



June 21, 2016

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

Regarding: Notice of Exempt Modification – Swap of 3 Antennas, addition of 3 radio and associated lines
Property Address: 60 North Eagleville Road, Mansfield, CT (the “Property”)
Applicant: AT&T Mobility (“AT&T”)

Dear Ms. Bachman:

AT&T currently maintains a wireless telecommunications facility on an existing 287 foot guyed tower (“tower”) at the above-referenced address, latitude 41.8140481, longitude -72.2594431. AT&T’s facility consists of nine (9) wireless telecommunications antennas at 185 feet. The tower is controlled and owned by the University of Connecticut. The Assessor’s information is attached hereto.

AT&T desires to modify its existing telecommunications facility by swapping three (3) antennas, adding three (3) remote-radio heads (“RRHs”), and adding one (1) fiber trunk. The centerline height of said antennas is and will remain at 185 feet.

Please accept this application as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72 (b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the Mayor of Mansfield, the Town Manager of Mansfield, and the Director of Planning and Development of Mansfield. A copy of this letter is also being sent to The University of Connecticut, the owner of the structure that AT&T is located.

The planned modifications to AT&T’s facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The planned modifications will not result in an increase in the height of the existing structure. AT&T’s antennas, RRHs, and associated lines will be installed at 185 foot level of the 287 foot tall guyed lattice tower.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore will not require an extension of the site boundary.
3. The proposed modification will not increase the noise level at the facility by six decibel or more, or to levels that exceed state and local criteria.



4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. An RF emissions calculation is attached.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (Please see attached Structural analysis completed by Com Ex Consultants, LLC dated April 28, 2016).

For the foregoing reasons AT&T respectfully requests that the proposed swap of 3 antennas, addition of 3 RRHs, and associated lines be allowed within the exempt modifications under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Nicole Caplan
Site Acquisition Specialist
Empire Telecom

CC: The Honorable Paul Shapiro, Mayor, Town of Mansfield
Matthew W. Hart, Town Manager, Town of Mansfield
Linda M. Painter, Director of Planning and Development, Town of Mansfield
The University of Connecticut



Town of Mansfield, Connecticut
Property Record Card

Card 1 of 1

61 NO EAGLEVILLE RDID: **15.32.UC174** Account #: **15 32 UC174**

Owner: UNIVERSITY OF CONNECTICUT
 Co-Owner:
 Address: U BOX 3038 FACILITIES MGMT
 STORRS CT 06269

Assessment: Total: 539000
 Building: 0 Land: 189000 Yard: 350000

Sales History

<u>Grantor</u>	<u>Book / Page</u>	<u>Sale Date</u>	<u>Sale Price</u>
UNIVERSITY OF CONNECTICUT			0



MainStreetGIS, LLC
www.mainstreetgis.com

Land Information

Land Area: 0 AC Zoning: (See Official Zoning Map)
 Land Use: 9020 - State OB
 Neighborhood: C200

Building Information

Style:	Stories:
Year Built: 1900	Heat Fuel:
Rooms: Bedrooms:	Heat Type:
Baths: Half Baths:	AC Type:
Living Area:	Roof Structure:
Gross Area:	Roof Covering:

Extra Features

<u>Description</u>	<u>Area / Units</u>	<u>Assessment</u>
Misc Unknown	1	350000

Sub Areas

<u>Description</u>	<u>Living Area</u>	<u>Gross Area</u>
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Property information last updated: 3/20/2015 - Printed from: <http://www.mainstreetmaps.com/CT/Mansfield/>



Town of Mansfield, Connecticut

Property Record Card

Card 1 of 1

61 NO EAGLEVILLE RDID: **16.36.UC040** Account #: **16 36 UC040**

Owner: UNIVERSITY OF CONNECTICUT
 Co-Owner: ATWATER LAB
 Address: U BOX 3038 FACILITIES MGMT
 STORRS CT 06269

Assessment: Total: 7927700
 Building: 7628900 Land: 298800 Yard: 0

Sales History

<u>Grantor</u>	<u>Book / Page</u>	<u>Sale Date</u>	<u>Sale Price</u>
UNIVERSITY OF CONNECTICUT			0



MainStreetGIS, LLC
www.mainstreetgis.com

Land Information

Land Area: 1 AC Zoning: (See Official Zoning Map)
 Land Use: 902 - State Com
 Neighborhood: C200

Building Information

Style:
 Year Built: 1930
 Rooms: Bedrooms:
 Baths: Half Baths:
 Living Area:
 Gross Area:

Stories:
 Heat Fuel:
 Heat Type:
 AC Type:
 Roof Structure:
 Roof Covering:

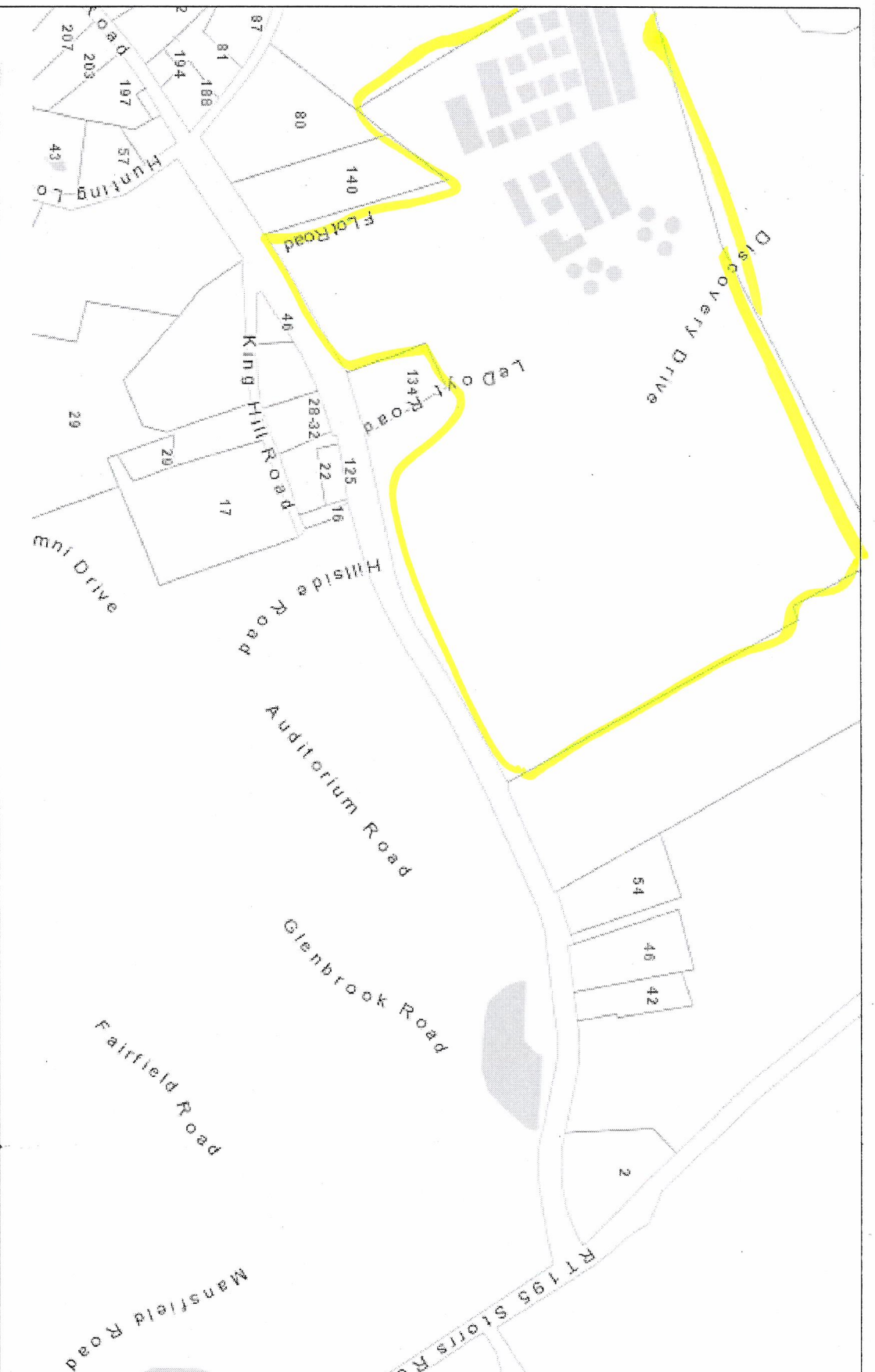
Extra Features

<u>Description</u>	<u>Area / Units</u>	<u>Assessment</u>
Elevator-Frgt	3	17600
Elevator-Frgt	3	17600
Penthouse	4230	74600

Sub Areas

<u>Description</u>	<u>Living Area</u>	<u>Gross Area</u>
FUS	28916	28916
BAS	19485	19485
BSM	0	7058
FHS	918	1836
FOP	0	316

Property information last updated: 3/20/2015 - Printed from: <http://www.mainstreetmaps.com/CT/Mansfield/>



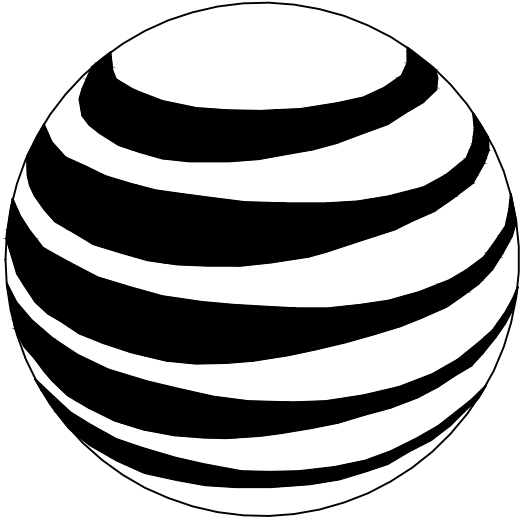
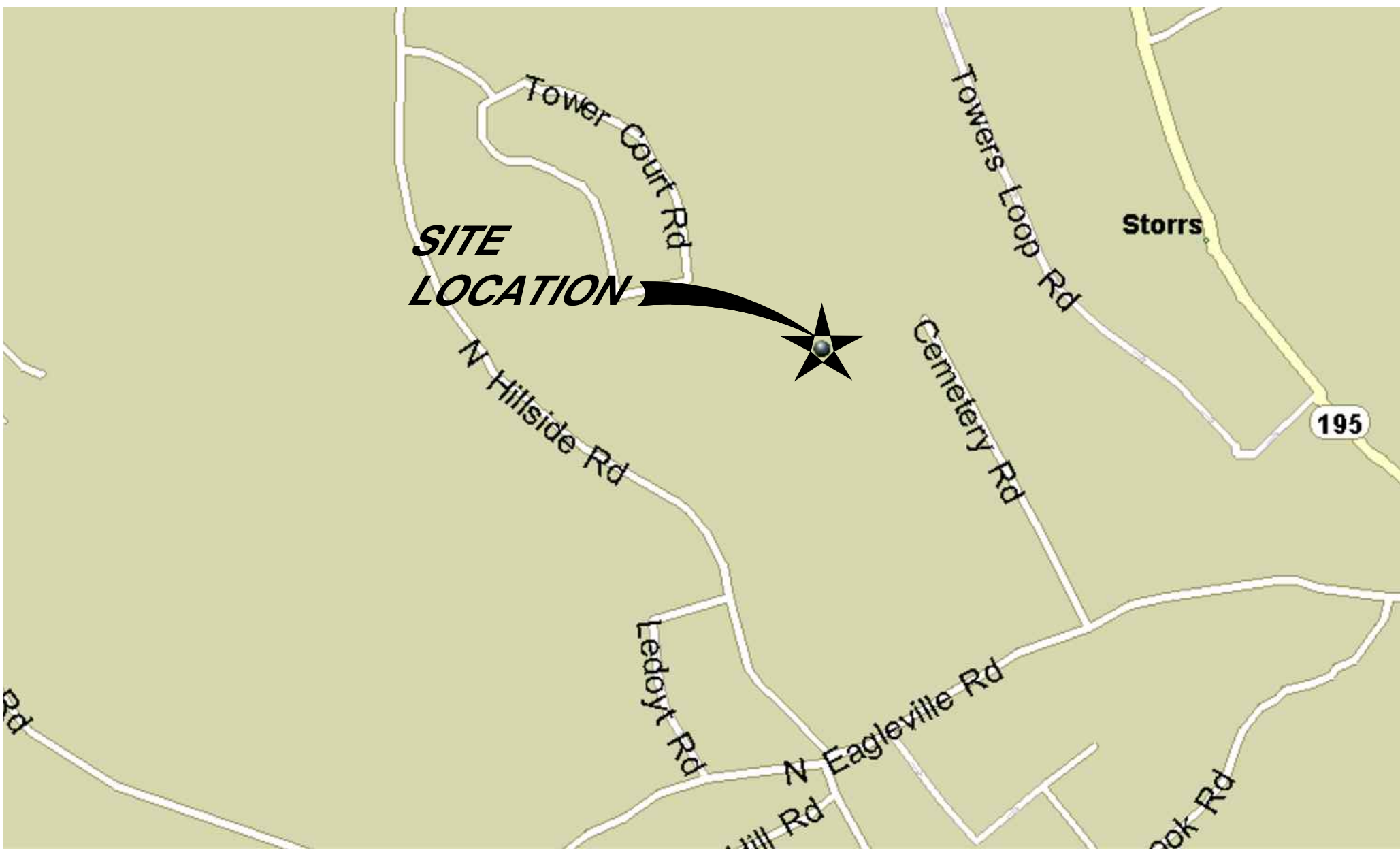

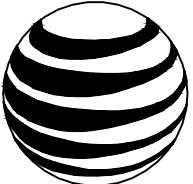

Town of Mansfield, Connecticut

Printed on 6/21/2016 from <http://www.mainstreetmaps2.com/ct/mansfield/public.asp>

This map is for informational purposes only. It is not for appraisal of, description of, or conveyance of land. The Town of Mansfield, Connecticut and MainStreetGIS, LLC assume no legal responsibility for the information contained herein.



MainStreetGIS
MainStreetGIS, LLC
www.mainstreetgis.com

PROJECT INFORMATION			<div></div> <div>at&t MOBILITY</div>			PROJECT TEAM																																																	
<div>SCOPE OF WORK:</div> <ul style="list-style-type: none">AT&T ANTENNAS: (1) EXISTING AT&T ANTENNA TO BE REMOVED PER SECTOR FOR A TOTAL OF (3) REMOVED ANTENNAS. (1) NEW LTE ANTENNAS PER SECTOR WITH (3) SECTORS, (2) EXISTING AT&T ANTENNA TO REMAIN PER SECTOR FOR A TOTAL OF (6) EXISTING ANTENNAS TO REMAINAT&T RRUs: (1) NEW RRUs PER SECTOR WITH (3) SECTORS, FOR A TOTAL OF (3) NEW RRUs TO REPLACE EXISTING RRH <div>SITE ADDRESS: 1298 STORRS ROAD STORRS, CT 06268</div> <div>LATITUDE: 41.8140481 41° 48' 50.57316"N LONGITUDE: -72.2594431 72° 15' 33.99516"W</div> <div>USID: 59367</div> <div>TOWER OWNER: UNIVERSITY OF CONNECTICUT STORRS, CT 06269</div> <div>TYPE OF SITE: GUYED TOWER/INDOOR EQUIPMENT</div> <div>RAD CENTER: 185'-0"±</div> <div>CURRENT USE: UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY</div> <div>PROPOSED USE: UNMANNED WIRELESS TELECOMMUNICATIONS FACILITY</div>						<div>FA CODE: 10035012</div> <div>SITE NUMBER: CT1077</div> <div>SITE NAME: STORRS</div>			<div><div>CLIENT REPRESENTATIVE</div><div>COMPANY: EMPIRE TELECOM ADDRESS: 16 ESQUIRE ROAD BILLERICA, MA 01821 CONTACT: DAVID COOPER PHONE: 617-639-4908 EMAIL: dcooper@empiretelecomm.com</div><div>SITE ACQUISITION:</div><div>COMPANY: VERTICAL DEVELOPMENT, LLC ADDRESS: 20 COMMERCIAL STREET BRANFORD, CT 06405 CONTACT: PAUL SAGRISTANO PHONE: 917-841-0247 EMAIL: psagrystano@verticaldevelopmentllc.com</div><div>ZONING:</div><div>COMPANY: VERTICAL DEVELOPMENT, LLC ADDRESS: 20 COMMERCIAL STREET BRANFORD, CT 06405 CONTACT: PAUL SAGRISTANO PHONE: 917-841-0247 EMAIL: psagrystano@verticaldevelopmentllc.com</div><div>ENGINEERING:</div><div>COMPANY: COM-EX CONSULTANTS, LLC ADDRESS: 115 ROUTE 46 SUITE E39 MOUNTAIN LAKES, NJ 07046 CONTACT: NICHOLAS D. BARILE, P.E. PHONE: 862-209-4300 EMAIL: nbarile@comexconsultants.com</div></div> <div><div>RF ENGINEER:</div><div>COMPANY: AT&T MOBILITY — NEW ENGLAND ADDRESS: 550 COCHITUATE ROAD SUITE 550 13 & 14 FRAMINGHAM, MA 01701 CONTACT: CAMERON SYME PHONE: 508-596-7146 EMAIL: cs6970@att.com</div><div>CONSTRUCTION MANAGEMENT:</div><div>COMPANY: EMPIRE TELECOM ADDRESS: 16 ESQUIRE ROAD BILLERICA, MA 01821 CONTACT: GRZEGORZ "GREG" DORMAN PHONE: 484-683-1750 EMAIL: gdorman@empiretelecomm.com</div></div>																																														
DRAWING INDEX			REV.			VICINITY MAP			GENERAL NOTES																																														
T-1	TITLE SHEET	0	<div>1. DEPART 550 COCHITUATE RD, TOWN OF FRAMINGHAM, MA 01701 ON SR-30 [COCHITUATE RD] (WEST). 2. BEAR LEFT (SOUTH) ONTO SR-126 [CONCORD ST], TURN LEFT (SOUTH) ONTO CONCORD ST. 3. TURN RIGHT (WEST) ONTO SR-9 [WORCESTER RD], MERGE ONTO SR-30 [SR-9]. 4. KEEP STRAIGHT ONTO SR-9 [WORCESTER RD] TURN RIGHT ONTO RAMP, KEEP LEFT TO STAY ON RAMP *TOLL ROAD*. 5. MERGE ONTO I-90 [MASS PIKE] AT EXIT 9, TAKE RAMP (RIGHT) ONTO I-84. 6. ENTERING CONNECTICUT; AT EXIT 70, TAKE RAMP (RIGHT) ONTO SR-32 [RIVER RD]. 6. TURN LEFT (EAST) ONTO SR-195 [STORRS RD], TURN RIGHT (WEST) ONTO N EAGLEVILLE RD. 7. TURN RIGHT (NORTH) ONTO CEMETERY RD, TURN LEFT (WEST) ONTO NORTH CAMPUS RESIDENCE HALL PARKING LOT. FOLLOW TO BACK FOR ACCESS ROAD TO SITE.</div> <div></div>			<div>1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY, AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED.</div> <div>2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS.</div> <div>3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.</div>																																																	
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A-1	ROOF PLAN	0																																																					
A-2	EQUIPMENT LAYOUT	0																																																					
A-3	ANTENNA LAYOUTS & ELEVATION	0																																																					
A-4	DETAILS	0																																																					
G-1	GROUNDING DETAILS	0																																																					
APPROVALS			<div></div> <div>CONNECTICUT LAW REQUIRES TWO WORKING DAYS NOTICE PRIOR TO ANY EARTH MOVING ACTIVITIES BY CALLING 800-922-4455 OR DIAL 811</div>																																																				
THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN, ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR SITE MODIFICATIONS.																																																							
DISCIPLINE:	NAME:	DATE:																																																					
SITE ACQUISITION:																																																							
CONSTRUCTION MANAGER:																																																							
AT&T PROJECT MANAGER:																																																							
<div>COM-EX Consultants</div> <div>115 ROUTE 46 SUITE E39 MOUNTAIN LAKES, NJ 07046 PHONE: 862.209.4300 FAX: 862.209.4301</div>		<div>EMPIRE telecom</div> <div>16 ESQUIRE ROAD BILLERICA, MA 01821</div>		<div>SITE NUMBER: CT1077 SITE NAME: STORRS</div> <div>60 NORTH EAGLESVILLE ROAD MANSFIELD, CT 06269 TOLLAND COUNTY</div>		<div></div> <div>at&t MOBILITY</div> <div>550 COCHITUATE ROAD FRAMINGHAM, MA 01701</div>		<table><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>0</td><td>04/28/16</td><td colspan="2">ISSUED AS FINAL</td><td>KCD</td><td>NDB</td></tr><tr><td>NO.</td><td>DATE</td><td colspan="2">REVISIONS</td><td>BY</td><td>CHK</td></tr><tr><td colspan="2">SCALE: AS SHOWN</td><td colspan="2">DESIGNED BY: CJT</td><td colspan="2">DRAWN BY: GR</td></tr></table>																				0	04/28/16	ISSUED AS FINAL		KCD	NDB	NO.	DATE	REVISIONS		BY	CHK	SCALE: AS SHOWN		DESIGNED BY: CJT		DRAWN BY: GR		<div>SEAL:</div> <div></div> <div>PROFESSIONAL ENGINEER CT LICENSE NO. 26643</div>		<div>AT&T</div> <div>DRAWING TITLE:</div> <div>TITLE SHEET</div> <table><tr><td>JOB NUMBER</td><td>DRAWING NUMBER</td><td>REV</td></tr><tr><td>14283-EMP</td><td>T-1</td><td>0</td></tr></table>		JOB NUMBER	DRAWING NUMBER	REV	14283-EMP	T-1	0
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GROUNDING NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. TESTS SHALL BE PERFORMED IN ACCORDANCE WITH 25471-000-3PS-EG00-0001, DESIGN & TESTING OF FACILITY GROUNDING FOR CELL SITES.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED WITH STAINLESS STEEL HARDWARE TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
13. ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF ANSI/TIA 222. FOR TOWERS BEING BUILT TO REV-G OF THE STANDARD, THE WIRE SIZE OF THE BURIED GROUND RING AND CONNECTIONS BETWEEN THE TOWER AND THE BURIED GROUND RING SHALL BE CHANGED FROM 2 AWG TO 2/0 AWG. IN ADDITION, THE MINIMUM LENGTH OF THE GROUND RODS SHALL BE INCREASED FROM EIGHT FEET (8') TO TEN FEET (10').
14. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE ½” OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR – EMPIRE TELECOM

SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)

OWNER – AT&T MOBILITY

OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. INFORMATION SHOWN ON THIS SET OF DRAWINGS TAKEN FROM PLANS PREPARED BY CHA FOR AT&T DATED (04/20/11). CONTRACTOR TO NOTIFY ENGINEER IF DISCREPANCIES EXIST PRIOR TO COMMENCEMENT OF CONSTRUCTION.
3. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
4. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR. ROUTING OF TRENCHING SHALL BE APPROVED BY CONTRACTOR
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR’S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OFF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER’S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS UNLESS OTHERWISE SPECIFIED. ALL CONCRETING WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy=36 ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCH UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 25741-000-3APS-A00Z-00002, "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK MAY NEED TO BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

20. SUBCONTRACTOR’S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
- INTERNATIONAL BUILDING CODE: IBC 2009 WITH LOCAL & COUNTY AMENDMENTS

• NATIONAL ELECTRICAL CODE: NEC 2011 WITH LOCAL & COUNTY AMENDMENTS

• FIRE/LIFE SAFETY CODE: NFPA-101 2009 WITH LOCAL & COUNTY AMENDMENTS
21. SUBCONTRACTOR’S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
- AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

• AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, THIRTEENTH EDITION

• AMERICAN SOCIETY OF TESTING OF MATERIALS, ASTM

• TELECOMMUNICATIONS INDUSTRY ASSOCIATION (ANSI/TIA-222-G-1), STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:

• TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

• OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, OSHA

• INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVELY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

• TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS
22. FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.
23. INFORMATION SHOWN ON THIS SET OF DRAWINGS TAKEN FROM PLANS PREPARED BY HUDSON DESIGN GROUP FOR AT&T DATED 4/18/12. CONTRACTOR TO NOTIFY ENGINEER IF DISCREPANCIES EXIST PRIOR TO COMMENCEMENT OF CONSTRUCTION.

COM-EX

Consultants

115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

EMPIRE

telecom

16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT1077

SITE NAME: STORRS

60 NORTH EAGLESVILLE ROAD
MANSFIELD, CT 06269
TOLLAND COUNTY



550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

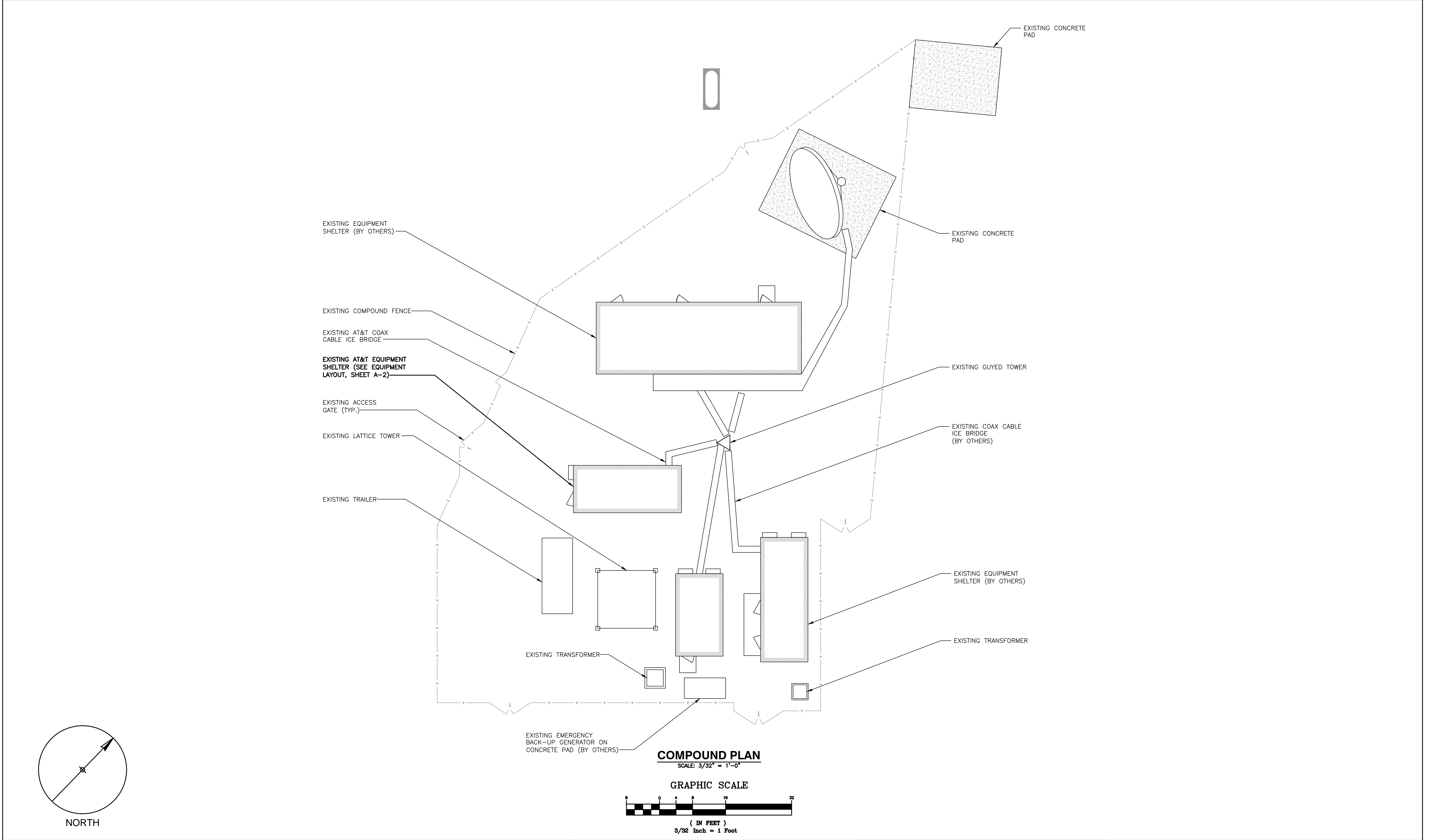
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SEAL:



AT&T

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JOB NUMBER 14283-EMP	DRAWING NUMBER GN-1	REV 0



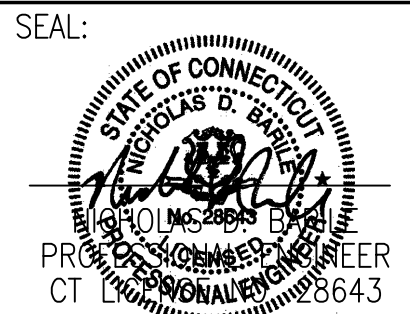
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Consultants
115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

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BILLERICA, MA 01821

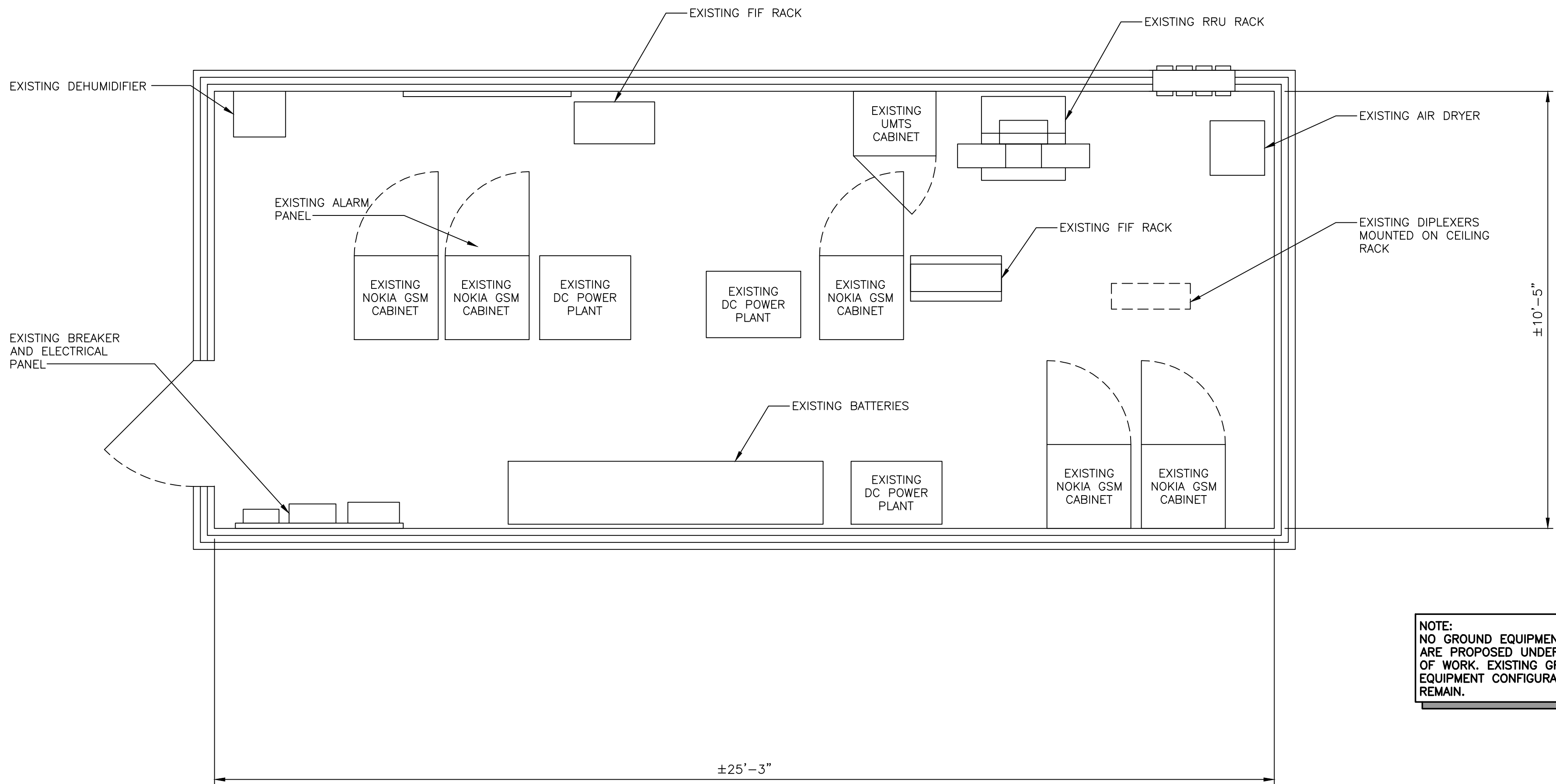
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SITE NAME: STORRS
60 NORTH EAGLESVILLE ROAD
MANSFIELD, CT 06269
TOLLAND COUNTY

 **at&t**
MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

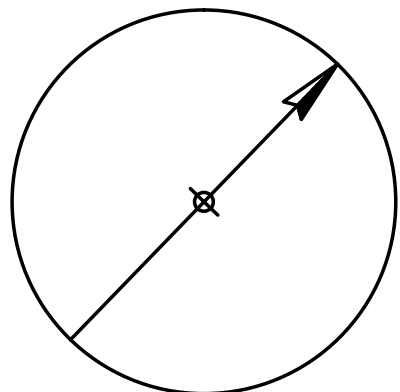
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SCALE: AS SHOWN		DESIGNED BY: CJT		DRAWN BY: GR	



AT&T		
DRAWING TITLE: COMPOUND LAYOUT		
JOB NUMBER 14283-EMP	DRAWING NUMBER A-1	REV 0



NOTE:
NO GROUND EQUIPMENT CHANGES
ARE PROPOSED UNDER THIS SCOPE
OF WORK. EXISTING GROUND
EQUIPMENT CONFIGURATION TO
REMAIN.



NORTH

EXISTING EQUIPMENT LAYOUT

SCALE: 1/2" = 1'-0"



(IN FEET)

1/2 Inch = 1 Foot

COM-EX
Consultants
115 ROUTE 46
SUITE E39
MOUNTAIN LAKES, NJ 07046
PHONE: 862.209.4300
FAX: 862.209.4301

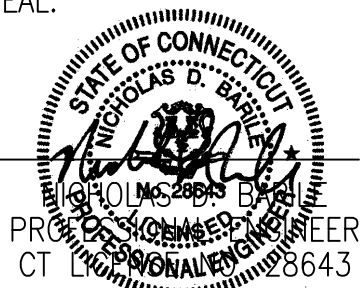
EMPIRE
telecom
16 ESQUIRE ROAD
BILLERICA, MA 01821

SITE NUMBER: CT1077
SITE NAME: STORRS
60 NORTH EAGLESVILLE ROAD
MANSFIELD, CT 06269
TOLLAND COUNTY

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MOBILITY
550 COCHITUATE ROAD
FRAMINGHAM, MA 01701

0	04/28/16	ISSUED AS FINAL				KCD	NDB	NDB	
NO.	DATE	REVISIONS				BY	CHK	APP'D	
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SEAL:



AT&T

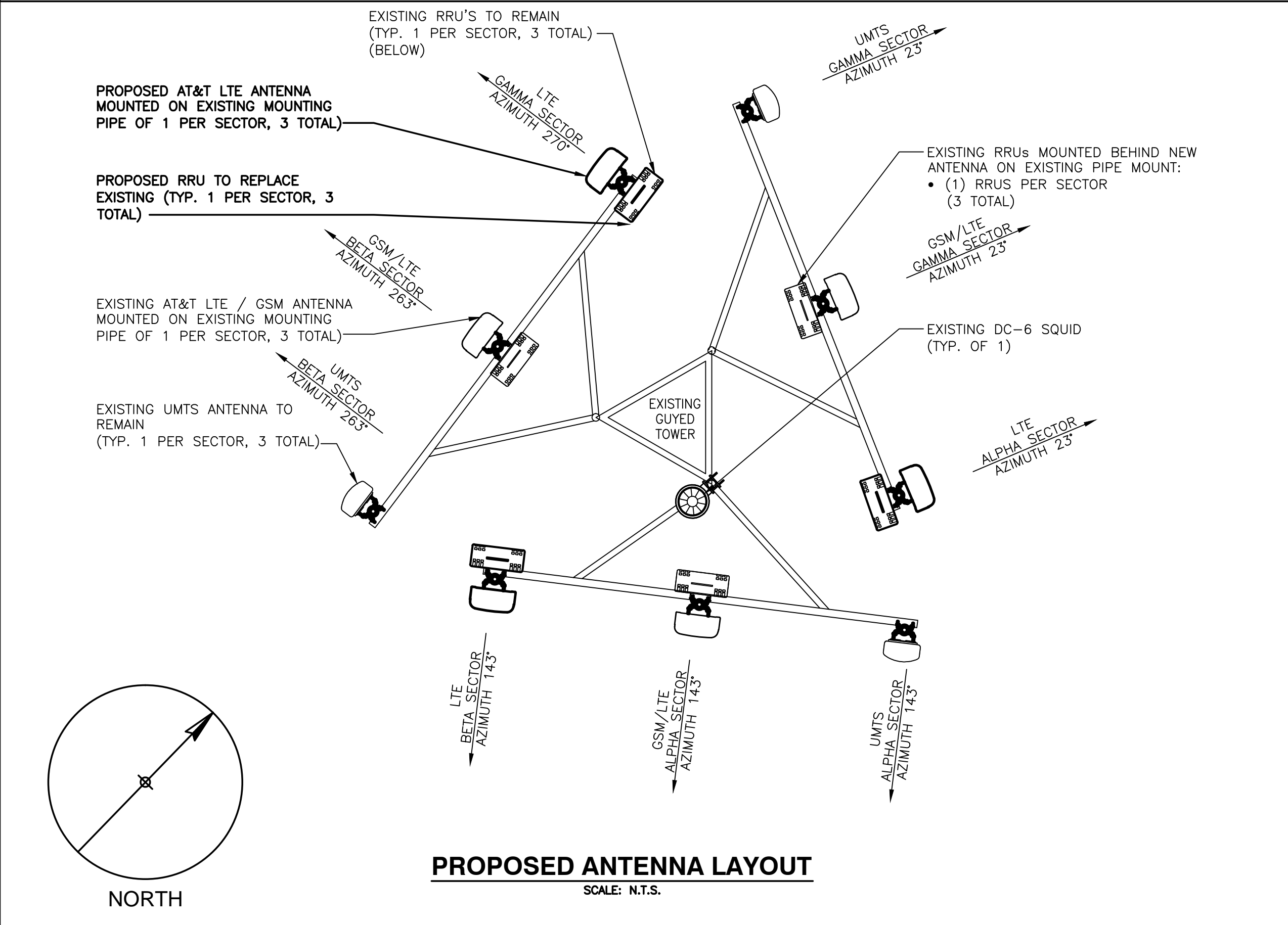
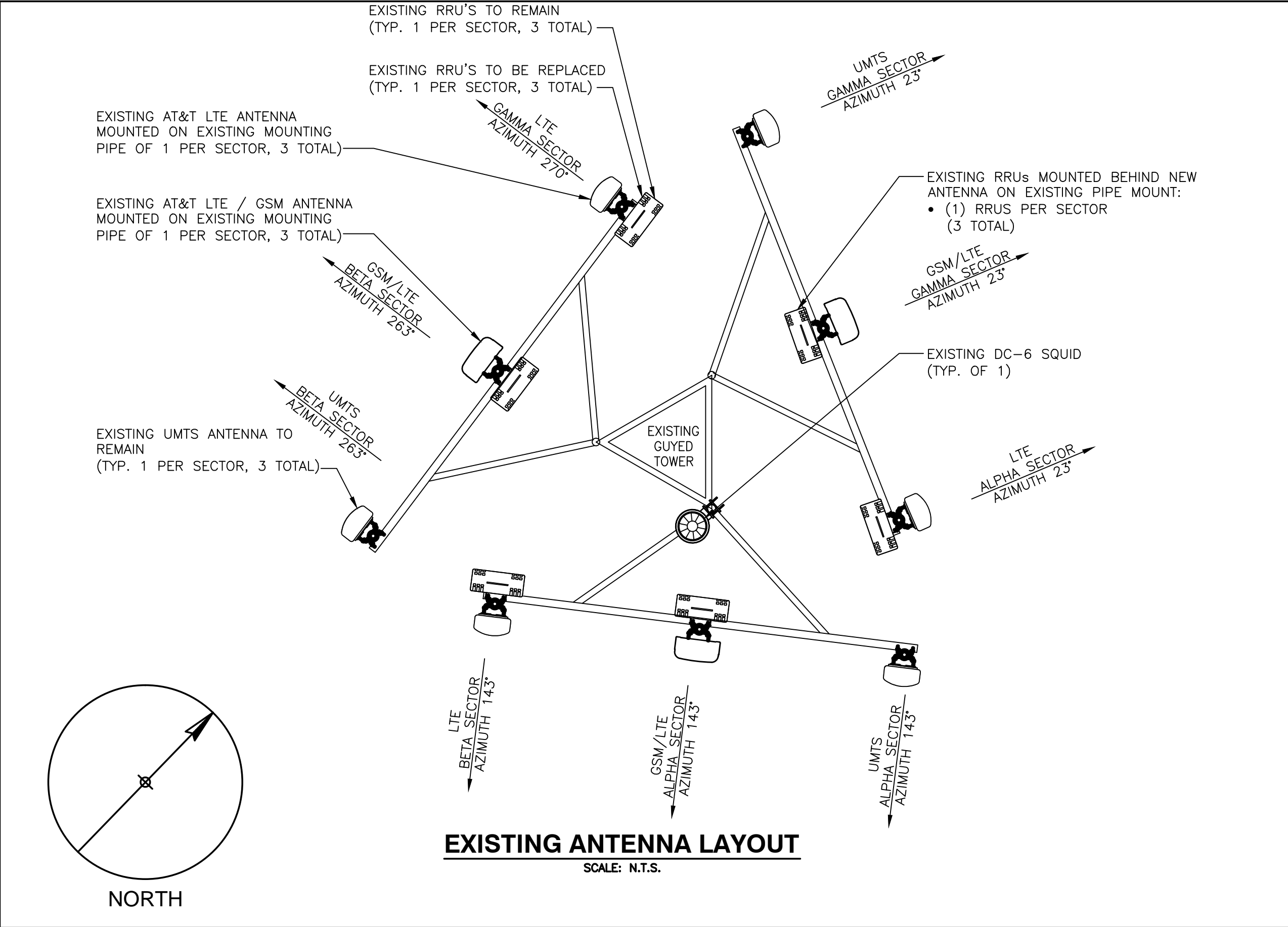
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EQUIPMENT LAYOUT

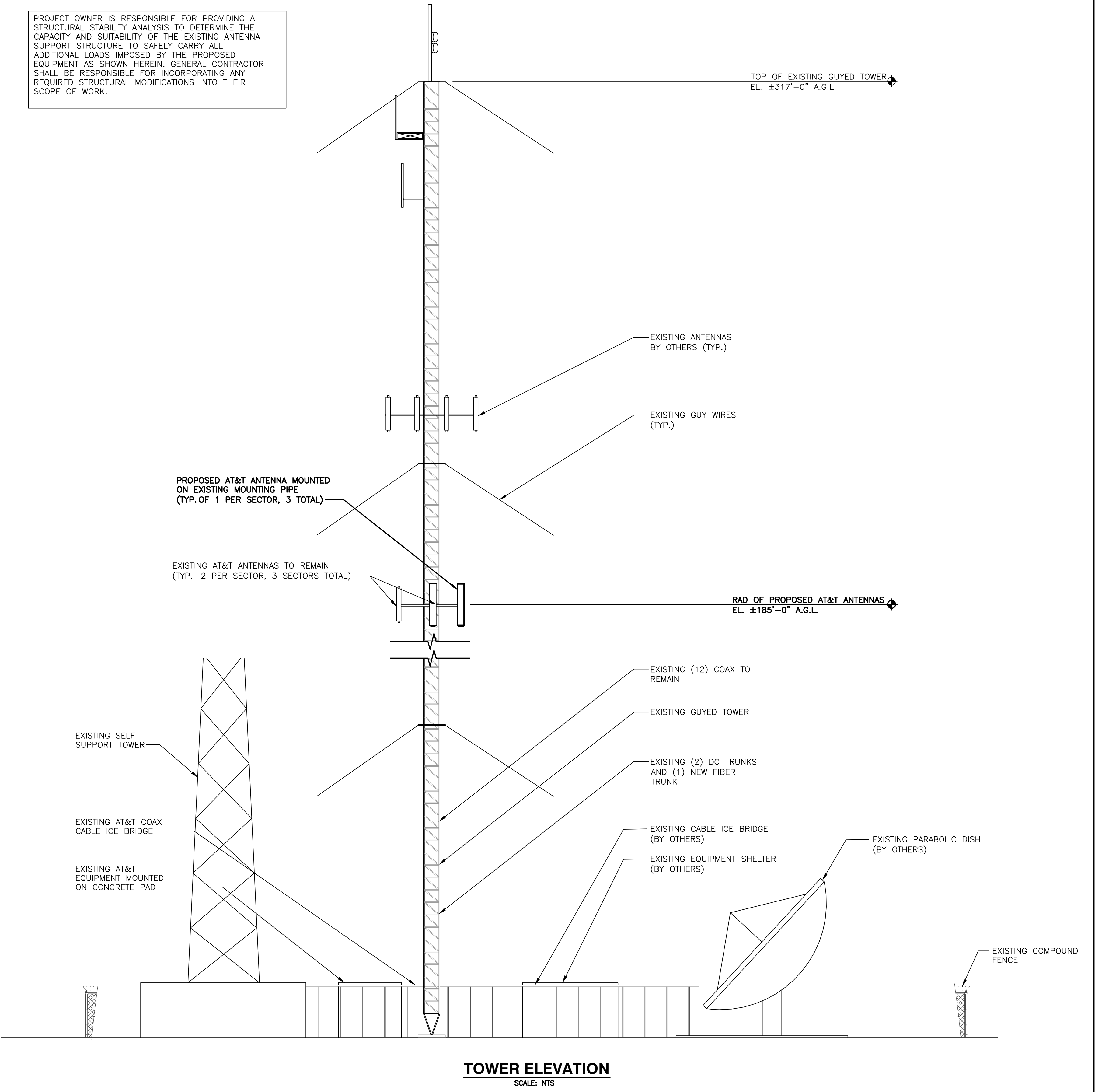
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14283-EMP

DRAWING NUMBER
A-2

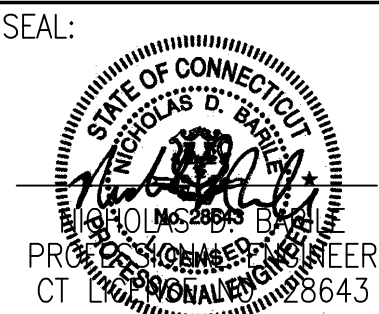
REV
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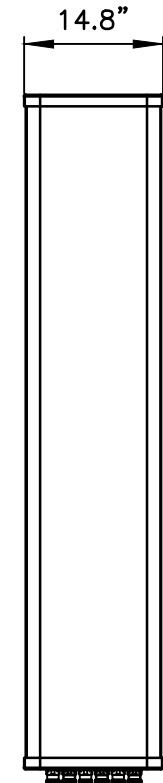
PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A STRUCTURAL STABILITY ANALYSIS TO DETERMINE THE CAPACITY AND SUITABILITY OF THE EXISTING ANTENNA SUPPORT STRUCTURE TO SAFELY CARRY ALL ADDITIONAL LOADS IMPOSED BY THE PROPOSED EQUIPMENT AS SHOWN HEREIN. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCORPORATING ANY REQUIRED STRUCTURAL MODIFICATIONS INTO THEIR SCOPE OF WORK.



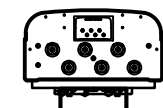
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NO.	DATE	REVISIONS	BY	CHK	APP'D
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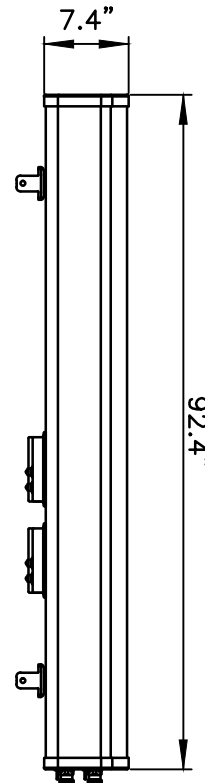
AT&T		
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JOB NUMBER 14283-EMP	DRAWING NUMBER A-3	REV 0



FRONT VIEW

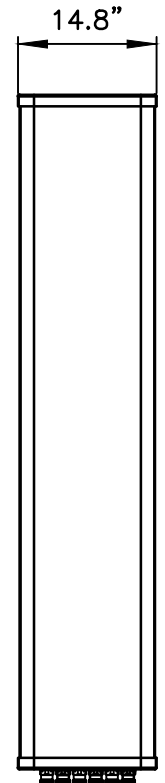


BOTTOM VIEW

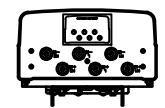


SIDE VIEW

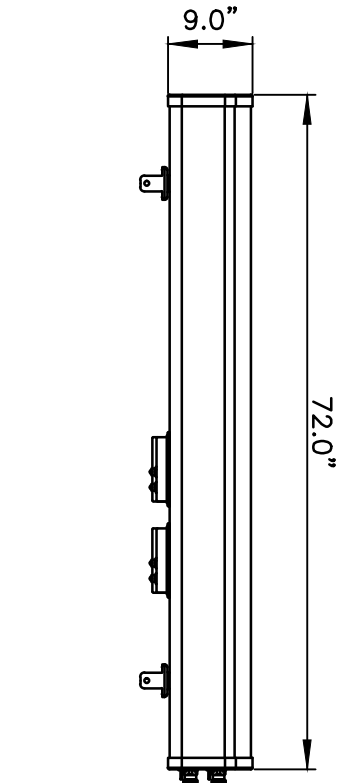
MANUFACTURER	CCI
MODEL	HPA-65R-BUU-H8
WEIGHT	68.0 LBS



FRONT VIEW



BOTTOM VIEW

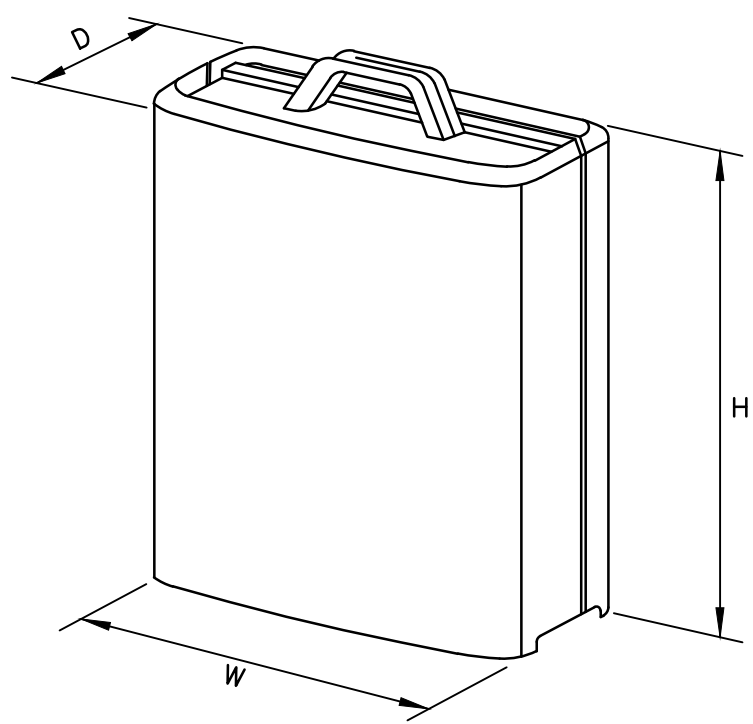


SIDE VIEW

MANUFACTURER	CCI
MODEL	HPA-65R-BUU-H6
WEIGHT	51.0 LBS

ANTENNA DETAILS

SCALE: N.T.S.

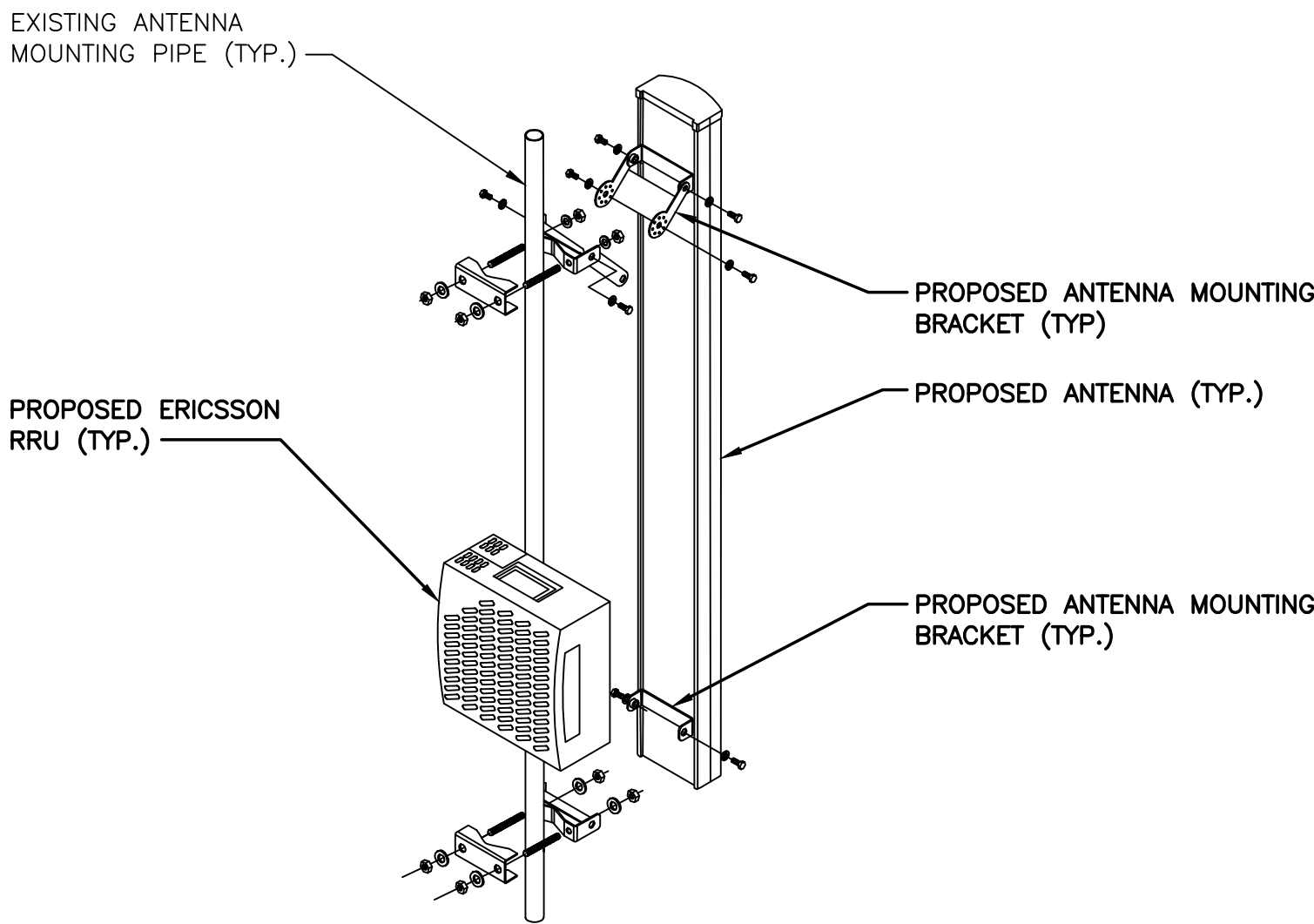


MODEL	L x W x H	WEIGHT
*RRUS-11	19.69" x 16.97" x 7.17"	50.7 LBS
*RRUS-32	29.9"x13.3"x9.5"	77 LBS
RRUS-32 B2	27.2"x12.1"x7"	60 LBS

*DENOTES EXISTING.

RRUS DETAIL

SCALE: N.T.S.



ANTENNA AND RRU MOUNTING DETAIL

SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770.00.850.10	55"x11"x5"
	A2	CCI	OPA-65R-LCUU-H8	92.7"x14.4"x7"
	A3	-	-	-
	A4	ANDREW	SBNH-1D6565C	96.4"x11.9"x7.1"
BETA	B1	POWERWAVE	7770.00.850.08	55"x11"x5"
	B2	CCI	OPA-65R-LCUU-H6	72"x14.8"x7.4"
	B3	-	-	-
	B4	KMW	AM-X-CD-16-65-00T-RET	72"x11.8"x5.9"
GAMMA	G1	POWERWAVE	7770.00.850.06	55"x11"x5"
	G2	CCI	OPA-65R-LCUU-H8	92.7"x14.4"x7"
	G3	-	-	-
	G4	ANDREW	SBNH-1D6565C	96.4"x11.9"x7.1"

FINAL ANTENNA SCHEDULE

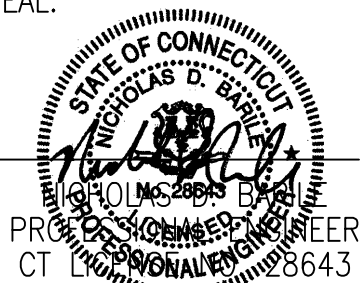
SECTOR	POSITION	MAKE	MODEL	SIZE (INCHES)
ALPHA	A1	POWERWAVE	7770.00.850.10	55"x11"x5"
	A2	CCI	OPA-65R-LCUU-H8	92.7"x14.4"x7"
	A3	-	-	-
	A4	CCI	HPA-65R-BUU-H8	92.4"x14.8"x7.4
BETA	B1	POWERWAVE	7770.00.850.08	55"x11"x5"
	B2	CCI	OPA-65R-LCUU-H6	72"x14.8"x7.4"
	B3	-	-	-
	B4	CCI	HPA-65R-BUU-H6	72"x14.8"x9"
GAMMA	G1	POWERWAVE	7770.00.850.06	55"x11"x5"
	G2	CCI	OPA-65R-LCUU-H8	92.7"x14.4"x7"
	G3	-	-	-
	G4	CCI	HPA-65R-BUU-H8	92.4"x14.8"x7.4

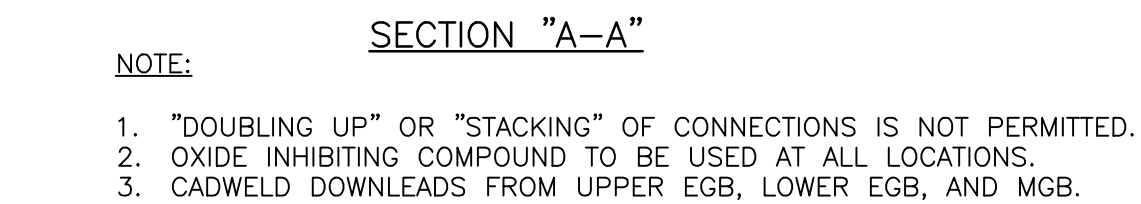
PROJECT OWNER IS RESPONSIBLE FOR PROVIDING A STRUCTURAL STABILITY ANALYSIS TO DETERMINE THE CAPACITY AND SUITABILITY OF THE EXISTING ANTENNA SUPPORT STRUCTURE TO SAFELY CARRY ALL ADDITIONAL LOADS IMPOSED BY THE PROPOSED EQUIPMENT AS SHOWN HEREIN. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCORPORATING ANY REQUIRED STRUCTURAL MODIFICATIONS INTO THEIR SCOPE OF WORK.

PROPOSED RRH SCHEDULE

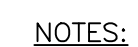
SECTOR	MAKE	MODEL	SIZE (INCHES)	ADDITIONAL COMPONENT	SIZE (INCHES)
ALPHA	ERICSSON	RRUS-32 B2	27.2"x12.1"x7"		
	ERICSSON	RRUS-32	29.9"x13.3"x9.5"		
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"		
BETA	ERICSSON	RRUS-32 B2	27.2"x12.1"x7"		
	ERICSSON	RRUS-32	29.9"x13.3"x9.5"		
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"		
GAMMA	ERICSSON	RRUS-32 B2	27.2"x12.1"x7"		
	ERICSSON	RRUS-32	29.9"x13.3"x9.5"		
	ERICSSON	RRUS-11	19.7"x16.9"x7.2"		

SEAL:





TYPICAL GROUND BAR CONNECTION DETAIL
SCALE: N.T.S.



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

SECTION "P" - SURGE PRODUCERS

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

SECTION "A" - SURGE ABSORBERS

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

ITEM NO.	QTY.	DESCRIPTION
1	1	SOLID GROUND BAR (20"x 4"x ¼"
2	2	WALL MOUNTING BRACKET
3	2	INSULATORS
4	4	5/8"-11x1" H.H.C.S.
5	4	5/8" LOCK WASHER

GROUND BAR DETAIL
SCALE: N.T.S.

**STRUCTURAL ANALYSIS REPORT
GUYED TOWER**



Prepared For:
Com-Ex Consultants, LLC
115 Route 46 – Suite E39
Mountain Lakes, NJ 07046



Structure Rating:

Guyed Tower: **Pass**

Sincerely,
Destek Engineering, LLC

04-28-2016



Ahmet Colakoglu, PE
Connecticut Professional Engineer
License No: 27057

AT&T Site ID: CT1077
FA Number: 10035012
Site Name: STORRS-UCONN
60 NORTH EAGLESVILLE ROAD
MANSFIELD, CT 06269

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1.1 – STRUCTURE

2.0 – EXISTING AND PROPOSED APPURTENANCES

3.0 - CODES AND LOADING

4.0 - STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES

5.0 - ANALYSIS AND ASSUMPTIONS

6.0 – RESULTS AND CONCLUSION

APPENDIX

A – CALCULATIONS

1.0 **SUBJECT AND REFERENCES**

The purpose of this analysis is to evaluate the structural capacity of the existing telecommunication installation on the guyed tower at 60 North Eaglesville Road, Mansfield, CT 06269 for the additions and alterations proposed by AT&T.

The structural analysis is based on the following information provided to Destek Engineering, LLC (Destek):

- Construction Drawings prepared by Com-Ex Consultants, dated 04/08/2016.
- Mapping Report prepared by BTE Management Group, LLC, Job#: 15266, dated 07/30/2012.
- Structural Analysis Report prepared by B+T Group, Job#: 84514.001.0001a, dated 09/13/2012.
- RFDS prepared by AT&T, dated 02/12/2016.

1.1 **STRUCTURE**

The structure is a 287'-0" tall guyed, structural steel lattice tower with a 30'-0" long, 12" diameter pipe extension, bringing the total height of the structure to approximately 317'-0", with a width of 3'-8" for the height of the lattice portion. Solid round legs are "K"-braced throughout the height of the lattice portion. The lattice portion is guyed at six (6) elevations above grade; 56.6 feet, 106.7 feet, 166.7 feet, 216.6 feet, 256.6 feet, and 283.5 feet, terminated approximately 231 feet away from the centerline of the structure. Please refer to the software output in Appendix A, for tower geometry, member sizes, and other details.

2.0 **EXISTING AND PROPOSED APPURTENANCES**

Existing Configuration of AT&T Appurtenances:

Rad. Center (ft)	Antenna & TMA	Mount	Cables
185.0	(3) Powerwave 7770 (1) AM-X-CD-16-65-00T-RET (2) SBNH-1D6565C (2) CCI OPA-65R-LCUU-H8 (1) CCI OPA-65R-LCUU-H6 (3) RRUS-11 (3) RRUS-32 (1) DC6-48-18-8F	(3) Sector Mounts	(12) 1-5/8" (2) DC Cable

Proposed and Final Configuration of AT&T Appurtenances:

Rad. Center (ft)	Antenna & TMA*	Mount	Cables
185.0	(3) Powerwave 7770 (2) CCI HPA-65R-BUU-H8 (1) CCI HPA-65R-BUU-H6 (2) CCI OPA-65R-LCUU-H8 (1) CCI OPA-65R-LCUU-H6 (3) RRUS-11 (3) RRUS-32 (3) RRUS-32 B2 (1) DC6-48-18-8F	(3) Sector Mounts	(12) 1-5/8" (2) DC Cable (1) Fiber Cable

Existing Appurtenances by Others

Rad. Center (ft)	Antenna & TMA	Mount	Cables
310.0	1 bay FM antenna	Direct	7/8"
305.0	1 bay FM antenna	4' Standoff	
278.0	8" Omni	Side Arm	1/2"
277.0	6' Omni	Side Arm	1/2"
265.0	(1) 15' Omni	Side Arm	(1) 1-5/8"
250.0	(1) 15' Omni	Side Arm	(1) 1-5/8"
261.0	Kathrein-Scala AP14-850/105N	Side Arm	(3) 1-5/8"
253.0	Kathrein-Scala AP14-850/105N	Side Arm	(2) 1/4"
250.0	(3) 15' Omni	Side Arm	(1) 1-5/8" (2) 1/4"
235.0	(12) Andrew/Decibel DB844H90E-XY	(3) Sector Mounts	(12) 1-5/8"
210.0	1 bay FM antenna	Flush Mount	7/8"
197.0	1 bay FM antenna	Side Arm	1/2"
172.0	Andrew/Decibel DB872H120-X	Flush Mount	7/8"
171	3' Grid Dish 8' Omni	Flush Mount Side Arm	1/2" 7/8"
158.0	18"x12"x4"	Flush Mount	7/8"
116.0	(2) 6' Dish	Pipe Mount	(2) EW63
111.0	10' Omni	Side Arm	7/8"
104.0	6' Dish	Pipe Mount	EW63
95.0	5' Grid Dish	Flush Mount	3/8"
92.0	2' Yagi	Flush Mount	3/8"
83.0	(6) Andrew 4'x8"x9.5" panel antenna (3) Amphenol Antel BXA-185063/12CF (3) Powerwave P65-16-XL-2-B	Platform Mount	(18) 1-5/8"
71.0	Andrew/Decibel 2' Dipole antenna	Flush Mount	7/8"
18.0	6' Yagi	Side Arm	1/4"
13.0	4' Dish	Side Arm	1/4"

3.0 **CODES AND LOADING**

The tower was analyzed per *TIA/EIA-222-F* as referenced by *2005 Connecticut State Building Code with 2005 Addendum and 2013 Supplement*, International Code Council. The following wind loading was used in compliance with the standard for Tolland County:

- Basic wind speed 85 mph without ice (W)
- Basic wind speed 73.6 mph with 1/2" radial ice (W_i)

The following load combinations were used with wind blowing at 0° , 60° and 90° , measured from a line normal to the face of the tower.

- $D + W_o$
- $D + W_i + I$

D: Dead Load

W_o : Wind Load, without ice

W_i : Wind Load with ice

I: Ice Gravity Load

4.0 **STANDARD CONDITIONS FOR ENGINEERING SERVICES ON EXISTING STRUCTURES**

The analysis is based on the information provided to Destek and is assumed to be current and correct. Unless otherwise noted, the structure is assumed to be in good condition, free of defects, and can achieve theoretical strength.

It is assumed that the structure has been maintained and shall be maintained during its service lifespan. The superstructure and the foundation system are assumed to be designed with proper engineering practice and fabricated, constructed and erected in accordance with the design documents. Destek will accept no liability which may arise due to any existing deficiency in design, material, fabrication, erection, construction, etc. or lack of maintenance.

The analysis does not include a qualification of the antenna mounts attached on the structure or their connections. The analysis is performed to verify the capacity of the main structural members, which is the current practice in the tower industry.

The analysis results presented in this report are only applicable for the previously mentioned existing and proposed appurtenances. Any deviation of the appurtenances and placement, etc., will require Destek to generate an additional structural analysis. Additionally, the proposed linear appurtenances should be placed per recommendations of this report.

5.0 **ANALYSIS AND ASSUMPTIONS**

The tower was analyzed by utilizing tnxTower, a non-linear, three-dimensional, finite element-analysis software package, a product of Tower Numerics, Inc. Software output for this analysis is provided in Appendix A of this report.

The following material specifications were considered based on the information provided in the above-referenced documents:

- Tower Legs: A572
- Tower Diagonals: A36
- Tower Horizontals: A36
- Leg Bolts: A325N

6.0 **RESULTS AND CONCLUSION**

Based on an analysis per *TIA/EIA-222-F*, the existing tower is found to have **adequate** structural capacity for the proposed modifications by AT&T. For the aforementioned load combinations, tower horizontal elements between 160 and 180 feet are stressed to a maximum of **88.1%** of their allowable capacity. Tower legs, diagonals, guys, and the pole extension were found stressed to maximums of **59.2%**, **48.3%**, **69.5%**, and **21.7%** of their respective allowable capacities.

Information regarding the existing soils and foundation system was not available at the time of this analysis, thus a foundation analysis could not be completed.

Reaction Comparison:

Maximums	Destek Analysis	B+T Analysis
Base Compression (kips)	295	325
Anchor Shear (kips)	125	97
Anchor Uplift (kips)	105	82

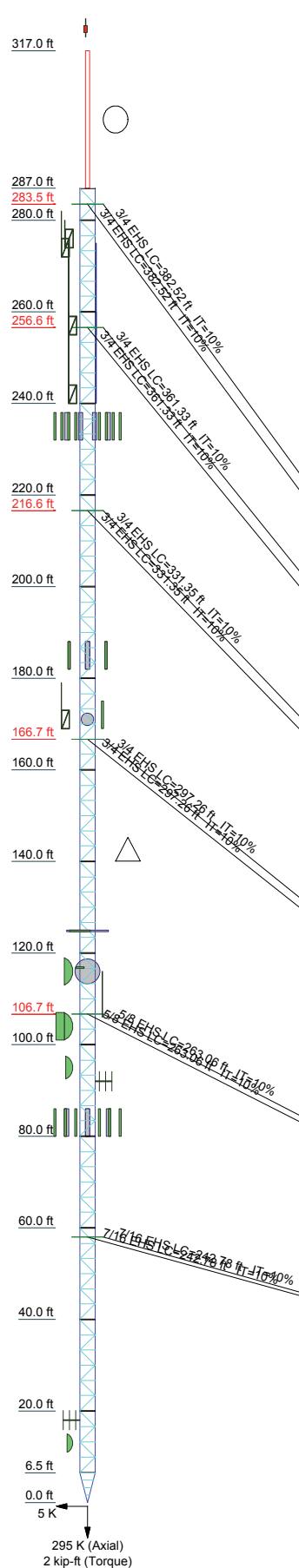
Therefore, the proposed additions and alterations by AT&T can be implemented as intended with the conditions outlined in this report.

Should you have any questions about this report, please contact Ahmet Colakoglu at (770) 693-0835 or acolakoglu@destekengineering.com.

APPENDIX A

CALCULATIONS

Section	L1	T1	T2	T3	T4	T5	T6	T7	T8	T9	T10	T11	T12	T13	T14	T15	T16	
Legs	P12x5	SR 2		SR 2 1/4		SR 2 1/2		SR 2 3/4		SR 2 3/4		SR 2 3/4		SR 3				
Leg Grade	A53-B-35	SR 1 3/8		SR 1 1/4		SR 1 1/2		SR 1 1/2		SR 1 1/2		SR 1 3/8		SR 1 1/4		SR 1 3/8		
Diagonals	N.A.	A572-50		A36		SR 1		SR 1		SR 1		SR 1		SR 1		SR 1		
Diagonal Grade	N.A.	N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		
Top Girts	N.A.	N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		
Bottom Girts	N.A.	N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		
Horizontals	N.A.	N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		
Face Width (ft)	1.0625	3.667		B		1.4		1.4		1.4		1.4		1.4		1.4		
# Panels @ (ft)	N.A.	N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		N.A.		
Weight (K)	34.4	0.6		1.4		2.1		3.1		2.1		3.1		2.1		3.1		



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod 5/8"x4"	322	RRUS-32 B2 (ATI)	185
Flash Beacon Lighting	321	RRUS-32 B2 (ATI)	185
1 bay FM antenna	305	Commscope MTC3615/SF-QV12-4-96 (ATI)	185
1 bay FM antenna	305	DB872H120-X w/Mount Pipe	172
10"x2" Pipe Mount	305	Flush Mount	172
6' Omni	274	8' Omni	171
8' Omni	274	Side Arm Mount [SO 301-1]	171
Side Arm Mount [SO 602-1]	274	Flush Mount	171
15' Omni	257	3' Grid Dish	171
15' Omni	257	18"x12"x4"	158
Side Arm Mount [SO 601-1]	257	AP14-850/105N w/ Mount Pipe	158
AP14-850/105N w/ Mount Pipe	257	Side Lights	156
AP14-850/105N w/ Mount Pipe	257	7' Ice Shield	125
Side Arm Mount [SO 601-1]	257	7' Ice Shield	125
15' Omni	257	Side Arm Mount [SO 602-1]	120
15' Omni	257	5' Ice Shield	117
Side Arm Mount [SO 601-1]	257	Pipe Mount [PM 602-1]	116
(4) DB844H90E-XY w/Mount Pipe	235	Pipe Mount [PM 602-1]	116
(4) DB844H90E-XY w/Mount Pipe	235	6' Dish	116
(4) DB844H90E-XY w/Mount Pipe	235	6' Dish	116
Sector Mount [SM 602-3]	235	10' Omni	111
1 bay FM antenna	210	Side Arm Mount [SO 301-1]	111
Flush Mount	210	Pipe Mount [PM 602-1]	104
1 bay FM antenna	197	6' Dish	104
Side Arm Mount [SO 601-1]	197	Flush Mount	95
7770.00 w/ Mount Pipe (ATI)	185	5' Grid Dish	95
7770.00 w/ Mount Pipe (ATI)	185	2' Yagi	92
7770.00 w/ Mount Pipe (ATI)	185	Flush Mount	92
OPA-65R-LCUU-H8 w/ Mount Pipe (ATI)	185	(2) 6"x2" Mount Pipe	83
OPA-65R-LCUU-H6 w/ Mount Pipe (ATI)	185	(2) 6"x2" Mount Pipe	83
OPA-65R-LCUU-H8 w/ Mount Pipe (ATI)	185	P65-16-XL-2 B w/Mount Pipe	83
HPA-65R-BUU-H8 w/ Mount Pipe (ATI)	185	P65-16-XL-2 B w/Mount Pipe	83
HPA-65R-BUU-H6 w/ Mount Pipe (ATI)	185	BXA-185063/12CF w/Mount Pipe	83
HPA-65R-BUU-H8 w/ Mount Pipe (ATI)	185	Platform Mount [LP 603-1]	83
DC6-48-18-8F (ATI)	185	P65-16-XL-2 B w/Mount Pipe	83
RRUS-32 (ATI)	185	BXA-185063/12CF w/Mount Pipe	83
RRUS-32 (ATI)	185	(2) 4"x8"x9.5" Panel	83
RRUS-11 (ATI)	185	(2) 4"x8"x9.5" Panel	83
RRUS-11 (ATI)	185	(2) 6"x2" Mount Pipe	83
RRUS-32 B2 (ATI)	185	BXA-185063/12CF w/Mount Pipe	83
		(2) 4"x8"x9.5" Panel	83
		2' Dipole	71
		Flush Mount	71
		Side Arm Mount [SO 301-1]	18
		6' Yagi	18
		Side Arm Mount [SO 301-1]	13
		4' Dish	13

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	3x3/8	C	4 @ 1.625
B	2 @ 3.41667		

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Tolland County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind

Destek Engineering, LLC
1281 Kennestone Circle, Suite 100
Marietta, GA 30066
Phone: (770) 693 0835
FAX:

Job: **1629069**

Project: **FA10035012 CT1077 Storrs-UConn**

Client: Com-Ex Consultants

Drawn by: Ahmet Colakoglu

App'd:

Code: TIA/EIA-222-F

Date: 04/28/16

Scale: NTS

Path: Z:\Projects\2016\29 - Com-Ex\069 - CT1077\Tml-CT1077 Storrs-UConn FA10035012.dwg

Dwg No. E-1

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Tower Input Data

The main tower is a 3x guyed tower with an overall height of 317.00 ft above the ground line.

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

The face width of the tower is 3.67 ft at the top and tapered at the base.

An index plate is provided at the 3x guyed -tower connection.

There is a pole section.

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

Tower is located in Tolland County, Connecticut.

Basic wind speed of 85 mph.

Nominal ice thickness of 0.5000 in.

Ice density of 56 pcf.

A wind speed of 74 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 50 mph.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.0664.

Safety factor used in guy design is 2.

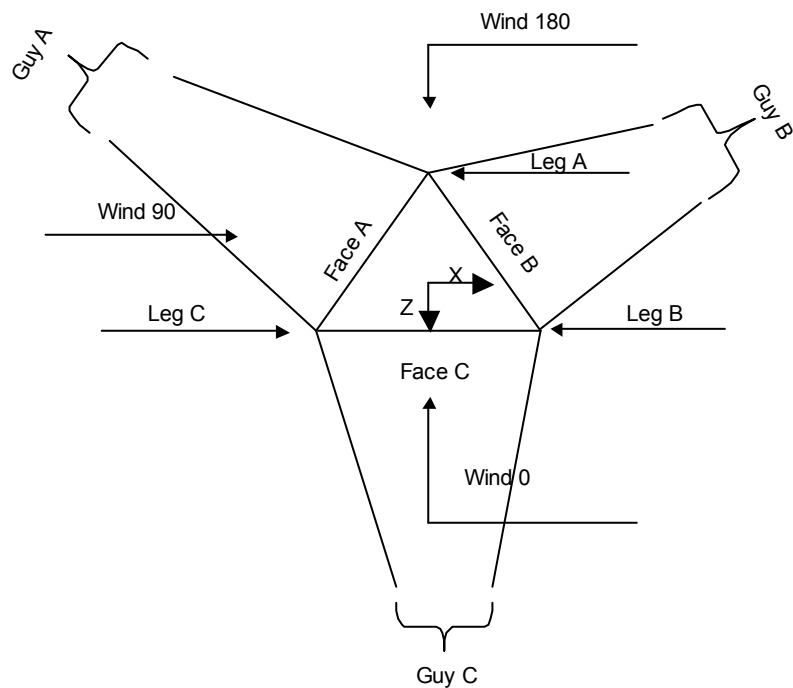
Stress ratio used in tower member design is 1.333.

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

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	√ Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	√ SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	√ Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	Bypass Mast Stability Checks	√ Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	√ Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-G Bracing Resist. Exemption
√ Include Bolts In Member Capacity	√ Autocalc Torque Arm Areas	Use TIA-222-G Tension Splice Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
√ Secondary Horizontal Braces Leg	√ Sort Capacity Reports By Component	Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	√ Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
√ SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric		

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Face Guyed

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	317.00-287.00	30.00	P12x.5	A53-B-35 (35 ksi)	

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 317.00-287.00				1	1	1.05			

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Tower Section Geometry

<i>Tower Section</i>	<i>Tower Elevation</i>	<i>Assembly Database</i>	<i>Description</i>	<i>Section Width</i>	<i>Number of Sections</i>	<i>Section Length</i>
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	287.00-280.00			3.67	1	7.00
T2	280.00-260.00			3.67	1	20.00
T3	260.00-240.00			3.67	1	20.00
T4	240.00-220.00			3.67	1	20.00
T5	220.00-200.00			3.67	1	20.00
T6	200.00-180.00			3.67	1	20.00
T7	180.00-160.00			3.67	1	20.00
T8	160.00-140.00			3.67	1	20.00
T9	140.00-120.00			3.67	1	20.00
T10	120.00-100.00			3.67	1	20.00
T11	100.00-80.00			3.67	1	20.00
T12	80.00-60.00			3.67	1	20.00
T13	60.00-40.00			3.67	1	20.00
T14	40.00-20.00			3.67	1	20.00
T15	20.00-6.50			3.67	1	13.50
T16	6.50-0.00			3.67	1	6.50

Tower Section Geometry (cont'd)

<i>Tower Section</i>	<i>Tower Elevation</i>	<i>Diagonal Spacing</i>	<i>Bracing Type</i>	<i>Has K Brace End Panels</i>	<i>Has Horizontals</i>	<i>Top Girt Offset</i>	<i>Bottom Girt Offset</i>
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	287.00-280.00	3.42	K Brace Left	No	Yes	1.0000	1.0000
T2	280.00-260.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T3	260.00-240.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T4	240.00-220.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T5	220.00-200.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T6	200.00-180.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T7	180.00-160.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T8	160.00-140.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T9	140.00-120.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T10	120.00-100.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T11	100.00-80.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T12	80.00-60.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T13	60.00-40.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T14	40.00-20.00	3.31	K Brace Left	No	Yes	1.0000	1.0000
T15	20.00-6.50	3.33	K Brace Left	No	Yes	1.0000	1.0000
T16	6.50-0.00	1.63	X Brace	No	Yes	0.0000	0.0000

Tower Section Geometry (cont'd)

<i>Tower Elevation</i>	<i>Leg Type</i>	<i>Leg Size</i>	<i>Leg Grade</i>	<i>Diagonal Type</i>	<i>Diagonal Size</i>	<i>Diagonal Grade</i>
<i>ft</i>						
T1 287.00-280.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1 3/8	A36 (36 ksi)
T2 280.00-260.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1 3/8	A36 (36 ksi)

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<i>Tower Elevation ft</i>	<i>Leg Type</i>	<i>Leg Size</i>	<i>Leg Grade</i>	<i>Diagonal Type</i>	<i>Diagonal Size</i>	<i>Diagonal Grade</i>
T3 260.00-240.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	1 3/8	A36 (36 ksi)
T4 240.00-220.00	Solid Round	2 1/4	A572-50 (50 ksi)	Solid Round	1 3/8	A36 (36 ksi)
T5 220.00-200.00	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T6 200.00-180.00	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T7 180.00-160.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1 1/2	A36 (36 ksi)
T8 160.00-140.00	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	1 3/8	A36 (36 ksi)
T9 140.00-120.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T10 120.00-100.00	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1 1/2	A36 (36 ksi)
T11 100.00-80.00	Solid Round	3	A572-50 (50 ksi)	Solid Round	1 3/8	A36 (36 ksi)
T12 80.00-60.00	Solid Round	3	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T13 60.00-40.00	Solid Round	3	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T14 40.00-20.00	Solid Round	3	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T15 20.00-6.50	Solid Round	3	A572-50 (50 ksi)	Solid Round	1 1/4	A36 (36 ksi)
T16 6.50-0.00	Solid Round	3	A572-50 (50 ksi)	Solid Round		A36 (36 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>Top Girt Type</i>	<i>Top Girt Size</i>	<i>Top Girt Grade</i>	<i>Bottom Girt Type</i>	<i>Bottom Girt Size</i>	<i>Bottom Girt Grade</i>
T1 287.00-280.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T2 280.00-260.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T3 260.00-240.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T4 240.00-220.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T5 220.00-200.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T6 200.00-180.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T7 180.00-160.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T8 160.00-140.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T9 140.00-120.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T10 120.00-100.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T11 100.00-80.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)

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<i>Tower Elevation ft</i>	<i>Top Girt Type</i>	<i>Top Girt Size</i>	<i>Top Girt Grade</i>	<i>Bottom Girt Type</i>	<i>Bottom Girt Size</i>	<i>Bottom Girt Grade</i>
T12 80.00-60.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T13 60.00-40.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T14 40.00-20.00	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T15 20.00-6.50	Solid Round	1	A36 (36 ksi)	Solid Round	1	A36 (36 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>No. of Mid Girts</i>	<i>Mid Girt Type</i>	<i>Mid Girt Size</i>	<i>Mid Girt Grade</i>	<i>Horizontal Type</i>	<i>Horizontal Size</i>	<i>Horizontal Grade</i>
T1 287.00-280.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T2 280.00-260.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T3 260.00-240.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T4 240.00-220.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T5 220.00-200.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T6 200.00-180.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T7 180.00-160.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T8 160.00-140.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T9 140.00-120.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T10 120.00-100.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T11 100.00-80.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T12 80.00-60.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T13 60.00-40.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T14 40.00-20.00	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T15 20.00-6.50	None	Flat Bar		A36 (36 ksi)	Solid Round	1	A36 (36 ksi)
T16 6.50-0.00	None	Flat Bar		A36 (36 ksi)	Flat Bar	3x3/8	A36 (36 ksi)

Tower Section Geometry (cont'd)

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<i>Tower Elevation</i>	<i>Gusset Area (per face)</i>	<i>Gusset Thickness</i>	<i>Gusset Grade</i>	<i>Adjust. Factor A_f</i>	<i>Adjust. Factor A_r</i>	<i>Weight Mult.</i>	<i>Double Angle Stitch Bolt Spacing Diagonals in</i>	<i>Double Angle Stitch Bolt Spacing Horizontals in</i>	<i>Double Angle Stitch Bolt Spacing Redundants in</i>
<i>ft</i>	<i>ft²</i>	<i>in</i>							
T1	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
287.00-280.00			(36 ksi)						
T2	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
280.00-260.00			(36 ksi)						
T3	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
260.00-240.00			(36 ksi)						
T4	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
240.00-220.00			(36 ksi)						
T5	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
220.00-200.00			(36 ksi)						
T6	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
200.00-180.00			(36 ksi)						
T7	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
180.00-160.00			(36 ksi)						
T8	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
160.00-140.00			(36 ksi)						
T9	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
140.00-120.00			(36 ksi)						
T10	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
120.00-100.00			(36 ksi)						
T11	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
100.00-80.00			(36 ksi)						
T12	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
80.00-60.00			(36 ksi)						
T13	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
60.00-40.00			(36 ksi)						
T14	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
40.00-20.00			(36 ksi)						
T15 20.00-6.50	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
			(36 ksi)						
T16 6.50-0.00	0.00	0.0000	A36	1	1	1.05	36.0000	36.0000	36.0000
			(36 ksi)						

Tower Section Geometry (cont'd)

<i>Tower Elevation</i>	<i>Calc K Single Angles</i>	<i>Calc K Solid Rounds</i>	<i>K Factors¹</i>							
			<i>Legs</i>	<i>X Brace Diags</i>	<i>K Brace Diags</i>	<i>Single Diags</i>	<i>Girts</i>	<i>Horiz.</i>	<i>Sec. Horiz.</i>	<i>Inner Brace</i>
				<i>X Y</i>	<i>X Y</i>	<i>X Y</i>	<i>X Y</i>	<i>X Y</i>	<i>X Y</i>	<i>X Y</i>
<i>ft</i>										
T1	No	Yes	1	1	1	1	1	1	1	1
287.00-280.00				1	1	1	1	1	1	1
T2	No	Yes	1	1	1	1	1	1	1	1
280.00-260.00				1	1	1	1	1	1	1
T3	No	Yes	1	1	1	1	1	1	1	1
260.00-240.00				1	1	1	1	1	1	1
T4	No	Yes	1	1	1	1	1	1	1	1
240.00-220.00				1	1	1	1	1	1	1
T5	No	Yes	1	1	1	1	1	1	1	1
220.00-200.00				1	1	1	1	1	1	1
T6	No	Yes	1	1	1	1	1	1	1	1
200.00-180.00				1	1	1	1	1	1	1
T7	No	Yes	1	1	1	1	1	1	1	1
180.00-160.00				1	1	1	1	1	1	1

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	Com-Ex Consultants	Ahmet Colakoglu

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T13 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 20.00-6.50	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T16 6.50-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 287.00-280.00	Flange	1.0000	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T2 280.00-260.00	Flange	1.0000	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T3 260.00-240.00	Flange	1.0000	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T4 240.00-220.00	Flange	1.0000	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T5 220.00-200.00	Flange	1.0000	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T6 200.00-180.00	Flange	1.0000	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T7 180.00-160.00	Flange	1.0000	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T8 160.00-140.00	Flange	1.0000	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T9 140.00-120.00	Flange	1.0000	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T10 120.00-100.00	Flange	1.2500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T11 100.00-80.00	Flange	1.2500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T12 80.00-60.00	Flange	1.2500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T13 60.00-40.00	Flange	1.2500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T14 40.00-20.00	Flange	1.2500	4	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T15 20.00-6.50	Flange	1.2500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T16 6.50-0.00	Flange	1.2500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A325N		A325N		A325N		A325N		A325N		A325N		A325N	

Guy Data

<i>tnxTower</i> <i>Destek Engineering, LLC</i> <i>1281 Kennestone Circle, Suite 100</i> <i>Marietta, GA 30066</i> <i>Phone: (770) 693 0835</i> <i>FAX:</i>	Job	1629069	Page	9 of 64
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<i>Guy Elevation</i>	<i>Guy Grade</i>	<i>Guy Size</i>	<i>Initial Tension</i>	<i>%</i>	<i>Guy Modulus</i>	<i>Guy Weight</i>	<i>L_u</i>	<i>Anchor Radius</i>	<i>Anchor Azimuth Adj.</i>	<i>Anchor Elevation</i>	<i>End Fitting Efficiency</i>
<i>ft</i>			<i>K</i>		<i>ksi</i>	<i>plf</i>	<i>ft</i>	<i>ft</i>	<i>°</i>	<i>ft</i>	<i>%</i>
58	EHS	A 7/16	2.08	10%	21000	0.399	232.88	231.00	0.0000	14.00	100%
		B 7/16	2.08	10%	21000	0.399	242.59	231.00	0.0000	-23.00	100%
		C 7/16	2.08	10%	21000	0.399	241.93	231.00	0.0000	-21.00	100%
106.694	EHS	A 5/8	4.24	10%	21000	0.813	246.73	231.00	0.0000	14.00	100%
		B 5/8	4.24	10%	21000	0.813	262.85	231.00	0.0000	-23.00	100%
		C 5/8	4.24	10%	21000	0.813	261.87	231.00	0.0000	-21.00	100%
166.694	EHS	A 3/4	5.83	10%	19000	1.155	274.90	231.00	0.0000	14.00	100%
		B 3/4	5.83	10%	19000	1.155	297.01	231.00	0.0000	-23.00	100%
		C 3/4	5.83	10%	19000	1.155	295.74	231.00	0.0000	-21.00	100%
216.611	EHS	A 3/4	5.83	10%	19000	1.155	305.40	231.00	0.0000	14.00	100%
		B 3/4	5.83	10%	19000	1.155	331.07	231.00	0.0000	-23.00	100%
		C 3/4	5.83	10%	19000	1.155	329.63	231.00	0.0000	-21.00	100%
256.611	EHS	A 3/4	5.83	10%	19000	1.155	333.24	231.00	0.0000	14.00	100%
		B 3/4	5.83	10%	19000	1.155	361.02	231.00	0.0000	-23.00	100%
		C 3/4	5.83	10%	19000	1.155	359.48	231.00	0.0000	-21.00	100%
283.5	EHS	A 3/4	5.83	10%	19000	1.155	353.26	231.00	0.0000	14.00	100%
		B 3/4	5.83	10%	19000	1.155	382.19	231.00	0.0000	-23.00	100%
		C 3/4	5.83	10%	19000	1.155	380.59	231.00	0.0000	-21.00	100%

Guy Data(cont'd)

<i>Guy Elevation ft</i>	<i>Mount Type</i>	<i>Torque-Arm Spread</i>	<i>Torque-Arm Leg Angle</i>	<i>Torque-Arm Style</i>	<i>Torque-Arm Grade</i>	<i>Torque-Arm Type</i>	<i>Torque-Arm Size</i>
		<i>ft</i>	<i>°</i>				
58	Torque Arm	7.50	0.0000	Channel	A36 (36 ksi)	Channel	C15x40
106.694	Torque Arm	7.50	0.0000	Channel	A36 (36 ksi)	Channel	C15x40
166.694	Torque Arm	7.50	0.0000	Channel	A36 (36 ksi)	Channel	C15x40
216.611	Torque Arm	7.50	0.0000	Channel	A36 (36 ksi)	Channel	C15x40
256.611	Torque Arm	7.50	0.0000	Channel	A36 (36 ksi)	Channel	C15x40
283.5	Torque Arm	7.50	0.0000	Channel	A36 (36 ksi)	Channel	C15x40

Guy Data (cont'd)

<i>Guy Elevation ft</i>	<i>Diagonal Grade</i>	<i>Diagonal Type</i>	<i>Upper Diagonal Size</i>	<i>Lower Diagonal Size</i>	<i>Is Strap.</i>	<i>Pull-Off Grade</i>	<i>Pull-Off Type</i>	<i>Pull-Off Size</i>
58.00	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
106.69	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
166.69	A572-50 (50 ksi)	Solid Round				A572-50 (50 ksi)	Solid Round	
216.61	A572-50	Solid Round				A572-50	Solid Round	

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Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
256.61	(50 ksi) A572-50	Solid Round				(50 ksi) A572-50	Solid Round	
283.50	(50 ksi) A572-50	Solid Round				(50 ksi) A572-50	Solid Round	

Guy Data (cont'd)

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
58	0.09	0.10	0.10		5.18	5.61	5.58	
					3.9 sec/pulse	4.1 sec/pulse	4.1 sec/pulse	
106.694	0.20	0.21	0.21		5.79	6.55	6.50	
					4.2 sec/pulse	4.4 sec/pulse	4.4 sec/pulse	
166.694	0.32	0.34	0.34		7.38	8.59	8.51	
					4.7 sec/pulse	5.1 sec/pulse	5.0 sec/pulse	
216.611	0.35	0.38	0.38		9.07	10.62	10.53	
					5.2 sec/pulse	5.6 sec/pulse	5.6 sec/pulse	
256.611	0.38	0.42	0.42		10.75	12.58	12.47	
					5.7 sec/pulse	6.1 sec/pulse	6.1 sec/pulse	
283.5	0.41	0.44	0.44		12.05	14.06	13.94	
					6.0 sec/pulse	6.5 sec/pulse	6.4 sec/pulse	

Guy Data (cont'd)

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm		Pull Off		Diagonal	
			K _x	K _y	K _x	K _y	K _x	K _y
58	No	No	1	1	1	1	1	1
106.694	No	No	1	1	1	1	1	1
166.694	No	No	1	1	1	1	1	1
216.611	No	No	1	1	1	1	1	1
256.611	No	No	1	1	1	1	1	1
283.5	No	No	1	1	1	1	1	1

Guy Data (cont'd)

Guy Elevation ft	Torque-Arm				Pull Off				Diagonal			
	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U
58	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1
106.694	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1

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Guy Elevation ft	Torque-Arm				Pull Off				Diagonal			
	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U
166.694	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1
216.611	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1
256.611	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1
283.5	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q _z psf	q _z Ice psf	Ice Thickness in
58	A	36.00	19	14	0.5000
	B	17.50	18	14	0.5000
	C	18.50	18	14	0.5000
106.694	A	60.35	22	16	0.5000
	B	41.85	20	15	0.5000
	C	42.85	20	15	0.5000
166.694	A	90.35	25	18	0.5000
	B	71.85	23	17	0.5000
	C	72.85	23	17	0.5000
216.611	A	115.31	26	20	0.5000
	B	96.81	25	19	0.5000
	C	97.81	25	19	0.5000
256.611	A	135.31	28	21	0.5000
	B	116.81	27	20	0.5000
	C	117.81	27	20	0.5000
283.5	A	148.75	28	21	0.5000
	B	130.25	27	21	0.5000
	C	131.25	27	21	0.5000

Guy-Mast Forces (Excluding Wind) - No Ice

Guy Elevation ft	Guy Location	Chord Angle °	Guy Tension Top Bottom K	F _x K	F _y K	F _z K	M _x kip-ft	M _y kip-ft	M _z kip-ft
58	A	10.8825	2.10 2.08	-0.03	0.44	-2.05	-0.95	7.76	-1.65
	A	10.8825	2.10 2.08	0.03	0.44	-2.05	-0.95	-7.76	1.65
	B	19.4899	2.11 2.08	1.73	0.75	0.96	3.24	7.48	0.00
	B	19.4899	2.11 2.08	1.69	0.75	1.02	-1.62	-7.48	-2.80
	C	19.0437	2.11 2.08	-1.70	0.73	1.02	-1.58	7.50	2.75
	C	19.0437	2.11 2.08	-1.73	0.73	0.96	3.17	-7.50	0.00

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Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F _x	F _y	F _z	M _x	M _y	M _z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
106.694	A	22.0488	Sum:	-0.01	3.84	-0.15	1.30	0.00	-0.06
			4.32	-0.06	1.71	-3.96	-3.69	15.00	-6.40
			4.24						
	A	22.0488	4.32	0.06	1.71	-3.96	-3.69	-15.00	6.40
			4.24						
			4.35	3.26	2.22	1.81	9.63	14.13	0.00
	B	29.5395	4.24						
			4.35	3.20	2.22	1.92	-4.81	-14.13	-8.34
			4.24						
	C	29.1591	4.34	-3.21	2.20	1.93	-4.76	14.18	8.24
			4.24						
			4.34	-3.28	2.20	1.82	9.52	-14.18	0.00
166.694	A	33.7104	Sum:	-0.02	12.25	-0.45	2.18	0.00	-0.10
			6.01	-0.08	3.44	-4.92	-7.45	18.63	-12.91
			5.83						
	A	33.7104	6.01	0.08	3.44	-4.92	-7.45	-18.63	12.91
			5.83						
			6.05	4.00	3.96	2.22	17.15	17.30	0.00
	B	39.6535	5.83						
			6.05	3.92	3.96	2.35	-8.58	-17.30	-14.86
			5.83						
	C	39.3554	6.05	-3.94	3.94	2.36	-8.52	17.37	14.76
			5.83						
			6.05	-4.01	3.94	2.23	17.04	-17.37	0.00
216.611	A	41.5180	Sum:	-0.03	22.68	-0.68	2.19	0.00	-0.09
			6.06	-0.07	4.12	-4.45	-8.92	16.85	-15.44
			5.83						
	A	41.5180	6.06	0.07	4.12	-4.45	-8.92	-16.85	15.44
			5.83						
			6.11	3.60	4.51	2.00	19.51	15.60	0.00
	B	46.3140	5.83						
			6.11	3.53	4.51	2.12	-9.76	-15.60	-16.90
			5.83						
	C	46.0740	6.10	-3.55	4.49	2.13	-9.72	15.66	16.83
			5.83						
			6.10	-3.62	4.49	2.01	19.43	-15.66	0.00
256.611	A	46.6699	Sum:	-0.03	26.23	-0.64	1.64	0.00	-0.07
			6.11	-0.07	4.53	-4.09	-9.82	15.50	-17.01
			5.83						
	A	46.6699	6.11	0.07	4.53	-4.09	-9.82	-15.50	17.01
			5.83						
			6.15	3.32	4.84	1.84	20.98	14.36	0.00
	B	50.6992	5.83						
			6.15	3.25	4.84	1.95	-10.49	-14.36	-18.17
			5.83						
	C	50.4975	6.15	-3.27	4.83	1.96	-10.46	14.42	18.11
			5.83						
			6.15	-3.33	4.83	1.85	20.91	-14.42	0.00
283.5	A	49.6613	Sum:	-0.03	28.42	-0.59	1.31	0.00	-0.06
			6.14	-0.06	4.77	-3.87	-10.32	14.66	-17.87
			5.83						
	A	49.6613	6.14	0.06	4.77	-3.87	-10.32	-14.66	17.87
			5.83						
	B	53.2510	6.18	3.14	5.03	1.74	21.80	13.60	0.00
			5.83						

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Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
	B	53.2510	6.18 5.83	3.08	5.03	1.85	-10.90	-13.60	-18.88
	C	53.0711	6.18 5.83	-3.09	5.02	1.85	-10.87	13.65	18.83
	C	53.0711	6.18 5.83	-3.15	5.02	1.75	21.74	-13.65	0.00
			Sum:	-0.02	29.64	-0.55	1.13	0.00	-0.05

Guy-Mast Forces (Excluding Wind) - Ice

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F_x	F_y	F_z	M_x	M_y	M_z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
58	A	10.8825	3.20 3.16	-0.05	0.71	-3.12	-1.54	11.80	-2.67
	A	10.8825	3.20 3.16	0.05	0.71	-3.12	-1.54	-11.80	2.67
	B	19.4899	3.22 3.15	2.62	1.18	1.46	5.11	11.36	0.00
	B	19.4899	3.22 3.15	2.57	1.18	1.54	-2.56	-11.36	-4.43
	C	19.0437	3.22 3.15	-2.58	1.16	1.55	-2.50	11.39	4.34
	C	19.0437	3.22 3.15	-2.63	1.16	1.46	5.01	-11.39	0.00
			Sum:	-0.01	6.10	-0.23	1.97	0.00	-0.09
106.694	A	22.0488	6.20 6.06	-0.09	2.49	-5.68	-5.39	21.51	-9.33
	A	22.0488	6.20 6.06	0.09	2.49	-5.68	-5.39	-21.51	9.33
	B	29.5395	6.25 6.06	4.68	3.23	2.60	13.99	20.25	0.00
	B	29.5395	6.25 6.06	4.59	3.23	2.75	-6.99	-20.25	-12.11
	C	29.1591	6.25 6.06	-4.61	3.19	2.76	-6.91	20.33	11.98
	C	29.1591	6.25 6.06	-4.69	3.19	2.61	13.83	-20.33	0.00
			Sum:	-0.03	17.82	-0.64	3.14	0.00	-0.14
166.694	A	33.7104	8.37 8.07	-0.11	4.83	-6.83	-10.45	25.87	-18.10
	A	33.7104	8.37 8.07	0.11	4.83	-6.83	-10.45	-25.87	18.10
	B	39.6535	8.43 8.07	5.55	5.55	3.08	24.03	24.03	0.00
	B	39.6535	8.43 8.07	5.45	5.55	3.26	-12.01	-24.03	-20.81
	C	39.3554	8.43 8.07	-5.47	5.51	3.28	-11.94	24.13	20.68
	C	39.3554	8.43 8.07	-5.57	5.51	3.10	23.88	-24.13	0.00
			Sum:	-0.05	31.78	-0.95	3.06	0.00	-0.13

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Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F _x	F _y	F _z	M _x	M _y	M _z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
106.694	C	19.0437	2.08						
			2.11	-1.70	0.73	1.02	-1.58	7.50	2.75
	C	19.0437	2.08						
			2.11	-1.73	0.73	0.96	3.17	-7.50	0.00
	A	22.0488	2.08						
			Sum:	-0.01	3.84	-0.15	1.30	0.00	-0.06
	A	22.0488	4.32	-0.06	1.71	-3.96	-3.69	15.00	-6.40
			4.24						
	B	29.5395	4.32	0.06	1.71	-3.96	-3.69	-15.00	6.40
			4.24						
166.694	B	29.5395	4.35	3.26	2.22	1.81	9.63	14.13	0.00
			4.24						
	B	29.5395	4.35	3.20	2.22	1.92	-4.81	-14.13	-8.34
			4.24						
	C	29.1591	4.34	-3.21	2.20	1.93	-4.76	14.18	8.24
			4.24						
	C	29.1591	4.34	-3.28	2.20	1.82	9.52	-14.18	0.00
			4.24						
	A	33.7104	Sum:	-0.02	12.25	-0.45	2.18	0.00	-0.10
			6.01	-0.08	3.44	-4.92	-7.45	18.63	-12.91
216.611	A	33.7104	5.83						
			6.01	0.08	3.44	-4.92	-7.45	-18.63	12.91
	B	39.6535	5.83						
			6.05	4.00	3.96	2.22	17.15	17.30	0.00
	B	39.6535	5.83						
			6.05	3.92	3.96	2.35	-8.58	-17.30	-14.86
	C	39.3554	5.83						
			6.05	-3.94	3.94	2.36	-8.52	17.37	14.76
	C	39.3554	5.83						
			6.05	-4.01	3.94	2.23	17.04	-17.37	0.00
256.611	A	41.5180	Sum:	-0.03	22.68	-0.68	2.19	0.00	-0.09
			6.06	-0.07	4.12	-4.45	-8.92	16.85	-15.44
	A	41.5180	5.83						
			6.06	0.07	4.12	-4.45	-8.92	-16.85	15.44
	B	46.3140	5.83						
			6.11	3.60	4.51	2.00	19.51	15.60	0.00
	B	46.3140	5.83						
			6.11	3.53	4.51	2.12	-9.76	-15.60	-16.90
	C	46.0740	5.83						
			6.10	-3.55	4.49	2.13	-9.72	15.66	16.83
283.5	C	46.0740	5.83						
			6.10	-3.62	4.49	2.01	19.43	-15.66	0.00
	A	46.6699	Sum:	-0.03	26.23	-0.64	1.64	0.00	-0.07
			6.11	-0.07	4.53	-4.09	-9.82	15.50	-17.01
	A	46.6699	5.83						
			6.11	0.07	4.53	-4.09	-9.82	-15.50	17.01
	B	50.6992	5.83						
			6.15	3.32	4.84	1.84	20.98	14.36	0.00
	B	50.6992	5.83						
			6.15	3.25	4.84	1.95	-10.49	-14.36	-18.17
283.5	C	50.4975	5.83						
			6.15	-3.27	4.83	1.96	-10.46	14.42	18.11
	C	50.4975	5.83						
			6.15	-3.33	4.83	1.85	20.91	-14.42	0.00
283.5	A	49.6613	Sum:	-0.03	28.42	-0.59	1.31	0.00	-0.06
			6.14	-0.06	4.77	-3.87	-10.32	14.66	-17.87

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Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom K	F _x	F _y	F _z	M _x	M _y	M _z
ft		°		K	K	K	kip-ft	kip-ft	kip-ft
			5.83						
	A	49.6613	6.14	0.06	4.77	-3.87	-10.32	-14.66	17.87
			5.83						
	B	53.2510	6.18	3.14	5.03	1.74	21.80	13.60	0.00
			5.83						
	B	53.2510	6.18	3.08	5.03	1.85	-10.90	-13.60	-18.88
			5.83						
	C	53.0711	6.18	-3.09	5.02	1.85	-10.87	13.65	18.83
			5.83						
	C	53.0711	6.18	-3.15	5.02	1.75	21.74	-13.65	0.00
			5.83						
			Sum:	-0.02	29.64	-0.55	1.13	0.00	-0.05

Guy-Tensioning Information

Temperature At Time Of Tensioning																	
Guy Elevation ft	H ft	V ft	0 F		20 F		40 F		60 F		80 F		100 F		120 F		
			Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	
58	A	228.87	44.00	2.901	3.72	2.618	4.12	2.344	4.60	2.080	5.18	1.831	5.89	1.602	6.72	1.399	7.70
	B	228.87	81.00	2.834	4.12	2.575	4.53	2.323	5.02	2.080	5.61	1.850	6.30	1.636	7.12	1.443	8.06
	C	228.87	79.00	2.839	4.09	2.578	4.50	2.324	4.99	2.080	5.58	1.848	6.27	1.634	7.09	1.440	8.04
106.694	A	228.87	92.69	5.725	4.30	5.215	4.71	4.719	5.21	4.240	5.79	3.785	6.48	3.362	7.29	2.977	8.22
	B	228.87	129.69	5.543	5.02	5.097	5.46	4.661	5.96	4.240	6.55	3.837	7.23	3.458	8.01	3.107	8.90
	C	228.87	127.69	5.553	4.98	5.103	5.41	4.664	5.92	4.240	6.50	3.834	7.18	3.452	7.97	3.099	8.86
166.694	A	228.87	152.69	7.359	5.86	6.836	6.31	6.326	6.81	5.830	7.38	5.353	8.03	4.898	8.76	4.471	9.59
	B	228.87	189.69	7.138	7.03	6.692	7.50	6.255	8.01	5.830	8.59	5.418	9.23	5.023	9.94	4.646	10.73
	C	228.87	187.69	7.153	6.96	6.704	7.42	6.265	7.93	5.830	8.51	5.415	9.16	5.016	9.87	4.637	10.66
216.611	A	228.87	202.61	7.065	7.51	6.644	7.97	6.232	8.49	5.830	9.07	5.440	9.70	5.065	10.41	4.706	11.19
	B	228.87	239.61	6.876	9.03	6.520	9.51	6.171	10.04	5.830	10.62	5.497	11.25	5.174	11.93	4.863	12.68
	C	228.87	237.61	6.885	8.94	6.527	9.42	6.174	9.95	5.830	10.53	5.494	11.16	5.169	11.84	4.855	12.59
256.611	A	228.87	242.61	6.862	9.17	6.511	9.65	6.167	10.18	5.830	10.75	5.501	11.38	5.182	12.07	4.875	12.81
	B	228.87	279.61	6.706	10.97	6.409	11.46	6.117	12.00	5.830	12.58	5.549	13.20	5.275	13.87	5.009	14.58
	C	228.87	277.61	6.714	10.86	6.414	11.36	6.119	11.90	5.830	12.47	5.547	13.09	5.270	13.76	5.002	14.48
283.5	A	228.87	269.50	6.746	10.45	6.435	10.94	6.130	11.48	5.830	12.05	5.537	12.68	5.251	13.35	4.974	14.07
	B	228.87	306.50	6.610	12.44	6.346	12.94	6.086	13.48	5.830	14.06	5.579	14.67	5.333	15.33	5.093	16.03
	C	228.87	304.50	6.617	12.32	6.351	12.83	6.088	13.37	5.830	13.94	5.577	14.56	5.329	15.22	5.087	15.92

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
7/8"	B	Yes	Ar (CfAe)	287.00 - 10.00	0.0000	-0.47	1	1	0.8500 0.7500	1.1100		1.00

LDF4-50A (1/2 FOAM)	A	Yes	Ar (CfAe)	274.00 - 10.00	-1.0000	0.4	2	1	0.6300	0.6300		0.15

1-5/8"	A	Yes	Ar (CfAe)	257.00 - 10.00	0.0000	0.1	4	4	0.8500 0.7500	1.9800		1.00
LDF1-50A (1/4 FOAM)	A	Yes	Ar (CfAe)	257.00 - 10.00	0.0000	0.45	2	1	0.8500 0.7500	0.3500		0.06
LDF1-50A	B	Yes	Ar (CfAe)	257.00 - 10.00	0.0000	-0.2	2	1	0.8500	0.3500		0.06

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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
(1/4 FOAM) ****									0.7500			
1-5/8" (E) ****	A	Yes	Ar (CfAe)	235.00 - 10.00	-3.0000	0.15	12	6	0.8500 0.7500	1.9800		1.00
7/8" (EE) ****	A	Yes	Ar (CfAe)	210.00 - 10.00	0.0000	0.42	1	1	0.8500 0.7500	1.1100		1.00
1/2" (E) ***	C	Yes	Ar (CfAe)	197.00 - 10.00	0.0000	0.45	1	1	0.8500 0.7500	0.5800		1.00
1-5/8" (E) ****	C	Yes	Ar (CfAe)	185.00 - 10.00	-1.0000	0.1	12	12	0.8500 0.7500	1.9800		1.00
7/8" (E) ****	B	Yes	Ar (CfAe)	172.00 - 10.00	0.0000	-0.36	1	1	0.8500 0.7500	1.1100		1.00
7/8" (E) ****	B	Yes	Ar (CfAe)	171.00 - 10.00	0.0000	-0.31	1	1	0.8500 0.7500	1.1100		1.00
1/2" (E) ****	B	Yes	Ar (CfAe)	171.00 - 10.00	0.0000	-0.36	1	1	0.8500 0.7500	0.5800		1.00
7/8" (E) ****	C	Yes	Ar (CfAe)	158.00 - 10.00	-0.5000	-0.4	1	1	0.8500 0.7500	1.1100		1.00
1" Conduit (E) ***	B	Yes	Ar (CfAe)	156.00 - 10.00	0.0000	-0.15	1	1	0.8500 0.7500	1.2500		1.00
EW63 (Elliptical) (E) ****	A	Yes	Af (CfAe)	116.00 - 10.00	0.0000	-0.2	2	2	0.8500 0.7500	2.0100	4.5200	0.51
7/8" (E) ****	C	Yes	Ar (CfAe)	111.00 - 10.00	-0.5000	-0.45	1	1	0.8500 0.7500	1.1100		1.00
EW63 (Elliptical) (E) ****	A	Yes	Af (CfAe)	104.00 - 10.00	0.0000	-0.1	1	1	0.8500 0.7500	2.0100	4.5200	0.51
FSJ2-50 (3/8 SUPERFLEX. FOAM) (E)	B	Yes	Ar (CfAe)	92.00 - 10.00	0.0000	-0.1	2	1	0.8500 0.7500	0.4300		0.08
FSJ2-50 (3/8 SUPERFLEX. FOAM) (E) ****	B	Yes	Ar (CfAe)	95.00 - 92.00	0.0000	-0.1	1	1	0.8500 0.7500	0.4300		0.08
1-5/8" (E) ****	C	Yes	Ar (CfAe)	83.00 - 10.00	0.5000	0.05	18	12	0.8500 0.7500	1.9800		1.00
7/8" (E) ****	A	Yes	Ar (CfAe)	71.00 - 10.00	0.0000	-0.28	1	1	0.8500 0.7500	1.1100		1.00
LDF1-50A (1/4 FOAM) (E)	C	Yes	Ar (CfAe)	13.00 - 10.00	0.0000	0.43	2	2	0.3500	0.3500		0.06
LDF1-50A (1/4 FOAM) (E) ****	C	Yes	Ar (CfAe)	18.00 - 13.00	0.0000	0.43	1	1	0.3500	0.3500		0.06

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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1-5/8"	A	Yes	Ar (CfAe)	257.00 - 10.00	0.0000	0.3	2	2	0.8500 0.7500	1.9800		1.00

3/8" Fiber Cable (AT&T)	C	Yes	Ar (CfAe)	185.00 - 10.00	0.0000	-0.4	1	1	0.3750	0.3750		0.50
DC Power Cable (AT&T)	C	Yes	Ar (CfAe)	185.00 - 10.00	-1.0000	-0.31	2	2	0.8750	0.8750		2.00

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	317.00-287.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
T1	287.00-280.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.647	0.000	0.000	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.00
T2	280.00-260.00	A	0.735	0.000	0.000	0.000	0.00
		B	1.850	0.000	0.000	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.00
T3	260.00-240.00	A	18.376	0.000	0.000	0.000	0.11
		B	2.346	0.000	0.000	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.00
T4	240.00-220.00	A	36.283	0.000	0.000	0.000	0.31
		B	2.433	0.000	0.000	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.00
T5	220.00-200.00	A	42.158	0.000	0.000	0.000	0.38
		B	2.433	0.000	0.000	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.00
T6	200.00-180.00	A	43.083	0.000	0.000	0.000	0.39
		B	2.433	0.000	0.000	0.000	0.02
		C	11.607	0.000	0.000	0.000	0.10
T7	180.00-160.00	A	43.083	0.000	0.000	0.000	0.39
		B	5.093	0.000	0.000	0.000	0.06
		C	44.108	0.000	0.000	0.000	0.35
T8	160.00-140.00	A	43.083	0.000	0.000	0.000	0.39
		B	8.767	0.000	0.000	0.000	0.10
		C	45.773	0.000	0.000	0.000	0.37
T9	140.00-120.00	A	43.083	0.000	0.000	0.000	0.39
		B	9.183	0.000	0.000	0.000	0.10
		C	45.958	0.000	0.000	0.000	0.37
T10	120.00-100.00	A	43.083	6.030	0.000	0.000	0.41
		B	9.183	0.000	0.000	0.000	0.10
		C	46.976	0.000	0.000	0.000	0.38
T11	100.00-80.00	A	43.083	10.050	0.000	0.000	0.42
		B	9.721	0.000	0.000	0.000	0.10
		C	53.748	0.000	0.000	0.000	0.44
T12	80.00-60.00	A	44.101	10.050	0.000	0.000	0.43
		B	9.900	0.000	0.000	0.000	0.11
		C	87.408	0.000	0.000	0.000	0.75
T13	60.00-40.00	A	44.933	10.050	0.000	0.000	0.44
		B	9.900	0.000	0.000	0.000	0.11
		C	87.408	0.000	0.000	0.000	0.75

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<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face</i>	<i>A_R</i>	<i>A_F</i>	<i>C_AA_A In Face ft²</i>	<i>C_AA_A Out Face ft²</i>	<i>Weight K</i>
T14	40.00-20.00	A	44.933	10.050	0.000	0.000	0.44
		B	9.900	0.000	0.000	0.000	0.11
		C	87.408	0.000	0.000	0.000	0.75
T15	20.00-6.50	A	22.467	5.025	0.000	0.000	0.22
		B	4.950	0.000	0.000	0.000	0.05
		C	44.025	0.000	0.000	0.000	0.38
T16	6.50-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face or Leg</i>	<i>Ice Thickness in</i>	<i>A_R</i>	<i>A_F</i>	<i>C_AA_A In Face ft²</i>	<i>C_AA_A Out Face ft²</i>	<i>Weight K</i>
L1	317.00-287.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
T1	287.00-280.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		1.231	0.000	0.000	0.000	0.01
		C		0.000	0.000	0.000	0.000	0.00
T2	280.00-260.00	A	0.500	1.902	0.000	0.000	0.000	0.02
		B		3.517	0.000	0.000	0.000	0.04
		C		0.000	0.000	0.000	0.000	0.00
T3	260.00-240.00	A	0.500	13.073	16.037	0.000	0.000	0.35
		B		5.429	0.000	0.000	0.000	0.06
		C		0.000	0.000	0.000	0.000	0.00
T4	240.00-220.00	A	0.500	18.625	36.554	0.000	0.000	0.93
		B		5.767	0.000	0.000	0.000	0.06
		C		0.000	0.000	0.000	0.000	0.00
T5	220.00-200.00	A	0.500	21.625	42.450	0.000	0.000	1.12
		B		5.767	0.000	0.000	0.000	0.06
		C		0.000	0.000	0.000	0.000	0.00
T6	200.00-180.00	A	0.500	23.383	42.450	0.000	0.000	1.14
		B		5.767	0.000	0.000	0.000	0.06
		C		4.834	13.700	0.000	0.000	0.24
T7	180.00-160.00	A	0.500	23.383	42.450	0.000	0.000	1.14
		B		11.259	0.000	0.000	0.000	0.13
		C		13.017	54.800	0.000	0.000	0.90
T8	160.00-140.00	A	0.500	23.383	42.450	0.000	0.000	1.14
		B		18.433	0.000	0.000	0.000	0.21
		C		16.182	54.800	0.000	0.000	0.94
T9	140.00-120.00	A	0.500	23.383	42.450	0.000	0.000	1.14
		B		19.183	0.000	0.000	0.000	0.22
		C		16.533	54.800	0.000	0.000	0.94
T10	120.00-100.00	A	0.500	23.383	50.724	0.000	0.000	1.20
		B		19.183	0.000	0.000	0.000	0.22
		C		18.468	54.800	0.000	0.000	0.96
T11	100.00-80.00	A	0.500	23.383	56.139	0.000	0.000	1.25
		B		20.971	0.000	0.000	0.000	0.23
		C		20.795	62.582	0.000	0.000	1.14
T12	80.00-60.00	A	0.500	25.317	56.139	0.000	0.000	1.27
		B		21.567	0.000	0.000	0.000	0.24
		C		25.017	106.683	0.000	0.000	2.03
T13	60.00-40.00	A	0.500	26.900	56.139	0.000	0.000	1.29
		B		21.567	0.000	0.000	0.000	0.24
		C		25.017	106.683	0.000	0.000	2.03
T14	40.00-20.00	A	0.500	26.900	56.139	0.000	0.000	1.29

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<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face or Leg</i>	<i>Ice Thickness in</i>	<i>A_R ft²</i>	<i>A_F ft²</i>	<i>C_AA_A In Face ft²</i>	<i>C_AA_A Out Face ft²</i>	<i>Weight K</i>
T15	20.00-6.50	B	0.500	21.567	0.000	0.000	0.000	0.24
		C		25.017	106.683	0.000	0.000	2.03
		A		13.450	28.069	0.000	0.000	0.64
		B		10.783	0.000	0.000	0.000	0.12
T16	6.50-0.00	C	0.500	13.408	53.517	0.000	0.000	1.02
		A		0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00

Feed Line Shielding

<i>Section</i>	<i>Elevation ft</i>	<i>Face</i>	<i>A_R ft²</i>	<i>A_R Ice ft²</i>	<i>A_F ft²</i>	<i>A_F Ice ft²</i>
L1	317.00-287.00		0.000	0.000	0.000	0.000
T1	287.00-280.00		0.000	0.000	0.000	0.000
		A	0.000	0.000	0.000	0.000
		B	0.052	0.183	0.000	0.000
T2	280.00-260.00	C	0.000	0.000	0.000	0.000
		A	0.055	0.263	0.000	0.000
		B	0.140	0.486	0.000	0.000
T3	260.00-240.00	C	0.000	0.000	0.000	0.000
		A	1.386	4.025	0.000	0.000
		B	0.177	0.751	0.000	0.000
T4	240.00-220.00	C	0.000	0.000	0.000	0.000
		A	2.737	7.630	0.000	0.000
		B	0.184	0.797	0.000	0.000
T5	220.00-200.00	C	0.000	0.000	0.000	0.000
		A	3.003	8.590	0.000	0.000
		B	0.173	0.773	0.000	0.000
T6	200.00-180.00	C	0.000	0.000	0.000	0.000
		A	3.069	8.826	0.000	0.000
		B	0.173	0.773	0.000	0.000
T7	180.00-160.00	C	0.827	2.485	0.000	0.000
		A	3.432	9.380	0.000	0.000
		B	0.406	1.604	0.000	0.000
T8	160.00-140.00	C	3.513	9.662	0.000	0.000
		A	3.250	9.103	0.000	0.000
		B	0.661	2.549	0.000	0.000
T9	140.00-120.00	C	3.453	9.815	0.000	0.000
		A	3.069	8.826	0.000	0.000
		B	0.654	2.572	0.000	0.000
T10	120.00-100.00	C	3.274	9.563	0.000	0.000
		A	3.912	10.638	0.000	0.000
		B	0.731	2.733	0.000	0.000
T11	100.00-80.00	C	3.742	10.439	0.000	0.000
		A	4.009	11.149	0.000	0.000
		B	0.733	2.900	0.000	0.000
T12	80.00-60.00	C	4.055	11.529	0.000	0.000
		A	3.858	11.069	0.000	0.000
		B	0.705	2.891	0.000	0.000
T13	60.00-40.00	C	6.227	17.656	0.000	0.000
		A	3.917	11.281	0.000	0.000
		B	0.705	2.891	0.000	0.000
T14	40.00-20.00	C	6.227	17.656	0.000	0.000
		A	3.917	11.281	0.000	0.000

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Section	Elevation	Face	A_R	$A_{R_{Ice}}$	A_F	$A_{F_{Ice}}$
	ft		ft ²	ft ²	ft ²	ft ²
T15	20.00-6.50	B	0.705	2.891	0.000	0.000
		C	6.227	17.656	0.000	0.000
		A	1.995	5.756	0.000	0.000
		B	0.359	1.475	0.000	0.000
		C	3.195	9.156	0.000	0.000
T16	6.50-0.00	A	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	$CP_{X_{Ice}}$	$CP_{Z_{Ice}}$
	ft	in	in	in	in
L1	317.00-287.00	0.0000	0.0000	0.0000	0.0000
T1	287.00-280.00	0.0503	-1.0815	0.0532	-1.1438
T2	280.00-260.00	0.0225	-1.4755	0.0129	-1.7139
T3	260.00-240.00	-2.1695	-4.9727	-1.1061	-3.7725
T4	240.00-220.00	-2.9861	-6.3808	-1.7426	-4.7499
T5	220.00-200.00	-3.0665	-6.6937	-1.8663	-5.1263
T6	200.00-180.00	-3.1743	-4.7938	-2.1628	-3.6237
T7	180.00-160.00	-2.8733	-1.2894	-2.0230	-1.0660
T8	160.00-140.00	-2.4810	-1.5606	-1.5476	-1.3976
T9	140.00-120.00	-2.3989	-1.5592	-1.4799	-1.4080
T10	120.00-100.00	-2.7222	-1.3555	-1.7528	-1.2099
T11	100.00-80.00	-2.8019	-0.7015	-1.7970	-0.7012
T12	80.00-60.00	-2.7809	2.0531	-1.9107	1.5757
T13	60.00-40.00	-2.8427	2.0614	-1.9899	1.5882
T14	40.00-20.00	-2.8427	2.0614	-1.9899	1.5882
T15	20.00-6.50	-2.6646	1.9298	-1.8870	1.4985
T16	6.50-0.00	0.0000	0.0000	0.0000	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement	$C_{AA_{Front}}$	$C_{AA_{Side}}$	Weight
			ft ft ft	°	ft	ft ²	ft ²	K
Lightning Rod 5/8"x4'	C	From Leg	0.00	0.0000	322.00	No Ice	0.25	0.03
			0.00			1/2" Ice	0.66	0.03
			0.00					
Flash Beacon Lighting	C	From Leg	0.00	0.0000	321.00	No Ice	2.70	0.05
			0.00			1/2" Ice	3.10	0.07
			0.00					
Side Lights	C	From Leg	0.00	0.0000	156.00	No Ice	1.50	0.20
			0.00			1/2" Ice	2.25	0.30
			0.00					
7' Ice Shield	A	From Leg	0.00	0.0000	125.00	No Ice	5.97	0.46
			0.00			1/2" Ice	6.83	0.56

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert ft ft ft</i>	<i>Azimuth Adjustment °</i>	<i>Placement ft</i>		<i>C_AA_A Front ft²</i>	<i>C_AA_A Side ft²</i>	<i>Weight K</i>
7' Ice Shield	C	From Leg	0.00 0.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice	5.97 6.83	2.59 3.09	0.46 0.56
5' Ice Shield	C	From Leg	0.00 0.00 0.00	0.0000	117.00	No Ice 1/2" Ice	4.57 5.28	2.59 3.09	0.00 0.00

1 bay FM antenna	C	From Leg	2.00 0.00 0.00	0.0000	305.00	No Ice 1/2" Ice	5.00 8.00	5.00 8.00	0.05 0.09
1 bay FM antenna	C	From Leg	2.00 0.00 5.00	0.0000	305.00	No Ice 1/2" Ice	5.00 8.00	5.00 8.00	0.05 0.09
10'x2" Pipe Mount	C	From Leg	0.00 0.00 0.00	0.0000	305.00	No Ice 1/2" Ice	2.38 3.40	2.38 3.40	0.04 0.05

6' Omni	C	From Leg	3.00 0.00 3.00	0.0000	274.00	No Ice 1/2" Ice	1.77 2.13	1.77 2.13	0.05 0.06
8' Omni	C	From Leg	4.00 0.00 3.00	0.0000	274.00	No Ice 1/2" Ice	2.40 3.19	2.40 3.19	0.09 0.11
Side Arm Mount [SO 602-1]	C	From Leg	0.00 0.00 0.00	0.0000	274.00	No Ice 1/2" Ice	2.72 4.11	12.93 17.82	0.15 0.22

15' Omni	C	From Leg	2.00 0.00 8.00	0.0000	257.00	No Ice 1/2" Ice	4.50 6.03	4.50 6.03	0.15 0.18
15' Omni	C	From Leg	2.00 0.00 -7.00	0.0000	257.00	No Ice 1/2" Ice	4.50 6.03	4.50 6.03	0.15 0.18
Side Arm Mount [SO 601-1]	C	From Leg	0.00 0.00 0.00	0.0000	257.00	No Ice 1/2" Ice	1.22 1.85	6.30 8.61	0.16 0.20
AP14-850/105N w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	257.00	No Ice 1/2" Ice	10.61 11.24	7.06 8.20	0.05 0.11
AP14-850/105N w/ Mount Pipe	B	From Leg	4.00 0.00 -4.00	0.0000	257.00	No Ice 1/2" Ice	10.61 11.24	7.06 8.20	0.05 0.11
Side Arm Mount [SO 601-1]	B	From Leg	0.00 0.00 0.00	0.0000	257.00	No Ice 1/2" Ice	1.22 1.85	6.30 8.61	0.16 0.20
15' Omni	A	From Leg	2.00 0.00 8.00	0.0000	257.00	No Ice 1/2" Ice	4.50 6.03	4.50 6.03	0.15 0.18
15' Omni	A	From Leg	2.00 0.00 -7.00	0.0000	257.00	No Ice 1/2" Ice	4.50 6.03	4.50 6.03	0.15 0.18
Side Arm Mount [SO 601-1]	A	From Leg	0.00 0.00 0.00	0.0000	257.00	No Ice 1/2" Ice	1.22 1.85	6.30 8.61	0.16 0.20

(4) DB844H90E-XY	A	From Leg	4.00	0.0000	235.00	No Ice	3.58	5.40	0.04

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert ft ft ft</i>	<i>Azimuth Adjustment °</i>	<i>Placement ft</i>	<i>C_AA_A Front ft²</i>	<i>C_AA_A Side ft²</i>	<i>Weight K</i>
w/Mount Pipe			0.00 0.00		1/2" Ice	4.20	6.49	0.08
(4) DB844H90E-XY w/Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	235.00 1/2" Ice	3.58 4.20	5.40 6.49	0.04 0.08
(4) DB844H90E-XY w/Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	235.00 1/2" Ice	3.58 4.20	5.40 6.49	0.04 0.08
Sector Mount [SM 602-3]	C	None	0.00	0.0000	235.00 1/2" Ice	33.11 44.90	33.11 44.90	0.00 0.00

1 bay FM antenna	C	From Leg	2.00 0.00 0.00	0.0000	210.00 1/2" Ice	5.00 8.00	5.00 8.00	0.05 0.09
Flush Mount	C	From Leg	2.00 0.00 0.00	0.0000	210.00 1/2" Ice	1.00 2.00	1.00 2.00	0.10 0.15

1 bay FM antenna	B	From Leg	2.00 0.00 0.00	0.0000	197.00 1/2" Ice	5.00 8.00	5.00 8.00	0.05 0.09
Side Arm Mount [SO 601-1]	B	From Leg	0.00 0.00 0.00	0.0000	197.00 1/2" Ice	1.22 1.85	6.30 8.61	0.16 0.20

DB872H120-X w/Mount Pipe	B	From Leg	2.00 0.00 0.00	60.0000	172.00 1/2" Ice	3.99 4.75	2.83 3.75	0.03 0.07
Flush Mount	B	From Leg	2.00 0.00 0.00	0.0000	172.00 1/2" Ice	1.00 2.00	1.00 2.00	0.10 0.15

8' Omni	C	From Leg	4.00 0.00 3.00	0.0000	171.00 1/2" Ice	2.40 3.19	2.40 3.19	0.09 0.11
Side Arm Mount [SO 301-1]	C	From Leg	0.00 0.00 0.00	0.0000	171.00 1/2" Ice	1.00 1.39	0.90 1.42	0.02 0.03

Flush Mount	A	From Leg	2.00 0.00 0.00	0.0000	171.00 1/2" Ice	1.00 2.00	1.00 2.00	0.10 0.15

18"x12"x4"	C	From Leg	2.00 0.00 0.00	-10.0000	158.00 1/2" Ice	3.17 3.74	2.13 2.77	0.04 0.07
Flush Mount	C	From Leg	1.00 0.00 0.00	0.0000	158.00 1/2" Ice	1.00 2.00	1.00 2.00	0.10 0.15

Side Arm Mount [SO 602-1]	B	From Leg	2.00 0.00 0.00	0.0000	120.00 1/2" Ice	2.72 4.11	12.93 17.82	0.15 0.22

Pipe Mount [PM 602-1]	A	From Leg	1.00 0.00	0.0000	116.00 1/2" Ice	5.25 6.50	1.58 1.95	0.09 0.12

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert ft ft ft</i>	<i>Azimuth Adjustment °</i>	<i>Placement ft</i>		<i>C_AA_A Front ft²</i>	<i>C_AA_A Side ft²</i>	<i>Weight K</i>
Pipe Mount [PM 602-1]	C	From Leg	0.00 1.00 0.00 0.00	0.0000	116.00	No Ice 1/2" Ice	5.25 6.50	1.58 1.95	0.09 0.12
**** 10' Omni	B	From Leg	0.00 0.00 0.00	0.0000	111.00	No Ice 1/2" Ice	3.00 4.03	3.00 4.03	0.09 0.11
Side Arm Mount [SO 301-1]	B	From Leg	0.00 0.00 0.00	0.0000	111.00	No Ice 1/2" Ice	1.00 1.39	0.90 1.42	0.02 0.03
**** Pipe Mount [PM 602-1]	C	From Leg	0.00 0.00 0.00	0.0000	104.00	No Ice 1/2" Ice	5.25 6.50	1.58 1.95	0.09 0.12
**** Flush Mount	C	From Leg	0.00 0.00 0.00	0.0000	95.00	No Ice 1/2" Ice	1.00 2.00	1.00 2.00	0.10 0.15
**** 2' Yagi	B	From Leg	0.00 0.00 0.00	0.0000	92.00	No Ice 1/2" Ice	1.00 2.00	1.00 2.00	0.04 0.05
Flush Mount	B	From Leg	0.00 0.00 0.00	0.0000	92.00	No Ice 1/2" Ice	1.00 2.00	1.00 2.00	0.10 0.15
**** (2) 4'x8"x9.5" Panel	A	From Leg	0.00 0.00 0.00	60.0000	83.00	No Ice 1/2" Ice	4.21 4.74	5.86 6.74	0.04 0.09
(2) 4'x8"x9.5" Panel	B	From Leg	0.00 0.00 0.00	60.0000	83.00	No Ice 1/2" Ice	4.21 4.74	5.86 6.74	0.04 0.09
(2) 4'x8"x9.5" Panel	C	From Leg	0.00 0.00 0.00	60.0000	83.00	No Ice 1/2" Ice	4.21 4.74	5.86 6.74	0.04 0.09
(2) 6'x2" Mount Pipe	A	From Leg	0.00 0.00 0.00	0.0000	83.00	No Ice 1/2" Ice	1.43 1.93	1.43 1.93	0.02 0.03
(2) 6'x2" Mount Pipe	B	From Leg	0.00 0.00 0.00	0.0000	83.00	No Ice 1/2" Ice	1.43 1.93	1.43 1.93	0.02 0.03
(2) 6'x2" Mount Pipe	C	From Leg	0.00 0.00 0.00	0.0000	83.00	No Ice 1/2" Ice	1.43 1.93	1.43 1.93	0.02 0.03
P65-16-XL-2 B w/Mount Pipe	A	From Leg	0.00 0.00 0.00	60.0000	83.00	No Ice 1/2" Ice	8.40 8.95	5.54 6.48	0.06 0.11
P65-16-XL-2 B w/Mount Pipe	B	From Leg	0.00 0.00 0.00	60.0000	83.00	No Ice 1/2" Ice	8.40 8.95	5.54 6.48	0.06 0.11
P65-16-XL-2 B w/Mount Pipe	C	From Leg	0.00 0.00 0.00	60.0000	83.00	No Ice 1/2" Ice	8.40 8.95	5.54 6.48	0.06 0.11
BXA-185063/12CF w/Mount Pipe	A	From Leg	0.00 0.00 0.00	60.0000	83.00	No Ice 1/2" Ice	5.03 5.58	5.29 6.46	0.04 0.08

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert ft ft ft</i>	<i>Azimuth Adjustment °</i>	<i>Placement ft</i>	<i>C_AA_A Front ft²</i>	<i>C_AA_A Side ft²</i>	<i>Weight K</i>	
BXA-185063/12CF w/Mount Pipe	B	From Leg	4.00 0.00 0.00	60.0000	83.00	No Ice 1/2" Ice	5.03 5.58	5.29 6.46	0.04 0.08
BXA-185063/12CF w/Mount Pipe	C	From Leg	4.00 0.00 0.00	60.0000	83.00	No Ice 1/2" Ice	5.03 5.58	5.29 6.46	0.04 0.08
Platform Mount [LP 603-1]	C	None		0.0000	83.00	No Ice 1/2" Ice	42.10 52.90	42.10 52.90	2.06 2.68

2' Dipole	C	From Leg	2.00 0.00 0.00	0.0000	71.00	No Ice 1/2" Ice	1.65 3.00	1.65 3.00	0.03 0.04
Flush Mount	C	From Leg	1.00 0.00 0.00	0.0000	71.00	No Ice 1/2" Ice	1.00 2.00	1.00 2.00	0.10 0.15

6' Yagi	C	From Leg	0.00 0.00 0.00	0.0000	18.00	No Ice 1/2" Ice	1.77 0.17	3.98 0.57	0.04 0.05
Side Arm Mount [SO 301-1]	C	From Leg	0.00 0.00 0.00	0.0000	18.00	No Ice 1/2" Ice	1.00 1.39	0.90 1.42	0.02 0.03

Side Arm Mount [SO 301-1]	C	From Leg	0.00 0.00 0.00	0.0000	13.00	No Ice 1/2" Ice	1.00 1.39	0.90 1.42	0.02 0.03

7770.00 w/ Mount Pipe (AT&T)	A	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	6.12 6.63	4.25 5.01	0.06 0.10
7770.00 w/ Mount Pipe (AT&T)	B	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	6.12 6.63	4.25 5.01	0.06 0.10
7770.00 w/ Mount Pipe (AT&T)	C	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	6.12 6.63	4.25 5.01	0.06 0.10
OPA-65R-LCUU-H8 w/ Mount Pipe (AT&T)	A	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	13.22 14.02	9.32 10.79	0.12 0.21
OPA-65R-LCUU-H6 w/ Mount Pipe (AT&T)	B	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	10.60 11.27	7.18 8.36	0.10 0.18
OPA-65R-LCUU-H8 w/ Mount Pipe (AT&T)	C	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	13.22 14.02	9.32 10.79	0.12 0.21
HPA-65R-BUU-H8 w/ Mount Pipe (AT&T)	A	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	13.53 14.34	9.58 11.05	0.10 0.20
HPA-65R-BUU-H6 w/ Mount Pipe (AT&T)	B	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	10.60 11.27	8.11 9.30	0.08 0.16
HPA-65R-BUU-H8 w/ Mount Pipe (AT&T)	C	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	13.53 14.34	9.58 11.05	0.10 0.20
DC6-48-18-8F (AT&T)	A	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	1.19 1.37	1.19 1.37	0.03 0.04

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
RRUS-32 (AT&T)	A	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	3.87 4.15	2.76 3.02	0.08 0.10
RRUS-32 (AT&T)	B	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	3.87 4.15	2.76 3.02	0.08 0.10
RRUS-32 (AT&T)	C	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	3.87 4.15	2.76 3.02	0.08 0.10
RRUS-11 (AT&T)	A	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	3.24 3.48	1.38 1.56	0.05 0.07
RRUS-11 (AT&T)	B	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	3.24 3.48	1.38 1.56	0.05 0.07
RRUS-11 (AT&T)	C	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	3.24 3.48	1.38 1.56	0.05 0.07
RRUS-32 B2 (AT&T)	A	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	3.87 4.15	2.76 3.02	0.08 0.10
RRUS-32 B2 (AT&T)	B	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	3.87 4.15	2.76 3.02	0.08 0.10
RRUS-32 B2 (AT&T)	C	From Leg	3.00 0.00 0.00	0.0000	185.00	No Ice 1/2" Ice	3.87 4.15	2.76 3.02	0.08 0.10
Commscope MTC3615/SF-QV12-4-96 (AT&T) ***	C	None		0.0000	185.00	No Ice 1/2" Ice	75.80 80.60	29.30 30.70	1.95 2.44

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K
3' Grid Dish	A	Grid	From Leg	2.00 0.00 0.00	-60.0000		171.00	3.00	No Ice 1/2" Ice 7.07 7.47	0.05 0.07

6' Dish	A	Paraboloid w/o Radome	From Leg	2.00 0.00 0.00	-20.0000		116.00	6.00	No Ice 1/2" Ice 28.27 29.05	0.00 0.00
6' Dish	C	Paraboloid w/o Radome	From Leg	2.00 0.00 0.00	-90.0000		116.00	6.00	No Ice 1/2" Ice 28.27 29.05	0.00 0.00

6' Dish	C	Paraboloid	From	2.00	-10.0000		104.00	6.00	No Ice 28.27	0.00

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Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K
		w/Shroud (HP)	Leg	0.00 0.00				1/2" Ice	29.05	0.00

5' Grid Dish	C	Grid	From Leg	2.00 0.00 0.00	-30.0000		95.00	5.00	No Ice 1/2" Ice	19.64 20.30 0.32

4' Dish	C	Paraboloid w/o Radome	From Leg	2.00 0.00 0.00	-10.0000		13.00	4.00	No Ice 1/2" Ice	12.56 13.09 0.24

Load Combinations

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

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Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	317 - 287	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-2.65	0.54	23.13
			Max. Mx	11	-2.28	24.30	-0.11
			Max. My	8	-2.28	0.34	-24.24
			Max. Vy	11	-1.29	24.30	-0.11
			Max. Vx	8	1.30	0.34	-24.24
T1	287 - 280	Leg	Max. Torque	20			-1.27
			Max Tension	8	7.85	-0.01	0.18
			Max. Compression	20	-20.70	0.03	0.08
			Max. Mx	19	-8.25	0.84	0.40
			Max. My	15	-8.25	-0.02	-0.99
			Max. Vy	25	-11.88	0.16	-0.08
		Diagonal	Max. Vx	15	-13.41	-0.06	0.13
			Max Tension	25	1.50	0.00	0.00
			Max. Compression	8	-1.38	0.00	0.00
			Max. Mx	15	0.29	0.01	0.00
			Max. My	26	0.28	0.00	0.00
			Max. Vy	15	-0.01	0.00	0.00
		Horizontal	Max. Vx	26	-0.00	0.00	0.00
			Max Tension	7	2.24	0.00	0.00
			Max. Compression	13	-1.92	0.00	0.00
			Max. Mx	20	0.32	0.01	0.00
			Max. My	26	0.54	0.00	0.00
			Max. Vy	20	0.01	0.00	0.00
		Top Girt	Max. Vx	26	0.00	0.00	0.00
			Max Tension	21	7.29	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	22	7.29	0.01	0.00
			Max. My	26	7.29	0.00	0.00
			Max. Vy	22	0.01	0.00	0.00
		Bottom Girt	Max. Vx	26	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	20	-0.50	0.00	0.00
			Max. Mx	21	-0.35	0.01	0.00
			Max. My	26	-0.16	0.00	0.00
			Max. Vy	21	-0.01	0.00	0.00
		Guy A	Max. Vx	26	-0.00	0.00	0.00
			Bottom Tension	21	13.02		
			Top Tension	21	13.54		
			Top Cable Vert	21	10.71		
			Top Cable Norm	21	8.28		
			Top Cable Tan	21	0.01		
		Guy B	Bot Cable Vert	21	-9.49		
			Bot Cable Norm	21	8.91		
			Bot Cable Tan	21	0.01		
			Bottom Tension	25	13.76		
			Top Tension	25	14.35		
			Top Cable Vert	25	11.89		
		Guy C	Top Cable Norm	25	8.03		
			Top Cable Tan	25	0.01		
			Bot Cable Vert	25	-10.58		
			Bot Cable Norm	25	8.80		
			Bot Cable Tan	25	0.01		
			Bottom Tension	17	13.54		
			Top Tension	17	14.12		
			Top Cable Vert	17	11.68		
			Top Cable Norm	17	7.93		
			Top Cable Tan	17	0.01		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T2	280 - 260		Bot Cable Vert	17	-10.38		
			Bot Cable Norm	17	8.69		
			Bot Cable Tan	17	0.01		
		Torque Arm Top	Max Tension	22	5.98	-23.67	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	25	1.24	-43.81	-0.00
			Max. My	26	4.56	-31.42	-0.00
		Leg	Max. Vy	25	11.78	-43.81	-0.00
			Max. Vx	26	-0.00	-31.42	-0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-22.66	0.09	0.08
		Diagonal	Max. Mx	17	-16.65	-0.16	-0.01
			Max. My	26	-17.91	0.10	-0.21
			Max. Vy	25	-1.00	0.01	-0.15
			Max. Vx	15	-1.15	0.09	0.08
		Horizontal	Max Tension	15	1.14	0.00	0.00
			Max. Compression	15	-1.60	0.00	0.00
			Max. Mx	15	-1.58	0.01	0.00
			Max. My	26	-0.09	0.00	0.00
		Top Girt	Max. Vy	15	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	20	0.60	0.00	0.00
			Max. Compression	13	-0.41	0.00	0.00
		Bottom Girt	Max. Mx	14	0.24	0.01	0.00
			Max. My	26	0.34	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
T3	260 - 240	Leg	Max Tension	20	0.41	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	21	0.31	0.01	0.00
			Max. My	26	0.25	0.00	0.00
		Diagonal	Max. Vy	21	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	13	0.04	0.00	0.00
			Max. Compression	20	-0.36	0.00	0.00
		Horizontal	Max. Mx	14	-0.12	0.01	0.00
			Max. My	26	-0.08	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
		Top Girt	Max Tension	16	2.99	0.00	0.00
			Max. Compression	22	-3.76	0.00	0.00
			Max. Mx	15	2.02	0.01	0.00
			Max. My	26	0.54	0.00	0.00
		Bottom Girt	Max. Vy	15	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	20	3.69	0.00	0.00
			Max. Compression	15	-3.27	0.00	0.00
		Leg	Max. Mx	14	0.47	0.01	0.00
			Max. My	26	0.84	0.00	0.00
			Max. Vy	14	0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
		Diagonal	Max Tension	20	0.56	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	14	0.27	0.01	0.00
			Max. My	26	0.32	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T4	240 - 220	Bottom Girt	Max. Vy	14	0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
			Max Tension	22	0.32	0.00	0.00
			Max. Compression	16	-0.10	0.00	0.00
			Max. Mx	23	0.29	0.01	0.00
			Max. My	26	0.27	0.00	0.00
		Guy A	Max. Vy	23	0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
			Bottom Tension	21	13.74		
			Top Tension	21	14.20		
			Top Cable Vert	21	10.70		
			Top Cable Norm	21	9.34		
		Guy B	Top Cable Tan	21	0.01		
			Bot Cable Vert	21	-9.58		
			Bot Cable Norm	21	9.85		
			Bot Cable Tan	21	0.01		
			Bottom Tension	25	14.57		
			Top Tension	25	15.10		
		Guy C	Top Cable Vert	25	12.06		
			Top Cable Norm	25	9.09		
			Top Cable Tan	25	0.01		
			Bot Cable Vert	25	-10.85		
			Bot Cable Norm	25	9.72		
			Bot Cable Tan	25	0.01		
		Torque Arm Top	Bottom Tension	17	14.40		
			Top Tension	17	14.93		
			Top Cable Vert	17	11.90		
			Top Cable Norm	17	9.02		
			Top Cable Tan	17	0.01		
			Bot Cable Vert	17	-10.69		
		Leg	Bot Cable Norm	17	9.65		
			Bot Cable Tan	17	0.01		
			Max Tension	22	7.46	-19.60	-0.00
			Max. Compression	3	-0.86	-31.23	0.00
			Max. Mx	25	0.36	-44.21	-0.00
			Max. My	26	5.55	-29.70	-0.00
		Diagonal	Max. Vy	25	11.88	-44.21	-0.00
			Max. Vx	26	-0.00	-29.70	-0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	17	-55.05	-0.33	-0.12
			Max. Mx	11	-27.16	-0.61	0.01
			Max. My	8	-22.31	-0.08	0.61
		Horizontal	Max. Vy	24	-3.02	-0.10	-0.25
			Max. Vx	15	-2.76	0.20	0.05
			Max Tension	18	3.81	0.00	0.00
			Max. Compression	24	-4.46	0.00	0.00
			Max. Mx	15	0.38	0.01	0.00
			Max. My	26	-1.08	0.00	0.00
		Top Girt	Max. Vy	15	-0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
			Max Tension	17	1.19	0.00	0.00
			Max. Compression	17	-0.95	0.00	0.00
			Max. Mx	25	0.65	0.01	0.00
			Max. My	26	0.66	0.00	-0.00
			Max. Vy	25	0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	16	0.29	0.00	0.00
			Max. Compression	9	-0.10	0.00	0.00
			Max. Mx	23	0.00	0.01	0.00
			Max. My	26	-0.02	0.00	0.00
			Max. Vy	23	0.01	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T5	220 - 200	Bottom Girt	Max. Vx	26	0.00	0.00	0.00
			Max Tension	15	0.31	0.00	0.00
			Max. Compression	18	-0.34	0.00	0.00
			Max. Mx	19	-0.03	0.01	0.00
			Max. My	15	0.31	0.00	-0.00
			Max. Vy	19	0.01	0.00	0.00
		Leg	Max. Vx	15	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	17	-77.28	-0.20	-0.38
			Max. Mx	16	-59.69	0.73	0.16
			Max. My	15	-32.81	0.01	0.83
			Max. Vy	24	-3.02	0.15	-0.27
		Diagonal	Max. Vx	15	-2.76	0.10	0.28
			Max Tension	16	4.96	0.00	0.00
			Max. Compression	22	-5.85	0.00	0.00
			Max. Mx	15	4.95	0.01	0.00
			Max. My	15	0.02	0.00	0.00
			Max. Vy	15	-0.01	0.00	0.00
		Horizontal	Max. Vx	15	-0.00	0.00	0.00
			Max Tension	20	7.49	0.00	0.00
			Max. Compression	15	-7.02	0.00	0.00
			Max. Mx	22	1.18	0.01	0.00
			Max. My	15	1.07	0.00	-0.00
			Max. Vy	22	0.01	0.00	0.00
		Top Girt	Max. Vx	15	-0.00	0.00	0.00
			Max Tension	22	0.67	0.00	0.00
			Max. Compression	6	-0.01	0.00	0.00
			Max. Mx	19	0.36	0.01	0.00
			Max. My	15	0.01	0.00	-0.00
			Max. Vy	19	0.01	0.00	0.00
		Bottom Girt	Max. Vx	15	-0.00	0.00	0.00
			Max Tension	25	0.44	0.00	0.00
			Max. Compression	2	-0.13	0.00	0.00
			Max. Mx	25	0.10	0.01	0.00
			Max. My	15	-0.12	0.00	-0.00
			Max. Vy	25	0.01	0.00	0.00
		Guy A	Max. Vx	15	-0.00	0.00	0.00
			Bottom Tension	21	15.34		
			Top Tension	21	15.72		
			Top Cable Vert	21	10.76		
			Top Cable Norm	21	11.47		
			Top Cable Tan	21	0.01		
		Guy B	Bot Cable Vert	21	-9.79		
			Bot Cable Norm	21	11.81		
			Bot Cable Tan	21	0.01		
			Bottom Tension	25	16.13		
			Top Tension	25	16.59		
			Top Cable Vert	25	12.34		
		Guy C	Top Cable Norm	25	11.09		
			Top Cable Tan	25	0.01		
			Bot Cable Vert	25	-11.27		
			Bot Cable Norm	25	11.54		
			Bot Cable Tan	25	0.01		
			Bottom Tension	17	16.13		
			Top Tension	17	16.59		
			Top Cable Vert	17	12.29		
			Top Cable Norm	17	11.14		
			Top Cable Tan	17	0.01		
			Bot Cable Vert	17	-11.23		
			Bot Cable Norm	17	11.59		
			Bot Cable Tan	17	0.01		

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T6	200 - 180	Torque Arm Top	Max Tension	22	10.30	-13.65	0.00
			Max. Compression	15	-3.71	-33.42	0.00
			Max. Mx	25	-1.21	-45.53	-0.00
			Max. My	15	4.18	-33.64	-0.00
			Max. Vy	25	12.24	-45.53	-0.00
			Max. Vx	15	-0.00	-33.64	-0.00
		Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	17	-78.74	-0.21	-0.40
			Max. Mx	11	-41.25	-1.26	0.02
			Max. My	8	-30.80	-0.14	1.26
			Max. Vy	18	4.44	-0.17	-0.39
			Max. Vx	22	4.16	0.43	0.04
		Diagonal	Max Tension	9	6.52	0.00	0.00
			Max. Compression	20	-7.53	0.00	0.00
			Max. Mx	15	1.56	0.01	0.00
			Max. My	15	-0.06	0.00	0.00
			Max. Vy	15	-0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Horizontal	Max Tension	4	2.15	0.00	0.00
			Max. Compression	10	-1.48	0.00	0.00
			Max. Mx	25	0.89	0.01	0.00
			Max. My	15	1.15	0.00	-0.00
			Max. Vy	25	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Top Girt	Max Tension	24	0.28	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	25	0.16	0.01	0.00
			Max. My	15	0.20	0.00	-0.00
			Max. Vy	25	0.01	0.00	0.00
			Max. Vx	15	-0.00	0.00	0.00
		Bottom Girt	Max Tension	6	0.59	0.00	0.00
			Max. Compression	12	-0.25	0.00	0.00
			Max. Mx	16	0.51	0.01	0.00
			Max. My	2	0.51	0.00	-0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
T7	180 - 160	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	21	-80.19	0.26	0.75
			Max. Mx	24	-65.51	1.46	-0.06
			Max. My	16	-63.38	-0.60	1.28
			Max. Vy	18	4.44	-0.54	-0.39
			Max. Vx	22	4.16	0.63	-0.31
		Diagonal	Max Tension	20	7.89	0.00	0.00
			Max. Compression	20	-9.56	0.00	0.00
			Max. Mx	15	5.19	0.02	0.00
			Max. My	2	0.90	0.00	0.00
			Max. Vy	15	-0.01	0.00	0.00
			Max. Vx	2	-0.00	0.00	0.00
		Horizontal	Max Tension	26	11.57	0.00	0.00
			Max. Compression	20	-10.07	0.00	0.00
			Max. Mx	16	1.23	0.01	0.00
			Max. My	2	1.28	0.00	0.00
			Max. Vy	16	0.01	0.00	0.00
			Max. Vx	2	-0.00	0.00	0.00
		Top Girt	Max Tension	25	0.63	0.00	0.00
			Max. Compression	19	-0.21	0.00	0.00
			Max. Mx	16	-0.10	0.01	0.00
			Max. My	2	-0.08	0.00	-0.00
			Max. Vy	16	0.01	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
		Bottom Girt	Max Tension	20	0.85	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T8	160 - 140	Guy A	Max. Compression	2	-0.29	0.00	0.00
			Max. Mx	22	0.73	0.01	0.00
			Max. My	2	-0.29	0.00	-0.00
			Max. Vy	22	0.01	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
			Bottom Tension	21	16.89		
			Top Tension	21	17.18		
			Top Cable Vert	21	9.82		
			Top Cable Norm	21	14.09		
			Top Cable Tan	21	0.00		
		Guy B	Bot Cable Vert	21	-9.04		
			Bot Cable Norm	21	14.26		
			Bot Cable Tan	21	0.00		
			Bottom Tension	25	17.68		
			Top Tension	25	18.04		
			Top Cable Vert	25	11.81		
			Top Cable Norm	25	13.64		
			Top Cable Tan	25	0.00		
			Bot Cable Vert	25	-10.93		
			Bot Cable Norm	25	13.89		
		Guy C	Bot Cable Tan	25	0.01		
			Bottom Tension	17	17.79		
			Top Tension	17	18.15		
			Top Cable Vert	17	11.81		
			Top Cable Norm	17	13.79		
			Top Cable Tan	17	0.01		
			Bot Cable Vert	17	-10.93		
			Bot Cable Norm	17	14.04		
			Bot Cable Tan	17	0.00		
		Torque Arm Top	Max Tension	16	13.70	0.00	0.00
			Max. Compression	16	-5.53	-39.91	0.00
			Max. Mx	25	-3.00	-43.35	-0.00
			Max. My	2	4.68	-26.71	-0.00
			Max. Vy	25	11.66	-43.35	-0.00
			Max. Vx	2	-0.00	-26.71	-0.00
		Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	25	-84.28	-0.30	0.48
			Max. Mx	20	-81.13	0.60	-0.06
			Max. My	20	-75.17	-0.30	-0.57
			Max. Vy	24	3.48	-0.16	-0.42
			Max. Vx	16	3.40	0.43	0.08
		Diagonal	Max Tension	19	3.90	0.00	0.00
			Max. Compression	16	-6.17	0.00	0.00
			Max. Mx	15	3.46	0.01	0.00
			Max. My	2	0.55	0.00	0.00
			Max. Vy	15	-0.01	0.00	0.00
			Max. Vx	2	-0.00	0.00	0.00
		Horizontal	Max Tension	16	1.45	0.00	0.00
			Max. Compression	16	-1.45	0.00	0.00
			Max. Mx	26	1.44	0.01	0.00
			Max. My	2	1.10	0.00	-0.00
			Max. Vy	26	0.01	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
		Top Girt	Max Tension	16	0.43	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	22	0.16	0.01	0.00
			Max. My	2	0.40	0.00	-0.00
			Max. Vy	22	0.01	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
		Bottom Girt	Max Tension	20	0.49	0.00	0.00
			Max. Compression	2	-0.06	0.00	0.00

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T9	140 - 120	Leg	Max. Mx	14	0.23	0.01	0.00
			Max. My	2	-0.06	0.00	-0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
		Diagonal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	16	-85.04	-0.34	-0.56
			Max. Mx	18	-75.89	0.65	-0.08
			Max. My	20	-60.43	-0.17	0.67
			Max. Vy	18	1.89	-0.27	-0.51
			Max. Vx	20	2.06	-0.27	0.50
			Max Tension	26	2.19	0.00	0.00
			Max. Compression	20	-4.00	0.00	0.00
		Horizontal	Max. Mx	18	1.46	0.01	0.00
			Max. My	26	-1.58	0.00	0.00
			Max. Vy	18	-0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
			Max Tension	16	1.47	0.00	0.00
			Max. Compression	16	-1.47	0.00	0.00
		Top Girt	Max. Mx	19	1.38	0.01	0.00
			Max. My	26	1.47	0.00	-0.00
			Max. Vy	19	0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	24	0.45	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
		Bottom Girt	Max. Mx	14	0.24	0.01	0.00
			Max. My	2	0.28	0.00	-0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	2	0.00	0.00	0.00
			Max Tension	17	0.48	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
T10	120 - 100	Leg	Max. Mx	25	0.28	0.01	0.00
			Max. My	26	0.32	0.00	-0.00
			Max. Vy	25	0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
		Diagonal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	15	-94.37	-0.36	-0.60
			Max. Mx	24	-77.77	1.38	0.05
			Max. My	20	-85.30	-0.32	-1.37
			Max. Vy	5	-5.29	-0.58	-0.55
			Max. Vx	9	-4.68	0.75	-0.26
		Horizontal	Max Tension	9	8.29	0.00	0.00
			Max. Compression	11	-9.14	0.00	0.00
			Max. Mx	24	5.02	0.02	0.00
			Max. My	26	-4.22	0.00	0.00
			Max. Vy	24	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
		Top Girt	Max Tension	26	11.63	0.00	0.00
			Max. Compression	20	-9.97	0.00	0.00
			Max. Mx	17	1.58	0.01	0.00
			Max. My	26	1.47	0.00	-0.00
			Max. Vy	17	0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
		Bottom Girt	Max Tension	16	0.83	0.00	0.00
			Max. Compression	22	-0.07	0.00	0.00
			Max. Mx	25	0.28	0.01	0.00
			Max. My	26	0.62	0.00	-0.00
			Max. Vy	25	0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
		Bottom Girt	Max Tension	21	0.91	0.00	0.00
			Max. Compression	2	-0.14	0.00	0.00
			Max. Mx	17	0.11	0.01	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T11	100 - 80	Guy A	Max. My	26	0.72	0.00	-0.00
			Max. Vy	17	0.01	0.00	0.00
			Max. Vx	26	0.00	0.00	0.00
			Bottom Tension	21	14.06		
			Top Tension	21	14.19		
			Top Cable Vert	21	5.52		
			Top Cable Norm	21	13.08		
			Top Cable Tan	21	0.00		
			Bot Cable Vert	21	-5.06		
			Bot Cable Norm	21	13.12		
		Guy B	Bot Cable Tan	21	0.00		
			Bottom Tension	25	14.51		
			Top Tension	25	14.70		
			Top Cable Vert	25	7.45		
			Top Cable Norm	25	12.67		
			Top Cable Tan	25	0.00		
			Bot Cable Vert	25	-6.91		
			Bot Cable Norm	25	12.75		
			Bot Cable Tan	25	0.00		
		Guy C	Bottom Tension	17	14.55		
			Top Tension	17	14.74		
			Top Cable Vert	17	7.39		
			Top Cable Norm	17	12.76		
			Top Cable Tan	17	0.00		
			Bot Cable Vert	17	-6.85		
			Bot Cable Norm	17	12.84		
			Bot Cable Tan	17	0.00		
		Torque Arm Top	Max Tension	16	13.15	0.00	0.00
			Max. Compression	3	-5.66	0.00	0.00
			Max. Mx	17	-3.15	-27.43	-0.00
			Max. My	26	-2.09	-15.35	-0.00
			Max. Vy	17	7.41	-27.43	-0.00
		Leg	Max. Vx	26	-0.00	-15.35	-0.00
			Max Tension	2	3.46	-0.38	-0.02
			Max. Compression	17	-126.85	-0.44	-0.79
			Max. Mx	21	-116.94	-0.93	-0.02
			Max. My	20	-70.93	-0.11	0.89
		Diagonal	Max. Vy	5	-5.29	-0.14	-0.54
			Max. Vx	9	-4.68	0.53	0.13
			Max Tension	9	6.87	0.00	0.00
			Max. Compression	11	-8.08	0.00	0.00
			Max. Mx	26	-1.95	0.01	0.00
		Horizontal	Max. My	26	-1.77	0.00	0.00
			Max. Vy	26	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	17	2.16	0.00	0.00
			Max. Compression	17	-2.16	0.00	0.00
		Top Girt	Max. Mx	14	1.20	0.01	0.00
			Max. My	26	2.04	0.00	-0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	17	0.52	0.00	0.00
		Bottom Girt	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	17	0.44	0.01	0.00
			Max. My	26	0.31	0.00	-0.00
			Max. Vy	17	0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	16	0.67	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	14	0.35	0.01	0.00
			Max. My	26	0.56	0.00	-0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T12	80 - 60	Leg	Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	2	2.63	-0.40	-0.15
			Max. Compression	17	-127.03	0.52	0.76
			Max. Mx	18	-80.25	1.93	-0.14
			Max. My	15	-103.01	-1.05	-1.69
		Diagonal	Max. Vy	19	2.26	0.16	-0.03
			Max. Vx	15	-2.27	0.79	0.05
			Max Tension	9	2.57	0.00	0.00
			Max. Compression	16	-6.01	0.00	0.00
			Max. Mx	26	1.54	0.01	0.00
			Max. My	26	-0.19	0.00	0.00
		Horizontal	Max. Vy	26	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	17	2.20	0.00	0.00
			Max. Compression	17	-2.20	0.00	0.00
			Max. Mx	15	1.89	0.01	0.00
			Max. My	26	2.06	0.00	-0.00
		Top Girt	Max. Vy	15	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	25	0.60	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	14	0.35	0.01	0.00
			Max. My	26	0.53	0.00	-0.00
		Bottom Girt	Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	16	1.40	0.00	0.00
			Max. Compression	8	-0.11	0.00	0.00
			Max. Mx	14	0.54	0.01	0.00
			Max. My	26	0.27	0.00	-0.00
T13	60 - 40	Leg	Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	17	-133.94	-0.40	-0.85
			Max. Mx	11	-69.71	3.66	-0.19
			Max. My	7	-68.90	0.83	-3.60
		Diagonal	Max. Vy	24	4.02	-1.95	-0.17
			Max. Vx	7	-3.88	0.83	1.80
			Max Tension	11	2.58	0.00	0.00
			Max. Compression	8	-4.50	0.00	0.00
			Max. Mx	26	-1.50	0.01	0.00
			Max. My	26	-0.99	0.00	0.00
		Horizontal	Max. Vy	26	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	7	4.81	0.00	0.00
			Max. Compression	13	-2.68	0.00	0.00
			Max. Mx	14	1.31	0.01	0.00
			Max. My	26	2.16	0.00	-0.00
		Top Girt	Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	26	2.19	0.00	0.00
			Max. Compression	7	-0.85	0.00	0.00
			Max. Mx	14	0.65	0.01	0.00
			Max. My	26	0.66	0.00	-0.00
		Bottom Girt	Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
			Max Tension	21	0.57	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	14	0.38	0.01	0.00
			Max. My	26	0.51	0.00	-0.00
			Max. Vy	14	-0.01	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T14	40 - 20	Guy A	Max. Vx	26	-0.00	0.00	0.00
			Bottom Tension	21	6.58		
			Top Tension	21	6.63		
			Top Cable Vert	21	1.37		
			Top Cable Norm	21	6.49		
			Top Cable Tan	21	0.00		
			Bot Cable Vert	21	-1.12		
			Bot Cable Norm	21	6.49		
		Guy B	Bot Cable Tan	21	0.00		
			Bottom Tension	25	6.77		
			Top Tension	25	6.85		
			Top Cable Vert	25	2.41		
			Top Cable Norm	25	6.41		
			Top Cable Tan	25	0.00		
			Bot Cable Vert	25	-2.12		
			Bot Cable Norm	25	6.43		
		Guy C	Bot Cable Tan	25	0.00		
			Bottom Tension	17	6.76		
			Top Tension	17	6.84		
			Top Cable Vert	17	2.36		
			Top Cable Norm	17	6.42		
			Top Cable Tan	17	0.00		
			Bot Cable Vert	17	-2.07		
			Bot Cable Norm	17	6.44		
		Torque Arm Top	Bot Cable Tan	17	0.00		
			Max Tension	16	6.30	0.00	0.00
			Max. Compression	3	-2.76	0.00	0.00
			Max. Mx	17	-0.65	-10.84	0.00
			Max. My	26	4.41	-7.24	0.00
			Max. Vy	17	2.99	-10.84	0.00
			Max. Vx	26	0.00	-7.24	0.00
		Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	17	-133.95	-0.39	-0.85
			Max. Mx	21	-128.97	0.96	0.07
			Max. My	17	-132.60	-0.43	-0.89
			Max. Vy	5	2.65	-0.24	-0.62
			Max. Vx	3	-2.52	0.54	-0.09
		Diagonal	Max Tension	5	2.56	0.00	0.00
			Max. Compression	3	-4.81	0.00	0.00
			Max. Mx	26	0.99	0.01	0.00
			Max. My	2	-0.82	0.00	0.00
			Max. Vy	26	-0.01	0.00	0.00
			Max. Vx	2	-0.00	0.00	0.00
		Horizontal	Max Tension	17	2.31	0.00	0.00
			Max. Compression	17	-2.31	0.00	0.00
			Max. Mx	14	1.35	0.01	0.00
			Max. My	13	1.92	0.00	-0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	13	0.00	0.00	0.00
		Top Girt	Max Tension	17	0.56	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	14	0.37	0.01	0.00
			Max. My	26	0.51	0.00	-0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	26	-0.00	0.00	0.00
		Bottom Girt	Max Tension	18	0.50	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
			Max. Mx	14	0.38	0.01	0.00
			Max. My	13	0.32	0.00	-0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	13	0.00	0.00	0.00

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T15	20 - 6.5	Leg	Max Tension	1	0.00	0.00	0.00
			Max. Compression	17	-125.55	-0.55	-0.83
			Max. Mx	16	-106.24	-1.38	0.29
			Max. My	21	-106.61	-0.08	-1.38
			Max. Vy	17	13.66	-1.37	0.43
		Diagonal	Max. Vx	21	15.24	-0.08	-1.38
			Max Tension	6	5.87	0.00	0.00
			Max. Compression	2	-7.35	0.00	0.00
			Max. Mx	16	3.40	0.01	0.00
			Max. My	2	-0.46	0.00	0.00
		Horizontal	Max. Vy	16	-0.01	0.00	0.00
			Max. Vx	2	-0.00	0.00	0.00
			Max Tension	17	2.14	0.00	0.00
			Max. Compression	17	-2.14	0.00	0.00
			Max. Mx	14	1.37	0.01	0.00
		Top Girt	Max. My	13	1.70	0.00	-0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	13	0.00	0.00	0.00
			Max Tension	17	0.65	0.00	0.00
			Max. Compression	1	0.00	0.00	0.00
		Bottom Girt	Max. Mx	14	0.38	0.01	0.00
			Max. My	13	0.49	0.00	-0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	13	0.00	0.00	0.00
			Max Tension	25	8.30	0.00	0.00
T16	6.5 - 0	Leg	Max. Compression	1	0.00	0.00	0.00
			Max. Mx	14	6.00	0.01	0.00
			Max. My	13	4.67	0.00	-0.00
			Max. Vy	14	-0.01	0.00	0.00
			Max. Vx	13	0.00	0.00	0.00
		Horizontal	Max Tension	1	0.00	0.00	0.00
			Max. Compression	17	-115.01	0.08	-0.01
			Max. Mx	17	-114.45	1.32	0.25
			Max. My	13	-86.76	-0.20	-1.06
			Max. Vy	17	1.14	-0.62	0.16
			Max. Vx	13	0.49	-0.17	-1.06
			Max Tension	25	11.92	0.00	0.00
			Max. Compression	17	-0.29	-0.07	-0.00
			Max. Mx	13	-0.07	-0.46	-0.03
			Max. My	13	-0.07	-0.46	-0.03
			Max. Vy	13	0.92	-0.45	-0.03
			Max. Vx	13	0.06	-0.46	-0.03

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Mast	Max. Vert	25	294.56	2.32	1.36
	Max. H _x	11	211.04	4.65	-0.11
	Max. H _z	2	210.97	-0.27	5.08
	Max. M _x	1	0.00	-0.03	0.02
	Max. M _z	1	0.00	-0.03	0.02
	Max. Torsion	13	2.05	2.10	4.16
	Min. Vert	1	179.27	-0.03	0.02
	Min. H _x	5	210.99	-4.81	0.14
	Min. H _z	8	210.05	-0.02	-4.60

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Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Guy C @ 231 ft Elev -21 ft Azimuth 240 deg	Min. M _x	1	0.00	-0.03	0.02
	Min. M _z	1	0.00	-0.03	0.02
	Min. Torsion	7	-1.65	-2.39	-4.03
	Max. Vert	10	-16.24	-11.92	6.88
	Max. H _x	10	-16.24	-11.92	6.88
	Max. H _z	17	-103.70	-108.83	62.86
	Min. Vert	17	-103.70	-108.83	62.86
	Min. H _x	17	-103.70	-108.83	62.86
	Min. H _z	10	-16.24	-11.92	6.88
	Max. Vert	6	-16.17	11.76	6.79
Guy B @ 231 ft Elev -23 ft Azimuth 120 deg	Max. H _x	25	-104.79	108.63	62.71
	Max. H _z	25	-104.79	108.63	62.71
	Min. Vert	25	-104.79	108.63	62.71
	Min. H _x	6	-16.17	11.76	6.79
	Min. H _z	6	-16.17	11.76	6.79
	Max. Vert	2	-12.43	-0.01	-12.67
	Max. H _x	24	-53.00	6.26	-73.59
	Max. H _z	2	-12.43	-0.01	-12.67
	Min. Vert	21	-87.48	0.02	-127.71
	Min. H _x	18	-53.56	-6.27	-74.21
Guy A @ 231 ft Elev 14 ft Azimuth 0 deg	Min. H _z	21	-87.48	0.02	-127.71

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	179.27	0.03	-0.02	0.00	0.00	-0.12
Dead+Wind 0 deg - No Ice+Guy	210.97	0.27	-5.08	0.00	0.00	-1.75
Dead+Wind 30 deg - No Ice+Guy	214.55	2.48	-4.15	0.00	0.00	-1.30
Dead+Wind 60 deg - No Ice+Guy	214.30	4.10	-2.42	0.00	0.00	-0.36
Dead+Wind 90 deg - No Ice+Guy	210.99	4.81	-0.14	0.00	0.00	0.20
Dead+Wind 120 deg - No Ice+Guy	204.38	4.54	2.33	0.00	0.00	1.12
Dead+Wind 150 deg - No Ice+Guy	207.95	2.39	4.03	0.00	0.00	1.65
Dead+Wind 180 deg - No Ice+Guy	210.05	0.02	4.60	0.00	0.00	1.28
Dead+Wind 210 deg - No Ice+Guy	208.05	-2.45	4.06	0.00	0.00	0.54
Dead+Wind 240 deg - No Ice+Guy	204.57	-4.40	2.51	0.00	0.00	-0.16
Dead+Wind 270 deg - No Ice+Guy	211.04	-4.65	0.11	0.00	0.00	-1.03
Dead+Wind 300 deg - No Ice+Guy	214.60	-3.93	-2.24	0.00	0.00	-1.67
Dead+Wind 330 deg - No	214.33	-2.10	-4.16	0.00	0.00	-2.05

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<i>Load Combination</i>	<i>Vertical K</i>	<i>Shear_x K</i>	<i>Shear_z K</i>	<i>Overturning Moment, M_x kip-ft</i>	<i>Overturning Moment, M_z kip-ft</i>	<i>Torque kip-ft</i>
Ice+Guy						
Dead+Ice+Temp+Guy	239.56	0.06	-0.04	0.00	0.00	-0.16
Dead+Wind 0	283.09	0.25	-2.78	0.00	0.00	-1.33
deg+Ice+Temp+Guy						
Dead+Wind 30	290.02	1.69	-2.20	0.00	0.00	-0.94
deg+Ice+Temp+Guy						
Dead+Wind 60	294.32	2.53	-1.51	0.00	0.00	-0.50
deg+Ice+Temp+Guy						
Dead+Wind 90	286.67	2.72	-0.41	0.00	0.00	-0.30
deg+Ice+Temp+Guy						
Dead+Wind 120	275.22	2.62	1.29	0.00	0.00	0.64
deg+Ice+Temp+Guy						
Dead+Wind 150	283.30	1.15	2.46	0.00	0.00	1.14
deg+Ice+Temp+Guy						
Dead+Wind 180	289.09	0.04	2.89	0.00	0.00	0.73
deg+Ice+Temp+Guy						
Dead+Wind 210	283.39	-1.14	2.48	0.00	0.00	0.15
deg+Ice+Temp+Guy						
Dead+Wind 240	275.58	-2.44	1.43	0.00	0.00	-0.20
deg+Ice+Temp+Guy						
Dead+Wind 270	286.88	-2.54	-0.19	0.00	0.00	-0.68
deg+Ice+Temp+Guy						
Dead+Wind 300	294.56	-2.32	-1.36	0.00	0.00	-1.20
deg+Ice+Temp+Guy						
Dead+Wind 330	290.11	-1.30	-2.21	0.00	0.00	-1.69
deg+Ice+Temp+Guy						
Dead+Wind 0 deg - Service+Guy	183.99	0.11	-1.73	0.00	0.00	-0.62
Dead+Wind 30 deg - Service+Guy	183.41	0.91	-1.47	0.00	0.00	-0.47
Dead+Wind 60 deg - Service+Guy	182.81	1.48	-0.88	0.00	0.00	-0.18
Dead+Wind 90 deg - Service+Guy	182.54	1.71	-0.09	0.00	0.00	-0.00
Dead+Wind 120 deg - Service+Guy	182.46	1.53	0.76	0.00	0.00	0.27
Dead+Wind 150 deg - Service+Guy	181.96	0.83	1.41	0.00	0.00	0.42
Dead+Wind 180 deg - Service+Guy	181.75	0.02	1.62	0.00	0.00	0.31
Dead+Wind 210 deg - Service+Guy	181.99	-0.82	1.41	0.00	0.00	0.11
Dead+Wind 240 deg - Service+Guy	182.51	-1.45	0.82	0.00	0.00	-0.13
Dead+Wind 270 deg - Service+Guy	182.60	-1.62	0.00	0.00	0.00	-0.41
Dead+Wind 300 deg - Service+Guy	182.83	-1.40	-0.82	0.00	0.00	-0.57
Dead+Wind 330 deg - Service+Guy	183.39	-0.75	-1.47	0.00	0.00	-0.70

Solution Summary

<i>Load Comb.</i>	<i>Sum of Applied Forces</i>			<i>Sum of Reactions</i>			<i>% Error</i>
	<i>PX K</i>	<i>PY K</i>	<i>PZ K</i>	<i>PX K</i>	<i>PY K</i>	<i>PZ K</i>	
1	0.00	-67.36	0.00	-0.00	67.36	-0.00	0.001%
2	0.24	-68.41	-75.70	-0.24	68.41	75.70	0.001%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
3	37.04	-67.57	-65.78	-37.04	67.57	65.77	0.003%
4	64.56	-66.69	-37.85	-64.56	66.69	37.84	0.002%
5	75.12	-67.35	0.25	-75.11	67.35	-0.25	0.004%
6	64.92	-68.01	37.70	-64.91	68.01	-37.70	0.001%
7	37.02	-67.14	65.55	-37.02	67.14	-65.55	0.001%
8	0.01	-66.31	75.43	-0.01	66.31	-75.43	0.002%
9	-36.75	-67.15	65.65	36.75	67.15	-65.65	0.003%
10	-64.27	-68.03	37.92	64.26	68.03	-37.92	0.001%
11	-74.88	-67.37	-0.82	74.88	67.37	0.82	0.001%
12	-64.72	-66.71	-37.68	64.72	66.71	37.68	0.005%
13	-37.18	-67.58	-65.39	37.19	67.58	65.38	0.003%
14	0.00	-104.00	0.00	-0.00	104.00	-0.00	0.001%
15	0.53	-105.95	-88.95	-0.53	105.95	88.95	0.003%
16	43.34	-104.40	-76.18	-43.34	104.40	76.17	0.002%
17	74.84	-102.77	-43.63	-74.84	102.77	43.62	0.006%
18	87.63	-103.98	-0.23	-87.63	103.98	0.23	0.002%
19	76.62	-105.20	44.22	-76.62	105.20	-44.21	0.003%
20	43.25	-103.59	75.76	-43.24	103.59	-75.76	0.002%
21	0.20	-102.05	86.67	-0.20	102.05	-86.67	0.002%
22	-42.98	-103.61	75.88	42.98	103.61	-75.88	0.002%
23	-76.13	-105.23	44.43	76.13	105.23	-44.43	0.003%
24	-87.19	-104.02	-0.56	87.19	104.02	0.56	0.002%
25	-74.68	-102.81	-43.20	74.68	102.81	43.20	0.004%
26	-42.87	-104.41	-76.03	42.87	104.41	76.02	0.002%
27	0.08	-67.72	-26.19	-0.08	67.72	26.19	0.004%
28	12.82	-67.43	-22.76	-12.82	67.43	22.76	0.002%
29	22.34	-67.13	-13.10	-22.33	67.13	13.09	0.013%
30	25.99	-67.36	0.09	-25.99	67.36	-0.08	0.005%
31	22.46	-67.59	13.05	-22.46	67.59	-13.05	0.002%
32	12.81	-67.29	22.68	-12.81	67.29	-22.68	0.005%
33	0.00	-67.00	26.10	-0.00	67.00	-26.10	0.004%
34	-12.72	-67.29	22.72	12.71	67.29	-22.71	0.005%
35	-22.24	-67.59	13.12	22.24	67.59	-13.12	0.002%
36	-25.91	-67.36	-0.28	25.91	67.36	0.28	0.005%
37	-22.40	-67.14	-13.04	22.39	67.14	13.04	0.003%
38	-12.87	-67.44	-22.63	12.87	67.44	22.62	0.002%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	9	0.00000001	0.00003805
2	Yes	15	0.00000001	0.00005404
3	Yes	14	0.00000001	0.00011288
4	Yes	12	0.00000001	0.00006101
5	Yes	13	0.00010299	0.00013966
6	Yes	14	0.00000001	0.00006674
7	Yes	14	0.00000001	0.00005644
8	Yes	10	0.00000001	0.00007218
9	Yes	13	0.00000001	0.00013485
10	Yes	14	0.00000001	0.00006125
11	Yes	14	0.00000001	0.00005422
12	Yes	11	0.00009908	0.00011963
13	Yes	14	0.00000001	0.00013669
14	Yes	9	0.00000001	0.00002938
15	Yes	14	0.00010793	0.00012183

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16	Yes	14	0.00000001	0.00009178
17	Yes	11	0.00013241	0.00014585
18	Yes	13	0.00000001	0.00008597
19	Yes	13	0.00011582	0.00012427
20	Yes	13	0.00000001	0.00010829
21	Yes	10	0.00000001	0.00013913
22	Yes	13	0.00000001	0.00009509
23	Yes	13	0.00012611	0.00013034
24	Yes	13	0.00000001	0.00009246
25	Yes	11	0.00009810	0.00011777
26	Yes	14	0.00000001	0.00010787
27	Yes	10	0.00000001	0.00012019
28	Yes	10	0.00000001	0.00006933
29	Yes	8	0.00000001	0.00014479
30	Yes	9	0.00000001	0.00014710
31	Yes	10	0.00000001	0.00006839
32	Yes	9	0.00000001	0.00013840
33	Yes	8	0.00000001	0.00008830
34	Yes	9	0.00000001	0.00013952
35	Yes	10	0.00000001	0.00006882
36	Yes	9	0.00000001	0.00014601
37	Yes	9	0.00000001	0.00004692
38	Yes	10	0.00000001	0.00006821

Maximum Tower Deflections - Service Wind

<i>Section No.</i>	<i>Elevation ft</i>	<i>Horz. Deflection in</i>	<i>Gov. Load Comb.</i>	<i>Tilt °</i>	<i>Twist °</i>
L1	317 - 287	1.156	37	0.0351	0.0735
T1	287 - 280	1.137	37	0.0693	0.0664
T2	280 - 260	1.215	37	0.0739	0.0678
T3	260 - 240	1.447	37	0.0784	0.0552
T4	240 - 220	1.671	37	0.0693	0.0621
T5	220 - 200	1.805	37	0.0550	0.0624
T6	200 - 180	1.919	37	0.0435	0.0762
T7	180 - 160	1.927	37	0.0173	0.0802
T8	160 - 140	1.885	37	0.0228	0.0865
T9	140 - 120	1.900	27	0.0188	0.1076
T10	120 - 100	1.927	27	0.0119	0.1258
T11	100 - 80	1.922	27	0.0108	0.1232
T12	80 - 60	1.875	27	0.0332	0.1224
T13	60 - 40	1.642	27	0.0732	0.1139
T14	40 - 20	1.262	27	0.1123	0.1316
T15	20 - 6.5	0.699	27	0.1509	0.1309
T16	6.5 - 0	0.233	27	0.1662	0.1088

Critical Deflections and Radius of Curvature - Service Wind

<i>Elevation ft</i>	<i>Appurtenance</i>	<i>Gov. Load Comb.</i>	<i>Deflection in</i>	<i>Tilt °</i>	<i>Twist °</i>	<i>Radius of Curvature ft</i>
322.00	Lightning Rod 5/8"x4'	37	1.156	0.0351	0.0735	73312
321.00	Flash Beacon Lighting	37	1.156	0.0351	0.0735	73312
305.00	1 bay FM antenna	37	1.100	0.0406	0.0840	30547
283.50	Guy	37	1.173	0.0720	0.0593	22171

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<i>Elevation</i>	<i>Appurtenance</i>	<i>Gov. Load Comb.</i>	<i>Deflection in</i>	<i>Tilt °</i>	<i>Twist °</i>	<i>Radius of Curvature ft</i>
<i>ft</i>						
274.00	6' Omni	37	1.285	0.0766	0.0713	47281
257.00	15' Omni	37	1.483	0.0777	0.0539	104825
256.61	Guy	37	1.487	0.0776	0.0538	113661
235.00	(4) DB844H90E-XY w/Mount Pipe	37	1.711	0.0655	0.0625	43390
216.61	Guy	37	1.827	0.0535	0.0638	237876
210.00	1 bay FM antenna	37	1.869	0.0509	0.0685	76991
197.00	1 bay FM antenna	37	1.928	0.0397	0.0777	32595
185.00	7770.00 w/ Mount Pipe	37	1.935	0.0220	0.0799	51256
172.00	DB872H120-X w/Mount Pipe	37	1.909	0.0169	0.0812	636735
171.00	3' Grid Dish	37	1.906	0.0173	0.0815	307724
166.69	Guy	37	1.896	0.0195	0.0828	86780
158.00	18"x12"x4"	37	1.884	0.0233	0.0880	51014
156.00	Side Lights	37	1.883	0.0236	0.0897	61670
125.00	7' Ice Shield	27	1.925	0.0122	0.1232	111793
120.00	Side Arm Mount [SO 602-1]	27	1.927	0.0119	0.1258	197162
117.00	5' Ice Shield	27	1.927	0.0115	0.1263	245062
116.00	6' Dish	27	1.926	0.0113	0.1263	235120
111.00	10' Omni	27	1.925	0.0104	0.1256	203812
106.69	Guy	27	1.924	0.0099	0.1245	179972
104.00	6' Dish	27	1.923	0.0100	0.1238	158840
95.00	5' Grid Dish	27	1.920	0.0135	0.1234	82186
92.00	2' Yagi	27	1.917	0.0159	0.1238	48949
83.00	(2) 4'x8"x9.5" Panel	27	1.892	0.0274	0.1236	22231
71.00	2' Dipole	27	1.793	0.0511	0.1175	25553
58.00	Guy	27	1.610	0.0771	0.1146	41195
18.00	6' Yagi	27	0.633	0.1536	0.1280	34511
13.00	4' Dish	27	0.462	0.1594	0.1186	54368

Maximum Tower Deflections - Design Wind

<i>Section No.</i>	<i>Elevation ft</i>	<i>Horz. Deflection in</i>	<i>Gov. Load Comb.</i>	<i>Tilt °</i>	<i>Twist °</i>
L1	317 - 287	6.847	25	0.1398	0.3432
T1	287 - 280	6.718	25	0.3044	0.3191
T2	280 - 260	6.923	25	0.3150	0.3205
T3	260 - 240	7.526	25	0.3295	0.2802
T4	240 - 220	8.081	25	0.3032	0.2770
T5	220 - 200	8.315	25	0.2722	0.2631
T6	200 - 180	8.435	25	0.2365	0.2721
T7	180 - 160	8.187	25	0.1702	0.2740
T8	160 - 140	7.793	25	0.1800	0.2886
T9	140 - 120	7.871	15	0.1280	0.3496
T10	120 - 100	8.164	2	0.1205	0.4042
T11	100 - 80	8.214	2	0.1128	0.4044
T12	80 - 60	7.903	2	0.2048	0.4142
T13	60 - 40	6.840	2	0.3279	0.3882
T14	40 - 20	5.160	2	0.4799	0.4180
T15	20 - 6.5	2.811	2	0.6169	0.4146
T16	6.5 - 0	0.932	2	0.6689	0.3624

Critical Deflections and Radius of Curvature - Design Wind

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<i>Elevation</i>	<i>Appurtenance</i>	<i>Gov. Load Comb.</i>	<i>Deflection</i>	<i>Tilt</i>	<i>Twist</i>	<i>Radius of Curvature</i>
<i>ft</i>			<i>in</i>	<i>°</i>	<i>°</i>	<i>ft</i>
322.00	Lightning Rod 5/8"x4'	25	6.847	0.1398	0.3432	17055
321.00	Flash Beacon Lighting	25	6.847	0.1398	0.3432	17055
305.00	1 bay FM antenna	25	6.657	0.2063	0.3759	7106
283.50	Guy	25	6.813	0.3109	0.2946	6222
274.00	6' Omni	25	7.108	0.3217	0.3321	30707
257.00	15' Omni	25	7.618	0.3280	0.2733	32335
256.61	Guy	25	7.630	0.3277	0.2727	35214
235.00	(4) DB844H90E-XY w/Mount Pipe	25	8.165	0.2942	0.2758	12705
216.61	Guy	25	8.346	0.2691	0.2627	20018
210.00	1 bay FM antenna	25	8.403	0.2623	0.2656	19437
197.00	1 bay FM antenna	25	8.423	0.2280	0.2732	9137
185.00	7770.00 w/ Mount Pipe	25	8.278	0.1826	0.2737	13961
172.00	DB872H120-X w/Mount Pipe	25	8.023	0.1697	0.2769	41213
171.00	3' Grid Dish	25	8.002	0.1707	0.2775	49191
166.69	Guy	25	7.915	0.1758	0.2809	24876
158.00	18"x12"x4"	25	7.762	0.1790	0.2921	16071
156.00	Side Lights	25	7.734	0.1767	0.2972	19140
125.00	7' Ice Shield	2	8.106	0.1181	0.3963	13205
120.00	Side Arm Mount [SO 602-1]	2	8.164	0.1205	0.4042	15226
117.00	5' Ice Shield	2	8.189	0.1192	0.4060	16041
116.00	6' Dish	2	8.196	0.1184	0.4061	16290
111.00	10' Omni	2	8.220	0.1130	0.4045	17608
106.69	Guy	2	8.226	0.1103	0.4012	18924
104.00	6' Dish	2	8.225	0.1097	0.4022	19830
95.00	5' Grid Dish	2	8.185	0.1254	0.4086	11844
92.00	2' Yagi	2	8.157	0.1362	0.4113	9339
83.00	(2) 4'x8"x9.5" Panel	2	7.993	0.1868	0.4155	5736
71.00	2' Dipole	2	7.515	0.2581	0.4013	6418
58.00	Guy	2	6.698	0.3434	0.3886	9017
18.00	6' Yagi	2	2.543	0.6263	0.4086	10191
13.00	4' Dish	2	1.854	0.6461	0.3898	16254

Bolt Design Data

<i>Section No.</i>	<i>Elevation</i>	<i>Component Type</i>	<i>Bolt Grade</i>	<i>Bolt Size</i>	<i>Number Of Bolts</i>	<i>Maximum Load per Bolt K</i>	<i>Allowable Load K</i>	<i>Ratio Load Allowable</i>	<i>Allowable Ratio</i>	<i>Criteria</i>
	<i>ft</i>			<i>in</i>						
T1	287	Leg	A325N	1.0000	4	0.00	34.56	0.000 ✓	1.333	Bolt Tension
T2	280	Leg	A325N	1.0000	4	0.00	34.55	0.000 ✓	1.333	Bolt Tension
T3	260	Leg	A325N	1.0000	4	0.00	34.56	0.000 ✓	1.333	Bolt Tension
T4	240	Leg	A325N	1.0000	4	0.00	34.55	0.000 ✓	1.333	Bolt Tension
T5	220	Leg	A325N	1.0000	4	0.00	34.56	0.000 ✓	1.333	Bolt Tension
T6	200	Leg	A325N	1.0000	4	0.00	34.53	0.000 ✓	1.333	Bolt Tension
T7	180	Leg	A325N	1.0000	4	0.00	34.54	0.000 ✓	1.333	Bolt Tension
T8	160	Leg	A325N	1.0000	4	0.00	34.56	0.000 ✓	1.333	Bolt Tension
T9	140	Leg	A325N	1.0000	4	0.00	34.56	0.000 ✓	1.333	Bolt Tension
T10	120	Leg	A325N	1.2500	4	0.00	53.98	0.000 ✓	1.333	Bolt Tension
T11	100	Leg	A325N	1.2500	4	0.56	54.00	0.010 ✓	1.333	Bolt Tension
T12	80	Leg	A325N	1.2500	4	0.00	53.99	0.000 ✓	1.333	Bolt Tension

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load Allowable	Allowable Ratio	Criteria
T13	60	Leg	A325N	1.2500	4	0.00	54.00	0.000 ✓	1.333	Bolt Tension
T14	40	Leg	A325N	1.2500	4	0.00	53.99	0.000 ✓	1.333	Bolt Tension

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T K	Allowable T _a K	Required S.F.	Actual S.F.
T1	283.50 (A) (679)	3/4 EHS	5.83	58.30	13.35	29.15	2.000	4.366 ✓
	283.50 (A) (680)	3/4 EHS	5.83	58.30	13.54	29.15	2.000	4.307 ✓
	283.50 (B) (675)	3/4 EHS	5.83	58.30	14.35	29.15	2.000	4.064 ✓
	283.50 (B) (676)	3/4 EHS	5.83	58.30	14.24	29.15	2.000	4.093 ✓
	283.50 (C) (671)	3/4 EHS	5.83	58.30	14.12	29.15	2.000	4.129 ✓
	283.50 (C) (672)	3/4 EHS	5.83	58.30	14.09	29.15	2.000	4.137 ✓
T3	256.61 (A) (667)	3/4 EHS	5.83	58.30	14.04	29.15	2.000	4.151 ✓
	256.61 (A) (668)	3/4 EHS	5.83	58.30	14.20	29.15	2.000	4.105 ✓
	256.61 (B) (663)	3/4 EHS	5.83	58.30	15.10	29.15	2.000	3.861 ✓
	256.61 (B) (664)	3/4 EHS	5.83	58.30	15.02	29.15	2.000	3.882 ✓
	256.61 (C) (659)	3/4 EHS	5.83	58.30	14.93	29.15	2.000	3.904 ✓
	256.61 (C) (660)	3/4 EHS	5.83	58.30	14.87	29.15	2.000	3.921 ✓
T5	216.61 (A) (655)	3/4 EHS	5.83	58.30	15.51	29.15	2.000	3.759 ✓
	216.61 (A) (656)	3/4 EHS	5.83	58.30	15.72	29.15	2.000	3.708 ✓
	216.61 (B) (651)	3/4 EHS	5.83	58.30	16.59	29.15	2.000	3.514 ✓
	216.61 (B) (652)	3/4 EHS	5.83	58.30	16.55	29.15	2.000	3.523 ✓
	216.61 (C) (647)	3/4 EHS	5.83	58.30	16.59	29.15	2.000	3.515 ✓
	216.61 (C) (648)	3/4 EHS	5.83	58.30	16.39	29.15	2.000	3.557 ✓
T7	166.69 (A) (643)	3/4 EHS	5.83	58.30	16.97	29.15	2.000	3.435 ✓
	166.69 (A) (644)	3/4 EHS	5.83	58.30	17.18	29.15	2.000	3.394 ✓
	166.69 (B) (639)	3/4 EHS	5.83	58.30	18.04	29.15	2.000	3.232 ✓
	166.69 (B) (640)	3/4 EHS	5.83	58.30	17.88	29.15	2.000	3.261 ✓
	166.69 (C)	3/4 EHS	5.83	58.30	18.15	29.15	2.000	3.212 ✓

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Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T K	Allowable T_a K	Required S.F.	Actual S.F.
T10	(635) 166.69 (C)	3/4 EHS	5.83	58.30	17.78	29.15	2.000	3.279 ✓
	(636) 106.69 (A)	5/8 EHS	4.24	42.40	13.84	21.20	2.000	3.064 ✓
	(631) 106.69 (A)	5/8 EHS	4.24	42.40	14.19	21.20	2.000	2.987 ✓
	(632) 106.69 (B)	5/8 EHS	4.24	42.40	14.70	21.20	2.000	2.884 ✓
	(627) 106.69 (B)	5/8 EHS	4.24	42.40	14.29	21.20	2.000	2.967 ✓
	(628) 106.69 (C)	5/8 EHS	4.24	42.40	14.74	21.20	2.000	2.876 ✓
	(623) 106.69 (C)	5/8 EHS	4.24	42.40	14.46	21.20	2.000	2.932 ✓
T13	(624) 58.00 (A)	7/16 EHS	2.08	20.80	6.38	10.40	2.000	3.260 ✓
	(619) 58.00 (A)	7/16 EHS	2.08	20.80	6.63	10.40	2.000	3.138 ✓
	(620) 58.00 (B) (615)	7/16 EHS	2.08	20.80	6.85	10.40	2.000	3.036 ✓
	58.00 (B) (616)	7/16 EHS	2.08	20.80	6.64	10.40	2.000	3.131 ✓
	58.00 (C) (611)	7/16 EHS	2.08	20.80	6.84	10.40	2.000	3.042 ✓
	58.00 (C) (612)	7/16 EHS	2.08	20.80	6.78	10.40	2.000	3.070 ✓

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in ²	Actual P K	Allow. P_a K	Ratio $\frac{P}{P_a}$
L1	317 - 287 (1)	P12x.5	30.00	30.00	83.1	14.723	19.2423	-2.28	283.30	0.008

Pole Bending Design Data

Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
L1	317 - 287 (1)	P12x.5	24.33	-5.149	23.100	0.223	0.00	0.000	23.100	0.000

Pole Interaction Design Data

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Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	317 - 287 (1)	P12x.5	0.008	0.223	0.000	0.231 ✓	1.066	H1-3 ✓

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	Mast Stability Index	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T1	287 - 280	2	7.00	3.42	82.0 K=1.00	1.00	18.610	3.1416	-20.70	58.46	0.354
T2	280 - 260	2	20.00	3.31	79.3 K=1.00	1.00	19.145	3.1416	-21.56	60.15	0.359
T3	260 - 240	2 1/4	20.00	3.31	70.5 K=1.00	1.00	20.842	3.9761	-52.87	82.87	0.638
T4	240 - 220	2 1/4	20.00	3.31	70.5 K=1.00	1.00	20.842	3.9761	-55.05	82.87	0.664
T5	220 - 200	2 1/2	20.00	3.31	63.5 K=1.00	1.00	22.117	4.9087	-75.82	108.57	0.698
T6	200 - 180	2 1/2	20.00	3.31	63.5 K=1.00	1.00	22.117	4.9087	-78.74	108.57	0.725
T7	180 - 160	2 3/4	20.00	3.31	57.7 K=1.00	1.00	23.107	5.9396	-80.19	137.24	0.584
T8	160 - 140	2 1/2	20.00	3.31	63.5 K=1.00	1.00	22.117	4.9087	-83.95	108.57	0.773
T9	140 - 120	2 3/4	20.00	3.31	57.7 K=1.00	1.00	23.107	5.9396	-85.04	137.24	0.620
T10	120 - 100	2 3/4	20.00	3.31	57.7 K=1.00	1.00	23.107	5.9396	-93.66	137.24	0.682
T11	100 - 80	3	20.00	3.31	52.9 K=1.00	1.00	23.894	7.0686	-124.93	168.90	0.740
T12	80 - 60	3	20.00	3.31	52.9 K=1.00	1.00	23.894	7.0686	-127.03	168.90	0.752
T13	60 - 40	3	20.00	3.31	52.9 K=1.00	1.00	23.894	7.0686	-132.78	168.90	0.786
T14	40 - 20	3	20.00	3.31	52.9 K=1.00	1.00	23.894	7.0686	-133.26	168.90	0.789
T15	20 - 6.5	3	13.50	3.33	53.3 K=1.00	1.00	23.823	7.0686	-123.29	168.39	0.732
T16	6.5 - 0	3	6.84	1.71	27.3 K=1.00	0.96	26.283	7.0686	-115.01	185.79	0.619

Leg Bending Design Data (Compression)

Section No.	Elevation ft	Size	Actual M _x kip-ft	Actual f _{bx} ksi	Allow. F _{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M _y kip-ft	Actual f _{by} ksi	Allow. F _{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
T1	287 - 280	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T2	280 - 260	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T3	260 - 240	2 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T4	240 - 220	2 1/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000

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Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
T5	220 - 200	2 1/2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T6	200 - 180	2 1/2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T7	180 - 160	2 3/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T8	160 - 140	2 1/2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T9	140 - 120	2 3/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T10	120 - 100	2 3/4	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T11	100 - 80	3	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T12	80 - 60	3	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T13	60 - 40	3	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T14	40 - 20	3	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T15	20 - 6.5	3	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T16	6.5 - 0	3	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000

Leg Interaction Design Data (Compression)

Section No.	Elevation ft	Size	Ratio P P_a	Ratio f_{bx} F_{bx}	Ratio f_{by} F_{by}	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	287 - 280	2	0.354	0.000	0.000	0.354	1.333	H1-3 ✓
T2	280 - 260	2	0.359	0.000	0.000	0.359	1.333	H1-3 ✓
T3	260 - 240	2 1/4	0.638	0.000	0.000	0.638	1.333	H1-3 ✓
T4	240 - 220	2 1/4	0.664	0.000	0.000	0.664	1.333	H1-3 ✓
T5	220 - 200	2 1/2	0.698	0.000	0.000	0.698	1.333	H1-3 ✓
T6	200 - 180	2 1/2	0.725	0.000	0.000	0.725	1.333	H1-3 ✓
T7	180 - 160	2 3/4	0.584	0.000	0.000	0.584	1.333	H1-3 ✓
T8	160 - 140	2 1/2	0.773	0.000	0.000	0.773	1.333	H1-3 ✓
T9	140 - 120	2 3/4	0.620	0.000	0.000	0.620	1.333	H1-3 ✓
T10	120 - 100	2 3/4	0.682	0.000	0.000	0.682	1.333	H1-3 ✓
T11	100 - 80	3	0.740	0.000	0.000	0.740	1.333	H1-3 ✓
T12	80 - 60	3	0.752	0.000	0.000	0.752	1.333	H1-3 ✓
T13	60 - 40	3	0.786	0.000	0.000	0.786	1.333	H1-3 ✓
T14	40 - 20	3	0.789	0.000	0.000	0.789	1.333	H1-3 ✓
T15	20 - 6.5	3	0.732	0.000	0.000	0.732	1.333	H1-3 ✓
T16	6.5 - 0	3	0.619	0.000	0.000	0.619	1.333	H1-3 ✓

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Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T1	287 - 280	1 3/8	5.01	4.78	116.9 K=0.70	10.721	1.4849	-1.38	15.92	0.087
T2	280 - 260	1 3/8	4.94	4.71	115.2 K=0.70	10.966	1.4849	-1.60	16.28	0.098
T3	260 - 240	1 3/8	4.94	4.68	114.5 K=0.70	11.061	1.4849	-3.76	16.42	0.229
T4	240 - 220	1 3/8	4.94	4.68	114.5 K=0.70	11.061	1.4849	-4.46	16.42	0.271
T5	220 - 200	1 1/4	4.94	4.66	125.2 K=0.70	9.530	1.2272	-5.85	11.69	0.500
T6	200 - 180	1 1/4	4.94	4.66	125.2 K=0.70	9.530	1.2272	-7.53	11.69	0.644
T7	180 - 160	1 1/2	4.94	4.63	103.7 K=0.70	12.507	1.7672	-9.56	22.10	0.433
T8	160 - 140	1 3/8	4.94	4.66	113.8 K=0.70	11.156	1.4849	-6.17	16.57	0.373
T9	140 - 120	1 1/4	4.94	4.63	124.4 K=0.70	9.641	1.2272	-4.00	11.83	0.338
T10	120 - 100	1 1/2	4.94	4.63	103.7 K=0.70	12.507	1.7672	-9.14	22.10	0.414
T11	100 - 80	1 3/8	4.94	4.60	112.4 K=0.70	11.344	1.4849	-8.08	16.84	0.480
T12	80 - 60	1 1/4	4.94	4.60	123.7 K=0.70	9.752	1.2272	-6.01	11.97	0.502
T13	60 - 40	1 1/4	4.94	4.60	123.7 K=0.70	9.752	1.2272	-4.50	11.97	0.376
T14	40 - 20	1 1/4	4.94	4.60	123.7 K=0.70	9.752	1.2272	-4.81	11.97	0.402
T15	20 - 6.5	1 1/4	4.96	4.62	124.1 K=0.70	9.684	1.2272	-7.35	11.88	0.619

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T1	287 - 280	1	3.67	3.50	117.6 K=0.70	10.622	0.7854	-1.92	8.34	0.230
T2	280 - 260	1	3.67	3.50	117.6 K=0.70	10.622	0.7854	-0.41	8.34	0.050
T3	260 - 240	1	3.67	3.48	116.9 K=0.70	10.721	0.7854	-3.27	8.42	0.388
T4	240 - 220	1	3.67	3.48	116.9 K=0.70	10.721	0.7854	-0.95	8.42	0.113
T5	220 - 200	1	3.67	3.46	116.2	10.819	0.7854	-7.02	8.50	0.826

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T6	200 - 180	1	3.67	3.46	K=0.70 116.2	10.819	0.7854	-1.48	8.50	0.174 ✓
T7	180 - 160	1	3.67	3.44	K=0.70 115.5	10.917	0.7854	-10.07	8.57	1.174 ✓
T8	160 - 140	1	3.67	3.46	K=0.70 116.2	10.819	0.7854	-1.45	8.50	0.171 ✓
T9	140 - 120	1	3.67	3.44	K=0.70 115.5	10.917	0.7854	-1.47	8.57	0.172 ✓
T10	120 - 100	1	3.67	3.44	K=0.70 115.5	10.917	0.7854	-9.97	8.57	1.163 ✓
T11	100 - 80	1	3.67	3.42	K=0.70 114.8	11.014	0.7854	-2.16	8.65	0.250 ✓
T12	80 - 60	1	3.67	3.42	K=0.70 114.8	11.014	0.7854	-2.20	8.65	0.254 ✓
T13	60 - 40	1	3.67	3.42	K=0.70 114.8	11.014	0.7854	-2.68	8.65	0.309 ✓
T14	40 - 20	1	3.67	3.42	K=0.70 114.8	11.014	0.7854	-2.31	8.65	0.267 ✓
T15	20 - 6.5	1	3.67	3.42	K=0.70 114.8	11.014	0.7854	-2.14	8.65	0.247 ✓
T16	6.5 - 0	3x3/8	1.83	1.58	K=0.70 175.5 K=1.00	4.847	1.1250	-0.29	5.45	0.053 ✓

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T4	240 - 220	1	3.67	3.48	116.9 K=0.70	10.721	0.7854	-0.10	8.42	0.011 ✓
T5	220 - 200	1	3.67	3.46	116.2 K=0.70	10.819	0.7854	-0.01	8.50	0.001 ✓
T7	180 - 160	1	3.67	3.44	115.5 K=0.70	10.917	0.7854	-0.21	8.57	0.025 ✓
T10	120 - 100	1	3.67	3.44	115.5 K=0.70	10.917	0.7854	-0.07	8.57	0.008 ✓
T13	60 - 40	1	3.67	3.42	114.8 K=0.70	11.014	0.7854	-0.85	8.65	0.098 ✓

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T1	287 - 280	1	3.67	3.50	117.6 K=0.70	10.622	0.7854	-0.50	8.34	0.060 ✓

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T2	280 - 260	1	3.67	3.50	117.6 K=0.70	10.622	0.7854	-0.36	8.34	0.043
T3	260 - 240	1	3.67	3.48	116.9 K=0.70	10.721	0.7854	-0.10	8.42	0.012
T4	240 - 220	1	3.67	3.48	116.9 K=0.70	10.721	0.7854	-0.34	8.42	0.040
T5	220 - 200	1	3.67	3.46	116.2 K=0.70	10.819	0.7854	-0.13	8.50	0.015
T6	200 - 180	1	3.67	3.46	116.2 K=0.70	10.819	0.7854	-0.25	8.50	0.029
T7	180 - 160	1	3.67	3.44	115.5 K=0.70	10.917	0.7854	-0.29	8.57	0.034
T8	160 - 140	1	3.67	3.46	116.2 K=0.70	10.819	0.7854	-0.06	8.50	0.007
T10	120 - 100	1	3.67	3.44	115.5 K=0.70	10.917	0.7854	-0.14	8.57	0.017
T12	80 - 60	1	3.67	3.42	114.8 K=0.70	11.014	0.7854	-0.11	8.65	0.013

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	287 - 280 (673)	C15x40	3.75	3.67	49.7 K=1.00	21.600	11.8000	0.00	103.82	0.000
T1	287 - 280 (674)	C15x40	3.75	3.67	49.7 K=1.00	21.600	11.8000	0.00	103.82	0.000
T1	287 - 280 (677)	C15x40	3.75	3.67	49.7 K=1.00	21.600	11.8000	0.00	103.82	0.000
T1	287 - 280 (678)	C15x40	3.75	3.67	49.7 K=1.00	21.600	11.8000	0.00	103.82	0.000
T1	287 - 280 (681)	C15x40	3.75	3.67	49.7 K=1.00	21.600	11.8000	0.00	103.82	0.000
T1	287 - 280 (682)	C15x40	3.75	3.67	49.7 K=1.00	21.600	11.8000	0.00	103.82	0.000
T3	260 - 240 (661)	C15x40	3.75	3.66	49.5 K=1.00	21.600	11.8000	0.00	104.29	0.000
T3	260 - 240 (662)	C15x40	3.75	3.66	49.5 K=1.00	21.600	11.8000	0.00	104.29	0.000
T3	260 - 240 (665)	C15x40	3.75	3.66	49.5 K=1.00	21.600	11.8000	0.00	104.29	0.000
T3	260 - 240 (666)	C15x40	3.75	3.66	49.5 K=1.00	21.600	11.8000	0.00	104.29	0.000
T3	260 - 240 (669)	C15x40	3.75	3.66	49.5 K=1.00	21.600	11.8000	0.00	104.29	0.000
T3	260 - 240 (670)	C15x40	3.75	3.66	49.5 K=1.00	21.600	11.8000	0.00	104.29	0.000
T5	220 - 200 (649)	C15x40	3.75	3.65	129.7 K=1.00	8.878	11.8000	-1.16	104.76	0.011
T5	220 - 200 (650)	C15x40	3.75	3.65	129.7 K=1.00	8.878	11.8000	-1.34	104.76	0.013
T5	220 - 200 (653)	C15x40	3.75	3.65	129.7 K=1.00	8.878	11.8000	-1.21	104.76	0.012

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T5	220 - 200 (654)	C15x40	3.75	3.65	K=1.00 129.7	8.878	11.8000	-1.08	104.76	0.010
T5	220 - 200 (657)	C15x40	3.75	3.65	K=1.00 129.7	8.878	11.8000	-1.25	104.76	0.012
T5	220 - 200 (658)	C15x40	3.75	3.65	K=1.00 129.7	8.878	11.8000	-0.98	104.76	0.009
T7	180 - 160 (637)	C15x40	3.75	3.64	K=1.00 129.4	8.918	11.8000	-3.33	105.24	0.032
T7	180 - 160 (638)	C15x40	3.75	3.64	K=1.00 129.4	8.918	11.8000	-2.99	105.24	0.028
T7	180 - 160 (641)	C15x40	3.75	3.64	K=1.00 129.4	8.918	11.8000	-2.80	105.24	0.027
T7	180 - 160 (642)	C15x40	3.75	3.64	K=1.00 129.4	8.918	11.8000	-3.06	105.24	0.029
T7	180 - 160 (645)	C15x40	3.75	3.64	K=1.00 129.4	8.918	11.8000	-3.00	105.24	0.028
T7	180 - 160 (646)	C15x40	3.75	3.64	K=1.00 129.4	8.918	11.8000	-2.80	105.24	0.027
T10	120 - 100 (625)	C15x40	3.75	3.64	K=1.00 129.4	8.918	11.8000	-5.61	105.24	0.053
T10	120 - 100 (626)	C15x40	3.75	3.64	K=1.00 129.4	8.918	11.8000	-3.58	105.24	0.034
T10	120 - 100 (629)	C15x40	3.75	3.64	K=1.00 129.4	8.918	11.8000	-3.15	105.24	0.030
T10	120 - 100 (630)	C15x40	3.75	3.64	K=1.00 129.4	8.918	11.8000	-3.53	105.24	0.034
T10	120 - 100 (633)	C15x40	3.75	3.64	K=1.00 129.4	8.918	11.8000	-3.10	105.24	0.029
T10	120 - 100 (634)	C15x40	3.75	3.64	K=1.00 129.4	8.918	11.8000	-3.14	105.24	0.030
T13	60 - 40 (613)	C15x40	3.75	3.63	K=1.00 129.1	8.959	11.8000	-1.97	105.72	0.019
T13	60 - 40 (614)	C15x40	3.75	3.63	K=1.00 129.1	8.959	11.8000	-2.15	105.72	0.020
T13	60 - 40 (617)	C15x40	3.75	3.63	K=1.00 129.1	8.959	11.8000	-1.97	105.72	0.019
T13	60 - 40 (618)	C15x40	3.75	3.63	K=1.00 129.1	8.959	11.8000	-1.98	105.72	0.019
T13	60 - 40 (621)	C15x40	3.75	3.63	K=1.00 129.1	8.959	11.8000	-1.68	105.72	0.016
T13	60 - 40 (622)	C15x40	3.75	3.63	K=1.00 129.1	8.959	11.8000	-1.81	105.72	0.017

Torque-Arm Top Bending Design Data

Section No.	Elevation ft	Size	Actual M _x kip-ft	Actual f _{bx} ksi	Allow. F _{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M _y kip-ft	Actual f _{by} ksi	Allow. F _{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
T1	287 - 280 (673)	C15x40	-39.24	-10.127	21.600	0.469	0.00	-0.000	21.600	0.000
T1	287 - 280 (674)	C15x40	-43.11	-11.126	21.600	0.515	0.00	0.000	21.600	0.000
T1	287 - 280 (677)	C15x40	-43.81	-11.306	21.600	0.523	-0.00	-0.000	21.600	0.000
T1	287 - 280 (678)	C15x40	-42.94	-11.081	21.600	0.513	-0.00	-0.000	21.600	0.000
T1	287 - 280 (681)	C15x40	-43.60	-11.252	21.600	0.521	-0.00	-0.000	21.600	0.000
T1	287 - 280 (682)	C15x40	-39.44	-10.178	21.600	0.471	0.00	-0.000	21.600	0.000
T3	260 - 240 (661)	C15x40	-39.09	-10.087	21.600	0.467	0.00	-0.000	21.600	0.000
T3	260 - 240 (662)	C15x40	-43.64	-11.263	21.600	0.521	-0.00	-0.000	21.600	0.000

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Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
T3	260 - 240 (665)	C15x40	-44.21	-11.408	21.600	0.528	-0.00	-0.000	21.600	0.000
T3	260 - 240 (666)	C15x40	-43.44	-11.212	21.600	0.519	-0.00	-0.000	21.600	0.000
T3	260 - 240 (669)	C15x40	-44.06	-11.370	21.600	0.526	-0.00	-0.000	21.600	0.000
T3	260 - 240 (670)	C15x40	-39.15	-10.102	21.600	0.468	0.00	-0.000	21.600	0.000
T5	220 - 200 (649)	C15x40	-39.43	-10.176	21.600	0.471	0.00	-0.000	21.600	0.000
T5	220 - 200 (650)	C15x40	-45.10	-11.638	21.600	0.539	-0.00	-0.000	21.600	0.000
T5	220 - 200 (653)	C15x40	-45.53	-11.750	21.600	0.544	-0.00	-0.000	21.600	0.000
T5	220 - 200 (654)	C15x40	-45.01	-11.616	21.600	0.538	-0.00	-0.000	21.600	0.000
T5	220 - 200 (657)	C15x40	-45.39	-11.714	21.600	0.542	-0.00	-0.000	21.600	0.000
T5	220 - 200 (658)	C15x40	-39.50	-10.194	21.600	0.472	0.00	-0.000	21.600	0.000
T7	180 - 160 (637)	C15x40	-43.00	-11.096	21.600	0.514	-0.00	-0.000	21.600	0.000
T7	180 - 160 (638)	C15x40	-36.13	-9.323	21.600	0.432	0.00	-0.000	21.600	0.000
T7	180 - 160 (641)	C15x40	-43.22	-11.153	21.600	0.516	-0.00	-0.000	21.600	0.000
T7	180 - 160 (642)	C15x40	-43.32	-11.179	21.600	0.518	-0.00	-0.000	21.600	0.000
T7	180 - 160 (645)	C15x40	-43.35	-11.188	21.600	0.518	-0.00	-0.000	21.600	0.000
T7	180 - 160 (646)	C15x40	-35.96	-9.279	21.600	0.430	0.00	-0.000	21.600	0.000
T10	120 - 100 (625)	C15x40	-25.88	-6.680	21.600	0.309	-0.00	-0.000	21.600	0.000
T10	120 - 100 (626)	C15x40	-20.58	-5.310	21.600	0.246	0.00	-0.000	21.600	0.000
T10	120 - 100 (629)	C15x40	-27.43	-7.079	21.600	0.328	-0.00	-0.000	21.600	0.000
T10	120 - 100 (630)	C15x40	-27.41	-7.074	21.600	0.327	-0.00	-0.000	21.600	0.000
T10	120 - 100 (633)	C15x40	-27.34	-7.056	21.600	0.327	-0.00	-0.000	21.600	0.000
T10	120 - 100 (634)	C15x40	-20.27	-5.232	21.600	0.242	0.00	-0.000	21.600	0.000
T13	60 - 40 (613)	C15x40	-6.95	-1.795	21.600	0.083	0.00	-0.000	21.600	0.000
T13	60 - 40 (614)	C15x40	-8.71	-2.248	21.600	0.104	-0.00	-0.000	21.600	0.000
T13	60 - 40 (617)	C15x40	-10.42	-2.689	21.600	0.124	-0.00	-0.000	21.600	0.000
T13	60 - 40 (618)	C15x40	-8.79	-2.268	21.600	0.105	-0.00	-0.000	21.600	0.000
T13	60 - 40 (621)	C15x40	-5.11	-1.319	21.600	0.061	0.00	-0.000	21.600	0.000
T13	60 - 40 (622)	C15x40	-10.35	-2.670	21.600	0.124	-0.00	-0.000	21.600	0.000

Torque-Arm Top Interaction Design Data

Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	287 - 280 (673)	C15x40	0.000	0.469	0.000	0.469	1.333	H1-3 ✓
T1	287 - 280 (674)	C15x40	0.000	0.515	0.000	0.515	1.333	H1-3 ✓
T1	287 - 280 (677)	C15x40	0.000	0.523	0.000	0.523	1.333	H1-3 ✓
T1	287 - 280 (678)	C15x40	0.000	0.513	0.000	0.513	1.333	H1-3 ✓
T1	287 - 280 (681)	C15x40	0.000	0.521	0.000	0.521	1.333	H1-3 ✓
T1	287 - 280 (682)	C15x40	0.000	0.471	0.000	0.471	1.333	H1-3 ✓
T3	260 - 240 (661)	C15x40	0.000	0.467	0.000	0.467	1.333	H1-3 ✓
T3	260 - 240 (662)	C15x40	0.000	0.521	0.000	0.521	1.333	H1-3 ✓
T3	260 - 240 (665)	C15x40	0.000	0.528	0.000	0.528	1.333	H1-3 ✓
T3	260 - 240 (666)	C15x40	0.000	0.519	0.000	0.519	1.333	H1-3 ✓

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Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T3	260 - 240 (669)	C15x40	0.000	0.526	0.000	0.526	1.333	H1-3 ✓
T3	260 - 240 (670)	C15x40	0.000	0.468	0.000	0.468	1.333	H1-3 ✓
T5	220 - 200 (649)	C15x40	0.011	0.471	0.000	0.482	1.333	H1-3 ✓
T5	220 - 200 (650)	C15x40	0.013	0.539	0.000	0.552	1.333	H1-3 ✓
T5	220 - 200 (653)	C15x40	0.012	0.544	0.000	0.556	1.333	H1-3 ✓
T5	220 - 200 (654)	C15x40	0.010	0.538	0.000	0.548	1.333	H1-3 ✓
T5	220 - 200 (657)	C15x40	0.012	0.542	0.000	0.554	1.333	H1-3 ✓
T5	220 - 200 (658)	C15x40	0.009	0.472	0.000	0.481	1.333	H1-3 ✓
T7	180 - 160 (637)	C15x40	0.032	0.514	0.000	0.545	1.333	H1-3 ✓
T7	180 - 160 (638)	C15x40	0.028	0.432	0.000	0.460	1.333	H1-3 ✓
T7	180 - 160 (641)	C15x40	0.027	0.516	0.000	0.543	1.333	H1-3 ✓
T7	180 - 160 (642)	C15x40	0.029	0.518	0.000	0.547	1.333	H1-3 ✓
T7	180 - 160 (645)	C15x40	0.028	0.518	0.000	0.546	1.333	H1-3 ✓
T7	180 - 160 (646)	C15x40	0.027	0.430	0.000	0.456	1.333	H1-3 ✓
T10	120 - 100 (625)	C15x40	0.053	0.309	0.000	0.363	1.333	H1-3 ✓
T10	120 - 100 (626)	C15x40	0.034	0.246	0.000	0.280	1.333	H1-3 ✓
T10	120 - 100 (629)	C15x40	0.030	0.328	0.000	0.358	1.333	H1-3 ✓
T10	120 - 100 (630)	C15x40	0.034	0.327	0.000	0.361	1.333	H1-3 ✓
T10	120 - 100 (633)	C15x40	0.029	0.327	0.000	0.356	1.333	H1-3 ✓
T10	120 - 100 (634)	C15x40	0.030	0.242	0.000	0.272	1.333	H1-3 ✓
T13	60 - 40 (613)	C15x40	0.019	0.083	0.000	0.102	1.333	H1-3 ✓
T13	60 - 40 (614)	C15x40	0.020	0.104	0.000	0.124	1.333	H1-3 ✓
T13	60 - 40 (617)	C15x40	0.019	0.124	0.000	0.143	1.333	H1-3 ✓
T13	60 - 40 (618)	C15x40	0.019	0.105	0.000	0.124	1.333	H1-3 ✓
T13	60 - 40 (621)	C15x40	0.016	0.061	0.000	0.077	1.333	H1-3 ✓
T13	60 - 40 (622)	C15x40	0.017	0.124	0.000	0.141	1.333	H1-3 ✓

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Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
						✓		

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	287 - 280	2	7.00	3.42	82.0	30.000	3.1416	7.85	94.25	0.083
T11	100 - 80	3	20.00	3.31	52.9	30.000	7.0686	3.46	212.06	0.016
T12	80 - 60	3	20.00	3.31	52.9	30.000	7.0686	2.63	212.06	0.012

Leg Bending Design Data (Tension)

Section No.	Elevation ft	Size	Actual M _x kip-ft	Actual f _{bx} ksi	Allow. F _{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M _y kip-ft	Actual f _{by} ksi	Allow. F _{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
T1	287 - 280	2	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T11	100 - 80	3	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000
T12	80 - 60	3	0.00	0.000	37.500	0.000	0.00	0.000	37.500	0.000

Leg Interaction Design Data (Tension)

Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	287 - 280	2	0.083	0.000	0.000	0.083	1.333	H2-1 ✓
T11	100 - 80	3	0.016	0.000	0.000	0.016	1.333	H2-1 ✓
T12	80 - 60	3	0.012	0.000	0.000	0.012	1.333	H2-1 ✓

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	287 - 280	1 3/8	5.01	4.78	167.0	21.600	1.4849	1.50	32.07	0.047

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T2	280 - 260	1 3/8	4.94	4.71	164.5	21.600	1.4849	1.14	32.07	0.035
T3	260 - 240	1 3/8	4.94	4.68	163.5	21.600	1.4849	2.99	32.07	0.093
T4	240 - 220	1 3/8	4.94	4.68	163.5	21.600	1.4849	3.81	32.07	0.119
T5	220 - 200	1 1/4	4.94	4.66	178.8	21.600	1.2272	4.96	26.51	0.187
T6	200 - 180	1 1/4	4.94	4.66	178.8	21.600	1.2272	6.52	26.51	0.246
T7	180 - 160	1 1/2	4.94	4.63	148.1	21.600	1.7672	7.89	38.17	0.207
T8	160 - 140	1 3/8	4.94	4.66	162.6	21.600	1.4849	3.90	32.07	0.122
T9	140 - 120	1 1/4	4.94	4.63	177.7	21.600	1.2272	2.19	26.51	0.083
T10	120 - 100	1 1/2	4.94	4.63	148.1	21.600	1.7672	8.29	38.17	0.217
T11	100 - 80	1 3/8	4.94	4.60	160.6	21.600	1.4849	6.87	32.07	0.214
T12	80 - 60	1 1/4	4.94	4.60	176.7	21.600	1.2272	2.57	26.51	0.097
T13	60 - 40	1 1/4	4.94	4.60	176.7	21.600	1.2272	2.58	26.51	0.098
T14	40 - 20	1 1/4	4.94	4.60	176.7	21.600	1.2272	2.56	26.51	0.096
T15	20 - 6.5	1 1/4	4.96	4.62	177.3	21.600	1.2272	5.87	26.51	0.221

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	287 - 280	1	3.67	3.50	168.0	21.600	0.7854	2.24	16.96	0.132
T2	280 - 260	1	3.67	3.50	168.0	21.600	0.7854	0.60	16.96	0.036
T3	260 - 240	1	3.67	3.48	167.0	21.600	0.7854	3.69	16.96	0.218
T4	240 - 220	1	3.67	3.48	167.0	21.600	0.7854	1.19	16.96	0.070
T5	220 - 200	1	3.67	3.46	166.0	21.600	0.7854	7.49	16.96	0.441
T6	200 - 180	1	3.67	3.46	166.0	21.600	0.7854	2.15	16.96	0.126
T7	180 - 160	1	3.67	3.44	165.0	21.600	0.7854	11.57	16.96	0.682
T8	160 - 140	1	3.67	3.46	166.0	21.600	0.7854	1.45	16.96	0.086

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T9	140 - 120	1	3.67	3.44	165.0	21.600	0.7854	1.47	16.96	0.087
T10	120 - 100	1	3.67	3.44	165.0	21.600	0.7854	11.63	16.96	0.685
T11	100 - 80	1	3.67	3.42	164.0	21.600	0.7854	2.16	16.96	0.128
T12	80 - 60	1	3.67	3.42	164.0	21.600	0.7854	2.20	16.96	0.130
T13	60 - 40	1	3.67	3.42	164.0	21.600	0.7854	4.81	16.96	0.283
T14	40 - 20	1	3.67	3.42	164.0	21.600	0.7854	2.31	16.96	0.136
T15	20 - 6.5	1	3.67	3.42	164.0	21.600	0.7854	2.14	16.96	0.126
T16	6.5 - 0	3x3/8	3.67	3.42	378.8	21.600	1.1250	11.92	24.30	0.491

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio $\frac{P}{P_a}$
T1	287 - 280	1	3.67	3.50	168.0	21.600	0.7854	7.27	16.96	0.429*
T2	280 - 260	1	3.67	3.50	168.0	21.600	0.7854	0.41	16.96	0.024
T3	260 - 240	1	3.67	3.48	167.0	21.600	0.7854	0.56	16.96	0.033
T4	240 - 220	1	3.67	3.48	167.0	21.600	0.7854	0.29	16.96	0.017
T5	220 - 200	1	3.67	3.46	166.0	21.600	0.7854	0.67	16.96	0.039
T6	200 - 180	1	3.67	3.46	166.0	21.600	0.7854	0.28	16.96	0.017
T7	180 - 160	1	3.67	3.44	165.0	21.600	0.7854	0.63	16.96	0.037
T8	160 - 140	1	3.67	3.46	166.0	21.600	0.7854	0.43	16.96	0.025
T9	140 - 120	1	3.67	3.44	165.0	21.600	0.7854	0.45	16.96	0.026
T10	120 - 100	1	3.67	3.44	165.0	21.600	0.7854	0.83	16.96	0.049
T11	100 - 80	1	3.67	3.42	164.0	21.600	0.7854	0.52	16.96	0.031
T12	80 - 60	1	3.67	3.42	164.0	21.600	0.7854	0.60	16.96	0.035
T13	60 - 40	1	3.67	3.42	164.0	21.600	0.7854	2.19	16.96	0.129
T14	40 - 20	1	3.67	3.42	164.0	21.600	0.7854	0.56	16.96	0.033

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T15	20 - 6.5	1	3.67	3.42	164.0	21.600	0.7854	0.65	16.96	0.038 ✓

* DL controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T2	280 - 260	1	3.67	3.50	168.0	21.600	0.7854	0.04	16.96	0.002 ✓
T3	260 - 240	1	3.67	3.48	167.0	21.600	0.7854	0.32	16.96	0.019 ✓
T4	240 - 220	1	3.67	3.48	167.0	21.600	0.7854	0.31	16.96	0.018 ✓
T5	220 - 200	1	3.67	3.46	166.0	21.600	0.7854	0.44	16.96	0.026 ✓
T6	200 - 180	1	3.67	3.46	166.0	21.600	0.7854	0.59	16.96	0.035 ✓
T7	180 - 160	1	3.67	3.44	165.0	21.600	0.7854	0.85	16.96	0.050 ✓
T8	160 - 140	1	3.67	3.46	166.0	21.600	0.7854	0.49	16.96	0.029 ✓
T9	140 - 120	1	3.67	3.44	165.0	21.600	0.7854	0.48	16.96	0.028 ✓
T10	120 - 100	1	3.67	3.44	165.0	21.600	0.7854	0.91	16.96	0.054 ✓
T11	100 - 80	1	3.67	3.42	164.0	21.600	0.7854	0.67	16.96	0.039 ✓
T12	80 - 60	1	3.67	3.42	164.0	21.600	0.7854	1.40	16.96	0.083 ✓
T13	60 - 40	1	3.67	3.42	164.0	21.600	0.7854	0.57	16.96	0.034 ✓
T14	40 - 20	1	3.67	3.42	164.0	21.600	0.7854	0.39	16.96	0.023* ✓
T15	20 - 6.5	1	3.67	3.42	164.0	21.600	0.7854	8.30	16.96	0.489 ✓

* DL controls

Torque-Arm Top Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	287 - 280 (673)	C15x40	3.75	3.67	49.7	21.600	11.8000	1.28	254.88	0.005

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	F _a ksi	A in ²	Actual P K	Allow. P _a K	Ratio P P _a
T1	287 - 280 (674)	C15x40	3.75	3.67	49.7	21.600	11.8000	1.39	254.88	0.005
T1	287 - 280 (677)	C15x40	3.75	3.67	49.7	21.600	11.8000	1.24	254.88	0.005
T1	287 - 280 (678)	C15x40	3.75	3.67	49.7	21.600	11.8000	1.37	254.88	0.005
T1	287 - 280 (681)	C15x40	3.75	3.67	49.7	21.600	11.8000	1.35	254.88	0.005
T1	287 - 280 (682)	C15x40	3.75	3.67	49.7	21.600	11.8000	1.42	254.88	0.006
T3	260 - 240 (661)	C15x40	3.75	3.66	49.5	21.600	11.8000	0.45	254.88	0.002
T3	260 - 240 (662)	C15x40	3.75	3.66	49.5	21.600	11.8000	0.42	254.88	0.002
T3	260 - 240 (665)	C15x40	3.75	3.66	49.5	21.600	11.8000	0.36	254.88	0.001
T3	260 - 240 (666)	C15x40	3.75	3.66	49.5	21.600	11.8000	0.48	254.88	0.002
T3	260 - 240 (669)	C15x40	3.75	3.66	49.5	21.600	11.8000	0.39	254.88	0.002
T3	260 - 240 (670)	C15x40	3.75	3.66	49.5	21.600	11.8000	0.56	254.88	0.002
T5	220 - 200 (649)	C15x40	3.75	3.65	49.4	21.600	11.8000	1.15	254.88	0.004
T5	220 - 200 (650)	C15x40	3.75	3.65	49.4	21.600	11.8000	1.10	254.88	0.004
T5	220 - 200 (653)	C15x40	3.75	3.65	49.4	21.600	11.8000	0.97	254.88	0.004
T5	220 - 200 (654)	C15x40	3.75	3.65	49.4	21.600	11.8000	1.25	254.88	0.005
T5	220 - 200 (657)	C15x40	3.75	3.65	49.4	21.600	11.8000	1.05	254.88	0.004
T5	220 - 200 (658)	C15x40	3.75	3.65	49.4	21.600	11.8000	1.35	254.88	0.005
T7	180 - 160 (637)	C15x40	3.75	3.64	49.2	21.600	11.8000	0.35	254.88	0.001
T7	180 - 160 (638)	C15x40	3.75	3.64	49.2	21.600	11.8000	0.44	254.88	0.002
T7	180 - 160 (641)	C15x40	3.75	3.64	49.2	21.600	11.8000	0.85	254.88	0.003
T7	180 - 160 (642)	C15x40	3.75	3.64	49.2	21.600	11.8000	0.31	254.88	0.001
T7	180 - 160 (645)	C15x40	3.75	3.64	49.2	21.600	11.8000	0.42	254.88	0.002
T7	180 - 160 (646)	C15x40	3.75	3.64	49.2	21.600	11.8000	0.66	254.88	0.003
T10	120 - 100 (625)	C15x40	3.75	3.64	49.2	21.600	11.8000	5.20	254.88	0.020
T10	120 - 100 (626)	C15x40	3.75	3.64	49.2	21.600	11.8000	4.57	254.88	0.018
T10	120 - 100 (629)	C15x40	3.75	3.64	49.2	21.600	11.8000	0.72	254.88	0.003
T10	120 - 100 (630)	C15x40	3.75	3.64	49.2	21.600	11.8000	4.78	254.88	0.019
T10	120 - 100 (633)	C15x40	3.75	3.64	49.2	21.600	11.8000	0.23	254.88	0.001
T10	120 - 100 (634)	C15x40	3.75	3.64	49.2	21.600	11.8000	0.09	254.88	0.000
T13	60 - 40 (613)	C15x40	3.75	3.63	49.1	21.600	11.8000	0.79	254.88	0.003
T13	60 - 40 (614)	C15x40	3.75	3.63	49.1	21.600	11.8000	0.89	254.88	0.003
T13	60 - 40 (617)	C15x40	3.75	3.63	49.1	21.600	11.8000	1.17	254.88	0.005
T13	60 - 40 (618)	C15x40	3.75	3.63	49.1	21.600	11.8000	0.90	254.88	0.004
T13	60 - 40 (621)	C15x40	3.75	3.63	49.1	21.600	11.8000	1.09	254.88	0.004
T13	60 - 40 (622)	C15x40	3.75	3.63	49.1	21.600	11.8000	1.01	254.88	0.004

Torque-Arm Top Bending Design Data

Section No.	Elevation ft	Size	Actual M _x kip-ft	Actual f _{bx} ksi	Allow. F _{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M _y kip-ft	Actual f _{by} ksi	Allow. F _{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
T1	287 - 280 (673)	C15x40	-39.24	10.127	21.600	0.469	0.00	0.000	27.000	0.000
T1	287 - 280 (674)	C15x40	-43.11	11.126	21.600	0.515	0.00	0.000	27.000	0.000
T1	287 - 280 (677)	C15x40	-43.81	11.306	21.600	0.523	-0.00	0.000	27.000	0.000
T1	287 - 280 (678)	C15x40	-42.94	11.081	21.600	0.513	-0.00	0.000	27.000	0.000
T1	287 - 280 (681)	C15x40	-43.60	11.252	21.600	0.521	-0.00	0.000	27.000	0.000
T1	287 - 280 (682)	C15x40	-39.44	10.178	21.600	0.471	0.00	0.000	27.000	0.000
T3	260 - 240 (661)	C15x40	-39.09	10.087	21.600	0.467	0.00	0.000	27.000	0.000
T3	260 - 240 (662)	C15x40	-43.64	11.263	21.600	0.521	-0.00	0.000	27.000	0.000
T3	260 - 240 (665)	C15x40	-44.21	11.408	21.600	0.528	-0.00	0.000	27.000	0.000
T3	260 - 240 (666)	C15x40	-43.44	11.212	21.600	0.519	-0.00	0.000	27.000	0.000
T3	260 - 240 (669)	C15x40	-44.06	11.370	21.600	0.526	-0.00	0.000	27.000	0.000
T3	260 - 240 (670)	C15x40	-39.15	10.102	21.600	0.468	0.00	0.000	27.000	0.000
T5	220 - 200 (649)	C15x40	-36.71	9.473	21.600	0.439	0.00	0.000	27.000	0.000
T5	220 - 200 (650)	C15x40	-42.30	10.915	21.600	0.505	-0.00	0.000	27.000	0.000
T5	220 - 200 (653)	C15x40	-41.91	10.816	21.600	0.501	-0.00	0.000	27.000	0.000

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Section No.	Elevation ft	Size	Actual M_x kip-ft	Actual f_{bx} ksi	Allow. F_{bx} ksi	Ratio $\frac{f_{bx}}{F_{bx}}$	Actual M_y kip-ft	Actual f_{by} ksi	Allow. F_{by} ksi	Ratio $\frac{f_{by}}{F_{by}}$
T5	220 - 200 (654)	C15x40	-41.48	10.705	21.600	0.496	-0.00	0.000	27.000	0.000
T5	220 - 200 (657)	C15x40	-42.56	10.983	21.600	0.508	0.00	0.000	27.000	0.000
T5	220 - 200 (658)	C15x40	-36.71	9.473	21.600	0.439	0.00	0.000	27.000	0.000
T7	180 - 160 (637)	C15x40	-40.27	10.392	21.600	0.481	-0.00	0.000	27.000	0.000
T7	180 - 160 (638)	C15x40	-33.63	8.680	21.600	0.402	0.00	0.000	27.000	0.000
T7	180 - 160 (641)	C15x40	-40.36	10.416	21.600	0.482	-0.00	0.000	27.000	0.000
T7	180 - 160 (642)	C15x40	-40.04	10.334	21.600	0.478	-0.00	0.000	27.000	0.000
T7	180 - 160 (645)	C15x40	-40.82	10.534	21.600	0.488	0.00	0.000	27.000	0.000
T7	180 - 160 (646)	C15x40	-33.64	8.682	21.600	0.402	0.00	0.000	27.000	0.000
T10	120 - 100 (625)	C15x40	-20.59	5.313	21.600	0.246	-0.00	0.000	27.000	0.000
T10	120 - 100 (626)	C15x40	-15.37	3.966	21.600	0.184	-0.00	0.000	27.000	0.000
T10	120 - 100 (629)	C15x40	-26.24	6.772	21.600	0.314	0.00	0.000	27.000	0.000
T10	120 - 100 (630)	C15x40	-21.03	5.428	21.600	0.251	0.00	0.000	27.000	0.000
T10	120 - 100 (633)	C15x40	-25.93	6.691	21.600	0.310	0.00	0.000	27.000	0.000
T10	120 - 100 (634)	C15x40	-19.15	4.941	21.600	0.229	-0.00	0.000	27.000	0.000
T13	60 - 40 (613)	C15x40	-6.59	1.701	21.600	0.079	-0.00	0.000	27.000	0.000
T13	60 - 40 (614)	C15x40	-7.87	2.031	21.600	0.094	0.00	0.000	27.000	0.000
T13	60 - 40 (617)	C15x40	-10.33	2.666	21.600	0.123	0.00	0.000	27.000	0.000
T13	60 - 40 (618)	C15x40	-7.98	2.060	21.600	0.095	0.00	0.000	27.000	0.000
T13	60 - 40 (621)	C15x40	-4.58	1.183	21.600	0.055	-0.00	0.000	27.000	0.000
T13	60 - 40 (622)	C15x40	-10.12	2.612	21.600	0.121	0.00	0.000	27.000	0.000

Torque-Arm Top Interaction Design Data

Section No.	Elevation ft	Size	Ratio P P_a	Ratio f_{bx} F_{bx}	Ratio f_{by} F_{by}	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	287 - 280 (673)	C15x40	0.005	0.469	0.000	0.474	1.333	H2-1 ✓
T1	287 - 280 (674)	C15x40	0.005	0.515	0.000	0.521	1.333	H2-1 ✓
T1	287 - 280 (677)	C15x40	0.005	0.523	0.000	0.528	1.333	H2-1 ✓
T1	287 - 280 (678)	C15x40	0.005	0.513	0.000	0.518	1.333	H2-1 ✓
T1	287 - 280 (681)	C15x40	0.005	0.521	0.000	0.526	1.333	H2-1 ✓
T1	287 - 280 (682)	C15x40	0.006	0.471	0.000	0.477	1.333	H2-1 ✓
T3	260 - 240 (661)	C15x40	0.002	0.467	0.000	0.469	1.333	H2-1 ✓
T3	260 - 240 (662)	C15x40	0.002	0.521	0.000	0.523	1.333	H2-1 ✓
T3	260 - 240 (665)	C15x40	0.001	0.528	0.000	0.530	1.333	H2-1 ✓
T3	260 - 240 (666)	C15x40	0.002	0.519	0.000	0.521	1.333	H2-1 ✓
T3	260 - 240 (669)	C15x40	0.002	0.526	0.000	0.528	1.333	H2-1 ✓
T3	260 - 240 (670)	C15x40	0.002	0.468	0.000	0.470	1.333	H2-1 ✓
T5	220 - 200 (649)	C15x40	0.004	0.439	0.000	0.443	1.333	H2-1 ✓

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Section No.	Elevation ft	Size	Ratio $\frac{P}{P_a}$	Ratio $\frac{f_{bx}}{F_{bx}}$	Ratio $\frac{f_{by}}{F_{by}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T5	220 - 200 (650)	C15x40	0.004	0.505	0.000	0.510	1.333	H2-1 ✓
T5	220 - 200 (653)	C15x40	0.004	0.501	0.000	0.505	1.333	H2-1 ✓
T5	220 - 200 (654)	C15x40	0.005	0.496	0.000	0.501	1.333	H2-1 ✓
T5	220 - 200 (657)	C15x40	0.004	0.508	0.000	0.513	1.333	H2-1 ✓
T5	220 - 200 (658)	C15x40	0.005	0.439	0.000	0.444	1.333	H2-1 ✓
T7	180 - 160 (637)	C15x40	0.001	0.481	0.000	0.483	1.333	H2-1 ✓
T7	180 - 160 (638)	C15x40	0.002	0.402	0.000	0.404	1.333	H2-1 ✓
T7	180 - 160 (641)	C15x40	0.003	0.482	0.000	0.486	1.333	H2-1 ✓
T7	180 - 160 (642)	C15x40	0.001	0.478	0.000	0.480	1.333	H2-1 ✓
T7	180 - 160 (645)	C15x40	0.002	0.488	0.000	0.489	1.333	H2-1 ✓
T7	180 - 160 (646)	C15x40	0.003	0.402	0.000	0.405	1.333	H2-1 ✓
T10	120 - 100 (625)	C15x40	0.020	0.246	0.000	0.266	1.333	H2-1 ✓
T10	120 - 100 (626)	C15x40	0.018	0.184	0.000	0.202	1.333	H2-1 ✓
T10	120 - 100 (629)	C15x40	0.003	0.314	0.000	0.316	1.333	H2-1 ✓
T10	120 - 100 (630)	C15x40	0.019	0.251	0.000	0.270	1.333	H2-1 ✓
T10	120 - 100 (633)	C15x40	0.001	0.310	0.000	0.311	1.333	H2-1 ✓
T10	120 - 100 (634)	C15x40	0.000	0.229	0.000	0.229	1.333	H2-1 ✓
T13	60 - 40 (613)	C15x40	0.003	0.079	0.000	0.082	1.333	H2-1 ✓
T13	60 - 40 (614)	C15x40	0.003	0.094	0.000	0.098	1.333	H2-1 ✓
T13	60 - 40 (617)	C15x40	0.005	0.123	0.000	0.128	1.333	H2-1 ✓
T13	60 - 40 (618)	C15x40	0.004	0.095	0.000	0.099	1.333	H2-1 ✓
T13	60 - 40 (621)	C15x40	0.004	0.055	0.000	0.059	1.333	H2-1 ✓
T13	60 - 40 (622)	C15x40	0.004	0.121	0.000	0.125	1.333	H2-1 ✓

Section Capacity Table

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Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail
L1	317 - 287	Pole	P12x.5	1	-2.28	302.11	21.7	Pass
T1	287 - 280	Leg	2	3	-20.70	77.93	26.6	Pass
T2	280 - 260	Leg	2	22	-21.56	80.18	26.9	Pass
T3	260 - 240	Leg	2 1/4	62	-52.87	110.46	47.9	Pass
T4	240 - 220	Leg	2 1/4	104	-55.05	110.46	49.8	Pass
T5	220 - 200	Leg	2 1/2	146	-75.82	144.72	52.4	Pass
T6	200 - 180	Leg	2 1/2	188	-78.74	144.72	54.4	Pass
T7	180 - 160	Leg	2 3/4	230	-80.19	182.95	43.8	Pass
T8	160 - 140	Leg	2 1/2	272	-83.95	144.72	58.0	Pass
T9	140 - 120	Leg	2 3/4	314	-85.04	182.95	46.5	Pass
T10	120 - 100	Leg	2 3/4	356	-93.66	182.95	51.2	Pass
T11	100 - 80	Leg	3	398	-124.93	225.14	55.5	Pass
T12	80 - 60	Leg	3	440	-127.03	225.14	56.4	Pass
T13	60 - 40	Leg	3	482	-132.78	225.14	59.0	Pass
T14	40 - 20	Leg	3	524	-133.26	225.14	59.2	Pass
T15	20 - 6.5	Leg	3	566	-123.29	224.47	54.9	Pass
T16	6.5 - 0	Leg	3	596	-115.01	247.65	46.4	Pass
T1	287 - 280	Diagonal	1 3/8	19	-1.38	21.22	6.5	Pass
T2	280 - 260	Diagonal	1 3/8	31	-1.60	21.71	7.4	Pass
T3	260 - 240	Diagonal	1 3/8	97	-3.76	21.89	17.2	Pass
T4	240 - 220	Diagonal	1 3/8	113	-4.46	21.89	20.4	Pass
T5	220 - 200	Diagonal	1 1/4	181	-5.85	15.59	37.5	Pass
T6	200 - 180	Diagonal	1 1/4	198	-7.53	15.59	48.3	Pass
T7	180 - 160	Diagonal	1 1/2	252	-9.56	29.46	32.5	Pass
T8	160 - 140	Diagonal	1 3/8	313	-6.17	22.08	27.9	Pass
T9	140 - 120	Diagonal	1 1/4	324	-4.00	15.77	25.4	Pass
T10	120 - 100	Diagonal	1 1/2	371	-9.14	29.46	31.0	Pass
T11	100 - 80	Diagonal	1 3/8	437	-8.08	22.45	36.0	Pass
T12	80 - 60	Diagonal	1 1/4	451	-6.01	15.95	37.7	Pass
T13	60 - 40	Diagonal	1 1/4	517	-4.50	15.95	28.2	Pass
T14	40 - 20	Diagonal	1 1/4	535	-4.81	15.95	30.2	Pass
T15	20 - 6.5	Diagonal	1 1/4	577	-7.35	15.84	46.4	Pass
T1	287 - 280	Horizontal	1	14	-1.92	11.12	17.2	Pass
T2	280 - 260	Horizontal	1	52	-0.41	11.12	3.7	Pass
T3	260 - 240	Horizontal	1	98	-3.27	11.22	29.1	Pass
T4	240 - 220	Horizontal	1	118	-0.95	11.22	8.5	Pass
T5	220 - 200	Horizontal	1	182	-7.02	11.33	62.0	Pass
T6	200 - 180	Horizontal	1	202	-1.48	11.33	13.1	Pass
T7	180 - 160	Horizontal	1	250	-10.07	11.43	88.1	Pass
T8	160 - 140	Horizontal	1	286	-1.45	11.33	12.8	Pass
T9	140 - 120	Horizontal	1	328	-1.47	11.43	12.9	Pass
T10	120 - 100	Horizontal	1	376	-9.97	11.43	87.2	Pass
T11	100 - 80	Horizontal	1	410	-2.16	11.53	18.8	Pass
T12	80 - 60	Horizontal	1	452	-2.20	11.53	19.1	Pass
T13	60 - 40	Horizontal	1	518	-2.68	11.53	23.2	Pass
T14	40 - 20	Horizontal	1	538	-2.31	11.53	20.0	Pass
T15	20 - 6.5	Horizontal	1	578	-2.14	11.53	18.5	Pass
T16	6.5 - 0	Horizontal	3x3/8	599	11.92	32.39	36.8	Pass
T1	287 - 280	Top Girt	1	5	7.27	16.96	42.9	Pass
T2	280 - 260	Top Girt	1	24	0.41	22.61	1.8	Pass
T3	260 - 240	Top Girt	1	65	0.56	22.61	2.5	Pass
T4	240 - 220	Top Girt	1	109	0.29	22.61	1.3	Pass
T5	220 - 200	Top Girt	1	151	0.67	22.61	3.0	Pass
T6	200 - 180	Top Girt	1	192	0.28	22.61	1.2	Pass
T7	180 - 160	Top Girt	1	234	0.63	22.61	2.8	Pass
T8	160 - 140	Top Girt	1	277	0.43	22.61	1.9	Pass
T9	140 - 120	Top Girt	1	318	0.45	22.61	2.0	Pass
T10	120 - 100	Top Girt	1	359	0.83	22.61	3.7	Pass
T11	100 - 80	Top Girt	1	403	0.52	22.61	2.3	Pass
T12	80 - 60	Top Girt	1	444	0.60	22.61	2.7	Pass
T13	60 - 40	Top Girt	1	487	2.19	22.61	9.7	Pass

<i>tnxTower</i> <i>Destek Engineering, LLC</i> <i>1281 Kennestone Circle, Suite 100</i> <i>Marietta, GA 30066</i> <i>Phone: (770) 693 0835</i> <i>FAX:</i>	Job	1629069	Page	64 of 64
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<i>Section No.</i>	<i>Elevation ft</i>	<i>Component Type</i>	<i>Size</i>	<i>Critical Element</i>	<i>P K</i>	<i>SF*P_{allow} K</i>	<i>% Capacity</i>	<i>Pass Fail</i>
						Top (T5) Bolt Checks	0.8	Pass
						RATING =	88.1	Pass

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

AT&T Existing Facility

Site ID: CT1077

**Storrs-UCONN
60 North Eagleville Road
Mansfield, CT 06269**

June 21, 2016

EBI Project Number: 6216002778

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	23.34 %

June 21, 2016

AT&T Mobility – New England
Attn: Cameron Syme, RF Manager
550 Cochituate Road
Suite 550 – 13&14
Framingham, MA 06040

Emissions Analysis for Site: **CT1077 – Storrs-UCONN**

EBI Consulting was directed to analyze the proposed AT&T facility located at **60 North Eagleville Road, Mansfield, CT**, for the purpose of determining whether the emissions from the Proposed AT&T Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 700 and 850 MHz Bands are approximately $467 \mu\text{W}/\text{cm}^2$ and $567 \mu\text{W}/\text{cm}^2$ respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 2300 MHz (WCS) bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed AT&T Wireless antenna facility located at **60 North Eagleville Road, Mansfield, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 2 UMTS channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 2 UMTS channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) 2 LTE channels (2300 MHz (WCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 5) 2 LTE channels (700 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 6) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

- 7) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 8) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 9) The antennas used in this modeling are the **Kathrein 7770, CCI OPA-65R-LCUU-H6, CCI HPA-65R-BUU-H6, CCI OPA-65R-LCUU-H8 and the CCI HPA-65R-BUU-H8** for transmission in the 700 MHz, 850 MHz, 1900 MHz (PCS) and 2300 MHz (WCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 10) The antenna mounting height centerlines of the proposed antennas are **185 feet** above ground level (AGL) for **Sector A**, **185 feet** above ground level (AGL) for **Sector B** and **185 feet** above ground level (AGL) for Sector C.
- 11) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

AT&T Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Kathrein 7770	Make / Model:	Kathrein 7770	Make / Model:	Kathrein 7770
Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd	Gain:	11.4 / 13.4 dBd
Height (AGL):	185 feet	Height (AGL):	185 feet	Height (AGL):	185 feet
Frequency Bands	850 MHz / 1900 MHz (PCS) / 700 MHz / 700 MHz	Frequency Bands	850 MHz / 1900 MHz (PCS) / 700 MHz / 700 MHz	Frequency Bands	850 MHz / 1900 MHz (PCS) / 700 MHz / 700 MHz
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts	Total TX Power(W):	120 Watts
ERP (W):	2,140.89	ERP (W):	2,140.89	ERP (W):	2,140.89
Antenna A1 MPE%	0.31 %	Antenna B1 MPE%	0.31 %	Antenna C1 MPE%	0.31 %
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	CCI OPA-65R-LCUU-H8	Make / Model:	CCI OPA-65R-LCUU-H6	Make / Model:	CCI OPA-65R-LCUU-H8
Gain:	13.35 / 14.95 dBd	Gain:	12.45 / 15.45 dBd	Gain:	13.35 / 14.95 dBd
Height (AGL):	185 feet	Height (AGL):	185 feet	Height (AGL):	185 feet
Frequency Bands	850 MHz / 2300 MHz (WCS)	Frequency Bands	850 MHz / 2300 MHz (WCS)	Frequency Bands	850 MHz / 2300 MHz (WCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	6,346.56	ERP (W):	6,318.53	ERP (W):	6,346.56
Antenna A2 MPE%	0.93 %	Antenna B2 MPE%	0.89 %	Antenna C2 MPE%	0.93 %
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	CCI HPA-65R-BUU-H8	Make / Model:	CCI HPA-65R-BUU-H6	Make / Model:	CCI HPA-65R-BUU-H8
Gain:	13.15 / 14.95 dBd	Gain:	11.95 / 14.75 dBd	Gain:	13.15 / 14.95 dBd
Height (AGL):	185 feet	Height (AGL):	185 feet	Height (AGL):	185 feet
Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)	Frequency Bands	700 MHz / 1900 MHz (PCS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	6,229.75	ERP (W):	5,462.56	ERP (W):	6,229.75
Antenna A3 MPE%	1.02 %	Antenna B3 MPE%	0.85 %	Antenna C3 MPE%	1.02 %

Site Composite MPE%	
Carrier	MPE%
AT&T – Max per sector	2.26 %
Uconn Police	0.12 %
Existing - WHUS	14.12 %
Nextel	0.10 %
MetroPCS	0.14 %
Verizon Wireless	6.60 %
Site Total MPE %:	23.34 %

AT&T Sector A Total:	2.26 %
AT&T Sector B Total:	2.05 %
AT&T Sector C Total:	2.26 %
Site Total:	23.34 %

AT&T _ Max Per Sector (Sectors A & C)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
AT&T 850 MHz UMTS	2	414.12	185	0.93	850 MHz	567	0.16%
AT&T 1900 MHz (PCS) UMTS	2	656.33	185	1.47	1900 MHz (PCS)	1000	0.15%
AT&T 850 MHz LTE	2	1,297.63	185	2.91	850 MHz	567	0.51%
AT&T 2300 MHz (WCS) LTE	2	1,875.65	185	4.21	2300 MHz (WCS)	1000	0.42%
AT&T 700 MHz LTE	2	1,239.23	185	2.78	700 MHz	467	0.60%
AT&T 1900 MHz (PCS) LTE	2	1,875.65	185	4.21	1900 MHz (PCS)	1000	0.42%
						Total:	2.26 %

Summary

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

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

AT&T Sector	Power Density Value (%)
Sector A:	2.26 %
Sector B:	2.05 %
Sector C:	2.26 %
AT&T Maximum Total (per sector):	2.26 %
Site Total:	23.34 %
Site Compliance Status:	NOT COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **23.34 %** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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