



October 18, 2021

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

Re: Resubmitting as Tower Share application for EM-CING-162-210913
AT&T Site CT4062
AT&T Telecommunications Facility @ 428 Platt Hill Road, Winsted, CT 06098

Dear Ms. Bachman,

New Cingular Wireless, PCS, LLC ("AT&T") is proposing a wireless telecommunications facility on an existing +/- 225 feet self support lattice tower at the above referenced address (Latitude = 41.89828611, Longitude = - 73.11601111) and within the existing fenced compound. Said self support lattice tower is owned and operated by American Tower Corporation.

AT&T proposes to install a WIC (Walk-In Cabinet) and a Generator on proposed concrete pads inside a 20' x 10' ground space within the existing compound and install (6) antennas, (9) RRUS Radios, (1) Squid and mounts/cabling on the existing tower at 170' as more particularly detailed and described on the enclosed Construction Drawings prepared by NB+C Engineering, LLC., dated June 22, 2021. The overall height of the existing tower is and will remain at 225.5 feet and no changes will be made to the compound dimensions.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of AT&T 's intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A §16-50j-73, a copy of this letter is being sent to the following individuals: American Tower Corporation as Tower Operator/Owner and Property Owner; Joshua Kelly as Town Manager of the Town of Winchester; and Pamela Colombie as ZEO for the Town of Winchester.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-89. 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 (FCC) safety standard. *Please see the RF emissions calculation for AT&T's modified facility 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 May 22, 2021 prepared by American Tower Corporation enclosed herewith.

Connecticut General Statute 16-50aa indicates that the Council must approve the shared use of a telecommunications facility provided it finds the shared use is technically, legally, environmentally, and economically feasible and meets public safety concerns. As demonstrated in this letter, AT&T respectfully indicates that the shared use of this facility satisfies these criteria:

- A. Technical Feasibility. The existing tower has been deemed structurally capable of supporting AT&T's proposed loading (see attached Structural Analysis).
- B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit AT&T to obtain a building permit for the proposed installation. Further, a Letter of Authorization is attached, authorizing AT&T to file this application for shared use.
- C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of AT&T equipment at the 170-foot level of the existing 225-foot tower would have an insignificant visual impact on the area around the tower. AT&T ground equipment would be installed within the existing facility compound. AT&T shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by the attached NIER study, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.
- D. Economic Feasibility. AT&T will be entering into an agreement with the owner of this facility to mutually agreeable terms. As previously mentioned, the Letter of Authorization has been provided by the owner to assist AT&T with this tower sharing application.
- E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting AT&T proposed loading. AT&T is not aware of any public safety concerns relative to the proposed sharing of the existing tower. AT&T's intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through Winsted.

For the foregoing reasons, AT&T respectfully requests that the Council approve this request for the shared use of this tower located at 428 Platt Hill Road, Winsted, CT 06098.

If you have any questions, please feel free to contact me.

Sincerely,

Kimberly Revak

Site Acquisition Consultant – Agent for AT&T Centerline Communications, LLC 38 Treeline Court Fishkill, NY 12524

Phone: (845) 242-6152 krevak@clinellc.com

Enclosures: Exhibit 1 – Letter of Authorization

Exhibit 2 - Property Card and GIS

Exhibit 3 - Construction Drawings dated 06/22/21

Exhibit 4 – Structural Analysis Report

Exhibit 5 – Antenna Mount Analysis Report

Exhibit 6 – NIER Study Report Exhibit 7 – Tower Approval

Exhibit 8 – (4) Notice Confirmations

Cc: American Tower Corporation – Tower Operator/Owner

American Tower Corporation – Property Owner

Joshua Kelly – Town Manager of the Town of Winchester Pamela Colombie – ZEO for the Town of Winchester

Exhibit 1

Letter of Authorization from Tower Owner



LETTER OF AUTHORIZATION

ATC SITE #/NAME/PROJECT: 88019/Winstead/13626849 SITE ADDRESS: 428 Platt Hill Rd, Winsted, CT 06098-2516

APN: WINC-000037-000154-000026C

LICENSEE: AT&T MOBILITY d/b/a NEW CINGULAR WIRELESS PCS, LLC

I, Margaret Robinson, Senior Counsel for American Tower*, by and through its wholly owned subsidiary American Tower Management, LLC, owner of the property and tower facility located at the address identified above (the "Tower Facility"), do hereby authorize AT&T MOBILITY d/b/a NEW CINGULAR WIRELESS PCS, LLC, its successors and assigns, and/or its agent, (collectively, the "Licensee") to act as American Tower's non-exclusive agent for the sole purpose of filing and consummating any landuse or building permit application(s) as may be required by the applicable permitting authorities for Licensee's telecommunications' installation.

We understand that this application may be denied, modified, or approved with conditions. The above authorization is limited to the acceptance by Licensee only of conditions related to Licensee's installation and any such conditions of approval or modifications will be Licensee's sole responsibility.

Signature:

Print Name: Margaret Robinson

Senior Counsel American Tower*

NOTARY BLOCK

Commonwealth of MASSACHUSETTS County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Senior Counsel for American Tower*, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

WITNESS my hand and official seal, this 4th day of May, 2021.

NOTARY SEAL

GERARD T. HEFFRON
Notary Public
Commonwealth of Massachusetts
My Commission Expires
August 9, 2024

Notary Public

My Commission Expires: August 9, 2024

*American Tower includes all affiliates and subsidiaries of American Tower Corporation.

Exhibit 2 Property Card and GIS



428 PLATT HILL RD

Property Detail

Current Owner

Name: AMERICAN TOWERS INC Property ID #: 037 154 026C

Mailing Address:P O BOX 723597Total Acres:3.5ATLANTA, GA 31139Zoning:RR

Deed Book No: 290

Physical Address: 428 PLATT HILL RD Deed Book Page: 818

Valuation and Sales

Land Building Total Value \$49,000 \$35,770 \$85,960

Sale Price Sale Date \$167,879 02/16/2000

Building

Year Built: 1965 Story Height: 1

House Style:Telephone BldgNumber of Rooms:0Residential Area:1275Building Area:1275

428 PLATT HILL RD

Location 428 PLATT HILL RD

Mblu 037/ 154/ 026C/ /

Acct# 000553

Owner AMERICAN TOWERS INC

Assessment \$85,960

Appraisal \$122,800

PID 5318

Building Count 1

Current Value

Appraisal				
Valuation Year Improvements Land Total				
2018	\$52,800	\$70,000	\$122,800	
	Assessment			
Valuation Year	Improvements	Land	Total	
2018	\$36,960	\$49,000	\$85,960	

Owner of Record

Owner

AMERICAN TOWERS INC

Sale Price

\$167,879

Co-Owner

Certificate

Address

C/O AMERICAN TOWER CORP

Book & Page

00290/00818

PO BOX 723597 ATLANTA, GA 31139

Sale Date

02/16/2000

Ownership History

Ownership History					
Owner Sale Price Certificate Book & Page Sale Date					
AMERICAN TOWERS INC	\$167,879		00290/00818	02/16/2000	

Building Information

Building 1: Section 1

Year Built:

1965

Living Area:

1,275

Replacement Cost

Less Depreciation:

\$51,100

Building	Attributes
Field	Description

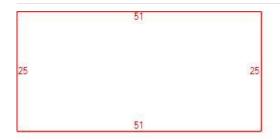
Style:	Telephone Bldg
Model	Ind/Comm
Grade	Low Quality
Stories:	1
Occupancy	1.00
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	T&G/Rubber
Interior Wall 1	Drywall/Plaste
Interior Wall 2	
Interior Floor 1	Vinyl/Asphalt
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Electr Basebrd
AC Type	None
Struct Class	
Bldg Use	Rad/TV TR
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	4310
Heat/AC	NONE
Frame Type	WOOD FRAME
Baths/Plumbing	NONE
Ceiling/Wall	NONE
Rooms/Prtns	AVERAGE
Wall Height	14.00
% Comn Wall	0.00

Building Photo



(http://images.vgsi.com/photos/WinchesterCTPhotos/\0005\IMG_1591_56

Building Layout



(ParcelSketch.ashx?pid=5318&bid=3902)

Building Sub-Areas (sq ft)			<u>Legend</u>
Code	Description	Gross Area	Living Area
BAS	First Floor	1,275	1,275
		1,275	1,275

Extra Features

Extra Features	<u>Legend</u>
No Data for Extra Features	

Land

Land Use		Land Line Valuation		
Use Code	4330	Size (Acres)	3.5	
Description	Rad/TV TR	Depth		
Zone	RR	Assessed Value	\$49,000	

Outbuildings

Outbuildings <u>Lec</u>					<u>Legend</u>	
Code	Description	Sub Code	Sub Description	Size	Value	Bldg#
FN6	W/O Top RL-4'			300.00 L.F.	\$1,700	1

Valuation History

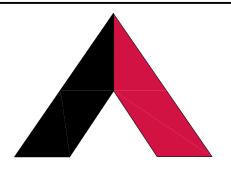
Appraisal				
Valuation Year	Improvements	Land	Total	
2020	\$52,800	\$70,000	\$122,800	
2017	\$52,800	\$70,000	\$122,800	
2016	\$50,900	\$70,000	\$120,900	

Assessment				
Valuation Year	Improvements	Land	Total	
2020	\$36,960	\$49,000	\$85,960	
2017	\$36,960	\$49,000	\$85,960	
2016	\$35,630	\$49,000	\$84,630	

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Exhibit 3 Construction Drawings





AMERICAN TOWER®

ATC SITE NAME: WINSTEAD ATC SITE NUMBER: 88019

AT&T PACE NUMBER: MRCTB050146

AT&T SITE ID: S4062

AT&T FA CODE:12676364

AT&T SITE NAME: WINCHESTER

SITE ADDRESS: 428 PLATT HILL RD WINSTEAD, CT 06098-2522 SITE LOCATION

LOCATION MAP

AT&T MOBILITY **COLOCATION PLAN**

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION		SHEET INDEX				11
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	SITE ADDRESS:		SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:	11
	428 PLATT HILL RD	THE PROPOSED PROJECT INCLUDES INSTALLING EQUIPMENT CABINETS AND A GENERATOR ON A PROPOSED	G-001	TITLE SHEET	0	06/22/21	ccc	11
TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.	WINSTEAD, CT 06098-2522	CONCRETE PAD INSIDE A 10' X 20' GROUND SPACE WITHIN THE EXISTING COMPOUND, AND INSTALLING NEW	G-002	GENERAL NOTES	0	06/22/21	ccc	11
INTERNATIONAL BUILDING CODE (IBC)	COUNTY: LITCHFIELD	EQUIPMENT AND MOUNTS ON THE EXISTING TOWER.	C-001	OVERALL SITE PLAN	0	06/22/21	ccc	11
NATIONAL ELECTRIC CODE (NEC)	GEOGRAPHIC COORDINATES: LATITUDE: 41.89828611°		C-101	DETAILED SITE PLAN	0	06/22/21	ccc	11
LOCAL BUILDING CODE CITY/COUNTY ORDINANCES	LONGITUDE: -73.11601111°		C-102	DETAILED EQUIPMENT LAYOUT	0	06/22/21	ccc	11
4. CITT/COUNTY ONDINANCES	GROUND ELEVATION: 1446' AMSL		C-201	TOWER ELEVATION	0	06/22/21	CCC	+1
	GROSINE ELEVITION. THE TIME		C-401	ANTENNA INFORMATION & SCHEDULE	0	06/22/21	ccc	+1
		PROJECT NOTES						+1
		THE FACILITY IS UNMANNED.	C-501	CONSTRUCTION DETAILS	0	06/22/21	CCC	41
	DDO JEOT TEAM	2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE	C-502	CONSTRUCTION DETAILS	0	06/22/21	ccc	41
	PROJECT TEAM	A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.	C-503	CONSTRUCTION DETAILS	0	06/22/21	ccc	┧╏
	TOWER OWNER: APPLICANT:	3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND	C-504	EQUIPMENT SPECIFICATIONS	0	06/22/21	ccc	IJ.
	AMERICAN TOWER AT&T MOBILITY 10 PRESIDENTIAL WAY 550 COCHITUATE ROAD WOBURN, MA 01801 FRAMINGHAM, MA 01701 ENGINEER:	DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.	E-101	GROUNDING DETAILS & ELECTRICAL SCHEMATIC	0	06/22/21	ccc	╽╽
			E-102	GROUNDING DETAIL	0	06/22/21	ccc	11
UTILITY COMPANIES		5. HANDICAP ACCESS IS NOT REQUIRED.	E-501	GROUNDING DETAILS	0	06/22/21	ccc] [
POWER COMPANY: EVER SOURCE PHONE: (877) 659-6326	NB+C ENGINEERING SERVICES, LLC.		E-601	PANEL SCHEDULE	0	06/22/21	ccc	11
,	8601 SIX FORKS ROAD, SUITE 540 RALEIGH. NC 27615	PROJECT LOCATION DIRECTIONS	R-601	SUPPLEMENTAL				11
TELEPHONE COMPANY: FRONTIER COMMUNICATIONS PHONE: (800) 376-6843	,	PROJECT LOCATION DIRECTIONS	R-602	SUPPLEMENTAL				11
	PROPERTY OWNER: AMERICAN TOWER		R-603	SUPPLEMENTAL				11
	116 HUNTINGTON AVE	FROM CITY: FRAMINGHAN, MA	R-604	SUPPLEMENTAL				11
	BOSTON, MA 02116	BOSTON, MA 02116 FROM 90 W (MASS) TAKE 8 S TO 44 W (WINSTED CT) THEN 263, 1.4 MILES ON LEFT IS PLATT HILL ROAD 1.6 MILES TO SITE ON	R-605	SUPPLEMENTAL				11
		ROUTE. FROM WATERBURY RT 8 NORTH TO EXIT 45 TAKE LEFT THEN RIGHT IN 2 MILES LEFT ON BURR MOUNTAIN RD THEN					1	1
Know what's below .		LEFT ON PLATT HILL RD TOWER ON LEFT.			+ +			11
Call before you dig.					+			+



3500 REGENCY PARKWAY SUITE 100 SUITE 100 CARY, NC 27518 PHONE: (919) 468-0112 COA: 0012746



8601 SIX FORKS ROAD, SUITE 540 RALEIGH, NC 27615 (919) 657-9131

REV.	DESCRIPTION	BY	DATE
<u> </u>	PRELIM	_ ccc	06/02/21
<u>/B\</u>	PRELIM	_ ccc	06/14/21
<u> </u>	FOR CONSTRUCTION	_ ccc	06/22/21
$\overline{\wedge}$ _			
$\overline{\triangle}$			

ATC SITE NUMBER: 88019

ATC SITE NAME: WINSTEAD

AT&T MOBILITY SITE NAME:

WINCHESTER

SITE ADDRESS: 428 PLATT HILL RD WINSTEAD, CT 06098-2522



DATE DRAWN:	06/02/21
ATC JOB NO:	13626849
CUSTOMER ID:	S4062
CUSTOMER #:	12676364

TITLE SHEET

SHEET NUMBER:

G-001

GENERAL CONSTRUCTION NOTES:

- OWNER FURNISHED MATERIALS, AT&T MOBILITY "THE COMPANY" WILL PROVIDE AND THE 22-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 RODIOS, BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORD EDILLING, 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 AT&T MOBILITY TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
- ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
- CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
- 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.
- DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS
 OTHERWISE NOTED.
- THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED 33.
 FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS. ETC.
- 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 AT&T MOBILITY REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION, ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE AT&T MOBILITY REP PRIOR TO
- 13. EACH CONTRACTOR SHALL COOPERATE WITH THE AT&T MOBILITY 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 ATAT MOBILITY CONSTRUCTION MANAGER.
- 15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
- WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE AT&T MOBILITY 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 FACH DAY
- 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 AT&T MOBILITY AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORLD.
- PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH AT&T MOBILITY 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 AT&T MOBILITY REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY AT&T MOBILITY MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
- 23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH AT&T MOBILITY SPECIFICATIONS AND REQUIREMENTS.
- CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO AT&T MOBILITY FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- 25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO AT&T MOBILITY SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
- 6. 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 AT&T MOBILITY 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
- 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 NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT 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 OUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE ATAT MOBILITY REP. ANY WORK FOUND BY THE ATAT MOBILITY 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. AT&T MOBILITY FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE AT&T MOBILITY 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. AT&T MOBILITY 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 AT&T MOBILITY OR THEIR ARCHITECT/ENGINEER.

STRUCTURAL STEEL NOTES:

- STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE
 AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL
 STEEL FOR PURINGS"
- 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
 - E. ASTM F-1554 07 ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
- 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.
- DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
- 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 3" 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.
- H. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.
- I. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND T- MOBILE PROJECT MANAGER IN WRITING

SPECIAL CONSTRUCTION ANTENNA INSTALLATION NOTES:

- WORK INCLUDED
 - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY AT&T MOBILITY UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OD COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND
 - B. INSTALL ANTENNA AS INDICATE ON DRAWINGS AND AT&T MOBILITY 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:
- ALL EXTERIOR #6 GREED GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE
 WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR
 FOLIA:
- ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

CONCRETE AND REINFORCING STEEL NOTES:

- 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 CONCRETE CONSTRUCTION AND MATERIALS", AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
- MIX DESIGN SHALL BE APPROVED BY AT&T MOBILITY REP PRIOR TO PLACING CONCRETE.
- 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

NORMAL WEIGHT AGGREGATE: ASTM C33

REINFORCEMENT: ASTM A185, PLAIN STEEL WELDED WIRE FABRIC REINFORCEMENT BARS: ASTM A615, GRADE 60, DEFORMED

WATER: ASTM C 94/C 94M
WELDED WIRE FABRIC: ASTM A185

ADMIXTURES:

ACTIVIATOS

-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".
- 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.
- 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 APPROVAL FROM AN ATC ENGINEER WHEN DRILLING HOLES IN CONCRETE.
- ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN "METHOD 1" OF ACI 301.
- DO NOT WELD OR TACK WELD REINFORCING STEEL.
- 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.
- 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.
- 14. ALL CONCRETE SHALL HAVE A "SMOOTH FORM FINISH."
- 15. 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.
- DETAILING OF REINFORCING STEEL SHALL CONFORM TO "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).
- 17. ALL SLAB CONSTRUCTION SHALL BE CAST MONOLITHICALLY WITHOUT HORIZONTAL CONSTRUCTION JOINTS, UNLESS SHOWN IN THE CONTRACT DRAWINGS.
- 18. 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
- 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".
- 20. BAR SUPPORTS SHALL BE ALL-GALVANIZED METAL WITH PLASTIC TIPS.
- 21. 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.
- SLAB ON GROUND: COMPACT STRUCTURAL FILL TO 95% DENSITY AND THEN PLACE 6" GRAVEL BENEATH SLAB.

ELECTRICAL NOTES:

- ELECTRICAL DESIGN SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR.

 STRUCTURAL DESIGN SHALL BE PERFORMED BY GENERAL CONTRACTOR. ELECTRICAL
 CONTRACTOR SHALL ENSURE THAT ALL WORK COMPLIES WITH ALL APPLICABLE LOCAL
 AND STATE CODES AND NATIONAL ELECTRICAL CODE.
- 2. ALL SUGGESTED ELECTRICAL ELEMENTS (SUCH AS BREAKER SIZES, WIRE SIZES, CONDUITS SIZES ARE FOR ZONING PURPOSES ONLY. IT IS THE RESPONSIBILITY TO OF THE ELECTRICAL CONTRACTOR TO CONFIRM COMPLIANCE WITH LOCAL ELECTRICAL CODES AND PASS ALL APPLICABLE AND NECESSARY INSPECTIONS. IN SOME EVENTS, IT MAY BE NECESSARY TO PERFORM AN ELECTRICAL LOAD STUDY TO VERIFY THE CAPACITY OF THE EXISTING SERVICE. THIS IS NOT THE RESPONSIBILITY OF CONCORDIA IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- . CONTRACTOR SHALL FIELD LOCATE ALL BELOW GRADE GROUND LINES AND UTILITY LINES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES AND GROUND LINES THAT MAY BECOME DISTURBED OR CONSTRUCTION.

 THE COURSE OF CONSTRUCTION.

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.



AMERICAN TOWER®

A.T. ENGINEERING SERVICE, PLLC

3500 REGENCY PARKWAY

SUITE 100

CARY, NC 27518

PHONE: (919) 468-0112

COA: 0012746



8601 SIX FORKS ROAD, SUITE 540 RALEIGH, NC 27615 (919) 657-9131

REV.	DESCRIPTION	BY	DATE
<u> </u>	PRELIM	<u>ccc</u>	06/02/21
∕B\	PRELIM	ccc	06/14/21
$\overline{\wedge}$	FOR CONSTRUCTION	CCC	06/22/21
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ATC SITE NUMBER: 88019

ATC SITE NAME: WINSTEAD

AT&T MOBILITY SITE NAME:

WINCHESTER
SITE ADDRESS:

428 PLATT HILL RD WINSTEAD, CT 06098-2522

SEAL:





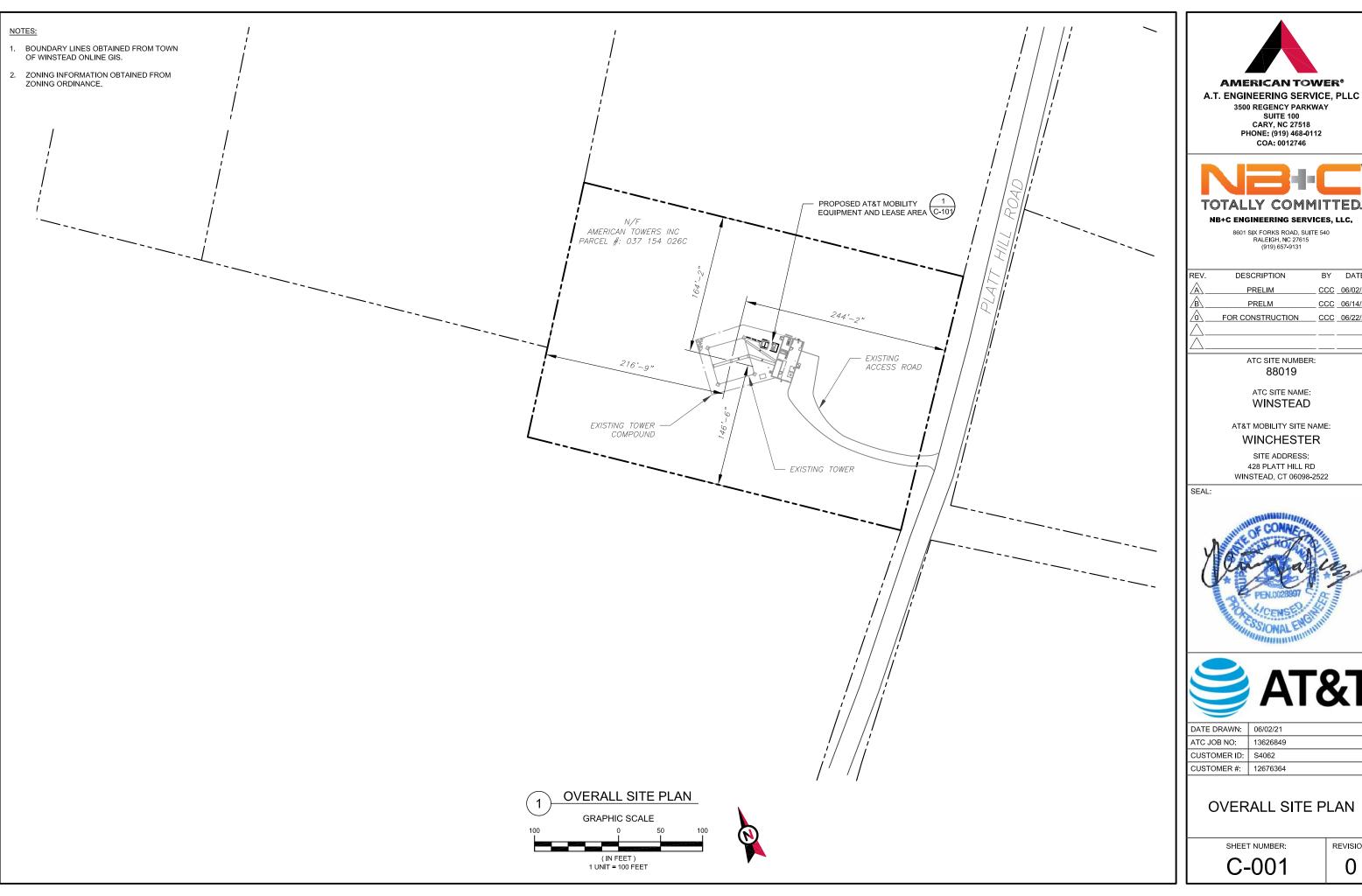
DATE DRAWN: 06/02/21
ATC JOB NO: 13626849
CUSTOMER ID: S4062
CUSTOMER #: 12676364

GENERAL NOTES

SHEET NUMBER:

G-002

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\mathbb{A}_{-}	PRELIM	ccc	06/02/21
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WINSTEAD

428 PLATT HILL RD WINSTEAD, CT 06098-2522





	DATE DRAWN:	06/02/21
	ATC JOB NO:	13626849
	CUSTOMER ID:	S4062
	CUSTOMER #:	12676364

OVERALL SITE PLAN

SITE PLAN NOTES:

TRN

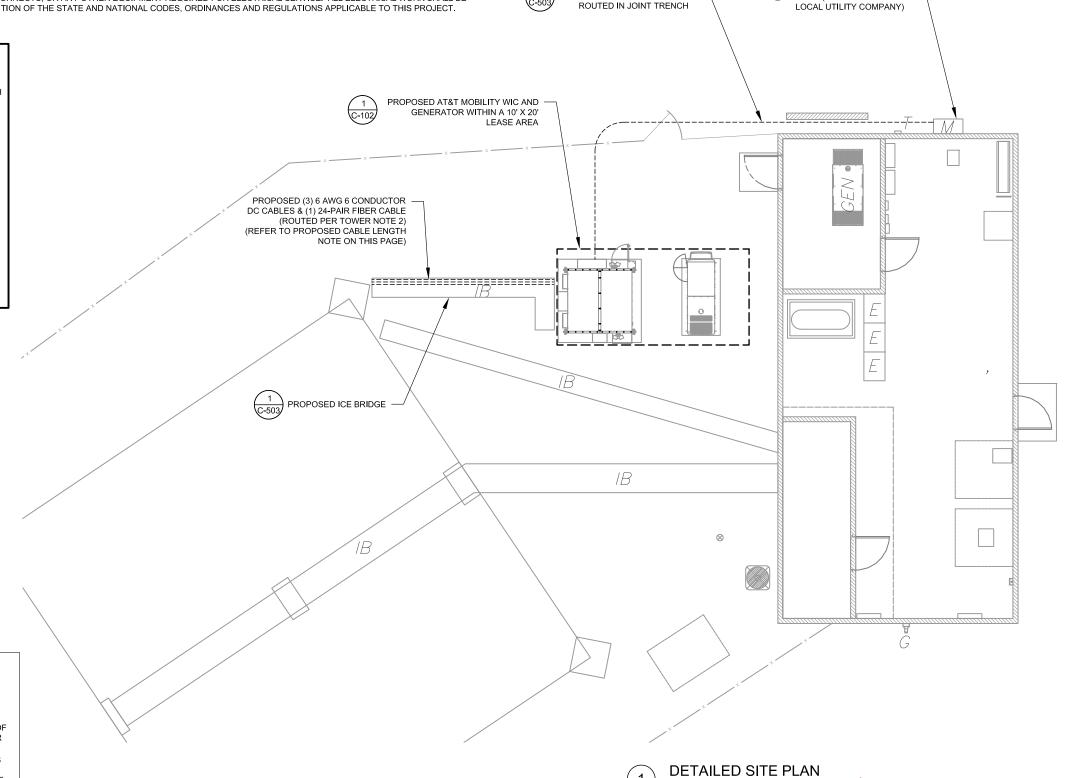
- 1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
- 2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX 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. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE AT&T MOBILITY REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.

LEGEND

GROUNDING TEST WELL AUTOMATIC TRANSFER SWITCH ATS **BOLLARD** CSC CELL SITE CABINET D DISCONNECT ELECTRICAL FIBER GEN GENERATOR GENERATOR RECEPTACAL HH, V HAND HOLE, VAULT ΙB ICE BRIDGE KENTROX BOX LC LIGHTING CONTROL METER PB PULL BOX PΡ POWER POLE TELCO.

TRANSFORMER

CHAINLINK FENCE



PROPOSED UNDERGROUND

POWER AND TELCO CONDUITS

PROPOSED CABLE LENGTH:

- 1. ESTIMATED LENGTH OF PROPOSED CABLE IS 220'. 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).





COA: 0012746

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8601 SIX FORKS ROAD, SUITE 540 RALEIGH, NC 27615 (919) 657-9131

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<u>B</u> _	PRELIM	ccc	06/14/21
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ATC SITE NUMBER: 88019

ATC SITE NAME: WINSTEAD

AT&T MOBILITY SITE NAME:

WINCHESTER

SITE ADDRESS: 428 PLATT HILL RD WINSTEAD, CT 06098-2522

SEAL:





DATE DRAWN:	06/02/21
ATC JOB NO:	13626849
CUSTOMER ID:	S4062
CUSTOMER #:	12676364

DETAILED SITE PLAN

SHEET NUMBER:

C-101

REVISION



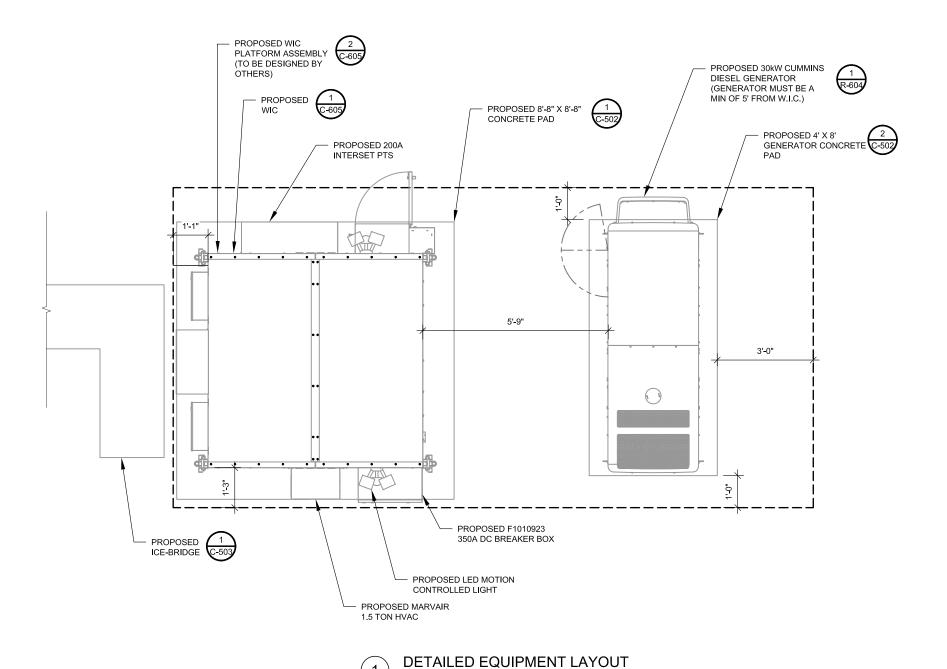
(IN FEET)

1 UNIT = 10 FEET

PROPOSED UTILITY

(COORDINATE WITH

METER & DISCONNECT



SCALE: NOT TO SCALE



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SEAL





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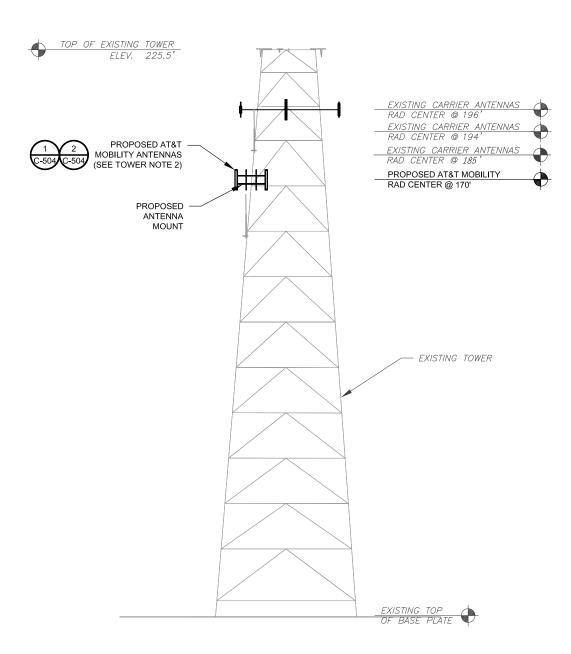
DETAILED EQUIPMENT LAYOUT

SHEET NUMBER:

REVISION:

C-102

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- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT 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.
- 2. WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
- 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).
- 4. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)



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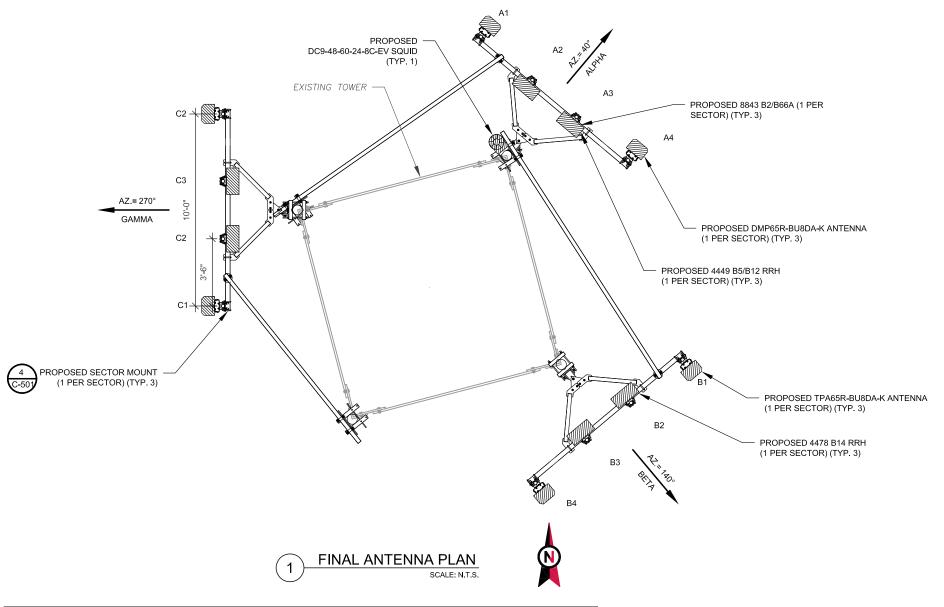
TOWER ELEVATION

SHEET NUMBER:

REVISION:

C-201

TOWER ELEVATION SCALE: N.T.S.



	FINAL ANTENNA SCHEDULE										
LO	CATION			ANT	ENNA SUMMARY			NON ANTENNA SUMMA	ARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS		
			A1	TPA65R-BU8DA-K	700	0/2	ADD	RRUS 4478 B14	ADD		
			A2	=	-	-	-	-	-		
ALPHA	170'	40°	А3	=	-	-	-	-	-		
						A4	DMP65R-BU8D	700/1900	0/2	ADD	RRUS 4449 B5 B12, RRUS 8843B2 B66A
			B1	TPA65R-BU8DA-K	700	0/2	ADD	RRUS 4478 B14	ADD		
			B2	=	-	-	-	-	-		
BETA	170'	140°	В3	-	-	-	-	-	-		
			В4	DMP65R-BU8D	700/1900	0/2	ADD	RRUS 4449 B5 B12, RRUS 8843B2 B66A	ADD		
			C1	TPA65R-BU8DA-K	700	0/2	ADD	RRUS 4478 B14	ADD		
			C2	<u>-</u>	-	-	-	-	-		
GAMMA	170')' 270°	C3	=	-	-	-	-	-		
			C4	DMP65R-BU8D	700/1900	0/2	ADD	RRUS 4449 B5 B12, RRUS 8843B2 B66A	ADD		

CABLE LENGTHS FOR JUMPERS FIBER DISTRIBUTION/OVP TO RRU: 30' RRU TO ANTENNA: 20'

ANTENNA SCHEDULE

PROPOSED FIBER DISTRIBUTIO	N/OVP BOX	PROPOSED CABLING SUMMARY				
MODEL NUMBER	STATUS	COAX	DC	FIBER	STATUS	
DC9-48-60-24-8C-EV	ADD	-	(3) #6 AWG, 6 CONDUTOR	(1) 24 - PAIR	ADD	
-	-	=		-	-	



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	CUSTOMER #:	12676364

ANTENNA INFORMATION & SCHEDULE

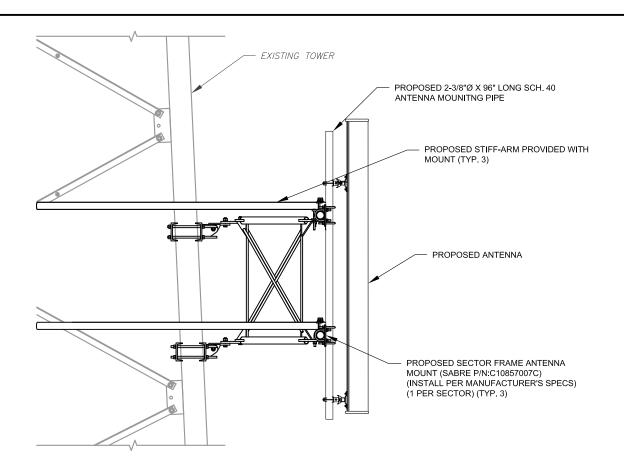
SHEET NUMBER:

C-401

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^{1.} CONFIRM WITH AT&T MOBILITY REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.

^{2.} CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.



PROPOSED ANTENNA MOUNTING DETAIL (ELEVATION)

PROPOSED SQUID (MOUNT PER MANUFACTURER'S SPECS)

(ENSURE THAT BRACKET

PROPOSED EQUIPMENT)

DOES NOT CONFLICT WITH EXISTING OR

PROPOSED SQUID MOUNTING

PROPOSED SECTOR FRAME ANTENNA MOUNT (SABRE P/N:C:10857007C)

ISOMETRIC SECTOR FRAME DETAIL

PROPOSED STIFF-ARM PROVIDED WITH MOUNT (TYP. 3)

PROPOSED RRU

PROPOSED RRU

PROPOSED RRU

PROPOSED PROPOSED RRU

PROPOSED SECTOR FRAME ANTENNA MOUNT (SABRE P/N:C10857007C) (INSTALL PER MANUFACTURER'S SPECS) (1 PER SECTOR) (TYP. 3)

EXISTING TOWER

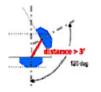
PROPOSED ANTENNA MOUNTING DETAIL (ELEVATION)

SCALE: NOT TO SCALE

PROPOSED 2-3/8"Ø X 96" LONG SCH. 40 ANTENNA MOUNITNG PIPE

RF REQUIREMENTS FOR 700 B14 FIRSTNET, 700 B12, 700D B29 ANTENNA SEPARATION

- ☐ Horizontal separation (side to side of antenna): >= 3'
- ☐ Vertical separation (between the tips of the antennas): > 3'
- ☐ Inter-sector separation: > 3' between the center of the antenna backplanes.



- □ Please note additional horizontal separation may be required if B14 antennas azimuth are different from others or antennas are severely angled with respect to the mount.
- ☐ Typical 3' horizontal separation can tolerate skew angle up to 6°.





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l	<u></u>	FOR CONSTRUCTION	CCC	06/21/21
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AT&T MOBILITY SITE NAME:

WINCHESTER

SITE ADDRESS: 428 PLATT HILL RD WINSTEAD, CT 06098-2522

SEAL:

CONNECTION

PEN.0028997

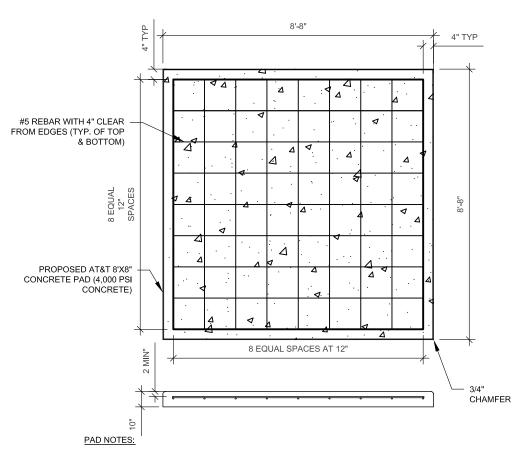
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CONSTRUCTION DETAILS

SHEET NUMBER:

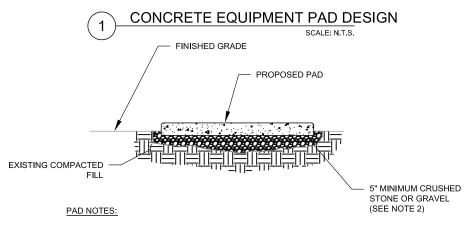
C-501



- ${\it 1. PADS SHALL BE PRE-CAST MATCHING THIS DESIGN WHERE ALLOWED BY LOCAL JURISDICTION.}\\$
- 2. REFER TO CONCRETE & REINFORCED STEEL NOTES ON SHEET G-002 & ATC SPEC 033000 FOR CAST-IN-PLACE PADS.
- 3. WALK-IN CABINET (WIC) TO BE INSTALLED ACCORDING TO MANUFACTURER RECOMMENDATIONS & SPECIFICATIONS.
- 4. CONTRACTOR TO CONFIRM PARTS & HARDWARE PRIOR TO CONSTRUCTION & COORDINATE WITH AT&T CM. 5. FOUNDATION TO BE FLUSH WITH EXISTING GRADE, CONTRACTOR SHALL MAINTAIN A MAXIMUM 18"
- CLEARANCE FROM GRADE TO BOTTOM OF WIC TO ACCOMMODATE STAIRS. VERIFY IN FIELD PRIOR TO POST
- INSTALLATION.

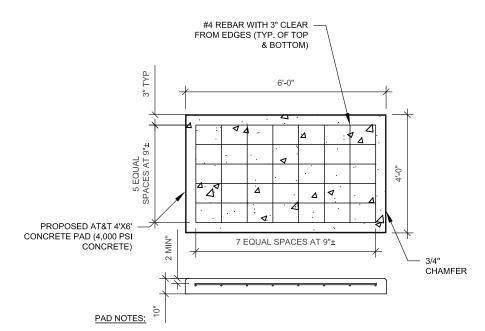
 6. COORDINATE POWER & TELCO CONDUIT STUBUP PLACEMENT WITH ELECTRICAL TRADES.

 7. PROVIDE WORKING HVAC AND ELECTRICAL WORKING SPACE CLEARANCES PER MANUFACTURER
- RECOMMENDATIONS AND CODE REQUIREMENTS.



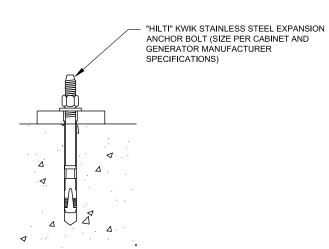
- 1. SUBGRADE AND FILL SHALL CONSIST OF CLEAN SOIL. DELETRIOUS MATERIAL AND ORGANICS SHALL BE REMOVED.
- 2. MECHANICALLY COMPACT FOOTPRINT OF PAD PLUS 2' PERIMETER.
- 3. USE GALVANIZED HILTI EXPANSION ANCHORS OR, APPROVED EQUAL, FOR EQUIPMENT ANCHORAGE.
- 4. FOR SIZE AND LOCATION OF ANCHORS AND OTHER REQUIREMENT, SEE **EQUIPMENT VENDOR DRAWINGS**

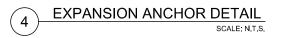




- 1. PADS SHALL BE PRE-CAST MATCHING THIS DESIGN WHERE ALLOWED BY LOCAL JURISDICTION. 2. REFER TO CONCRETE & REINFORCED STEEL NOTES ON SHEET G-002 & ATC SPEC 033000 FOR CAST-IN-PLACE PADS.
- 3. GENERATOR TO BE INSTALLED ACCORDING TO MANUFACTURER RECOMMENDATIONS &
- 4. CONTRACTOR TO CONFIRM PARTS & HARDWARE PRIOR TO CONSTRUCTION & COORDINATE WITH AT&T CM.
- 5. FOUNDATION TO BE FLUSH WITH EXISTING GRADE, CONTRACTOR SHALL MAINTAIN A MAXIMUM 18" CLEARANCE FROM GRADE TO BOTTOM OF WIC TO ACCOMMODATE STAIRS. VERIFY IN FIELD PRIOR TO POST INSTALLATION
- 6. COORDINATE POWER & TELCO CONDUIT STUBUP PLACEMENT WITH ELECTRICAL TRADES.
- 7. PROVIDE WORKING ELECTRICAL WORKING SPACE CLEARANCES PER MANUFACTURER RECOMMENDATIONS AND CODE REQUIREMENTS.









A.T. ENGINEERING SERVICE, PLLC

3500 REGENCY PARKWAY SUITE 100 **CARY, NC 27518** PHONE: (919) 468-0112 COA: 0012746



NB+C ENGINEERING SERVICES, LLC.

8601 SIX FORKS ROAD, SUITE 540 RALEIGH, NC 27615 (919) 657-9131

REV.	DESCRIPTION	BY	DATE
A.	PRELIM	ccc	06/02/21
B.	PRELIM	<u>ccc</u>	06/14/21
<u> </u>	FOR CONSTRUCTION	CCC	06/22/21
\triangle			
$\overline{\wedge}$			

ATC SITE NUMBER: 88019

ATC SITE NAME:

WINSTEAD AT&T MOBILITY SITE NAME:

WINCHESTER

SITE ADDRESS: 428 PLATT HILL RD WINSTEAD, CT 06098-2522



DATE DRAWN: 06/02/21 ATC JOB NO: 13626849 CUSTOMER ID: S4062 CUSTOMER #: 12676364

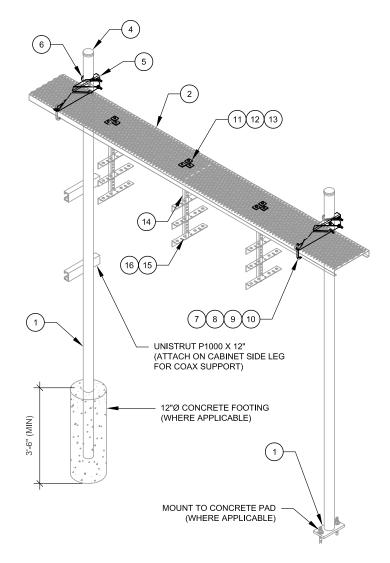
> CONSTRUCTION **DETAILS**

SHEET NUMBER:

C-502

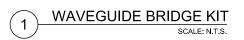
CONSTRUCTION NOTE:

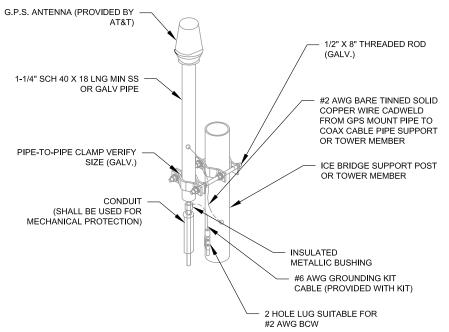
1. INSTALL ICE BRIDGE TO ALLOW 7 FEET CLEARANCE ABOVE GRADE TO LOWEST APPURTENANCE.



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	.		GWL-04	1/2" GALV LOCK WASHER
2	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	5 WBLB243.08 24" WAVEGUIDE BRIDGE SUPPORT BRACKET		13	GWF-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	GWF-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.

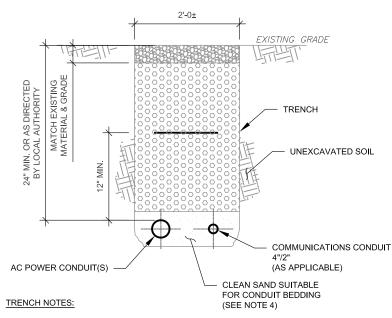




NOTE

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

2 GPS ANTENNA ATTACHMENT DETAIL
SCALE: N.T.S.



- 1. IF FREE OF ORGANIC OR OTHER DELETERIOUS MATERIAL, EXCAVATED MATERIAL MAY BE USED FOR BACKFILL. IF NOT, PROVIDE CLEAN, COMPACTIBLE MATERIAL.
- 2. 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. USE COMMUNICATIONS ONLY TRENCH FOR COMMUNICATIONS CONDUIT UNLESS
 TRAVELING UNDER PATH OF VEHICLE TRAVEL, THEN CONDUIT MUST BE 24" MIN. BELOW
 GRADE
- 5. CONFIRM SPACING AND DEPTH WITH NEC OR LOCAL CODE REQUIREMENTS





A.T. ENGINEERING SERVICE, PLLC 3500 REGENCY PARKWAY

500 REGENCY PARKWAY SUITE 100 CARY, NC 27518 PHONE: (919) 468-0112 COA: 0012746



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8601 SIX FORKS ROAD, SUITE 540 RALEIGH, NC 27615 (919) 657-9131

REV.	DESCRIPTION	BY	DATE
<u> </u>	PRELIM	_ <u>ccc</u>	06/02/21
<u> </u>	PRELIM	_ ccc	06/14/21
△_	FOR CONSTRUCTION	_ ccc	06/22/21
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$\overline{\wedge}$			

ATC SITE NUMBER: 88019

ATC SITE NAME: WINSTEAD

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AT&T MOBILITY SITE NAME: WINCHESTER

SITE ADDRESS: 428 PLATT HILL RD WINSTEAD, CT 06098-2522

SEAL





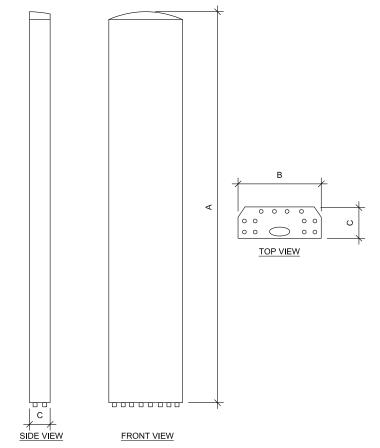
DATE DRAWN:	06/02/21
ATC JOB NO:	13626849
CUSTOMER ID:	S4062
CUSTOMER #:	12676364

CONSTRUCTION DETAILS

SHEET NUMBER:

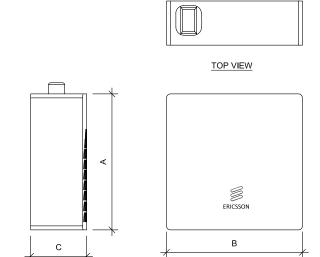
C-503

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ANTENNA SPECIFICATIONS				
ANTENNA MODEL	А	В	С	WEIGHT (LBS)
TPA65R-BU8D	96.0"	21.0"	7.8"	82.5
DMP65R-BU8D	96.0"	20.7"	7.7"	95.7

ANTENNA SPECIFICATIONS SCALE: N.T.S.



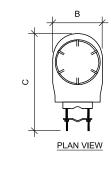
RRU SPECIFICATIONS				
RRU MODEL	А	В	С	WEIGHT (LBS)
RRUS 4478 B14	16.5"	13.4"	7.7"	59.9
RRUS 4449 B5, B12	17.9"	13.2"	9.4"	71.0
RRUS 8843 B2 B66A	14.9"	13.2"	10.9"	72.0

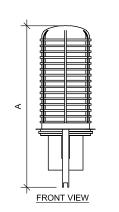
FRONT VIEW

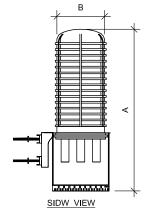
RRU SPECIFICATIONS

SIDW VIEW

SCALE: N.T.S.







RAYCAP SPECIFICATIONS				
RAYCAP MODEL	А	В	С	WEIGHT (LBS)
DC9-48-60-24-8C-EV	31.4"	18.3"	10.2"	16

RAYCAP EQUIPMENT SPECIFICATIONS



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A.	PRELIM	<u>ccc</u>	06/02/21
B.	PRELIM	CCC	06/14/21
\triangle	FOR CONSTRUCTION	ccc	06/22/21
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ATC SITE NUMBER: 88019

ATC SITE NAME: WINSTEAD

AT&T MOBILITY SITE NAME:

WINCHESTER

SITE ADDRESS: 428 PLATT HILL RD WINSTEAD, CT 06098-2522



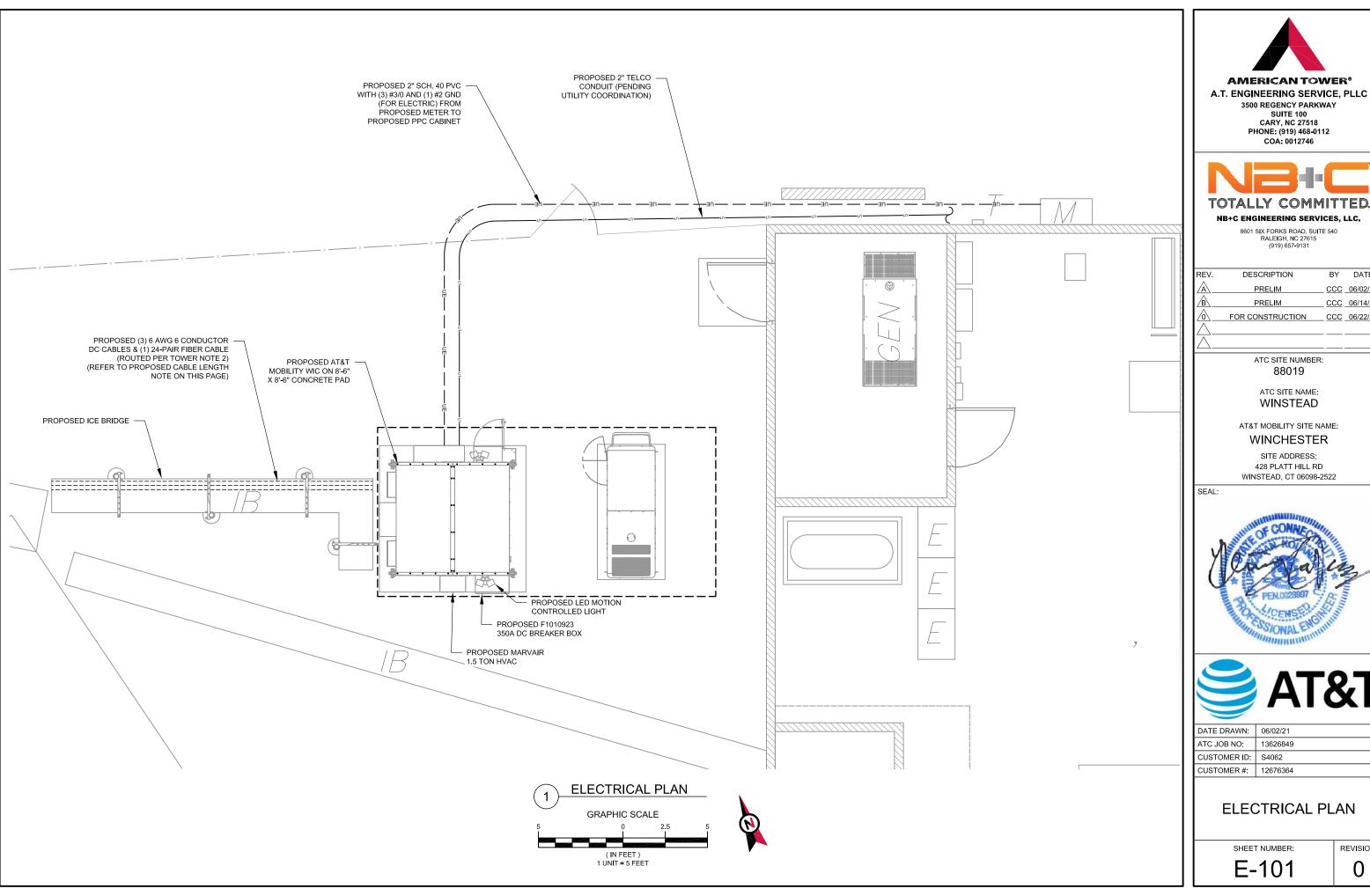


	DATE DRAWN:	06/02/21
	ATC JOB NO:	13626849
	CUSTOMER ID:	S4062
	CUSTOMER #:	12676364

EQUIPMENT SPECIFICATIONS

SHEET NUMBER:

C-504





3500 REGENCY PARKWAY SUITE 100 CARY, NC 27518 PHONE: (919) 468-0112 COA: 0012746



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ŀ		REV.	DESCRIPTION	BY	DATE
		\mathbb{A}_{-}	PRELIM	ccc	06/02/21
		B_	PRELIM	ccc	06/14/21
		<u></u>	FOR CONSTRUCTION	ccc	06/22/21
		$\overline{\wedge}$			
-	ı	$\overline{\ \ }$			

ATC SITE NAME:

AT&T MOBILITY SITE NAME:

428 PLATT HILL RD WINSTEAD, CT 06098-2522





DATE DRAWN:	06/02/21
ATC JOB NO:	13626849
CUSTOMER ID:	S4062
CUSTOMER #:	12676364

ELECTRICAL PLAN

REVISION:

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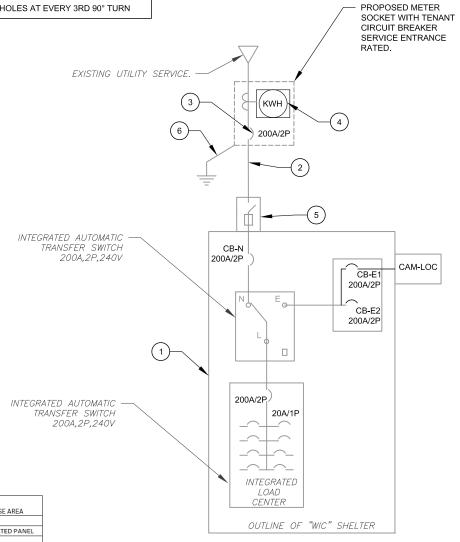
ELECTRICAL NOTES:

- POWER TRANSFER LOAD CENTER (PTLC) INCLUDES A CAM-LOC GENERATOR CONNECTION PANEL, AND ATS, A MECHANICALLY INTERLOCKED TRANSFER SWITCH, A 200A 42 CIRCUIT PANEL AND SURGE SUPPRESSION.
- CONTRACTOR SHALL FURNISH AND INSTALL POWER CONDUCTORS (3#3/0, #6 G IN 2"C) FROM METER CENTER TO SHELTER. METER WILL BE FURNISHED AND INSTALLED BY LOCAL UTILITY COMPANY.
- 3 CONTRACTOR SHALL PROVIDE AND INSTALL CIRCUIT BREAKER IN METER CENTER TO FEED AT&T SHELTER. CIRCUIT BREAKER SHALL BE 200A, 240V, 1PH, 3W TYP AND AIC RATING SHALL MATCH EXISTING.
- CONTRACTOR SHALL PROVIDE AND INSTALL NAMEPLATE ON METER TO INDICATE "AT&T". NAMEPLATES SHALL BE PHENOLIC, WHITE LETTERS ON BLACK BACKGROUND.
- 5 SHELTER DISCONNECT IS FURNISHED WITH SHELTER. ON SITES WHERE SERVICE IS OBTAINED FROM AN EXISTING SOURCE (METER CENTER), OR SERVICE DISCONNECT IS LOCATED ON EQUIPMENT RACK, SHELTER DISCONNECT MAY BE OMITTED.
- 6 ALL EQUIPMENT SHALL BE GROUNDED PER NEC (MIN #2 SBTC) AND AT&T STANDARDS.

NOTE:

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

2. CONTRACTOR TO INSTALL HANDHOLES AT EVERY 3RD 90° TURN



ELECTRICAL ONE LINE DIAGRAM

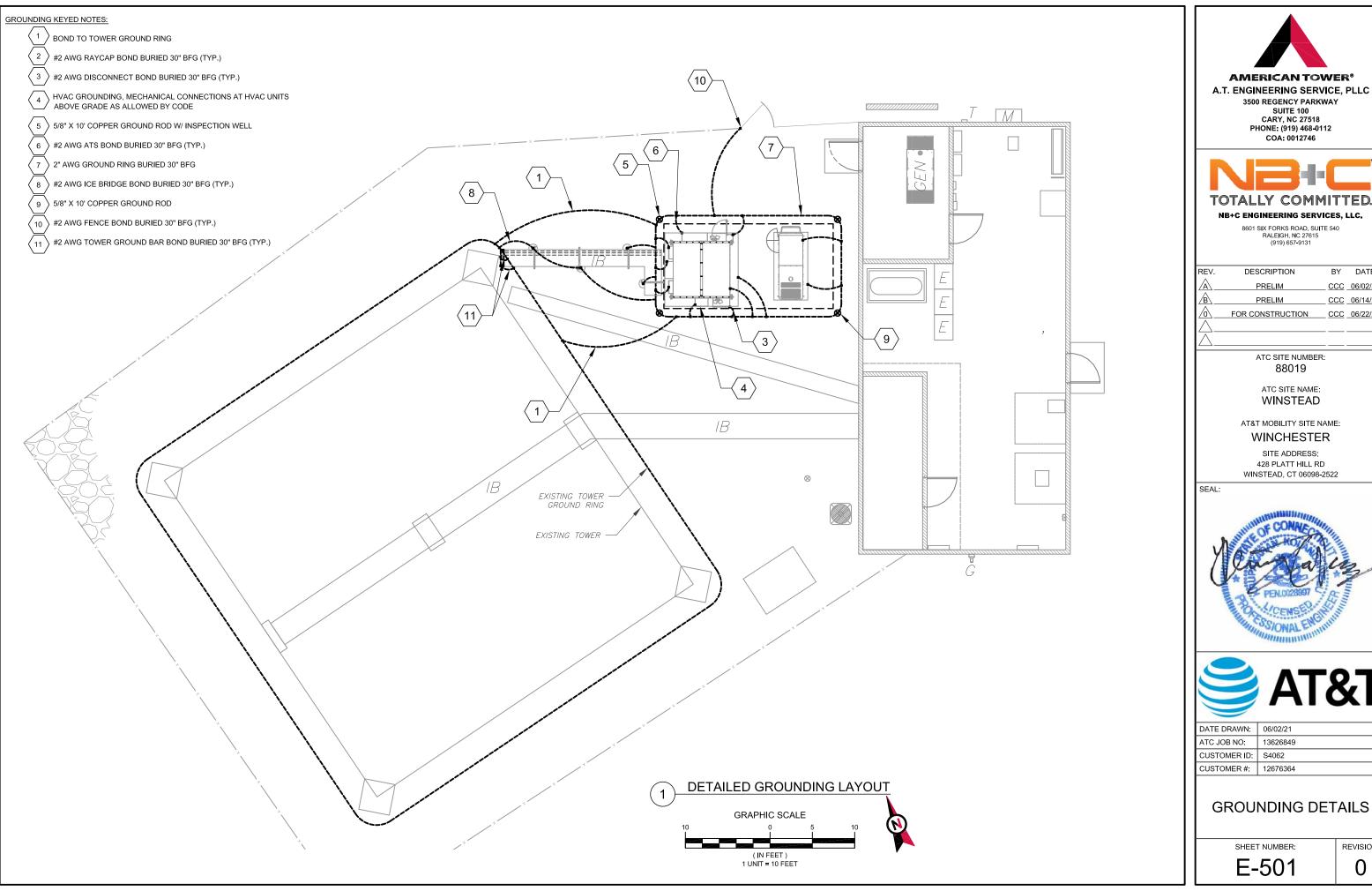
PANEL DESIGNA	TION:	AT&T	TYPE: MOUNTING: ENCLOSURE		NG & APP	PLIANCE		SYSTEM: MAIN BRI MAIN BU		1B):	20	3W, 42 CKT 00A	LOCATION:PANEL NOTES:	AT&T LI		
			ENCLOSORE					MIN. A.I.				5K	PANEL NOTES.	WICHNIEG	RATEDE	PAINEL
							•						-			
CONNI	ECTED		FEE	DER OR BRA	ANCH CIR	CUIT		FEE	DER OR B	RANCH CIF	CUIT				CONN	ECTED
LOAD	(KVa)	BRIEF DESCRIPTION	BRE	AKER	POLE	CIRC.		CIRC.	POLE		BREAKER		BRIEF DESCRIPTION		LOAD	(KVa)
Α	В		AMPS	POLES	NO.	NOTES		NOTES	NO.	POLES	AMPS				Α	В
2.00		RECTIFIER #1	30	2	1				2	1	20		EXT. GFCI OUTLETS		0.18	
	2.00	KECHI IEK WI	30		3				4	2	30		RECTIFIER #2			2.00
2.00		RECTIFIER #3	30	2	5				6				NEOTH TEN 112		2.00	
	2.00	NEOTH IEN 115	50		7				8	2	30		RECTIFIER #4			2.00
2.00		RECTIFIER #5	30	2	9				10						2.00	
	2.00				11				12	2	30		RECTIFIER #6			2.00
0.00		SPACE			13				14						2.00	
	0.00	SPACE			15				16				SPACE			0.00
0.00		SPACE			17				18				SPACE		0.00	
	0.00	SPACE			19				20				SPACE			0.00
0.00		SPACE			21				22				SPACE		0.00	
	0.00	SPACE			23				24				SPACE			0.00
3.50		1.5 TON AC UNIT	20	2	25				26				SPACE		0.00	
	3.50				27				28	1	20		GFI RECEPT / LIGHT			0.70
0.48		FIBER BOX OUTLET	20	1	29				30	1	20		GEN BLOCK HEATER		1.92	
	0.00	SPACE			31				32	1	20		BATTERY CHARGER			1.92
0.00		SPACE			33				34				SPACE		0.00	
	0.00	SPACE			35				36				SPACE			0.00
0.00		SPACE			37				38				SPACE		0.00	
	0.00	SPACE			39				40				SPACE			0.00
0.00		SPACE			41				42				SPACE		0.00	
10.0	9.5					A	В	TOT		1				L	8.1	8.6
						18.1	18.1	36		4	ED LOAD (k					
						18.1	18.1	36	.2	DEMAND	LOAD (kVA)	DERATING FAC			
ı	DEMAND LOAD SIZING: 189 AN						AMPS									

NOTES:

- 1. ALL CONDUCTORS ARE TYPE THWN (75°C) COPPER.
- 2. MAXIMUM LENGTH OF RUN FOR RECTIFIER CIRCUITS IS 50 FT.









3500 REGENCY PARKWAY SUITE 100 CARY, NC 27518 PHONE: (919) 468-0112 COA: 0012746



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\mathbb{A}_{-}	PRELIM	ccc	06/02/21
<u>B</u> _	PRELIM	ccc	06/14/21
$\overline{\wedge}$	FOR CONSTRUCTION	CCC	06/22/21
$\overline{\wedge}$			
$\overline{\Box}$			

WINSTEAD

428 PLATT HILL RD WINSTEAD, CT 06098-2522



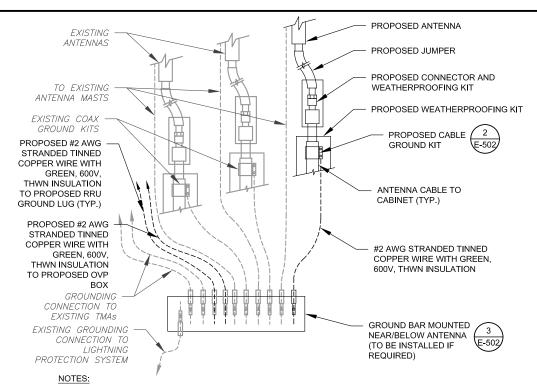


	DATE DRAWN:	06/02/21
	ATC JOB NO:	13626849
	CUSTOMER ID:	S4062
	CUSTOMER #:	12676364

GROUNDING DETAILS

REVISION:

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- 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 AT&T MOBILITY GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH AT&T MOBILITY GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL

TYPICAL ANTENNA GROUNDING DIAGRAM



TO EQUIPMENT

GROUND KIT NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

TO ANTENNA

 \bigcirc

2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

ANTENNA CABLE 2 1/2"Ø MAX

GROUNDING KIT PER CABLE

#2 AWG STRANDED TINNED COPPER GROUND WIRE

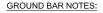
TO GROUND BAR

(GROUNDED TO GROUND BAR)

(ANDREW OR APPROVED EQUAL)

MANUFACTURER'S RECOMMENDATIONS





3/8" X 1-1/2" SS BOLT

(EACH SIDE)

0

GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).

3/8" SSLOCK WASHER (EACH DDE)

1/4" X 4" X 6" GROUND BAR (ERICO P/N: EGBA14406CC OR EQUAL)

WITH #2 AWG BCW

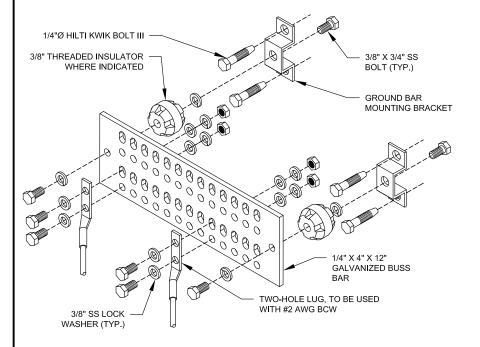
BAR ONLY)

TWO-HOLE LUG, TO BE USED

(LOWER TOWER GROUND

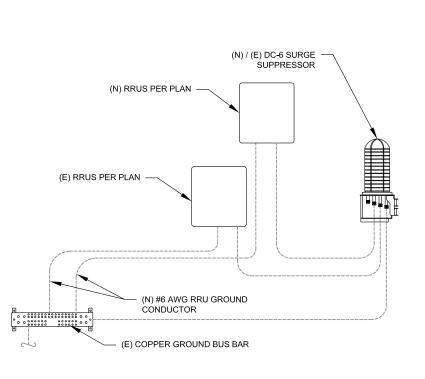
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.





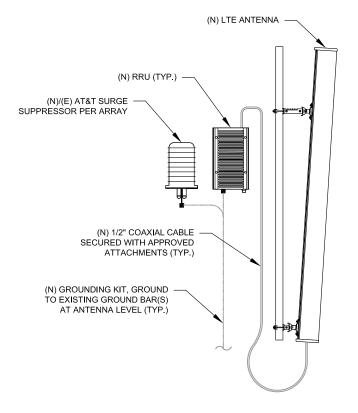
GROUND BAR NOTES

- GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
- 2. GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.



RRU GROUNDING

SCALE: N.T.S.



ANTENNA/RRU GROUNDING SCALE: N.T.S.



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ATC SITE NUMBER: 88019

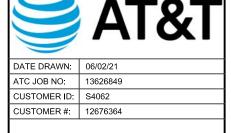
ATC SITE NAME: WINSTEAD

AT&T MOBILITY SITE NAME:

WINCHESTER

SITE ADDRESS: 428 PLATT HILL RD WINSTEAD, CT 06098-2522





GROUNDING DETAILS

SHEET NUMBER:

REVISION

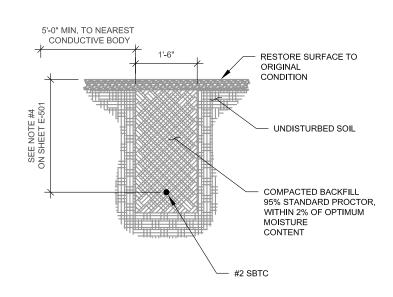
E-502

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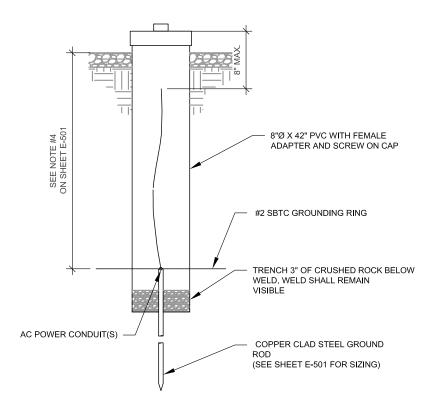


MAIN GROUND BAR DETAIL

SCALE: N.T.S.



GROUND CONNECTION TRENCH DETAIL



TEST WELL DETAIL



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l	REV.	DESCRIPTION	BY	DATE
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l	B_	PRELIM	_ ccc	06/14/21
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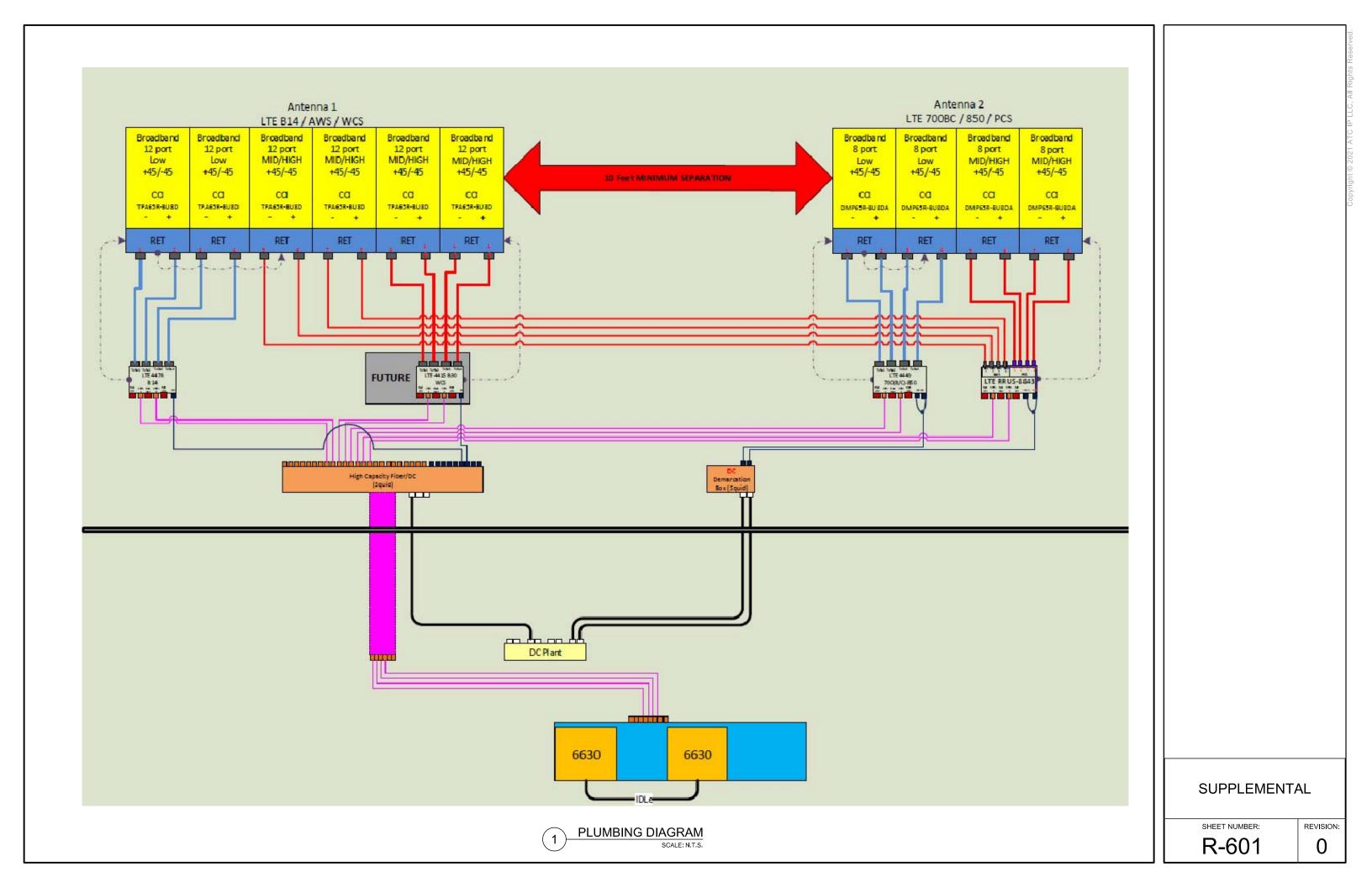
	DATE DRAWN:	06/02/21
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	CUSTOMER ID:	S4062
	CUSTOMER #:	12676364

GROUNDING DETAILS

SHEET NUMBER:

REVISION: E-503

0





Antenna Mount Analysis Report

ATC Site Name : WINSTEAD, CT

Engineering Number : 13626849 CS C

Mount Bevation : 170 ft

Carrier : AT&T Mobility

Carrier Site Name : Winchester

arnersite Number : 540

Sibs Location : 428 Platt Hill Read

Wirested, CT 06098-2522 41.89828611 , -73.11601111

Country : Litchfield
Date : Way 6, 2021
Wax Usage : 51%

Result : Pass

Prepared By: Alan Samboy Structural Engineer

Alan Sambey

leniensed By:

Authorized by "BOR" 06 May 2021 11:13:18 COSIGN

COA: PEC.0001553



Eng. Number 13626849 CA 01 May 6, 2021

Introduction

The purpose of this report is to summarive results of the antenna mount analysis performed for ATIET Mobility at 170 ft.

Supporting Documents

Specifications Sheet	Salare C10057007C, dated February 5, 2016			
Radio Frequency Data Sheet	RFDS ID 954062, dated March 5, 2621.			

Analysi

nna mount was analyeed using American Tower Corporation's Maunt Analysis Program and RISA-31

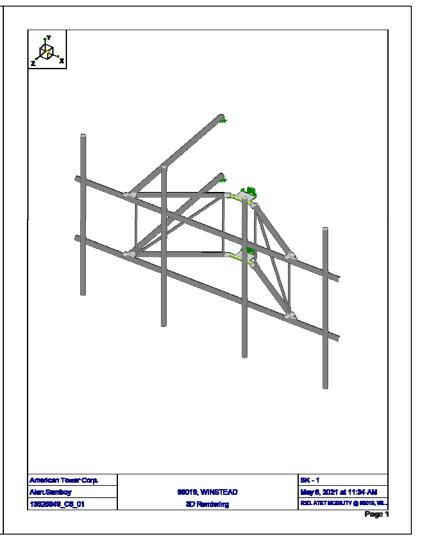
Basic Wind Speed:	114 mph (3-Second Gust)
Basic Wind Speed of Ice:	50 mph (3-Second Guer) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222 H
Exposure Category:	B.
Hish Category:	
Topographic Factor Procedene:	Method 2
Feature:	Flox.
Crest Height [H]:	0ft
Crest Length (L):	9枚
Spectral Response:	5s = 0.189, S1 = 0.054
Site Class:	D-32E5d
Live Leads:	Lnr = 500 lbs, Lv = 250 lbs

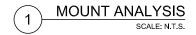
Conclusion

Based on the analysis vesults, the antenno mount meets the requirements per the applicable codes listed above. The mount can support the equipment as described in this report. Analysis based on new Sabre C10857000C sector frames or approved equivalent.

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

A.T. Faginesing Series, 1984–1988 Septemp Fortung, Subt 1983 – Carp, SC 77888 – 1984 SERSE DESco – 1984 SERSE SERVE – - manuscraft and manuscrate a



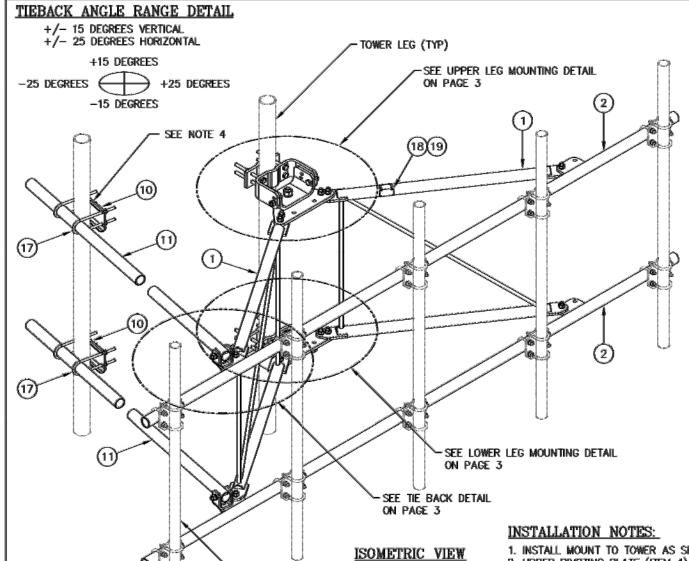


SUPPLEMENTAL

SHEET NUMBER:

R-602





	C:	10857007C	12' EHD V-BOOM ASSEMBLY W/TIEBACK	S		
ITEM	QTY.	PART NO.	DESCRIPTION	WEIGHT		
1.	2	CW01222	WELDMENT, STANDOFF ARM	126		
2.	2	CW01223	WELDMENT, FACE PIPE	147		
3.	2	CS03109	PLATE, ROTATING	34		
4.	1	CS03110	PLATE, PIVOTING (UPPER)	16		
5.	1	CS03111	PLATE, LEG CLAMP (UPPER)	17		
6.	1	CS03112	PLATE, PIVOTING (LOWER)	14		
7.	1	CS03113	PLATE, LEG CLAMP (LOWER)	17		
8.	2	CS03114	PLATE, LEG CLAMP (BACK)	14		
9.	2	CS00098	PLATE, TIE BACK SWIVEL	5		
10.	2	CS03285	PLATE, TIE BACK CLAMP	9		
11.	2	CS03333	PIPE, TIE BACK	76		
12.	2	C40026073	BOLT ASSEMBLY, 1 ø X 3 A325	4		
13.	8	C40140004	BOLT ASSEMBLY, 5/8 ø X 8 A307	13		
14.	2	C40026033	BOLT ASSEMBLY, 5/8 Ø X 4 1/2 A325	2		
15.	12	C40026025	BOLT ASSEMBLY, 5/8 Ø X 2 1/2 A325	6		
16.	6	C40026024	BOLT ASSEMBLY, 5/8 Ø X 2 1/4 A325	3		
17.	4	C40034183	U-BOLT ASSEMBLY, 1/2 ø X 2 9/16 C-C	6		
18.	1	Z30992017	MOUNT CLASSIFICATION TAG C10857007C	1		
19.	2	C40062103	STAINLESS STEEL SELF-LOCKING CABLE TIE	1		
			TOTAL WEIGHT	511		

PACKAGING NOTE

CK00386 INCLUDES ITEMS 1, 3, 4, 5, 6, 7, 12 & 15 (8 QTY) CK00392 INCLUDES ITEMS 2, 8, 9, 10, 11, 13, 14, 15 (4 QTY), 16, 17, 18 & 19

- 1. INSTALL MOUNT TO TOWER AS SHOWN, SO THAT WELDED STANDOFF DIAGONAL IS SLOPING DOWNWARD FROM TOWER END TO FACE PIPE END.
 2. UPPER PIVOTING PLATE (ITEM 4) HAS THREE HOLES ON EACH SIDE AND UPPER LEG CLAMP PLATE (ITEM 5) HAS TWO HOLES ON EACH SIDE FOR TAPER ADJUSTMENT.
- 3. INSTALL PRODUCT EXACTLY AS SHOWN IN DRAWING, WITH ALL BOLTS FACING UPWARDS.

NOTES:

- 1. MOUNTING PIPES & CROSSOVER PLATE KITS MUST BE PURCHASED SEPARATELY.
- 2. QUANTITIES SHOWN IN LISTS OF MATERIAL ARE FOR ONE (1) V-BOOM ONLY.

- SEE NOTE 1

- 3. THIS V-BOOM WILL MOUNT TO THE FOLLOWING: 1 1/2" # TO 5 9/16" # ROUND LEG.
- 4. TIEBACKS MUST BE CONNECTED TO A RIGID MEMBER THAT PROVIDES ADEQUATE SUPPORT WITHIN THE LIMITS NOTED ABOVE IN THE TIEBACK ANGLE RANGE DETAIL UNLESS APPROVED BY THE ENGINEER OF RECORD.

	-							,	
F		nsion nd af frac angl	is in He in Tions	CLUDE		l: Frances do not Van Material	APPLY	Sabre Industries Towers and Poles	
								CONFIDENTIAL This document and the information contained herein is the confidential trade secret property of Sabre Communications Corporation ("Sabre") and must not be reproduced, copied or used, in whole or in part, for any purpose without the prior written consent of Sabre.]
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REV	DATE	DRW	CHK		DE	SCRIPTION		All rights reserved.	ĝ

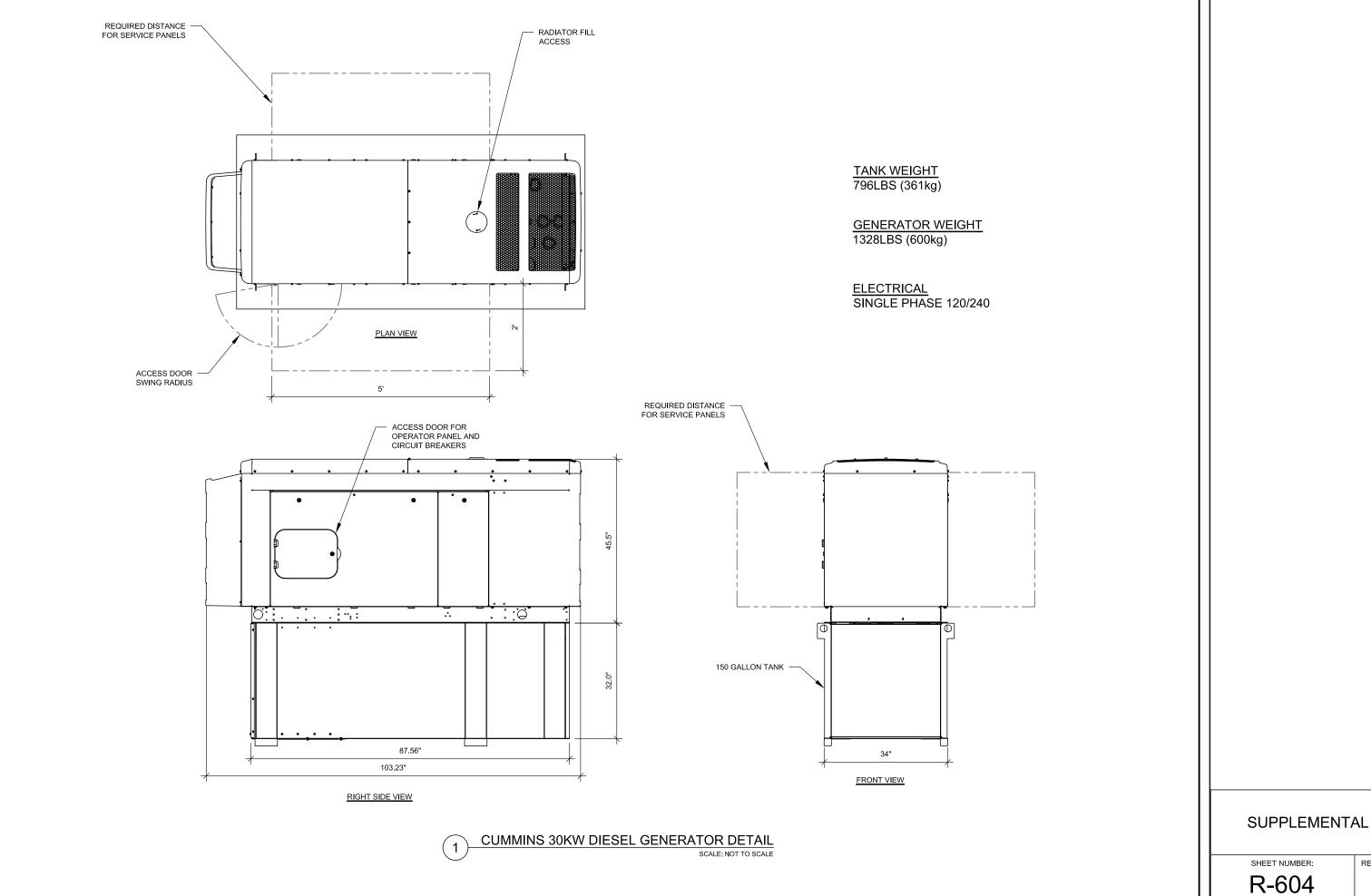
12' EHD V-BOOM ASSEMBLY W/TIEBACKS (3' STANDOFF) W/NO ANTENNA MOUNTING PIPES

			SIZE	DRA	WING NO.		REV
	DATE 02/29/16		В	C10857007C		1	
	DRAWN BY	WRF			SCALE	P	AGE
•	CHECKED BY KLE				None		0F 3

SUPPLEMENTAL

SHEET NUMBER:

R-603



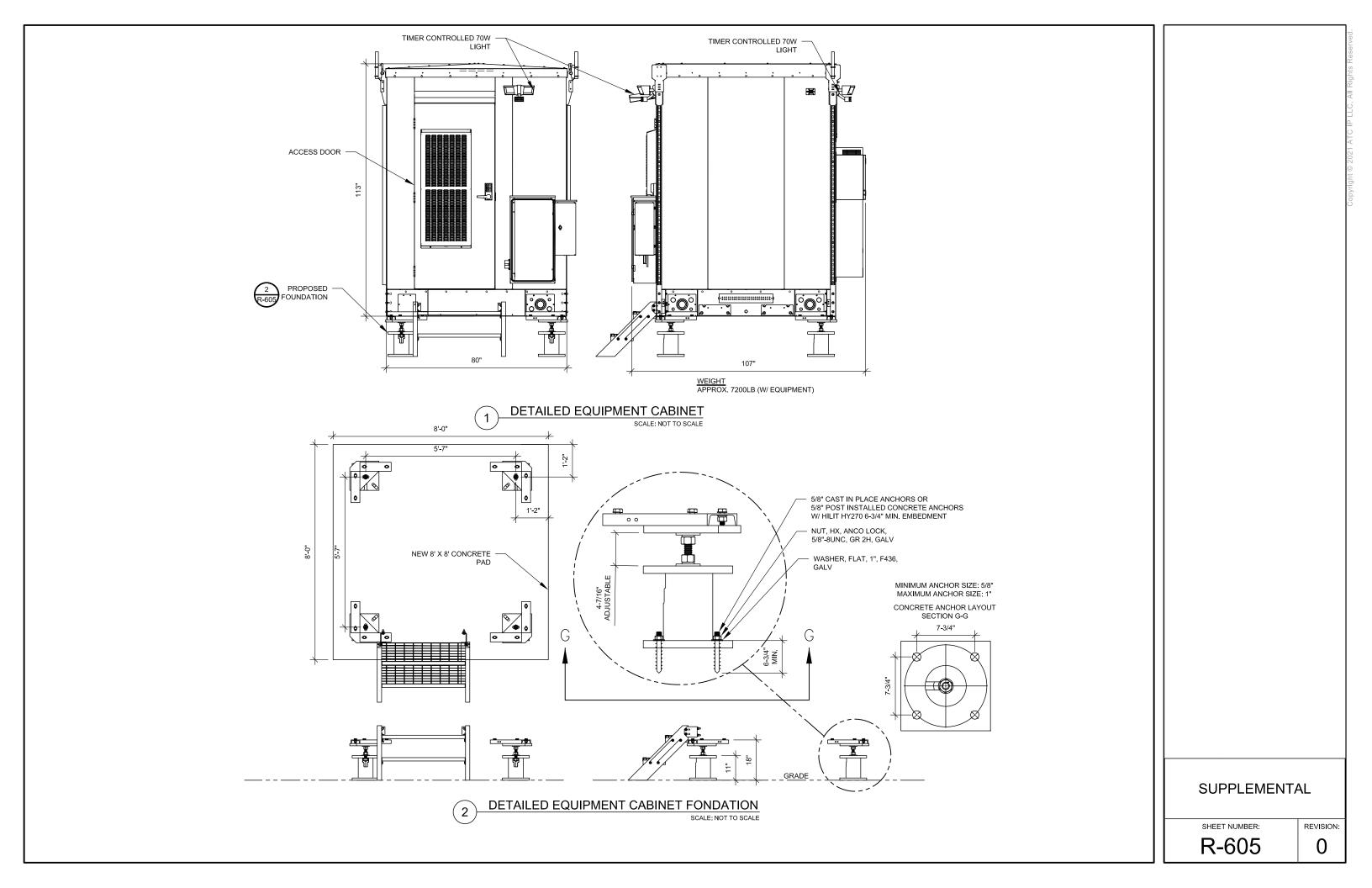


Exhibit 4 Structural Analysis Report



Structural Analysis Report

Structure : 225.5 ft Self Supported Tower

ATC Site Name : Winstead, CT

ATC Asset Number : 88019

Engineering Number : 13626849_C3_04

Proposed Carrier : AT&T MOBILITY

Carrier Site Name : Winchester

Carrier Site Number : \$4062

Site Location : 428 Platt Hill Road

Winsted, CT 06098-2522

41.898300, -73.116000

County : Litchfield

Date : May 22, 2021

Max Usage : 81%

Result : Pass

Prepared By: Reviewed By:

Isaac P. Dodson Structural Engineer III

Boor P. Dodan

COA: PEC.0001553



Table of Contents

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



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 225.5 ft self supported tower to reflect the change in loading by AT&T MOBILITY.

Supporting Documents

Tower Drawings	TEP Mapping: Job #070513, dated April 5, 2007
Foundation Drawing	TEP Mapping: Job #070513, dated April 5, 2007
Geotechnical Report	TEP Project #070513.02, dated April 4, 2007

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:	114 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:	В
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	Equipment	Mount Type	Lines	Carrier	
	3	Ericsson Radio 4449 B71 B85A				
	3	Ericsson 4424 B25		/1\ 1 1 /4"		
196.0	3	Ericsson Air6449 B41	Costor Framo	(1) 1 1/4" Hybriflex Cable	SPRINT NEXTEL	
196.0	3	RFS APXVAALL24 43-U-NA20	Sector Frame	(3) 1 5/8" Hybriflex	SEMINI NEXTEL	
	3	Ericsson RRUS 4415 B66		(3) 1 3/8 Trybrillex		
	3	RFS APX16DWV-16DWVS-E-A20				
194.0	1	Andrew DB616E-BC	Log	(1) 1 1/4" Coax	US DEPT OF	
154.0		Allulew DB010E-BC	Leg	(1)11/4 COax	HOMELAND SECURITY	
					ALL-STAR	
185.0	1	Comprod 872F-70SM	Side Arm	(1) 7/8" Coax	TRANSPORTATION,	
					LLC	

Equipment to be Removed

Elev.1 (ft) Qty	Equipment	Mount Type	Lines	Carrier
	No loading was considered	as removed as part of this	analysis.	

Proposed Equipment

Elev.1 (ft)	Qty	Equipment	Mount Type	Lines	Carrier
	3	Ericsson RRUS 8843 B2, B66A			
	3	Ericsson RRUS 4478 B14		(1) 0.39" (9.8mm)	
170.0	3	Ericsson RRUS 4449 B5, B12	Sector Frame	Cable	AT&T MOBILITY
170.0	2	Raycap DC9-48-60-24-8C-EV	Sector Frame	(3) 0.92" (23.4mm)	AIQIIVIODILIII
	3	CCI DMP65R-BU8D		Cable	
	3	CCI TPA65R-BU8D			

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

Install proposed coax on the tower face with the least amount of existing coax.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	42%	Pass
Diagonals	81%	Pass
Truss Diagonals	64%	Pass
Horizontals	37%	Pass
Truss Horizontals	32%	Pass
Anchor Bolts	31%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Uplift (Kips)	155.75	29%
Axial (Kips)	245.82	6%

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: 88019 - Winstead, CT Project Notes: 255 Type 18 AT&T Tag Tower Project File: X:\W-Z\Winstead, CT (88019)\Structural Info\88019.tow Date run : 5:11:46 PW Friday, May 21, 2021 by Incensed to: American Tower Corp.

Successfully performed nonlinear analysis

Member check option: ANSI/TIA 222-H-1
Connection rupture check: Not Checked
Crossing diagonal check: None
Climbing load check: None
Climbing load check: None
Redundant members checked with: Actual Force
Loads from file: x.\W-2\W-2\Winstead, CT (88019)\Structural Info\88019.eia

*** Analysis Results:

Maximum element usage is 81.05% for Angle "D 4X" in load case "W =90"

Foundation Design Forces For All Load Cases:

Load Case	Foundation	Axial	Shear	Bending	Foundation		
	Description	(kips)	(kips)	(ft-k)	Foundation Usage %		
w 0		100.75	20.24	2.10			
W O	U.V.	175.21	29.48	2.18	0.00		
W 0 W 0 W 0 W 180 W 180	0XY	-91.44	18.14	2.53	0.00		
w o	0 Y	-92.44	18.71	2.67	0.00		
W 180	0 P	-89.65	18.50	2.73	0.00		
W 180	0 X	-89.63	18.15	2.60	0.00		
W 180 W 180	UXY	173.39	29.46	2.08	0.00		
W 45	0.0	245.82	40.90	2.26	0.00		
W 45 W 45	0x	40.92	10.70	2.35	0.00		
W 45	0xy	-155.56	28.49	2.90	0.00		
W 45	0 Y	40.89	10.68	2.35	0.00		
W -45	0 P	45.65	11.50	2.52	0.00		
W -45 W -45	0 X	241.09	40.33	2.27	0.00		
W -45	UXY	-155 75	20.50	2.27	0.00		
W 90	01	180 81	30.76	2.30	0.00		
W 90	0 X	-92.47	18.72	2.67	0.00		
W 90	0XY	-91.39	18.13	2.53	0.00		
W 90	0.4	175.12	29.47	2.01	0.00		
W -90	0 P	-89.70	18.51	2.73	0.00		
W -90	0 X	178.04	30.14	2.23	0.00		
W -90 W -90	0XY	173.34	29.45	2.08	0.00		
W -90 W 0 Ice	UY	-89.61	18.14	2.60	0.00		
W 0 Ice	0.2	90.43	12.73	1.43	0.00		
W 0 Ice	OXY	23.27	1.55	2.19	0.00		
W 0 Ice 180 Ice 180 Ice 180 Ice 180 Ice	0 Y	24.81	1.49	2.25	0.00		
180 Ice	0 P	28.30	1.80	2.31	0.00		
180 Ice	0 X	25.55	1.75	2.26	0.00		
180 Ice	0XY	90.01	12.20	1.34	0.00		
180 Ice	UY	92.97	12.43	1.42	0.00		
180 Ice W 45 Ice W 45 Ice W 45 Ice -45 Ice -45 Ice -45 Ice -45 Ice -45 Ice W 90 Ice W 90 Ice	0.2	50 42	25.62	1.16	0.00		
W 45 Ice	OXY	6.39	2.44	2.38	0.00		
W 45 Ice	0 Y	58.39	6.65	1.87	0.00		
-45 Ice	0P	62.38	7.15	1.93	0.00		
-45 Ice -45 Ice	0 X	109.67	15.22	1.13	0.00		
-45 Ice	0XY	56.64	6.70	1.81	0.00		
-45 Ice	UY	8.14	2.47	2.45	0.00		
W 90 ICE	02	24.92	1 50	2.40	0.00		
♥ 90 Ice ♥ 90 Ice	OXY	23.28	1 55	2 19	0.00		
W 90 Ice	0 Y	92.24	12.24	1.39	0.00		
-90 Ice	0P	28.28	1.80	2.31	0.00		
-90 Ice	0 X	93.01	12.44	1.43	0.00		
-90 Ice -90 Ice	0XX	90.00	12.20	1.34	0.00		
-90 Ice 1.2D+E 0	0.7	25.53	1.75	2.26	0.00		
1.2D+E 0	0.5	115 20	16 22	0.30	0.00		
1.2D+E 0	0×v	-31.44	4.44	0.58	0.00		
1.2D+E 0	0 Y	-32.62	4.99	0.69	0.00		
.2D+E 45	0 P	152.05	21.52	0.03	0.00		
.2D+E 45	0 X	40.79	5.81	0.44	0.00		
.2D+E 45	0XY	-61.53	8.71	0.68	0.00		
.2D+E 45 .2D+E 90 .2D+E 90	0 Y	40.76	5.81	0.44	0.00		
.2D+E 90	012	120.98	17.13	0.30	0.00		
.2D+E 90	0.00	-32.04	4.99	0.69	0.00		
.2D+E 90	0.71	115.11	16.32	0.11	0.00		
0.9D+E 0	0P	109.16	15.39	0.30	0.00		
0.9D+E 0	0 X	104.20	14.67	0.12	0.00		
0.9D+E 0	0XY	-41.69	6.05	0.59	0.00		
0.9D+E 0	0 Y	-43.33	6.59	0.70	0.00		
.9D+E 45	0 P	140.22	19.77	0.04	0.00		
	UX	29.94	10.23	0.45	0.00		
0015 45		-/1./2	4 23	0.70	0.00		
1.9D+E 45	0.8						
0.9D+E 45 1.9D+E 45	0 Y	109.22	15.40	0.30	0.00		
0.9D+E 45 0.9D+E 45 0.9D+E 45 0.9D+E 45 0.9D+E 90 0.9D+E 90	0 Y 0 P 0 X	109.22 -43.36	15.40	0.30	0.00		
.9D+E 45 .9D+E 45 .9D+E 90 .9D+E 90 .9D+E 90	Foundation Description ORA ORA ORA ORA ORA ORA ORA ORA ORA OR	109.22 -43.36 -41.63	15.40 6.60 6.04	0.30 0.70 0.59	0.00 0.00 0.00		

Summary of Joint Support Reactions For All Load Cases:

Load Case	Joint	Long.	Tran.	Vert.	Shear	Tran.	Long.	Bending	Vert.	Found.
	Label			Force		Moment (ft-k)			Moment (ft-k)	Usage
		(Kips)	(kips)	(Kips)	(Kips)	(IL-K)	(It-K)	(IC-K)	(IL-K)	
w o				-180.75	30.34	-0.20	-2.17	2.18	-0.79	0.00
w o		-24.44	16.49 -7.95	-175.21 91.44	29.48	0.05		2.02	0.79	0.00
W O		-16.31	7.95	91.44	18.14	-0.39	-2.50	2.53		0.00
W 180	01 0P	16.85	7.62	89.65	18.50	-0.35		2.73	0.79	0.00
W 180	0x		-7.80	89.63	18.15	0.39		2.60		0.00
W 180	0xy	24.52		-173.39		0.05	2.08		-0.80	0.00
W 180	04			-177.95		-0.21			0.80	0.00
W 45				-245.82			-1.60		-0.00	0.00
W 45				-40.92	10.70	1.91				0.00
W 45 W 45	0XY 0Y		-20.14	155.56			-2.06 -1.90		-0.00 -1.17	0.00
W -45		-11.26		-45.65					-1.17	0.00
W -45				-241.09						0.00
W -45	OXY			-41.07			-1.80	2.27		0.00
W -45		-20.56					-2.16	2.98		0.00
W 90	0P			-180.81		2.17			0.79	
W 90	0x		-16.96	92.47	18.72	2.65				0.00
W 90	0xy		-16.30		18.13		-0.39		-0.79	0.00
W 90	0 Y				29.47		-0.05		-0.79	0.00
w -90 w -90	0P		16.87	89.70 -178.04	30.14	-2.71 -2.22	0.35		-0.79 -0.80	0.00
W -90	OXY			-173.34			-0.05	2.08		0.00
W -90	011		16.38			-2.57			0.80	0.00
W 0 Ice		-10.06			12.73	-1.27				0.00
W 0 Ice	0 X	-9.50		-92.29	12.25	1.18				0.00
W 0 Ice	0xx	-0.66		-23.27	1.55		-1.79			0.00
W 0 Ice	0Y			-24.81			-1.83		-0.19	0.00
W 180 Ice	0P	0.58		-28.30 -25.55		-1.31	1.90	2.31		0.00
W 180 Ice W 180 Ice	0X 0XY	9.59	7.54	-25.55	12.20	1.27	1.87		-0.20	0.00
W 180 Ice	01		=7.42	-92.97		-1.28		1.42	0.20	0.00
W 45 Ice				-113.63	15.62	-0.82	0.82	1.16	0.00	
W 45 Ice	0x	-5.97	2.95	-58.42	6.66	1.65	0.88	1.87	0.29	0.00
W 45 Ice	0xy		-1.73				-1.68		-0.00	0.00
W 45 Ice	04		-5.97		6.65	-0.88			-0.29	0.00
W -45 Ice	0P		-3.02	-62.38	7.15	-1.74	0.85		-0.30	
W -45 Ice W -45 Ice	0XY			-109.67 -56.64	6.70	0.73		1.13		0.00
W -45 Ice	01	-1.69	1.80		2.47			2.45		0.00
W 90 Ice				-96.47		-0.69			0.19	0.00
W 90 Ice	0x	-1.33	-0.68	-24.83	1.50	1.83	1.32	2.25	0.19	0.00
W 90 Ice	0xx	1.40	-0.66	-23.28	1.55	1.79			-0.20	0.00
W 90 Ice	01	7.73				-0.73		1.39		0.00
W -90 Ice	0P	-1.70		-28.28		-1.90	1.31		-0.19	0.00
W -90 Ice W -90 Ice	0X 0XY	-7.42 7.54		-93.01 -90.00	12.44	0.62		1.43	-0.20 0.20	0.00
W -90 Ice W -90 Ice		1.58	0.75			-1.87				0.00
1.2D+E 0				-120.93		-0.26			-0.04	0.00
1.2D+E 0		-11.90		-115.20			0.02	0.11	0.04	0.00
1.2D+E 0			-2.64	31.44	4.44	0.32	-0.48	0.58	0.05	0.00
1.2D+E 0	04	-4.25	2.60	32.62		-0.29	-0.63		-0.03	0.00
1.2D+E 45				-152.05		0.02			-0.00	0.00
1.2D+E 45	0X	-4.90	3.13	-40.79	5.81	0.43	0.09	0.44	0.05	0.00

1.2D+E 45	0XY	-6.16	-6.15	61.53	8.71	0.48	-0.48	0.68	-0.00	0.00
1.2D+E 45	0 Y	3.14	-4.88	-40.76	5.81	-0.10	-0.43	0.44	-0.05	0.00
1.2D+E 90	0P	-11.15	-13.00	-120.98	17.13	0.15	0.27	0.30	0.04	0.00
1.2D+E 90	0x	2.60	-4.26	32.64	4.99	0.63	0.29	0.69	0.03	0.00
1.2D+E 90	0xy	-2.64	-3.56	31.38	4.43	0.48	-0.32	0.58	-0.05	0.00
1.2D+E 90	0 Y	11.19	-11.88	-115.11	16.32	-0.02	-0.11	0.11	-0.04	0.00
0.9D+E 0	0P	-11.76	-9.93	-109.16	15.39	-0.26	-0.15	0.30	-0.04	0.00
0.9D+E 0	0x	-10.75	9.98	-104.20	14.67	0.12	0.01	0.12	0.04	0.00
0.9D+E 0	0xy	-4.72	-3.78	41.69	6.05	0.33	-0.49	0.59	0.05	0.00
0.9D+E 0	0 Y	-5.43	3.72	43.33	6.59	-0.28	-0.64	0.70	-0.03	0.00
0.9D+E 45	0P	-13.98	-13.99	-140.22	19.77	0.03	-0.03	0.04	-0.00	0.00
0.9D+E 45	0x	-3.76	1.93	-29.94	4.23	0.44	0.09	0.45	0.06	0.00
0.9D+E 45	0xy	-7.30	-7.29	71.72	10.32	0.49	-0.49	0.70	-0.00	0.00
0.9D+E 45	0 Y	1.94	-3.75	-29.91	4.23	-0.09	-0.44	0.44	-0.06	0.00
0.9D+E 90	0P	-9.93	-11.77	-109.22	15.40	0.15	0.26	0.30	0.04	0.00
0.9D+E 90	0x	3.72	-5.45	43.36	6.60	0.64	0.28	0.70	0.03	0.00
0.9D+E 90	0xy	-3.78	-4.71	41.63	6.04	0.49	-0.34	0.59	-0.05	0.00
0 90+5 90	ΩV	9 98	-10 74	-104 12	14 66	-0.01	-0.12	0.12	-0.04	0.00

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

Load Case	Support	Origin	Leg	Force In	Residual Shear	Residual Shear	Residual Shear	Residual Shear Horizontal	Total	Total	Total Vert.
	boliic	JOINE	Member	Deg DII.	To Leg	To Leg - Res.	To Leg - Long.	To Leg - Tran.	Force	Force	Force
				(kips)	(kips)	(kips)	(kips)	(kips)	(kips)	(kips)	(kips)
w o	0P	1P	L 1P	182.828	12.840	12.890	12.431	3.408	-25.49	-16.46	-180.75
W O	0X	1X	L 1X	177.240	12.345	12.396	11.787	-3.836	-24.44	16.49	-175.21
W U	0.00	171	T. 1V	=92.713 =93.750	10.764	10 349	10 274	=1 244	-16.31	7 92	91.44
W 180	0P	1P	L 1P	-90.942	10.410	10.443	-10.380	-1.147	16.85	7.62	89.65
W 180	0x	1x	L 1X	-90.904	9.969	10.002	-9.913	1.329	16.39	-7.80	89.63
W 180	0 XY	1XY	L 1XY	175.431	12.536	12.587	-11.993	-3.821	24.52	16.34	-173.39
W 180	0 Y	1Y	L 1Y	180.022	12.954	13.005	-12.576	3.310	25.43	-16.16	-177.95
W 45	02	1P	1 1 P	41 200	15./13	15.795	7 470	11.1/5	-10.42	-28.93	-245.82
W 45	OXY	1XY	L 1XY	-157.650	12.534	12.599	8.914	8.905	-20.15	-20.14	155.56
W 45	0 Y	1Y	L 1Y	41.256	9.162	9.163	5.308	7.469	-2.35	-10.42	-40.89
W -45	0P	1P	L 1P	46.054	9.760	9.761	7.964	-5.644	-11.26	2.35	-45.65
W -45	0X	1x	L 1X	243.944	15.631	15.712	10.677	-11.527	-28.09	28.94	-241.09
W -45	UXY	1XY	L 1XY	41.468	8.927	8.929	4.910	-7.458	-1.94	20.42	-41.07
W 90	0P	1P	L 1P	182.885	12.847	12.897	3.400	12.441	-16.46	-25.50	-180.81
W 90	0x	1x	L 1X	-93.775	10.325	10.358	-1.238	10.283	7.92	-16.96	92.47
W 90	0 XY	1XY	L 1XY	-92.656	9.758	9.790	1.348	9.697	-7.95	-16.30	91.39
W 90	0 Y	14	L 1Y	177.150	12.340	12.391	-3.843	11.780	16.49	-24.43	-175.12
W -90	0P	1P	L 1P	-90.999	10.416	10.449	-1.142	-10.387	-16 16	16.87	89.70
W -90	OXY	177	T. 1 Y Y	175 373	12.500	12 580	=3.505	=11 983	16 35	24 50	-173.34
W -90	01	1Y	L 1Y	-90.879	9.961	9.993	1.335	-9.904	-7.81	16.38	89.61
W 0 Ice	0P	1P	L 1P	97.238	3.192	3.204	3.095	0.830	-10.06	-7.80	-96.45
W 0 Ice	0X	1x	L 1X	93.053	3.013	3.026	2.833	-1.063	-9.50	7.73	-92.29
W 0 Ice	0XY	1XY	L 1XY	23.199	2.350	2.357	2.340	0.282	-0.66	1.40	-23.27
W U ICE	01	11	T 1D	24.730	2.302	2.310	2.400	-0.461	0.00	-1.33	-24.01
W 180 Ice	0x	1x	L 1X	25.477	2.604	2.612	-2.599	0.261	0.75	1.58	-25.55
W 180 Ice	0xx	1XY	L 1XY	90.776	3.248	3.261	-3.090	-1.041	9.59	7.54	-90.01
W 180 Ice	04	1Y	L 1Y	93.734	3.322	3.335	-3.258	0.708	9.97	-7.42	-92.97
W 45 Ice	0P	1P	L 1P	114.628	3.998	4.019	2.840	2.844	-11.05	-11.05	-113.63
W 45 Ice	0X	1X	L 1X	58.759	2.165	2.165	1.751	1.273	-5.97	2.95	-58.42
W 45 Ice	01	11	L 1Y	58.726	2.161	2.161	1.269	1.749	2.95	-5.97	-58.39
W -45 Ice	0P	1P	L 1P	62.735	2.465	2.466	1.972	-1.480	-6.48	-3.02	-62.38
W -45 Ice	0 X	1x	L 1X	110.652	4.006	4.027	2.619	-3.059	-10.54	10.98	-109.67
W -45 Ice	0XY	1XY	L 1XY	56.986	2.281	2.282	1.185	-1.950	2.91	6.04	-56.64
W =45 ICE	UY	11	L 1Y	7.846	3.283	3.300	2.2/5	-2.391	-1.69	-10.07	-8.14
W 90 Ice	0x	1x	L 1X	24.747	2.504	2.513	-0.460	2.471	-1.33	-0.68	-24.83
W 90 Ice	0xy	1XY	L 1XY	23.215	2.349	2.357	0.283	2.340	1.40	-0.66	-23.28
W 90 Ice	04	14	L 1Y	93.005	3.012	3.025	-1.066	2.831	7.73	-9.49	-92.24
W -90 Ice	0P	1P	L 1P	28.219	2.635	2.644	-0.340	-2.622	-1.70	0.58	-28.28
W =90 Ice	0X	1X	L 1X	93.782	3.323	3.335	0.706	-3.260	-7.42	9.98	-93.01
W =90 Ice	0.71	17	T. 1 Y	25.459	2.601	2.609	0.262	-2.596	1.58	0.75	-25.53
1.2D+E 0	0P	1P	L 1P	122.034	4.873	4.896	4.254	2.425	-12.99	-11.16	-120.93
1.2D+E 0	0 X	1x	L 1X	116.267	4.562	4.585	3.575	-2.871	-11.90	11.19	-115.20
1.2D+E 0	0 XY	1XY	L 1XY	-31.726	1.347	1.352	1.302	0.365	-3.57	-2.64	31.44
1.2D+E U	UY	11	L 1Y	152.942	1.907	1.913	1.897	-0.247	-4.25	-15 22	32.6Z -152.05
1.2D+E 45	0Y	1 x	T. 1X	41.159	1.953	1.959	1.950	-0.184	-4.90	3.13	-40.79
1.2D+E 45	OXY	1XY	L 1XY	-62.101	2.413	2.425	1.720	1.710	-6.16	-6.15	61.53
1.2D+E 45	04	14	L 1Y	41.126	1.944	1.950	-0.196	1.940	3.14	-4.88	-40.76
1.2D+E 90	0P	1P	L 1P	122.094	4.877	4.901	2.416	4.264	-11.15	-13.00	-120.98
1.2D+E 90	UX	1X	L 1X	-32.969	1.916	1.922	-0.241	1.907	2.60	-4.26	32.64
1.2DTE 90	OXI	17	T. 1 V	116 175	4 561	4 584	-2 879	3 567	11 19	=11 88	=115 11
0.9D+E 0	0P	1P	L 1P	110.154	4.361	4.382	3.875	2.046	-11.76	-9.93	-109.16
0.9D+E 0	0x	1x	L 1X	105.154	4.034	4.055	3.225	-2.458	-10.75	9.98	-104.20
0.9D+E 0	0 XY	1XY	L 1XY	-42.081	1.865	1.873	1.709	0.768	-4.72	-3.78	41.69
0.9D+E 0	0 Y	1 Y	L 1Y	-43.761	2.372	2.381	2.306	-0.595	-5.43	3.72	43.33
0.9D+E 45	0.0	1P	L 1P	30 100	5.422	5.450	3.848	3.860	-13.98	1 02	-140.22
0.9D+E 45	0XY	1XY	L 1XY	-72.399	2.981	2.997	2.124	2.114	-7.30	-7.29	71.72
0.9D+E 45	0 Y	1Y	L 1Y	30.167	1.602	1.605	0.216	1.591	1.94	-3.75	-29.91
0.9D+E 90	0P	1P	L 1P	110.213	4.366	4.387	2.038	3.885	-9.93	-11.77	-109.22
0.9D+E 90	0X	1x	L 1X	-43.798	2.380	2.389	-0.589	2.315	3.72	-5.45	43.36
0.9D+E 90	UXY OV	1 X Y	T. 1 V	105.072	1.860	1.869	U.774 =2 465	1.701	9.98	-4./1	-104.12
0.55.5 90	01	- 11	2 11	30.167 110.213 -43.798 -42.022 105.072	4.032	4.000	2.403	J.217	5.50	10.74	-04.12

Overturning Moment Summary For All Load Cases:

Load Case	Transverse Moment (ft-k)	Longitudinal Moment (ft-k)	Moment (ft-k)	Moment (ft-k)	Transverse Force (kips)	Longitudinal Force (kips)	Vertica Ford (kips
w o	102.271	-12146.417	39.203	12146.848	-0.000	83.185	172.06
W 180	102.271	11939.052	-39.201	11939.490	-0.000	-83.185	172.06
W 45	9030.354	-9031.823		12771.888	61.854	61.854	172.06
W -45	-8825.869	-9031.885	56.389	12628.179	-61.854	61.854	172.06
W 90	12144.952	-103.741	-40.533	12145.395	83.185	-0.000	172.06
W -90	-11940.521	-103.741	40.531	11940.972	-83.185	-0.000	172.0
W 0 Ice	128.374	-3165.058	10.003	3167.660	-0.000	20.895	236.83
W 180 Ice	128.374	2905.360	-10.003	2908.195	-0.000	-20.895	236.82
W 45 Ice	2412.160	-2413.638	-0.249	3412.354	15.798	15.798	236.82
W -45 Ice	-2155.415	-2413.642	14.399	3235.966	-15.798	15.798	236.83
W 90 Ice	3163.580	-129.853	-10.355	3166.244	20.895	-0.000	236.82
W -90 Ice	-2906.839	-129.853	10.355	2909.738	-20.895	-0.000	236.82
1.2D+E 0	102.270	-6754.278	41.379	6755.052	-0.000	32.708	172.0
1.2D+E 45	4804.908	-4806.377	-0.970	6796.204	23.128	23.128	172.0
1.2D+E 90	6752.811	-103.740	-42.752	6753.608	32.708	-0.000	172.0
0.9D+E 0	74.610	-6713.480	41.230	6713.894	-0.000	32.664	128.3
0.9D+E 45	4768.279	-4769.294	-0.967	6744.083	23.097	23.097	128.3
0.9D+E 90	6712.467	-75.627	-42.599	6712.893	32.664	-0.000	128.3

Section Label	Top Z (ft)	Bottom Z (ft)	Joint Count		Top Width (ft)	Bottom Width (ft)	Gross Area (ft^2)	Face Af Adjust Factor	Adjust	Dead Load Factor
212.5-225.0	225.000	212.500	8	20	12.50	14.31	167.53	1.1060	1.1060	1.127
200.0-212.5	212.500	200.000	8	16	14.31	16.11	190.10	1.1350	1.1350	1.162
187.5-200.0	200.000	187.500	8	16	16.11	17.92	212.67	1.1390	1.1390	1.167
175.0-187.5	187.500	175.000	12	24	17.92	19.72	235.24	1.1470	1.1470	1.176
162.5-175.0			16	24	19.72	21.53	257.81	1.2240	1.2240	1.268
150.0-162.5			16		21.53	23.33	280.38	1.2300	1.2300	1.276
137.5-150.0	150.000	137.500	16	24	23.33	25.14	302.95	1.2370	1.2370	1.284
125.0-137.5		125.000	16		25.14	26.94	325.52	1.2430	1.2430	1.292
100.0-125.0		100.000	16	24	26.94	30.56	718.75	1.2740	1.2740	1.329
75.00-100.0	100.000	75.000	16	24	30.56	34.17	809.03	1.2910	1.2910	1.349
50.00-75.00	75.000	50.000	20	32	34.17	37.78	899.31	1.3330	1.3330	1.400
25.00-50.00	50.000	25.000	36	76	37.78	41.39	989.58	1.2110	1.2110	1.253
0.000-25.00	25.000	0.000	28	56	41.39	45.00	1079.86	1.2140	1.2140	1.257

Printed capacities do not include the strength factor entered for each load case. The Group Summary reports on the member and load case that resulted in maximum usage which may not necessarily be the same as that which produces maximum force.

Group Summary (Compression Portion):

Group Label		Angle Type	Angle Size	Steel Strength (ksi)		rol		Comp. Comp. Control Force Member (kips)	Comp. Control Load Case		Connect. Shear	Comp. Connect. Bearing Capacity (kips)	RLX	RLY RLZ	L/r	KL/r Length Comp. Member (ft)	No.	No. Of Solts Comp.
Leg S1	L 8" x 8" x 1.125"		8x8x1.13			Comp 4										64.43 25.130	1	0
Leg S2	L 8" x 8" x 1.125"	SAE	8x8x1.13	33.0	36.67	Comp 3	6.67	L 2P -178.438	W 45	486.568	0.000	0.000	0.333	0.333 0.333	64.43	64.43 25.130	1	0
Leg S3	L 8" x 8" x 1"	SAE	8x8x1	33.0	39.68	Comp 3	9.68	L 3P -173.151	W 45	436.407	0.000	0.000	0.333	0.333 0.333	64.43	64.43 25.130	1	0
Teg S4	T. 8" v 8" v 0 875"	CAF	0.0000 00	22 0	20 24	Comp 3	8 34	T. AP =147 745	ter 4.5	205 250	0.000	0.000	0 222	U 333 U 333	64.02	64 02 25 120	1	0

Leg S5	L 8" x 8" x 0.75"	SAE	8x8x0.75	33.0 36.67	Comp 36.67	L 5P	-122.258	W 45	333.360	0.000	0.000 0.333 0.333 0.333 63.61 63.61 25.130 1 0	
Leg S6	L 6" x 6" x 0.875"	SAE	6x6x0.88	33.0 37.33	Comp 37.33	L 6P	-105.646	W 45	282.986	0.000	0.000 0.500 0.500 0.500 64.44 64.44 12.565 1 0	
Leg S7	L 6" x 6" x 0.875"	SAE	6x6x0.88	33.0 32.70	Comp 32.70	L 7P	-92.548	W 45	282.986	0.000	0.000 0.500 0.500 0.500 64.44 64.44 12.565 1 0	
Lea S8	L 6" x 6" x 0.875"	SAE	6x6x0.88	33.0 27.85	Comp 27.85	L 8P	-78.816	W 45	282.986	0.000	0.000 0.500 0.500 0.500 64.44 64.44 12.565 1 0	
Leg S9	L 6" x 6" x 0.875"	SAE	6x6x0.88	33.0 22.69	Comp 22.69	T. 9P	-64.199	W 45	282.986	0.000	0.000 0.500 0.500 0.500 64.44 64.44 12.565 1 0	
Leg S10	L 6" x 6" x 0.625"	SAE	6x6x0.63				-53.753		207.070	0.000	0.000 0.500 0.500 0.500 63.89 63.89 12.565 1 0	
Leg S11	L 6" x 6" x 0.625"	SAE	6X6X0.63	33.0 19.65	Comp 19.65		-40.684		207.070	0.000	0.000 0.500 0.500 0.500 63.89 63.89 12.565 1 0	
Leg S12	L 6" x 6" x 0.5"	SAE	6x6x0.5	33.0 15.26	Comp 15.26		-25.588		167.717	0.000	0.000 0.500 0.500 0.500 63.89 63.89 12.565 1 0	
Leg S13	L 6" x 6" x 0.5"	SAE	6x6x0.5	33.0 6.62	Comp 6.62		-11.0951			0.000	0.000 0.500 0.500 0.500 63.89 63.89 12.565 1 0	
Diag S1	B/B L3"x3"x0.25"	DAE	3X3X0.25	33.0 80.96	Comp 80.96		-26.675	W -90	32.947	0.000	0.000 0.333 1.000 0.333 169.93 158.08 19.683 5 0	
Diag S2	B/B L3"x3"x0.25"	DAE	3X3X0.25	33.0 81.05	Comp 81.05		-27.646	W -90	34.110	0.000	0.000 0.333 1.000 0.333 166.37 155.37 19.271 5 0	
Diag S3	B/B L2.5"x3"x0.3125"	DAS	3x2.5x0.31	33.0 51.34	Comp 51.34		-18.760	W -90	36.541	0.000	0.000 0.333 0.667 0.333 171.98 159.65 31.386 5 0	
Diag S4	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	33.0 60.96	Comp 60.96		-18.825	W -90	30.882	0.000	0.000 0.333 0.667 0.333 167.36 156.13 30.333 5 0	
Diag S5	B/B L2.5"x3"x0.25"	DAS	3X2.5X0.25	33.0 58.33	Comp 58.33		-19.007	W -90	32.583	0.000	0.000 0.333 0.667 0.333 161.96 152.02 29.354 5 0	
	B/B L2.5"x2.5"x0.25"		2.5x2.5x0.25		Comp 50.24		-11.803				0.000 0.533 0.667 0.533 161.96 152.02 29.534 5 0	
Diag S6	B/B L2.5"x2.5"x0.25" B/B L2.5"x2.5"x0.25"		2.5X2.5XU.25	33.0 50.24	Comp 50.24 Comp 47.45		-11.803	W -90	23.494	0.000	0.000 0.500 1.000 0.500 185.55 169.99 18.400 5 0	
Diag S7			2.5X2.5XU.25	33.0 47.45 33.0 45.46			-11.835	W -90	24.942	0.000	0.000 0.500 1.000 0.500 178.99 164.99 17.750 5 0	
Diag S8	B/B L2.5"x2.5"x0.25"				Comp 45.46			W -90	26.471	0.000		
Diag S9	B/B L2.5"x2.5"x0.25"		2.5x2.5x0.25	33.0 44.21	Comp 44.21		-12.411	W -90	28.073	0.000	0.000 0.500 1.000 0.500 166.59 155.54 16.520 5 0	
Diag S10	L 4" x 3" x 0.25"	SAU	4x3x0.25	33.0 61.80	Comp 61.80	D 19Y	-7.968	W 180	12.894	0.000	0.000 0.520 0.520 0.520 216.73 193.75 22.611 5 0 0.000 0.520 0.520 0.520 202.55 182.94 21.131 5 0	
Diag S11	L 4" x 3" x 0.25"	SAU	4x3x0.25	33.0 55.53	Comp 55.53	D 21P	-8.032	w o	14.464	0.000		
	L 3.5" x 3.5" x 0.25"		.5x3.5x0.25	33.0 41.09	Comp 41.09	D 24XY	-7.419	W -90	18.057	0.000	0.000 0.520 0.520 0.520 177.19 163.62 19.707 5 0	
Diag S13	L 3.5" x 3.5" x 0.25"		3.5x3.5x0.25	33.0 34.00	Comp 34.00	D 26Y	-6.9031		20.304	0.000	0.000 0.520 0.520 0.520 164.99 154.32 18.349 5 0	
Horiz 1	B/B L3.5"x3"x0.3125"	DAL	3.5X3X0.31	33.0 32.28	Comp 32.28		-17.346	W -45	53.736	0.000	0.000 1.000 1.000 1.000 150.51 143.28 13.796 5 0	
Horiz 2	B/B L3"x3"x0.3125"	DAE	3X3X0.31	33.0 37.36	Comp 37.36	Н ЗР	-16.124	W -90	43.163	0.000	0.000 1.000 1.000 1.000 163.89 153.49 12.593 5 0	
Horiz 3	B/B L3.5"x2.5"x0.25"		3.5X2.5X0.25	33.0 35.47	Comp 35.47	H 5P	-9.841	W -90	27.744	0.000	0.000 1.000 1.000 1.000 188.07 171.91 17.083 5 0	
Horiz 4	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0 37.90	Comp 37.90	н 7Р	-9.155	W -90	24.155	0.000	0.000 1.000 1.000 1.000 194.00 176.43 15.278 5 0	
Horiz 5	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25	33.0 30.16	Comp 30.16	н 9Р	-8.973	W -90	29.755	0.000	0.000 1.000 1.000 1.000 171.08 158.96 13.472 5 0	
Horiz 6	B/B L2.5"x2.5"x0.25"		2.5X2.5X0.25	33.0 35.50	Comp 35.50	H 11P	-7.620	W -90	21.463	0.000	0.000 1.000 1.000 1.000 196.14 178.06 12.569 5 0	
Horiz 7	B/B L2.5"x2.5"x0.25"		2.5x2.5x0.25	33.0 30.68	Comp 30.68	H 13P	-7.456	W -90	24.305	0.000	0.000 1.000 1.000 1.000 182.05 167.33 11.667 5 0	
Horiz 8	B/B L2.5"x2.5"x0.25"		2.5x2.5x0.25	33.0 26.51	Comp 26.51	H 15P	-7.358	W -90	27.751	0.000	0.000 1.000 1.000 1.000 167.97 156.59 10.764 5 0	
Horiz 9	B/B L2.5"x2.5"x0.25"	DAE 2	2.5x2.5x0.25	33.0 22.88	Comp 22.88	H 17P	-7.318	W -90	31.986	0.000	0.000 1.000 1.000 1.000 153.88 145.86 9.861 5 0	
Horiz 10	B/B L3"x2.5"x0.25"	DAL	3x2.5x0.25	33.0 6.42	Comp 6.42	H 19Y	-1.1840		18.433	0.000	0.000 1.000 1.000 1.000 227.51 201.97 17.917 5 0	
Horiz 11	B/B L3"x2.5"x0.25"	DAL	3x2.5x0.25	33.0 3.83	Comp 3.83	H 21Y	-0.8470		22.089	0.000	0.000 1.000 1.000 1.000 204.59 184.49 16.111 5 0	
Horiz 12	B/B L3.5"x3"x0.3125"	DAL	3.5x3x0.31	33.0 1.65	Tens 0.91	H 24X	-0.4630		50.695	0.000	0.000 1.000 1.000 1.000 156.06 147.52 14.306 5 0	
Horiz 13	C8x11.5	CHN	C8x11.5	33.0 1.56	Comp 1.56	H 25Y	-0.2660	.9D+E 0	17.073	0.000	0.000 1.000 1.000 1.000 240.00 211.48 12.500 5 0	
LD 1	B/B L2.5"x2"x0.25"	DAL	2.5x2x0.25	33.0 58.23	Comp 58.23		-12.520	W -45	21.502	0.000	0.000 1.000 1.000 1.000 183.48 168.41 11.987 5 0	
LD 2	B/B L2.5"x2.5"x0.25"	DAE 2	.5x2.5x0.25	33.0 54.09	Comp 54.09	LD 3X	-17.411	W -90	32.188	0.000	0.000 1.000 1.000 1.000 153.57 145.62 9.841 5 0	
LD 3	B/B L2.5"x2.5"x0.25"	DAE 2	2.5x2.5x0.25	33.0 61.29	Comp 61.29	LD 5P	-16.870	W -90	27.526	0.000	0.000 1.000 1.000 1.000 169.07 157.43 10.834 5 0	
LD 4	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25	33.0 54.89	Comp 54.89	LD 7X	-12.780	W -45	23.282	0.000	0.000 1.000 1.000 1.000 174.88 161.86 11.425 5 0	
LD 5	B/B L2.5"x2"x0.25"	DAL	2.5x2x0.25	33.0 57.79	Comp 57.79	LD 9X	-17.750	W -90	30.715	0.000	0.000 1.000 1.000 1.000 147.47 140.98 9.635 5 0	
LD 6	B/B L2.5"x2"x0.25"	DAL	2.5x2x0.25	33.0 62.49	Comp 62.49		-16.808	W -90	26.898	0.000	0.000 1.000 1.000 1.000 160.13 150.62 10.462 5 0	
	B/B L3.5"x3.5"x0.3125"		3.5x3.5x0.31	33.0 33.73	Comp 33.73		-14.484	W -45	42.941	0.000	0.000 1.000 2.000 1.000 181.48 166.89 12.099 5 0	
	B/B L3.5"x3.5"x0.3125"		3.5x3.5x0.31	33.0 28.45	Comp 28.45		-14.083	W -45	49.511	0.000	0.000 1.000 2.000 1.000 166.43 155.42 11.095 5 0	
DUM 1		DUM	0.1x0.1x1	36.0 0.00	0.00	BR 7XY	-0.665	W 45	0.324	0.000	0.000 1.000 1.000 1.000 2.59 2.59 21.606 1 0	
2011 1		- 000		0.00	0.00		000	45				

Group Summary (Tension Portion):

	mary (rension Forcion).																	
Group Label		Angle Type	Angle Size	Steel Strength		Usage Cont- rol	Use	Tension Control Member		Control	Section Capacity		Connect. Bearing		Tens. Member	Of		Hole Diameter
				(ksi)	8		8		(kips)		(kips)	(kips)	(kips)	(kips)	(ft)			(in)
Leg S1	L 8" x 8" x 1.125"	SAE	8x8x1.13		42.32		25.37		126.055	W 45		0.000	0.000		25.130		0.000	0
Leg S2	L 8" x 8" x 1.125"	SAE	8x8x1.13		36.67		22.75		113.025	W 45		0.000	0.000		25.130		0.000	0
Leg S3	L 8" x 8" x 1"	SAE	8X8X1		39.68		25.01		111.400	W 45			0.000		25.130		0.000	0
Leg S4	L 8" x 8" x 0.875"	SAE	8x8x0.88		38.34		23.92	L 4XY		W 45		0.000	0.000		25.130		0.000	0
Leg S5	L 8" x 8" x 0.75"	SAE	8x8x0.75		36.67		22.12	L 5XY		W 45		0.000	0.000		25.130		0.000	0
Leg S6	L 6" x 6" x 0.875"	SAE	6x6x0.88		37.33		22.88	r exx		W 45		0.000	0.000		12.565		0.000	0
Leg S7	L 6" x 6" x 0.875" L 6" x 6" x 0.875"	SAE	6x6x0.88 6x6x0.88		32.70		19.50	L 7XY L 8XY	56.363 46.182	W 45 W 45		0.000	0.000		12.565		0.000	0
Leg S8		SAE											0.000					0
Leg S9 Leg S10	L 6" x 6" x 0.875" L 6" x 6" x 0.625"	SAE	6x6x0.88 6x6x0.63		22.69		12.30	L 9XY		W 45 W 45		0.000	0.000		12.565		0.000	0
Leg S10	L 6" x 6" x 0.625"	SAE	6X6X0.63		19.65		9.53			0.9D+E 4		0.000	0.000		12.565		0.000	0
Leg S12	L 6" x 6" x 0.5"	SAE	6x6x0.5		15.26		6.07			0.9D+E 4		0.000	0.000		12.565		0.000	ő
Leg S13	L 6" x 6" x 0.5"	SAE	6X6X0.5		6.62		0.99			0.9D+E 4	170.775	0.000	0.000		12.565		0.000	0
Diag S1	B/B L3"x3"x0.25"	DAE	3X3X0.25		80.96		24.82	D 2P		W =90	85.536		0.000		19.683		0.000	ñ
Diag S2	B/B L3"x3"x0.25"	DAE	3X3X0.25		81.05		24.20	D 4P	20.703	W -90	85.536		0.000		19.271		0.000	ő
Diag S3	B/B L2.5"x3"x0.3125"	DAS	3x2.5x0.31		51.34		17.27	D 5P	16.621	W -90	96.228	0.000	0.000		31.386		0.000	ű.
Diag S4	B/B L2.5"x3"x0.25"	DAS	3x2.5x0.25		60.96		21.62	D 7P		W -90	78.111	0.000	0.000		30.333		0.000	ű.
Diag S5	B/B L2.5"x3"x0.25"	DAS	3x2.5x0.25		58.33		22.62	D 9P		W -90	78.111	0.000	0.000		29.354		0.000	ō
Diag S6	B/B L2.5"x2.5"x0.25"		2.5x2.5x0.25		50.24		15.11	D 11P		W -90	70.686		0.000		18.400		0.000	0
Diag S7	B/B L2.5"x2.5"x0.25"		2.5x2.5x0.25		47.45		15.28	D 13P		W -90	70.686		0.000		17.750		0.000	ō
Diag S8	B/B L2.5"x2.5"x0.25"		2.5x2.5x0.25		45.46		15.66	D 15P	11.070	w -90	70.686	0.000	0.000	0.000	17.122	Ö	0.000	0
Diag S9	B/B L2.5"x2.5"x0.25"		2.5x2.5x0.25		44.21		16.23	D 17P		W -90	70.686		0.000		16.520		0.000	ō
Diag S10	L 4" x 3" x 0.25"	SAU	4x3x0.25	33.0	61.80		13.45	D 19Y	6.749	w o	50.193	0.000	0.000		22.611		0.000	0
Diag S11	L 4" x 3" x 0.25"	SAU	4x3x0.25	33.0	55.53	Comp	13.69	D 21Y	6.871	w o	50.193	0.000	0.000	0.000	21.131	0	0.000	0
Diag S12	L 3.5" x 3.5" x 0.25"	SAE	3.5x3.5x0.25		41.09		11.67	D 24XY	5.857	W 90	50.193	0.000	0.000		19.707		0.000	0
Diag S13	L 3.5" x 3.5" x 0.25"	SAE	3.5x3.5x0.25	33.0	34.00	Comp	11.49	D 26XY	5.7670	0.9D+E 9	50.193	0.000	0.000	0.000	18.349	0	0.000	0
Horiz 1	B/B L3.5"x3"x0.3125"	DAL	3.5x3x0.31	33.0	32.28		18.10	H 1X	20.809	W -45	114.939	0.000	0.000	0.000	13.796	0	0.000	0
Horiz 2	B/B L3"x3"x0.3125"	DAE	3X3X0.31		37.36	Comp	17.74	н 3х	18.700	W -90		0.000	0.000	0.000	12.593	0	0.000	0
Horiz 3	B/B L3.5"x2.5"x0.25"	DAL	3.5x2.5x0.25	33.0	35.47	Comp	12.12	н 5р	10.368	W 90	85.536	0.000	0.000	0.000	17.083	0	0.000	0
Horiz 4	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25		37.90		12.13	н 7х	9.474	W -90	78.111	0.000	0.000		15.278		0.000	0
Horiz 5	B/B L3"x2.5"x0.25"	DAL	3X2.5X0.25		30.16		11.56	н 9х	9.029	W -90	78.111	0.000	0.000		13.472		0.000	0
Horiz 6	B/B L2.5"x2.5"x0.25"		2.5X2.5X0.25		35.50		11.54	H 11X	8.161	W -90	70.686		0.000		12.569		0.000	0
Horiz 7	B/B L2.5"x2.5"x0.25"		2.5X2.5X0.25		30.68		11.22	H 13X	7.933	W -90	70.686		0.000		11.667		0.000	0
Horiz 8	B/B L2.5"x2.5"x0.25"		2.5X2.5X0.25		26.51		11.02	H 15X	7.789	W -90	70.686		0.000		10.764		0.000	0
Horiz 9	B/B L2.5"x2.5"x0.25"		2.5X2.5X0.25		22.88		11.21	H 17P	7.921	W 90	70.686		0.000		9.861		0.000	0
Horiz 10	B/B L3"x2.5"x0.25"	DAL		33.0			3.68	H 19P	2.873	W O	78.111	0.000	0.000		17.917		0.000	0
Horiz 11	B/B L3"x2.5"x0.25"	DAL	3x2.5x0.25		3.83		3.10	H 21Y	2.422	W 180	78.111	0.000	0.000		16.111		0.000	0
Horiz 12	B/B L3.5"x3"x0.3125"	DAL	3.5x3x0.31		1.65		1.65	H 23P		1.2D+E 0		0.000	0.000		14.306		0.000	0
Horiz 13	C8x11.5	CHN	C8x11.5		1.56		0.35	H 26P		1.2D+E 9			0.000		12.500		0.000	0
LD 1	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25		58.23		18.53	LD 2Y		W -45	63.261	0.000	0.000		11.987		0.000	0
LD 2	B/B L2.5"x2.5"x0.25"		2.5x2.5x0.25		54.09		19.80	LD 3P		W -90	70.686		0.000		9.841		0.000	0
LD 3	B/B L2.5"x2.5"x0.25"		2.5x2.5x0.25		61.29		24.97	LD 5X		W -90	70.686		0.000		10.834		0.000	0
LD 4	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25		54.89		16.61	LD 8Y		W -45	63.261	0.000	0.000		11.425		0.000	0
LD 5	B/B L2.5"x2"x0.25"	DAL	2.5X2X0.25		57.79		21.96	LD 9P		W -90	63.261	0.000	0.000		9.635		0.000	
LD 6	B/B L2.5"x2"x0.25" B/B L3.5"x3.5"x0.3125"	DAL	2.5x2x0.25 3.5x3.5x0.31		62.49		27.64	LD 11X LH 2Y		w -90 w -45	63.261	0.000	0.000		10.462		0.000	0
	B/B L3.5"x3.5"x0.3125" B/B L3.5"x3.5"x0.3125"		3.5X3.5XU.31		28.45		8.82		10.946	W -45		0.000	0.000		12.099		0.000	0
DUM 1	Dummy Bracing Member	DME	0.1x0.1x1		0.00	comp	0.00	BR 7X		W -45	0.324	0.000	0.000		21.606		0.000	0
DUM 1	bunning bracing member	DUM	0.110.111	30.0	0.00		0.00	DR /A	0.312	w =45	0.324	0.000	0.000	0.000	21.000	U	0.000	U

^{***} Maximum Stress Summary for Each Load Case

Summary of Maximum Usages by Load Case:

Load Case	Maximum Usage %	Element Label	Element Type
w o	80.34	D 3P	Angle
W 180	81.00	D 3Y	Angle
W 45	72.38	D 2P	Angle
W -45	74.66	D 2X	Angle
W 90	80.42	D 4P	Angle
W -90	81.05	D 4X	Angle
W 0 Ice	31.82	D 3P	Angle
W 180 Ice	32.58	D 3Y	Angle
W 45 Ice	30.07	D 4P	Angle
W -45 Ice	31.20	D 4X	Angle
W 90 Ice	31.85	D 4P	Angle
W -90 Ice	32.59	D 4X	Angle
1.2D+E 0	48.10	D 21P	Angle
1.2D+E 45	41.89	D 20P	Angle
1.2D+E 90	48.07	D 22P	Angle
0.9D+E 0	46.89	D 21P	Angle
0.9D+E 45	40.51	D 20P	Angle
0.9D+E 90	46.86	D 22P	Angle

^{***} Weight of structure (lbs):
Weight of Angles*Section DLF: 94901.3
Total: 94901.3

^{***} End of Report

Site #	88019		ſ	Engineer:	isaac.dodsor		Windspeed:	No Ice	2: 114 mph	n lce	50 mph]			Taper:	-0.144444		Taper Change:	225	ft
Name	Winstead, CT			Date:	05/21/21		Carrie	er			T _i				FW @ Base:	45.00	ft	FW @ Top:	12.5	ft
laint	Cruma ma atura	V Coord	V Coord	7 Coord	V Dien	V Dien	7 Diam	V Dot	V Dot	7 Dot	Drop Cub Bross					Cm	andshoot Vors	ian Last Undatadı	11/12/2014	i
Joint Label	Symmetry Code	X Coord. (ft)	Y Coord. <i>(ft)</i>	Z Coord. (ft)	X Disp. Rest.	Y Disp. Rest.	Z Disp. Rest.	X Rot. Rest.	Y Rot. Rest.	Z Rot. Rest.	Sub-Brace (Y or Blank)	# Vert	Drop (ft)	Height (ft)	Туре	Count	Z-Elev. (ft)	ion Last Updated: FW (ft)	11/12/2014 # Sub-Brace	1
)	XY-Symmetry	22.5	22.5		Fixed	Fixed	Fixed	Fixed	Fixed	Fixed	(1 or Diamy	vere	8.333	25	2	1	0			
L	XY-Symmetry	20.69444444	20.69444444	25	Free	Free	Free	Free	Free	Free			8.333	25	2	2	25	41.38888889	3	NOTES
2	XY-Symmetry	18.88888889	18.88888889	50	Free	Free	Free	Free	Free	Free				25	Α	3	50	37.7777778	2	Types:
3	XY-Symmetry	17.08333333	17.08333333	75	Free	Free	Free	Free	Free	Free				25	Α	4	75		2	1: Built up Horizs. w/ A
1	XY-Symmetry	15.27777778	15.27777778		Free	Free	Free	Free	Free	Free				25	Α	5	100			2: Built up Horizs. w/ M
5	XY-Symmetry	13.47222222	13.47222222		Free	Free	Free	Free	Free	Free				12.5	A	6	125			A: Typical A brace
7	XY-Symmetry XY-Symmetry	12.56944444 11.66666667	12.56944444 11.66666667	137.5	Free	Free	Free	Free	Free	Free				12.5	A A	7 8	137.5			X: Typical X brace
3	XY-Symmetry	10.76388889	10.76388889	162.5		Free Free	Free Free	Free Free	Free Free	Free Free				12.5 12.5	A	9	150 162.5			Drop: Use only for types 1 &
)	XY-Symmetry	9.861111111	9.861111111		Free	Free	Free	Free	Free	Free			1	12.5	X	10	175			Brop. Osc omy for types I o
10	XY-Symmetry	8.958333333	8.958333333	187.5		Free	Free	Free	Free	Free			1	12.5	X	11	187.5		1	#Sections: 13
L1	XY-Symmetry	8.05555556	8.05555556		Free	Free	Free	Free	Free	Free			1	12.5	Х	12	200	16.11111111	1	
12	XY-Symmetry	7.152777778	7.152777778	212.5	Free	Free	Free	Free	Free	Free				12.5	Х	13	212.5	14.30555556	1	
13	XY-Symmetry	6.25	6.25	225	Free	Free	Free	Free	Free	Free						14	225	12.5		
1 2 2	XY-Symmetry XY-Symmetry	20.69444444 6.898148148	6.898148148 20.69444444	25	Free Free	Free	Free Free	Free Free	Free Free	Free Free										
\3 \4	XY-Symmetry	18.88888889 6.296296296	6.296296296 18.88888889		Free	Free	Free	Free	Free	Free										
4 5	XY-Symmetry Y-Symmetry	17.08333333	18.88888889		Free Free	Free Free	Free Free	Free Free	Free Free	Free Free										
6	X-Symmetry	0			Free	Free	Free	Free	Free	Free										
7	Y-Symmetry	15.27777778	0		Free	Free	Free	Free	Free	Free										
	X-Symmetry	0			Free	Free	Free	Free	Free	Free										
8		13.47222222	0	125	Free	Free	Free	Free	Free	Free										
	Y-Symmetry		12 4722222	125	Free	Free	Free	Free	Free	Free										
9	Y-Symmetry X-Symmetry	0	13.47222222					Eroo	Free	Гиоо										
9 10 11		0 12.56944444	0	137.5		Free	Free	Free	Free	Free										
) 10 11 12	X-Symmetry Y-Symmetry X-Symmetry	12.56944444 0		137.5	Free	Free	Free Free	Free	Free	Free										
9 10 11 12 13	X-Symmetry Y-Symmetry X-Symmetry Y-Symmetry	12.56944444 0 11.666666667	0 12.56944444 0	137.5 150	Free Free	Free Free	Free Free	Free Free	Free Free	Free Free										
8 9 10 11 12 13	X-Symmetry Y-Symmetry X-Symmetry Y-Symmetry X-Symmetry	12.56944444 0 11.66666667 0	0 12.56944444 0 11.66666667	137.5 150 150	Free Free Free	Free Free Free	Free Free Free	Free Free Free	Free Free Free	Free Free Free										
9 10 11 12 13 14	X-Symmetry Y-Symmetry X-Symmetry Y-Symmetry X-Symmetry Y-Symmetry	12.56944444 0 11.66666667 0 10.76388889	0 12.56944444 0 11.66666667 0	137.5 150 150 162.5	Free Free Free Free	Free Free Free Free	Free Free Free Free	Free Free Free Free	Free Free Free Free	Free Free Free										
) 10 11 12 13 14 15	X-Symmetry Y-Symmetry X-Symmetry Y-Symmetry X-Symmetry Y-Symmetry X-Symmetry	12.56944444 0 11.66666667 0 10.76388889	0 12.56944444 0 11.66666667 0 10.76388889	137.5 150 150 162.5 162.5	Free Free Free Free	Free Free Free Free Free	Free Free Free Free	Free Free Free Free Free	Free Free Free Free	Free Free Free Free										
1 2 3 4 5	X-Symmetry Y-Symmetry X-Symmetry Y-Symmetry X-Symmetry Y-Symmetry	12.56944444 0 11.66666667 0 10.76388889	0 12.56944444 0 11.66666667 0 10.76388889	137.5 150 150 162.5 162.5 175	Free Free Free Free	Free Free Free Free	Free Free Free Free	Free Free Free Free	Free Free Free Free	Free Free Free										

Legs

Site No.:	88019
Engineer:	isaac.dodson
Date:	05/21/2021
Carrier:	0

When inputting thickness values, include all decimal places.

Tower	Section	Туре	Diameter	Thickness [2]	F _Y
Section	Elevations	of	or		- 4
#		Shape '-'	Length		
	(ft)		(in)	(in)	(ksi)
1	0.000-25.00	L	0	1.125	22
1 2	25.00-50.00	L	8 8	1.125	33 33
3	50.00-75.00	L	8	1.123	33
4	75.00-100.0	L	8	0.875	33
5	100.0-125.0	L	8	0.75	33
6	125.0-137.5	L	6	0.875	33
7	137.5-150.0	L	6	0.875	33
8	150.0-162.5	L	6	0.875	33
9	162.5-175.0	L	6	0.875	33
10	175.0-187.5	L	6	0.625	33
11 12	187.5-200.0 200.0-212.5	L	6	0.625 0.5	33
13	212.5-225.0	L	6 6	0.5	33 33
13	212.5-225.0	L	0	0.5	33

Notes:

[1] Type of Leg Shape: \mathbf{R} = Round or \mathbf{P} = Bent Plate or \mathbf{S} = Schifflerized Angle. \mathbf{L} = Even Leg

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

^[3] Adjust for Bent Plate Leg Shapes.

Diagonals

 Site No.:
 88019

 Engineer:
 isaac.dodson

 Date:
 05/21/2021

 Carrier:
 0

When inputting thickness values, include all decimal places.

Tower	Section	Туре	Diameter [2]	Web	Flange	Thickness	F _y	Is Diag.
Section	Elevations	of	Diameter	Length [3]	Length [3]	Timekiress	- у	Tension
#		Shape [1]		ŭ	ŭ			Only?
	(ft)	•	(in)	(in)	(in)	(in)	(ksi)	(Y/N)
1	0.000-25.00	2L		3	3	0.25	33	
2	25.00-50.00	2L		3	3	0.25	33	
3	50.00-75.00	2L		2.5	3	0.3125	33	
4	75.00-100.0	2L		2.5	3	0.25	33	
5	100.0-125.0	2L		2.5	3	0.25	33	
6	125.0-137.5	2L		2.5	2.5	0.25	33	
7	137.5-150.0	2L		2.5	2.5	0.25	33	
8	150.0-162.5	2L		2.5	2.5	0.25	33	
9	162.5-175.0	2L		2.5	2.5	0.25	33	
10	175.0-187.5	L		4	3	0.25	33	
11	187.5-200.0	L		4	3	0.25	33	
12	200.0-212.5	L		3.5	3.5	0.25	33	
13	212.5-225.0	L		3.5	3.5	0.25	33	

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

 $^{^{[2]} {\}sf Applies \ to \ Pipes \ and \ Solid \ Round \ Shapes \ only. \ \ For \ Solid \ Round \ Shapes \ Thickness \ Equals \ Zero.}$

^[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.:
 88019

 Engineer:
 isaac.dodson

 Date:
 05/21/2021

 Carrier:
 0

When inputting thickness values, include all decimal places.

Tower	Section	Туре	Diameter [2]	Web	Flange	Thickness	F _y	
Section #	Elevations	of Shape ^[1]		Length ^[3]	Length ^[3]			B/B Spacing
	(ft)		(in)	(in)	(in)	(in)	(ksi)	(in.)
1	0.000-25.00	2L		3.5	3	0.3125	33	
2	25.00-50.00	2L		3	3	0.3125	33	
3 4	50.00-75.00 75.00-100.0	2L 2L		3.5 3	2.5 2.5	0.25 0.25	33 33	
5	100.0-125.0	2L 2L		3	2.5	0.25	33	
6	125.0-137.5	2L		2.5	2.5	0.25	33	
7	137.5-150.0	2L		2.5	2.5	0.25	33	
8	150.0-162.5	2L		2.5	2.5	0.25	33	
9	162.5-175.0	2L		2.5	2.5	0.25	33	
10	175.0-187.5	2L		3	2.5	0.25	33	
11 12	187.5-200.0 200.0-212.5	2L 2L		3 3.5	2.5 3	0.25 0.3125	33 33	
13	212.5-225.0	C		8	11.5	0.5125	33	

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

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

 $^{^{[3]}\}mbox{\sc Applies}$ to Single-Angle and Double-Angle Shapes only.

 $[\]ensuremath{^{[4]}}$ Applies to Double-Angle Shapes only.

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

Built-up Diagonals

 Site No.:
 88019

 Engineer:
 isaac.dodson

 Date:
 05/21/2021

 Carrier:
 0

When inputting thickness values, include all decimal places. Input diags. from left to center & from base section upward.

Tower Built-up Diag. #	Section Elevations	Type of Shape '-'	Diameter ^[2]	Web Length ^[3]	Flange Length ^[3]	Thickness	F _γ
	(ft)		(in)	(in)	(in)	(in)	(ksi)
1 2 3 4 5 6	0.000-25.00 0.000-25.00 25.00-50.00 25.00-50.00 25.00-50.00	2L 2L 2L 2L 2L 2L		2.5 2.5 2.5 2.5 2.5 2.5	2 2.5 2.5 2 2 2	0.25 0.25 0.25 0.25 0.25 0.25	33 33 33 33 33 33

 $^{^{[1]}}$ 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.

 $^{^{[3]}\}operatorname{\mathsf{Applies}}$ 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.:
 88019

 Engineer:
 isaac.dodson

 Date:
 05/21/2021

 Carrier:
 0

When inputting thickness values, include all decimal places.

Tower Section #	Section Elevations (ft)	Type of Shape '-'	Diameter ^[2]	Web Length ^[3]	Flange Length ^[3]	Thickness	F _y (ksi)	Is Horiz. Tension Only? (Y/N)
1 2	0.000-25.00 25.00-50.00	2L 2L		3.5 3.5	3.5 3.5	0.3125 0.3125	33 33	

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

 $^{^{[2]} \, \}text{Applies to Pipes and Solid Round Shapes only. } \, \text{For Solid Round Shapes Thickness Equals Zero.}$

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

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

 $^{^{\}mbox{\scriptsize [5]}}$ Applies to Single-Angle Shapes only.

Site No.: 88019

Engineer: isaac.dodson

Date: 05/21/21

Carrier: 0

Description	From	То	Quantity	Shape	Width or	Perimeter	Unit	In Face Zone?	Include in
					Diameter**		Weight		Wind Load
	(ft)	(ft)			(in)	(in)	(lb/ft)	(Yes/No)	(Yes/No)
1 Ladder	0	225	1	Flat	2.000	8.0	6	No	Yes
2 1-1/4" Hybriflex Cable	0	198	1	Round	1.540	4.8	1	Yes	Yes
3 1 5/8" Hybriflex	0	196	3	Round	1.980	6.2	0.82	Yes	Yes
4 1 1/4" Coax	0	194	1	Round	1.550	4.9	0.63	Yes	Yes
5 7/8" Coax	0	185	1	Round	1.090	3.4	0.33	Yes	Yes
6 Wave Guide	0	225	1	Flat	2.000	8.0	6	Yes	Yes
7 0.39" (9.8mm) Cable	0	170	1	Round	2.000	1.2	0.07	Yes	Yes
8 0.92" (23.4mm) Cable	0	170	3	Round	2.000	2.9	0.89	Yes	Yes

Coax (p. 2 of 2)

Exposure B
Tia Code: TIA-222-H Topo Cat: 1

 $\begin{array}{cccc} \text{Ke} & 0.949036 \\ \alpha & 7 \ k_{z \, \text{max}} & 2.01 \\ z_g & 1200 \ k_{z \, \text{min}} & 0.7 \\ K_c & 0.9 \ K_t & \end{array}$

Site No.: 880
Engineer: isaac.d
Date: 05/2
Carrier: (

			1				r _c	0.9	Ī						
Description	From	То	Quantity	Face #	coax Widt	Coax Shape	% Exposed	Spacing	Shape	Block Width	Block Depth	Perimeter	Unit	In Face Zone	Include in
						(Block / Flat			(Round/Flat)				Weight		Wind Load
	(ft)	(ft)		(1-4, A-D)	(in)	/ Ind)		(in)		(# coax)	(# coax)	(in)	(lb/ft)	(Yes/No)	(Yes/No)
Ladder	•	225	1		2.00	Flat	100	1	Flat		•	8.0	6	No	Yes
	0		1	A				<u>+</u>	•	1	1				
1-1/4" Hybriflex Cable	0	198	1	1	1.54	Ind	100	1	Round	1	1	4.8	1	Yes	Yes
1 5/8" Hybriflex	0	196	3	1	1.98	Ind	100	1	Round	3	1	6.2	0.82	Yes	Yes
1 1/4" Coax	0	194	1	1	1.55	Ind	100	1	Round	1	1	4.9	0.63	Yes	Yes
7/8" Coax	0	185	1	1	1.09	Ind	100	1	Round	1	1	3.4	0.33	Yes	Yes
									·						
Wave Guide	0	225	1	1	2.00	Flat	100	1	Flat	1	1	8.0	6	Yes	Yes
0.39" (9.8mm) Cable	0	170	1	1	0.39	Ind	100	1	Round	1	1	1.2	0.07	Yes	Yes
0.92" (23.4mm) Cable	0	170	3	1	0.92	Ind	100	1	Round	3	1	2.9	0.89	Yes	Yes
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 Task:
 Determine Point Loads

 Tower Height:
 150
 ft

 Gh:
 0.85
 mph, Vult

 Use Wind Speed:
 50
 mph, Vult

 Ice Density:
 56
 56

 Tower Type:
 S
 S

Ice Thick: 1 in
Topographic Category (1-4): 1
Exposure Category (B-D): B
Risk Category (1-4): 2
Height of Crest (H) if Topo Cat. >1: 0 ft
Load Factor; Wind: 1
Load Factor; Dead: 1.2

Rooftop Speed Up Factor (Ks) 1
Ground Elevation (AMSL) 1445 ft
Topographic Factor Procedure Method 1

Site No.:
Engineer:
Date:
Carrier:

No.	Carrier	Elevation	Quantity	# of	Proposed?	Manufacturer	Model	Height	Width	Depth	Weight	Flat/Round	Reduction	C _A A _C	Weight	Ка
1	-	(ft) 225	1	Azimuths 4		_		(in) 0.001	(in) 0.001	(in) 0.001	(lbs/ea) 0.001	(F/R)	0.001	(ft²)	(k)	0.001
-	-	225	1	4		-	Platform w/ HR						1.000	80.00	9.00	1
2	-	206.25 206.25	1 1	4		-	- Catwalk	0.001	0.001	0.001	0.001	R	0.001 1.000	70.00	8.00	0.001 1
3	-	175	1	1		-		0.001	0.001	0.001	0.001	R	0.001			0.001
4	-	175 125	1 1	1 3		- -	Rest Platform -	0.001	0.001	0.001	0.001	R	1.000 0.001	15.00	0.50	1 0.001
_	-	125	1	3		-	Platform w/ HR						1.000	80.00	9.00	1
5	-	75 75	1 1	1 1		-	- Rest Platform	0.001	0.001	0.001	0.001	R	0.001 1.000	15.00	0.50	0.001 1
6	-	25	1	1		-	-	0.001	0.001	0.001	0.001	R	0.001	45.00		0.001
7	-	25 225	1 4	1 4		-	Rest Platform -	0.001	0.001	0.001	0.001	R	1.000 0.001	15.00	0.50	1 0.001
0	-	225	4	4		-	KS15676	0.001	0.001	0.001	0.001	D	1.000	128.00	2.50	1
8	-	225 225	1	1		-	- -	0.001	0.001	0.001	0.001	R	0.001 0.001	0.00	0.00	0.001 0.001
9	SPRINT NEXTEL SPRINT NEXTEL	196 106	3 3	3	Proposed		- Elat Cartar Framas	0.001	0.001	0.001	0.001	R	0.001	17.00	0.40	0.001
10	SPRINT NEXTEL	196 196	3	3	Proposed	Ericsson	Flat Sector Frames RRUS 4415 B66	15	13.2	5.4	46	F	0.750 0.500	17.90	0.40	0.75 0.8
11	SPRINT NEXTEL SPRINT NEXTEL	196 196	3	3 3	Proposed	Ericsson	- Radio 4449 B71 B85A	15	13.2	10.5	75	F	0.001 0.500	0.00	0.00	0.001 0.8
11	SPRINT NEXTEL	196	3	3	TTOPOSEU	LIIC33011		15	13.2	10.5	73	'	0.001	0.00	0.00	0.001
12	SPRINT NEXTEL SPRINT NEXTEL	196 196	3	3	Proposed	Ericsson	4424 B25 -	17.1	14.4	11.3	86	F	0.500 0.001	0.00	0.00	0.8 0.001
13	SPRINT NEXTEL	196	3	3	Proposed	Ericsson	Air6449 B41	33.1	20.6	8.6	104	F	0.744	0.00	0.00	0.8
14	SPRINT NEXTEL SPRINT NEXTEL	196 196	3	3 3	Proposed	RFS	- APX16DWV-16DWVS-E-A20	55.9	13.3	3.1	40.7	F	0.001 0.661	0.00	0.00	0.001 0.8
14	SPRINT NEXTEL	196	3	3	Порозси	111.5	-		13.3	5.1		,	0.001	0.00	0.00	0.001
15	SPRINT NEXTEL SPRINT NEXTEL	196 196	3	3	Proposed	RFS	APXVAALL24 43-U-NA20 -	95.9	24	8.5	122.8	F	0.716 0.001	0.00	0.00	0.8 0.001
16	US DEPT OF HOMELAND SECURITY	194	1	1		-	-	0.001	0.001	0.001	0.001	R	0.001			0.001
17	US DEPT OF HOMELAND SECURITY ALL-STAR TRANSPORTATION, LLC	194 174	1 1	1 1		Andrew -	DB616E-BC -	0.001	0.001	0.001	0.001	R	1.000 0.001	6.73	0.05	1 0.001
	ALL-STAR TRANSPORTATION, LLC	174	1	1		Comprod	872F-70SM						1.000	2.56	0.02	1
18	AT&T MOBILITY AT&T MOBILITY	170 170	3	3	Proposed	Ericsson	RRUS 8843 B2, B66A -	14.9	13.2	10.9	72	F	0.500 0.001	0.00	0.00	0.8 0.001
19	AT&T MOBILITY	170	3	3	Proposed	Ericsson	- RRUS 4478 B14	16.5	13.4	7.7	59.9	F	0.500			0.8
20	AT&T MOBILITY AT&T MOBILITY	170 170	3 3	3 3	Proposed	Ericsson	- RRUS 4449 B5, B12	17.9	13.2	9.4	71	F	0.001 0.500	0.00	0.00	0.001 0.8
	AT&T MOBILITY	170	3	3			-						0.001	0.00	0.00	0.001
21	AT&T MOBILITY AT&T MOBILITY	170 170	2	2	Proposed	Raycap	DC9-48-60-24-8C-EV -	31.4	18.3	10.2	16	F	0.670 0.001	0.00	0.00	0.8 0.001
22	AT&T MOBILITY	170	3	3	Proposed	CCI	DMP65R-BU8D	96	20.7	7.7	95.7	F	0.727	0.00	0.00	0.8
23	AT&T MOBILITY AT&T MOBILITY	170 170	3	3 3	Proposed	CCI	- TPA65R-BU8D	96	21	7.8	82.5	F	0.001 0.727	0.00	0.00	0.001 0.8
23	AT&T MOBILITY	170	3	3	Troposeu	CCI	-						0.001	0.00	0.00	0.001
24	AT&T MOBILITY AT&T MOBILITY	170 170	3	3 3	Proposed		- Flat Sector Frames	0.001	0.001	0.001	0.001	R	0.001 0.750	17.90	0.40	0.001 0.75
25	ATAT MODELL	170	J	3			That Sector Frames						0.750	17.50	0.40	1
26																1
20																1
27																1
28																1
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50																1
																1

March Marc	No.	Elevation	C _A A _C	C _A A _C (Ice)	Force	Force (Ice)	Weight Weight (Ice)	60 Azi	Force	F (Ice)	Height	Sum of Forces (No I
	1										Flag	60 Azi. 180 Azi.
		225	80.00	108.00	2273.747	590.481	10800 14040	1.00	1250.56	324.76		2273.74696
	2											1940.677867
1	3											396.7886762
1	4	125	0.00	0.00			0 0				1.5057153	1022 227874
1	5	75	0.00	0.00	0.000	0.000	0 0	1.00	0.00	0.00	1.5080010	
	6											311.4748928
10	7											239.5296657
		225	512.00	691.20	14551.981	3779.081	12000 15600	1.00	8003.59	2078.49	1.5400010	14551.98055
	8		0.00		0.000	0.000					1.5044444	14551.98055
1	9											618.9967638
1	10	196										673 096543
1	11	196	1.98	3.01	54.100	15.845	270 364	1.00	29.75	8.71	1.5044474	
1	12											727.1963222
150	13											794.4767749
150	14	196	0.00	0.00	0.000	0.000	4 5	1.00	0.00	0.00		1071.523202
140		196	0.00	0.00	0.000	0.000	4 5	1.00	0.00	0.00	1.5051020	1357.224834
14	15											2307.273071
Total	16											183 3465312
1	17	174	0.00	0.00	0.000	0.000	0 0	1.00	0.00	0.00	1.5051556	
1	18											67.60781338
1	19											51.59781565
100		170	0.00	0.00	0.000	0.000	4 5	1.00	0.00	0.00	1.5058824	109.6020715
100		170	0.00	0.00	0.000	0.000	4 5	1.00	0.00	0.00	1.5058824	171.5887091
100 100	21											306.2570141
1.00	22											1124.560383
100	23	170	31.55	38.22	827.608	192.869	297 682	1.00	455.18	106.08	1.5058834	
Property Property	24	170	0.00	0.00	0.000	0.000	0 0	1.00		0.00	1.5058834	
POSITION POSITION	25	170	30.21	40.78	594.332		1440 1872					2546.500326
Paris Pari	26					#\/ \		1.00				#VALUE!
100 100								1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
Marie Mari	27							1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
PAULI 1.00	28					#VALUE!						#VALUE!
PAULE PAUL	29					#VALUE!		1.00				#\/ \
100 PAULE PAULE	30					#VALUE!		1.00	#VALUE!	#VALUE!	#DIV/0!	
100 201	31					#VALUE!		1.00			#DIV/0!	#VALUE!
PAULE PAUL	32					#VALUE!						#VALUE!
PATE								1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
PAULE PAUL								1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
100 MAURIE MAUR	34					#VALUE!						#VALUE!
MAILE MAIL	35					#VALUE!						#VALUE!
PAULE PAULE 1.00 PAULE PAULE	36					#VALUE!		1.00	#VALUE!	#VALUE!	#DIV/0!	
BYAUE BYAU	37					#VALUE!		1.00	#VALUE!	#VALUE!	#DIV/0!	
STATE STAT	38					#VALUE!		1.00	#VALUE!	#VALUE!	#DIV/0!	
100 100	39					#VALUE!						#VALUE!
1.00 1.00								1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
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44	43					#VALUE!		1.00	#VALUE!	#VALUE!	#DIV/0!	
1.00	44					#VALUE!		1.00	#VALUE!	#VALUE!	#DIV/0!	
1.00	45					#VALUE!		1.00	#VALUE!	#VALUE!	#DIV/0!	#VALUE!
1.00	46					#VALUE!		1.00				#VALUE!
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Foundation

Design Loads (Factored)

Compression/Leg:	245.82
Uplift/Leg:	155.75
Shear/Leg	40.90

Face Wi	3.50	ft		
Face Width	@ Bottom of	Pier (d ₂):	8.50	ft
1	Total Length o	of Pier (I):	9.50	ft
Height of Pede	stal Above Gr	ound (h):	0.50	ft
	Width of	Pad (W):	20.50	ft
	Length o	f Pad (L):	20.50	ft
	Thickness c	of Pad (t):	2.00	ft
V	Vater Table D	epth (w):	30.00	ft
Un	it Weight of 0	Concrete:	150.0	pcf
Unit Weight of Soi	er Table):	115.0	pcf	
Unit Weight of Soi	er Table):	52.6	pcf	
Frict	Jplift (A):	20	۰	
Ultimate Compres	12000	psf		
	Friction:	0	psf	
Volume Pier (Total):	361.79	ft³		
Volume Pad (Total):	840.50	ft³		
Volume Soil (Total):	4736.93	ft³		
Volume Pier (Buoyant):	0.00	ft³		
Volume Pad (Buoyant):	ft³			
Volume Soil (Buoyant):				
Weight Pier:				
Weight Pad:	126.08	k		
Weight Soil:	544.75	k		
Uplift Skin Friction:	0.00	k		

Uplift Check

φs Uplift Resistance (k)	Ratio	Result
543.82	0.29	ОК

Axial Check

φs Axial Resistance (k)	Ratio	Result
3782.25	0.06	OK

Anchor Bolt Check

Bolt Diameter (in)	2.5
# of Bolts	4
Steel Grade	A36
Steel Fy	36
Steel Fu	58
Detail Type	С

Usage Ratio	Result
0.31	OK

 Site No.:
 88019

 Engineer:
 isaac.dodson

 Date:
 05/21/21

 Carrier:
 0

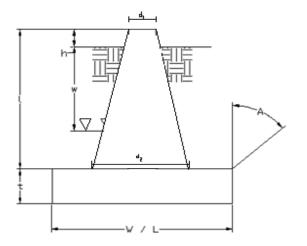


Exhibit 5 Antenna Mount Analysis Report



Antenna Mount Analysis Report

ATC Site Name : WINSTEAD, CT

ATC Site Number : 88019

Engineering Number : 13626849_C8_01

Mount Elevation : 170 ft

Carrier : AT&T Mobility

Carrier Site Name : Winchester

Carrier Site Number : \$4062

Site Location : 428 Platt Hill Road

Winsted, CT 06098-2522

41.89828611, -73.11601111

County : Litchfield

Date : May 6, 2021

Max Usage : 51%

Result : Pass

Prepared By: Reviewed By:

Alan Samboy

Structural Engineer

Alan Sambey

OF CONNEC

COA: PEC.0001553



Table of Contents

Introduction	1
Supporting Documents	1
Analysis	1
Conclusion	1
Antenna Loading	2
Structure Usages	2
Mount Layout	3
Equipment Layout	4
Standard Conditions	5
Calculations	Attached



Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for AT&T Mobility at 170 ft.

Supporting Documents

Specifications Sheet	Sabre C10857007C, dated February 5, 2016
Radio Frequency Data Sheet	RFDS ID #S4062, dated March 5, 2021

Analysis

This antenna mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	114 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	В
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.169, S1 = 0.054
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above. The mount can support the equipment as described in this report. Analysis based on new Sabre C10857007C sector frames or approved equivalent.

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.



Application Loading

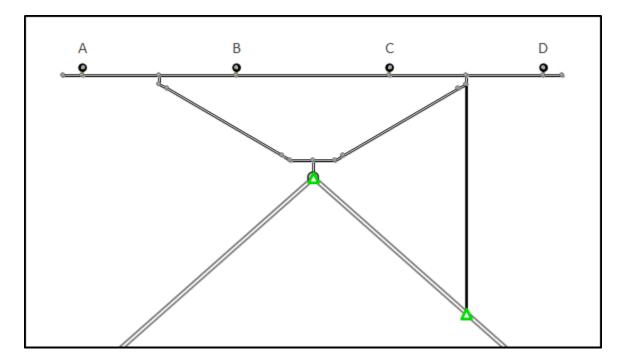
Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model										
		3	CCI TPA65R-BU8D										
		3	CCI DMP65R-BU8D										
170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	170.0	1	Raycap DC9-48-60-24-8C-EV
170.0								3	Ericsson RRUS 4478 B14				
		3	Ericsson RRUS 4449 B5, B12										
			3	Ericsson RRUS 8843 B2, B66A									

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Horizontals	23%	Pass
Verticals	12%	Pass
Diagonals	9%	Pass
Tie-Backs	4%	Pass
Mount Pipes	51%	Pass



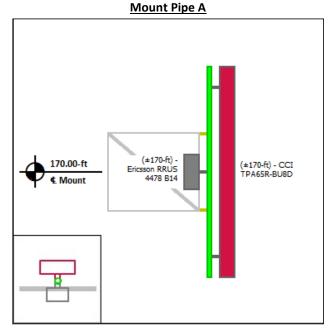
Mount Layout



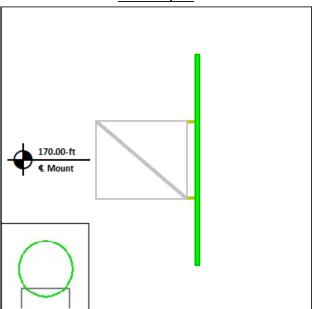


Equipment Layout

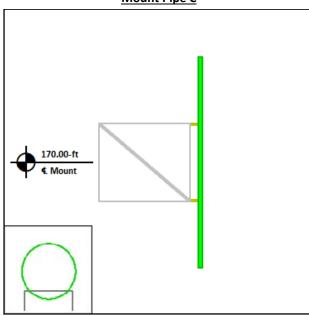
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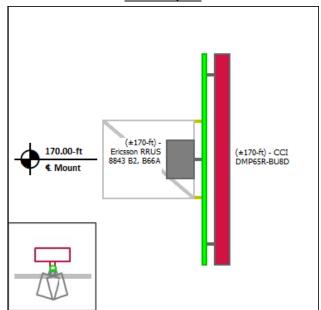
Mount Pipe B



Mount Pipe C



Mount Pipe D





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.

American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

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.



 Site Number:
 88019

 Project Number:
 13626849_C8_01

 Carrier:
 AT&T Mobility

 Mount Elevation:
 170 ft

 Date:
 5/6/2021

Mount Analysis Force Calculations

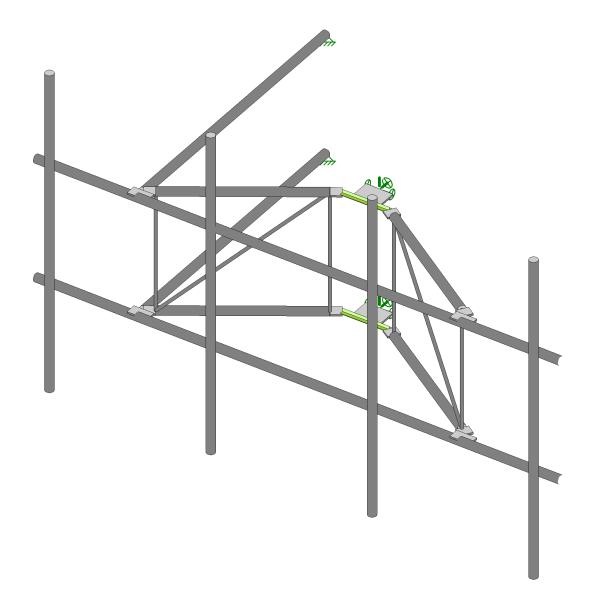
Wind & Ice Load Calculations									
Velocity Pressure Coefficient	K_{z}	1.15							
Topographic Factor	K_{zt}	1.00							
Rooftop Wind Speed-up Factor	K_{S}	1.00							
Shielding Factor	K _a	0.90							
Ground Elevation Factor	K _e	0.95							
Wind Direction Probability Factor	κ_{d}	0.95							
Basic Wind Speed	V	114	mph						
Velocity Pressure	q_{z}	34.5	psf						
Height Escalation Factor	K_{iz}	1.18							
Thickness of Radial Glaze Ice	T_{iz}	1.18	in						

Seismic Load Calculations									
Short Period DSRAP	S_{DS}	0.180							
1 Second DSRAP	S_{D1}	0.086							
Importance Factor	I	1.0							
Response Modification Coefficient	R	2.0							
Seismic Response Coefficient	C_S	0.090							
Amplification Factor	Α	1.0							
Total Weight	W	943.2	lbs						
Total Shear Force	V_{S}	85.0	lbs						
Horizontal Seismic Load	Eh	85.0	lbs						
Vertical Seismic Load	Ev	34.0	lbs						

Antenna Calculations (Elevations per Application/RFDS)*										
Equipment	Height	Width	Depth	Weight	EPA_N	EPA_T	EPA _{Ni}	EPA_Ti		
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft		
CCI TPA65R-BU8D	96.0	21.0	7.8	82.5	18.09	3.13	20.61	4.18		
CCI DMP65R-BU8D	96.0	20.7	7.7	95.7	17.87	3.12	20.39	4.17		
Raycap DC9-48-60-24-8C-EV	31.4	18.3	10.2	16.0	4.79	2.73	5.81	3.61		
Ericsson RRUS 4478 B14	16.5	13.4	7.7	59.9	1.84	1.06	2.48	1.58		
Ericsson RRUS 4449 B5, B12	17.9	13.2	9.4	71.0	1.97	1.40	2.63	1.98		
Ericsson RRUS 8843 B2, B66A	14.9	13.2	10.9	72.0	1.64	1.35	2.24	1.91		

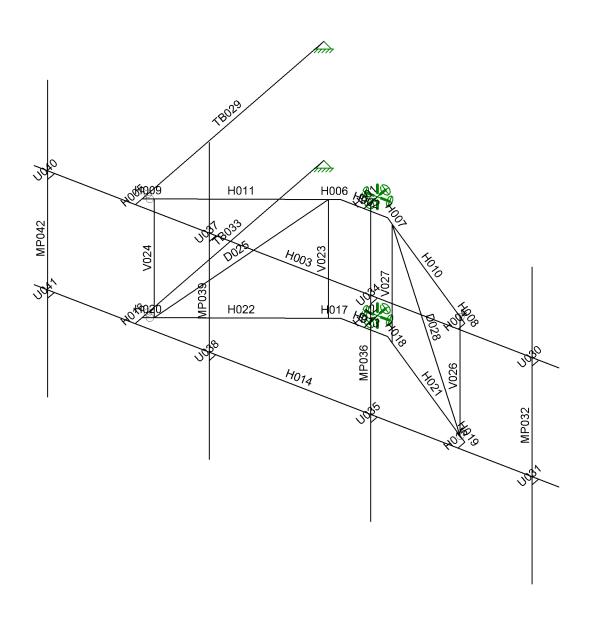
st Equipment with EPA values N/A were not considered in the mount analysis





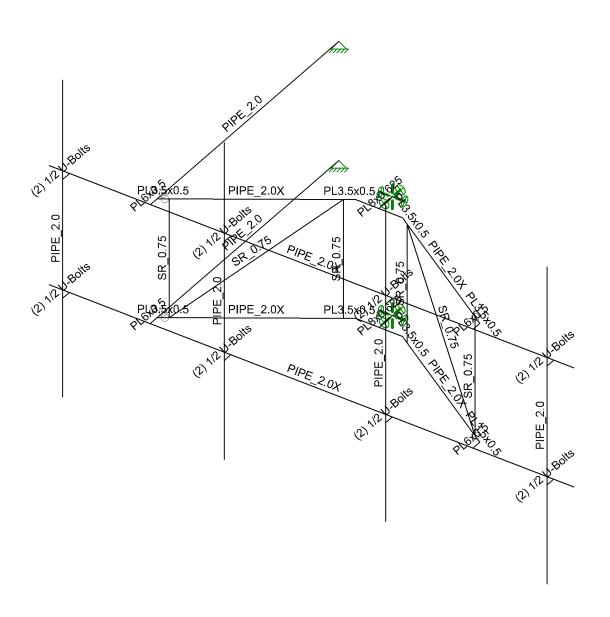
American Tower Corp.	
Alan.Samboy	88019, WINSTEAD
13626849_C8_01	3D Rendering





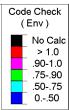
American Tower Corp.		SK - 2
Alan.Samboy	88019, WINSTEAD	May 6, 2021 at 11:34 AM
13626849_C8_01	Member Labels	R3D. AT&T MOBILITY @ 88019, WI

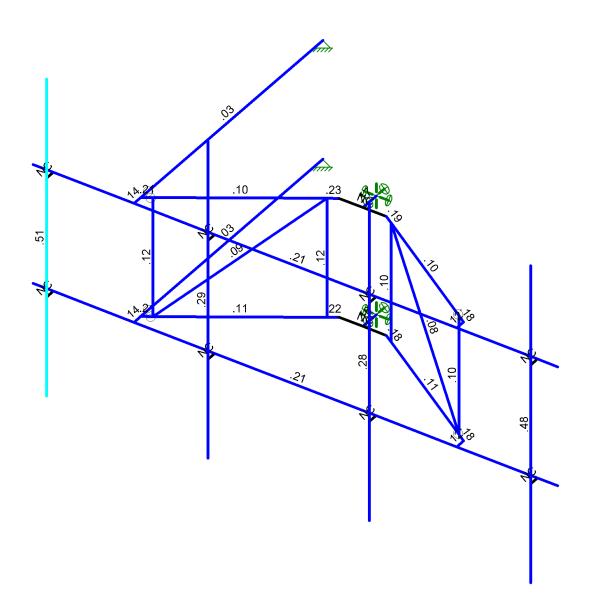




American Tower Corp.		SK - 3
Alan.Samboy	88019, WINSTEAD	May 6, 2021 at 11:34 AM
13626849_C8_01	Member Shapes	R3D. AT&T MOBILITY @ 88019, WI



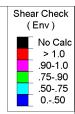


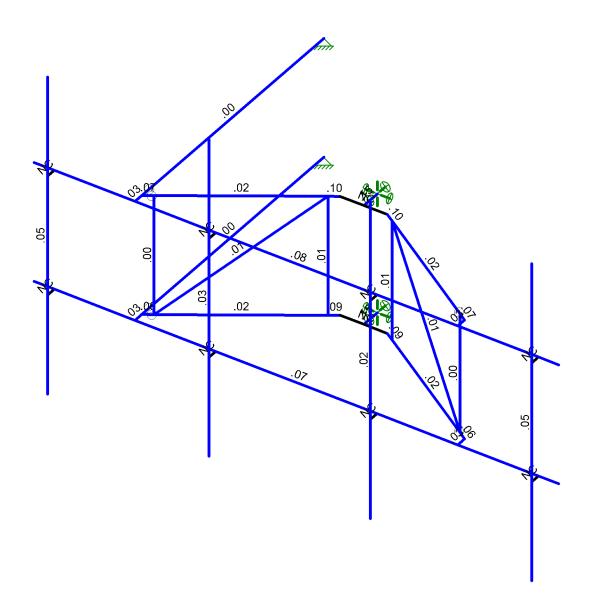


Member Code Checks Displayed (Enveloped) Results for LC 1, 1.4D

American Tower Corp.		SK - 4
Alan.Samboy	88019, WINSTEAD	May 6, 2021 at 11:34 AM
13626849_C8_01	Unity Bending Checks	R3D. AT&T MOBILITY @ 88019, WI







Member Shear Checks Displayed (Enveloped) Results for LC 1, 1.4D

American Tower Corp.		SK - 5
Alan.Samboy	88019, WINSTEAD	May 6, 2021 at 11:35 AM
13626849_C8_01	Shear Checks	R3D. AT&T MOBILITY @ 88019, WI

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FF	P € FF						Ϋ́Λ∙			Þ[}^
FG	P ∉ FG						Ϋ́Λ∙			Þ[}^
FH	P€FH						Ϋ́Λ∙	EEÁÞOEÁEE		Þ[}^
FI	P € FI						Ϋ́Λ∙			Þ[}^
FÍ	P € FÍ						Ϋ́Λ∙			Þ[}^
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FÌ	P € FÌ						Ϋ́Λ∙			Þ[}^
FJ	P € FJ	Ó^} ÚŒ					Ϋ́Λ∙			Þ[}^
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G	X€G						Ϋ́Λ∙	HEÁÞOFÁH		Þ[}^
GÍ	Ö€GÍ						Ϋ́^•	HEÁÞOÐÁH		Þ[}^
GÎ	X€Ĝ						Ϋ́Λ∙	HEÁÞ OFÁH		Þ[}^
GÏ	X€Ğ						ŸΛ•	HEÁÞOÐÁH		Þ[}^
GÌ	Ö€GÌ						Ϋ́Λ∙	HEÁÞOFÁH		þ[}^
GJ	VÓ€GJ	Ó^} ÚŒ					Ϋ́Λ∙			Þ[}^
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HF	W€HF						Ϋ́Λ∙		Ò¢& å^	Þ[}^
HG	TÚ€HG						Ϋ́Λ∙	HEÁÞ OÐÁH		Þ[}^
HH	VÓ€HH		Ó^}ÚŒ				Ϋ́Λ∙			Þ[}^
Н	W€HI						Ϋ́Λ∙		Ò¢& ` å^	Þ[}^
HÍ	W€HÍ						Ϋ́Λ∙		Ò¢& ` å^	Þ[}^
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ΗÏ	W€HÏ						Ϋ́Λ∙		Ò¢& ` å^	Þ[}^
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IF	W€F						ΫΛ∙		Ò¢& ` å^	Þ[}^
IG	TÚ€IG						ΫΛ∙	HEÁÞ OEÁH		Þ[}^

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	Šæà^l	Ù@ ♣^	Š^}*c@Ž ā á	Šà^^Žajá	Šà∷Žāá	Š&[{]Áq[]Žą á	áŠ&[{]Áà[cŽãá	áŠĒd¦~~ÈÈ	S^^	S::	Ôà	Ø"}&da[}
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FJ	P€GF	ÚŒÓ ŒĚÝ	IHÈ€JG						Ēί	ÊÍ		Šæe^\a
G€	P€GG	ÚŒÓ′GÈEÝ	IHÈ€JG						Ēί	Ēί		Šæe^\a
GF	X€GH	ÙÜ´€ËÍ	HÎ						Ēί	Ēί		Šæe^\a
GG	X€G	ÙÜ′€ËÍ	HÎ						Ēί	Ēί		Šæe^\a
GH	Ö€GÍ	ÙÜ´€ËÍ	ÍÎÈFÍF						Ēί	Ēί		Šæe^\a
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9bj YcdY'>c]bhFYUM]cbg

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Exhibit 6 NIER Study Report



NIER Study Report

SITE NAME:

88029 Winstead

LOCATION:

Winstead, Connecticut

COMPANY: American
Tower Woburn,
Massachusetts

October 25th, 2021



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NIER STUDY REPORT 88019 Winstead

Winstead, CT

INTRODUCTION

Tower Engineering Professionals (TEP) has been retained by American Tower (ATC) of Woburn, Massachusetts to evaluate the RF emissions of an existing tower at this location.

SITE AND FACILITY CONSIDERATIONS

Site Winstead is located at 428 Platt Hill Rd in Winstead, CT at coordinates 41.898286, -73.11601. The support structure is a 226' self-support tower. The installation consists of 12 antenna levels ranging from 170' to 196' above ground level. All antennae will have a radiation center as described above. All data used in this study was provided by one or more of the following sources:

- 1. ATC furnished data
- 2. Compiled from carrier and manufacturer standard configurations
- 3. Empirical data collected by TEP

A topographic map of the study area is located in Appendix 1. A satellite view of the study area is located in Appendix 2.



POWER DENSITY CALCULATIONS

Graphs of the power density at different distances from the transmitter, compared to FCC MPE general population and occupational limits, may be seen in Appendix 2. These limits are based upon the Information Relating to MPE Standards found in Appendix 3. Study methodology may be seen in Appendix 4, which describes the Non-Ionizing Radiation Prediction Models. This site *IS* in compliance with FCC OET-65 MPE limits.

October 26th, 2021

Prepared By:

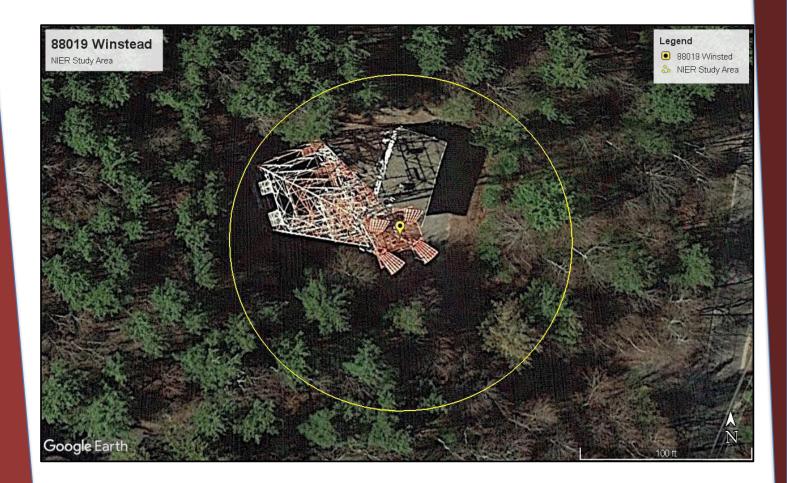
Adam Carlson MS, CBRS, CPI CBRE Senior Field Tech Tower Engineering Professionals

Approved By:



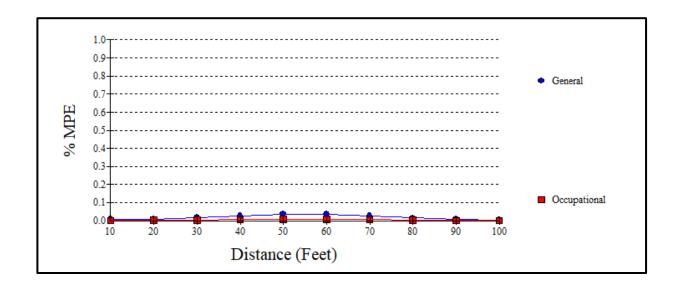


APPENDIX 1 Satellite Photo





APPENDIX 2 FCC OET-65 MPE Limit Study



Maximum Power Density (@50'):	0.0004 mW/cm ²	
General Population MPE (@50'):	0.0374%	
Occupational MPE (@50'):	0.0075%	



APPENDIX 3 Effective Radiated Power Table

Operator	Frequency Band	TPO (max)	Antenna Gain	Total ERP
	(MHz)	(Watts)	(dB)	(Watts)
AT&T PCS	1930-1970	250	17.2	8000
AT&T LTE	891-894	300	13.5	4095
AT&T 700	740-746	300	15.5	6490
AT&T AWS	1695-2500	250	15.5	8000
AT&T WCS	740-746	300	13.5	4095



APPENDIX 4 Channel Assignments

EUTRA OPERATING BAND	EARFCNDL	EARFCNUL	Download Channel Bandwidth (MHz)	Upload Channel Bandwidth (MHz)
PCS MHz A3+A4 (10Mhz) E-UTRA Band 2	650	18650	10	10
PCS MHz E (5Mhz) E-UTRA Band 2	975	18975	5	5
PCS MHz C5 (5Mhz) E-UTRA Band 2	1175	19175	5	5
850 MHz B-2586 (5MHz) E-UTRA Band 5	2586	20586	5	5
700 MHz OFFSET LOWER_B+C (10 MHz) E- UTRA BAND 17	5780	23780	10	10
WCS MHz A+B (10 MHz) E-UTRA Band 30	9820	27710	10	10
AWS-3 MHz J (10 MHz) E-UTRA Band 66	67086	132622	10	10
700 MHz UPPER D (10 MHz) E-UTRA BAND 14	5330	23330	10	10
850 MHz B-2586 (5MHz) E-UTRA Band 5 (UMTS)	4413	4188	5	5



APPENDIX 5 Information Pertaining to MPE Studies

In 1985, the FCC first adopted guidelines to be used for evaluating human exposure to RF emissions. The FCC revised and updated these guidelines on August 1, 1996, as a result of a rule-making proceeding initiated in 1993. The new guidelines incorporate limits for Maximum Permissible Exposure (MPE) in terms of electric and magnetic field strength and power density for transmitters operating at frequencies between 300 kHz and 100 GHz.

The FCC's MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits were developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC's limits, and the NCRP and ANSI/IEEE limits on which they are based, are derived from exposure criteria quantified in terms of specific absorption rate (SAR). The basis for these limits is a whole-body averaged SAR threshold level of 4 watts per kilogram (4 W/kg), as averaged over the entire mass of the body, above which expert organizations have determined that potentially hazardous exposures may occur. The MPE limits are derived by incorporating safety factors that lead, in some cases, to limits that are more conservative than the limits originally adopted by the FCC in 1985. Where more conservative limits exist, they do not arise from a fundamental change in the RF safety criteria for whole-body averaged SAR, but from a precautionary desire to protect subgroups of the general population who, potentially, may be more at risk.

The FCC exposure limits are also based on data showing that the human body absorbs RF energy at some frequencies more efficiently than at others. The most restrictive limits occur in the frequency range of 30-300 MHz where whole-body absorption of RF energy by human beings is most efficient. At other frequencies, whole-body absorption is less efficient, and consequently, the MPE limits are less restrictive.



MPE limits are defined in terms of power density (units of milliwatts per centimeter squared: mW/cm²), electric field strength (units of volts per meter: V/m) and magnetic field strength (units of amperes per meter: A/m). The far-field of a transmitting antenna is where the electric field vector (E), the magnetic field vector (H), and the direction of propagation can be considered to be all mutually orthogonal ("plane-wave" conditions).

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.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area. Additional details can be found in FCC OET 65.



APPENDIX 6 MPE Standards Methodology

This study predicts RF field strength and power density levels that emanate from communications system antennae. It considers all transmitter power levels (less filter and line losses) delivered to each active transmitting antenna at the communications site. Calculations are performed to determine power density and MPE levels for each antenna as well as composite levels from all antennas. The calculated levels are based on where a human (Observer) would be standing at various locations at the site. The point of interest where the MPE level is predicted is based on the height of the Observer.

Compliance with the FCC limits on RF emissions are determined by spatially averaging a person's exposure over the projected area of an adult human body, that is approximately six-feet or two-meters, as defined in the ANSI/IEEE C95.1 standard. The MPE limits are specified as time-averaged exposure limits. This means that exposure is averaged over an identifiable time interval. It is 30 minutes for the general population/uncontrolled RF environment and 6 minutes for the occupational/controlled RF environment. However, in the case of the general public, time averaging should not be applied because the general public is typically not aware of RF exposure and they do not have control of their exposure time. Therefore, it should be assumed that any RF exposure to the general public will be continuous.

The FCC's limits for exposure at different frequencies are shown in the following Tables.

Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm²)	Averaging Time E ², H ² or S (minutes)
0.3 - 3.0	614	1.63	100*	6
3.0 - 30	1842/f	4.89/f	900/F²	6
30 - 300	61.4	0.163	1.0	6
300 - 1500			f/300	6
1500 - 100,000			5	6

f = frequency

^{* =} Plane-wave equivalent power density



Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

Limits for General Population/Uncontrolled Exposure				
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ², H ² or S (minutes)
0.3 - 1.34	614	1.63	100*	30
1.34 - 30	824/f	2.19/f	180/F ²	30
30 -300	27.5	0.073	0.2	30
300 -1500			f/1500	30
1500 -100,000			1.0	30

f = frequency

General population/uncontrolled exposures apply in situations in which the general public may be exposed or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

It is important to understand that these limits apply cumulatively to all sources of RF emissions affecting a given area. For example, if several different communications system antennas occupy a shared facility such as a tower or rooftop, then the total exposure from all systems at the facility must be within compliance of the FCC guidelines.

The field strength emanating from an antenna can be estimated based on the characteristics of an antenna radiating in free space. There are basically two field areas associated with a radiating antenna. When close to the antenna, the region is known as the Near Field. Within this region, the characteristics of the RF fields are very complex and the wave front is extremely curved. As you move further from the antenna, the wave front has less curvature and becomes planar. The wave front still has a curvature but it appears to occupy a flat plane in space (plane-wave radiation). This region is known as the Far Field.

^{* =} Plane-wave equivalent power density



Two models are utilized to predict Near and Far field power densities. They are based on the formulae in FCC OET 65. As this study is concerned only with Near Field calculations, we will only describe the model used for this study. For additional details, refer to FCC OET Bulletin 65.

Cylindrical Model (Near Field Predictions)

Spatially averaged plane-wave equivalent power densities parallel to the antenna may be estimated by dividing the antenna input power by the surface area of an imaginary cylinder surrounding the length of the radiating antenna. While the actual power density will vary along the height of the antenna, the average value along its length will closely follow the relation given by the following equation:

$$S = P \div 2\Pi RL$$

Where:

S = Power Density

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

For directional-type antennas, power densities can be estimated by dividing the input power by that portion of a cylindrical surface area corresponding to the angular beam width of the antenna. For example, for the case of a 120-degree azimuthal beam width, the surface area should correspond to 1/3 that of a full cylinder. This would increase the power density near the antenna by a factor of three over that for a purely omni-directional antenna. Mathematically, this can be represented by the following formula:

$$S = (180 / \theta_{BW}) P \div \Pi RL$$

Where:

S = Power Density

 θ_{BW} = Beam width of antenna in degrees (3 dB half-power point)

P = Total Power into antenna

R = Distance from the antenna

L = Antenna aperture length

If the antenna is a 360-degree omni-directional antenna, this formula would be equivalent to the previous formula.



Spherical Model (Far Field Predictions)

Spatially averaged plane-wave power densities in the Far Field of an antenna may be estimated by considering the additional factors of antenna gain and reflective waves that would contribute to exposure.

The radiation pattern of an antenna has developed in the Far Field region and the power gain needs to be considered in exposure predictions. Also, if the vertical radiation pattern of the antenna is considered, the exposure predictions would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential four-fold increase in power density.

These additional factors are considered and the Far Field prediction model is determined by the following equation:

$$S = EIRP \times Rc \div 4\Pi R^2$$

Where:

S = Power Density

EIRP = Effective Radiated Power from antenna

Rc = Reflection Coefficient (2.56)

R = Distance from the antenna

The EIRP includes the antenna gain. If the antenna pattern is considered, the antenna gain is relative based on the horizontal and vertical pattern gain values at that particular location in space, on a rooftop or on the ground. However, it is recommended that the antenna radiation pattern characteristics not be considered to provide a conservative "worst case" prediction. This is the equation is utilized for the Far Field exposure predictions herein.

Exhibit 7 Original Facility Approval

To: Kimberly Revak

Subject: FW: Town Permit for Tower at 428 Platt Hill Road

Email from Town of Winchester Zoning Enforcement Officer below about documents for the original approval of the Telecommunications Tower located at 428 Platt Hill Road:



Kimberly Revak | Site Acquisition Consultant 38 Treeline Court, Fishkill, New York, 12524 Phone: 845.242.6152 | krevak@clinellc.com www.centerlinecommunications.com

From: Marc Melanson <mmelanson@townofwinchester.org>

Sent: Thursday, September 9, 2021 12:43 PM **To:** Kimberly Revak < krevak@clinellc.com>

Subject: RE:

Kimberly,

I cannot locate the original permit for the cell tower. I only can locate permits for modifications to it.

Marc Melanson Building Official Zoning Enforcement Officer Town of Winchester City of Winsted 338 Main St. Winsted, CT 06098 860-379-3818

Exhibit 8

(4) Notice Confirmations

From: UPS <pkginfo@ups.com>

Sent: Tuesday, October 26, 2021 10:10 PM

To: Kimberly Revak

Subject: UPS Schedule Delivery Update, Tracking Number 1Z9Y45030335100456



Your scheduled delivery date has changed. Scheduled Delivery Date: Thursday, 10/28/2021

Important Delivery Information

From: CENTERLINE SITE ACQUISITION

Tracking Number: <u>1Z9Y45030335100456</u>

Shipment Details

Gary Waitt - Site Development

American Tower Corporation

Ship To: 10 Presidential Way

WOBURN, MA 018011053

US

Number of Packages: 1

Weight: 1.0 LBS

Reference Number 1: Winstead - LL/Tower



It's the thought that counts

Create a Return



From: UPS <pkginfo@ups.com>

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Weight: 1.0 LBS

Reference Number 1: Winstead - LL/Tower



It's the thought that counts

Create a Return



From: UPS <pkginfo@ups.com>

Sent: Tuesday, October 26, 2021 10:10 PM

To: Kimberly Revak

Subject: UPS Schedule Delivery Update, Tracking Number 1Z9Y45030322302673



Your scheduled delivery date has changed.
Scheduled Delivery Date: Wednesday, 10/27/2021

Important Delivery Information

From: CENTERLINE SITE ACQUISITION

Tracking Number: <u>1Z9Y45030322302673</u>

Shipment Details

Pamela Colombie / Planning Dept

Town of Winchester

Ship To: Town Hall

338 Main Street

WINSTED, CT 060981697

US

Number of Packages:

Weight: 1.0 LBS

Reference Number 1: Winstead - Zoning



It's the thought that counts

Create a Return



From: UPS <pkginfo@ups.com>

Sent: Tuesday, October 26, 2021 10:10 PM

To: Kimberly Revak

Subject: UPS Schedule Delivery Update, Tracking Number 1Z9Y45030335793280



Your scheduled delivery date has changed.
Scheduled Delivery Date: Wednesday, 10/27/2021

Important Delivery Information

From: CENTERLINE SITE ACQUISITION

Tracking Number: <u>1Z9Y45030335793280</u>

Shipment Details

Attn: Joshua Kelly - Town Manager

Town of Winchester

Ship To: Town Hall

338 Main Street

WINSTED, CT 060981697

US

Number of Packages:

Weight: 1.0 LBS

Reference Number 1: Winstead - Town



It's the thought that counts

Create a Return

