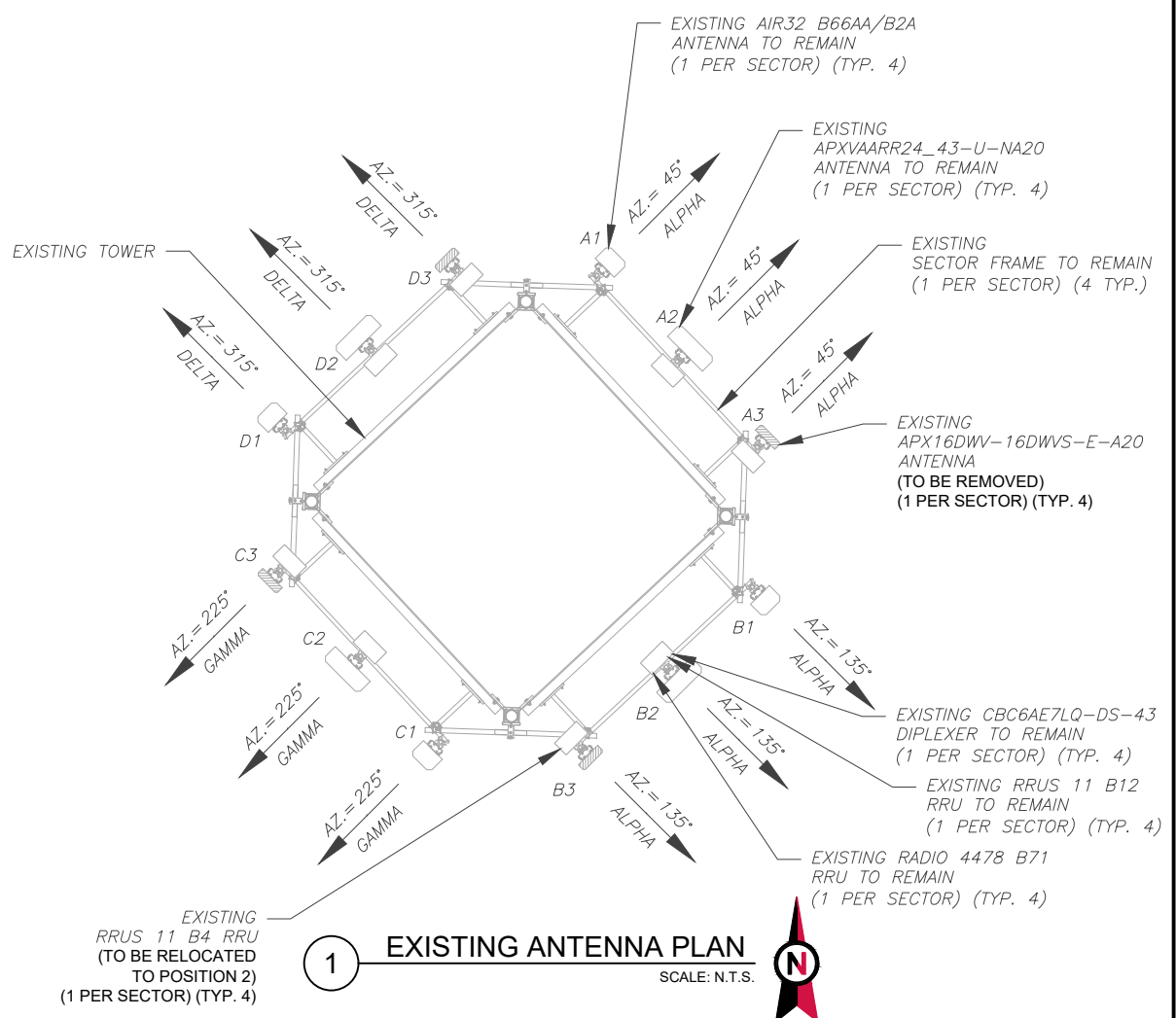
T-Mobile

DATE DRAWN: 07/20/20
 ATC JOB NO: 13251814_D1
 CUSTOMER ID: CTNL194A
 CUSTOMER #: CTNL194A

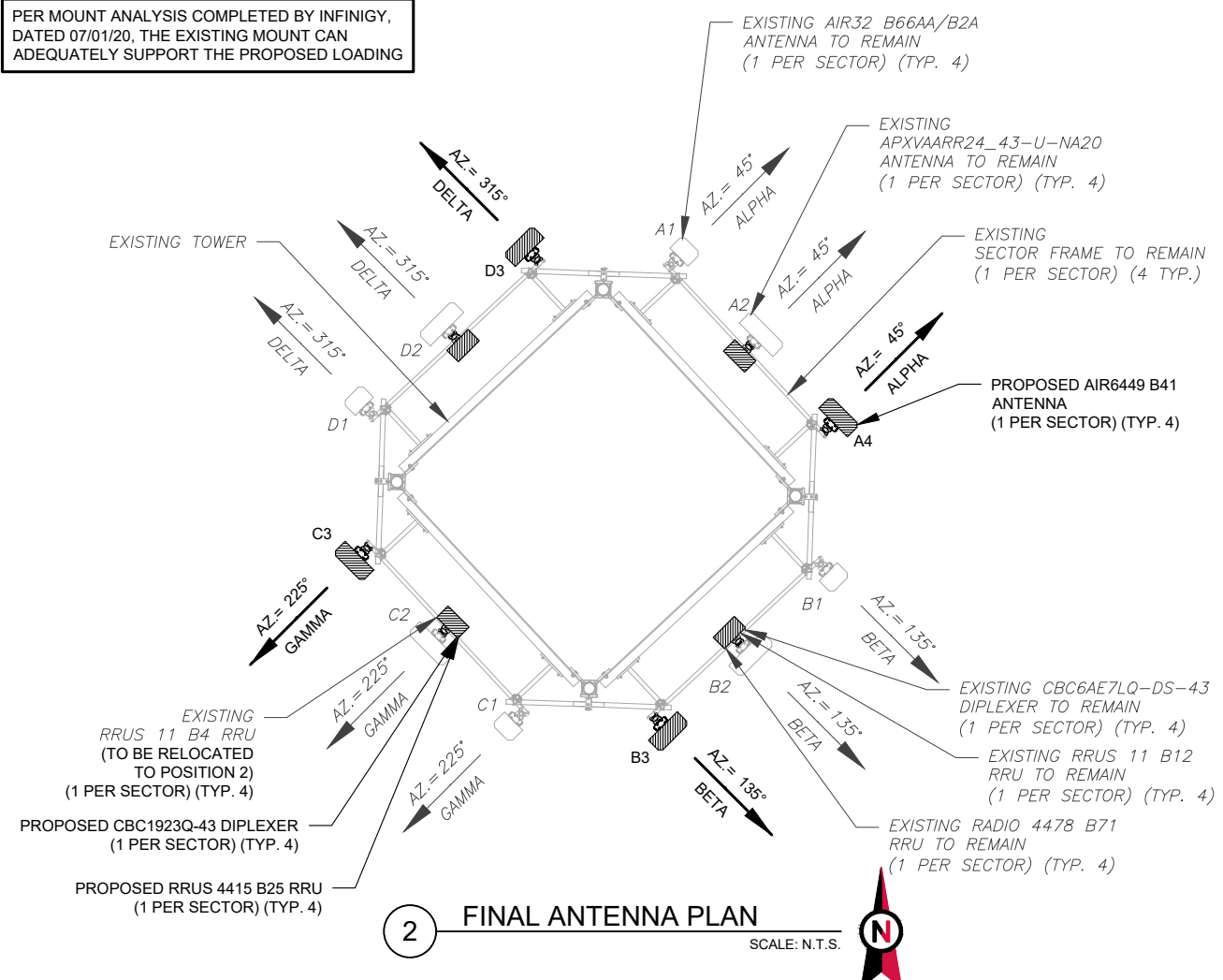
ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:
C-401
 REVISION:
1

PER MOUNT ANALYSIS COMPLETED BY INFINIGY, DATED 07/01/20, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



1 EXISTING ANTENNA PLAN
 SCALE: N.T.S.



2 FINAL ANTENNA PLAN
 SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	277'	45°	A1	AIR32 B66AA/B2A	L1900/L2100	0°/2°	RMN	-	-
			A2	APXVAARR24_43-U-NA20	L600/L700 N600	0°/2°	RMN	CBC6AE7LQ-DS-43 RRUS 11 B12 RADIO 4478 B71	RMN
			A3	APX16DWV-16DWVS-E-A20	U2100	0°/2°	RMV	RRUS 11 B4	REL
BETA	277'	135°	B1	AIR32 B66AA/B2A	L1900/L2100	0°/2°	RMN	-	-
			B2	APXVAARR24_43-U-NA20	L600/L700 N600	0°/2°	RMN	CBC6AE7LQ-DS-43 RRUS 11 B12 RADIO 4478 B71	RMN
			B3	APX16DWV-16DWVS-E-A20	U2100	0°/2°	RMV	RRUS 11 B4	REL
GAMMA	277'	225°	C1	AIR32 B66AA/B2A	L1900/L2100	0°/2°	RMN	-	-
			C2	APXVAARR24_43-U-NA20	L600/L700 N600	0°/2°	RMN	CBC6AE7LQ-DS-43 RRUS 11 B12 RADIO 4478 B71	RMN
			C3	APX16DWV-16DWVS-E-A20	U2100	0°/2°	RMV	RRUS 11 B4	REL
DELTA	277'	315°	D1	AIR32 B66AA/B2A	L1900/L2100	0°/2°	RMN	-	-
			D2	APXVAARR24_43-U-NA20	L600/L700 N600	0°/2°	RMN	CBC6AE7LQ-DS-43 RRUS 11 B12 RADIO 4478 B71	RMN
			D3	APX16DWV-16DWVS-E-A20	U2100	0°/2°	RMV	RRUS 11 B4	REL

NOTES

- CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
- CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

STATUS ABBREVIATIONS

RMV: TO BE REMOVED
 RMN: TO REMAIN
 REL: TO BE RELOCATED
 ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS

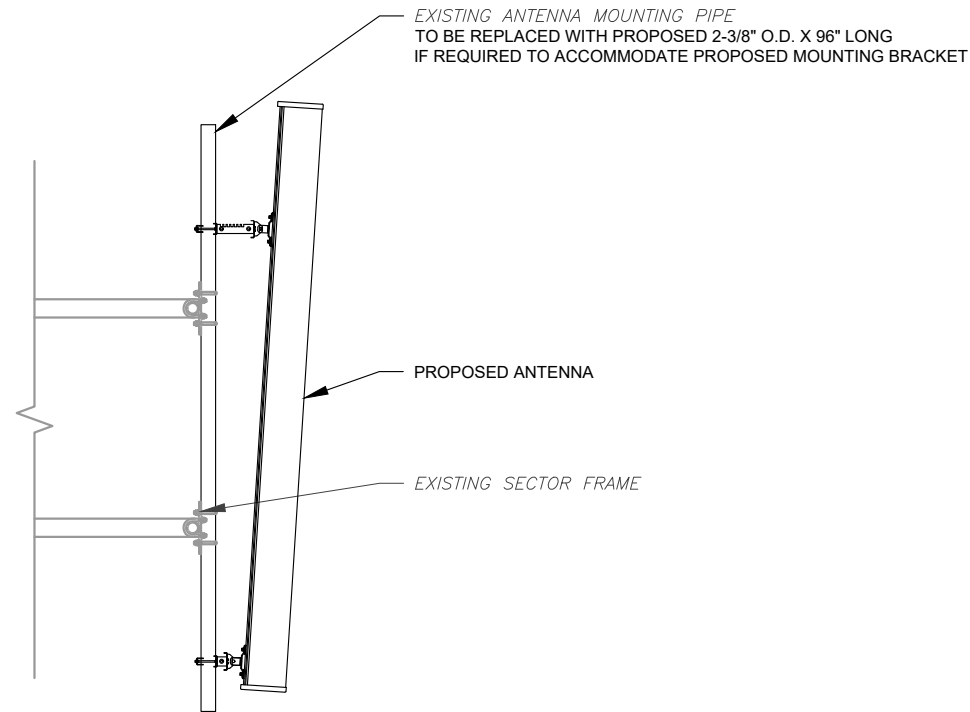
JUNCTION BOX TO RRU: 15'
 RRU TO ANTENNA: 10'

FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	277'	45°	A1	AIR32 B66AA/B2A	L1900/L2100	0°/2°	RMN	-	-
			A2	APXVAARR24_43-U-NA20	L600/L700/L1900 N600 U2100	0°/2°	RMN	CBC6AE7LQ-DS-43 RRUS 11 B12 RADIO 4478 B71 RRUS 11 B4 CBC1923Q-43 RRUS 4415 B25	RMN
			A3	AIR6449 B41	L2500 N2500	0°/2°	ADD	-	-
BETA	277'	135°	B1	AIR32 B66AA/B2A	L1900/L2100	0°/2°	RMN	-	-
			B2	APXVAARR24_43-U-NA20	L600/L700/L1900 N600 U2100	0°/2°	RMN	CBC6AE7LQ-DS-43 RRUS 11 B12 RADIO 4478 B71 RRUS 11 B4 CBC1923Q-43 RRUS 4415 B25	RMN
			B3	AIR6449 B41	L2500 N2500	0°/2°	ADD	-	-
GAMMA	277'	225°	C1	AIR32 B66AA/B2A	L1900/L2100	0°/2°	RMN	-	-
			C2	APXVAARR24_43-U-NA20	L600/L700/L1900 N600 U2100	0°/2°	RMN	CBC6AE7LQ-DS-43 RRUS 11 B12 RADIO 4478 B71 RRUS 11 B4 CBC1923Q-43 RRUS 4415 B25	RMN
			C3	AIR6449 B41	L2500 N2500	0°/2°	ADD	-	-
DELTA	277'	315°	D1	AIR32 B66AA/B2A	L1900/L2100	0°/2°	RMN	-	-
			D2	APXVAARR24_43-U-NA20	L600/L700/L1900 N600 U2100	0°/2°	RMN	CBC6AE7LQ-DS-43 RRUS 11 B12 RADIO 4478 B71 RRUS 11 B4 CBC1923Q-43 RRUS 4415 B25	RMN
			D3	AIR6449 B41	L2500 N2500	0°/2°	ADD	-	-

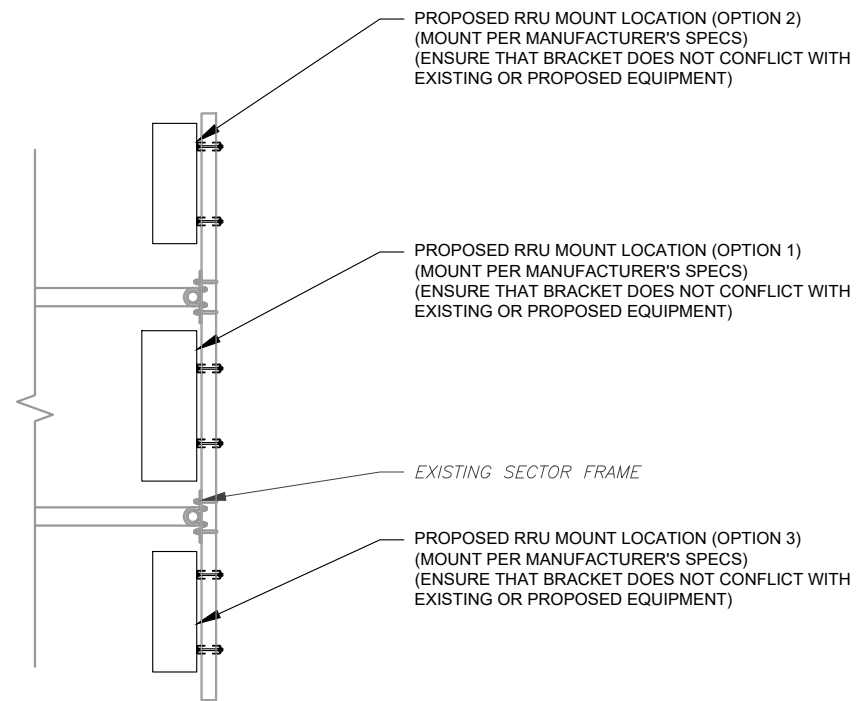
EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	-	(4) 1-5/8"	RMN
-	-	-	-	-

3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	-	(4) 1-5/8"	RMN
-	-	-	(4) 1-1/4"	ADD



1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



2 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MR	07/20/20

ATC SITE NUMBER:
88011
 ATC SITE NAME:
EAST KILLINGLY NORTH
 T-MOBILE SITE NAME:
CTNL194A
 SITE ADDRESS:
 1375 NORTH ROAD
 KILLINGLY, CT 06241

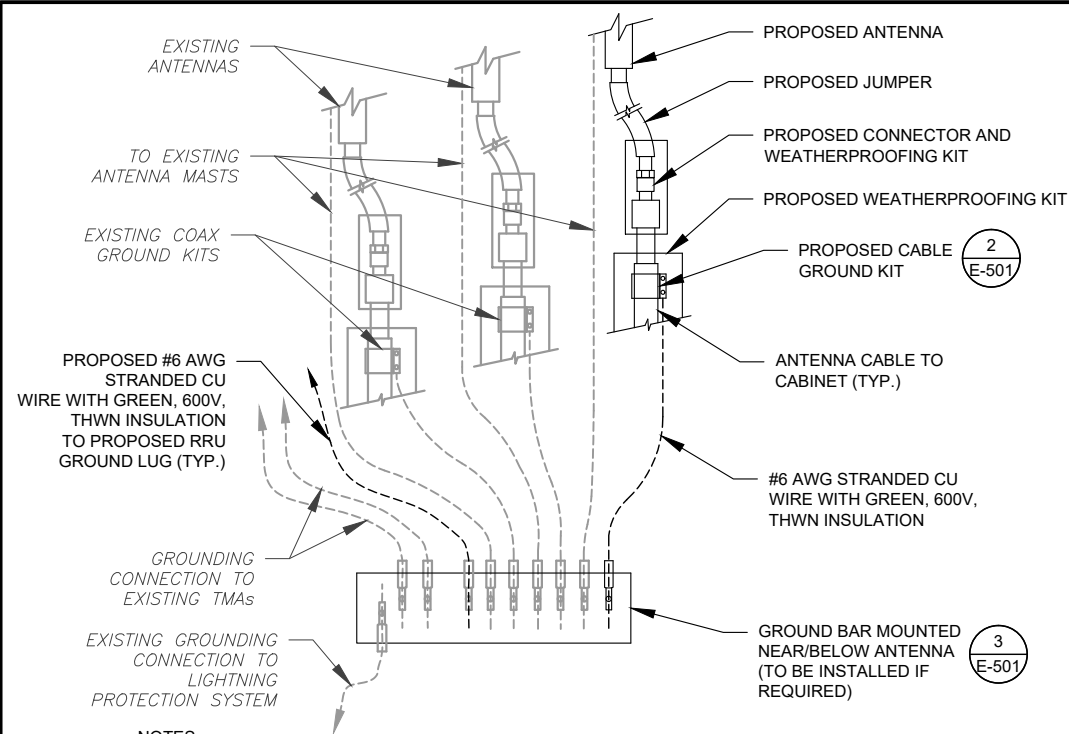


DATE DRAWN:	07/20/20
ATC JOB NO:	13251814_D1
CUSTOMER ID:	CTNL194A
CUSTOMER #:	CTNL194A

**CONSTRUCTION
 DETAILS**

SHEET NUMBER: C-501	REVISION: 0
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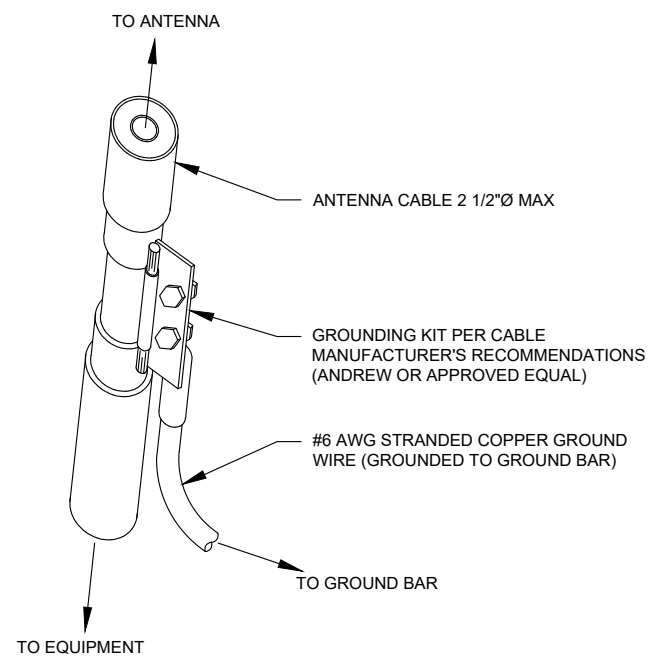
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NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH T-MOBILE GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

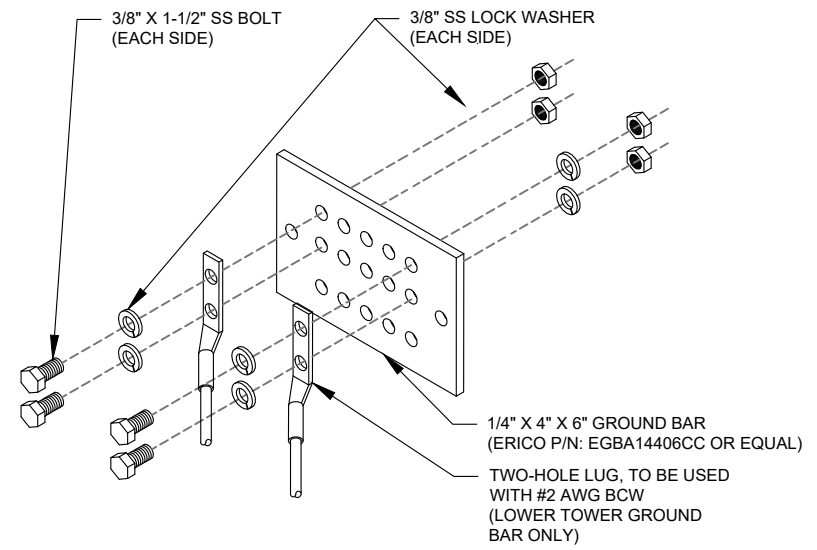
1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



GROUND KIT NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: N.T.S.



GROUND BAR NOTES:

1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL
SCALE: N.T.S.



AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

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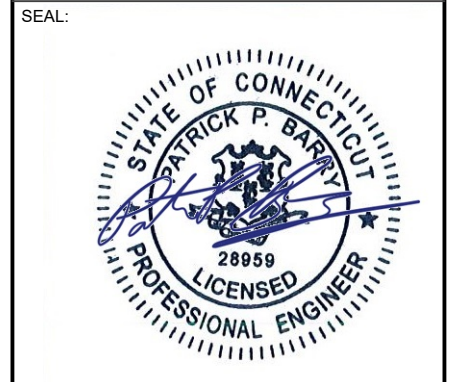
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	MR	07/20/20

ATC SITE NUMBER:
88011

ATC SITE NAME:
EAST KILLINGLY NORTH

T-MOBILE SITE NAME:
CTNL194A

SITE ADDRESS:
1375 NORTH ROAD
KILLINGLY, CT 06241



DATE DRAWN:	07/20/20
ATC JOB NO:	13251814_D1
CUSTOMER ID:	CTNL194A
CUSTOMER #:	CTNL194A

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	0

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Section 5 - RAN Equipment		
Existing RAN Equipment		
Template: 4Sec-6797DB2		
Enclosure	1	2
Enclosure Type	RBS 6102 MU AC	Ancillary Equipment (Ericsson)
Baseband	DUW30 U2100 BB 5216 L2100 L1900 L700 L600 BB 6630 N600	
Hybrid Cable System		Ericsson 6x12 HCS *Select Length & AWG* (x 4)
Multiplexer	XMU (x 2) L2100 L1900 L700 L600	

Proposed RAN Equipment				
Template: 4Sec-675A997DB				
Enclosure	1	2	3	4
Enclosure Type	RBS 6102 MU AC	Ancillary Equipment (Ericsson)	Enclosure 6160	B160
Baseband	DUW30 U2100 BB 6630 L2100 L1900 L700 L600 BB 6630 N600		BB 6630 (x 4) L2500 BB 6648 (x 2) N2500	
Hybrid Cable System		Ericsson 6x12 HCS *Select Length & AWG* (x 4)	Ericsson 6x12 HCS *Select AWG & Length* (x 4)	

RAN Scope of Work:

Location of (existing and new) Cabinets to be determined.

Add (1) Enclosure 6160.

Add (1) Battery Cabinet B160.

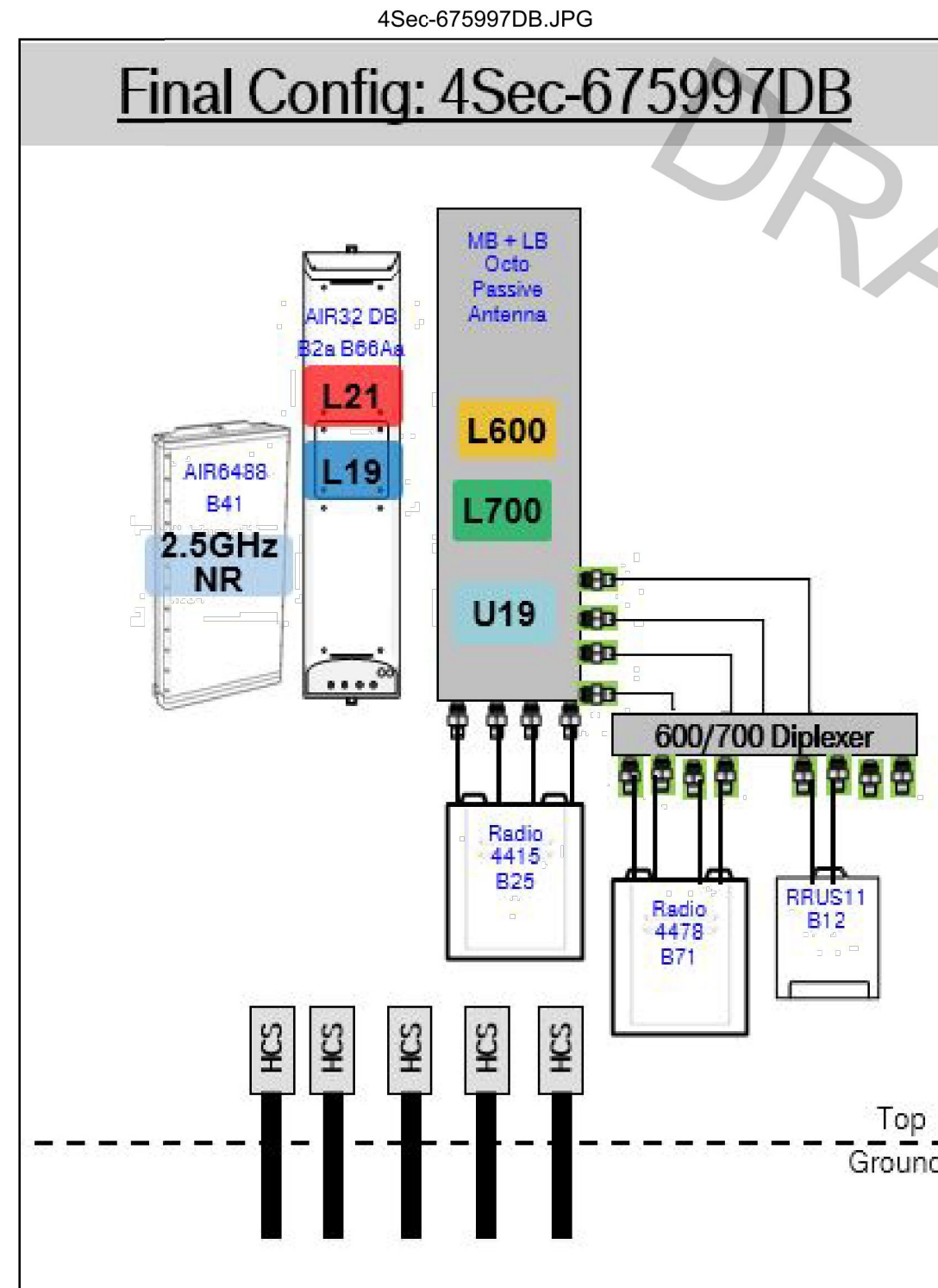
Add (1) iXRe Router to new Enclosure 6160.

Add (4) BB6630 for L2500 to new Enclosure 6160.

Add (2) BB6648 for N2500 to new Enclosure 6160.

Add (4) 6X12 HCS ([1] Per sector).

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE



Notes:

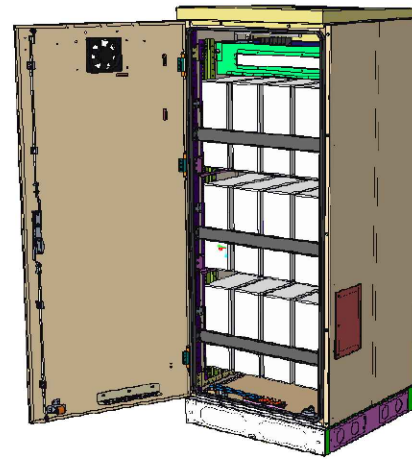
2 ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

SUPPLEMENTAL

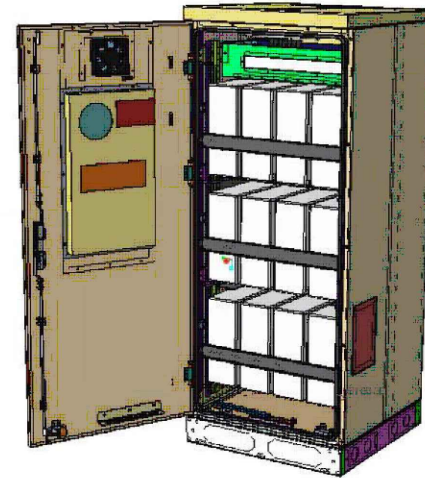
SHEET NUMBER: R-601
REVISION: 0

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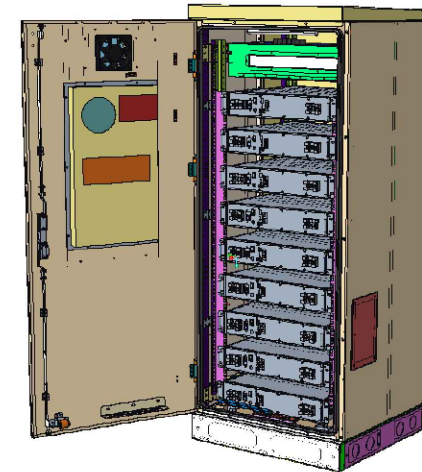
Enclosure B160



Enclosure B160
AirCon + VRLA



Enclosure B160
AirCon + Li-Ion



Enclosure B160
Convection Cooling
+ VRLA

PA1 | 2019-02-03 | Ericsson Confidential | Page 1

Enclosure B160

Capacity

- VRLA 12V: 100Ah / 150Ah / 170Ah / 190Ah / 210Ah
- Li-Ion: 24U 19" / 23"
- Sodium-Nickel: 3x FIAMM

Electrical specification

- DC Output: -48VDC/200A
- Battery breakers: 2x 125/2p
- Alarms: Door open, Climate failure, MCB Connection

Mechanical specification

- Weight: 134kg
- Dimensions: 63 x 26 x 26 in. (incl. Base frame)
- Base frame height: 6 in.
- Material: Galvanized steel (180g/m²)
- Color: Powder paint NCS 2002-B
- Door: Front access
- Locking type: Pad lock / cylinder

Environmental specification

- Ingress protection: VRLA/Sodium IP44
Li-Ion IP55
- Relative humidity: 15-100%

Climate system

- Air Conditioner
 - Fan type: DC
 - Cooling capacity: 500W @L35/L35
- Convection cooling
 - Emergency fan

PA1 | 2019-02-03 | Ericsson Confidential | Page 2

SUPPLEMENTAL

SHEET NUMBER:

R-602

REVISION:

0

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Enclosure 6160 AC

The Enclosure 6160 is a multi-purpose site cabinet designed to support a multitude of equipment such as ERS Baseband, Transport, Li-Ion battery and 3PP vendor equipment. It also provides a highly capable power system and battery back-up - all in a streamlined design and minimized footprint to support cost efficient expansion of mobile broadband.

Being an all-in-one enclosure, the Enclosure 6160 is a very fitting choice for all types of sites where the capacity need is large or room for future expansion is needed. It is ideally used for modernizing existing sites or in greenfield scenarios to match both current and future needs.

With a robust design, IP65 compliance and a sealed Heat Exchanger (HEX) climate system the Enclosure 6160 ensures optimal environmental protection of the active equipment - enabling them for a long-lasting service. The complete system is also integrated and verified for the entire Ericsson Radio System and ensures best-in-class service.

The power system offers 31,5kW of power in total and provides 24kW of -48V DC power for both internal and external consumers.

The equipment space allows 19U of rack space ensuring well enough capacity for existing need and future expansion.

One of the main advantages of the Enclosure 6160 is its default integration with ENM - allowing for advanced remote monitoring and control such a fault management (alarms), inventory management and performance measurements. The cabinet also provides an open O&M interface for integration to 3PP O&M systems.



Preliminary technical specification for Enclosure 6160 AC

CAPACITY

Rack space user equipment	19U (19" rack)
Hardware capabilities	Power and CPRI support for multi-standard remote radios (RRU or AIR) ERS Baseband and Transport units Li-Ion batteries 3PP equipment Additional power feed available as option

MECHANICAL SPECIFICATION

Weight	145 kg (excluding active equipment) 320 lbs (excluding active equipment)
Dimension (H x W x D)	1600 x 650 x 650 mm (incl. Base frame) 63 x 26 x 26 in. (incl. Base frame)
Base frame height	150 mm 6 in.
Mounting position	Ground
Enclosure material	Aluminum
Color	Power paint NCS 2002-B
Door	Front access
Rack type	19" (IEC 60297-3-100)
Locking type	Pad lock or Cylinder

POWER SYSTEM

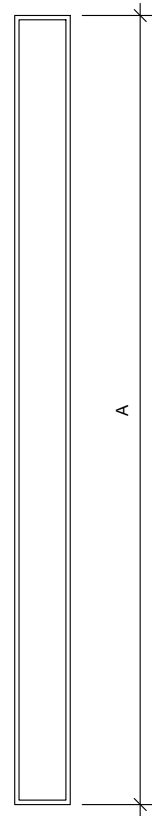
Input voltage	3P+N+PE: 346/200-415/240 VAC 2P+N+PE: 208/120-220/127 VAC 1P+N+PE: 200-250 VAC
Input power	<33kW
Output load (-48VDC)	24kW
Total capacity (-48VDC)	31.5kW
AC SPD	Class 2/Type 2
DC SPD	Class 2/Type 2
PSU Slots	9x
Service outlet	Optional
Priority load	8x Circuit Breaker
LLVD 1	6x Circuit Breaker
LLVD 2	6x Circuit Breaker
CB ratings	3A / 5A / 10A / 15A / 20A / 25A / 30A / 40A / 50A / 60A / 80A / 100A
Battery Interface	2x Circuit Breaker
Battery Circuit Breaker rating	125A 2pol (200A)
PSU capacity	3500W

SUPPLEMENTAL

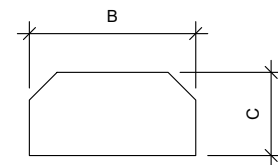
SHEET NUMBER:
R-603

REVISION:
0

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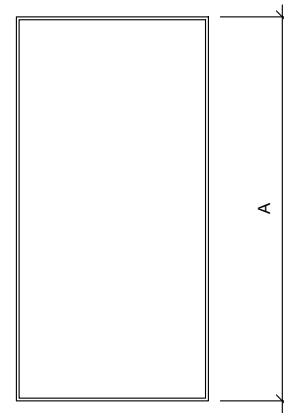
FRONT VIEW



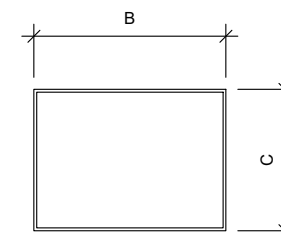
TOP VIEW

1 ANTENNA SPECIFICATIONS
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
AIR6449 B41	33.1"	20.6"	8.6"	104.0



FRONT VIEW



TOP VIEW

2 RRU SPECIFICATIONS
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
RRUS 4415 B25	15.0"	13.2"	5.4"	46.0

EQUIPMENT SPECIFICATIONS

SHEET NUMBER: **R-604** REVISION: **0**

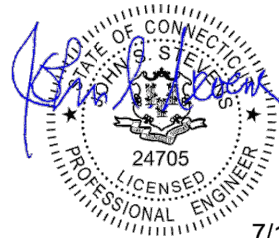


Mount Analysis Report

July 1, 2020

ATC Site Name	East Killingly North, CT
ATC Site Number	88011
T-Mobile Site Name	CTNL194A
T-Mobile Site Number	CTNL194A
Infinigy Job Number	1009-Z0003-B
ATC Engineering Number	13251814_C8_01
Client	ATC
Carrier	T-Mobile
Site Location	1375 North Road Killingly, CT 06241 Windham County 41° 52' 17.5" N NAD83 71° 49' 17.5" W NAD83
Mount Centerline EL.	277.0 ft
Mount Type	Sector Frame
Mount Usage Ratio	50.7%
Overall Result	Pass

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA code requirements. The mounts and connections for the proposed carrier are therefore deemed adequate to support the final loading configuration as listed in this report.



7/1/2020

Brenden Archer
Project Engineer II

AZ CA CO FL GA MD NC NH NJ NY TX WA



Mount Analysis Report

July 1, 2020

Introduction

Infinigy Engineering has been requested to perform a mount analysis on the existing T-Mobile mounts. All referenced supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using RISA-3D Version 17.0.4 analysis software.

Supporting Documentation

Collocation Application	Collo App ID No. 375130, dated June 11, 2020
Proposed Loading	T-Mobile RFDS Application ID No. CTNL194A_Anchor_2_draft_2020-05-20, dated May 20, 2020
Structural Analysis Report	ATC Engineering No. 13251814_C3_02, dated June 24, 2020
Tower Mapping Report	Engineered Tower Solutions, PLLC, Site No. 180389, dated February 8, 2018

Analysis Code Requirements

Wind Speed	122 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 1" ice
TIA Revision	ANSI/TIA-222-H
Risk Category	II
Exposure Category	B
Topographic Factor Procedure	Method 1, Category 1
Calculated Crest Height	0.0 ft.
Spectral Response	$S_s = 0.186 g / S_1 = 0.055 g$
Site Class	D-Stiff Soil (Assumed)
HMSL	737.7 ft.

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA code requirements. The mounts and connections are therefore deemed adequate to support the final loading configuration as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Brenden Archer
Project Engineer II | [INFINIGY](#)
1033 Watervliet Shaker Rd, Albany, NY 12205
(518) 690-0790
barcher@infinigy.com | www.infinigy.com

88011_East Killingly North

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SUPPLEMENTAL

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

Exhibit D

Structural Analysis Report



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 287.5 ft Self Supported Tower
ATC Site Name : EAST KILLINGLY NORTH, CT
ATC Asset Number : 88011
Engineering Number : 13251814_C3_05
Proposed Carrier : T-MOBILE
Carrier Site Name : CTNL194A
Carrier Site Number : CTNL194A
Site Location : 1375 North Road
Killingly, CT 06241-1404
41.871500,-71.821500
County : Windham
Date : July 9, 2020
Max Usage : 93%
Result : Pass

Prepared By:
Adam Pittman
Structural Engineer II

Reviewed By:

Adam Pittman



COA: PEC.0001553



Table of Contents

Introduction	1
Supporting Documents	1
Analysis	1
Conclusion.....	1
Existing and Reserved Equipment.....	2
Equipment to be Removed.....	3
Proposed Equipment	3
Structure Usages	4
Foundations	4
Standard Conditions	5
Calculations	Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 287.5 ft self supported tower to reflect the change in loading by T-MOBILE.

Supporting Documents

Tower Drawings	CSEI Analysis, ATC Eng. #26726321, dated September 13, 2006
Foundation Drawing	CSEI Analysis, ATC Eng. #26726321, dated September 13, 2006
Geotechnical Report	FDH Velocitel Project #17PXNW1600, dated February 27, 2017
Modifications	ATC Project #45432633, dated July 9, 2010 ATC Project #OAA686695_C6_04, dated November 28, 2016

Analysis

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

Basic Wind Speed:	122 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1

Conclusion

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

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



Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
306.0	6	Alcatel-Lucent RRH2x50-08	Sector Frame	(4) 1 1/4" Hybriflex Cable (6) 1 5/8" Coax	SPRINT NEXTEL
	3	Commscope NNVV-65B-R4			
	3	RFS APXVTM14-ALU-I20			
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	Alcatel-Lucent 1900 MHz 4X45 RRH			
290.0	1	Generic 5" x 3" x 2" Cavity Filter	Side Arm	(1) 7/8" Coax	SIGFOX S.A.
	1	Procom CXL 900-3LW			
	1	Generic Low Noise Amplifier			
277.0	4	Ericsson Radio 4478 B71	Sector Frame	(4) 1 5/8" Hybriflex (1) 1/2" Coax	T-MOBILE
	4	Ericsson RRUS 11 B12			
	4	Ericsson RRUS 11 B4			
	1	Commscope SHP2-13			
	4	Ericsson AIR32 B66Aa/B2a			
	4	Commscope CBC6AE7LQ-DS-43			
266.0	4	Commscope JAHH-45B-R3B	Sector Frame	(1) 1 1/4" Hybriflex Cable (6) 1 5/8" Coax	VERIZON WIRELESS
	2	Commscope JAHH-65B-R3B			
	6	Amphenol Antel LPA-80063-4CF-EDIN-X			
	1	Raycap RC3DC-3315-PF-48			
	3	Samsung B2/B66A RRH-BR049			
	3	Commscope CBC78T-DS-43-2X			
	3	Samsung B5/B13 RRH-BR04C			
246.0	3	Raycap DC2-48-60-0-9E	Sector Frame	(1) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (12) 2 1/4" Coax (1) 3" conduit	AT&T MOBILITY
	1	Raycap FC12-PC6-10E (20.35 lb)			
	3	Ericsson RRUS-11			
	6	Powerwave Allgon P65-15-XLH-RR			
	6	Powerwave Allgon TT19-08BP111-001			
	2	KMW AM-X-CD-17-65-00T-RET (96" Height)			
	1	Kathrein Scala 800 10766			
210.5	1	Andrew DB264	Leg/Flush	(1) 7/8" Coax	US DEPT OF JUSTICE
50.0	1	MicroPulse GPS-QBW-26N	Leg/Flush	(1) 1/2" Coax	VERIZON WIRELESS

Equipment to be Removed

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
277.0	4	Commscope CBC6AE7LQ-DS-43	-	-	T-MOBILE
	4	RFS APXVAA24_43-U-A20			
	4	RFS APX16DWV-16DWVS-E-A20			



Proposed Equipment

Elev. ¹ (ft)	Qty	Antenna	Mount Type	Lines	Carrier
277.0	4	Commscope CBC1923Q-43	Sector Frame	(4) 1 1/4" Hybriflex Cable	T-MOBILE
	4	Ericsson RRUS 4415 B25			
	4	Ericsson Air6449 B41			
	4	RFS APXVAARR24_43-U-NA20			

¹Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines on top of existing T-MOBILE lines.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	71%	Pass
Diagonals	93%	Pass
Trussed Diagonals	68%	Pass
Horizontals	60%	Pass
Trussed Horizontals	70%	Pass
Anchor Bolts	45%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	299.3	64%
Axial (Kips)	422.0	9%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.



Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

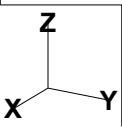
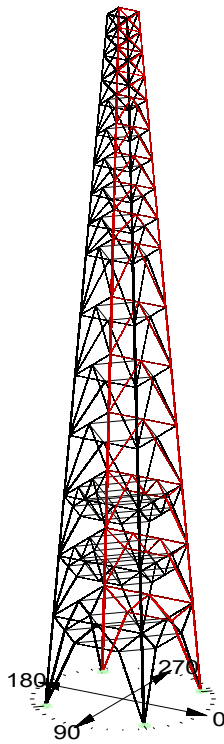
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.



Project Name : 88011 - East Killingly North, CT
 Project Notes : 08A70744_C3_02 T-Mobile
 Project File : X:\C-E\East Killingly North, CT (88011)\13251814 T-MOBILE\13251814_05_CUST_STR\13251814.tow
 Date run : 4:54:51 PM Thursday, July 9, 2020
 by : Tower Version 16.01
 Licensed to : American Tower Corp.

Successfully performed nonlinear analysis

Member check options: ANSI/TIA 222-G-1
 Connection rupture check: Not Checked
 Crossing diagonal check: Fixed
 Included angle check: None
 Climbing load check: None
 Redundant members checked with: Actual Force
 Loads from file: X:\C-E\East Killingly North, CT (88011)\13251814 T-MOBILE\13251814_02_CUST_STR\mobile.eia

*** Analysis Results:

Maximum element usage is 103.82% for Angle "D 13X" in load case "W -90" NG

Foundation Design Forces For All Load Cases:

Note: Loads are factored.

Load Case	Foundation Description	Axial Force (kips)	Shear Force (kips)	Bending Moment (ft-k)	Foundation Usage %
W 0	OP	337.12	47.94	4.00	0.00
W 0	OX	332.33	47.17	3.76	0.00
W 0	OXY	-213.21	36.61	4.21	0.00
W 0	OY	-212.27	37.07	4.40	0.00
W 180	OP	-209.98	36.98	4.48	0.00
W 180	OX	-210.25	36.48	4.29	0.00
W 180	OXY	137.17	47.14	3.83	0.00
W 180	OY	334.02	47.80	4.05	0.00
W 45	OP	469.45	63.91	2.77	0.00
W 45	OX	460.43	19.80	4.77	0.00
W 45	OXY	-346.18	55.25	4.44	0.00
W 45	OY	60.27	19.73	4.75	0.00
W -45	OP	64.16	20.67	4.99	0.00
W -45	OX	465.32	63.52	2.81	0.00
W -45	OXY	59.31	19.24	4.62	0.00
W -45	OY	-344.82	55.33	4.51	0.00
W 90	OP	337.16	47.95	4.01	0.00
W 90	OX	-212.15	37.08	4.41	0.00
W 90	OXY	-213.17	36.60	4.21	0.00
W 90	OY	332.13	47.15	3.76	0.00
W -90	OP	-210.02	36.99	4.48	0.00
W -90	OX	334.22	47.82	4.06	0.00
W -90	OXY	330.13	47.12	3.82	0.00
W -90	OY	-210.37	36.48	4.28	0.00
W 0 Ice	OP	164.28	20.16	1.34	0.00
W 0 Ice	OX	160.65	19.87	1.23	0.00
W 0 Ice	OXY	38.52	3.68	2.10	0.00
W 0 Ice	OY	41.22	3.76	2.18	0.00
W 180 Ice	OP	44.48	4.06	2.26	0.00
W 180 Ice	OX	41.78	3.97	2.19	0.00
W 180 Ice	OXY	157.56	19.78	1.20	0.00
W 180 Ice	OY	160.86	20.00	1.32	0.00
W 45 Ice	OP	195.26	24.27	0.84	0.00
W 45 Ice	OX	100.97	12.03	1.88	0.00
W 45 Ice	OXY	7.64	1.91	2.22	0.00
W 45 Ice	OY	100.80	12.02	1.88	0.00
W -45 Ice	OP	104.38	12.41	1.98	0.00
W -45 Ice	OX	191.76	24.06	0.78	0.00
W -45 Ice	OXY	98.10	11.96	1.83	0.00
W -45 Ice	OY	10.44	1.79	2.29	0.00
W 90 Ice	OP	164.29	20.16	1.35	0.00
W 90 Ice	OX	41.38	3.77	2.18	0.00
W 90 Ice	OXY	38.53	3.69	2.11	0.00
W 90 Ice	OY	160.48	19.86	1.23	0.00
W -90 Ice	OP	44.47	4.06	2.26	0.00
W -90 Ice	OX	161.03	20.01	1.32	0.00
W -90 Ice	OXY	157.55	19.78	1.20	0.00
W -90 Ice	OY	41.62	3.95	2.19	0.00

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint Label	Long. Force (kips)	Tran. Force (kips)	Vert. Force (kips)	Shear Force (kips)	Tran. Moment (ft-k)	Long. Moment (ft-k)	Bending Moment (ft-k)	Vert. Moment (ft-k)	Found. Usage %
W 0	OP	-42.61	-21.97	337.12	47.94	-1.40	-3.75	4.00	-2.11	0.00
W 0	OX	-41.54	22.33	-332.33	47.17	1.17	-3.58	3.76	2.12	0.00
W 0	OXY	-32.51	-16.85	213.21	36.61	0.28	-4.20	4.21	1.91	0.00
W 0	OY	-33.24	16.41	212.27	37.07	-0.21	-4.40	4.40	-1.88	0.00
W 180	OP	33.25	19.09	-209.98	36.98	-0.21	4.47	4.48	1.89	0.00
W 180	OX	32.49	-16.59	210.25	36.48	0.28	4.28	4.29	-1.92	0.00
W 180	OXY	41.58	22.21	-330.17	47.14	1.16	3.65	3.83	-2.13	0.00
W 180	OY	42.16	-21.75	334.02	47.80	-1.38	3.81	4.05	2.12	0.00
W 45	OP	-45.16	-45.22	-469.45	63.91	1.97	-1.95	2.77	-0.00	0.00
W 45	OX	-17.07	-10.05	-60.43	19.80	3.92	-2.72	4.77	2.93	0.00
W 45	OXY	-39.09	-39.05	346.18	55.25	3.14	-3.14	4.44	-0.00	0.00
W 45	OY	-10.00	0.01	-60.27	19.73	-2.71	3.90	4.75	-0.93	0.00
W -45	OP	-17.90	10.33	-64.16	20.67	-4.10	-2.85	4.99	-2.93	0.00
W -45	OX	-44.36	45.47	-465.32	63.52	-2.13	-1.83	2.81	0.00	0.00
W -45	OXY	-9.50	-7.74	-59.31	19.24	-2.68	3.76	4.62	2.95	0.00
W -45	OY	-39.51	38.74	344.82	55.33	-3.10	-3.27	4.51	0.03	0.00
W 90	OP	-21.93	-42.65	-337.16	47.95	3.76	1.41	4.01	2.11	0.00
W 90	OX	16.33	-33.27	212.15	37.08	4.41	3.10	4.41	1.88	0.00
W 90	OXY	-16.88	-32.48	213.17	36.60	4.20	-0.29	4.21	-1.91	0.00
W 90	OY	22.36	-41.50	-332.13	47.15	3.57	-1.16	3.76	-2.12	0.00
W -90	OP	16.16	33.28	210.02	36.99	-4.48	0.20	4.48	-1.89	0.00
W -90	OX	-21.72	42.60	-334.22	47.82	-3.82	1.40	4.06	-2.12	0.00
W -90	OXY	22.26	41.54	-330.13	47.12	-3.64	-1.15	3.82	2.13	0.00
W -90	OY	-16.64	32.46	210.37	36.48	-4.27	-0.29	4.28	1.92	0.00
W 0 Ice	OP	-16.45	-17.77	164.28	20.16	-1.33	0.33	1.34	0.45	0.00
W 0 Ice	OX	-15.96	11.83	-160.65	19.87	1.21	0.24	1.23	0.45	0.00
W 0 Ice	OXY	-0.32	3.67	-38.52	3.68	0.92	-1.89	2.10	0.45	0.00
W 0 Ice	OY	-0.32	-3.75	-41.22	3.76	-0.98	-1.95	2.18	-0.43	0.00
W 180 Ice	OP	0.33	4.05	-44.48	4.06	2.89	2.04	2.26	0.44	0.00
W 180 Ice	OX	0.33	3.95	-41.78	3.97	0.92	1.99	2.19	-0.46	0.00
W 180 Ice	OXY	15.98	11.65	-157.56	19.78	1.20	-0.15	1.20	-0.46	0.00
W 180 Ice	OY	-16.13	-11.54	160.86	20.00	-0.31	0.13	1.32	0.47	0.00
W 45 Ice	OP	-17.16	-17.17	-195.26	24.27	-0.59	0.60	0.84	0.00	0.00
W 45 Ice	OX	-11.12	4.61	-100.97	12.03	1.85	0.33	1.88	0.67	0.00
W 45 Ice	OXY	-1.35	-1.35	-7.64	1.91	1.57	-1.57	2.22	-0.00	0.00
W 45 Ice	OY	4.63	-11.10	-100.80	12.02	-0.33	-1.85	1.88	0.67	0.00
W -45 Ice	OP	-11.54	-4.56	104.38	12.41	-1.96	0.30	1.98	-0.68	0.00
W -45 Ice	OX	-16.81	17.21	-191.76	24.06	0.49	0.61	0.78	-0.01	0.00
W -45 Ice	OXY	4.57	11.06	-98.10	11.96	0.26	-1.81	1.83	0.68	0.00
W -45 Ice	OY	-1.22	1.31	-10.44	1.79	-1.64	-1.60	2.29	0.02	0.00
W 90 Ice	OP	-11.76	-16.37	-164.29	20.16	-0.21	1.33	1.35	0.45	0.00
W 90 Ice	OX	-3.76	-0.32	-41.38	3.77	1.95	0.98	2.18	0.43	0.00
W 90 Ice	OXY	3.67	0.32	-38.53	3.69	1.89	-0.92	2.11	-0.45	0.00
W 90 Ice	OY	11.83	-15.95	-160.48	19.86	-0.24	-1.21	1.23	-0.45	0.00
W -90 Ice	OP	-4.05	0.31	-44.47	4.06	-2.04	0.98	2.26	-0.44	0.00
W -90 Ice	OX	-11.54	16.35	-161.03	20.01	0.13	0.32	1.32	-0.47	0.00
W -90 Ice	OXY	11.67	15.97	-157.55	19.78	0.16	-1.19	1.20	0.46	0.00
W -90 Ice	OY	3.94	0.33	-41.62	3.95	-1.98	-0.92	2.19	0.46	0.00

Summary of Joint Support Reactions For All Load Cases in Direction of Leg:

Load Case	Support	Joint	Member	Leg Dir.	Force In Leg (kips)	Residual Force (kips)	Residual Shear (kips)	Residual Horizontal Force (kips)	Residual Vertical Force (kips)	Total Long. Force (kips)	Total Tran. Force (kips)	Total Vertical Force (kips)
W 0	OP	L	L	L	339.562	21.543	0.903	-42.61	-21.97	-337.12		
W 0	OX	L	L	L	335.019	20.792	20.838	20.779	-1.569	-41.54	22.33	-332.33
W 0	OXY	L	L	L	-215.450	19.454	19.505	3.525	-32.51	-16.85	213.21	
W 0	OY	L	L	L	-214.538	20.174	19.980	-3.144	-33.24	16.41	212.27	
W 180	OP	L	L	L	-212.238	20.311	-20.129	-3.069	33.25	19.09	-209.98	
W 180	OX	L	L	L	-212.487	19.610	-19.355	3.457	32.49	-16.59	210.25	
W 180	OXY	L	L	L	332.863	20.959	-21.006	-1.586	41.58	22.21	-330.17	
W 180	OY	L	L	L	332.726	21.663	-21.690	0.885	42.56	-21.75	334.02	
W 45	OP	L	L	L	473.257	22.340	22.427	15.886	-45.16	-45.22	-469.45	
W 45	OX	L	L	L	60.634	19.176	13.291	13.823	-17.07	-10.05	-60.43	
W 45	OXY	L	L	L	-349.704	24.570	17.463	17.419	-39.09	-39.05	346.18	
W 45	OY	L	L	L	60.471	19.104	13.767	13.245	-10.00	0.01	-60.27	
W -45	OP	L	L	L	64.378	19.966	13.892	-14.341	-17.90	10.33	-64.16	
W -45	OX	L	L	L	469.109	22.326	22.413	-16.394	-44.36	45.47	-465.32	
W -45	OXY	L	L	L	-215.529	18.549	18.549	-3.069	33.25	16.19	209.98	
W -45	OY	L	L	L	-348.350	24.769	24.866	-17.196	-39.51	38.74	344.82	
W 90	OP	L	L	L	339.866	21.552	0.860	21.580	-21.93	-42.65	-337.16	
W 90	OX	L	L	L	-214.415	20.206	20.258	-20.018	16.36	-33.27	212.15	
W 90	OXY	L	L	L	-214.411	19.433	19.484	3.557	-16.88	-32.48	213.17	
W 90	OY	L	L	L	334.817	20.768	20.815	-20.752	22.36	-41.50	-332.13	
W -90	OP	L	L	L	-212.277	20.333	-3.038	-20.157	16.16	33.28	210.02	

W	90	OX	LY	L	IX	336.928	21.687	21.733	0.842	-21.717	-17.72	42.60	-334.22
W 90	OX	LY	L	IX	336.928	21.687	21.733	0.842	-21.717	-17.72	42.60	-334.22	
W 90	OX	LY	L	IX	212.610	19.579	19.631	3.493	-19.317	-16.64	32.46	210.37	
W 0	Ice	OP	LP	L	IP	165.395	6.262	6.280	6.096	1.509	-16.36	-11.77	-164.28
W 0	Ice	OP	LP	L	IP	161.754	6.170	6.189	5.923	-1.796	-15.96	-11.83	-160.65
W 0	Ice	OX	LY	L	IX	38.581	3.004	3.004	2.725	-1.264	-0.33	3.67	-38.52
W 0	Ice	OX	LY	L	IX	41.276	3.124	3.126	2.899	1.170	-0.32	-3.75	-41.22
W 180	Ice	OP	LP	L	IP	44.536	3.337	3.339	-3.087	1.272	0.31	-4.05	-44.48
W 180	Ice	OX	LY	L	IX	101.551	4.232	4.233	4.007	-1.341	0.33	3.95	-41.78
W 180	Ice	OX	LY	L	IX	158.667	6.380	6.399	-6.138	-1.810	15.98	11.65	-157.56
W 180	Ice	OX	LY	L	IX	161.975	6.440	6.458	-6.284	1.492	16.33	-11.54	-160.86
W 45	Ice	OP	LP	L	IP	196.635	6.993	7.020	4.957	4.971	-17.16	-17.17	-195.26
W 45	Ice	OX	LY	L	IX	101.551	4.232	4.233	4.007	-1.341	0.33	3.95	-41.78
W 45	Ice	OX	LY	L	IX	7.446	2.579	2.589	1.832	1.830	-1.35	-1.35	-7.64
W 45	Ice	OX	LY	L	IX	101.391	5.086	5.090	1.689	4.801	4.61	-11.10	-100.80
W 45	Ice	OP	LP	L	IP	104.979	5.482	5.482	5.016	-1.959	-11.54	-4.56	-104.38
W 45	Ice	OP	LP	L	IP	193.130	7.088	7.116	4.829	-5.226	-16.81	17.21	-191.76
W 45	Ice	OX	LY	L	IX	98.689	5.164	5.169	1.562	-4.927	4.57	11.06	-98.10
W 45	Ice	OX	LY	L	IX	10.238	2.701	2.712	1.875	-1.960	-1.22	1.31	10.44
W 90	Ice	OP	LP	L	IP	165.402	6.272	6.288	6.077	6.107	-11.76	-16.37	-164.29
W 90	Ice	OX	LY	L	IX	41.432	3.136	3.138	1.174	2.910	-3.76	-0.32	-41.38
W 90	Ice	OX	LY	L	IX	38.588	3.002	3.004	-1.265	2.724	3.67	-0.32	-38.53
W 90	Ice	OX	LY	L	IX	161.584	6.272	6.288	6.077	6.107	-11.76	-16.37	-164.29
W 90	Ice	OP	LP	L	IP	44.529	3.338	3.339	1.272	-3.088	-4.05	0.31	-44.47
W 90	Ice	OP	LP	L	IP	162.145	6.438	6.456	1.480	-6.284	-11.54	16.35	-161.03
W 90	Ice	OX	LY	L	IX	158.666	6.373	6.392	-1.922	-6.127	11.67	15.97	-157.55
W 90	Ice	OX	LY	L	IX	41.682	3.220	3.221	-1.337	-2.931	3.94	0.33	-41.62

Overturning Moment Summary For All Load Cases:

Load Case	Transverse Moment (ft-k)	Longitudinal Moment (ft-k)	Torsional Moment (ft-k)	Transverse Force (kips)	Longitudinal Force (kips)	Vertical Force (kips)
W 0	128.413	-24595.336	58.545	24595.671	0.073	149.897
W 180	92.492	24359.278	-58.544	24359.454	-0.055	-149.876
W 45	18318.017	-18325.318	-4.484	25910.751	111.323	111.323
W 90	24588.076	-135.728	-64.895	24588.451	149.897	0.073

EIA Sections Information:

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count	Member Count	Top Width (ft)	Bottom Width (ft)	Gross Area (sq ft)	Face Adj (ft)	Face Adj (ft)	Dead Load (kips)	Factor
278.9-287.5	287.500	278.917	8	20	9.00	10.07	81.85	1.1220	1.1220	1.346	
270.3-278.9	278.917	270.334	8	16	10.07	11.15	91.06	1.2150	1.2150	1.458	
260.7-270.3	270.334	260.750	16	16	11.15	12.42	119.77	1.1970	1.1970	1.436	
250.0-260.7	260.750	250.000	12	24	12.42	13.69	132.69	1.2030	1.2030	1.444	
237.5-250.0	250.000	237.500	16	24	13.69	15.25	180.84	1.2010	1.2010	1.441	
225.0-237.5	237.500	225.000	16	24	15.25	16.81	210.70	1.2070	1.2070	1.449	
212.5-225.0	225.000	212.500	16	24	16.81	18.37	219.89	1.2130	1.2130	1.456	
200.0-212.5	212.500	200.000	16	24	18.37	19.93	239.41	1.2200	1.2200	1.463	
187.5-200.0	200.000	187.500	16	24	19.93	21.50	258.94	1.2250	1.2250	1.471	
162.5-187.5	187.500	162.500	16	24	21.50	23.08	276.45	1.2550	1.2550	1.506	
137.5-162.5	162.500	137.500	16	24	24.62	27.74	654.55	1.2700	1.2700	1.524	
112.5-137.5	137.500	112.500	16	24	27.74	30.87	732.65	1.2790	1.2790	1.535	
62.5-112.5	112.500	62.500	16	24	30.87	33.99	811.85	1.2830	1.2830	1.476	
37.5-62.5	62.500	37.500	32	68	37.12	40.24	966.95	1.2330	1.2330	1.480	
0.0-37.5	37.500	0.000	20	40	40.24	44.93	1596.86	1.2600	1.2600	1.512	

Printed capacities do not include the strength factor entered for each load case.

The Group Summary shows the member and load case that results in maximum usage which may not necessarily be the same as that which produces maximum force.

Group Summary (Compression Portion):

Group Label	Group Angle	Group Desc.	Group Type	Angle Size	Steel Strength	Max Usage	Usage Cont.	Max Usage	Usage Cont.	Comp. In Member	Force (kips)	Comp. Case	L/r Capacity (kips)	Comp. Connect.	Comp. Bearing	RLX	RLY	RLZ	L/r	KL/r	Length (ft)	Curve No.	No. of Bolts	Comp.
Leg #1	L 8" x 8" x 1.125"	SAR	8X8X1.13	36.0	78.81	Comp	78.81	L 1P	-385.436	W 45	469.100	0.000	0.000	0.250	0.250	0.250	72.40	72.40	37.646	1	0			
Leg #2	L 8" x 8" x 1.125"	SAR	8X8X1.13	36.0	61.29	Comp	61.29	L 2P	-335.212	W 45	546.890	0.000	0.000	0.281	0.281	0.281	54.29	54.29	25.097	1	0			
Leg #3	L 8" x 8" x 1"	SAR	8X8X1	36.0	59.10	Comp	59.10	L 3P	-289.847	W 45	490.440	0.000	0.000	0.281	0.281	0.281	54.29	54.29	25.097	1	0			
Leg #4	L 8" x 8" x 0.875"	SAR	8X8X0.88	36.0	67.46	Comp	67.46	L 4P	-249.199	W 45	415.366	0.000	0.000	0.333	0.333	0.333	63.94	63.94	25.097	1	0			
Leg #5	L 8" x 8" x 0.875"	SAR	8X8X0.88	36.0	57.66	Comp	57.66	L 5P	-239.488	W 45	415.366	0.000	0.000	0.333	0.333	0.333	63.94	63.94	25.097	1	0			
Leg #6	L 8" x 8" x 0.75"	SAR	8X8X0.75	36.0	55.17	Comp	55.17	L 6P	-198.250	W 45	359.362	0.000	0.000	0.333	0.333	0.333	63.53	63.53	25.097	1	0			
Leg #7	L 8" x 8" x 0.625"	SAR	8X8X0.63	36.0	52.23	Comp	52.23	L 7P	-157.904	W 45	322.310	0.000	0.000	0.333	0.333	0.333	63.53	63.53	25.097	1	0			
Leg #8	L 6" x 6" x 0.75"	SAR	6X6X0.75	36.0	51.62	Comp	51.62	L 8P	-136.584	W 45	264.577	0.000	0.000	0.500	0.500	0.500	64.35	64.35	12.549	1	0			
Leg #9	L 6" x 6" x 0.75"	SAR	6X6X0.75	36.0	43.48	Comp	43.48	L 9P	-115.037	W 45	264.577	0.000	0.000	0.500	0.500	0.500	64.35	64.35	12.549	1	0			
Leg #10	L 6" x 6" x 0.625"	SAR	6X6X0.56	36.0	47.22	Comp	47.22	L 10P	-95.457	W 45	202.141	0.000	0.000	0.500	0.500	0.500	63.81	63.81	12.549	1	0			
Leg #11	L 6" x 6" x 0.4375"	SAR	6X6X0.44	36.0	37.48	Comp	37.48	L 11P	-75.767	W 45	159.217	0.000	0.000	0.500	0.500	0.500	62.11	62.11	10.207	1	0			
Leg #12	L 6" x 6" x 0.4375"	SAR	6X6X0.44	36.0	34.77	Comp	34.77	L 12P	-55.365	W 45	159.217	0.000	0.000	0.500	0.500	0.500	63.27	63.27	12.549	1	0			
Leg #13	L 5" x 5" x 0.4375"	SAR	5X5X0.44	36.0	33.09	Comp	33.09	L 13P	-43.823	W 45	132.416	0.000	0.000	0.500	0.500	0.500	62.11	62.11	10.207	1	0			
Leg #14	L 5" x 5" x 0.4375"	SAR	5X5X0.44	36.0	22.40	Comp	22.40	L 14P	-29.659	W 45	132.416	0.000	0.000	0.500	0.500	0.500	62.11	62.11	10.207	1	0			
Leg #15	L 5" x 5" x 0.3125"	SAR	5X5X0.31	36.0	14.94	Comp	14.94	L 15P	-14.448	W 45	96.704	0.000	0.000	0.500	0.500	0.500	52.01	52.01	8.616	1	0			
Leg #16	L 5" x 5" x 0.3125"	SAR	5X5X0.31	36.0	6.31	Comp	6.31	L 16P	-6.099	W 45	96.704	0.000	0.000	0.500	0.500	0.500	52.01	52.01	8.616	1	0			
Diag #1	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	36.0	35.30	Comp	35.30	D 2X	-61.836	W 90	175.176	0.000	0.000	0.316	0.316	0.316	74.36	74.36	30.789	1	0			
Diag #2	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	36.0	72.23	Comp	72.23	D 4X	-47.610	W 90	65.915	0.000	0.000	0.320	0.320	0.320	107.64	107.64	20.613	1	0			
Diag #3	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	36.0	73.38	Comp	73.38	D 6X	-47.463	W 90	64.682	0.000	0.000	0.320	0.320	0.320	105.80	105.80	20.250	1	0			
Diag #4	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	36.0	79.57	Comp	79.57	D 7X	-31.036	W 90	39.005	0.000	0.000	0.300	0.300	0.300	144.72	135.20	30.271	6	0			
Diag #5	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	36.0	78.76	Comp	78.76	D 8X	-20.294	W 90	38.465	0.000	0.000	0.320										

Leg S9	L 6" x 6" x 0.75"	SAE	6X6X0.75	36.0	43.48	Comp	28.82	L 9XY	78.806	W 45	273.456	0.000	0.000	0.000	12.549	0	0.000	0
Leg S10	L 6" x 6" x 0.75"	SAE	6X6X0.75	36.0	47.22	Comp	28.86	L 10XY	62.209	W 45	208.332	0.000	0.000	0.000	12.549	0	0.000	0
Leg S11	L 6" x 6" x 0.5625"	SAE	6X6X0.56	36.0	37.48	Comp	21.89	L 11XY	45.612	W 45	208.332	0.000	0.000	0.000	12.549	0	0.000	0
Leg S12	L 6" x 6" x 0.4375"	SAE	6X6X0.44	36.0	34.77	Comp	17.75	L 12XY	29.103	W 45	163.944	0.000	0.000	0.000	12.549	0	0.000	0
Leg S13	L 5" x 5" x 0.4375"	SAE	5X5X0.44	36.0	33.09	Comp	16.56	L 13XY	22.434	W 45	135.432	0.000	0.000	0.000	10.207	0	0.000	0
Leg S14	L 5" x 5" x 0.4375"	SAE	5X5X0.44	36.0	22.40	Comp	8.01	L 14XY	10.842	W 45	135.432	0.000	0.000	0.000	10.207	0	0.000	0
Leg S15	L 5" x 5" x 0.3125"	SAE	5X5X0.31	36.0	14.94	Comp	3.28	L 15XY	3.224	W 45	98.172	0.000	0.000	0.000	8.616	0	0.000	0
Leg S16	L 5" x 5" x 0.3125"	SAE	5X5X0.31	36.0	6.31	Comp	0.00	L 16Y	0.000	W 45	98.172	0.000	0.000	0.000	8.616	0	0.000	0
Diag S1	B/B L5"x5"x0.3125"	DAE	5X5X0.31	36.0	35.30	Comp	27.83	D 2P	54.544	W -90	196.020	0.000	0.000	0.000	30.789	0	0.000	0
Diag S2	B/B L2.5"x3.5"x0.25"	DAS	3.5X2.5X0.25	36.0	72.23	Comp	43.37	D 4P	40.472	W -90	93.312	0.000	0.000	0.000	20.603	0	0.000	0
Diag S3	B/B L2.5"x3.5"x0.25"	DAS	3.5X2.5X0.25	36.0	73.38	Comp	42.76	D 6P	39.899	W -90	93.312	0.000	0.000	0.000	20.250	0	0.000	0
Diag S4	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	36.0	79.57	Comp	33.61	D 7P	28.642	W -90	85.212	0.000	0.000	0.000	30.271	0	0.000	0
Diag S5	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	36.0	76.43	Comp	33.74	D 9P	28.751	W -90	85.212	0.000	0.000	0.000	29.422	0	0.000	0
Diag S6	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	36.0	78.76	Comp	33.04	D 11P	28.157	W -90	85.212	0.000	0.000	0.000	28.633	0	0.000	0
Diag S7	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	36.0	103.82	Comp	33.20	D 13P	28.291	W -90	85.212	0.000	0.000	0.000	27.910	0	0.000	NG
Diag S8	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	36.0	69.91	Comp	21.52	D 15P	16.598	W -90	77.112	0.000	0.000	0.000	16.504	0	0.000	0
Diag S9	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	36.0	62.08	Comp	20.18	D 17P	15.564	W -90	77.112	0.000	0.000	0.000	16.006	0	0.000	0
Diag S10	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	36.0	93.69	Comp	21.90	D 19P	15.112	W -90	69.012	0.000	0.000	0.000	15.532	0	0.000	0
Diag S11	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	36.0	88.79	Comp	21.96	D 21P	15.156	W -90	69.012	0.000	0.000	0.000	15.083	0	0.000	0
Diag S12	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	36.0	82.58	Comp	21.54	D 23P	14.864	W -90	69.012	0.000	0.000	0.000	14.652	0	0.000	0
Diag S13	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	36.0	35.96	Comp	12.41	D 26X	6.796	W 90	54.756	0.000	0.000	0.000	16.556	0	0.000	0
Diag S14	L 3.5" x 3.5" x 0.25"	SAE	3.5X3.5X0.25	36.0	33.16	Comp	12.38	D 28X	6.779	W 90	54.756	0.000	0.000	0.000	15.574	0	0.000	0
Diag S15	L 3" x 3" x 0.25"	SAE	3X3X0.25	36.0	24.69	Comp	8.71	D 29Y	4.061	W 0	46.656	0.000	0.000	0.000	13.657	0	0.000	0
Diag S16	L 3" x 3" x 0.25"	SAE	3X3X0.25	36.0	13.62	Comp	4.75	D 31Y	2.218	W 0	46.656	0.000	0.000	0.000	12.841	0	0.000	0
Horiz 1	B/B L3.5"x2.5"x0.25"	DAL	3.5X2.5X0.25	36.0	64.64	Comp	42.58	H 1P	39.728	W 90	93.312	0.000	0.000	0.000	20.120	0	0.000	0
Horiz 2	B/B L3.5"x2.5"x0.25"	DAL	3.5X2.5X0.25	36.0	64.34	Comp	39.91	H 3X	37.237	W -90	93.312	0.000	0.000	0.000	12.372	0	0.000	0
Horiz 3	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	36.0	67.84	Comp	39.43	H 5X	33.578	W -90	85.212	0.000	0.000	0.000	11.331	0	0.000	0
Horiz 4	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	36.0	56.36	Comp	18.70	H 7X	15.939	W -90	85.212	0.000	0.000	0.000	15.434	0	0.000	0
Horiz 5	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	36.0	45.84	Comp	17.33	H 9P	14.767	W 90	85.212	0.000	0.000	0.000	13.872	0	0.000	0
Horiz 6	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	36.0	50.70	Comp	16.80	H 11X	12.957	W -90	77.112	0.000	0.000	0.000	12.310	0	0.000	0
Horiz 7	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	36.0	39.06	Comp	15.92	H 13P	12.277	W 90	77.112	0.000	0.000	0.000	10.748	0	0.000	0
Horiz 8	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	36.0	31.11	Comp	13.88	H 15X	10.705	W -90	77.112	0.000	0.000	0.000	9.967	0	0.000	0
Horiz 9	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	36.0	25.24	Comp	12.70	H 17P	9.791	W 90	77.112	0.000	0.000	0.000	9.186	0	0.000	0
Horiz 10	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	36.0	20.22	Comp	11.44	H 19X	8.822	W 90	77.112	0.000	0.000	0.000	8.405	0	0.000	0
Horiz 11	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	36.0	17.67	Comp	11.07	H 21P	8.538	W 90	77.112	0.000	0.000	0.000	7.624	0	0.000	0
Horiz 12	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	36.0	12.87	Comp	10.63	H 23P	8.198	W 90	77.112	0.000	0.000	0.000	6.843	0	0.000	0
Horiz 13	L 3" x 2.5" x 0.25"	SAU	3X2.5X0.25	36.0	9.11	Tens	9.11	H 25P	3.867	W 0	42.444	0.000	0.000	0.000	12.416	0	0.000	0
Horiz 14	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	36.0	2.74	Tens	2.74	H 27P	2.333	W 0	85.212	0.000	0.000	0.000	11.145	0	0.000	0
Horiz 15	L 3" x 2.5" x 0.25"	SAU	3X2.5X0.25	36.0	3.21	Tens	3.21	H 29P	1.362	W 0	42.444	0.000	0.000	0.000	10.073	0	0.000	0
Horiz 16	CBX11.5	CHN	CBX11.5	36.0	1.04	Comp	0.49	H 32X	0.540	W 0	109.512	0.000	0.000	0.000	9.000	0	0.000	0
LD 1	B/B L3.5"x3.5"x0.25"	DAE	3.5X3.5X0.25	36.0	42.83	Comp	26.48	LD 2Y	28.994	W -45	109.512	0.000	0.000	0.000	13.764	0	0.000	0
LD 2	B/B L4"x4"x0.3125"	DAE	4X4X0.31	36.0	60.50	Comp	33.57	LD 3P	52.208	W -90	155.520	0.000	0.000	0.000	13.764	0	0.000	0
LD 4	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	36.0	76.57	Comp	29.06	LD 8Y	20.054	W -45	69.012	0.000	0.000	0.000	11.004	0	0.000	0
LD 5	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	36.0	67.81	Comp	39.00	LD 9P	26.915	W -90	69.012	0.000	0.000	0.000	8.060	0	0.000	0
LD 6	B/B L3"x2"x0.25"	DAL	3X2X0.25	36.0	71.05	Comp	44.12	LD 11X	34.024	W -90	77.112	0.000	0.000	0.000	9.374	0	0.000	0
LD 7	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	36.0	72.66	Comp	30.15	LD 14Y	20.807	W -45	69.012	0.000	0.000	0.000	10.440	0	0.000	0
LD 8	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	36.0	65.76	Comp	38.43	LD 15P	26.523	W -90	69.012	0.000	0.000	0.000	7.922	0	0.000	0
LD 9	B/B L3"x3"x0.25"	DAE	3X3X0.25	36.0	48.63	Comp	35.34	LD 17X	32.973	W -90	93.312	0.000	0.000	0.000	9.039	0	0.000	0
LH 1	B/B L2.5"x2.5"x0.25"	DAE	2.5X2.5X0.25	36.0	22.32	Tens	22.32	LH 1Y	17.214	W 0	77.112	0.000	0.000	0.000	20.120	0	0.000	0
LH 2	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	36.0	78.01	Comp	25.35	LH 4Y	21.604	W -45	85.212	0.000	0.000	0.000	10.104	0	0.000	0
LH 3	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	36.0	69.36	Comp	25.45	LH 6Y	21.688	W -45	85.212	0.000	0.000	0.000	9.291	0	0.000	0
DUM 1	Dummy Bracing Member	DUM	0.1X0.1X1	36.0	0.00	0.00	0.00	BR 9X	0.913	W -45	0.324	0.000	0.000	0.000	19.618	0	0.000	0

*** Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
W 0	102.47	D 14P	Angle NG
W 45	180	D 14Y	Angle NG
W 45	78.81	L 1P	Angle
W -45	80.55	D 13X	Angle
W 90	103.04	D 13P	Angle NG
W -90	103.82	D 13X	Angle NG
W 0 Ice	28.87	L 1P	Angle
W 180 Ice	28.08	L 1Y	Angle
W 45 Ice	34.01	L 1P	Angle
W -45 Ice	33.22	L 1X	Angle
W 90 Ice	28.88	L 1P	Angle
W -90 Ice	28.12	L 1X	Angle

*** Weight of structure (lbs):
 Weight of Angles/Section MLP: 131305.8
 Weight of Equipment: 140.0
 Total: 131445.8

*** End of Report

Site #	BR011	Engineer	isp	Windspeed	No. Ice	Ice	Ice	Taper	-0.124974	Taper Change	287.5				
Name	East Killingly North, CT	Date	07/09/20	Carrier	Mobile	Carrier	Mobile	FW @ Base	44.93	FW @ Top	9				
Joint Label	Symmetry Code	X Coord. (ft)	Y Coord. (ft)	Z Coord. (ft)	X Disp. (in)	Y Disp. (in)	Z Disp. (in)	X Rot. (Deg)	Y Rot. (Deg)	Z Rot. (Deg)	Sub-Brace (Tr or Bnck)	Drop	Spreadsheet Version	Last Updated	11/12/2014
0	XY Symmetry	22.465	0	Free	Free	Free	Free	Free	Free	Free					
1	XY Symmetry	20.12173913	20.12173913	37.5	Free	Free	Free	Free	Free	Free					
2	XY Symmetry	18.55956212	18.55956212	62.5	Free	Free	Free	Free	Free	Free					
3	XY Symmetry	16.9973913	16.9973913	87.5	Free	Free	Free	Free	Free	Free					
4	XY Symmetry	15.43521739	15.43521739	112.5	Free	Free	Free	Free	Free	Free					
5	XY Symmetry	13.87304348	13.87304348	137.5	Free	Free	Free	Free	Free	Free					
6	XY Symmetry	12.31086957	12.31086957	162.5	Free	Free	Free	Free	Free	Free					
7	XY Symmetry	10.74869565	10.74869565	187.5	Free	Free	Free	Free	Free	Free					
8	XY Symmetry	9.186521739	9.186521739	212.5	Free	Free	Free	Free	Free	Free					
9	XY Symmetry	8.405434783	8.405434783	225	Free	Free	Free	Free	Free	Free					
10	XY Symmetry	7.624347826	7.624347826	237.5	Free	Free	Free	Free	Free	Free					
11	XY Symmetry	6.84326087	6.84326087	250	Free	Free	Free	Free	Free	Free					
12	XY Symmetry	6.207955983	6.207955983	262.5	Free	Free	Free	Free	Free	Free					
13	XY Symmetry	5.572651096	5.572651096	275	Free	Free	Free	Free	Free	Free					
14	XY Symmetry	5.03632548	5.03632548	287.5	Free	Free	Free	Free	Free	Free					
15	XY Symmetry	4.5	4.5	287.5	Free	Free	Free	Free	Free	Free					
16	XY Symmetry														

Drop

Sub-Brace (Tr or Bnck)

Spreadsheet Version Last Updated 11/12/2014

X Rot. Y Rot. Z Rot.

Drop

Use only for types 1 & 2

Sections 16

NOTES

Types:

1. Built up Horizont. w/ A

2. Built up Horizont. w/ M

A. Typical A brace

X. Typical X brace

H1	XY Symmetry	20.70755435	10.00086957	28.175	Free	Free	Free	Free	Free	Free					
H2	XY Symmetry	10.00086957	20.70755435	28.175	Free	Free	Free	Free	Free	Free					
H5	XY Symmetry	18.99884852	10.10510487	55.47	Free	Free	Free	Free	Free	Free					
H6	XY Symmetry	10.10510487	18.99884852	55.47	Free	Free	Free	Free	Free	Free					
H7	XY Symmetry	0	18.99884852	55.47	Free	Free	Free	Free	Free	Free					
H8	X Symmetry	0	18.99884852	55.47	Free	Free	Free	Free	Free	Free					
H9	XY Symmetry	17.43667461	9.291524696	80.47	Free	Free	Free	Free	Free	Free					
H10	XY Symmetry	9.291524696	17.43667461	80.47	Free	Free	Free	Free	Free	Free					
H11	Y Symmetry	17.43667461	0	80.47	Free	Free	Free	Free	Free	Free					
H12	X Symmetry	0	17.43667461	80.47	Free	Free	Free	Free	Free	Free					

Legs

Site No.:	88011
Engineer:	asp
Date:	07/09/2020
Carrier:	T-Mobile

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter or Length (in)	Thickness ^[2] (in)	F _y (ksi)
1	0.000-37.50	L	8	1.125	36
2	37.50-62.50	L	8	1.125	36
3	62.50-87.50	L	8	1	36
4	87.50-112.5	L	8	0.875	36
5	112.5-137.5	L	8	0.875	36
6	137.5-162.5	L	8	0.75	36
7	162.5-187.5	L	8	0.625	36
8	187.5-200.0	L	6	0.75	36
9	200.0-212.5	L	6	0.75	36
10	212.5-225.0	L	6	0.5625	36
11	225.0-237.5	L	6	0.5625	36
12	237.5-250.0	L	6	0.4375	36
13	250.0-260.2	L	5	0.4375	36
14	260.2-270.3	L	5	0.4375	36
15	270.3-278.9	L	5	0.3125	36
16	278.9-287.5	L	5	0.3125	36

Notes:

^[1] Type of Leg Shape: **R** = Round or **P** = Bent Plate or **S** = Schifferized Angle. **L** = Even Leg

^[2] For Solid Round Leg Shapes Thickness Equals Zero.

^[3] Adjust for Bent Plate Leg Shapes.

Diagonals

Site No.:	88011
Engineer:	asp
Date:	07/09/2020
Carrier:	T-Mobile

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2] (in)	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)	Is Diag. Tension Only? (Y/N)
1	0.000-37.50	2L		5	5	0.3125	36	
2	37.50-62.50	2L		2.5	3.5	0.25	36	
3	62.50-87.50	2L		2.5	3.5	0.25	36	
4	87.50-112.5	2L		2.5	3	0.25	36	
5	112.5-137.5	2L		2.5	3	0.25	36	
6	137.5-162.5	2L		2.5	3	0.25	36	
7	162.5-187.5	2L		2.5	3	0.25	36	
8	187.5-200.0	2L		2.5	2.5	0.25	36	
9	200.0-212.5	2L		2.5	2.5	0.25	36	
10	212.5-225.0	2L		2.5	2	0.25	36	
11	225.0-237.5	2L		2.5	2	0.25	36	
12	237.5-250.0	2L		2.5	2	0.25	36	
13	250.0-260.2	L		3.5	3.5	0.25	36	
14	260.2-270.3	L		3.5	3.5	0.25	36	
15	270.3-278.9	L		3	3	0.25	36	
16	278.9-287.5	L		3	3	0.25	36	

Notes:

^[1] Type of Diagonal Shape: R = Round, L = Single-Angle or 2L = Double-Angle.

^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Horizontals

Site No.:	88011
Engineer:	asp
Date:	07/09/2020
Carrier:	T-Mobile

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2] (in)	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)	B/B Spacing (in.)
1	0.000-37.50	2L		3.5	2.5	0.25	36	
2	37.50-62.50	2L		3.5	2.5	0.25	36	
3	62.50-87.50	2L		3	2.5	0.25	36	
4	87.50-112.5	2L		3	2.5	0.25	36	
5	112.5-137.5	2L		3	2.5	0.25	36	
6	137.5-162.5	2L		2.5	2.5	0.25	36	
7	162.5-187.5	2L		2.5	2.5	0.25	36	
8	187.5-200.0	2L		2.5	2.5	0.25	36	
9	200.0-212.5	2L		2.5	2.5	0.25	36	
10	212.5-225.0	2L		2.5	2.5	0.25	36	
11	225.0-237.5	2L		2.5	2.5	0.25	36	
12	237.5-250.0	2L		2.5	2.5	0.25	36	
13	250.0-260.2	L		3	2.5	0.25	36	
14	260.2-270.3	2L		3	2.5	0.25	36	
15	270.3-278.9	L		3	2.5	0.25	36	
16	278.9-287.5	C		8	11.5		36	

Notes:

^[1] Type of Horizontal Shape: **R** = Round, **L** = Single-Angle, **2L** = Double-Angle, **C** = Channel, **W** = W Shape

^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Built-up Diagonals

Site No.:	88011
Engineer:	asp
Date:	07/09/2020
Carrier:	T-Mobile

When inputting thickness values, include all decimal places.

Input diags. from left to center & from base section upward.

Tower Built-up Diag. #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2] (in)	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)
1	0.000-37.50	2L		3.5	3.5	0.25	36
2	0.000-37.50	2L		4	4	0.3125	36
3	37.50-62.50	2L		2.5	2	0.25	36
4	37.50-62.50	2L		2.5	2	0.25	36
5	37.50-62.50	2L		3	2	0.25	36
6	62.50-87.50	2L		2.5	2	0.25	36
7	62.50-87.50	2L		2.5	2	0.25	36
8	62.50-87.50	2L		3	3	0.25	36

Notes:

^[1] Type of Diagonal Shape: **R** = Round, **L** = Single-Angle or **2L** = Double-Angle.

^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Built-up Horizontals

Site No.:	88011
Engineer:	asp
Date:	07/09/2020
Carrier:	T-Mobile

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape ^[1]	Diameter ^[2] (in)	Web Length ^[3] (in)	Flange Length ^[3] (in)	Thickness (in)	F _y (ksi)	Is Horiz. Tension Only? (Y/N)
1	0.000-37.50	2L		2.5	2.5	0.25	36	Y
2	37.50-62.50	2L		2.5	3	0.25	36	
3	62.50-87.50	2L		2.5	3	0.25	36	

Notes:

^[1] Type of Horizontal Shape: **R** = Round, **L** = Single-Angle or **2L** = Double-Angle.

^[2] Applies to Pipes and Solid Round Shapes only. For Solid Round Shapes Thickness Equals Zero.

^[3] Applies to Single-Angle and Double-Angle Shapes only.

^[4] Applies to Double-Angle Shapes only.

^[5] Applies to Single-Angle Shapes only.

Site #:	88011
Name:	T-Mobile

Engineer:	asp
Date:	07/09/20

Section Label	Section Color	Joint Defining Bottom Section	Dead Load Adj. Factor					Adj. Factor Flat	Adj. Factor Round	Area Multiplier	Weight Multiplier
0.000-37.50		0P	1.312053644					1.260044703	1.260044703	1	1.2
37.50-62.50		1P	1.279925654					1.233271379	1.233271379	1	1.2
62.50-87.50		2P	1.276352939					1.230294116	1.230294116	1	1.2
87.50-112.5		3P	1.351935364					1.29327947	1.29327947	1	1.2
112.5-137.5		4P	1.335026537					1.279188781	1.279188781	1	1.2
137.5-162.5		5P	1.324327697					1.270273081	1.270273081	1	1.2
162.5-187.5		6P	1.305984815					1.254987346	1.254987346	1	1.2
187.5-200.0		7P	1.27052928					1.225441067	1.225441067	1	1.2
200.0-212.5		8P	1.263428697					1.219523914	1.219523914	1	1.2
212.5-225.0		9P	1.256190819					1.213492349	1.213492349	1	1.2
225.0-237.5		10P	1.248833195					1.207360996	1.207360996	1	1.2
237.5-250.0		11P	1.241377044					1.201147537	1.201147537	1	1.2
250.0-260.2		12P	1.244131446					1.203442871	1.203442871	1	1.2
260.2-270.3		13P	1.236089298					1.196741082	1.196741082	1	1.2
270.3-278.9		14P	1.257792847					1.214827373	1.214827373	1	1.2
278.9-287.5		15P	1.146102368					1.121751973	1.121751973	1	1.2

Site No.:	88011
Engineer:	asp
Date:	07/09/20
Carrier:	T-Mobile

Description	From (ft)	To (ft)	Quantity	Shape	Width or Diameter** (in)	Perimeter (in)	Unit Weight (lb/ft)	In Face Zone? (Yes/No)	Include in Wind Load (Yes/No)
1 Ladder	0	17	1	Flat	1.5	6.0	6	No	Yes
2 COAX CAGE	8.3333	33.3333	2	Round	12	37.7	50	Yes	Yes
3 COAX CAGE	8.3333	33.3333	2	Round	12	37.7	50	Yes	Yes
4 WG1	5	266	1	Flat	1.5	6.0	6	Yes	Yes
5 WG2	5	246	1	Flat	1.5	6.0	6	Yes	Yes
6 WG3	5	277	1	Flat	1.5	6.0	6	Yes	Yes
7 SN1	5	287.5	1	Flat	3.06	16.3	4	Yes	Yes
8 SN2	5	287.5	1	Flat	4.8375	25.8	4.92	Yes	Yes
9 TMO1	5	277	1	Flat	3.195	17.0	6.44	Yes	Yes
10 TMO2	5	277	1	Round	0.63	2.0	0.15	No	No
11 VZW1	5	266	1	Round	1.54	4.8	1	Yes	Yes
12 VZW2	5	266	6	Round	1.98	6.2	0.82	Yes	Yes
13 ATT1	5	246	1	Round	0.39	1.2	0.17	Yes	Yes
14 ATT2	5	246	2	Round	0.78	2.5	0.59	Yes	Yes
15 ATT3	5	246	1	Round	3.5	11.0	7.58	Yes	Yes
16 ATT4	5	246	1	Flat	9.39	50.1	43.8	Yes	Yes
17 SIGFOX	5	287.5	1	Round	1.09	3.4	0.33	Yes	Yes
18 TMO3	5	277	4	Round	1.54	4.8	1	Yes	Yes

**Note: Actual block width multiplied by 0.75 (1.5 block drag factor actual divided by 2.0 flat

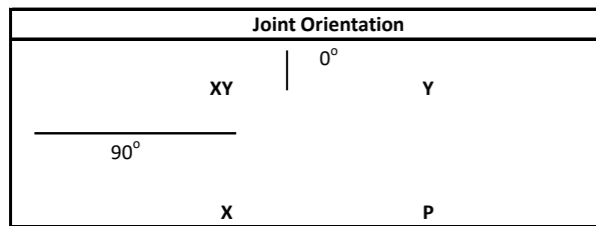
Dishes

Dish Types	
S	Standard
R	Standard w/ Radome
H	High Performance
G	Grid

Dish Number	Dish Elevation (ft)	Dish Dia. (ft)	Dish Angle (deg)	Dish Type	Joint Orientation	Equipment Staus
1	277	2	45	H	XY	Proposed
2						
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Site No.:	88011
Engineer:	asp
Date:	07/09/20
Carrier:	T-Mobile

Equipment Label	Attach Label	Equipment Property Set	EIA Antenna Orientation Angle (deg)
2' HP 1 @ 277'	15XY	2 ft HP Dish	45



No.	Elevation (ft)	C _v A _c (ft ²)	C _v A _c (Ice) (ft ²)	Force (lb)	Force (Ice) (lb)	Weight (lb)	Weight (Ice) (lb)	60 Azi Mult.	Force mean	F (Ice) mean	Height Flag	Sum of Forces (No I	
												60 Azi.	180 Azi.
1	287.5	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00			
	287.5	80.00	108.00	2831.461	642.044	10800	14040	1.00	1557.30	353.12	1.5034783	2831.461175	
2	270	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5034793		
	270	70.00	94.50	2433.470	551.798	9600	12480	1.00	1338.41	303.49	1.5037037	2433.470402	
3	237.5	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5037047		
	237.5	15.00	20.25	502.695	113.988	600	780	1.00	276.48	62.69	1.5042105	502.6954551	
4	200	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5042115		
	200	45.00	60.75	1435.828	325.579	6000	7800	1.00	789.71	179.07	1.5050000	1435.827684	
5	187.5	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5050010		
	187.5	15.00	20.25	469.865	106.544	600	780	1.00	258.43	58.60	1.5053333	469.864746	
6	137.5	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5053343		
	137.5	15.00	20.25	430.019	97.508	600	780	1.00	236.51	53.63	1.5072727	430.0189102	
7	87.5	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5072737		
	87.5	45.00	60.75	1133.769	257.086	6000	7800	1.00	623.57	141.40	1.5114286	1133.769121	
8	37.5	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5114296		
	37.5	15.00	20.25	296.666	67.270	600	780	1.00	163.17	37.00	1.5266667	296.6655693	
9					#VALUE!			1.00	#VALUE!	#VALUE!	1.5266677		
					#VALUE!			1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!	
10	287.5	4.08	6.20	144.475	36.828	381	499	1.00	79.46	20.26	#DIV/0!		
	287.5	2.78	3.76	17.875	78.828	216	281	1.00	43.36	9.83	#DIV/0!	223.3031856	
11	287.5	4.85	6.75	171.820	40.148	252	386	1.00	94.50	22.08	#DIV/0!		
	287.5	10.09	13.62	285.697	64.783	202	263	1.00	157.13	35.63	#DIV/0!	680.8200261	
12	287.5	18.85	23.87	667.107	141.900	279	578	1.00	366.91	78.05	#DIV/0!		
	287.5	24.30	32.81	645.042	146.266	1080	1404	1.00	354.77	80.45	1.5034783	1992.969629	
13	277	1.14	1.77	40.038	10.408	113	154	1.00	22.02	5.72	1.5034793		
	277	2.64	3.56	73.960	16.771	288	374	1.00	40.68	9.22	1.5034793	113.998594	
14	277	4.47	6.41	156.372	37.724	243	351	1.00	86.00	20.75	1.5034803		
	277	4.46	6.03	125.060	28.358	243	316	1.00	68.78	15.60	1.5036101	395.4301424	
15	277	16.25	21.19	569.012	124.629	635	905	1.00	312.96	68.55	1.5036111		
	277	0.48	0.65	13.447	3.049	350	456	1.00	7.40	1.68	1.5036101	977.889096	
16	277	2.64	4.02	92.450	23.643	221	300	1.00	50.85	13.00	1.5036111		
	277	35.98	48.57	944.962	214.274	1920	2496	1.00	519.73	117.85	1.5036101	2015.301398	
17	246	1.33	2.42	44.907	13.735	115	153	1.00	24.70	7.55	1.5036111		
	246	1.06	1.43	28.598	6.485	72	94	1.00	15.73	3.57	1.5040650	73.504989	
18	246	0.84	1.25	28.509	7.081	24	73	1.00	15.68	3.89	1.5040660		
	246	4.55	6.14	123.165	27.928	216	281	1.00	67.74	15.36	1.5040650	225.1785653	
19	246	17.20	22.85	582.380	129.943	295	466	1.00	320.31	71.47	1.5040660		
	246	6.15	8.31	166.621	37.782	72	94	1.00	91.64	20.78	1.5040650	974.1790347	
20	246	12.31	14.34	416.592	81.535	143	379	1.00	229.13	44.84	1.5040660		
	246	26.98	36.43	685.092	155.347	1440	1872	1.00	376.80	85.44	1.5040650	2075.862778	
21	210	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5040660		
	210	5.63	7.60	182.160	41.305	48	62	1.00	100.19	22.72	1.5047619	182.1596944	
22	210	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5047629		
	210	6.30	8.51	203.838	46.221	180	234	1.00	112.11	25.42	1.5047619	385.9973631	
23	50	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5047629		
	50	0.09	0.12	1.932	0.438			1.00	1.06	0.24	1.5200000	1.932480756	
24	50	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5200010		
	50	2.50	3.38	53.680	12.172	96	125	1.00	29.52	6.69	1.5200000	55.61250175	
25	290	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5200010		
	290	0.13	0.18	4.613	1.046	2	2	1.00	2.54	0.58	1.5034483	4.612520449	
26	290	0.14	0.37	5.015	2.199	2	6	1.00	2.76	1.21	1.5034493		
	290	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5034483	9.627158069	
27	290	0.17	0.41	5.913	2.433	2	7	1.00	3.25	1.34	1.5034493		
	290	6.30	8.51	223.530	50.686	180	234	1.00	122.94	27.88	1.5034483	239.070483	
28	266	2.25	3.37	77.886	19.604	304	408	1.00	42.84	10.78	1.5034493		
	266	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5037594	77.88584034	
29	266	2.25	3.37	77.886	19.604	253	345	1.00	42.84	10.78	1.5037604		
	266	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5037594	155.7716807	
30	266	4.05	5.70	140.309	33.143	77	179	1.00	77.17	18.23	1.5037604		
	266	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5037594	296.0811643	
31	266	22.11	29.74	765.340	172.910	144	325	1.00	420.94	95.10	1.5037604		
	266	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5037594	1061.420893	
32	266	10.06	12.55	348.275	72.966	145	362	1.00	191.55	40.13	1.5037604		
	266	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5037594	1409.695909	
33	266	22.98	29.01	795.557	168.661	402	705	1.00	437.56	92.76	1.5037604		
	266	26.98	36.43	700.564	158.855	1440	1872	1.00	385.31	87.37	1.5037594	2905.816699	
34	266	0.72	1.20	24.813	7.003	75	105	1.00	13.65	3.85	1.5037604		
	266	0.00	0.00	0.000	0.000	0	0	1.00	0.00	0.00	1.5037594	2930.629398	
35	277	11.46	15.55	401.152	91.453	499	717	1.00	220.63	50.30	1.5037604		
	277	40.80	55.09	1143.129	259.208	614	798	1.00	628.72	142.56	1.5036101	1544.280097	
36					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036111		
					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036111	#VALUE!	
37					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036121	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036121	#VALUE!	
38					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036131	#VALUE!	
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39					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036141	#VALUE!	
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40					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036151	#VALUE!	
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41					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036161	#VALUE!	
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42					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036171	#VALUE!	
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43					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036181	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036181	#VALUE!	
44					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036191	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036191	#VALUE!	
45					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036201	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036201	#VALUE!	
46					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036211	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036211	#VALUE!	
47					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036221	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036221	#VALUE!	
48					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036231	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036231	#VALUE!	
49					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036241	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036241	#VALUE!	
50					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036251	#VALUE!	
					#VALUE!			1.00	#VALUE!	#VALUE!	1.5036251	#VALUE!	

Foundation

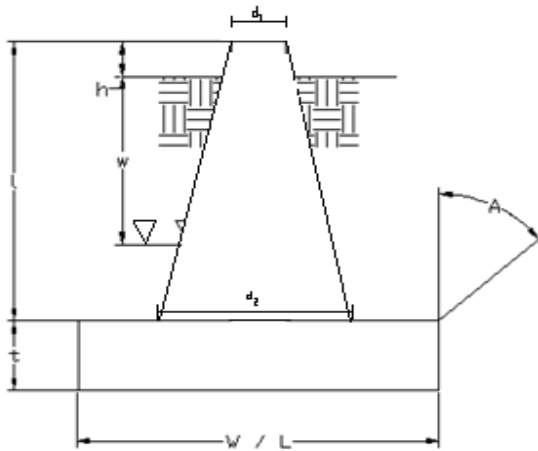
Design Loads (Factored)

Compression/Leg:	422.04	k
Uplift/Leg:	299.27	k
Shear/Leg:	57.50	k

Face Width @ Top of Pier (d_1):	3.50	ft
Face Width @ Bottom of Pier (d_2):	7.50	ft
Total Length of Pier (l):	8.50	ft
Height of Pedestal Above Ground (h):	0.50	ft
Width of Pad (W):	14.75	ft
Length of Pad (L):	14.75	ft
Thickness of Pad (t):	3.25	ft
Water Table Depth (w):	99.00	ft
Unit Weight of Concrete:	150.0	pcf
Unit Weight of Soil (Above Water Table):	120.0	pcf
Unit Weight of Soil (Below Water Table):	57.6	pcf
Friction Angle of Uplift (A):	30	°
Ultimate Compressive Bearing Pressure:	30000	psf
Ultimate Skin Friction:	1007	psf

Volume Pier (Total):	268.46	ft ³
Volume Pad (Total):	707.08	ft ³
Volume Soil (Total):	2747.35	ft ³
Volume Pier (Buoyant):	0.00	ft ³
Volume Pad (Buoyant):	0.00	ft ³
Volume Soil (Buoyant):	0.00	ft ³
Weight Pier:	40.27	k
Weight Pad:	106.06	k
Weight Soil:	329.68	k
Uplift Skin Friction:	144.82	k

Site No.:	88011
Engineer:	asp
Date:	07/09/20
Carrier:	T-Mobile



Uplift Check

ϕ s Uplift Resistance (k)	Ratio	Result
465.62	0.64	OK

Axial Check

ϕ s Axial Resistance (k)	Ratio	Result
4895.16	0.09	OK

Anchor Bolt Check

Bolt Diameter (in)	2.25
# of Bolts	6
Steel Grade	A36
Steel Fy	36
Steel Fu	58
Detail Type	C

Usage Ratio	Result
0.45	OK

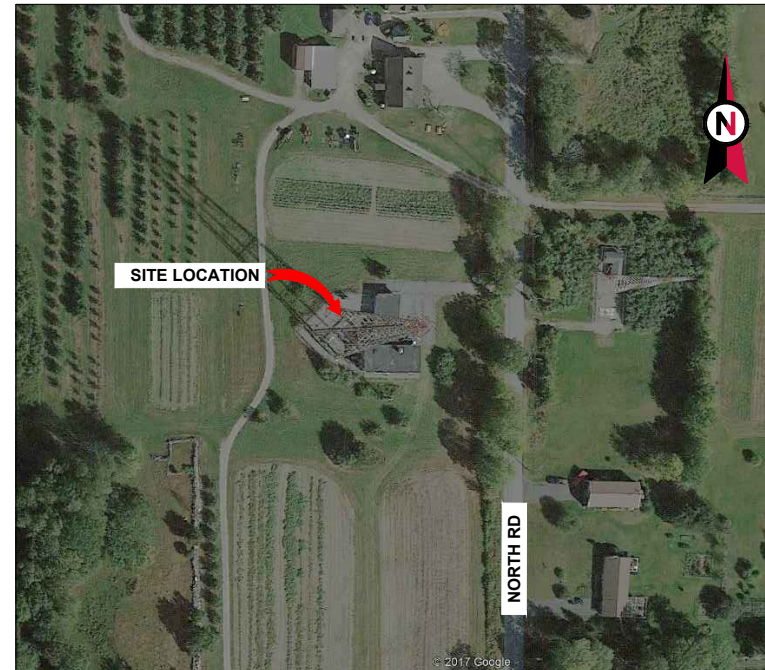


VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: EAST KILLINGLY NORTH
 ATC SITE NUMBER: 88011
 T-MOBILE SITE ID: CTNL194
 SITE ADDRESS: 1375 NORTH ROAD
 DAYVILLE, CT 06241



LOCATION MAP

**T-MOBILE L700 NSD COLLOCATION PLAN
 4 SEC-6797DB2 CONFIGURATION**



AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
1	ADD SAFETY CANOPY	AMM	03/07/18
2	REV GEN MODEL/TYPE	AMM	05/31/18
3	REV PER 2C	AMM	08/20/18
4	REV LAT/LONG TO DMS	AMM	08/27/18
5	REV LAT/LONG PER 2C	AMM	08/29/18

ATC SITE NUMBER:
88011
 ATC SITE NAME:
EAST KILLINGLY NORTH
 SITE ADDRESS:
 1375 NORTH ROAD
 DAYVILLE, CT 06241

SEAL:



DRAWN BY:	AMM
APPROVED BY:	PPB
DATE DRAWN:	02/26/18
ATC JOB NO:	12203191

TITLE SHEET

SHEET NUMBER: G-001	REVISION: 5
-------------------------------	-----------------------

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES. 1. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 1375 NORTH ROAD DAYVILLE, CT 06241 COUNTY: WINDHAM <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: N 41° 52' 17.530" LONGITUDE: W 71° 49' 18.087" GROUND ELEVATION: 740.22' AMSL	THE PROPOSED PROJECT INCLUDES PLACING A EQUIPMENT CABINET, GENERATOR ON A PROPOSED CONCRETE PAD COVERED BY A SAFETY CANOPY, INSIDE A 10' X 15' GROUND SPACE WITHIN THE EXISTING COMPOUND, AND PLACING NEW ANTENNAS AND A DISH ON A PROPOSED CUSTOM FRAME MOUNTED TO THE EXISTING TOWER CATWALK.	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
		PROJECT NOTES 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED.	G-001	TITLE SHEET	5	08/29/18	AMM
UTILITY COMPANIES POWER COMPANY: CT LIGHT & POWER PHONE: (800) 286-2000 TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 921-8102	PROJECT TEAM <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801 <u>ENGINEER:</u> ATC TOWER SERVICES, LLC 3500 REGENCY PKWY STE 100 CARY, NC 27518 <u>PROPERTY OWNER:</u> SARGENT AND GREENLEAF INC 1 SECURITY DRIVE NICHOLASVILLE, KY 40356	PROJECT LOCATION DIRECTIONS FROM WORCESTER, MA: TAKE ROUTE 395 TO EXIT 97. AT END OF THE RAMP, TAKE A LEFT ONTO 44 EAST. AFTER YOU CROSS FIVE MILE RIVER, GO ABOUT ANOTHER .5 MILES AND TAKE A RIGHT ONTO EAST PUTNUM ROAD. AT THE 3RD STOP SIGN, TAKE A LEFT. LOOK FOR NORTH ROAD ON YOUR RIGHT. TAKE NORTH ROAD. TOWER IS ON THE RIGHT.	G-002	GENERAL NOTES	0	02/26/18	AMM
			C-101	DETAILED SITE PLAN & TOWER ELEVATION	4	08/27/18	AMM
			C-501	ANTENNA INFORMATION & SCHEDULE	1	03/07/18	AMM
			C-502	ANTENNA MOUNTING DETAILS	1	03/07/18	AMM
			C-503	ANTENNA MOUNTING DETAILS	0	02/26/18	AMM
			C-504	CONSTRUCTION DETAILS	2	05/31/18	AMM
			C-505	CONSTRUCTION DETAILS	1	03/07/18	AMM
			C-506	CONSTRUCTION DETAILS	1	03/07/18	AMM
			E-101	GROUNDING PLAN AND SCHEMATIC	2	05/31/18	AMM
			E-501	GROUNDING DETAILS	0	02/26/18	AMM
			R-601	SUPPLEMENTAL			
			R-602	SUPPLEMENTAL			



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GENERAL CONSTRUCTION NOTES:

1. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC MASTER SPECIFICATIONS.
2. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
4. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
5. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
6. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
7. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
9. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
10. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE WIRELESS REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE WIRELESS REP PRIOR TO PROCEEDING.
11. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE WIRELESS REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
12. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE WIRELESS CONSTRUCTION MANAGER.
13. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
14. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE WIRELESS REP IMMEDIATELY.
15. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
16. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
17. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH LANDLORD AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
18. CONTRACTOR SHALL FURNISH T-MOBILE WIRELESS WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
19. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE WIRELESS REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
20. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE WIRELESS REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE WIRELESS MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
21. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE WIRELESS SPECIFICATIONS AND REQUIREMENTS.
22. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE WIRELESS FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
23. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE WIRELESS SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
24. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
25. CONTRACTOR SHALL NOTIFY T-MOBILE WIRELESS REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
26. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.

27. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
28. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE WIRELESS REP. ANY WORK FOUND BY THE T-MOBILE WIRELESS REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
29. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.

CONCRETE AND REINFORCING STEEL NOTES:

1. DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS OF ALL APPLICABLE CODES INCLUDING: ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", ACI 117 "SPECIFICATIONS FOR TOLERANCES FOR STRUCTURAL CONSTRUCTION AND MATERIALS", AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
2. MIX DESIGN SHALL BE APPROVED BY T-MOBILE WIRELESS REP PRIOR TO PLACING CONCRETE.
3. CONCRETE SHALL BE NORMAL WEIGHT, 6 % AIR ENTRAINED (+/- 1.5%) WITH A SLUMP RANGE OF 3-6" AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE NOTED.
4. THE FOLLOWING MATERIALS SHALL BE USED:
 PORTLAND CEMENT: ASTM C150, TYPE 2
 REINFORCEMENT: ASTM A185, PLAIN STEEL WELDED WIRE FABRIC
 REINFORCEMENT BARS: ASTM A615, GRADE 60, DEFORMED
 NORMAL WEIGHT AGGREGATE: ASTM C33
 WATER: ASTM C 94/C 94M
 ADMIXTURES:
 -WATER-REDUCING AGENT: ASTM C 494/C 494M, TYPE A
 -AIR-ENTERING AGENT: ASTM C 260/C 260M
 -SUPERPLASTICIZER: ASTM C494, TYPE F OR TYPE G
 -RETARDING: ASTM C 494/C 494M, TYPE B
5. MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE NO LESS THAN 3".
6. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE IN ACCORDANCE WITH ACI 301 SECTION 4.2.4, UNLESS NOTED OTHERWISE.
7. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL, OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR T-MOBILE WIRELESS REP APPROVAL WHEN DRILLING HOLES IN CONCRETE.
8. ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN "METHOD 1" OF ACI 301.
9. DO NOT WELD OR TACK WELD REINFORCING STEEL.
10. ALL DOWELS, ANCHOR BOLTS, EMBEDDED STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES, GROUNDS AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAILS SHALL BE IN PLACE BEFORE START OF CONCRETE PLACEMENT.
11. REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQUIRED.
12. DO NOT PLACE CONCRETE IN WATER, ICE, OR ON FROZEN GROUND.
13. DO NOT ALLOW REINFORCEMENT, CONCRETE OR SUBBASE TO FREEZE DURING CONCRETE CURING AND SETTING PERIOD, OR FOR A MINIMUM OF 3 DAYS AFTER PLACEMENT.
14. FOR COLD-WEATHER(ACI 306) AND HOT-WEATHER(ACI 301M) CONCRETE PLACEMENT, CONFORM TO APPLICABLE ACI CODES AND RECOMMENDATIONS. IN EITHER CASE, MATERIALS CONTAINING CHLORIDE, CALCIUM, SALTS, ETC. SHALL NOT BE USED. PROTECT FRESH CONCRETE FROM WEATHER FOR 7 DAYS, MINIMUM.
15. ALL CONCRETE SHALL HAVE A "SMOOTH FORM FINISH."
16. UNLESS OTHERWISE NOTED:
 A. ALL REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615/A 615M/A-996, GRADE 60.
 B. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.
17. SPLICING OF REINFORCEMENT IS PERMITTED ONLY AT LOCATIONS SHOWN IN THE CONTRACT DRAWINGS OR AS ACCEPTED BY THE ENGINEER. UNLESS OTHERWISE SHOWN OR NOTED REINFORCING STEEL SHALL BE SPLICED TO DEVELOP ITS FULL TENSILE CAPACITY (CLASS A) IN ACCORDANCE WITH ACI 318.

18. REINFORCING BAR DEVELOPMENT LENGTHS, AS COMPUTED IN ACCORDANCE WITH ACI 318, FORM THE BASIS FOR BAR EMBEDMENT LENGTHS AND BAR SPLICED LENGTHS SHOWN IN THE DRAWINGS. APPLY APPROPRIATE MODIFICATION FACTORS FOR TOP STEEL, BAR SPACING, COVER AND THE LIKE.
19. DETAILING OF REINFORCING STEEL SHALL CONFORM TO "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).
20. ALL SLAB CONSTRUCTION SHALL BE CAST MONOLITHICALLY WITHOUT HORIZONTAL CONSTRUCTION JOINTS, UNLESS SHOWN IN THE CONTRACT DRAWINGS.
21. LOCATION OF ALL CONSTRUCTION JOINTS ARE SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, CONFORMANCE WITH ACI 318, AND ACCEPTANCE OF THE ENGINEER. DRAWINGS SHOWING LOCATION OF DETAILS OF THE PROPOSED CONSTRUCTION JOINTS SHALL BE SUBMITTED WITH REINFORCING STEEL PLACEMENT DRAWINGS.
22. SPLICES OF WWF, AT ALL SPLICED EDGES, SHALL BE SUCH THAT THE OVERLAP MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET IS NOT LESS THAN THE SPACING OF THE CROSS WIRE PLUS 2 INCHES, NOR LESS THAN 6".
23. BAR SUPPORTS SHALL BE ALL-GALVANIZED METAL WITH PLASTIC TIPS.
24. ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE TO PREVENT DISPLACEMENT BY CONSTRUCTION TRAFFIC OR CONCRETE. TIE WIRE SHALL BE OF SUFFICIENT STRENGTH FOR INTENDED PURPOSE, BUT NOT LESS THAN NO. 18 GAUGE.
25. SLAB ON GROUND:
 A. COMPACT STRUCTURAL FILL TO 95% DENSITY AND THEN PLACE 6" GRAVEL BENEATH SLAB.
 B. PROVIDE VAPOR BARRIER BENEATH SLAB ON GROUND.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
 A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
 B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
 C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
 D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
 E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
 A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
 B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
 C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
 D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
 E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
 F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
 G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.



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EAST KILLINGLY NORTH

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 DAYVILLE, CT 06241

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DRAWN BY:	AMM
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GENERAL NOTES

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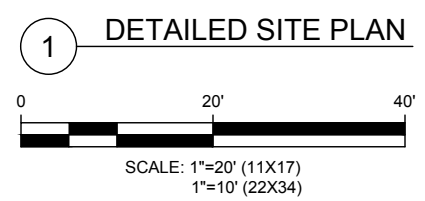
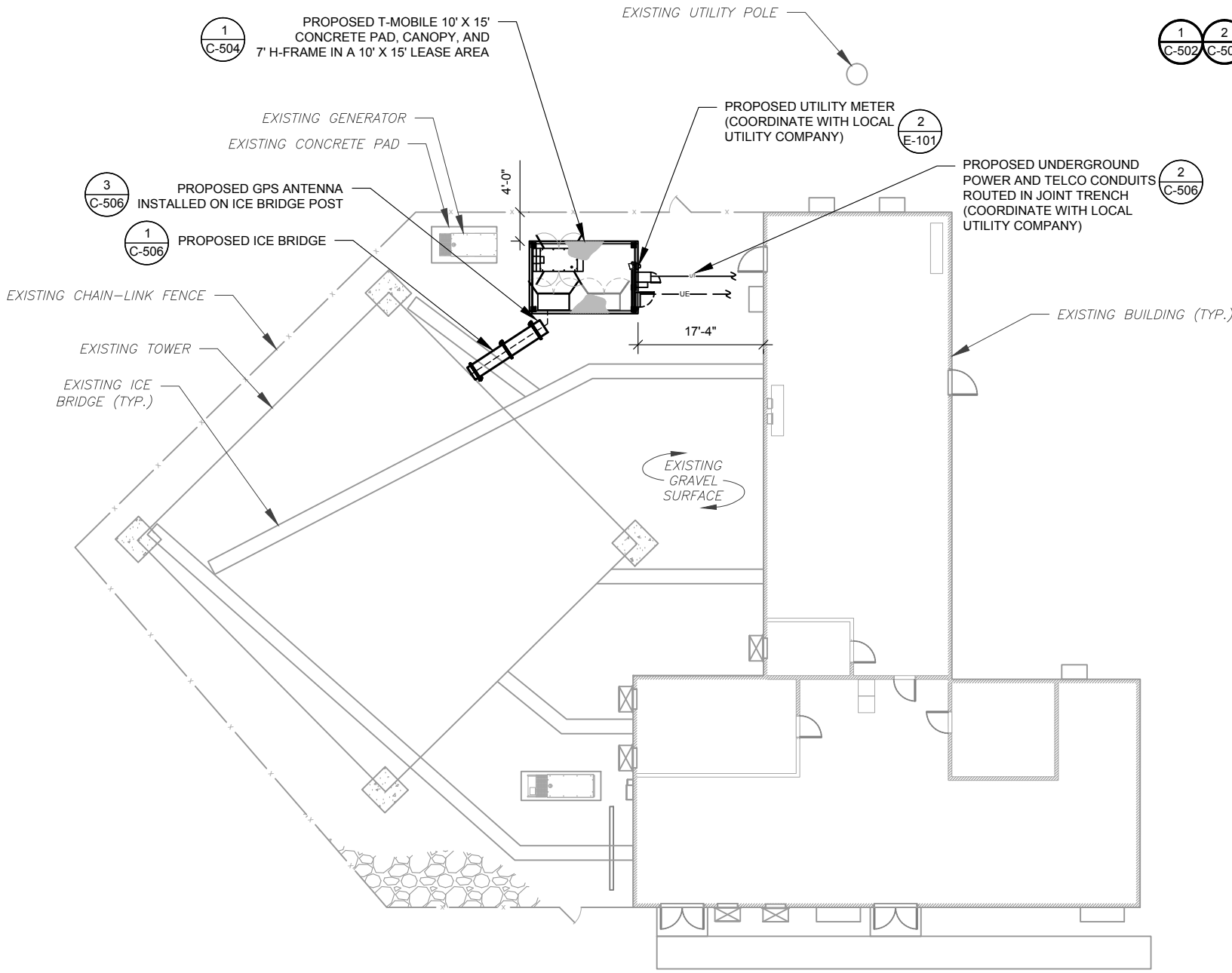
G-002

REVISION:

0

SITE PLAN NOTES:

- THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
- ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.



TOP OF EXISTING HIGHEST APPURTENANCE ELEV. 304.06' A.G.L.

TOP OF EXISTING TOWER ELEV. 288.56' A.G.L.

PROPOSED TMOBILE ANTENNAS (SEE TOWER NOTE 2)

PROPOSED UNDERGROUND POWER AND TELCO CONDUITS ROUTED IN JOINT TRENCH (COORDINATE WITH LOCAL UTILITY COMPANY)

EXISTING CARRIER ANTENNAS RAD CENTER @ 290' A.G.L.

PROPOSED ANTENNA RAD CENTER @ 277' A.G.L.

EXISTING CARRIER ANTENNAS RAD CENTER @ 266' A.G.L.

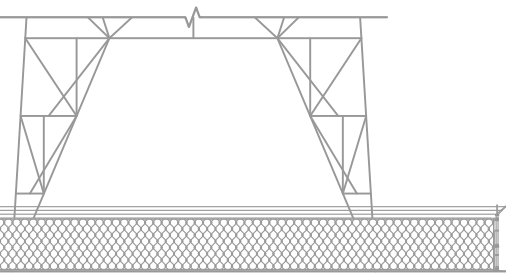
EXISTING CARRIER ANTENNAS RAD CENTER @ 246' A.G.L.

EXISTING CARRIER ANTENNAS RAD CENTER @ 210' A.G.L.

EXISTING TOWER

TOWER NOTE:

- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE AMERICAN TOWER CONSTRUCTION MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
- THE PROPOSED PROJECT INCLUDES INSTALLING TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:
 - INSTALL (12) PANELS, (12) RRU'S, (1) MICROWAVE DISH, (8) DIPLEXER, (1) 1/2" COAX, (4) 1-5/8" HYBRID CABLES ON A PROPOSED CUSTOM MOUNTING FRAME



2 TOWER ELEVATION
SCALE: NOT TO SCALE

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88011
 ATC SITE NAME:
EAST KILLINGLY NORTH
 SITE ADDRESS:
 1375 NORTH ROAD
 DAYVILLE, CT 06241

SEAL:



DRAWN BY:	AMM
APPROVED BY:	PPB
DATE DRAWN:	02/26/18
ATC JOB NO:	12203191

DETAILED SITE PLAN & TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-101	4

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AMM	02/26/18
1	ADD SAFETY CANOPY	AMM	03/07/18

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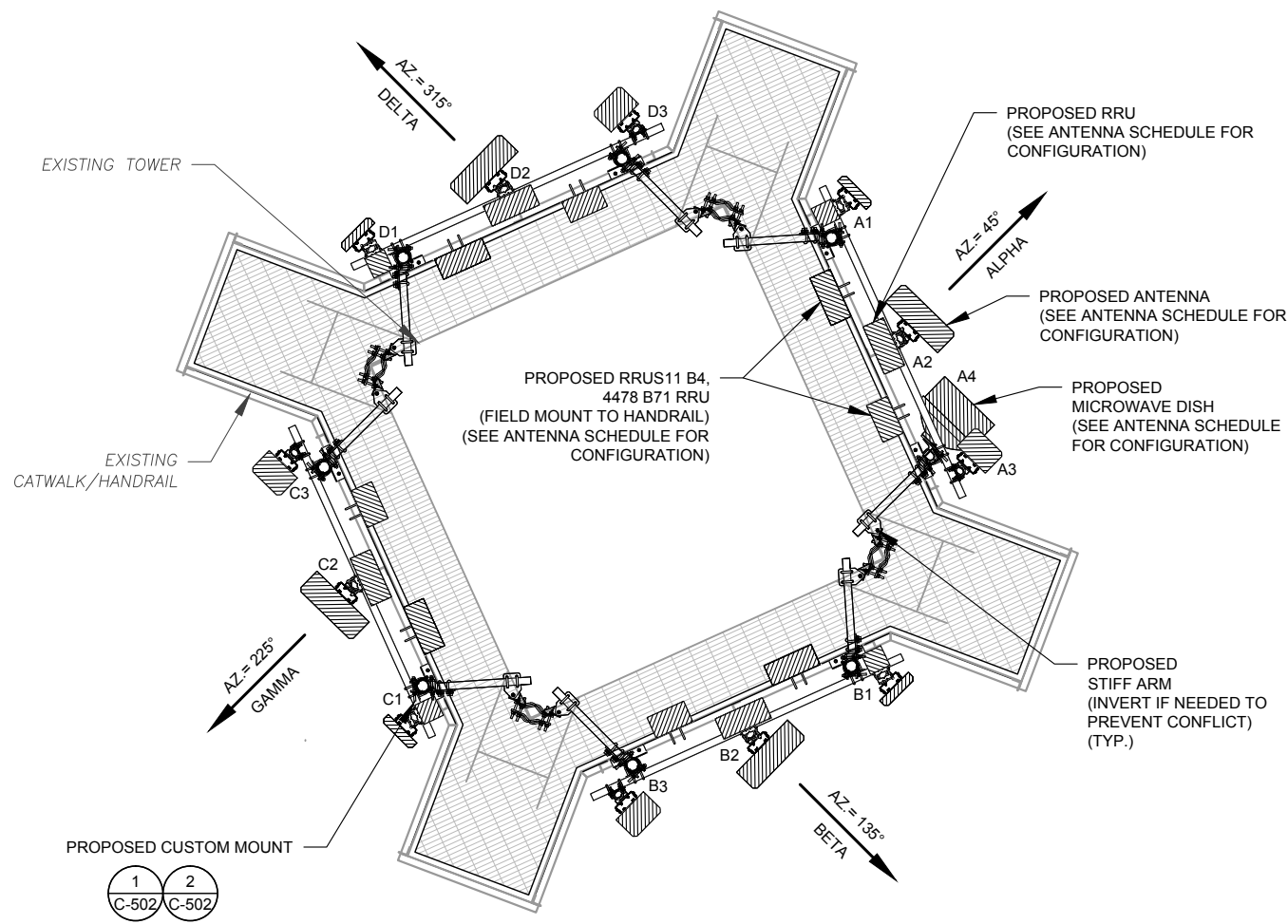
ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-501	1

FINAL ANTENNA/ COAX SCHEDULE								
SECTOR	ANT.	PANEL MODEL #	RAD CENTER	AZIMUTH (TN)	MECH. D-TILT	ELEC. D-TILT	ADDITIONAL TOWER MOUNTED EQUIPMENT	ANTENNA COAX DESCRIPTION
ALPHA	A1	AIR 32 B66Aa/B2a	277'-0"	45°	0°	2°	(2) CBC6AE7LQ-DS-43	1-5/8" HYB
ALPHA	A2	APXVAA24_43-U-A20	277'-0"	45°	0°	2°	RRUS11 B12	-
ALPHA	A3	APX16DWV-16DWVS-E-A20	277'-0"	45°	0°	2°	RRUS11 B4, 4478 B71	-
ALPHA	A4	SHP2-13	277'-0"	45°	0°	2°	-	1/2"
BETA	B1	AIR 32 B66Aa/B2a	277'-0"	135°	0°	2°	(2) CBC6AE7LQ-DS-43	1-5/8" HYB
BETA	B2	APXVAA24_43-U-A20	277'-0"	135°	0°	2°	RRUS11 B12	-
BETA	B3	APX16DWV-16DWVS-E-A20	277'-0"	135°	0°	2°	RRUS11 B4, 4478 B71	-
GAMMA	C1	AIR 32 B66Aa/B2a	277'-0"	225°	0°	2°	(2) CBC6AE7LQ-DS-43	1-5/8" HYB
GAMMA	C2	APXVAA24_43-U-A20	277'-0"	225°	0°	2°	RRUS11 B12	-
GAMMA	C3	APX16DWV-16DWVS-E-A20	277'-0"	225°	0°	2°	RRUS11 B4, 4478 B71	-
DELTA	D1	AIR 32 B66Aa/B2a	277'-0"	315°	0°	2°	(2) CBC6AE7LQ-DS-43	1-5/8" HYB
DELTA	D2	APXVAA24_43-U-A20	277'-0"	315°	0°	2°	RRUS11 B12	-
DELTA	D3	APX16DWV-16DWVS-E-A20	277'-0"	315°	0°	2°	RRUS11 B4, 4478 B71	-

1. BASED ON APPROVED ATC APPLICATION OAA720744, DATED 01/22/18. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS.
 2. PROPOSED (4) 4478 B71 RADIOS AT PROPOSED RAD CENTER.
 3. PER STRUCTURAL ANALYSIS COAX TO BE TRIPLE STACKED ON TOWER FACE WITH LEAST AMOUNT OF EXISTING COAX.

1 ANTENNA SCHEDULE



- NOTES:**
- ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH THE ATC CM.
 - SPACING OF PROPOSED EQUIPMENT SHALL BE CONFIRMED FOR TOWER CONFLICTS AND PROPOSED MOUNTS SHALL NOT IMPEDE TOWER CLIMBING PEGS.

2 PROPOSED ANTENNA PLAN



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1	ADD SAFETY CANOPY	AMM	03/07/18

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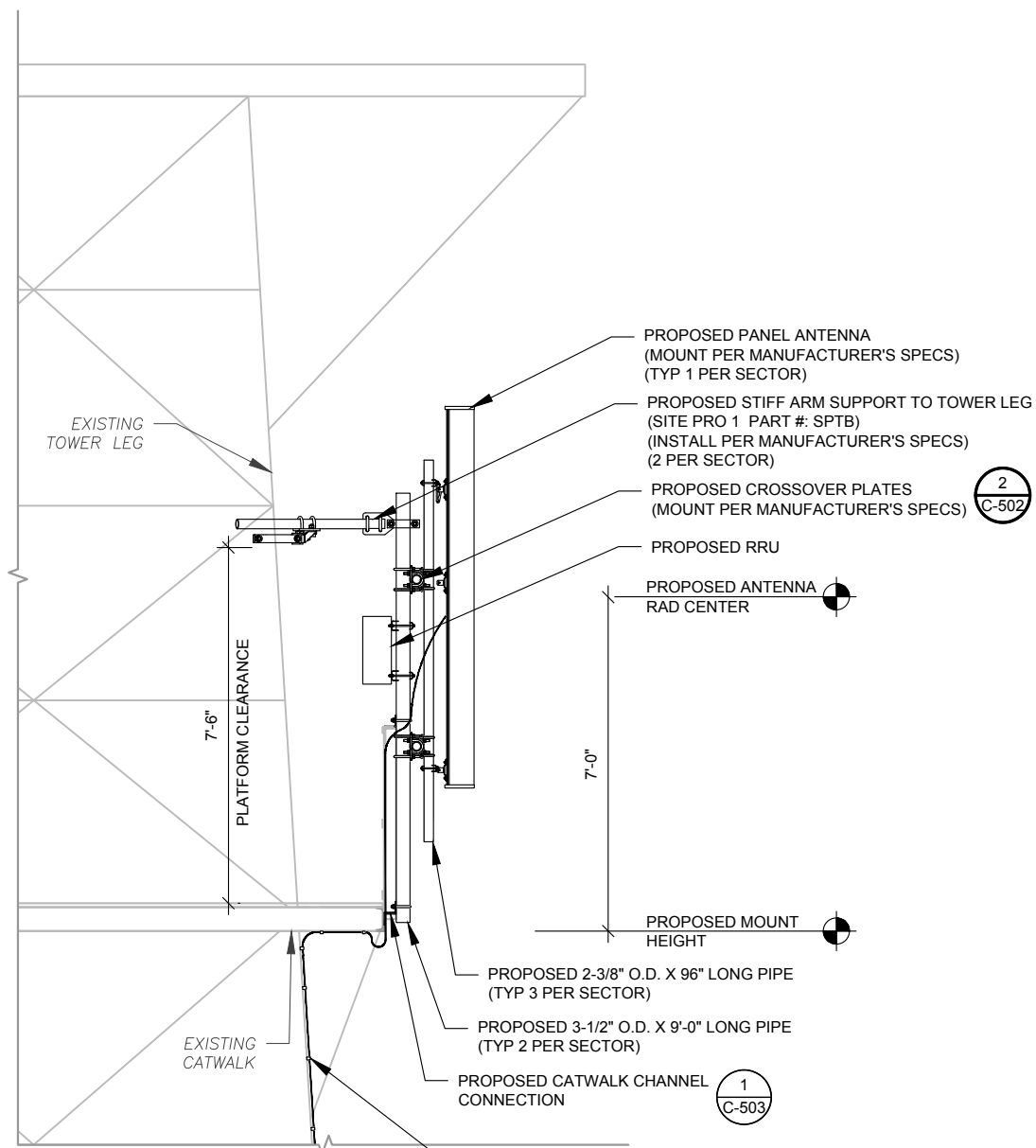
SEAL:



DRAWN BY:	AMM
APPROVED BY:	PPB
DATE DRAWN:	02/26/18
ATC JOB NO:	12203191

ANTENNA MOUNTING DETAILS

SHEET NUMBER:
C-502
 REVISION:
1

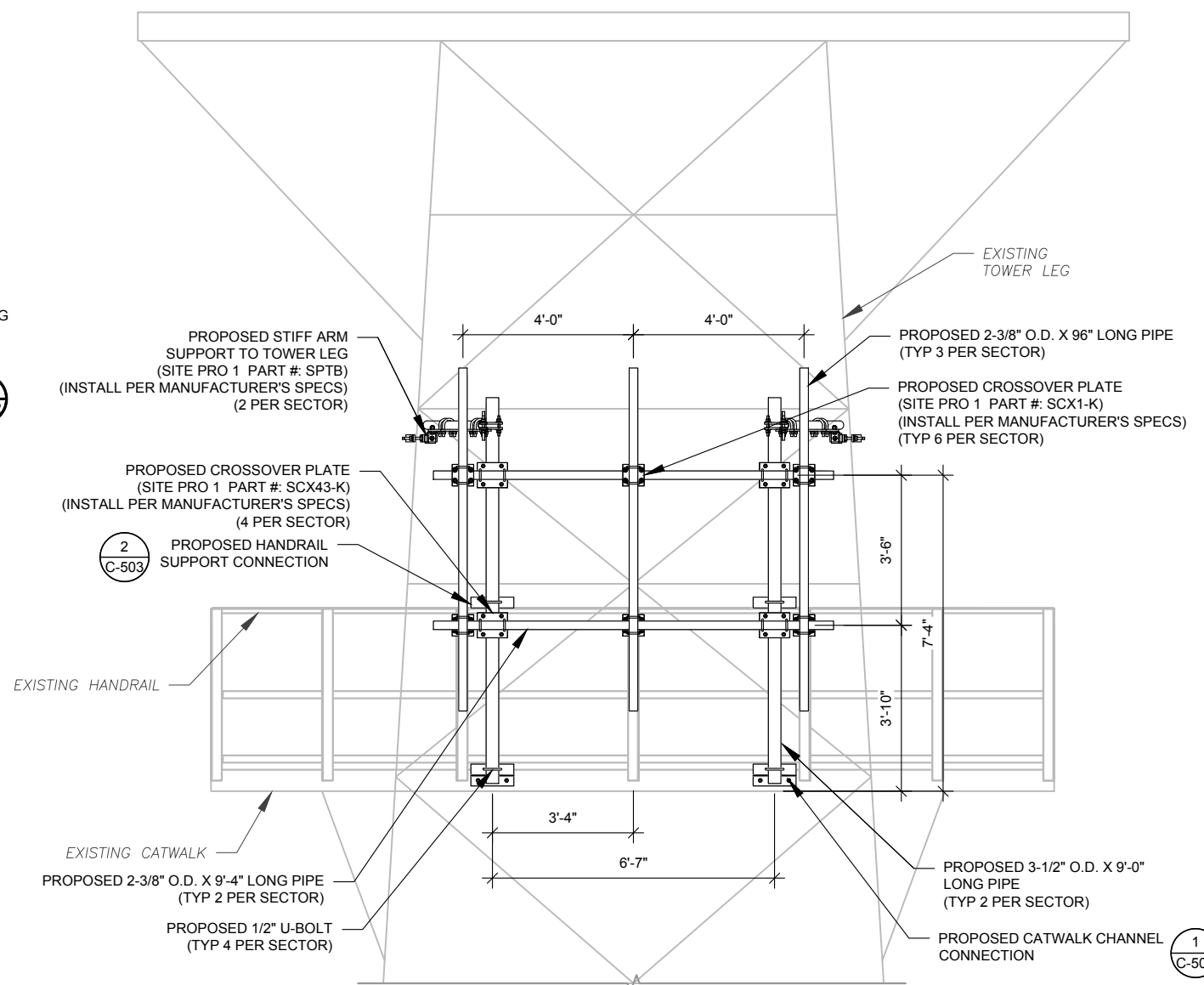


PROPOSED STACKABLE SNAP-IN HANGERS (SIZED APPROPRIATELY FOR APPLICATION) ATTACHED TO EXISTING WAVEGUIDE LADDER WHERE AVAILABLE OR TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED ANGLE ADAPTER (FOR ROUND MEMBER: ATTACH USING HOSE CLAMP, SITE PRO 1 PART# TRAP3) (FOR ANGLE MEMBER: ATTACH USING ANGLE ADAPTOR SITE PRO 1 PART# ADAPT)

NOTE:

1. PORTION OF HANDRAIL REMOVED FOR CLARITY
2. PER STRUCTURAL ANALYSIS COAX TO BE TRIPLE STACKED ON TOWER FACE WITH LEAST AMOUNT OF EXISTING COAX.

1 PROPOSED ANTENNA MOUNTING DETAIL (SIDE ELEVATION)
 SCALE: NOT TO SCALE



NOTE:

1. MICROWAVE DISH AND ANTENNAS NOT SHOWN FOR CLARITY

2 PROPOSED ANTENNA MOUNTING DETAIL (FRONT ELEVATION)
 SCALE: NOT TO SCALE

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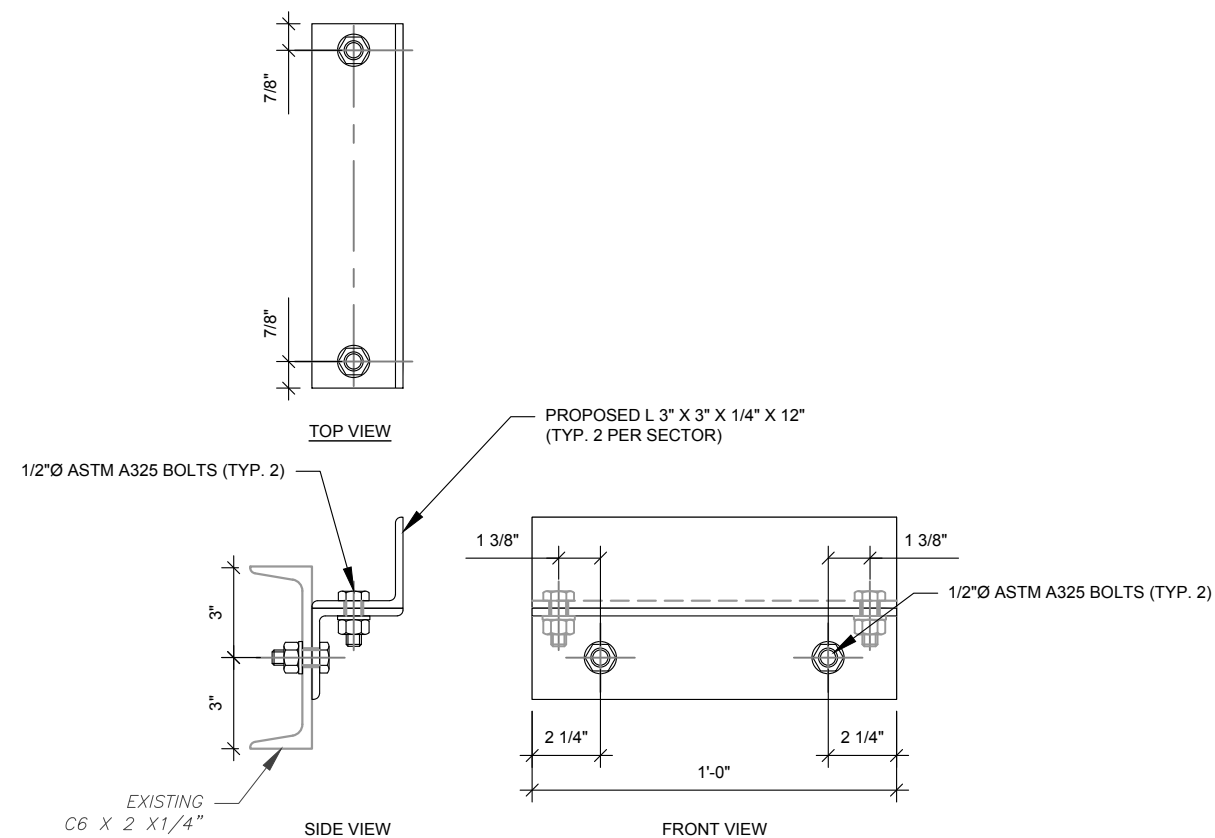
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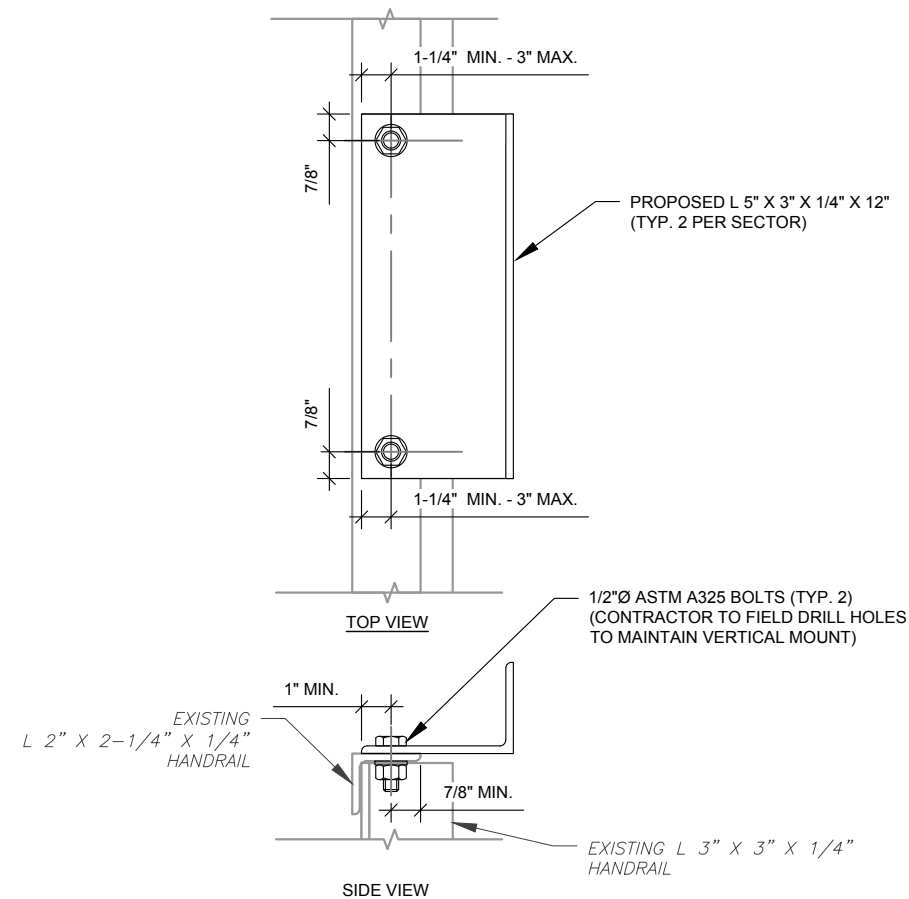
DRAWN BY:	AMM
APPROVED BY:	PPB
DATE DRAWN:	02/26/18
ATC JOB NO:	12203191

ANTENNA MOUNTING DETAILS

SHEET NUMBER:	REVISION:
C-503	0



1 CHANNEL CONNECTION DETAIL
 SCALE: NOT TO SCALE



2 HANDRAIL CONNECTION DETAIL
 SCALE: NOT TO SCALE



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1	ADD SAFETY CANOPY	AMM	03/07/18
2	REV GEN MODEL/TYPE	AMM	05/31/18

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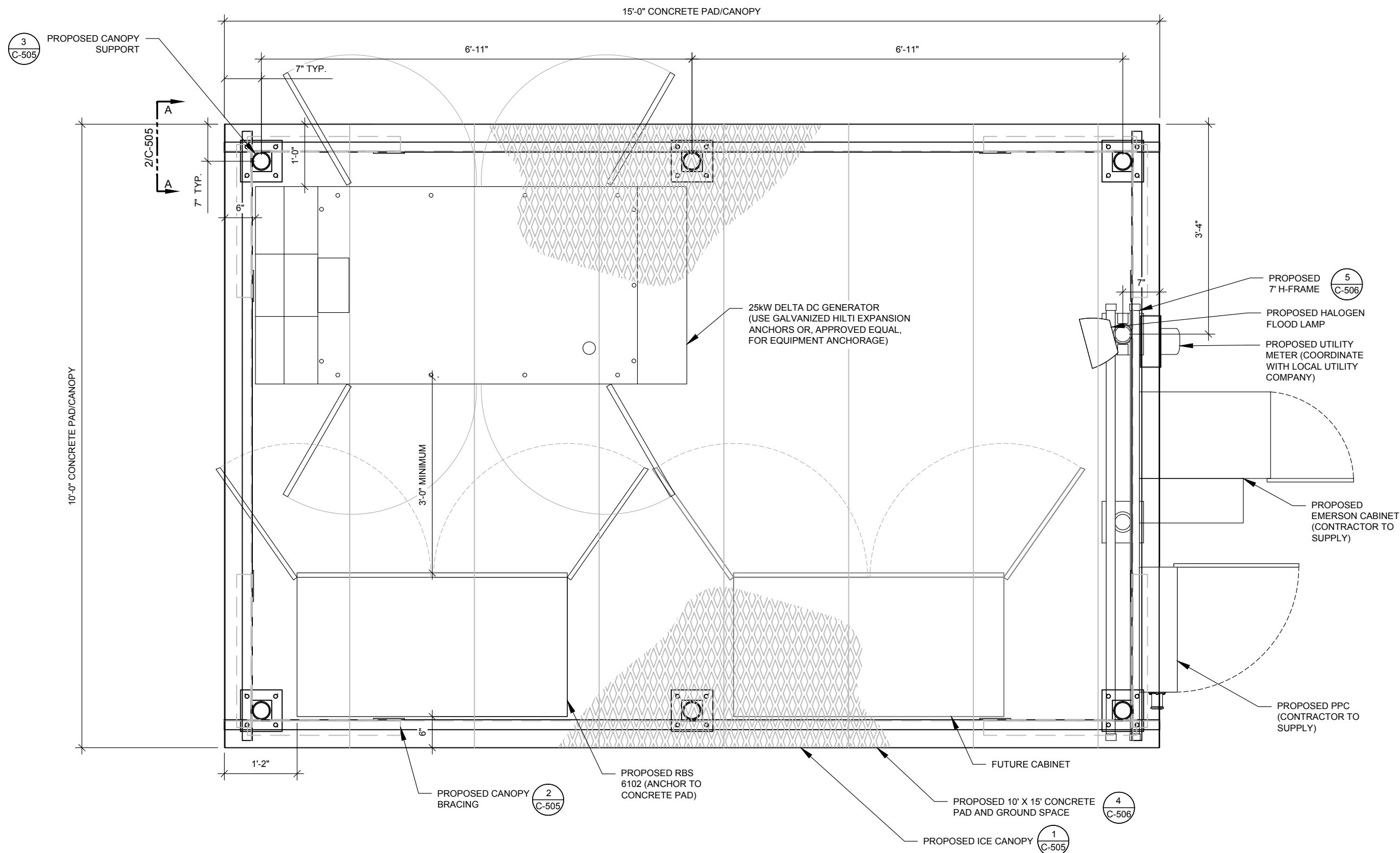
SEAL:



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**CONSTRUCTION
 DETAILS**

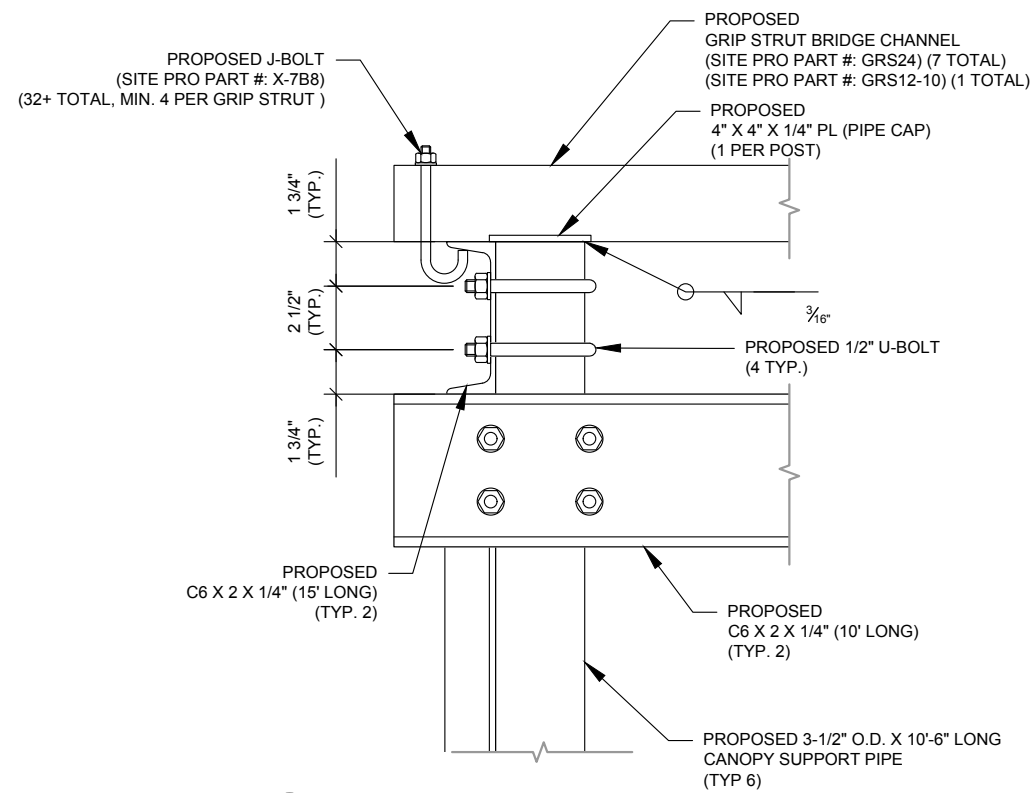
SHEET NUMBER:	REVISION:
C-504	2



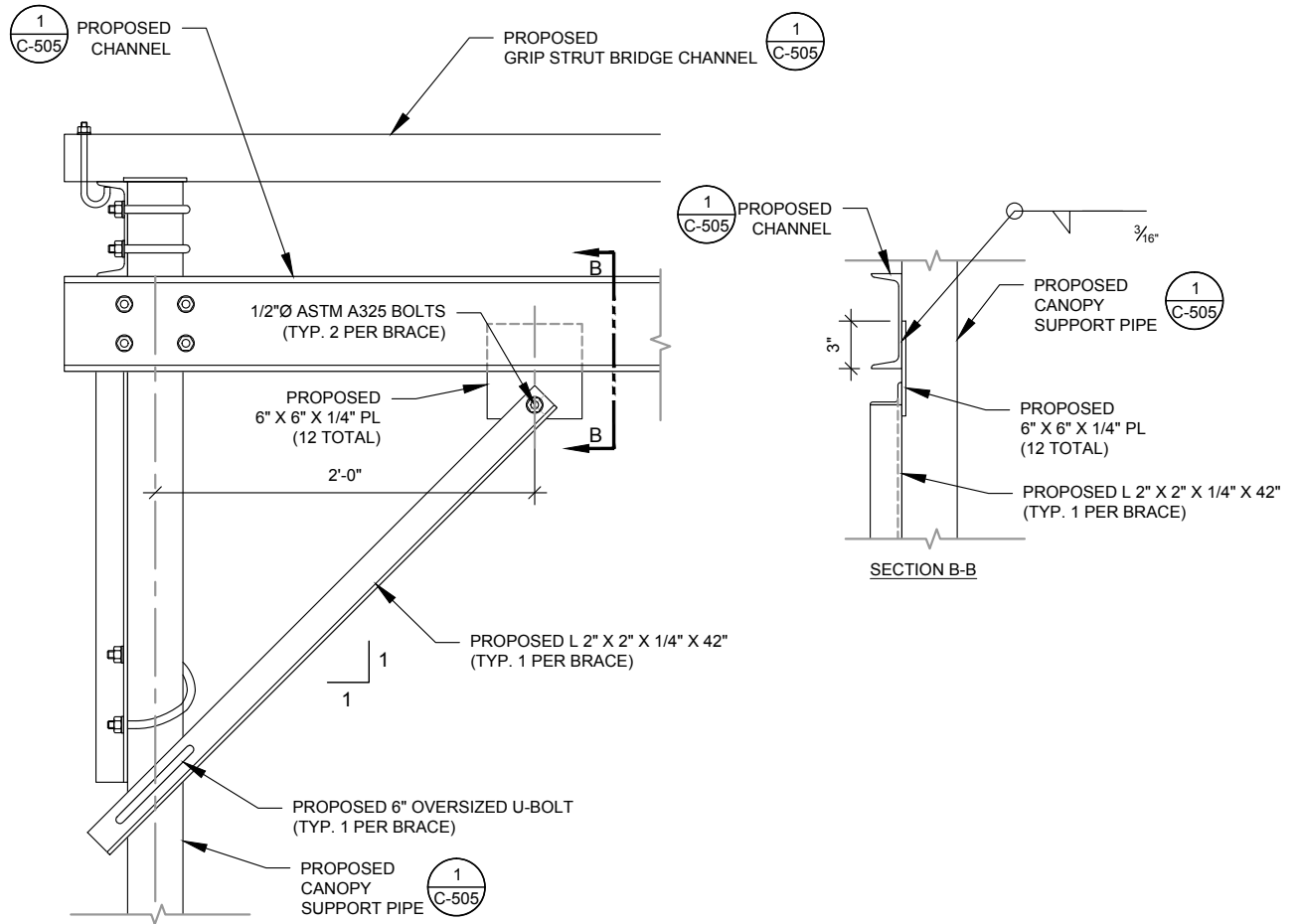
NOTE:
 1. CABINETS SHALL BE ORIENTED AND INSTALLED EXACTLY AS SHOWN
 2. WEIGHT OF BTS UNIT IS 859 LBS (390 KG) (WEIGHT IS WITHOUT BATTERIES)

1 DETAILED EQUIPMENT LAYOUT
 SCALE: NOT TO SCALE

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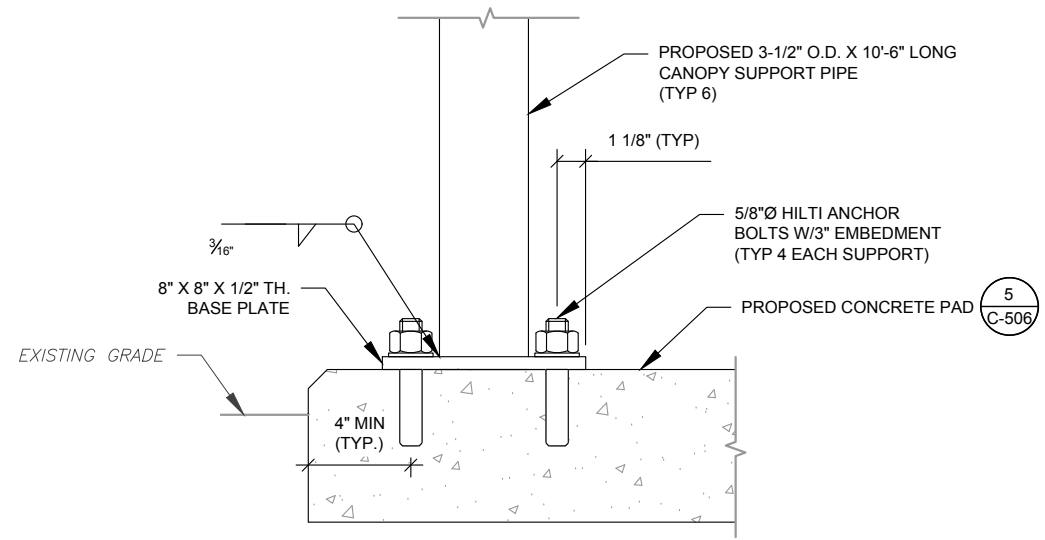


1 CANOPY SUPPORT DETAIL A-A
SCALE: NOT TO SCALE



NOTE: EACH CANOPY POST SHALL HAVE (2) BRACES PER POST

2 CANOPY BRACING DETAIL
SCALE: NOT TO SCALE



3 CANOPY SUPPORT/ANCHOR DETAIL
SCALE: NOT TO SCALE

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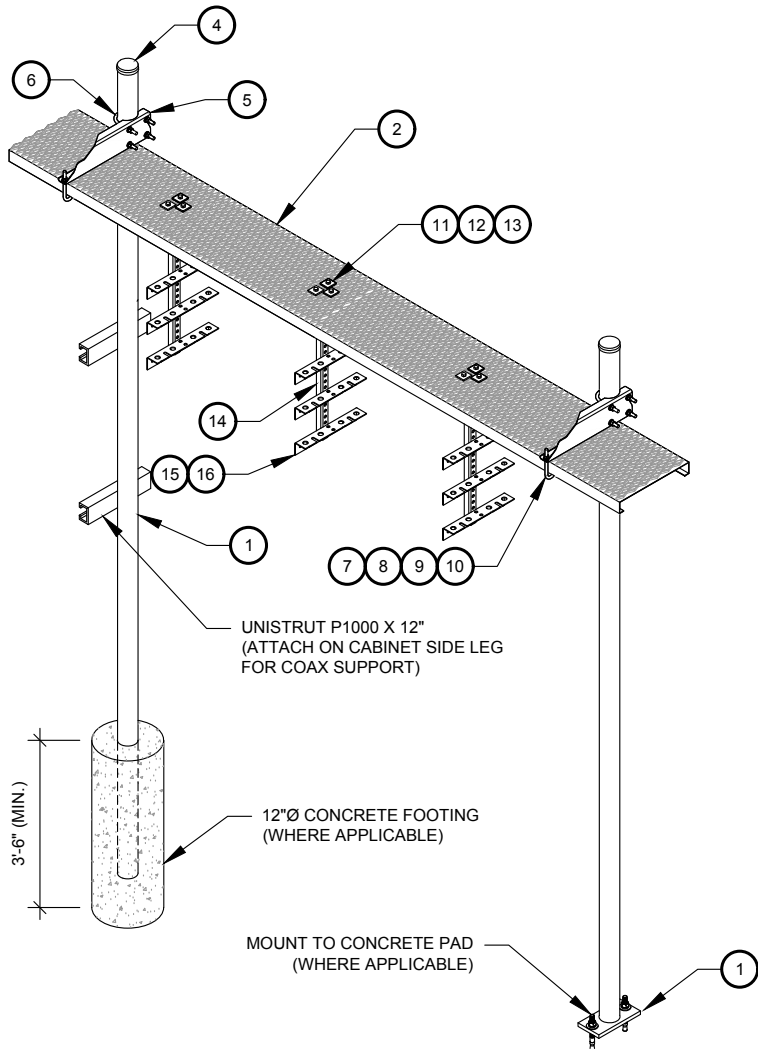
CONSTRUCTION DETAILS

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C-505	1

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CONSTRUCTION NOTE:

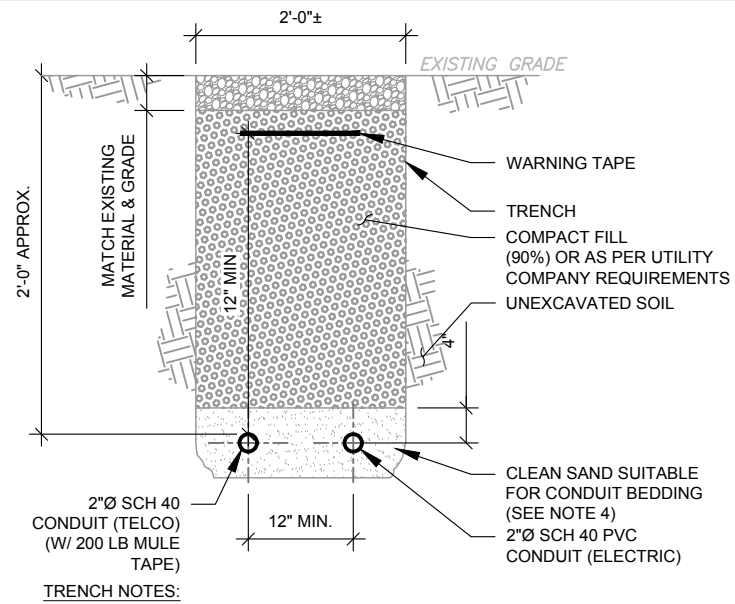
1. INSTALL ICE BRIDGE TO ALLOW 7 FEET CLEARANCE ABOVE GRADE TO LOWEST APPURTENANCE.



WB-K210-B WAVEGUIDE BRIDGE KIT - BILL OF MATERIALS (INCLUDED WITH KIT UNLESS NOTED OTHERWISE)					
ITEM	PART NUMBER	DESCRIPTION	ITEM	PART NUMBER	DESCRIPTION
1	MF126.01 MF-130	10'-4" COLUMN & BASE SHOE* 13'-4" PIPE COLUMN	9	GWL-04	1/2" GALV LOCK WASHER
2	WB-CY210	SAFETY GRATING 24" X 10'	10	GN-04	1/2" GALV HEX NUT
3	WBK110BHK	HARDWARE KIT (ITEMS 4-16)	11	GB-03205	3/8" X 2" GALV BOLT KIT
4	PC-034	PIPE CAP 3-1/2"	12	MT-387	SQUARE WASHER, 1-1/2" X 1-1/2" W/ 7/16" HOLE
5	WBLB243.08	24" WAVEGUIDE BRIDGE SUPPORT BRACKET	13	GWV-03	3/8" GALV FLAT WASHER
6	GUB-4356	1/2" X 3-5/8" X 6" GALV U-BOLT	14	WBT243.01	VERTICAL TRAPEZE SECTION
7	WB-JB-6	1/2" J-BOLT	15	GB-03105	3/8" X 1" GALV BOLT KIT
8	GWV-04	1/2" GALV FLAT WASHER	16	WBT243.02	HORIZONTAL TRAPEZE SECTION

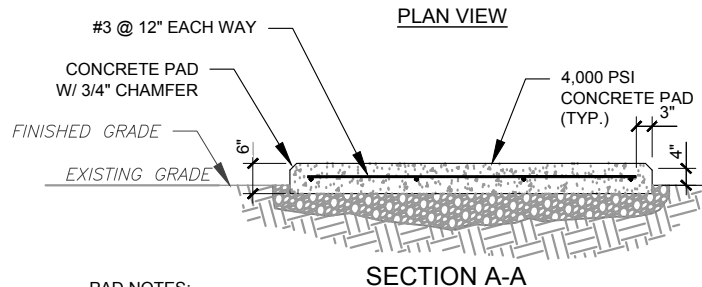
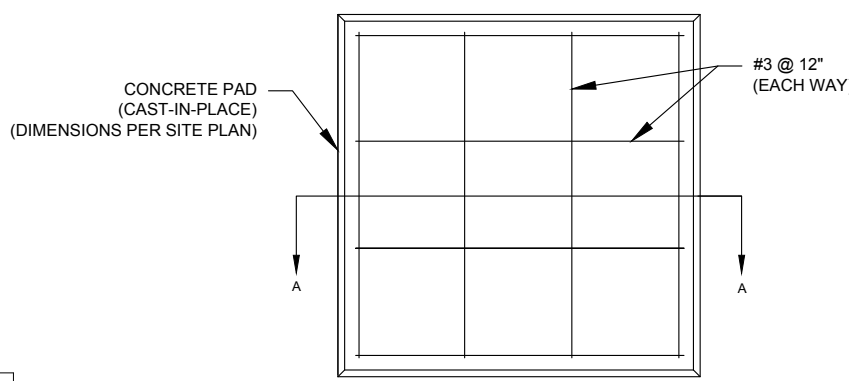
CONTRACTOR SHALL USE PARTS MANUFACTURED BY COMMSCOPE OR APPROVED EQUIVALENT.
*BASE SHOE NOT INCLUDED IN WB-K210-B KIT, ORDER COLUMN SEPARATELY OR KIT WB-K210-S.

1 WAVEGUIDE BRIDGE KIT
SCALE: NOT TO SCALE



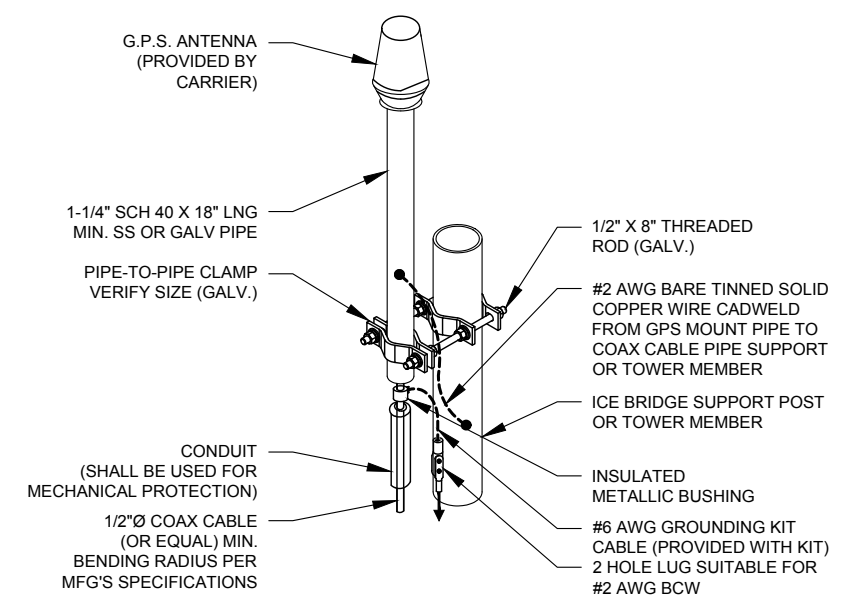
- TRENCH NOTES:**
1. IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL, EXCAVATED MATERIAL MAY BE USED FOR BACKFILL.
 2. IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL. COMPACT IN 8" LIFTS. REMOVE ANY LARGE ROCKS PRIOR TO BACKFILLING. CONTRACTOR TO VERIFY LOCATION OF EXISTING U/G UTILITIES PRIOR TO DIGGING.
 3. IF CURRENT AS-BUILT DRAWINGS ARE NOT AVAILABLE CONTRACTOR SHALL HAND DIG U/G TRENCHING.
 4. CONCRETE ENCASE CONDUIT WHEN TRENCHING UNDER SITE ACCESS ROAD.

2 TELCO AND POWER CONDUIT JOINT TRENCH
SCALE: N.T.S.



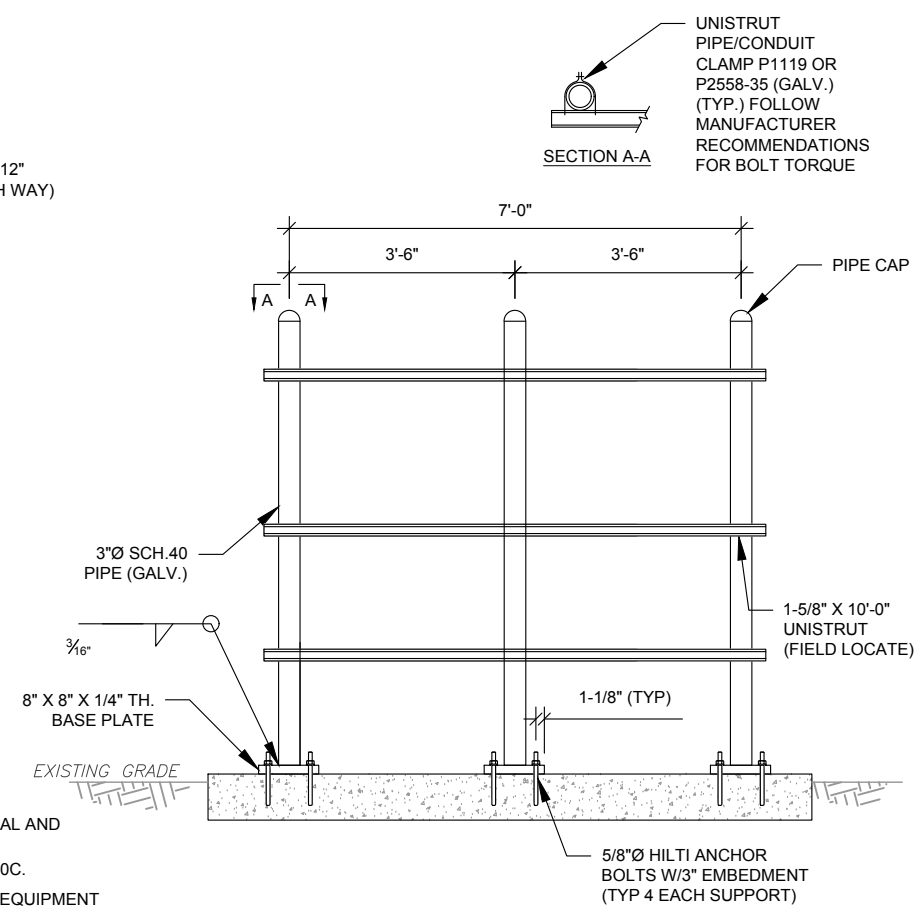
- PAD NOTES:**
1. SUBGRADE AND FILL SHALL CONSIST OF CLEAN SOIL. DELETERIOUS MATERIAL AND ORGANICS SHALL BE REMOVED.
 2. COMPACT SUBGRADE TO 95% IN ACCORDANCE WITH ATC SOEC 312000, 3.20C.
 3. USE GALVANIZED HILTI EXPANSION ANCHORS OR, APPROVED EQUAL, FOR EQUIPMENT ANCHORAGE.
 4. FOR SIZE AND LOCATION OF ANCHORS AND OTHER REQUIREMENT, SEE EQUIPMENT VENDOR DRAWINGS.
 5. DETAIL FOR ILLUSTRATIVE PURPOSES ONLY, MAINTAIN REBAR SPACING 12" O.C. FOR PROPOSED APPLICATION.

4 CONCRETE PAD FOR MINOR EQUIPMENT
SCALE: NOT TO SCALE



- NOTE:**
1. GPS SHALL BE PLACED WITH CLEAR SIGHT LINE TO THE SOUTHERN SKY.
 2. CONTRACTOR TO SUPPLY COAX FOR GPS UNIT.

3 GPS ANTENNA ATTACHMENT DETAIL
SCALE: NOT TO SCALE



5 TYPICAL H-FRAME DETAIL
SCALE: NOT TO SCALE

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CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-506	1

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GROUNDING NOTES:

1. ALL EQUIPMENT ENCLOSURES, DEVICES AND CONDUITS SHALL BE GROUNDED TO CONFORM WITH THE LATEST REQUIREMENTS OF THE NEC BY THE INSTALLATION OF A SEPARATE, GREEN, INSULATED GROUND CONDUCTOR FOR ALL FEEDER AND BRANCH CIRCUITS. GROUND CONDUCTORS SHALL BE OF THE SIZE INDICATED ON THE DRAWINGS. GROUND CONDUCTORS SHALL BE CONTINUOUS IN LENGTH AND SHALL BE BONDED TO EACH ENCLOSURE THEY PASS THROUGH. CONDUIT SHALL NOT BE USED AS A GROUNDING CIRCUIT.

LIGHTNING AND SURGE PROTECTION:

1. GROUNDING CONDUCTORS SHALL:

- A. BE #2 AWG SOLID BARE TINNED COPPER (SBTC) FOR ALL GROUNDING SYSTEM WIRE UNLESS OTHERWISE NOTED, OR OTHERWISE REQUIRED BY CODE.
- B. BE MINIMUM 12" BEND RADIUS. KEEP NUMBER OF BENDS TO A MINIMUM.
- C. AVOID LONG BONDING CONNECTION RUNS. MAKE DIRECT AS POSSIBLE.
- D. NOT HAVE ANY U-SHAPED RUNS.
- E. BE IN NON-METALLIC CONDUIT ONLY, IF IN CONDUIT.
- F. BE PLACED THROUGH NON-METALLIC SLEEVES IN FLOORS, WALLS, CEILINGS, ETC.
- G. PROTECTED IN NON-METALLIC CONDUIT WHERE EXPOSED ABOVE GRADE.

2. INSTALL ALL GROUNDING RINGS AND RADIALS WITH CONDUCTIVE CEMENT, SANKOSHA AS DISTRIBUTED BY ELECTRIC MOTION COMPANY, INC., WINSTED, CT 06098, OR AS SPECIFICALLY INDICATED. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

3. GROUND RINGS SHALL BE:

- A. MINIMUM 30" BELOW GRADE, OR BELOW FROST LINE WHICHEVER IS DEEPER.
- B. MINIMUM 2" FROM FOUNDATIONS, FOOTINGS, OTHER GROUNDING SYSTEMS AND ALL CONDUCTIVE OBJECTS.
- C. WITH MINIMUM 12" BEND RADII.
- D. WITH ALL CONNECTIONS IN CONTACT WITH EARTH, BONDED BY EXOTHERMIC WELDING.
- E. BONDED TO A SINGLE POINT GROUND (SPG) WITH A SINGLE WIRE AS INDICATED ON DRAWINGS.

4. GROUND RODS SHALL BE:

- A. MINIMUM 5/8" DIAMETER.
- B. MINIMUM 10' LONG.
- C. COPPER-CLAD GALVANIZED STEEL OR STAINLESS STEEL.
- D. PLACED IN UNDISTURBED SOIL AND BELOW THE FROST LINE.
- E. INSTALLED WITH MINIMUM SEPARATION DISTANCE OF TWICE THE DEPTH OF THE ROD(S), OR AS INDICATED ON DRAWINGS.
- F. MINIMUM TWO (2) RODS ON THE TOWER RING OR ONE (1) PER LEG WHICHEVER IS LARGER, MINIMUM FOUR (4) RODS ON EVERY EQUIPMENT BUILDING RING WITH ONE AT EACH CORNER OR AS INDICATED, MINIMUM ONE (1) ROD FOR POWER SERVICE GROUNDING ELECTRODE, AND MINIMUM ONE (1) ROD AT END OF EACH RADIAL.

5. CONDUCTIVE OBJECTS, SUCH AS FENCES, SHALL BE BONDED TO THE GROUNDING SYSTEM IF WITHIN 20' OF THE TOWER GROUNDING SYSTEM, OR 5' OF ANY OTHER GROUNDED COMPONENT.

6. INSTALL ADDITIONAL TOWER GROUND BAR SO AS NOT TO EXCEED 300' BETWEEN GROUND BARS.

GROUNDING PLAN LEGEND:

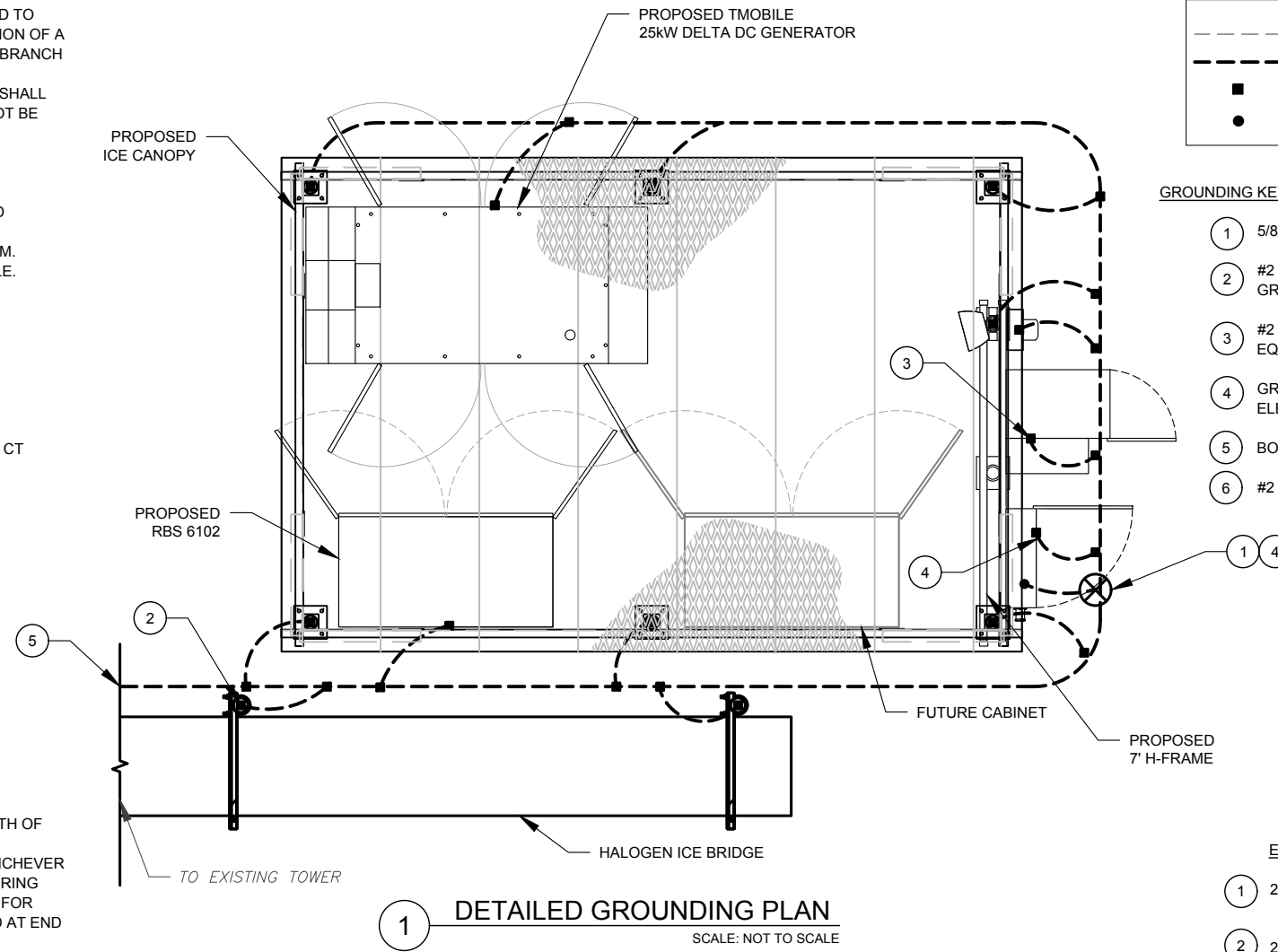
- EXISTING GROUND WIRE
- - - GROUND WIRE
- EXOTHERMIC WELD
- MECHANICAL WELD
- ⊗ COPPER GROUND ROD
- ⊗ TEST WELL

GROUNDING KEYED NOTES:

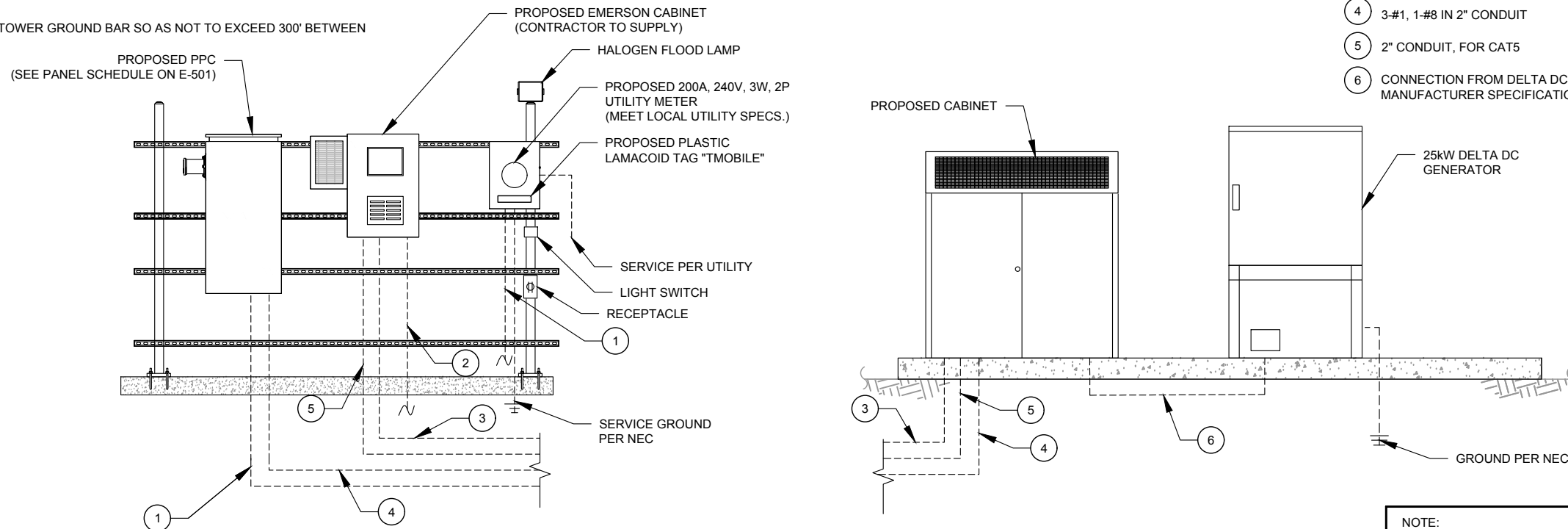
- 1 5/8" X 10 FT GROUND ROD.
- 2 #2 AWG BOND FROM VERTICAL ICEBRIDGE POST TO EXTERNAL GROUND RING (TYP. EVERY POST).
- 3 #2 AWG SBTC BOND FROM TOWER GROUND RING TO EQUIPMENT.
- 4 GROUNDING ELECTRODE CONDUCTOR (GEC) AND GROUNDING ELECTRODE SIZED PER NEC OR AS OTHERWISE INDICATED.
- 5 BOND TO TOWER GROUND RING.
- 6 #2 AWG BOND FROM MJB TO GROUND RING.

EQUIPMENT POWER NOTES:

- 1 2" CONDUIT W/ 3-#3/0 CU, (1) #6 AWG G, PPC POWER
- 2 2" CONDUIT FOR TELCO FEEDER SERVICE TO TELCO SOURCE PER UTILITY
- 3 2-#12, 1-#12G IN 3/4" CONDUIT FROM WESTELL TO 6102
- 4 3-#1, 1-#8 IN 2" CONDUIT
- 5 2" CONDUIT, FOR CAT5
- 6 CONNECTION FROM DELTA DC GENERATOR TO RBS6102 PER MANUFACTURER SPECIFICATION



1 DETAILED GROUNDING PLAN
SCALE: NOT TO SCALE



2 EQUIPMENT POWER AND TELCO SCHEMATIC
SCALE: N.T.S.

NOTE:
ALL EQUIPMENTS' SHORT-CIRCUIT CURRENT RATING SHALL EXCEED AVAILABLE FAULT CURRENT PER UTILITY

AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEC.0001553

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AMM	02/26/18
1	ADD SAFETY CANOPY	AMM	03/07/18
2	REV GEN MODEL/TYPE	AMM	05/31/18

ATC SITE NUMBER:
88011

ATC SITE NAME:
EAST KILLINGLY NORTH

SITE ADDRESS:
1375 NORTH ROAD
DAYVILLE, CT 06241

SEAL:

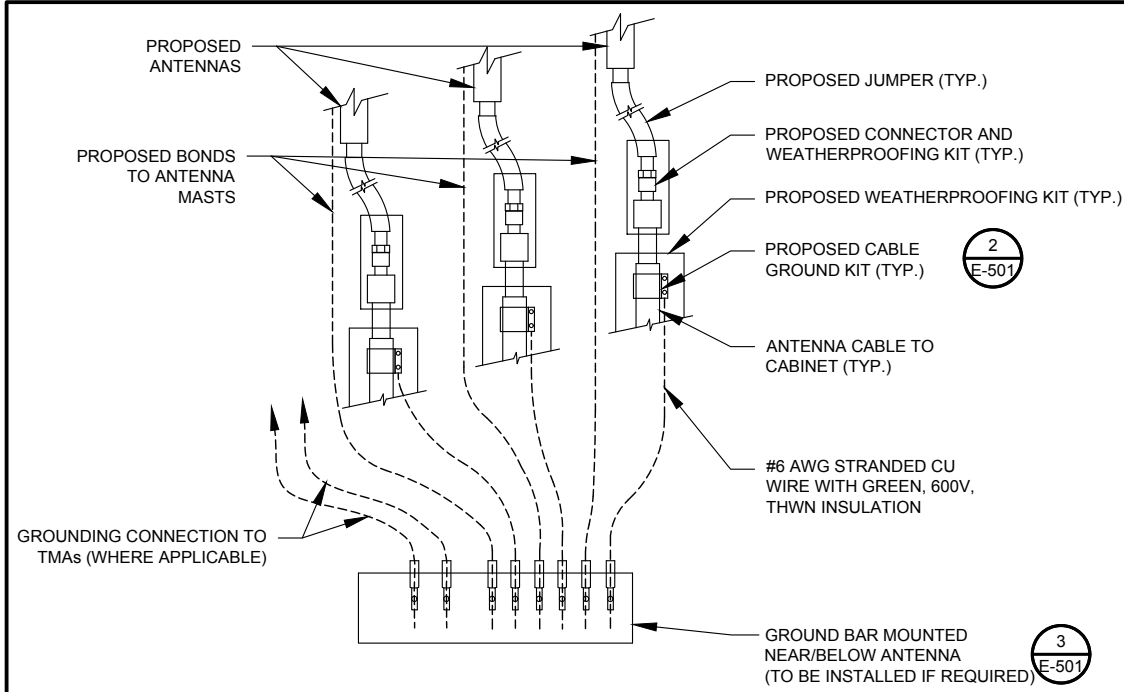


DRAWN BY:	AMM
APPROVED BY:	PPB
DATE DRAWN:	02/26/18
ATC JOB NO:	12203191

GROUNDING PLAN AND SCHEMATIC

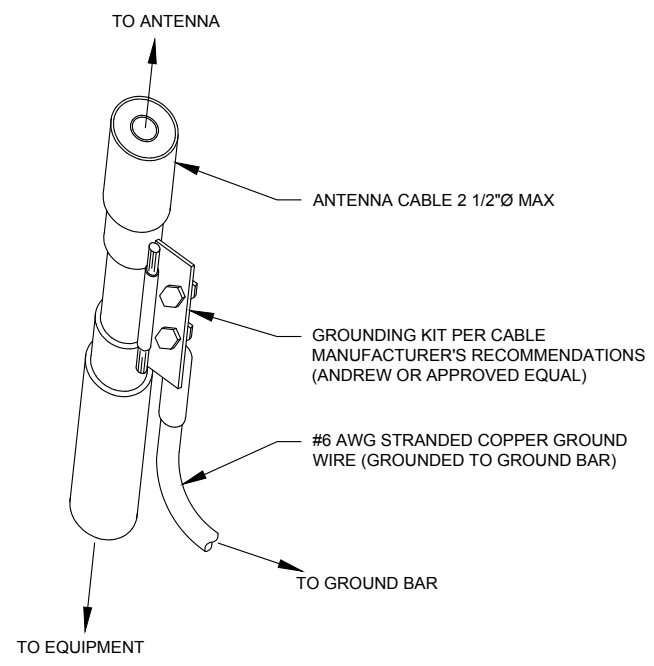
SHEET NUMBER:	REVISION:
E-101	2

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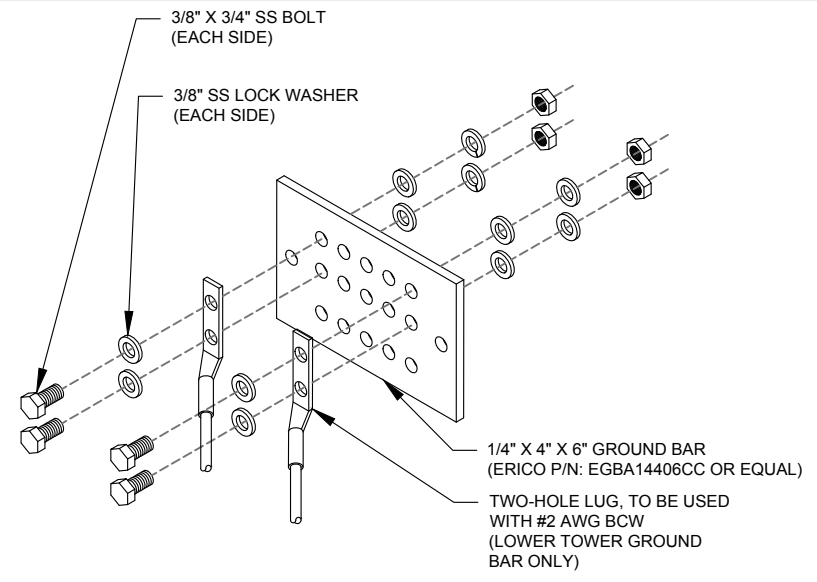
- NOTES:**
- THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
 - SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH T-MOBILE GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: NOT TO SCALE



- GROUND KIT NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: NOT TO SCALE



- GROUND BAR NOTES:**
- GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
 - GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL
SCALE: NOT TO SCALE

PANEL DESIGNATION: PPC	TYPE: LIGHTING & APPLIANCE	SYSTEM: 120/240V, 1Ø, 3W, 20 CKT	LOCATION: T-MOBILE LEASE AREA
MOUNTING: SURFACE	ENCLOSURE: NEMA 3R	MAIN BREAKER (MB): 200A MCB	PANEL NOTES: INTERGRATED COMMUNICATION
		MAIN BUS RATING: 200A	POWER PANEL (PPC)
		MIN. A.I.C. RATING: 22KAIC	

CONNECTED LOAD (kVA)	BRIEF DESCRIPTION	FEEDER OR BRANCH CIRCUIT							FEEDER OR BRANCH CIRCUIT							CONNECTED LOAD (kVA)		
		BREAKER	CIRCUIT			POLE NO.	CIRCUIT NOTES	CIRCUIT NOTES	POLE NO.	CIRCUIT			BREAKER	BRIEF DESCRIPTION	A	B		
A	B	AMPS	POLES	WIRE	GND	COND.												
9.60	6102 Cabinet	100	2	3-#1	1-#8	2"	1			2	3/4"	1-#12	2-#12	1	15	RECEPTACLE	0.18	
							3			4	3/4"	1-#12	2-#12	1	15	LIGHT		0.50
0.00							5			6							0.00	
0.00							7			8							0.00	0.00
0.00							9			10							0.00	
0.00							11			12							0.00	
0.00							13			14							0.00	
0.00							15			16							0.00	
0.00							17			18							0.00	
0.00							19			20							0.00	0.00
9.6	9.6																0.2	0.5
							A	B	TOTAL									
							9.8	10.1	19.9	CONNECTED LOAD (kVA)								
							9.8	10.1	19.9	DEMAND LOAD (kVA)								
										DERATING FACTOR (80%)								
										DEMANDLOAD SIZING: 105 AMPS								

4 PANEL SCHEDULE
SCALE: NOT TO SCALE

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REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	AMM	02/26/18

ATC SITE NUMBER:
88011

ATC SITE NAME:
EAST KILLINGLY NORTH

SITE ADDRESS:
1375 NORTH ROAD
DAYVILLE, CT 06241

SEAL:

DRAWN BY: AMM
APPROVED BY: PPB
DATE DRAWN: 02/26/18
ATC JOB NO: 12203191

GROUNDING DETAILS

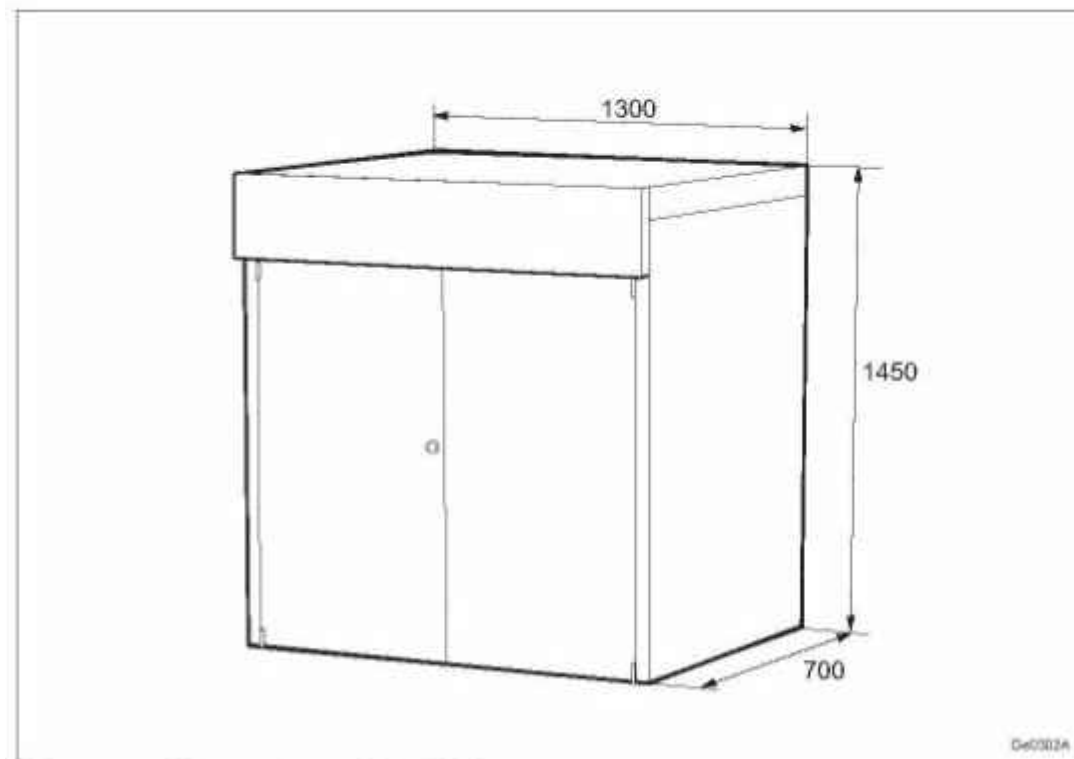
SHEET NUMBER:
E-501

REVISION:
0

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Table 1 Dimensions, Weight, and Color

Dimensions	
Height	1450 mm
Width	1300 mm
Depth	700 mm
Weight	
RBS (standard equipped) without backup batteries	390 kg
Color	
Gray	Reference number: RAL 7035, glossy



1 CABINET CONFIGURATION
SCALE: NOT TO SCALE

Technical Specifications

Electrical	Indoor Solution	Outdoor Solution
System Voltage, Nominal	120 VAC single phase	
Output Voltage	-42 VDC to -58 VDC	
System Capacity	19' 1 RU up to 10 A	19' 1 RU up to 8 A
Rectifier Capacity	0.5 kW @ 120 VAC	0.4 kW @ 120 VAC
DC Distribution	(1) wallmount 10 position GMT type fuse panel with (10) GMT fuses, up to 15 A	
Controller	SCU+ controller	

Physical Characteristics		
Framework Type	Relay rack	NetXtend™ Compact Enclosure
Available Space	1 RU 19" W	Up to 14 RU, 19" W
Dimensions (H x W x D)	DC power system: 1.7' x 19" x 12" Solution: 10.5' x 19" x 15.6"	Enclosure: 24" x 24" x 16" Battery tray: 22" W x 13" D
Mounting	Rack or wall mount	Wall or H-frame, pole mount (wall-mount kit included)
Weight, Equipped	System: 35.5 lb., w/out batteries Four (4) batteries: 36 lb. total	Enclosure: 64 lb., w/out batteries Four (4) batteries: 36 lb. total
Access	Front for batteries, control and distribution, rear for AC	Front

Environmental		
Climate System	Fan-cooled front to rear	Heat Exchanger
Operating Temp.	-40 °C to +75 °C*	-40 °C to +52 °C
Storage Temp.	-40 °C to +75 °C	-40 °C to +75 °C
Relative Humidity	0% to 95% non-condensing	100%
EMI/RFI	Conforms to FCC rules Part 15, Subpart B, Class B and EN55022 Class B, radiated and conducted	
Safety Compliance	cULus 60950 recognized NEBS Level 3 Compliance	cULus 60950 Recognized NEBS Level 3 Compliance Enclosure: cULus Listed GR-487

* See rectifier specification for any derating. Operating and storage temperatures for batteries installed in the battery cabinet are provided by the battery manufacturer.

Ordering Information

Indoor Solution	Outdoor Solution
582136600SK010	F2013074
Equipped with the following:	Equipped with the following:
1 EA NetSure™ 211 power system	1 EA NetXtend™ Compact, NXC2416AAV1H058B3
2 EA 500 W rectifiers	1 EA NetSure™ 211 power system
1 EA Wall mount bracket	2 EA 500 W rectifiers
1 EA Battery cabinet	1 EA 19" rack-mount, slide-out tray
1 EA 19" rack-mount, slide-out tray	1 EA AC outlet mounting bracket
	2 EA 20 A, 120 VAC outlets
	1 EA Wall-mounting kit
Accessories	
547681 4 EA, Battery, EnerSys NP12-12, 12 AH bat mod	547681 4 EA, Battery, EnerSys NP12-12, 12 AH bat mod

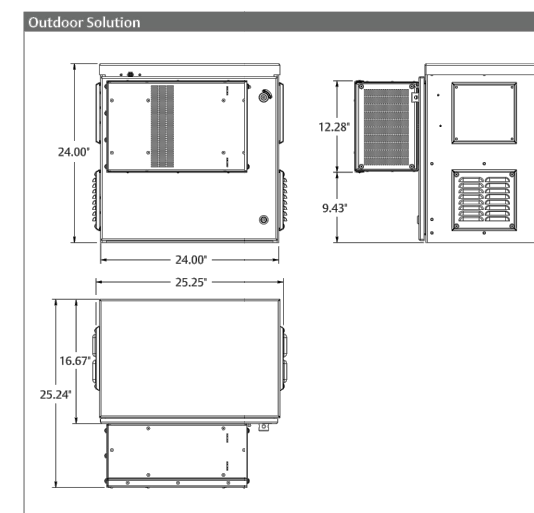
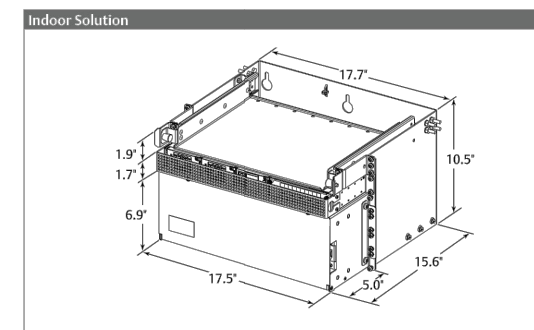
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Diagrams



EMERSON. CONSIDER IT SOLVED.™

2 CABINET CONFIGURATION
SCALE: NOT TO SCALE

SUPPLEMENTAL

SHEET NUMBER:
R-601

REVISION:
0

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

RAN Template: 4Sec-6797DB2	A&L Template: 4Sec-6797DB2_1xAIR+2QP	Power System Template: Custom
--------------------------------------	--	---

CTNL194A_Coverage Strategy_0.1_draft

Section 5 - RAN Equipment

Existing RAN Equipment

---- This section is intentionally blank. ----

Proposed RAN Equipment

Template: 4Sec-6797DB2

Enclosure	1	2
Enclosure Type	RBS 6102 MU AC	Ancillary Equipment
Baseband	DUW30 L2100 BB 5216 L2100 L1900 L700 L600	
Hybrid Cable System		Ericsson 6x12 HCS 'Select Length & AWG' (x4)
Multiplexer	XMU L2100 L1900 L700 L600	
RAN Scope of Work:		
<input style="width: 100%; height: 20px;" type="text"/>		

1 CABINET CONFIGURATION
SCALE: NOT TO SCALE

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: R-602	REVISION: 0
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Exhibit E

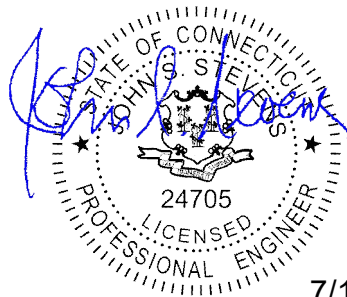
Mount Analysis

Mount Analysis Report

July 1, 2020

ATC Site Name	East Killingly North, CT
ATC Site Number	88011
T-Mobile Site Name	CTNL194A
T-Mobile Site Number	CTNL194A
Infinigy Job Number	1009-Z0003-B
ATC Engineering Number	13251814_C8_01
Client	ATC
Carrier	T-Mobile
Site Location	1375 North Road Killingly, CT 06241 Windham County 41° 52' 17.5" N NAD83 71° 49' 17.5" W NAD83
Mount Centerline EL.	277.0 ft
Mount Type	Sector Frame
Mount Usage Ratio	50.7%
Overall Result	Pass

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA code requirements. The mounts and connections for the proposed carrier are therefore deemed adequate to support the final loading configuration as listed in this report.



7/1/2020

Brenden Archer
Project Engineer II

Contents

Introduction.....	3
Supporting Documentation.....	3
Analysis Code Requirements.....	3
Conclusion.....	3
Final Configuration Loading.....	4
Mount Usages.....	4
Mount Connection Usages.....	4
Assumptions and Limitations.....	5
Calculations.....	Appended

Introduction

Infinigy Engineering has been requested to perform a mount analysis on the existing T-Mobile mounts. All referenced supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using RISA-3D Version 17.0.4 analysis software.

Supporting Documentation

Collocation Application	Collo App ID No. 375130, dated June 11, 2020
Proposed Loading	T-Mobile RFDS Application ID No. CTNL194A Anchor 2 draft 2020-05-20, dated May 20, 2020
Structural Analysis Report	ATC Engineering No. 13251814 C3 02, dated June 24, 2020
Tower Mapping Report	Engineered Tower Solutions, PLLC, Site No. 180389, dated February 8, 2018

Analysis Code Requirements

Wind Speed	122 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 1” ice
TIA Revision	ANSI/TIA-222-H
Risk Category	II
Exposure Category	B
Topographic Factor Procedure	Method 1, Category 1
Calculated Crest Height	0.0 ft.
Spectral Response	$S_s = 0.186 \text{ g} / S_1 = 0.055 \text{ g}$
Site Class	D-Stiff Soil (Assumed)
HMSL	737.7 ft.

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the mount meets the specified TIA code requirements. The mounts and connections are therefore deemed adequate to support the final loading configuration as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Brenden Archer
 Project Engineer II | **INFINIGY**
 1033 Watervliet Shaker Rd, Albany, NY 12205
 (518) 690-0790
barcher@infinigy.com | www.infinigy.com

Final Configuration Loading

Mount CL (ft)	Rad. HT (ft)	Horiz. O/S (ft)*	Qty	Appurtenance	Carrier
277.0	277.0	5.0	4	RFS APXVAARR24 43-U-NA20	T-Mobile
		10.0	4	ERICSSON AIR6449 B41	
		0.0	4	ERICSSON AIR 32 B2A/B66AA	
		0.0	4	ERICSSON RRUS 4415 B25	
		10.0	4	ERICSSON RRUS 4478 B71	
		0.0	4	ERICSSON RRUS 11 B4	
		10.0	4	ERICSSON RRUS 11 B12	
		0.0	4	COMMSCOPE CBC1923Q-43	
		10.0	4	COMMSCOPE CBC6AE7LQ-DS-43	
		--	1	COMMSCOPE SHP2-13**	

*Horizontal Offset is defined as the distance from the left most edge of the mount face horizontal when viewed facing the tower

**Dish is assumed to be mounted on tower leg.

Mount Usages

Mount Pipe	35.0%	Pass
Horizontal	24.1%	Pass
Mast Pipe	18.9%	Pass
Kickers	50.7%	Pass
RATING =	50.7%	Pass

Mount Connection Usages

Reaction Data	Design Capacity*	Analysis Reactions	Results
Max Shear (lbs.)	6,902.9	669.7	9.7%
Max Sliding (lbs.)	7,363.1	1,339.3	18.2%
Combined Tension/Shear	--	--	3.0%

*Assumed (1) 5/8" A307 U-Bolt, (1) per mount to tower connection. Contractor to field verify anchor diameters prior to installation of proposed equipment.

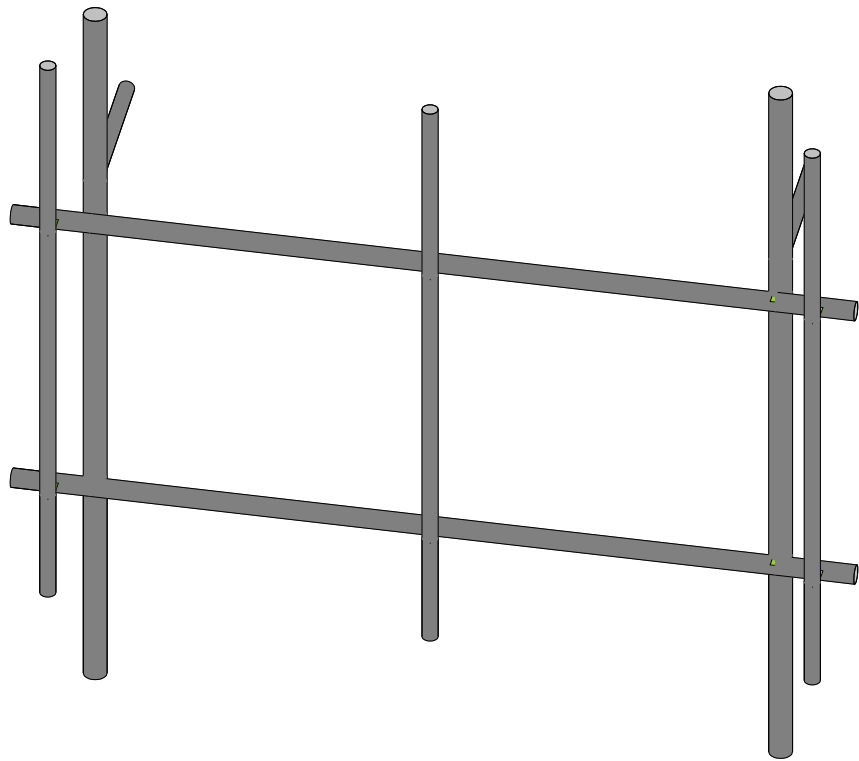
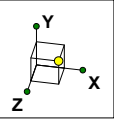
- Anchor reactions are acceptable per rigorous structural analysis.

Assumptions and Limitations

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of “like new” and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure’s condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the proposed carriers mount structure only and does not reflect adequacy of the existing tower, other mounts, or coax mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements.



Envelope Only Solution

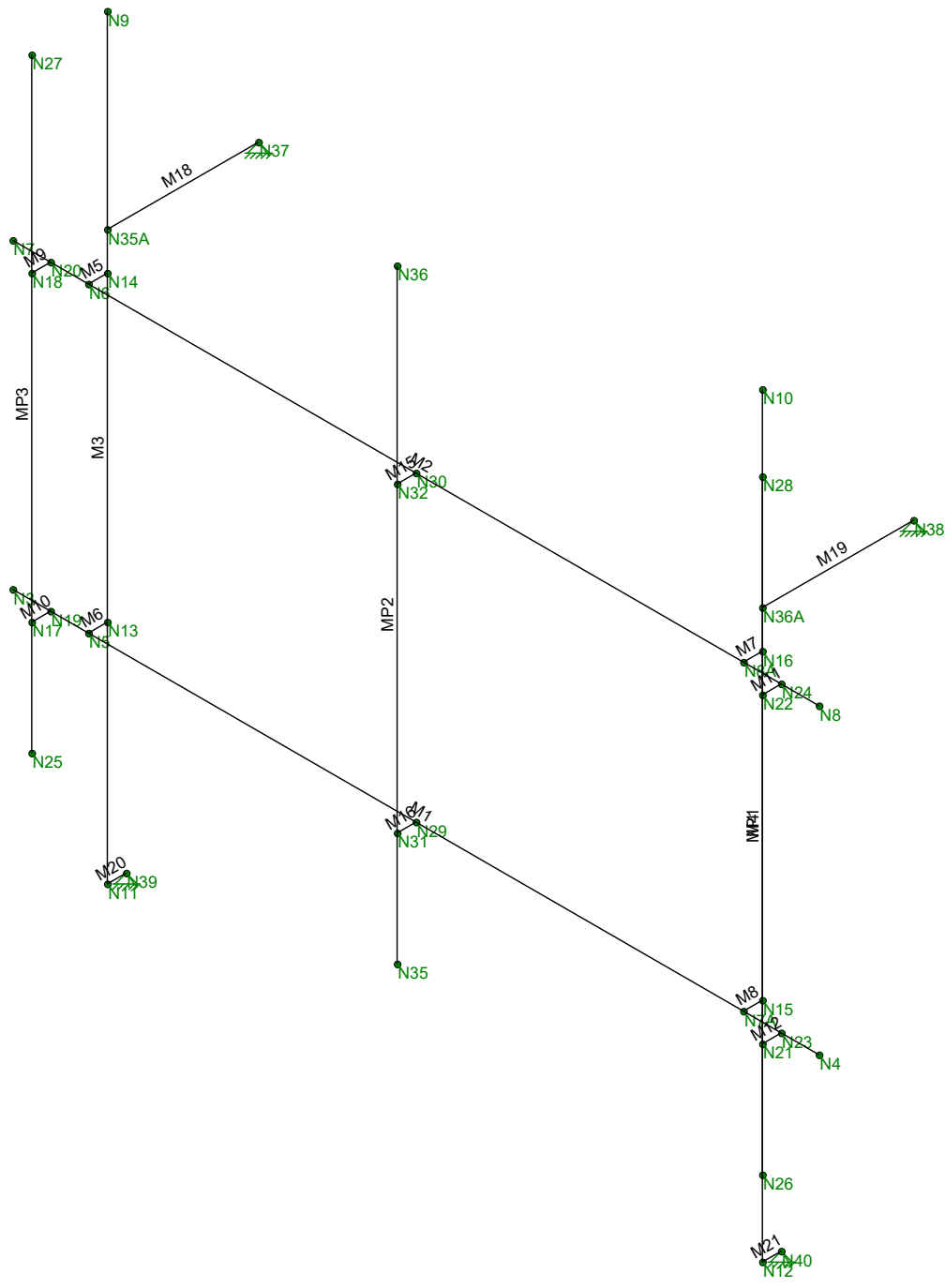
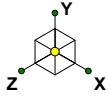
Infinigy Engineering, PLLC
BDA
1009-Z0003-B

88011_East Killingly North

Existing Configuration

July 1, 2020 at 2:20 PM

Existing_88011_East Killingly Nort...



Envelope Only Solution

Infinigy Engineering, PLLC
 BDA
 1009-Z0003-B

88011_East Killingly North

Existing Configuration

July 1, 2020 at 2:19 PM

Existing_88011_East Killingly Nort...

Program Inputs

PROJECT INFORMATION		
Client:	ATC	
Carrier:	T-Mobile	
Engineer:	Brenden Archer	

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	B	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil	
Ground Elevation:	737.7	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Sector Frame	
Num Sectors:	4	
Centerline AGL:	277.0	ft
Tower Height AGL:	288.0	ft

TOPOGRAPHIC DATA		
Topo Feature:	N/A	
Slope Distance:	N/A	ft
Crest Distance:	N/A	ft
Crest Height:	N/A	ft

FACTORS		
Directionality Fact. (K_d):	0.95	
Ground Ele. Factor (K_e):	0.97	*Rev H Only
Rooftop Speed-Up (K_s):	1.00	*Rev H Only
Topographic Factor (K_{zt}):	1.00	
Gust Effect Factor (G_h):	1.0	

CODE STANDARDS		
Building Code:	2018 IBC	
TIA Standard:	TIA-222-H	
ASCE Standard:	ASCE 7-16	

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	122	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	1	in
Flat Pressure:	93.20	psf
Round Pressure:	55.92	psf
Ice Wind Pressure:	9.39	psf

SEISMIC DATA		
Short-Period Accel. (S_s):	0.19	g
1-Second Accel. (S_1):	0.06	g
Short-Period Design (S_{DS}):	0.20	
1-Second Design (S_{D1}):	0.09	
Short-Period Coeff. (F_a):	1.60	
1-Second Coeff. (F_v):	2.40	
Amplification Factor (a_p):	1.00	
Response Mod. (R_p):	2.50	
Overstrength (Ω_o):	1.00	



Infinigy Load Calculator V2.1.4

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N3	N4			Horizontal	Beam	Pipe	A53 Gr.B	Typical
2	M2	N7	N8			Horizontal	Beam	Pipe	A53 Gr.B	Typical
3	M3	N11	N9			Mast Pipe	Beam	Pipe	A53 Gr.B	Typical
4	M4	N12	N10			Mast Pipe	Beam	Pipe	A53 Gr.B	Typical
5	M5	N6	N14			RIGID	None	None	RIGID	Typical
6	M6	N5	N13			RIGID	None	None	RIGID	Typical
7	M7	N8A	N16			RIGID	None	None	RIGID	Typical
8	M8	N7A	N15			RIGID	None	None	RIGID	Typical
9	M9	N18	N20			RIGID	None	None	RIGID	Typical
10	M10	N17	N19			RIGID	None	None	RIGID	Typical
11	M11	N22	N24			RIGID	None	None	RIGID	Typical
12	M12	N21	N23			RIGID	None	None	RIGID	Typical
13	MP3	N25	N27			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
14	MP1	N26	N28			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
15	M15	N32	N30			RIGID	None	None	RIGID	Typical
16	M16	N31	N29			RIGID	None	None	RIGID	Typical
17	MP2	N35	N36			Mount Pipe	Beam	Pipe	A53 Gr.B	Typical
18	M18	N35A	N37			Tieback	Beam	Pipe	A53 Gr.B	Typical
19	M19	N36A	N38			Tieback	Beam	Pipe	A53 Gr.B	Typical
20	M20	N11	N39			RIGID	None	None	RIGID	Typical
21	M21	N12	N40			RIGID	None	None	RIGID	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		12	36	0
3	Total General		12	36	0
4					
5	Hot Rolled Steel				
6	A53 Gr.B	PIPE 2.0	5	336	97.183
7	A53 Gr.B	PIPE 2.5	2	256	116.874
8	A53 Gr.B	PIPE 3.0	2	240	140.875
9	Total HR Steel		9	832	354.932

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(...
1	Self Weight	DL		-1			12		
2	Wind Load AZI 0	WLZ					24		
3	Wind Load AZI 30	None					24		
4	Wind Load AZI 60	None					24		
5	Wind Load AZI 90	WLX					24		
6	Wind Load AZI 120	None					24		
7	Wind Load AZI 150	None					24		
8	Wind Load AZI 180	None					24		
9	Wind Load AZI 210	None					24		
10	Wind Load AZI 240	None					24		
11	Wind Load AZI 270	None					24		
12	Wind Load AZI 300	None					24		
13	Wind Load AZI 330	None					24		
14	Distr. Wind Load Z	WLZ						21	
15	Distr. Wind Load X	WLX						21	
16	Ice Weight	OL1					12	21	
17	Ice Wind Load AZI 0	OL2					24		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(...
18	Ice Wind Load AZI 30	None					24		
19	Ice Wind Load AZI 60	None					24		
20	Ice Wind Load AZI 90	OL3					24		
21	Ice Wind Load AZI 120	None					24		
22	Ice Wind Load AZI 150	None					24		
23	Ice Wind Load AZI 180	None					24		
24	Ice Wind Load AZI 210	None					24		
25	Ice Wind Load AZI 240	None					24		
26	Ice Wind Load AZI 270	None					24		
27	Ice Wind Load AZI 300	None					24		
28	Ice Wind Load AZI 330	None					24		
29	Distr. Ice Wind Load Z	OL2						21	
30	Distr. Ice Wind Load X	OL3						21	
31	Seismic Load Z	ELZ			-0.099		12		
32	Seismic Load X	ELX	-0.099				12		
33	Service Live Loads	LL							
34	Maintenance Load 1	LL				1			
35	Maintenance Load 2	LL				1			
36	Maintenance Load 3	LL				1			

Load Combinations

	Description	S...PD...	S...B...Fact...	BLC	Fact...	BLC	Fact...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4DL	Y... Y	1 1.4														
2	1.2DL + 1WL AZI 0	Y... Y	1 1.2	2	1	14	1	15									
3	1.2DL + 1WL AZI 30	Y... Y	1 1.2	3	1	14	.866	15	.5								
4	1.2DL + 1WL AZI 60	Y... Y	1 1.2	4	1	14	.5	15	.866								
5	1.2DL + 1WL AZI 90	Y... Y	1 1.2	5	1	14		15	1								
6	1.2DL + 1WL AZI 120	Y... Y	1 1.2	6	1	14	-.5	15	.866								
7	1.2DL + 1WL AZI 150	Y... Y	1 1.2	7	1	14	-.866	15	.5								
8	1.2DL + 1WL AZI 180	Y... Y	1 1.2	8	1	14	-1	15									
9	1.2DL + 1WL AZI 210	Y... Y	1 1.2	9	1	14	-.866	15	-.5								
10	1.2DL + 1WL AZI 240	Y... Y	1 1.2	10	1	14	-.5	15	-.866								
11	1.2DL + 1WL AZI 270	Y... Y	1 1.2	11	1	14		15	-1								
12	1.2DL + 1WL AZI 300	Y... Y	1 1.2	12	1	14	.5	15	-.866								
13	1.2DL + 1WL AZI 330	Y... Y	1 1.2	13	1	14	.866	15	-.5								
14	0.9DL + 1WL AZI 0	Y... Y	1 .9	2	1	14	1	15									
15	0.9DL + 1WL AZI 30	Y... Y	1 .9	3	1	14	.866	15	.5								
16	0.9DL + 1WL AZI 60	Y... Y	1 .9	4	1	14	.5	15	.866								
17	0.9DL + 1WL AZI 90	Y... Y	1 .9	5	1	14		15	1								
18	0.9DL + 1WL AZI 120	Y... Y	1 .9	6	1	14	-.5	15	.866								
19	0.9DL + 1WL AZI 150	Y... Y	1 .9	7	1	14	-.866	15	.5								
20	0.9DL + 1WL AZI 180	Y... Y	1 .9	8	1	14	-1	15									
21	0.9DL + 1WL AZI 210	Y... Y	1 .9	9	1	14	-.866	15	-.5								
22	0.9DL + 1WL AZI 240	Y... Y	1 .9	10	1	14	-.5	15	-.866								
23	0.9DL + 1WL AZI 270	Y... Y	1 .9	11	1	14		15	-1								
24	0.9DL + 1WL AZI 300	Y... Y	1 .9	12	1	14	.5	15	-.866								
25	0.9DL + 1WL AZI 330	Y... Y	1 .9	13	1	14	.866	15	-.5								
26	1.2D + 1.0Di	Y... Y	1 1.2	16	1												
27	1.2D + 1.0Di + 1.0Wi AZI 0	Y... Y	1 1.2	16	1	17	1	29	1	30							
28	1.2D + 1.0Di + 1.0Wi AZI 30	Y... Y	1 1.2	16	1	18	1	29	.866	30	.5						
29	1.2D + 1.0Di + 1.0Wi AZI 60	Y... Y	1 1.2	16	1	19	1	29	.5	30	.866						
30	1.2D + 1.0Di + 1.0Wi AZI 90	Y... Y	1 1.2	16	1	20	1	29		30	1						
31	1.2D + 1.0Di + 1.0Wi AZI 120	Y... Y	1 1.2	16	1	21	1	29	-.5	30	.866						
32	1.2D + 1.0Di + 1.0Wi AZI 150	Y... Y	1 1.2	16	1	22	1	29	-.866	30	.5						
33	1.2D + 1.0Di + 1.0Wi AZI 180	Y... Y	1 1.2	16	1	23	1	29	-1	30							

Bolt Calculation Tool, V1.4

PROJECT DATA	
Site Name:	East Killingly North
Site Number:	88011
Job Code:	1009-Z0003-B
Connection Description:	Mast Pipe to Platform

APPLIED LOADS		
Bolt Tension:	0.00	lbs
Bolt Shear:	669.65	lbs
Sliding Force:	1339.30	lbs
Torsion About Leg:	0.00	lbs-ft

BOLT PROPERTIES		
Bolt Type:	U-Bolt	-
Bolt Diameter:	0.625	in
Bolt Grade:	A307	-
# of U-Bolts:	1	-
Leg Diameter:	3.5	in
Threads Excluded?	No	-

BOLT CHECK		
Tensile Strength	10170.07	
Shear Strength	6902.91	
Tensile Usage	0.0%	
Shear Usage	9.7%	
Interaction Check	0.01	≤1.05
Result	Pass	

SLIP CHECK		
Torsional Resistance	1073.79	
Sliding Resistance	7363.11	
Torsional Usage	0.0%	
Sliding Usage	18.2%	
Interaction Check	0.03	≤1.05
Result	Pass	

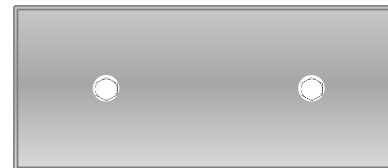


Exhibit F

Power Density/RF Emissions Report

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

T-Mobile Existing Facility

Site ID: CTNLI94A

1375 North Road
Dayville, Connecticut 06241

July 27, 2020

EBI Project Number: 6220003386

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	10.23%

July 27, 2020

T-Mobile

Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CTNLI94A

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1375 North Road in Dayville, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

General population/uncontrolled exposure limits apply to situations in which the general 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.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 1375 North Road in Dayville, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 5) 2 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

- 6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 7) 2 LTE channels (BRS Band - 2500 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 8) 2 NR channels (BRS Band - 2500 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.
- 9) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 10) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 11) The antennas used in this modeling are the Ericsson AIR 32 for the 2100 MHz / 1900 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s), in Sector A, the Ericsson AIR 32 for the 2100 MHz / 1900 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector B, the Ericsson AIR 32 for the 2100 MHz / 1900 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector C, Ericsson AIR 32 for the 2100 MHz / 1900 MHz channel(s), the RFS APXVAARR24_43-U-NA20 for the 700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector D. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all

- calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 12) The antenna mounting height centerline of the proposed antennas is 277 feet above ground level (AGL).
 - 13) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.
 - 14) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C	Sector:	D
Antenna #:	1	Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	2100 MHz / 1900 MHz	Frequency Bands:	2100 MHz / 1900 MHz	Frequency Bands:	2100 MHz / 1900 MHz	Frequency Bands:	2100 MHz / 1900 MHz
Gain:	15.85 dBd / 15.35 dBd	Gain:	15.85 dBd / 15.35 dBd	Gain:	15.85 dBd / 15.35 dBd	Gain:	15.85 dBd / 15.35 dBd
Height (AGL):	277 feet	Height (AGL):	277 feet	Height (AGL):	277 feet	Height (AGL):	277 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	8,728.31	ERP (W):	8,728.31	ERP (W):	8,728.31	ERP (W):	8,728.31
Antenna A1 MPE %:	0.41%	Antenna B1 MPE %:	0.41%	Antenna C1 MPE %:	0.41%	Antenna D1 MPE %:	0.41%
Antenna #:	2	Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	700 MHz / 600 MHz / 600 MHz / 1900 MHz / 2100 MHz
Gain:	13.35 dBd / 12.95 dBd / 12.95 dBd / 15.65 dBd / 16.35 dBd	Gain:	13.35 dBd / 12.95 dBd / 12.95 dBd / 15.65 dBd / 16.35 dBd	Gain:	13.35 dBd / 12.95 dBd / 12.95 dBd / 15.65 dBd / 16.35 dBd	Gain:	13.35 dBd / 12.95 dBd / 12.95 dBd / 15.65 dBd / 16.35 dBd
Height (AGL):	277 feet	Height (AGL):	277 feet	Height (AGL):	277 feet	Height (AGL):	277 feet
Channel Count:	9	Channel Count:	9	Channel Count:	9	Channel Count:	9
Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts
ERP (W):	11,055.53	ERP (W):	11,055.53	ERP (W):	11,055.53	ERP (W):	11,055.53
Antenna A2 MPE %:	0.78%	Antenna B2 MPE %:	0.78%	Antenna C2 MPE %:	0.78%	Antenna D2 MPE %:	0.78%
Antenna #:	3	Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Ericsson AIR6449 B41	Make / Model:	Ericsson AIR6449 B41	Make / Model:	Ericsson AIR6449 B41	Make / Model:	Ericsson AIR6449 B41
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd
Height (AGL):	277 feet	Height (AGL):	277 feet	Height (AGL):	277 feet	Height (AGL):	277 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts
ERP (W):	25,651.93	ERP (W):	25,651.93	ERP (W):	25,651.93	ERP (W):	25,651.93

Antenna A3 MPE %:	1.20%	Antenna B3 MPE %:	1.20%	Antenna C3 MPE %:	1.20%	Antenna D3 MPE %:	1.20%
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Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	2.39%
Sigfox	0.0000009%
Verizon	6.47%
Sprint	0.61%
AT&T	0.76%
Site Total MPE % :	10.23%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	2.39%
T-Mobile Sector B Total:	2.39%
T-Mobile Sector C Total:	2.39%
T-Mobile Sector D Total:	2.39%
Site Total MPE % :	10.23%

T-Mobile Maximum MPE Power Values (Sector A)							
T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 2100 MHz LTE	2	2307.55	277.0	2.16	2100 MHz LTE	1000	0.22%
T-Mobile 1900 MHz LTE	2	2056.61	277.0	1.93	1900 MHz LTE	1000	0.19%
T-Mobile 700 MHz LTE	2	648.82	277.0	0.61	700 MHz LTE	467	0.13%
T-Mobile 600 MHz LTE	2	591.73	277.0	0.55	600 MHz LTE	400	0.14%
T-Mobile 600 MHz NR	1	1577.94	277.0	0.74	600 MHz NR	400	0.18%
T-Mobile 1900 MHz LTE	2	2203.69	277.0	2.07	1900 MHz LTE	1000	0.21%
T-Mobile 2100 MHz UMTS	2	1294.56	277.0	1.21	2100 MHz UMTS	1000	0.12%
T-Mobile 2500 MHz LTE	2	6412.98	277.0	6.01	2500 MHz LTE	1000	0.60%
T-Mobile 2500 MHz NR	2	6412.98	277.0	6.01	2500 MHz NR	1000	0.60%
						Total:	2.39%

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

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:

T-Mobile Sector	Power Density Value (%)
Sector A:	2.39%
Sector B:	2.39%
Sector C:	2.39%
Sector D:	2.39%
T-Mobile Maximum MPE % (Sector A):	2.39%
Site Total:	10.23%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **10.23%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Exhibit G

Mailing Receipts/Proof of Notice

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- 1. Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.
- 2. Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.
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 Your driver will pickup your shipment(s) as usual.

Customers without a Daily Pickup

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SOUTH EASTON ,MA 02375

UPS Access Point™
CVS STORE # 7232
689 DEPOT ST
NORTH EASTON ,MA 02356

UPS Access Point™
TOWN LINE GENERAL STORE
450 E CENTER ST
WEST BRIDGEWATER ,MA 02379

FOLD HERE

<p style="text-align: right;">1 OF 1</p> <p>1 LBS</p> <p>CENTERLINE COMMUNICATIONS 5082655599 CENTERLINE CORPORATE 95 RYAN DR. RAYNHAM MA 02767</p> <p>SHIP TO: PATRICK MASSEY, PM, SITE DEVT. AMERICAN TOWER CORP 10 PRESIDENTIAL WAY WOBURN MA 01801-1053</p>	<p style="font-size: 2em;">MA 018 9-04</p> 	<p style="font-size: 1.5em;">UPS GROUND</p> <p>TRACKING #: 1Z 9Y4 503 03 0613 7329</p> 	<p style="text-align: right;">BILLING: P/P</p> <p>Reference # 1: CTNL194A - CSC to ATC</p> <p style="font-size: 0.8em;">CS 22.0.12. WNTNV50 31.0A 07/2020*</p> 
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Jennifer Iliades

From: UPS Quantum View <pkginfo@ups.com>
Sent: Thursday, September 10, 2020 10:33 AM
To: Jennifer Iliades
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030306137329



Hello, your package has been delivered.

Delivery Date: Thursday, 09/10/2020

Delivery Time: 10:31 AM

Left At: FRONT DESK

Signed by: ANCRI

CENTERLINE SITE ACQUISITION

Tracking Number: [1Z9Y45030306137329](#)

Ship To: AMERICAN TOWER CORP
10 PRESIDENTIAL WAY
WOBURN, MA 018011053
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 0.2 LBS

Reference Number: CTNL194A - CSC TO ATC



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- 3. GETTING YOUR SHIPMENT TO UPS**
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 Your driver will pickup your shipment(s) as usual.

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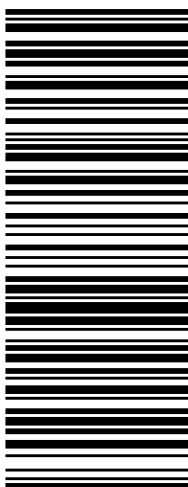

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450 E CENTER ST
WEST BRIDGEWATER ,MA 02379

FOLD HERE

<p style="text-align: right;">1 OF 1</p> <p style="text-align: center;">1 LBS</p> <p>CENTERLINE COMMUNICATIONS 5082655599 CENTERLINE CORPORATE 95 RYAN DR. RAYNHAM MA 02767</p> <p>SHIP TO: JASON ANDERSON, CHAIRMAN TOWN OF KILLINGLY 172 MAIN STREET KILLINGLY CT 06239-2822</p>	<p style="font-size: 2em;">CT 063 0-01</p> 	<p style="font-size: 1.5em;">UPS GROUND</p> <p>TRACKING #: 1Z 9Y4 503 03 1447 3343</p> 	<p style="text-align: center;">BILLING: P/P</p> <p>Reference # 1: CTNL194A - CSC to Town</p> <p style="font-size: 0.8em;">CS 22.0.12. WNTNV50 31.0A 07/2020*</p> 
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Jennifer Iliades

From: UPS Quantum View <pkginfo@ups.com>
Sent: Thursday, September 10, 2020 11:34 AM
To: Jennifer Iliades
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030314473343



Hello, your package has been delivered.

Delivery Date: Thursday, 09/10/2020

Delivery Time: 11:32 AM

Left At: FRONT DESK

Signed by: MORRISSETTE

CENTERLINE SITE ACQUISITION

Tracking Number: [1Z9Y45030314473343](#)

Ship To: TOWN OF KILLINGLY
172 MAIN STREET
KILLINGLY, CT 062392822
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 0.2 LBS

Reference Number: CTNL194A - CSC TO TOWN



[Download the UPS mobile app](#)

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[For Questions, Visit Our Help and Support Center](#)

UPS CampusShip: View/Print Label

- 1. Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.
- 2. Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.
- 3. GETTING YOUR SHIPMENT TO UPS**
Customers with a Daily Pickup
 Your driver will pickup your shipment(s) as usual.

Customers without a Daily Pickup

Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages. Hand the package to any UPS driver in your area.

UPS Access Point™
CVS STORE # 972
555 WASHINGTON ST
SOUTH EASTON ,MA 02375

UPS Access Point™
CVS STORE # 7232
689 DEPOT ST
NORTH EASTON ,MA 02356

UPS Access Point™
TOWN LINE GENERAL STORE
450 E CENTER ST
WEST BRIDGEWATER ,MA 02379

FOLD HERE

<p style="text-align: right;">1 OF 1</p> <p>1 LBS</p> <p>CENTERLINE COMMUNICATIONS 5082655599 CENTERLINE CORPORATE 95 RYAN DR. RAYNHAM MA 02767</p> <p>SHIP TO: ANN-MARIE L. AUBREY, DIR PLAN & DEV TOWN OF KILLINGLY 172 MAIN STREET KILLINGLY CT 06239-2822</p>	<p style="font-size: 2em;">CT 063 0-01</p> 	<p>UPS GROUND</p> <p>TRACKING #: 1Z 9Y4 503 03 1360 4337</p> 	<p>BILLING: P/P</p> <p>Reference # 1: CTNL194A - CSC to P&Z</p> <p style="font-size: 0.8em;">CS 22.0.12. WNTNV50 31.0A 07/2020*</p> 
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Jennifer Iliades

From: UPS Quantum View <pkginfo@ups.com>
Sent: Thursday, September 10, 2020 11:32 AM
To: Jennifer Iliades
Subject: UPS Delivery Notification, Tracking Number 1Z9Y45030313604337



Hello, your package has been delivered.

Delivery Date: Thursday, 09/10/2020

Delivery Time: 11:30 AM

Left At: FRONT DESK

Signed by: CLERK

CENTERLINE SITE ACQUISITION

Tracking Number: [1Z9Y45030313604337](#)

Ship To: TOWN OF KILLINGLY
172 MAIN STREET
KILLINGLY, CT 062392822
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 0.2 LBS

Reference Number: CTNL194A - CSC TO P&Z



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