Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

June 23, 2020

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

RE: **Notice of Exempt Modification for AT&T - 876373**
136 (125) Wright Road, Torrington, CT 06790
Latitude: 41° 49′ 38.34″ / Longitude: -73° 10′ 13.97″

Dear Ms. Bachman:

AT&T currently maintains three (3) antennas at the 128-foot mount on the existing 148-foot Monopole Tower, located at 136 Wright Road, Torrington, CT. The tower is owned by Crown Castle and the property is owned by The Jobert's & The Wright's. AT&T now intends to add six (6) antennas to their existing configuration. The new antennas will be installed at the 128-ft level of the tower. AT&T is also proposing mount modification pursuant to the enclosed Mount Analysis.

The facility was approved by the City of Torrington Planning and Zoning Commission by way of a Certification of Special Exception on April 12, 2000. The approval was given with conditions which this exempt modification complies with.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §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 Elinor Carbone, Mayor for the City of Torrington, Martin Connor, City Planner, Crown Castle as the tower owner, and the property owners.

1. The proposed modifications will not result in an increase in the height of the existing tower.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Anne Marie Zsamba.

Sincerely,

Anne Marie Zsamba
Network Real Estate Specialist
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
(201) 236-9224
AnneMarie.Zsamba@crowncastle.com

Attachments
cc:

The Honorable Elinor Carbone, Mayor (*via email only to Elinor_carbone@torringtonct.org*)
140 Main Street
Torrington, CT 06790

Martin Connor, AICP, City Planner (*via email only to martin_connor@torringtonct.org*)
140 Main Street
Torrington, CT 06790

William & Jill Jobert
108 Springfield Drive
Advance, NC 27006

Crown Castle, Tower Owner

From: Zsamba, Anne Marie
To: Elinor_carbone@torringtonct.org
Subject: Notice of Exempt Modification - 136 Wright Road - 876373 - AT&T
Date: Tuesday, June 23, 2020 12:55:00 PM
Attachments: EM-AT&T-136 WRIGHT ROAD TORRINGTON-876373_notice.pdf

---

Dear Mayor Carbone:

Attached please find AT&T's exempt modification application that is being submitted to the Connecticut Siting Council, today June 23, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

ANNE MARIE ZSAMBA
Site Acquisition Specialist
T: (201) 236-9224
M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

From: Zsamba, Anne Marie
To: martin_connor@torringtonct.org
Subject: Notice of Exempt Modification - 136 Wright Road - 876373 - AT&T
Date: Tuesday, June 23, 2020 12:55:00 PM
Attachments: EM-AT&T-136 WRIGHT ROAD TORRINGTON-876373_notice.pdf

---

Dear City Planner Connor:

Attached please find AT&T's exempt modification application that is being submitted to the Connecticut Siting Council, today June 23, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

ANNE MARIE ZSAMBA
Site Acquisition Specialist
T: (201) 236-9224
M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Exhibit A

Original Facility Approval

City Of Torrington

PLANNING AND ZONING COMMISSION
140 Main Street • Room 311
Torrington, CT 06790

Tel.: (860) 489-2220
Fax: (860) 489-2550

April 18, 2000

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Christopher B. Fisher, Esq.
Cuddy, Feder & Worby, LLP
90 Maple Avenue
White Plains, NY 10601

Subject: Special Exception #00-3 and Site Plan #00-4
Applicant: Sprint Spectrum LP d/b/a Sprint PCS
Location: Goshen Road/136 Wright Road (Map 214-2-5)
Proposal: Construct wireless telecommunication tower and associated improvements.

Dear Attorney Fisher:

This is to confirm that at its April 12, 2000, the Planning and Zoning Commission approved the above referenced proposals with the following conditions:

1. Per Section 5.3 C. of the Regulations, the applicant shall provide a legally binding document to be reviewed and approved by the Torrington Corporation Counsel for the fall zone setback area lying outside of Sprint Spectrum's L.P.'s 75' square lease area on the John J. Wright property and within the 150' required fall zone setback, the 150' height of the tower, that prevents development within the fall zone area lying outside the 75' lease area during the time the tower is in place.
2. Per Section A12.0 of the Regulations, the special exception shall be valid for 15 years. At the end of this time period, the tower shall be removed by Sprint Spectrum LP d/b/a Sprint PCS or current owner; or a new special exception permit shall be required.
3. Per Section A 4.4.1 of the Regulations, the applicant must provide a plan for the handling of any hazardous materials using best management practices. If any hazardous materials are to be used on site, there shall be provisions for full containment of such materials. An enclosed containment area shall be provided with a sealed floor, designed to contain at least 110% of the volume of hazardous materials stored or used on the site.

[redacted]

4. Per Section A 9.0 of the Regulations, after the tower is operational, the applicant shall submit existing measurements of radio frequency radiation (RFR) from the facility, signed and sealed by an RF Engineer, stating that the RFR measurements are accurate and meet the maximum permissible exposure (MPE) limits as established by the FCC guidelines. The report shall be submitted to the office of the City Planner.
5. As offered by the applicant during the public hearing process, space shall be made available, at no charge, for municipal services equipment.
6. Per Section A 10.3 of the Regulations, the applicant shall submit a bond in an amount sufficient to cover the costs of removal of the regulated facility in the event the City must remove the facility. The bond amount must be approved by the City Engineer in a form acceptable to the Torrington Corporation Counsel.
7. As recommended by the Torrington Fire Chief, the applicant shall provide a gate at the entrance to the driveway secured by a Knox brand padlock to allow the Fire Department to open the gate with a master key. The driveway must be maintained in all weather conditions in order to allow emergency access.

Please note we will require you to submit a recording mylar of the site plan and two paper copies, these will be signed by the Planning and Zoning Commission Chairman. The approval block per Section 8.4.3p must be added to the site plan, as well as this certified letter of approval, which should be reduced and placed on the site plan, per Section 8.4.3.

Enclosed please find three copies of the completed Certification of Special Exception form. Please take all three copies to the City Clerk's Office where they will time stamp and record on the City Land Records one copy. Please deliver one time stamped copy to the Planning and Zoning Department and retain one copy for your records.

Your special exception approval does not take effect until it is recorded on the Land Records. Note that you can obtain a zoning permit only after the Certification is filed and certain conditions are complied with.

If you have any questions regarding this matter, please contact me.

Sincerely,

Martin J. Connor, AICP
City Planner

cc: Peter Ebersol

(078)

CUDDY & FEDER & WORBY LLP

90 MAPLE AVENUE
WHITE PLAINS, NEW YORK 10601-5196

(914) 761-1300
TELECOPIER (914) 761-5372/6405
www.cfwlaw.com

New York City Office
230 PARK AVENUE
NEW YORK, NEW YORK 10169
(212) 949-6280
TELECOPIER (212) 949-6346

Connecticut Offices
733 SUMMER STREET
STAMFORD, CONNECTICUT 06901
(203) 348-4780

4 BERKELEY STREET
NORWALK, CONNECTICUT 06850
(203) 853-8001
TELECOPIER (203) 831-8250

NEIL J. ALEXANDER (also CT)
THOMAS R. BIERNE (also D.C.)
JOSEPH P. CARLUCCI
KENNETH J. DUBROFF
ROBERT FEDER
CHRISTOPHER B. FISHER (also CT)
ANTHONY B. GIOFFRE III (also CT)
KAREN G. GRANIK
JOSHUA J. GRAUER
WAYNE E. HELLER (also CT)
KENNETH F. JURIST
MICHAEL L. KATZ (also NJ)
JOSHUA E. KIMERLING (also CT)
DANIEL F. LEARY (also CT)
BARRY E. LONG

CUDDY & FEDER
1971-1995

WILLIAM S. NULL
ELISABETH N. RADOW
NEIL T. RINSKY
RUTH E. ROTH
CHAUNCEY L. WALKER (also CA)
ROBERT L. WOLFE
DAVID E. WORBY

Of Counsel
LAUREEN J. PETERSON-COLASACCO (also CT)
MICHAEL R. EDELMAN
ANDREW A. GLICKSON (also CT)
DEBORAH S. LEWIS (also CT)
ROBERT L. OSAR (also TX)
MARYANN M. PALERMO
ROBERT C. SCHNEIDER
LOUIS R. TAFFERA

August 21, 2000

Via Federal Express

Martin J. Connor, City Planner
City of Torrington
City Hall
140 Main Street
Torrington, Connecticut 06790

RE: Certification of Special Exception
Lease between SSLP and Wright; Torrington, CT
CT33XC078 (32244/98)

Dear Mr. Connor:

On April 12, 2000 the City of Torrington issued a Certification of Special Exception. The Certification calls for a number of documents to be provided to you. Enclosed, please find the necessary outstanding items. Kindly review the enclosed and issue a Certificate of Zoning Compliance. If there is anything else you require, please do not hesitate to call me.

This package includes the following documents:

1. Final Site Plan (mylar) along with two copies;

C&F&W: 265330.01

[redacted]

2. Fall Zone Development Restriction (This has been previously reviewed and approved by the City Attorney. The attached is a copy; the original will be recorded directly with the City Clerk.);

3. A Hazardous Waste Plan prepared by URS Greiner Woodward Clyde;

4. The original Removal Bond for Sprint's installation;

5. A time stamped copy of filed Certification of Special Exception.

Please issue a letter of zoning compliance to Sprint. Also, please let me know if it is possible for Sprint to pick up the letter at City Hall when it is complete. Kindly call me to notify me if this is possible.

Very truly yours,

Wayne E. Heller

cc: Chris Fisher, Esq. (w/ encl.)
Karen Nielsen (w/encl.)

C&F&W: 260469. 02

[redacted]

(078)

CUDDY & FEDER & WORBY LLP

90 MAPLE AVENUE
WHITE PLAINS, NEW YORK 10601-5196

(914) 761-1300
TELECOPIER (914) 761-5372/6405
www.cfwlaw.com

New York City Office
230 PARK AVENUE
NEW YORK, NEW YORK 10169
(212) 949-6290
TELECOPIER (212) 949-6345

Connecticut Offices
733 SUMMER STREET
STAMFORD, CONNECTICUT 06901
(203) 348-4780

4 BERKELEY STREET
NORWALK, CONNECTICUT 06850
(203) 853-6001
TELECOPIER (203) 831-8250

CUDDY & FEDER
1971-1995

NEIL J. ALEXANDER (also CT)
DAVID I. BASS (also CT)
THOMAS R. BEIRNE (also D.C.)
JOSEPH P. CARLUCCI
KENNETH J. DUBROFF
ROBERT FEDER
CHRISTOPHER B. FISHER (also CT)
ANTHONY B. GIDFFRE III
KAREN G. GRANIK
JOSHUA J. GRAUER
WAYNE E. HELLER (also CT)
KENNETH F. JURIST
MICHAEL L. KATZ (also NJ)
JOSHUA E. KIMERLING (also CT)
DANIEL F. LEARY (also CT)
BARRY E. LONG

WILLIAM S. NULL
ELISABETH N. RADOW
NEIL T. RIMSKY
RUTH E. ROTH
CHAUNCEY L. WALKER (also CA)
ROBERT L. WOLFE
DAVID E. WORBY

Of Counsel
LAUREEN J. PETERSON-COLASACCO (also CT)
MICHAEL R. EDELMAN
ANDREW A. GLICKSON (also CT)
DEBORAH S. LEWIS (also CT)
ROBERT L. OSAR (also TX)
MARYANN M. PALERMO
ROBERT C. SCHNEIDER
LOUIS R. TAFFERA

April 28, 2000

Via Federal Express
Ms. Karen Nielsen
Sprint PCS
1 International Blvd., Suite 800
Mahwah, New Jersey 07495

Re: Resolution of Approval, CT33XC078; Torrington, CT

Dear Ms. Nielsen:

Enclosed please find copies of an April 18, 2000 letter I just received enclosing the Planning & Zoning Commission's special permit and site plan approval resolution for the above referenced site. There are a number of post approval conditions that must be satisfied prior to the issuance of a zoning permit and ability for Sprint to obtain a building permit. Specifically, Sprint must:

1) Execute a "legally binding" document to be reviewed by the City Attorney regarding the prohibition on building in the fall zoned signed by the owner of the property. As you know, Wayne Heller in our office is already working with counsel for the landlord on this matter;
2) Provide a plan for the handling of any hazardous materials using best management practices and providing for full containment of materials used or stored on site. It is my understanding that no such materials will be used or stored on site. Nevertheless, I think we could provide a written plan noting same and providing for

[redacted]

containment of materials used during construction which URS can draft and add to the plans;

3) A removal bond must be posted with the City in an amount acceptable to the City Engineer and in a form acceptable to the City Attorney. URS can provide a removal cost estimate for review by the City Engineer. We can coordinate with the City Attorney on the bond if you could provide us with the company you are using and a standard form bond to use as a starting point;
4) The plans need to be revised to: show a gate at the entrance to the new driveway with the locks and keys as set forth in the resolution provided to the Fire Department. An approval block must also be added and the enclosed letter reduced and added to the plans. URS will need to make these revisions with ultimately a recording mylar and two paper copies provided for signature by the Commission Chairman.

Additionally, there are other conditions that Sprint should review including a reservation of space for municipal antennas and post operational emissions certifications (illegal but given our need to build out a number of sites in Torrington something Sprint may simply need to consent to).

Please let me know how you would like to coordinate satisfying the conditions. In the interim, I will have the three original copies of the approval resolution recorded in the City Clerk's office with one copy provided to the Planning & Zoning Department and another copy retained for Sprint's records. Also, I would appreciate it if URS notified the Building Department of the approval in writing and started working with them on the potential need for an independent structural engineer's certification and inspections given the 90 day statutory notice requirement and threshold issue for a tower of this height.

Finally, you will note that Mr. Connor conveniently cc:d the landlord's attorney with a copy of his letter to me. While, I think we can all agree that this "fall zone" matter was orchestrated by the Planner and Attorney Ebersol for financial reasons, it seems to be in Sprint's best interests to simply move forward, satisfy the conditions and clear the way to get operational.

C&F&W: 237598.05

Please do not hesitate to contact me with any questions regarding the foregoing.

Sincerely,

Christopher B. Fisher

Enc.
CBF/cd
cc: Rich Feely
Rob O'Connor
Alitz Abadjian/Doug Roberts
Wayne Heller

C:\F&W\237598.03

[redacted]

To [redacted]	From m. Corvino
Co./Dept.	Co.
Phone #	Phone # 860 [illegible]
Fax # 860-537-3991	Fax #

TORRINGTON ZONING DEPARTMENT

)R GRADING PERMIT

Date: 09/18/00 Fee: $ 60.00 Bond $ 1,975.00

Project Name: Sprint PCS Site CT33XC078/Long Eddy 1: Wright Property

Address: Lot 5 - Goshen Road and Lot 6 - Wright Road, Torrington, CT Map 214 Block 2 Lot 5&6

Property Owner's Name: Lot 5 - Estate of John J. Wright; Lot 6 - Mildred Wright and Estate of John J. Wright

Address: 136 Wright Road, Torrington, CT

Applicant's Name: Sprint Spectrum, LP d/b/a Sprint PCS (If other than Owner)

Address: 1 International Boulevard, Mahwah, NJ 07495 Telephone: (201) 684-4064

Give the purpose and description of the proposed activity: Proposed installation of an unmanned wireless telecommunications facility consisting of a 150' monopole and ground mounted equipment The project will also include the construction of a paved access drive from wright parcel road to the tower compound.

Check types of material submitted: [ ] Narrative [X] Plan [ ] Soil Report [ ] Calculations [ ] Other ____

Size of area to be disturbed with grading work (include construction drives): 24,232 Sf/A

Name of each person who will be responsible for implementing and maintaining the Erosion and Sedimentation Controls on the project:

1. Baron Utilities -Don Alloco Telephone: (518) 456-8114
2. Pinnacle Site Development -Steve Florio Telephone: (860) 659-9248
3. ____ Telephone: ____

The grading Permit Application is hereby applied for by the undersigned applicant in accordance with the requirements of Section 7.3 of the City of Torrington Zoning Regulations. The Permit, if issued, is based upon the plan, narrative or other information as submitted. Falsification by misrepresentation or omission, or failure to comply with the conditions of the Permit shall constitute a violation of the Zoning Regulations of the City of Torrington.

____
Signature of Owner/Authorized Agent

* * * * * * * * * * * * * *

Subdivision	Application Date ____	Approval Date: ____
__ Site Plan	Application Date ____	Approval Date: ____
__ Inland Wetlands	Application Date ____	Approval Date: ____

Permit is ____ Approved ____ Denied for work described above and on ____, with the following conditions: ____

Approved by: ____ Approval Date: ____

Fee Schedule: The fee for a grading permit is $60.00 for projects involving 40,000 square feet or less of disturbed area. For projects over 40,000 square feet, $60.00 plus $1.00 per 1000 square feet of disturbed area over 40,000 square feet. The application fee shall be due and payable upon the submission of the application.

Exhibit B

Property Card

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2019.

Information on the Property Records for the Municipality of Torrington was last updated on 6/19/2020.

Parcel Information

Location:	125 WRIGHT RD	Property Use:	Industrial	Primary Use:	Light Industrial
Unique ID:	15373	Map Block Lot:	214/002/005/2	Acres:	1.63
490 Acres:	0.00	Zone:	R-WP	Volume / Page:	0739/0712
Developers Map / Lot:	4541/4542	Census:	4		

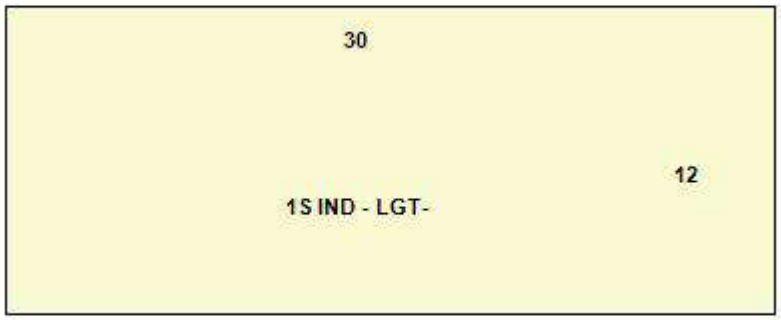
Value Information

	Appraised Value	Assessed Value
Land	92,938	65,050
Buildings	10,527	7,370
Detached Outbuildings	16,736	11,720
Total	120,201	84,140

Owner's Information

Owner's Data
JOBERT JILL S ETAL CO SPRINT SPECTRUM LP 6500 SPRINT PARKWAY OVERLAND PARK, KS 66251

Building 1



Category:	Industrial	Use:	Light Industrial	GLA:	360
Stories:	1.00	Construction:	Masonry and Wood Frame	Year Built:	2004

Heating:		Fuel:		Cooling Percent:	0
Siding:	Pre-Cast Concrete	Roof Material:	Asphalt	Beds/Units:	0

Special Features

Attached Components

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Fencing	2004	0.00	0.00	200
Concrete Block/Fr Garage	2004	0.00	0.00	312
Concrete Patio	2004	0.00	0.00	528

Owner History - Sales

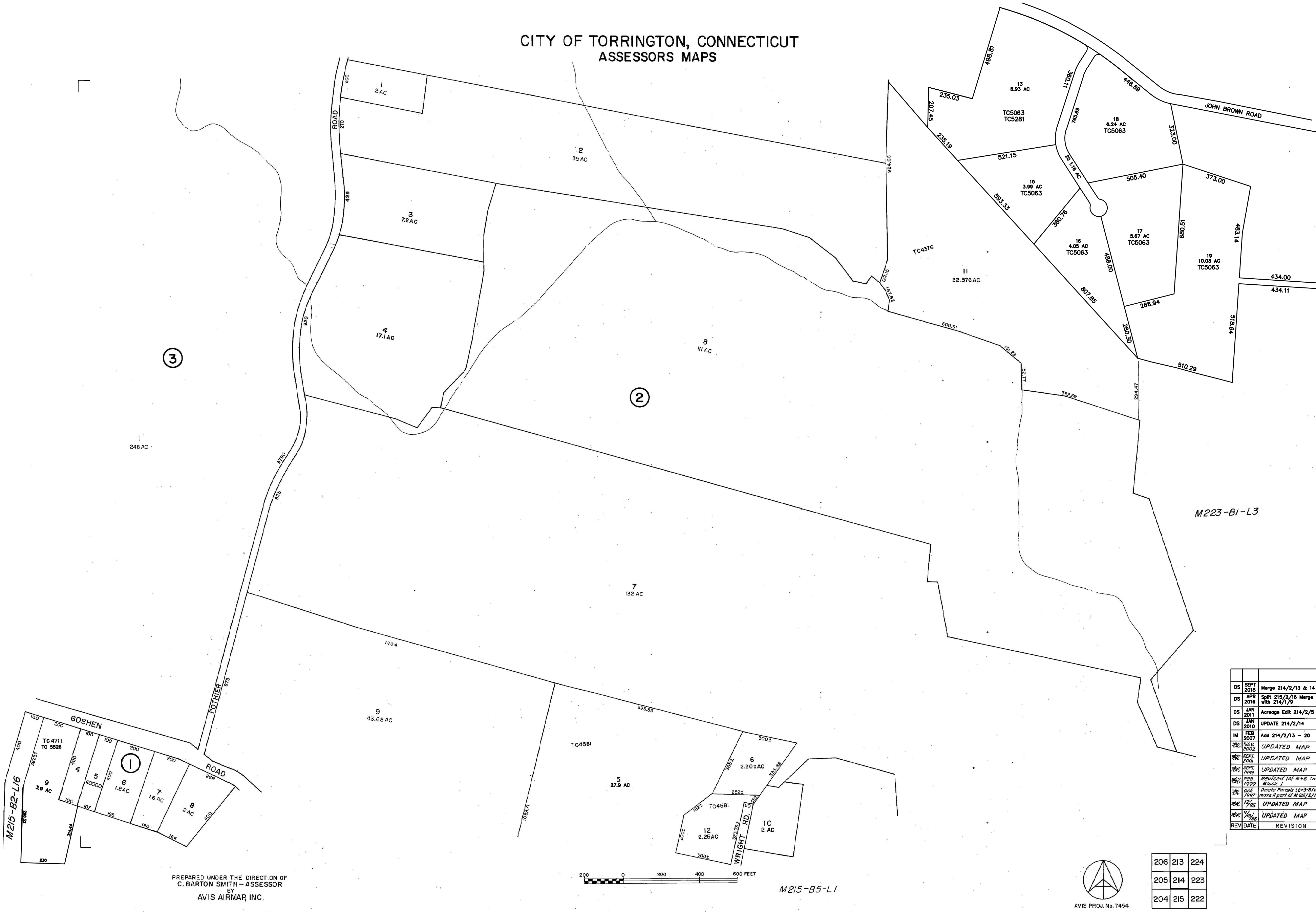
Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
JOBERT JILL S ETAL	0739	0712	02/23/2001	Certificate of Devise	No	$0
WRIGHT JOHN J	0219	0370	03/09/1961	Warranty Deed	No	$0

Building Permits

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
15-469	Certificate of Completion	04/16/2015		Closed	CERT OF COMPL- 6 REPL ANTENNAS/HEADS
12-2780	Building	10/31/2012		Closed	6 NEW ANTENNAS/6 REMOTE RADIO HEADS=PP

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
12-2812	Building	10/31/2012		Closed	6 NEW ANTENNAS & REMOTE RADIO HEADS
12-2489	Building	10/11/2012		Closed	REPL 6 ANTENNA
03-525	Commercial	11/24/2004		Closed	
00-338	Commercial	09/27/2000		Closed	SPRINT TELECOMM TOWER

CITY OF TORRINGTON, CONNECTICUT
ASSESSORS MAPS



206	213	224
205	214	223
204	215	222

REV	DATE	REVISION
DS	SEPT 2018	Merge 214/2/13 & 14
DS	APR 2016	Split 215/2/16 Merge with 214/1/9
DS	JAN 2011	Acreage Edit 214/2/5
DS	JAN 2010	UPDATE 214/2/14
IM	FEB 2007	Add 214/2/13 – 20
[illegible]	NOV. 2002	UPDATED MAP
[illegible]	SEPT. 2001	UPDATED MAP
[illegible]	SEPT. 1999	UPDATED MAP
[illegible]	FEB. 1999	Revised lot 5+6 in Block 1
[illegible]	Oct. 1997	Delete Parcels 1,2+3-B1 & make it part of M 215/2/16
[illegible]	12/95	UPDATED MAP
[illegible]	11/18/88	UPDATED MAP

PREPARED UNDER THE DIRECTION OF
C. BARTON SMITH – ASSESSOR
BY
AVIS AIRMAP, INC.

Exhibit C

Construction Drawings

AT&T

AT&T SITE NUMBER:	156979	BUSINESS UNIT #:	876373
AT&T SITE NAME:	CT1304	SITE ADDRESS:	136 WRIGHT RD. TORRINGTON, CT 06790
AT&T FA CODE:	12676386	COUNTY:	LITCHFIELD
AT&T PACE NUMBER:	MRCTB045118; MRCTB045069; MRCTB045131; MRCTB045047; MRCTB045048	SITE TYPE:	MONOPOLE
AT&T PROJECT:	3C/4C/5C/4T4R	TOWER HEIGHT:	148'-0"

SITE INFORMATION

CROWN CASTLE USA INC. SITE NAME:	LONG EDDY / WRIGHT PROPERTY
SITE ADDRESS:	136 WRIGHT RD. TORRINGTON, CT 06790
COUNTY:	LITCHFIELD
MAP/PARCEL #:	MAP 214, BLOCK 2, LOT 5
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	41° 49' 38.34"
LONGITUDE:	-73° 10' 13.97"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	1,094 FT.
CURRENT ZONING:	R-WP
JURISDICTION:	CITY OF TORRINGTON
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	JOHN JAY & DIANE WRIGHT 100 STAGE ROAD NOTTINGHAM, NH 03290
TOWER OWNER:	GLOBAL SIGNAL ACQUISITIONS II LLC 2000 CORPORATE DRIVE CANONSBURG, PA 15317
CARRIER/APPLICANT:	AT&T TOWER ASSET GROUP 575 MOROSGO DRIVE ATLANTA, GA 30324-3300
ELECTRIC PROVIDER:	CONNECTICUT LIGHT & POWER CO (800) 286-2000
TELCO PROVIDER:	AT&T (866) 620-6900

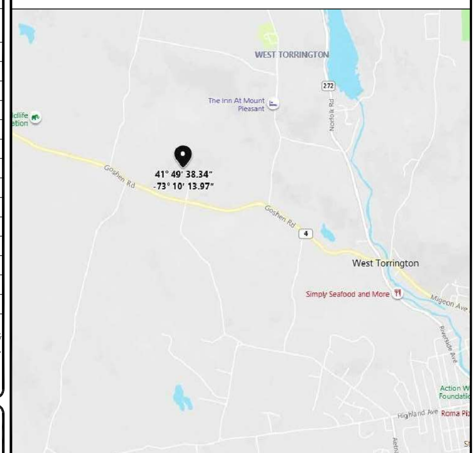
DRAWING INDEX

SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	SITE PLAN
C-1.2	EXISTING & FINAL EQUIPMENT PLANS
C-2	FINAL ELEVATION & ANTENNA PLANS
C-3	FINAL EQUIPMENT SCHEDULE
C-4.1	PLUMBING DIAGRAM
C-4.2	PLUMBING DIAGRAM
C-4.3	PLUMBING DIAGRAM
C-5	EQUIPMENT SPECS
G-1	GROUNDING SCHEMATIC
G-2	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL CONNECTICUT ONE CALL
(800) 922-4455 CBYD.COM
CALL 2 WORKING DAYS
BEFORE YOU DIG!

LOCATION MAP



NO SCALE

SITE PHOTO

AT&T SITE NUMBER: 156979

BU #: 876373
LONG EDDY / WRIGHT PROPERTY

136 WRIGHT RD.
TORRINGTON, CT 06790

EXISTING 148'-0" MONOPOLE

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

PROJECT TEAM

A&E FIRM:	CROWN CASTLE USA INC. 2000 CORPORATE DRIVE CANONSBURG, PA 15317 CROWNAE.APPROVAL@CROWNCASTLE.COM
CROWN CASTLE USA INC. DISTRICT CONTACTS:	3 CORPORATE PARK DRIVE, SUITE 101 CLIFTON PARK, NY 12065 VERONICA DELIA - PROJECT MANAGER (610) 635-3222 JASON D'AMICO - CONSTRUCTION MANAGER (860) 209-0104

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO ENHANCE BROADBAND CONNECTIVITY AND CAPACITY TO THE EXISTING ELIGIBLE WIRELESS FACILITY.

TOWER SCOPE OF WORK:
- REMOVE (3) ERICSSON - RRUS-11 B12 RRUs
- REMOVE (6) ERICSSON - RRUS-12 B2 RRUs
- RELOCATE (3) CCI HPA-65R-BUU-H8 ANTENNAS
- INSTALL HRK 12 HANDRAIL KIT, 3'-6" ABOVE THE FACE HORIZONTAL PER THE MOUNT ANALYSIS BY B+T GROUP DATED MAY 21, 2020
- INSTALL (3) CCI - OPA65R-BU8DA-K ANTENNAS
- INSTALL (3) CCI - DMP65R-BU8DA ANTENNAS
- INSTALL (3) ERICSSON - 8843 B2/B66A RRUs
- INSTALL (3) ERICSSON - 4449 B5/B12 RRUs
- INSTALL (3) ERICSSON - 4415 B30 RRUs
- INSTALL (3) PIPE MOUNTS
- INSTALL (3) VALMONT - RRUDSM BACK TO BACK MOUNTS

GROUND SCOPE OF WORK:
- INSTALL (2) 6630
- INSTALL (1) XMU03 + IDLE

APPLICABLE CODES/REFERENCE DOCUMENTS

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE/2015 IBC W/ CT AMENDMENTS
MECHANICAL	2018 CT STATE BUILDING CODE/2015 IMC W/ CT AMENDMENTS
ELECTRICAL	2018 CT STATE BUILDING CODE/2017 NEC W/ CT AMENDMENTS

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:	B+T GROUP
DATED:	MAY 27, 2020
MOUNT ANALYSIS:	B+T GROUP
DATED:	MAY 21, 2020
RFDS REVISION:	PRELIMINARY
DATED:	03/23/20
ORDER ID:	509330
REVISION:	0

INSTALLER NOTE:
NO PROPOSED LOADING TO BE ADDED UNTIL MOUNT MODIFICATIONS ARE INSTALLED PER MOUNT ANALYSIS BY B+T GROUP DATED MAY 21, 2020.

NOTE:
PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NOC AT (800) 788-7011 & CROWN CONSTRUCTION MANAGER.

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	06/01/20	AMM	PRELIMINARY	RO
0	06/16/20	AMM	CONSTRUCTION	JL

DocuSigned by: Justin Linette
B4005B2847C54...
STATE OF CONNECTICUT
JUSTIN LINETTE
No. 31965
LICENSED PROFESSIONAL ENGINEER
6/17/2020 | 3:44:34 PM EDT

Crown Castle USA Inc. Certificate of Registration #PEC.0001101

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:	REVISION:
T-1	0

CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED– NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800–788–7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
2. "LOOK UP" – CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:
   THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED–STD–10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).
5. ALL SITE WORK TO COMPLY WITH QAS–STD–10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE" AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR 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.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
   CARRIER: AT&T
   TOWER OWNER: CROWN CASTLE USA INC.
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR 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 CROWN CASTLE.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR 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.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC.
13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST–IN–PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE–THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER–TO–CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:
   #4 BARS AND SMALLER 40 ksi
   #5 BARS AND LARGER 60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
   CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
   CONCRETE EXPOSED TO EARTH OR WEATHER:
   #6 BARS AND LARGER 2"
   #5 BARS AND SMALLER 1–1/2"
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
   SLAB AND WALLS 3/4"
   BEAMS AND COLUMNS 1–1/2"
7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

GREENFIELD GROUNDING NOTES:

1. 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.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL–OF–POTENTAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. 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.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING 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 CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON–METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD–WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
   4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
   4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERYIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI–CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL–CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON–PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER–ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "AT&T".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE

SYSTEM	CONDUCTOR	COLOR
120/240V, 1Ø	A PHASE	BLACK
	B PHASE	RED
	NEUTRAL	WHITE
	GROUND	GREEN
120/208V, 3Ø	A PHASE	BLACK
	B PHASE	RED
	C PHASE	BLUE
	NEUTRAL	WHITE
	GROUND	GREEN
277/480V, 3Ø	A PHASE	BROWN
	B PHASE	ORANGE OR PURPLE
	C PHASE	YELLOW
	NEUTRAL	GREY
	GROUND	GREEN
DC VOLTAGE	POS (+)	RED**
	NEG (–)	BLACK**

* SEE NEC 210.5(C)(1) AND (2)
** POLARITY MARKED AT TERMINATION

APWA UNIFORM COLOR CODE:

WHITE	PROPOSED EXCAVATION
PINK	TEMPORARY SURVEY MARKINGS
RED	ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
YELLOW	GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
BLUE	POTABLE WATER
PURPLE	RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
GREEN	SEWERS AND DRAIN LINES

ABBREVIATIONS:

ANT	ANTENNA
(E)	EXISTING
FIF	FACILITY INTERFACE FRAME
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GSM	GLOBAL SYSTEM FOR MOBILE
LTE	LONG TERM EVOLUTION
MGB	MASTER GROUND BAR
MW	MICROWAVE
(N)	NEW
NEC	NATIONAL ELECTRIC CODE
(P)	PROPOSED
PP	POWER PLANT
QTY	QUANTITY
RECT	RECTIFIER
RBS	RADIO BASE STATION
RET	REMOTE ELECTRIC TILT
RFDS	RADIO FREQUENCY DATA SHEET
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
SIAD	SMART INTEGRATED DEVICE
TMA	TOWER MOUNTED AMPLIFIER
TYP	TYPICAL
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
W.P.	WORK POINT

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

AT&T SITE NUMBER: **156979**

BU #: **876373**
LONG EDDY / WRIGHT PROPERTY

136 WRIGHT RD.
TORRINGTON, CT 06790

EXISTING 148'-0" MONOPOLE

ISSUED FOR:

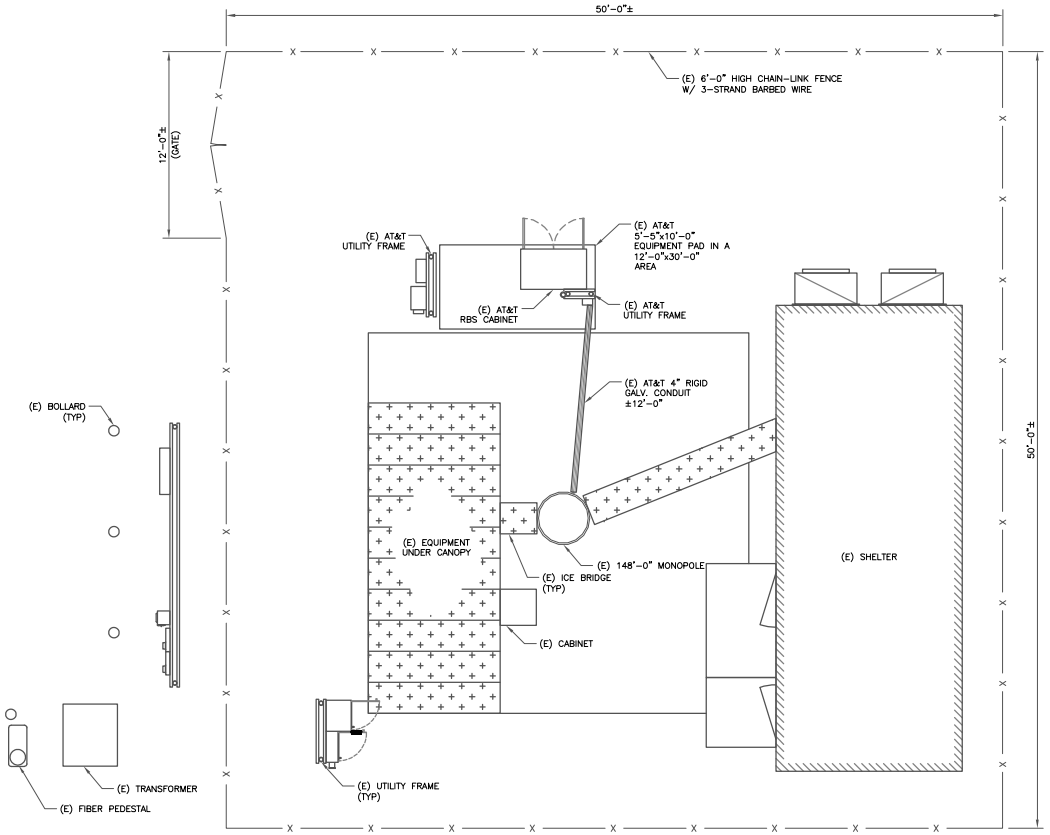
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	06/01/20	AMM	PRELIMINARY	RO
0	06/16/20	AMM	CONSTRUCTION	JL

DocuSigned by:
Justin Linette
1B4005B2547C41D...
STATE OF CONNECTICUT
LINETTE
No. 31965
LICENSED
PROFESSIONAL ENGINEER
6/17/2020 | 3:44:34 PM EDT

Crown Castle USA Inc. Certificate of Registration #PEC.0001101

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: T-2
REVISION: 0



1 SITE PLAN
SCALE: 4" 3" 2" 1" 0" 4" 1/4"=1'-0" (FULL SIZE) 1/8"=1'-0" (11x17)

N

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

AT&T SITE NUMBER: **156979**

BU #: **876373**
LONG EDDY / WRIGHT PROPERTY

136 WRIGHT RD.
TORRINGTON, CT 06790

EXISTING 148'-0" MONOPOLE

ISSUED FOR:

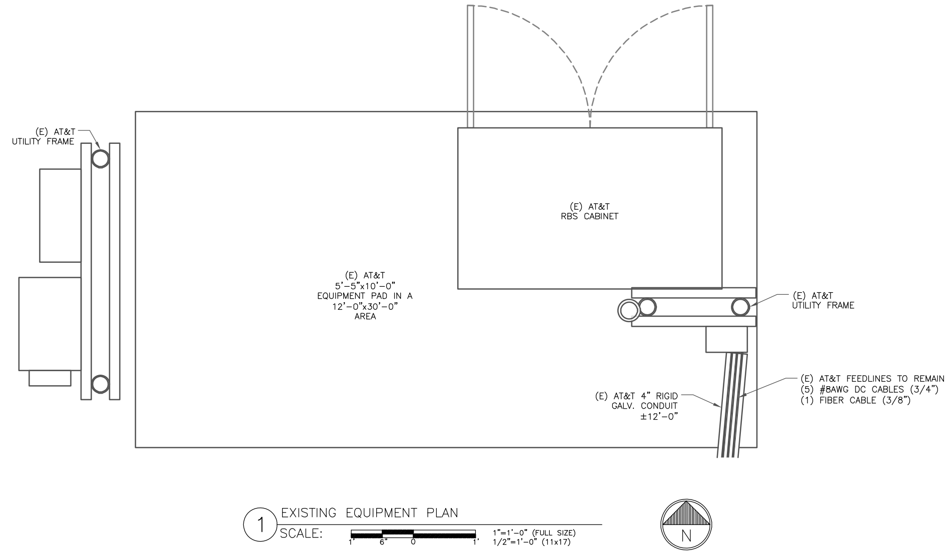
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	06/01/20	AMM	PRELIMINARY	JFO
0	06/16/20	AMM	CONSTRUCTION	JL

DocuSigned by: JUSTIN A. LINNETTE
STATE OF CONNECTICUT
JUSTIN A. LINNETTE
No. 31965
LICENSED PROFESSIONAL ENGINEER
6/17/2020 | 11:42:34 PM EDT

Crown Castle USA Inc. Certificate of Registration #PEC.0001101

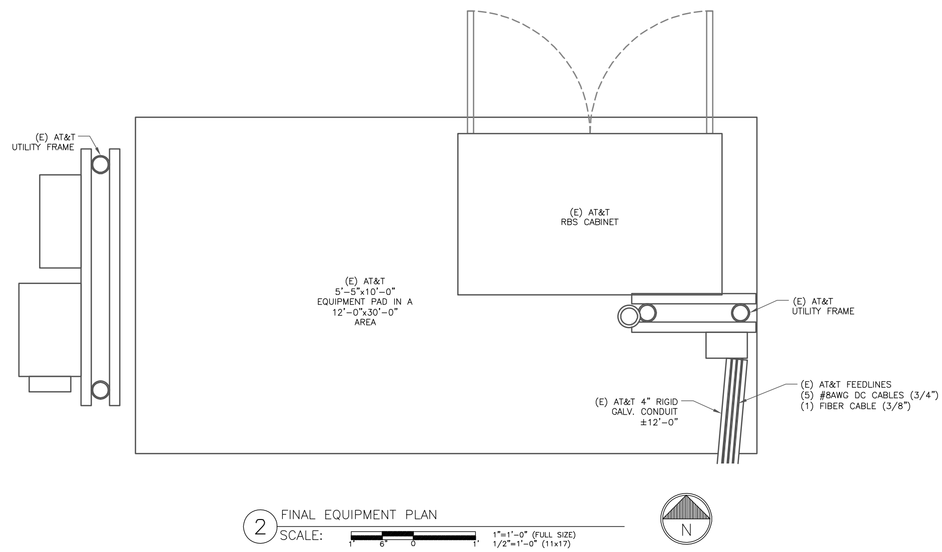
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:	REVISION:
C-1.1	0



1 EXISTING EQUIPMENT PLAN
SCALE: 1"=1'-0" (FULL SIZE) 1/2"=1'-0" (11x17)

GROUND SCOPE OF WORK:
- INSTALL (2) 6630
- INSTALL (1) XMU03 + IDLE



2 FINAL EQUIPMENT PLAN
SCALE: 1"=1'-0" (FULL SIZE) 1/2"=1'-0" (11x17)

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

AT&T SITE NUMBER: **156979**

BU #: **876373**
LONG EDDY / WRIGHT PROPERTY

136 WRIGHT RD.
TORRINGTON, CT 06790

EXISTING 148'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	06/01/20	AMM	PRELIMINARY	RO
0	06/16/20	AMM	CONSTRUCTION	JL

DocuSigned by: Justin Linette
B4005B2647C

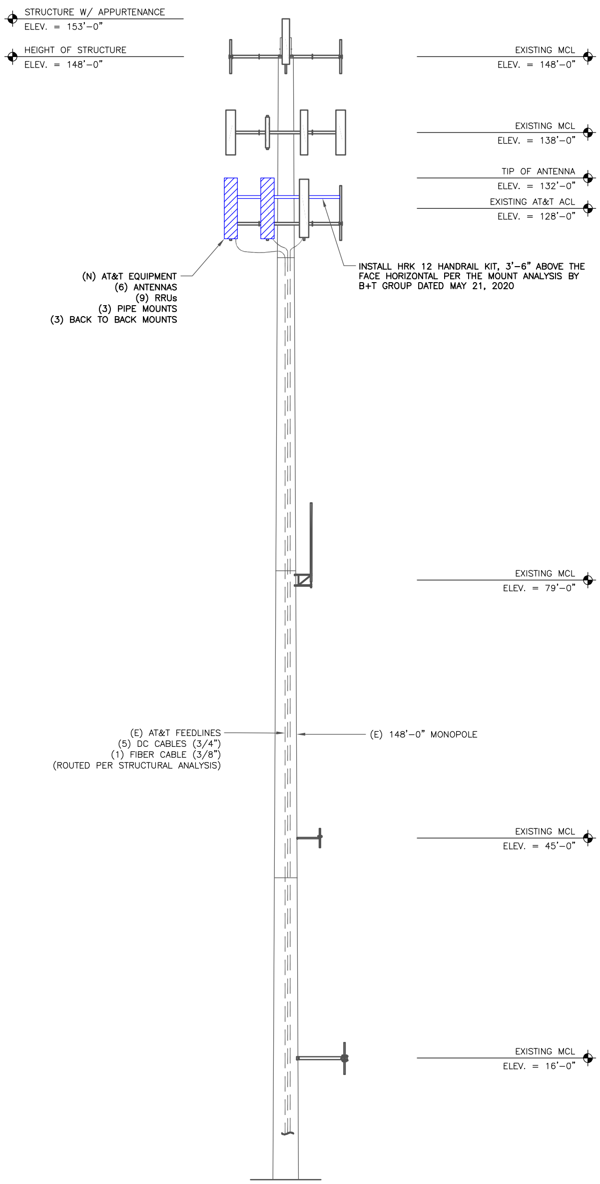
STATE OF CONNECTICUT
JUSTIN LINETTE
No. 31965
LICENSED PROFESSIONAL ENGINEER

6/17/2020 | 3:44:34 PM EDT

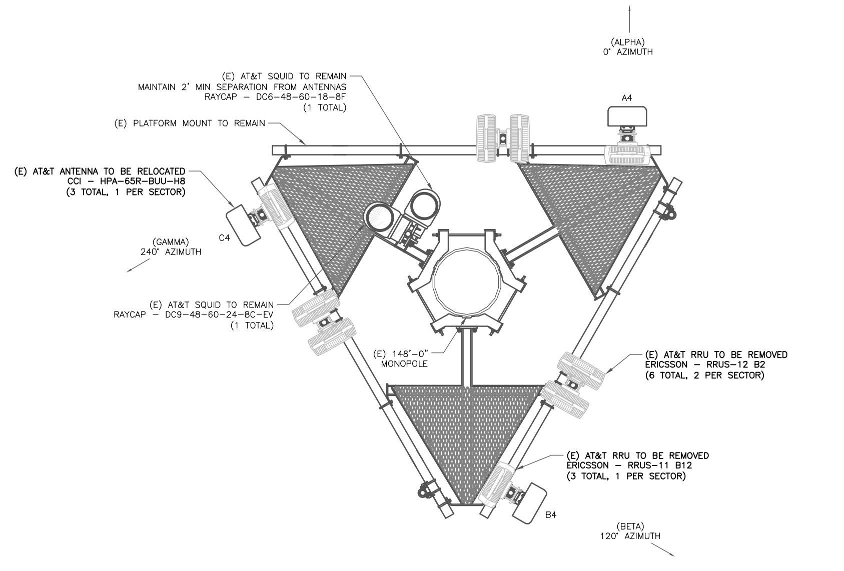
Crown Castle USA Inc. Certificate of Registration #PEC.0001101

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

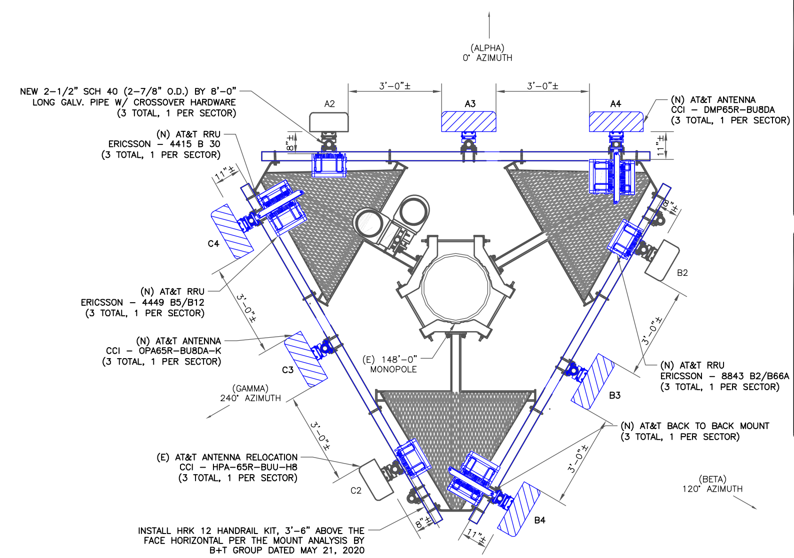
SHEET NUMBER: C-1.2
REVISION: 0



1 FINAL ELEVATION
SCALE: NOT TO SCALE



2 EXISTING ANTENNA PLAN
SCALE: 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)



3 FINAL ANTENNA PLAN
SCALE: 1/2"=1'-0" (FULL SIZE) 1/4"=1'-0" (11x17)

"LOOK UP" – CROWN CASTLE USA INC.
SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

INSTALLER NOTES:

1. REFERENCE C-3 FOR FINAL EQUIPMENT SCHEDULE.
2. REFERENCE C-4 FOR NEW EQUIPMENT SPECIFICATIONS.
3. CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.
4. 3'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE ANTENNAS ON SAME SECTOR.
4. 6'-0" MINIMUM DISTANCE REQUIRED BETWEEN 700BC & 700DE ANTENNAS ON SAME SECTOR.
5. 4'-0" MINIMUM DISTANCE REQUIRED BETWEEN LTE 700 ANTENNAS ON OPPOSING SECTORS.
6. ALL ANTENNA MEASUREMENT DISTANCES MUST BE EDGE TO EDGE (RELOCATE ANTENNAS AS NEEDED).
7. 8" MINIMUM DISTANCE REQUIRED BETWEEN ANTENNA & RADIO. SEE GENERIC EXAMPLE DETAIL ON SHEET C-5.

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

AT&T SITE NUMBER: **156979**

BU #: **876373**
LONG EDDY / WRIGHT PROPERTY

136 WRIGHT RD.
TORRINGTON, CT 06790

EXISTING 148'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	06/01/20	AMM	PRELIMINARY	BO
0	06/16/20	AMM	CONSTRUCTION	JL

DocuSigned by: Justin Linette
B4005B2847C4...
STATE OF CONNECTICUT
JUSTIN LINETTE
No. 31965
LICENSED PROFESSIONAL ENGINEER
6/17/2020 | 3:44:34 PM EDT

Crown Castle USA Inc. Certificate of Registration #PEC.0001101

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: C-2
REVISION: 0

FINAL EQUIPMENT SCHEDULE
(VERIFY WITH CURRENT RFDS)

POSITION	ANTENNA				RADIO			DIPLEXER			TMA		SURGE PROTECTION		CABLES			
	TECH.	STATUS/MANUFACTURER MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH
ALPHA																		
A1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
A2	LTE	(E) CCI HPA-65R-BUU-H8	0°	128'-0"	1	(N) 8843 B2/B66A	TOWER	–	–	–	–	–	–	–	–	–	–	–
A3	LTE	(N) CCI OPA65R-BU8DA-K	0°	128'-0"	–	–	–	–	–	–	–	–	1	(E) DC9-48-60-24-8C-EV	3	(E) #8 AWG DC	3/4"	178'-0"
															1	(E) FIBER	3/8"	178'-0"
A4	LTE/5G	(N) CCI DMP65R-BU8DA	0°	128'-0"	1	(N) 4449 B5/B12	TOWER	–	–	–	–	–	–	–	–	–	–	–
					1	(N) 4415 B30	TOWER											
BETA																		
B1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
B2	LTE	(E) CCI HPA-65R-BUU-H8	120°	128'-0"	1	(N) 8843 B2/B66A	TOWER	–	–	–	–	–	–	–	–	–	–	–
B3	LTE	(N) CCI OPA65R-BU8DA-K	120°	128'-0"	–	–	–	–	–	–	–	–	1	(E) DC6-48-60-18-8F	2	(E) #8 AWG DC	3/4"	178'-0"
															1	(E) FIBER	3/8"	178'-0"
B4	LTE/5G	(N) CCI DMP65R-BU8DA	120°	128'-0"	1	(N) 4449 B5/B12	TOWER	–	–	–	–	–	–	–	–	–	–	–
					1	(N) 4415 B30	TOWER											
GAMMA																		
C1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
C2	LTE	(E) CCI HPA-65R-BUU-H8	240°	128'-0"	1	(N) 8843 B2/B66A	TOWER	–	–	–	–	–	–	–	–	–	–	–
C3	LTE	(N) CCI OPA65R-BU8DA-K	240°	128'-0"	–	–	–	–	–	–	–	–	–	–	–	–	–	–
C4	LTE/5G	(N) CCI DMP65R-BU8DA	240°	128'-0"	1	(N) 4449 B5/B12	TOWER	–	–	–	–	–	–	–	–	–	–	–
					1	(N) 4415 B30	TOWER											

NOTE:
(E) – EXISTING
(N) – NEW

1 FINAL EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

AT&T SITE NUMBER: **156979**

BU #: **876373**
LONG EDDY / WRIGHT PROPERTY

136 WRIGHT RD.
TORRINGTON, CT 06790

EXISTING 148'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	06/01/20	AMM	PRELIMINARY	JFO
0	06/16/20	AMM	CONSTRUCTION	JL

DocuSigned by: JUSTIN F. LAMOTTE
STATE OF CONNECTICUT
No. 31965
LICENSED PROFESSIONAL ENGINEER
6/17/2020 | 11:42:34 PM EDT
Crown Castle USA Inc. Certificate of Registration #PEC.0001101

SHEET NUMBER: C-3
REVISION: 0

Diagram - Sector	A	Diagram File Name - CT1304_ABG_LTE Multi Carriers_Rev.1.vsd					
Atoll Site Name -	CT1304	Location Name -	TORRINGTON WRIGHT ROAD	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

Comments: "Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna_Radio Connection Drawings Playbook v6.0_Ericsson"

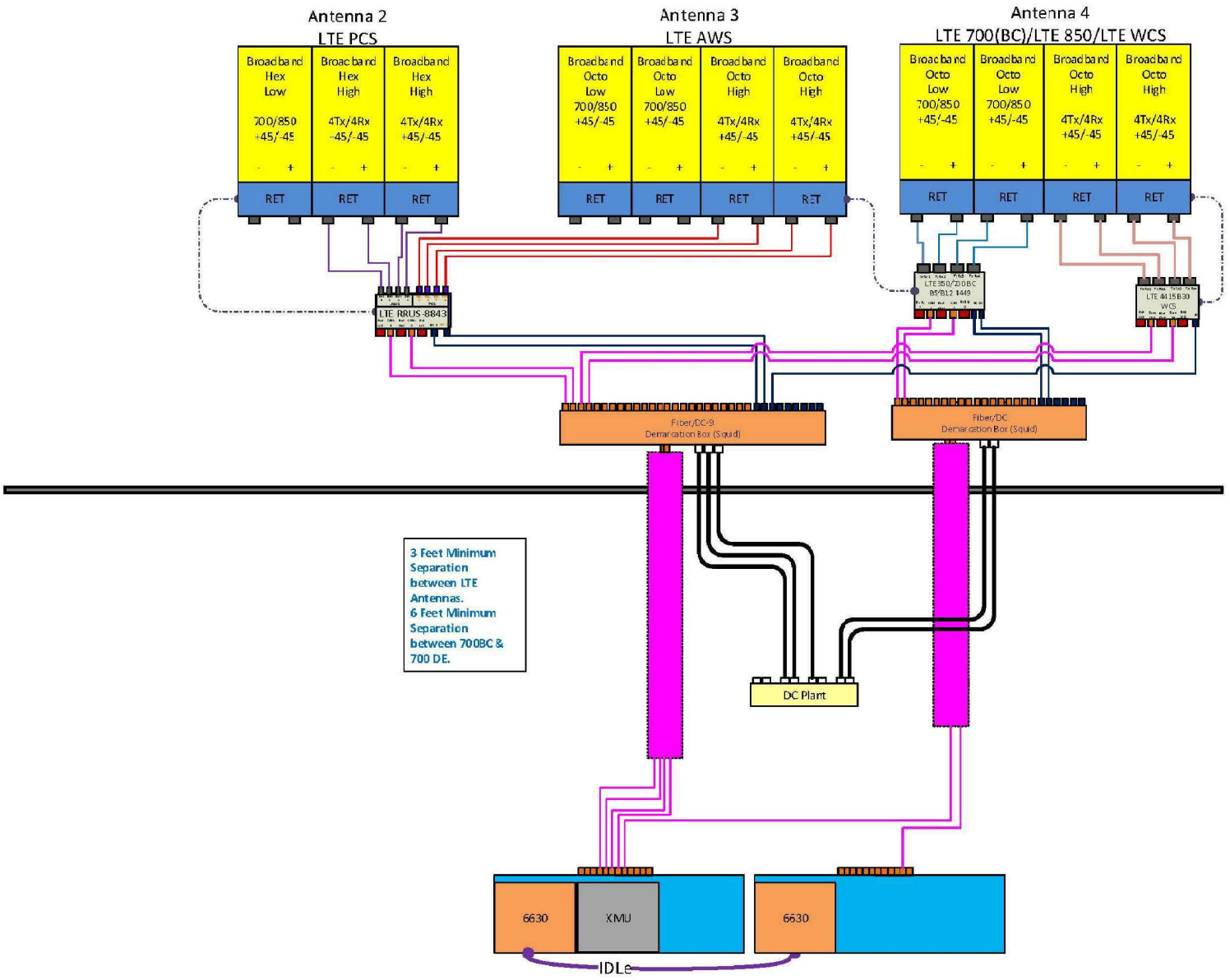


Diagram - Sector	B	Diagram File Name - CT1304_ABG_LTE Multi Carriers_Rev.1.vsd					
Atol Site Name -	CT1304	Location Name -	TORRINGTON WRIGHT ROAD	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

Comments: "Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna_Radio Connection Drawings Playbook v6.0_Ericsson"

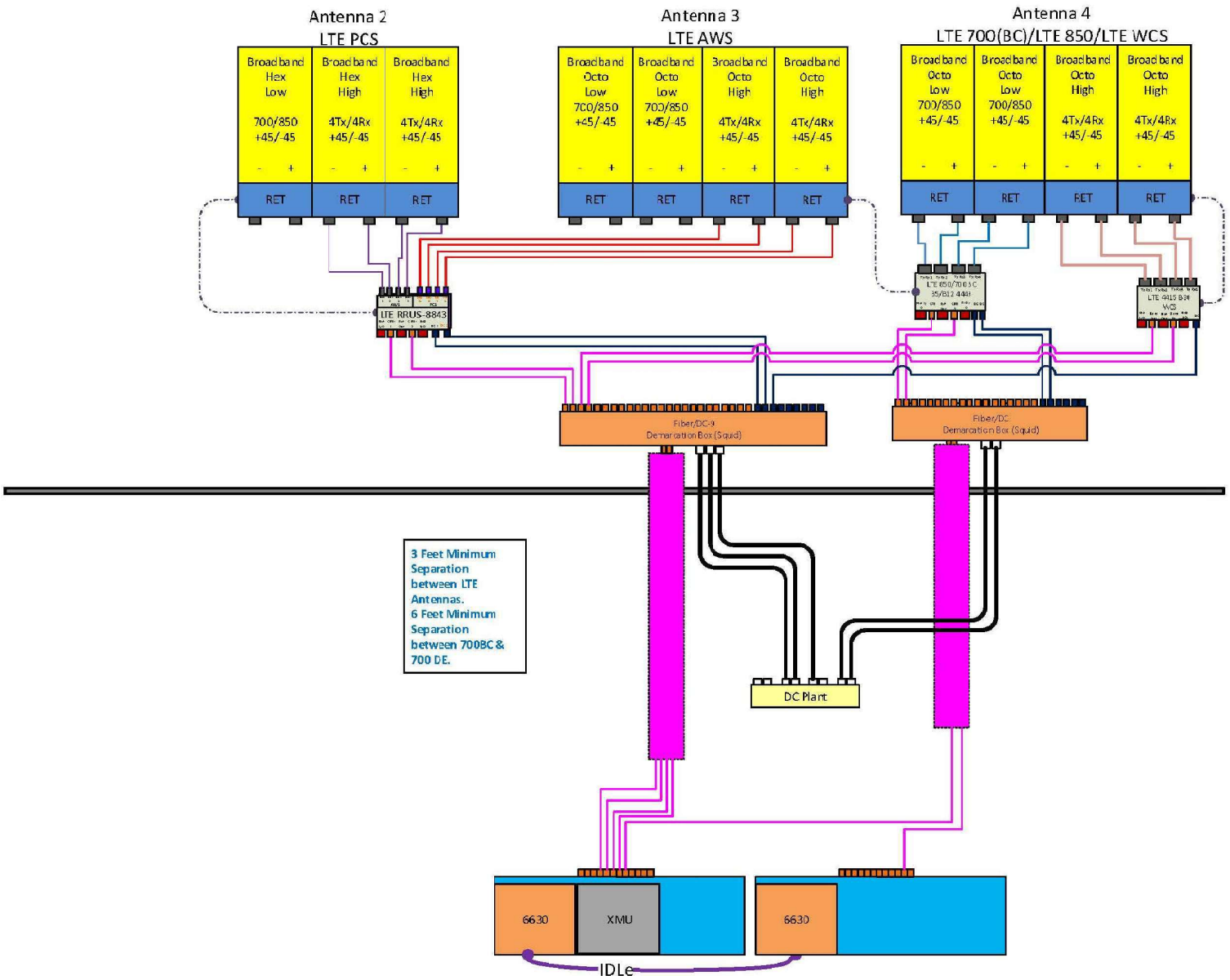
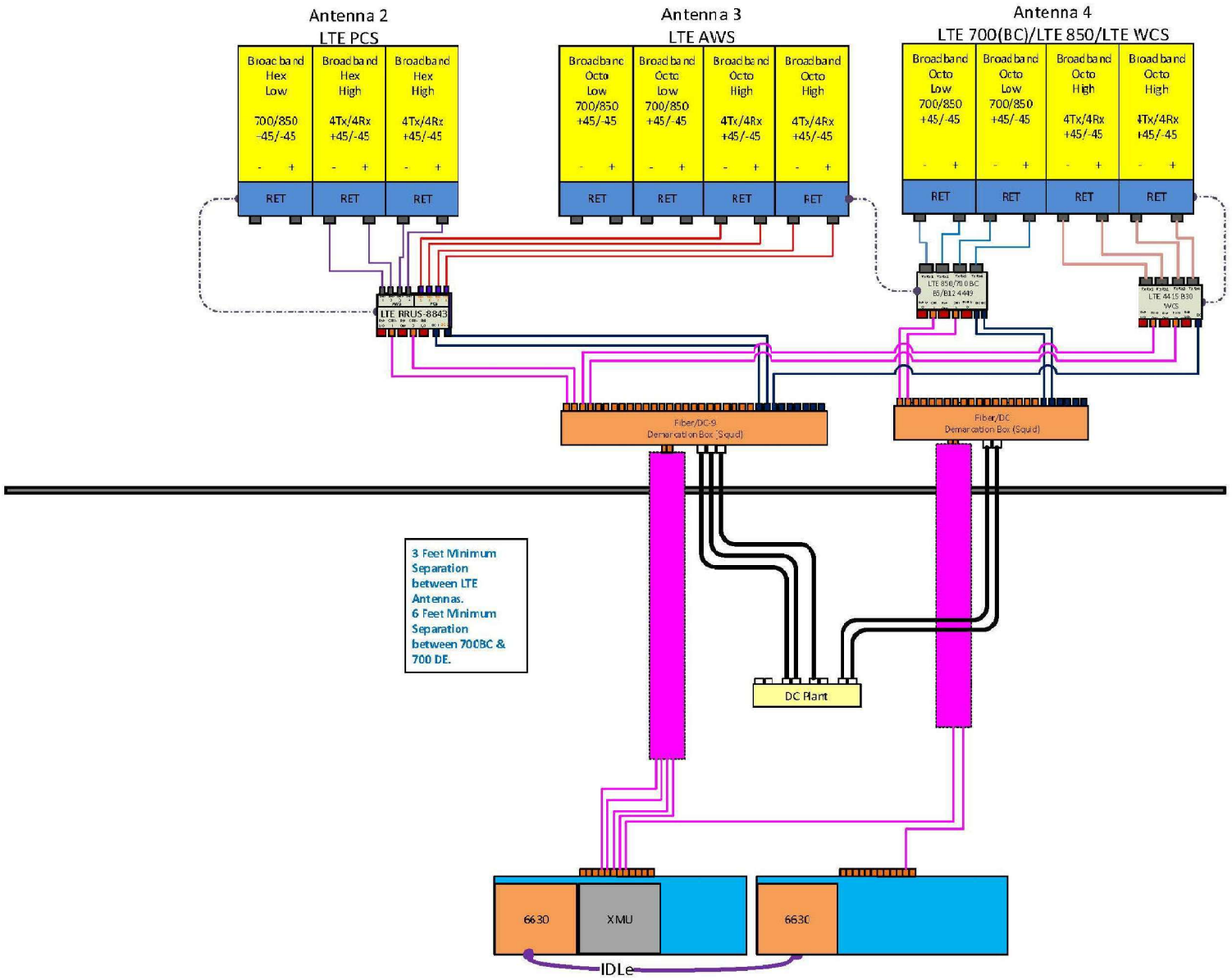
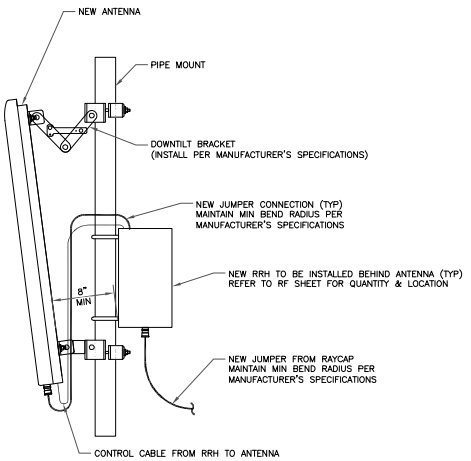


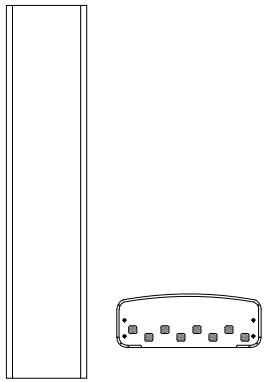
Diagram - Sector	C	Diagram File Name - CT1304_ABG_LTE Multi Carriers_Rev 1.vsd					
Atoll Site Name -	CT1304	Location Name -	TORRINGTON WRIGHT ROAD	Market -	CONNECTICUT	Market Cluster -	NEW ENGLAND

Comments: "Important Note: For detailed radio to antenna wiring refer to the latest field notice - Antenna_Radio Connection Drawings Playbook v6.0_Ericsson"



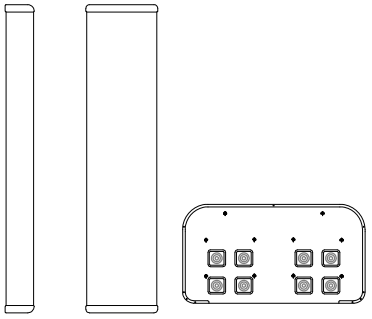


1 GENERIC ANTENNA MOUNTING ELEVATION
SCALE: NOT TO SCALE



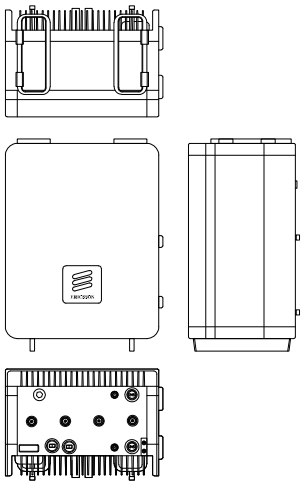
CCI ANTENNAS – DMP65R–BU8DA
WEIGHT (WITHOUT MOUNTING HARDWARE): 105.6 LBS
SIZE (HxWxD): 96x20.7x7.7 IN.

2 CCI ANTENNAS – DMP65R–BU8DA
SCALE: NOT TO SCALE



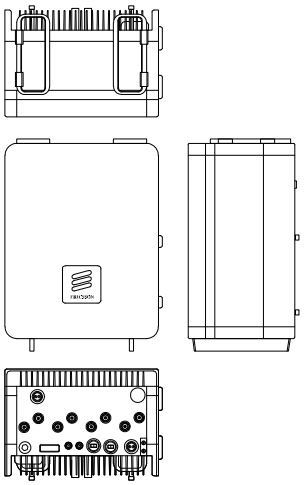
CCI ANTENNAS – OPA65R–BU8DA–K
WEIGHT (WITHOUT MOUNTING HARDWARE): 76.5 LBS
SIZE (HxWxD): 96x21x7.8 IN.
MOUNTING HARDWARE P/N: MBK–01
RATED WIND VELOCITY: 150.0 MPH

3 CCI ANTENNAS – OPA65R–BU8DA–K
SCALE: NOT TO SCALE



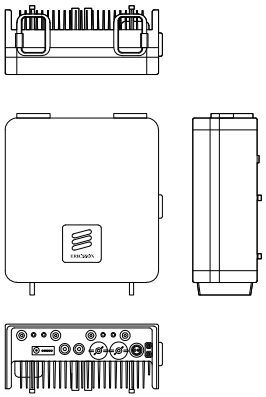
ERICSSON – 4449 B5/B12
WEIGHT: 70.0 LBS
SIZE (HxWxD): 18.0x13.2x9.4 IN.

4 ERICSSON – 4449 B5/B12
SCALE: NOT TO SCALE



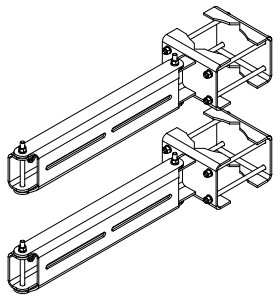
ERICSSON – 8843 B2/B66A
WEIGHT: 70.0 LBS
SIZE (HxWxD): 18.0x13.2x9.4 IN.

5 ERICSSON – 8843 B2/B66A
SCALE: NOT TO SCALE



ERICSSON – 4415 B30
WEIGHT: 60.0 LBS
SIZE (HxWxD): 15.0x13.0x8.0 IN.

6 ERICSSON – 4415 B30
SCALE: NOT TO SCALE



7 BACK TO BACK MOUNT KIT
SCALE: NOT TO SCALE

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

AT&T SITE NUMBER: **156979**

BU #: **876373**
LONG EDDY / WRIGHT PROPERTY

136 WRIGHT RD.
TORRINGTON, CT 06790

EXISTING 148'-0" MONOPOLE

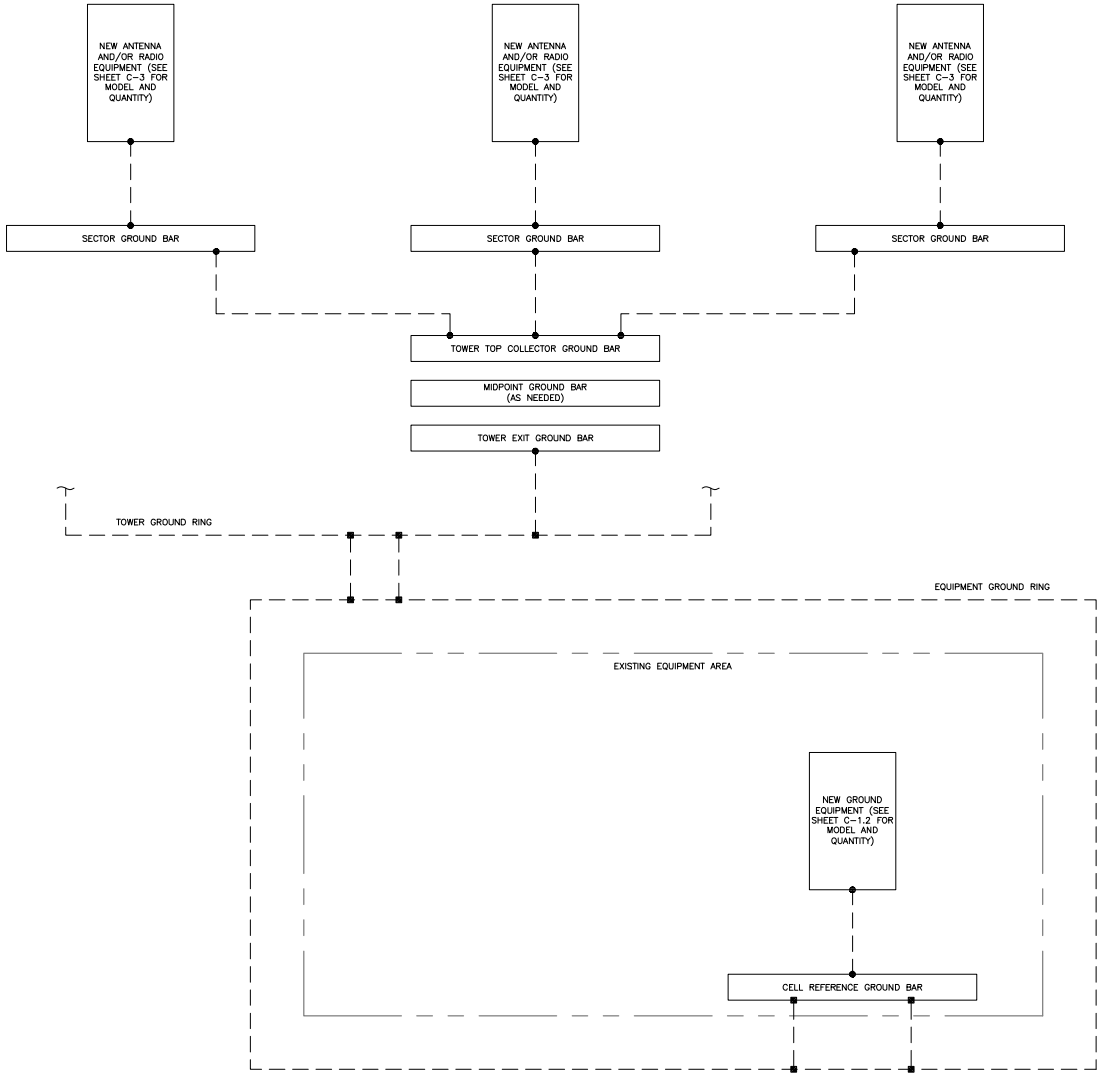
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	06/01/20	AMM	PRELIMINARY	JEO
0	06/16/20	AMM	CONSTRUCTION	JL

STATE OF CONNECTICUT
JUSTIN PETER LINNETTE
No. 31965
LICENSED PROFESSIONAL ENGINEER

Crown Castle USA Inc. Certificate of Registration #PEC.0001101

SHEET NUMBER:	REVISION:
C-5	0



1 GROUNDING SCHEMATIC
SCALE: NOT TO SCALE

GROUNDING PLAN LEGEND:

--- GROUND WIRE
■ EXOTHERMIC WELD
● MECHANICAL CONNECTION
COPPER GROUND ROD
GROUND ROD W/ TEST WELL

CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUITS (ATT-TP-76416 7.6.7).

HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CELL SITE REFERENCE GROUND BAR MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) #2 STRANDED GREEN INSULATED COPPER CONDUCTORS.

EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE (ATT-TP-76416 7.6.7.2).

DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICES CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR PER TP76300 SECTION H 6 AND TP76416 FIGURE 7-11 REQUIREMENTS.

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

AT&T SITE NUMBER: **156979**

BU #: **876373**
LONG EDDY / WRIGHT PROPERTY

136 WRIGHT RD.
TORRINGTON, CT 06790

EXISTING 148'-0" MONOPOLE

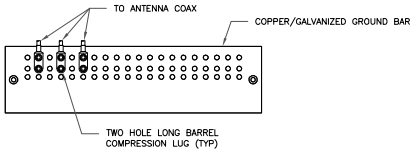
ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	06/01/20	AMM	PRELIMINARY	JO
0	06/16/20	AMM	CONSTRUCTION	JL

STATE OF CONNECTICUT
JUSTIN PETER LINNETTE
No. 31965
LICENSED PROFESSIONAL ENGINEER

Crown Castle USA Inc. Certificate of Registration #PEC.0001101

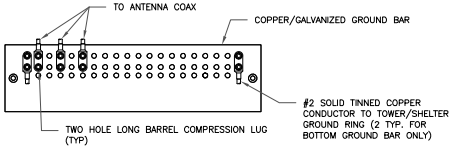
SHEET NUMBER:	REVISION:
G-1	0



NOTES:

1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO ANTENNA MOUNT STEEL.

1 ANTENNA SECTOR GROUND BAR DETAIL
SCALE: NOT TO SCALE

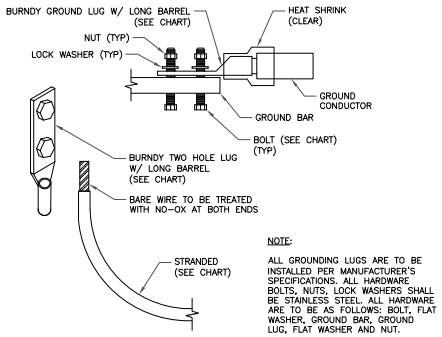


NOTES:

1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE

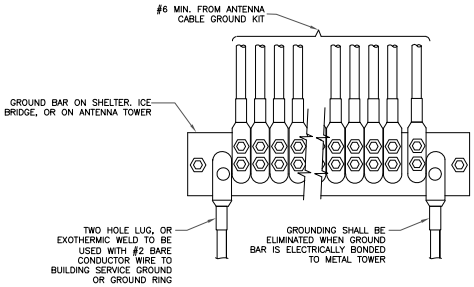
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/0 STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/0 STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



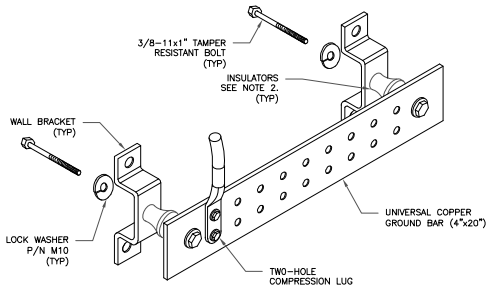
NOTE:

ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE

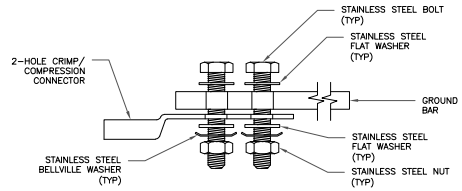


NOTES:

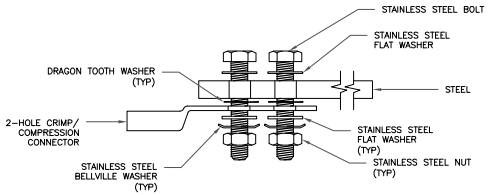
1. DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY QAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.

2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

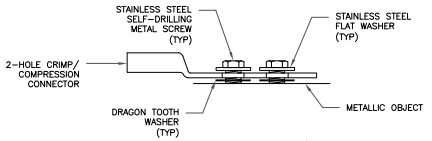
5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



SINGLE CONNECTOR AT GROUND BARS

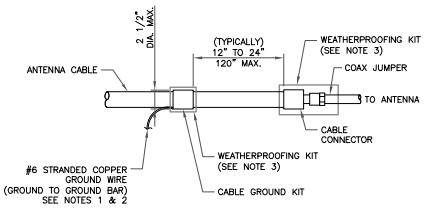


SINGLE CONNECTOR AT STEEL OBJECTS



SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS

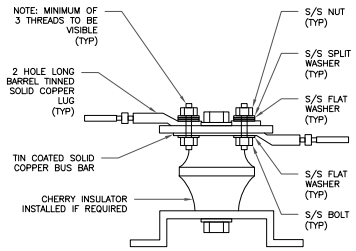
8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



7 LUG DETAIL
SCALE: NOT TO SCALE

AT&T
575 MOROSGO DRIVE
ATLANTA, GA 30324-3300

CROWN CASTLE
3 CORPORATE PARK DRIVE, SUITE 101
CLIFTON PARK, NY 12065

AT&T SITE NUMBER: **156979**

BU #: **876373**
LONG EDDY / WRIGHT PROPERTY

136 WRIGHT RD.
TORRINGTON, CT 06790

EXISTING 148'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	06/01/20	AMM	PRELIMINARY	JO
0	06/16/20	AMM	CONSTRUCTION	JL

STATE OF CONNECTICUT
JUSTIN PETER LINNETTE
No. 31965
LICENSED PROFESSIONAL ENGINEER

Crown Castle USA Inc. Certificate of Registration #PEC.0001101

SHEET NUMBER: G-2
REVISION: 0

Certificate Of Completion

Envelope Id: 9383D56725A24300AEB21090DD2B3374 Status: Completed

Subject: Please DocuSign: _876373_LONG EDDY _ WRIGHT PROPERTY_AT&T 5C FCD_REV 0_06.16.2020.pdf

Source Envelope:

Document Pages: 12 Signatures: 6 Envelope Originator:

Certificate Pages: 3 Initials: 0 Phillip Lander

AutoNav: Enabled 2000 Corporate Drive

EnvelopeId Stamping: Enabled Canonsburg, PA 15317

Time Zone: (UTC-05:00) Eastern Time (US & Canada) Phil.Lander@crowncastle.com

IP Address: 8.20.92.226

Record Tracking

Status: Original Holder: Phillip Lander Location: DocuSign

6/17/2020 8:46:21 AM Phil.Lander@crowncastle.com

Signer Events	Signature	Timestamp
Justin Linette Justin.linette@crowncastle.com Crown Castle International Corp. Security Level: Email, Account Authentication (None)	DocuSigned by: Justin Linette 1B4005B2547C41D... Signature Adoption: Pre-selected Style Using IP Address: 8.20.92.226	Sent: 6/17/2020 8:47:45 AM Viewed: 6/17/2020 3:43:47 PM Signed: 6/17/2020 3:44:34 PM

Electronic Record and Signature Disclosure:
Accepted: 9/20/2018 7:12:49 AM
ID: 5006cfc0-7b26-47be-9523-588826283226

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	6/17/2020 8:47:45 AM
Certified Delivered	Security Checked	6/17/2020 3:43:47 PM
Signing Complete	Security Checked	6/17/2020 3:44:34 PM
Completed	Security Checked	6/17/2020 3:44:34 PM

Payment Events	Status	Timestamps

Electronic Record and Signature Disclosure

Electronic Record and Signature Disclosure created on: 9/19/2018 4:13:40 PM
Parties agreed to: Justin Linette

ELECTRONIC RECORD AND SIGNATURE DISCLOSURE

In order to provide more efficient and faster service, Crown Castle ("we", "us" or "company") is pleased to announce the use of DocuSign, Inc. ("DocuSign") electronic signing system. The terms for providing such documents for execution and various other documents and records to you electronically through DocuSign are set forth below. Please read the information below carefully and if you can satisfactorily access this information electronically and agree to these terms, please confirm your agreement by clicking the "I agree" button at the bottom of this document.

Getting paper copies

At any time, you may request from us a paper copy of any document for execution or other document or record provided or made available electronically to you by us. You will be able to download and print documents we send to you through the DocuSign system during and immediately after each signing session and, if you elect to create a DocuSign signer account, you may access them for a limited period of time thereafter. To request paper copies of documents previously provided by us to you electronically, send an e-mail to esignature@CrownCastle.com, requesting the subject paper copies and stating your e-mail address, name, US Postal address and telephone number.

Withdrawing your consent to receive and/or execute documents electronically

If you elect to receive documents for execution and various other documents and records from us electronically, you may at any time change your mind and tell us that thereafter you want to receive such documents only in paper format. To withdraw your consent to electronic delivery and execution of documents, use the DocuSign 'Withdraw Consent' form on the signing page of a DocuSign envelope, instead of signing it. Thereafter, you will no longer be able to use the DocuSign system to electronically receive and execute documents or other records from us. You may also send an e-mail to esignature@CrownCastle.com stating that you are withdrawing your consent to electronic delivery and execution of documents through the DocuSign system and stating your e-mail address, name, US Postal Address, and telephone number.

Consequences of withdrawing consent to receive and/or execute documents electronically

If you elect to receive documents for execution and various other documents and other records only in paper format, it will slow the speed at which we can complete the subject transactions because of the increased delivery time.

Documents for execution, and other documents and records may be sent to you electronically

Unless you tell us otherwise in accordance with the procedures described herein, we may provide documents for execution, and other documents and records electronically to you through the DocuSign system during the course of our relationship with you. To reduce the chance of you inadvertently not receiving any document for execution or other document or record, we prefer to provide all documents for execution, and other documents and records by the same method and to the same address that you have given us. If you do not agree with this process, please let us know as described below.

How to contact Crown Castle

You may contact us to let us know of any changes related to contacting you electronically, to request paper copies of documents for execution and other documents and records from us, and to withdraw your prior consent to receive documents for execution and other documents and records electronically as follows:

To contact us by phone call: 724-416-2000
To contact us by email, send messages to: esignature@CrownCastle.com
To contact us by paper mail, send correspondence to
Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317

To advise Crown Castle and DocuSign of your new e-mail address

To let us know of a change to the e-mail address where we should send documents for execution and other documents and records to you, you must send an email message to esignature@CrownCastle.com and state your previous e-mail address and your new e-mail address.

In addition, you must notify DocuSign, Inc. to arrange for your new email address to be reflected in your DocuSign account by following the process for changing e-mail in the DocuSign system.

Required hardware and software

Browsers:	Internet Explorer® 11 (Windows only); Windows Edge Current Version; Mozilla Firefox Current Version; Safari™ (Mac OS only) 6.2 or above; Google Chrome Current Version; **Note** : Pre-release (e.g., beta) versions of operating systems and browsers are not supported.
Mobile Signing:	Apple iOS 7.0 or above; Android 4.0 or above
PDF Reader:	Acrobat® Reader or similar software may be required to view and print PDF files
Screen Resolution:	1024 x 768

Enabled Security Settings:	Allow per session cookies

These minimum requirements are subject to change. If these requirements change, you will be asked to re-accept the disclosure. Pre-release (e.g. beta) versions of operating systems and browsers are not supported.

Acknowledging your access and consent to receive documents electronically

Please confirm that you were able to access this disclosure electronically (which is similar to the manner in which we will deliver documents for execution and other documents and records) and that you were able to print this disclosure on paper or electronically save it for your future reference and access or that you were able to e-mail this disclosure to an address where you will be able to print it on paper or save it for your future reference and access. Further, if you consent to receiving documents for execution and other documents and records in electronic format on the terms described above, please let us know by clicking the “I agree” button below.

By checking the 'I agree' box, I confirm that:

- You can access and read this Electronic Record and Signature Disclosure; and
- As a recipient, you can read, electronically sign and act upon this message, and you agree not to forward it or any other DocuSign e-mail communications. In the event another party needs to be added to the DocuSign communication, you must make a request to the e-mail originator.

Exhibit D

Structural Analysis Report

Date: **May 27, 2020**

Amanda D Brown
Crown Castle
6325 Ardrey Kell RddSuite 600
Charlotte, NC 28277

B+T Group
1717 S Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Subject:	**Structural Analysis Report**	
Carrier Designation:	***AT&T Mobility* Co-Locate**	
	Carrier Site Number:	156979
	Carrier Site Name:	CT1304
Crown Castle Designation:	**Crown Castle BU Number:**	876373
	Crown Castle Site Name:	Long Eddy / Wright Property
	Crown Castle JDE Job Number:	596337
	Crown Castle Work Order Number:	1842272
	Crown Castle Order Number:	509330 Rev. 0
Engineering Firm Designation:	**B+T Group Project Number:**	89028.015.01
Site Data:	**136 Wright Rd., Torrington, Litchfield County, CT** **Latitude *41° 49' 38.34"*, Longitude *-73° 10' 13.97"*** **148 Foot - Monopole Tower**	

Dear Amanda D Brown,

B+T Group is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity – 83.3%**

This analysis utilizes an ultimate 3-second gust wind speed of 120 mph as required by the 2018 Connecticut State Building Code(2015 IBC). Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: John Landon

Respectfully submitted by: B+T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2021

Chad E. Tuttle, P.E. tnxTower

Report - version 8.0.5.0

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 148 ft. Monopole tower designed by Summit.

The tower has been modified per reinforcement drawings prepared by B+T Group, in February of 2014. Modification consists of shaft reinforcement from 0' to 100.5' and addition of extra anchor rods and anchor rod bracket.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	120 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
128.0	128.0	3	CCI Antennas	DMP65R-BU8D	5 1	3/4 3/8
		3	CCI Antennas	HPA-65R-BUU-H8		
		3	CCI Antennas	OPA65R-BU8D		
		3	Ericsson	RADIO 4415 B30		
		3	Ericsson	RRUS 4449 B5/B12		
		3	Ericsson	RRUS 8843 B2/B66A		
		1	Raycap	DC6-48-60-18-8F		
		1	Raycap	DC9-48-60-24-8C-EV		
		1	--	HRK 12 Handrail Kit		
		1	--	Platform Mount [LP 303-1]		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
149.0	150.0	3	Alcatel Lucent	1900MHZ RRH (65MHZ)	--	--
		3	Alcatel Lucent	800 EXTERNAL NOTCH FILTER		
		3	Alcatel Lucent	800MHZ RRH		
	149.0	1	--	Pipe Mount [PM 601-3]		
148.0	150.0	3	Alcatel Lucent	TD-RRH8x20-25	4	1-1/4
		9	RFS Celwave	ACU-A20-N		
		3	RFS Celwave	APXVSPP18-C-A20		
		3	RFS Celwave	APXVTM14-ALU-I20		
	148.0	1	--	Platform Mount [LP 1201-1]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
138.0	138.0	2	Antel	LPA-80063/6CF	7	1-5/8
		4	Antel	LPA-80080/6CF		
		6	Quintel Technology	QS6656-5		
		1	RFS Celwave	DB-C1-12C-24AB-0Z		
		3	Samsung Telecomm.	RFV01U-D1A		
		3	Samsung Telecomm.	RFV01U-D2A		
		1	--	Platform Mount [LP 712-1]		
114.0	114.0	4	Ericsson	AIR 32 B2A/B66AA	4 1	1-5/8 1/2
		8	Ericsson	RADIO 4449 B12/B71		
		4	RFS Celwave	APXVAARR24_43-U-NA20		
		1	RFS Celwave	SC2-W100AB		
		1	Site Pro1	F4P-HRK12 Handrail		
		1	Site Pro1	F4P-12W Mount		
79.0	82.0	1	RFS Celwave	PD1109E	1	1/2
	79.0	1	--	Side Arm Mount [SO 701-1]		
45.0	45.0	1	GPS	GPS_A	1	1/2
		1	--	Side Arm Mount [SO 701-1]		
13.0	13.0	1	GPS	GPS_A	1	1/2
		1	--	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
Online Order Information	AT&T Mobility Co-locate, Revision# 0	509330	CCI Sites
Tower Manufacturer Drawing	Summit, Date: 06/23/2000	1631601	CCI Sites
Mount Analysis Report	B+ Group, Project No. 89028.014.01	9095082	CCI Sites
Tower Modification Drawing	B+T Group, Project No. 89028.003.01 Date: 02/25/2014	4491592	CCI Sites
Post Modification Inspection	TEP, Project Number: 52429.14747 Date: 07/31/2014	5215998	CCI Sites
Foundation Drawing	Summit, Job No. 10185	1634518	CCI Sites
Geotech Report	Clerence Welti Assoc. Inc., Date: 05/12/2000	1531964	CCI Sites
Antenna Configuration	Crown CAD Package	Date: 04/02/2020	CCI Sites

3.1) Analysis Method

tnxTower (version 8.0.5.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

3.2) Assumptions

1) The tower and structures were maintained in accordance with the - TIA-222 standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	148 - 143	Pole	TP24.87x24x0.219	1	-4.361	970.452	4.1	Pass
L2	143 - 138	Pole	TP25.74x24.87x0.219	2	-4.724	1004.696	6.9	Pass
L3	138 - 133	Pole	TP26.61x25.74x0.219	3	-7.977	1038.939	13.1	Pass
L4	133 - 128	Pole	TP27.479x26.61x0.219	4	-8.410	1073.184	18.6	Pass
L5	128 - 123	Pole	TP28.349x27.479x0.219	5	-12.431	1107.424	27.3	Pass
L6	123 - 120.25	Pole	TP29.48x28.349x0.219	6	-12.702	1126.261	31.7	Pass
L7	120.25 - 115.25	Pole	TP29.26x28.39x0.25	7	-13.557	1413.972	31.5	Pass
L8	115.25 - 110.25	Pole	TP30.13x29.26x0.25	8	-19.761	1456.381	39.4	Pass
L9	110.25 - 105.25	Pole	TP31x30.13x0.25	9	-20.450	1498.780	46.7	Pass
L10	105.25 - 100.25	Pole	TP31.87x31x0.25	10	-21.167	1541.190	53.4	Pass
L11	100.25 - 98.75	Pole	TP32.131x31.87x0.25	11	-21.378	1553.905	55.3	Pass
L12	98.75 - 98.5	Pole	TP32.175x32.131x0.25	12	-21.427	1556.026	55.6	Pass
L13	98.5 - 98.25	Pole + Reinf.	TP32.218x32.175x0.45	13	-21.480	2787.120	45.9	Pass
L14	98.25 - 93.25	Pole + Reinf.	TP33.088x32.218x0.444	14	-22.531	2824.216	51.1	Pass
L15	93.25 - 88.25	Pole + Reinf.	TP33.958x33.088x0.438	15	-23.609	2859.181	56.0	Pass
L16	88.25 - 84.75	Pole + Reinf.	TP35.35x33.958x0.438	16	-24.376	2911.125	59.3	Pass
L17	84.75 - 79.75	Pole + Reinf.	TP34.937x34.067x0.5	17	-26.427	3357.007	57.1	Pass
L18	79.75 - 74.75	Pole + Reinf.	TP35.808x34.937x0.488	18	-27.780	3356.986	60.9	Pass
L19	74.75 - 69.75	Pole + Reinf.	TP36.678x35.808x0.488	19	-29.069	3439.705	64.5	Pass
L20	69.75 - 66.75	Pole + Reinf.	TP37.2x36.678x0.488	20	-29.854	3489.339	66.5	Pass
L21	66.75 - 66.5	Pole + Reinf.	TP37.244x37.2x0.625	21	-29.940	4462.059	50.8	Pass
L22	66.5 - 61.5	Pole + Reinf.	TP38.114x37.244x0.613	22	-31.524	4478.239	51.5	Pass
L23	61.5 - 56.5	Pole + Reinf.	TP38.984x38.114x0.613	23	-33.135	4582.168	54.0	Pass
L24	56.5 - 51.5	Pole + Reinf.	TP39.855x38.984x0.6	24	-34.771	4591.933	56.4	Pass
L25	51.5 - 46.5	Pole + Reinf.	TP40.725x39.855x0.6	25	-36.429	4693.741	58.7	Pass
L26	46.5 - 45	Pole + Reinf.	TP41.9x40.725x0.588	26	-36.928	4627.287	59.4	Pass
L27	45 - 38.75	Pole + Reinf.	TP41.448x40.361x0.65	27	-40.829	5170.231	57.5	Pass
L28	38.75 - 33.75	Pole + Reinf.	TP42.318x41.448x0.65	28	-42.695	5280.460	59.3	Pass
L29	33.75 - 31.75	Pole + Reinf.	TP42.666x42.318x0.65	29	-43.450	5324.560	62.4	Pass
L30	31.75 - 31.5	Pole + Reinf.	TP42.71x42.666x0.65	30	-43.551	5330.073	62.5	Pass
L31	31.5 - 26.5	Pole + Reinf.	TP43.58x42.71x0.638	31	-45.448	5337.234	61.8	Pass
L32	26.5 - 21.5	Pole + Reinf.	TP44.45x43.58x0.625	32	-47.377	5340.100	63.5	Pass
L33	21.5 - 17.75	Pole + Reinf.	TP45.102x44.45x0.625	33	-48.839	5419.596	64.7	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L34	17.75 - 17.5	Pole + Reinf.	TP45.145x45.102x0.725	34	-48.963	6278.748	60.6	Pass
L35	17.5 - 14.25	Pole + Reinf.	TP45.711x45.145x0.725	35	-50.444	6358.663	61.6	Pass
L36	14.25 - 14	Pole + Reinf.	TP45.754x45.711x0.638	36	-50.555	5607.525	66.5	Pass
L37	14 - 9	Pole + Reinf.	TP46.624x45.754x0.625	37	-52.731	5605.089	68.0	Pass
L38	9 - 4	Pole + Reinf.	TP47.494x46.624x0.625	38	-54.861	5711.086	69.5	Pass
L39	4 - 0	Pole + Reinf.	TP48.19x47.494x0.625	39	-56.581	5795.884	70.6	Pass
							Summary	
						Pole (L12)	55.6	Pass
						Reinforcement	70.6	Pass
						Rating =	70.6	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft.)	% Capacity	Pass / Fail
1	Anchor Rods	Base	52.3	Pass
1	Base Plate	Base	53.9	Pass
1	Base Foundation (Structural)	Base	46.1	Pass
1	Base Foundation (Soil Interaction)	Base	83.3	Pass

Structure Rating (max from all components) =	83.3%

Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
2) Rating per TIA-222-H Section 15.5.

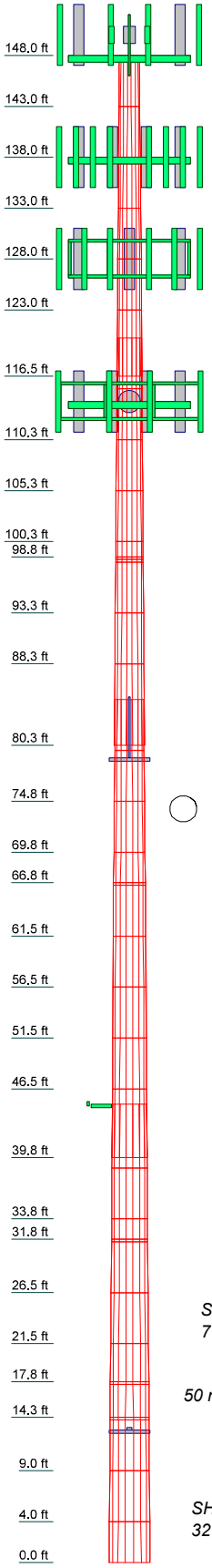
4.1) Recommendations

The tower and its foundations have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
Length (ft)	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	5.000	4.000
Number of Sides	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Thickness (in)	0.219	0.219	0.219	0.219	0.219	0.219	0.250	0.250	0.250	0.250	0.313	0.313	0.313	0.438	0.438	0.438	0.500	0.487	0.487	0.487	0.618	0.618	0.613	0.600	0.600	0.588	0.650	0.650	0.650	0.650	0.630	0.625	0.750	0.750	0.750	0.750	0.625	0.625	0.625
Socket Length (ft)						3.750										4.500										5.250															
Top Dia (in)	24.000	24.870	25.740	26.610	27.479	28.349	29.219	30.130	31.000	31.870	32.740	33.610	34.480	35.350	36.220	37.090	37.960	38.830	39.700	40.570	41.440	42.310	43.180	44.050	44.920	45.790	46.660	47.530	48.400	49.270	50.140	51.010	51.880	52.750	53.620	54.490	55.360	56.230	57.100
Bot Dia (in)	24.870	25.740	26.610	27.479	28.349	29.219	30.130	31.000	31.870	32.740	33.610	34.480	35.350	36.220	37.090	37.960	38.830	39.700	40.570	41.440	42.310	43.180	44.050	44.920	45.790	46.660	47.530	48.400	49.270	50.140	51.010	51.880	52.750	53.620	54.490	55.360	56.230	57.100	57.970
Grade	A607-60																										A607-65														
Weight (K)	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.1	0.1	0.1	0.7	0.8	1.2	0.9	0.9	0.9	0.6	1.0	1.2	1.2	1.2	1.2	1.7	1.7	1.4	0.6	1.4	1.4	1.4	1.1	1.1	1.0	1.1	1.6	1.6	1.3



ALL REACTIONS ARE FACTORED

AXIAL 96 K

SHEAR 7 K *MOMENT 853 kip-ft*

TORQUE 1 kip-ft
50 mph WIND - 1.500 in ICE

AXIAL 57 K

SHEAR 32 K *MOMENT 3269 kip-ft*

TORQUE 4 kip-ft
REACTIONS - 120 mph WIND

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-60	60 ksi	75 ksi	A607-65	65 ksi	80 ksi

TOWER DESIGN NOTES

1. Tower is located in Litchfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 120 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TIA-222-H Annex S
9. TOWER RATING:70.6%

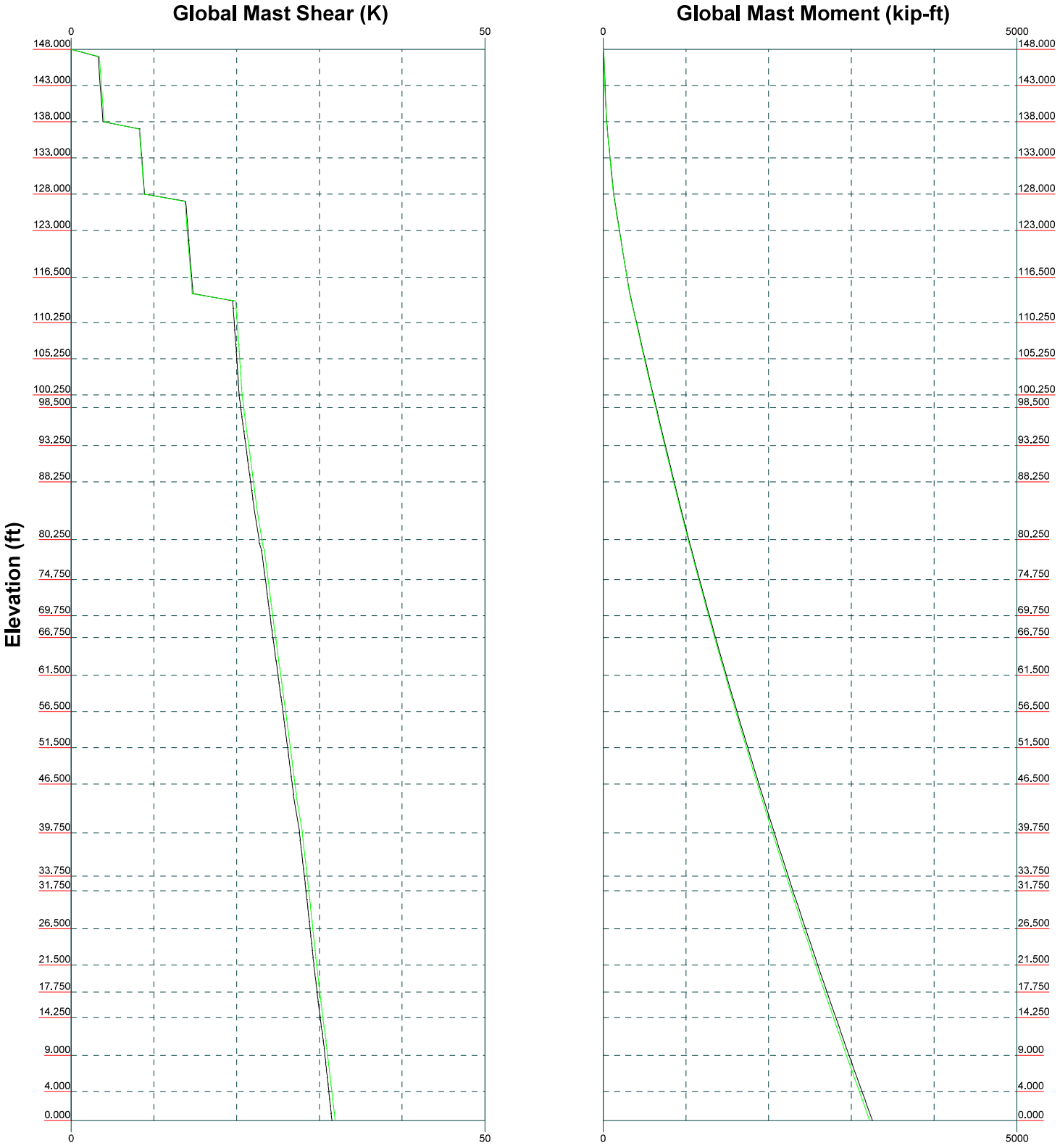
B+T Group
1717 S Boulder, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: 89028.015.01 - LONG EDDY / WRIGHT PROPERTY, CT (BU# 87637		
Project:		
Client: Crown Castle	Drawn by: Regan	App'd:
Code: TIA-222-H	Date: 05/27/20	Scale: NTS
Path:		Dwg No. E-1

TIA-222-H - 120 mph/50 mph 1.500 in Ice Exposure B

Maximum Values

Vx Vz Mx Mz

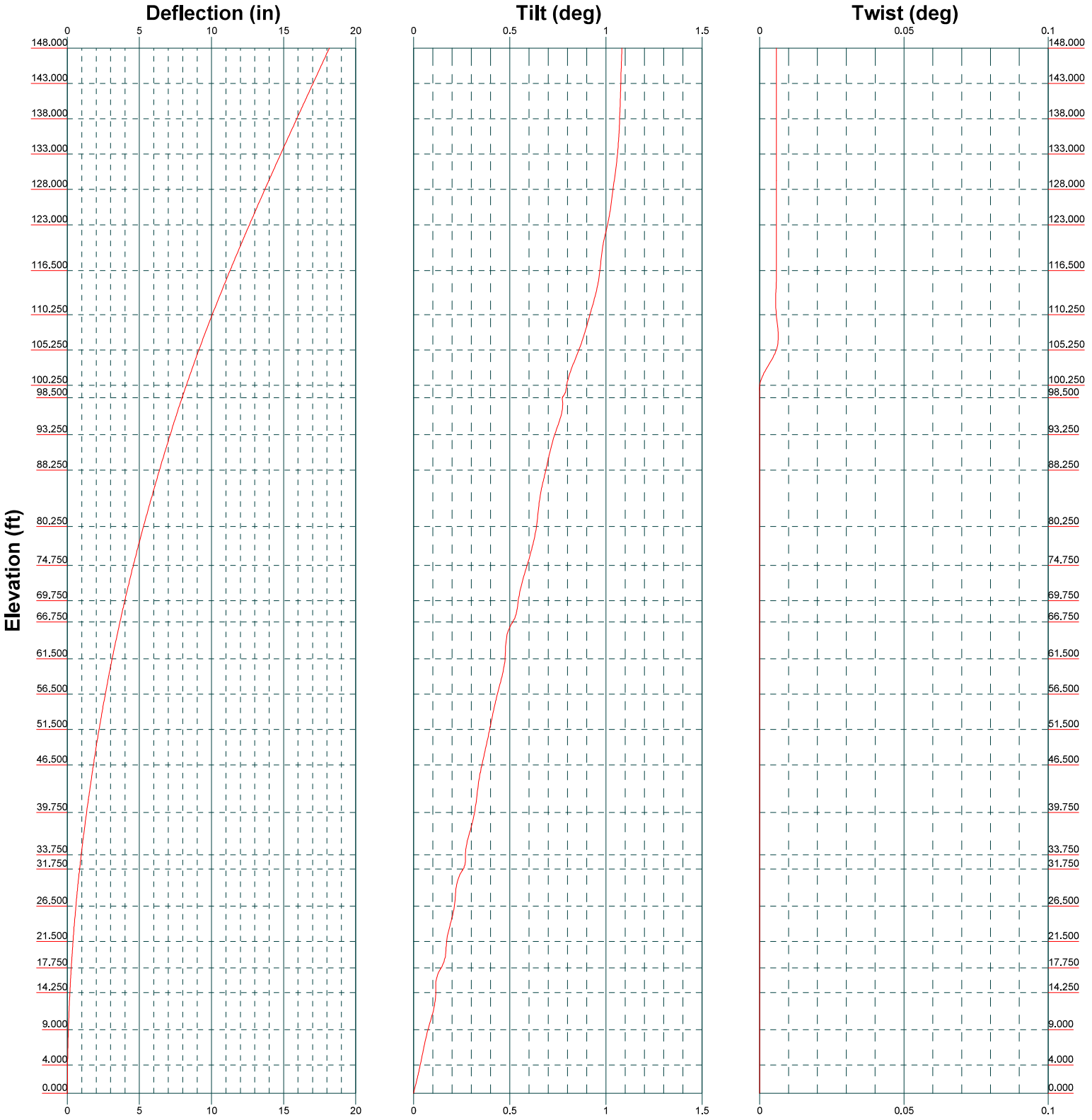


B+T Group
1717 S Boulder, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: 89028.015.01 - LONG EDDY / WRIGHT PROPERTY, CT (BU# 87637		
Project:		
Client: Crown Castle	Drawn by: Regan	App'd:
Code: TIA-222-H	Date: 05/27/20	Scale: NTS
Path:		Dwg No. E-4

TIA-222-H - Service - 60 mph

Maximum Values

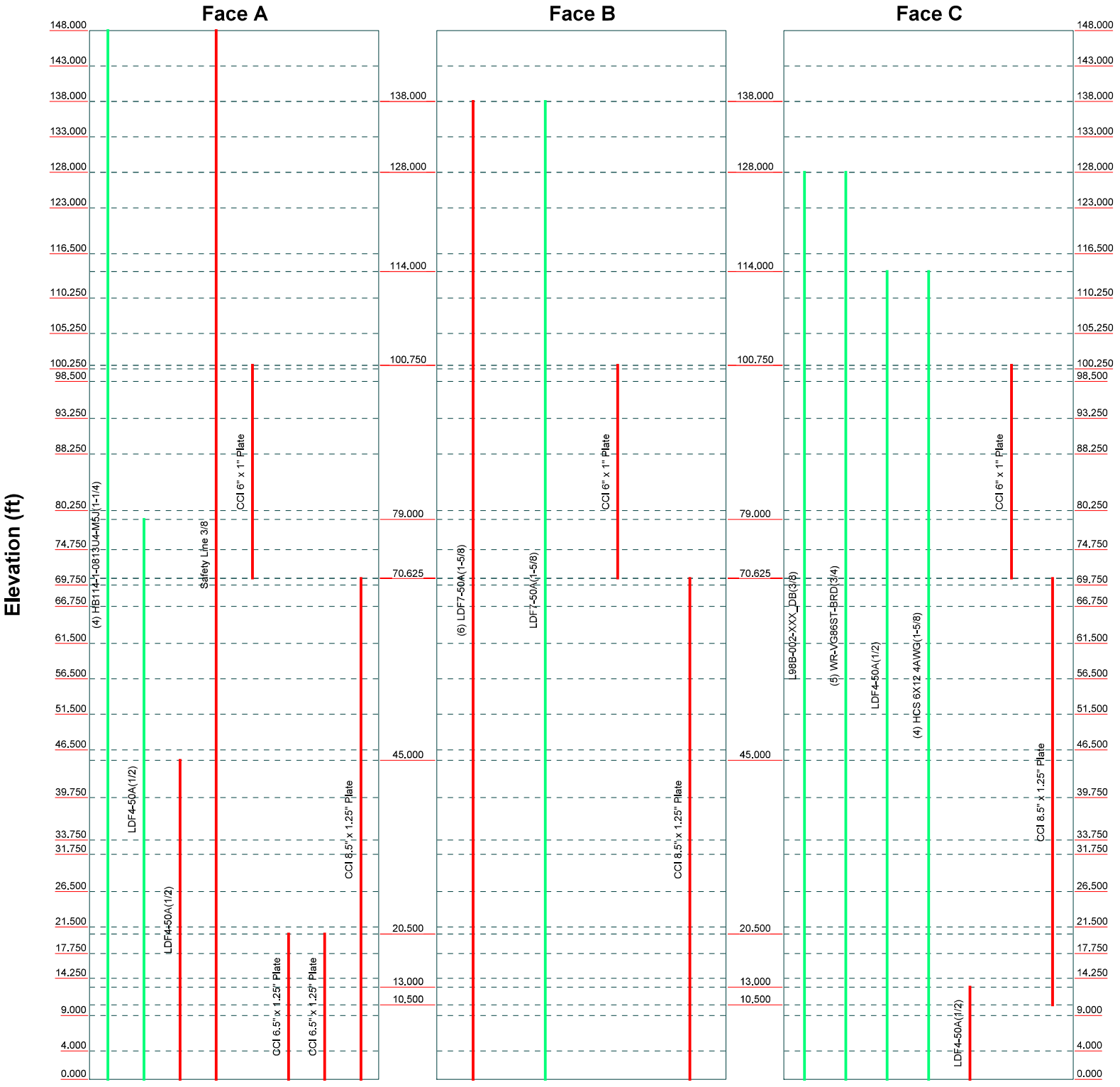


B+T Group
1717 S Boulder, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: 89028.015.01 - LONG EDDY / WRIGHT PROPERTY, CT (BU# 87637		
Project:		
Client: Crown Castle	Drawn by: Regan	App'd:
Code: TIA-222-H	Date: 05/27/20	Scale: NTS
Path:		Dwg No. E-5

Feed Line Distribution Chart
0' - 148'

Round | Flat | App In Face | App Out Face | Truss Leg



B+T Group
1717 S Boulder, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Job: 89028.015.01 - LONG EDDY / WRIGHT PROPERTY, CT (BU# 87637			
Project:			
Client: Crown Castle	Drawn by: Regan	App'd:	
Code: TIA-222-H	Date: 05/27/20	Scale: NTS	
Path:		Dwg No. E-7	

B+T Group
1717 S Boulder, Suite 300
Tulsa, OK 74119
Phone: (918) 587-4630
FAX: (918) 295-0265

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

Tower is located in Litchfield County, Connecticut.
Tower base elevation above sea level: 1095.000 ft.
Basic wind speed of 120 mph.
Risk Category II.
Exposure Category B.
Simplified Topographic Factor Procedure for wind speed-up calculations is used.
Topographic Category: 1.
Crest Height: 0.000 ft.
Nominal ice thickness of 1.500 in.
Ice thickness is considered to increase with height.
Ice density of 56.000 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50.000 °F.
Deflections calculated using a wind speed of 60 mph.
TIA-222-H Annex S.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole design is 1.05.
Tower analysis based on target reliabilities in accordance with Annex S.
Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
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-H Bracing Resist. Exemption
Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-H Tension Splice Exemption
Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	Poles
Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	√ Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	Pole Without Linear Attachments
		Pole With Shroud Or No Appurtenances
		Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	148.000-143.000	5.000	0.000	18	24.000	24.870	0.219	0.875	A607-60 (60 ksi)
L2	143.000-138.000	5.000	0.000	18	24.870	25.740	0.219	0.875	A607-60 (60 ksi)
L3	138.000-133.000	5.000	0.000	18	25.740	26.610	0.219	0.875	A607-60 (60 ksi)
L4	133.000-128.000	5.000	0.000	18	26.610	27.479	0.219	0.875	A607-60 (60 ksi)
L5	128.000-123.000	5.000	0.000	18	27.479	28.349	0.219	0.875	A607-60 (60 ksi)
L6	123.000-116.500	6.500	3.750	18	28.349	29.480	0.219	0.875	A607-60 (60 ksi)
L7	116.500-115.250	5.000	0.000	18	28.390	29.260	0.250	1.000	A607-65 (65 ksi)
L8	115.250-110.250	5.000	0.000	18	29.260	30.130	0.250	1.000	A607-65 (65 ksi)
L9	110.250-105.250	5.000	0.000	18	30.130	31.000	0.250	1.000	A607-65 (65 ksi)
L10	105.250-100.250	5.000	0.000	18	31.000	31.870	0.250	1.000	A607-65 (65 ksi)
L11	100.250-98.750	1.500	0.000	18	31.870	32.131	0.250	1.000	A607-65 (65 ksi)
L12	98.750-98.500	0.250	0.000	18	32.131	32.175	0.250	1.000	A607-65 (65 ksi)
L13	98.500-98.250	0.250	0.000	18	32.175	32.218	0.450	1.800	A607-65 (65 ksi)
L14	98.250-93.250	5.000	0.000	18	32.218	33.088	0.444	1.775	A607-65 (65 ksi)
L15	93.250-88.250	5.000	0.000	18	33.088	33.958	0.438	1.750	A607-65 (65 ksi)
L16	88.250-80.250	8.000	4.500	18	33.958	35.350	0.438	1.750	A607-65 (65 ksi)
L17	80.250-79.750	5.000	0.000	18	34.067	34.937	0.500	2.000	A607-65 (65 ksi)
L18	79.750-74.750	5.000	0.000	18	34.937	35.808	0.487	1.950	A607-65 (65 ksi)
L19	74.750-69.750	5.000	0.000	18	35.808	36.678	0.487	1.950	A607-65 (65 ksi)
L20	69.750-66.750	3.000	0.000	18	36.678	37.200	0.487	1.950	A607-65 (65 ksi)
L21	66.750-66.500	0.250	0.000	18	37.200	37.244	0.625	2.500	A607-65 (65 ksi)
L22	66.500-61.500	5.000	0.000	18	37.244	38.114	0.613	2.450	A607-65 (65 ksi)
L23	61.500-56.500	5.000	0.000	18	38.114	38.984	0.613	2.450	A607-65 (65 ksi)
L24	56.500-51.500	5.000	0.000	18	38.984	39.855	0.600	2.400	A607-65 (65 ksi)
L25	51.500-46.500	5.000	0.000	18	39.855	40.725	0.600	2.400	A607-65 (65 ksi)
L26	46.500-39.750	6.750	5.250	18	40.725	41.900	0.588	2.350	A607-65 (65 ksi)
L27	39.750-38.750	6.250	0.000	18	40.361	41.448	0.650	2.600	A607-65 (65 ksi)
L28	38.750-33.750	5.000	0.000	18	41.448	42.318	0.650	2.600	A607-65 (65 ksi)
L29	33.750-31.750	2.000	0.000	18	42.318	42.666	0.650	2.600	A607-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L30	31.750-31.500	0.250	0.000	18	42.666	42.710	0.650	2.600	A607-65 (65 ksi)
L31	31.500-26.500	5.000	0.000	18	42.710	43.580	0.637	2.550	A607-65 (65 ksi)
L32	26.500-21.500	5.000	0.000	18	43.580	44.450	0.625	2.500	A607-65 (65 ksi)
L33	21.500-17.750	3.750	0.000	18	44.450	45.102	0.625	2.500	A607-65 (65 ksi)
L34	17.750-17.500	0.250	0.000	18	45.102	45.145	0.725	2.900	A607-65 (65 ksi)
L35	17.500-14.250	3.250	0.000	18	45.145	45.711	0.725	2.900	A607-65 (65 ksi)
L36	14.250-14.000	0.250	0.000	18	45.711	45.754	0.637	2.550	A607-65 (65 ksi)
L37	14.000-9.000	5.000	0.000	18	45.754	46.624	0.625	2.500	A607-65 (65 ksi)
L38	9.000-4.000	5.000	0.000	18	46.624	47.494	0.625	2.500	A607-65 (65 ksi)
L39	4.000-0.000	4.000		18	47.494	48.190	0.625	2.500	A607-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	24.336	16.512	1179.768	8.442	12.192	96.766	2361.088	8.257	3.839	17.55
	25.220	17.116	1314.017	8.751	12.634	104.007	2629.762	8.559	3.992	18.25
L2	25.220	17.116	1314.017	8.751	12.634	104.007	2629.762	8.559	3.992	18.25
	26.103	17.720	1458.082	9.060	13.076	111.510	2918.083	8.861	4.145	18.949
L3	26.103	17.720	1458.082	9.060	13.076	111.510	2918.083	8.861	4.145	18.949
	26.986	18.323	1612.311	9.369	13.518	119.275	3226.743	9.163	4.298	19.649
L4	26.986	18.323	1612.311	9.369	13.518	119.275	3226.743	9.163	4.298	19.649
	27.870	18.927	1777.049	9.678	13.960	127.300	3556.436	9.465	4.451	20.349
L5	27.870	18.927	1777.049	9.678	13.960	127.300	3556.436	9.465	4.451	20.349
	28.753	19.531	1952.643	9.986	14.401	135.587	3907.855	9.768	4.604	21.049
L6	28.753	19.531	1952.643	9.986	14.401	135.587	3907.855	9.768	4.604	21.049
	29.901	20.316	2197.713	10.388	14.976	146.751	4398.319	10.160	4.803	21.959
L7	29.452	22.329	2233.892	9.990	14.422	154.893	4470.723	11.167	4.557	18.227
	29.673	23.020	2447.554	10.299	14.864	164.662	4898.328	11.512	4.710	18.839
L8	29.673	23.020	2447.554	10.299	14.864	164.662	4898.328	11.512	4.710	18.839
	30.556	23.710	2674.423	10.607	15.306	174.729	5352.365	11.857	4.863	19.452
L9	30.556	23.710	2674.423	10.607	15.306	174.729	5352.365	11.857	4.863	19.452
	31.440	24.400	2914.895	10.916	15.748	185.096	5833.625	12.202	5.016	20.064
L10	31.440	24.400	2914.895	10.916	15.748	185.096	5833.625	12.202	5.016	20.064
	32.323	25.091	3169.366	11.225	16.190	195.761	6342.903	12.548	5.169	20.677
L11	32.323	25.091	3169.366	11.225	16.190	195.761	6342.903	12.548	5.169	20.677
	32.588	25.298	3248.497	11.318	16.323	199.019	6501.268	12.651	5.215	20.86
L12	32.588	25.298	3248.497	11.318	16.323	199.019	6501.268	12.651	5.215	20.86
	32.632	25.332	3261.812	11.333	16.345	199.564	6527.916	12.668	5.223	20.891
L13	32.601	45.312	5761.605	11.262	16.345	352.507	11530.791	22.660	4.871	10.824
	32.646	45.374	5785.338	11.278	16.367	353.481	11578.288	22.691	4.878	10.841
L14	32.647	44.753	5708.354	11.280	16.367	348.777	11424.218	22.381	4.889	11.018
	33.530	45.978	6190.196	11.589	16.809	368.273	12388.536	22.993	5.042	11.363
L15	33.531	45.339	6106.516	11.591	16.809	363.294	12221.067	22.674	5.053	11.551
	34.414	46.547	6607.769	11.900	17.251	383.044	13224.232	23.278	5.207	11.901
L16	34.414	46.547	6607.769	11.900	17.251	383.044	13224.232	23.278	5.207	11.901

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
	35.828	48.480	7465.610	12.394	17.958	415.731	14941.043	24.245	5.452	12.461
L17	35.311	53.271	7583.200	11.916	17.306	438.182	15176.377	26.640	5.116	10.232
	35.399	54.652	8188.481	12.225	17.748	461.370	16387.738	27.331	5.269	10.538
L18	35.401	53.305	7992.466	12.230	17.748	450.326	15995.449	26.658	5.291	10.853
	36.285	54.652	8613.658	12.539	18.190	473.530	17238.649	27.331	5.444	11.167
L19	36.285	54.652	8613.658	12.539	18.190	473.530	17238.649	27.331	5.444	11.167
	37.169	55.998	9266.230	12.848	18.632	497.317	18544.652	28.005	5.597	11.482
L20	37.169	55.998	9266.230	12.848	18.632	497.317	18544.652	28.005	5.597	11.482
	37.699	56.806	9673.157	13.033	18.898	511.869	19359.043	28.409	5.689	11.67
L21	37.678	72.556	12262.663	12.984	18.898	648.897	24541.462	36.285	5.447	8.716
	37.722	72.642	12306.485	13.000	18.920	650.455	24629.164	36.328	5.455	8.728
L22	37.724	71.214	12072.710	13.004	18.920	638.099	24161.306	35.614	5.477	8.942
	38.608	72.906	12953.835	13.313	19.362	669.036	25924.714	36.460	5.630	9.192
L23	38.608	72.906	12953.835	13.313	19.362	669.036	25924.714	36.460	5.630	9.192
	39.491	74.598	13876.821	13.622	19.804	700.706	27771.901	37.306	5.783	9.442
L24	39.493	73.099	13606.909	13.626	19.804	687.076	27231.723	36.557	5.805	9.675
	40.377	74.757	14553.628	13.935	20.246	718.833	29126.407	37.385	5.958	9.931
L25	40.377	74.757	14553.628	13.935	20.246	718.833	29126.407	37.385	5.958	9.931
	41.261	76.414	15543.272	14.244	20.688	751.306	31106.996	38.214	6.112	10.186
L26	41.263	74.845	15233.682	14.249	20.688	736.342	30487.409	37.430	6.134	10.44
	42.456	77.036	16611.034	14.666	21.285	780.403	33243.926	38.526	6.340	10.792
L27	41.811	81.928	16322.819	14.097	20.503	796.101	32667.117	40.972	5.960	9.169
	41.988	84.171	17700.684	14.483	21.056	840.655	35424.659	42.094	6.151	9.463
L28	41.988	84.171	17700.684	14.483	21.056	840.655	35424.659	42.094	6.151	9.463
	42.871	85.966	18857.194	14.792	21.498	877.171	37739.201	42.991	6.304	9.699
L29	42.871	85.966	18857.194	14.792	21.498	877.171	37739.201	42.991	6.304	9.699
	43.224	86.684	19333.547	14.916	21.674	891.996	38692.533	43.350	6.365	9.793
L30	43.224	86.684	19333.547	14.916	21.674	891.996	38692.533	43.350	6.365	9.793
	43.268	86.774	19393.649	14.931	21.697	893.857	38812.816	43.395	6.373	9.805
L31	43.270	85.130	19037.658	14.936	21.697	877.450	38100.366	42.573	6.395	10.031
	44.154	86.890	20243.088	15.244	22.138	914.385	40512.813	43.453	6.548	10.271
L32	44.156	85.211	19863.501	15.249	22.138	897.239	39753.139	42.614	6.570	10.512
	45.039	86.937	21094.867	15.558	22.580	934.213	42217.491	43.477	6.723	10.757
L33	45.039	86.937	21094.867	15.558	22.580	934.213	42217.491	43.477	6.723	10.757
	45.701	88.231	22051.062	15.789	22.912	962.433	44131.139	44.124	6.838	10.941
L34	45.686	102.118	25407.086	15.754	22.912	1108.909	50847.603	51.069	6.662	9.189
	45.730	102.218	25481.863	15.769	22.934	1111.101	50997.256	51.119	6.670	9.199
L35	45.730	102.218	25481.863	15.769	22.934	1111.101	50997.256	51.119	6.670	9.199
	46.304	103.519	26467.358	15.970	23.221	1139.797	52969.543	51.769	6.769	9.337
L36	46.318	91.203	23409.088	16.001	23.221	1008.095	46848.979	45.610	6.923	10.86
	46.362	91.291	23476.920	16.016	23.243	1010.055	46984.731	45.654	6.931	10.872
L37	46.364	89.525	23035.724	16.021	23.243	991.073	46101.759	44.771	6.953	11.124
	47.247	91.251	24393.610	16.330	23.685	1029.913	48819.319	45.634	7.106	11.369
L38	47.247	91.251	24393.610	16.330	23.685	1029.913	48819.319	45.634	7.106	11.369
	48.130	92.977	25803.837	16.639	24.127	1069.500	51641.628	46.497	7.259	11.614
L39	48.130	92.977	25803.837	16.639	24.127	1069.500	51641.628	46.497	7.259	11.614
	48.837	94.357	26970.369	16.886	24.481	1101.707	53976.227	47.188	7.381	11.81

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 148.000-143.000				1	1	1			
L2 143.000-138.000				1	1	1			
L3 138.000-133.0				1	1	1			

Tower Elevation ft	Gusset Area (per face) ft²	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
00									
L4				1	1	1			
133.000-128.0									
00									
L5				1	1	1			
128.000-123.0									
00									
L6				1	1	1			
123.000-116.5									
00									
L7				1	1	1			
116.500-115.2									
50									
L8				1	1	1			
115.250-110.2									
50									
L9				1	1	1			
110.250-105.2									
50									
L10				1	1	1			
105.250-100.2									
50									
L11				1	1	1			
100.250-98.75									
0									
L12				1	1	1			
98.750-98.500									
L13				1	1	0.955768			
98.500-98.250									
L14				1	1	0.958228			
98.250-93.250									
L15				1	1	0.961341			
93.250-88.250									
L16				1	1	0.954384			
88.250-80.250									
L17				1	1	0.957771			
80.250-79.750									
L18				1	1	0.973571			
79.750-74.750									
L19				1	1	0.965574			
74.750-69.750									
L20				1	1	0.960958			
69.750-66.750									
L21				1	1	0.943076			
66.750-66.500									
L22				1	1	0.951509			
66.500-61.500									
L23				1	1	0.9415			
61.500-56.500									
L24				1	1	0.951047			
56.500-51.500									
L25				1	1	0.941715			
51.500-46.500									
L26				1	1	0.958676			
46.500-39.750									
L27				1	1	0.959517			
39.750-38.750									
L28				1	1	0.95153			
38.750-33.750									

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
L29 33.750-31.750				1	1	0.948428			
L30 31.750-31.500				1	1	0.948044			
L31 31.500-26.500				1	1	0.958686			
L32 26.500-21.500				1	1	0.970081			
L33 21.500-17.750				1	1	0.964652			
L34 17.750-17.500				1	1	0.992141			
L35 17.500-14.250				1	1	0.986172			
L36 14.250-14.000				1	1	1.00245			
L37 14.000-9.000				1	1	1.01423			
L38 9.000-4.000				1	1	1.00654			
L39 4.000-0.000				1	1	1.00059			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
LDF7-50A(1-5/8) *	B	No	Surface Ar (CaAa)	138.000 - 0.000	6	6	-0.350 -0.050	1.980		0.001
LDF4-50A(1/2) *	A	No	Surface Ar (CaAa)	45.000 - 0.000	1	1	-0.150 -0.130	0.630		0.000
LDF4-50A(1/2) *	C	No	Surface Ar (CaAa)	13.000 - 0.000	1	1	0.000 0.020	0.630		0.000
Safety Line 3/8 *	A	No	Surface Ar (CaAa)	148.000 - 0.000	1	1	-0.050 -0.040	0.375		0.000
CCI 6" x 1" Plate	A	No	Surface Af (CaAa)	100.750 - 70.750	1	1	0.000 0.050	6.000	14.000	0.000
CCI 6" x 1" Plate	B	No	Surface Af (CaAa)	100.750 - 70.750	1	1	0.000 0.050	6.000	14.000	0.000
CCI 6" x 1" Plate *	C	No	Surface Af (CaAa)	100.750 - 70.750	1	1	0.000 0.050	6.000	14.000	0.000
CCI 6.5" x 1.25" Plate	A	No	Surface Af (CaAa)	20.500 - 0.000	1	1	0.100 0.150	6.500	15.500	0.000
CCI 6.5" x 1.25" Plate *	A	No	Surface Af (CaAa)	20.500 - 0.000	1	1	-0.150 -0.100	6.500	15.500	0.000
CCI 8.5" x 1.25" Plate	A	No	Surface Af (CaAa)	70.625 - 0.000	1	1	0.000 0.050	8.500	19.500	0.000

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
CCI 8.5" x 1.25" Plate	B	No	Surface Af (CaAa)	70.625 - 0.000	1	1	0.000 0.050	8.500	19.500	0.000
CCI 8.5" x 1.25" Plate	C	No	Surface Af (CaAa)	70.625 - 10.500	1	1	0.000 0.050	8.500	19.500	0.000
*										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
HB114-1-0813U4-M5J(1-1/4)	A	No	No	Inside Pole	148.000 - 0.000	4	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
*									
LDF7-50A(1-5/8)	B	No	No	Inside Pole	138.000 - 0.000	1	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
*									
L98B-002-XXX_DB (3/8)	C	No	No	Inside Pole	128.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	128.000 - 0.000	5	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
*									
LDF4-50A(1/2)	C	No	No	Inside Pole	114.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
HCS 6X12 4AWG(1-5/8)	C	No	No	Inside Pole	114.000 - 0.000	4	No Ice	0.000	0.002
							1/2" Ice	0.000	0.002
							1" Ice	0.000	0.002
							2" Ice	0.000	0.002
*									
LDF4-50A(1/2)	A	No	No	Inside Pole	79.000 - 0.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
*									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	148.000-143.000	A	0.000	0.000	0.188	0.000	0.025
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.000
L2	143.000-138.000	A	0.000	0.000	0.188	0.000	0.025
		B	0.000	0.000	0.000	0.000	0.000
		C	0.000	0.000	0.000	0.000	0.000
L3	138.000-133.000	A	0.000	0.000	0.188	0.000	0.025
		B	0.000	0.000	5.940	0.000	0.029
		C	0.000	0.000	0.000	0.000	0.000
L4	133.000-128.000	A	0.000	0.000	0.188	0.000	0.025
		B	0.000	0.000	5.940	0.000	0.029
		C	0.000	0.000	0.000	0.000	0.000
L5	128.000-123.000	A	0.000	0.000	0.188	0.000	0.025
		B	0.000	0.000	5.940	0.000	0.029
		C	0.000	0.000	0.000	0.000	0.015
L6	123.000-116.500	A	0.000	0.000	0.244	0.000	0.033
		B	0.000	0.000	7.722	0.000	0.037
		C	0.000	0.000	0.000	0.000	0.019
L7	116.500-115.250	A	0.000	0.000	0.047	0.000	0.006
		B	0.000	0.000	1.485	0.000	0.007
		C	0.000	0.000	0.000	0.000	0.004
L8	115.250-110.250	A	0.000	0.000	0.188	0.000	0.025
		B	0.000	0.000	5.940	0.000	0.029
		C	0.000	0.000	0.000	0.000	0.051
L9	110.250-105.250	A	0.000	0.000	0.188	0.000	0.025
		B	0.000	0.000	5.940	0.000	0.029
		C	0.000	0.000	0.000	0.000	0.064
L10	105.250-100.250	A	0.000	0.000	0.688	0.000	0.025
		B	0.000	0.000	6.440	0.000	0.029
		C	0.000	0.000	0.500	0.000	0.064
L11	100.250-98.750	A	0.000	0.000	1.556	0.000	0.008
		B	0.000	0.000	3.282	0.000	0.009
		C	0.000	0.000	1.500	0.000	0.019
L12	98.750-98.500	A	0.000	0.000	0.259	0.000	0.001
		B	0.000	0.000	0.547	0.000	0.001
		C	0.000	0.000	0.250	0.000	0.003
L13	98.500-98.250	A	0.000	0.000	0.259	0.000	0.001
		B	0.000	0.000	0.547	0.000	0.001
		C	0.000	0.000	0.250	0.000	0.003
L14	98.250-93.250	A	0.000	0.000	5.188	0.000	0.025
		B	0.000	0.000	10.940	0.000	0.029
		C	0.000	0.000	5.000	0.000	0.064
L15	93.250-88.250	A	0.000	0.000	5.188	0.000	0.025
		B	0.000	0.000	10.940	0.000	0.029
		C	0.000	0.000	5.000	0.000	0.064
L16	88.250-80.250	A	0.000	0.000	8.300	0.000	0.040
		B	0.000	0.000	17.504	0.000	0.046
		C	0.000	0.000	8.000	0.000	0.102
L17	80.250-79.750	A	0.000	0.000	0.519	0.000	0.003
		B	0.000	0.000	1.094	0.000	0.003
		C	0.000	0.000	0.500	0.000	0.006
L18	79.750-74.750	A	0.000	0.000	5.188	0.000	0.026
		B	0.000	0.000	10.940	0.000	0.029
		C	0.000	0.000	5.000	0.000	0.064
L19	74.750-69.750	A	0.000	0.000	5.427	0.000	0.026
		B	0.000	0.000	11.180	0.000	0.029
		C	0.000	0.000	5.240	0.000	0.064
L20	69.750-66.750	A	0.000	0.000	4.362	0.000	0.016
		B	0.000	0.000	7.814	0.000	0.017
		C	0.000	0.000	4.250	0.000	0.038
L21	66.750-66.500	A	0.000	0.000	0.364	0.000	0.001

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	0.651	0.000	0.001
		C	0.000	0.000	0.354	0.000	0.003
L22	66.500-61.500	A	0.000	0.000	7.271	0.000	0.026
		B	0.000	0.000	13.023	0.000	0.029
		C	0.000	0.000	7.083	0.000	0.064
L23	61.500-56.500	A	0.000	0.000	7.271	0.000	0.026
		B	0.000	0.000	13.023	0.000	0.029
		C	0.000	0.000	7.083	0.000	0.064
L24	56.500-51.500	A	0.000	0.000	7.271	0.000	0.026
		B	0.000	0.000	13.023	0.000	0.029
		C	0.000	0.000	7.083	0.000	0.064
L25	51.500-46.500	A	0.000	0.000	7.271	0.000	0.026
		B	0.000	0.000	13.023	0.000	0.029
		C	0.000	0.000	7.083	0.000	0.064
L26	46.500-39.750	A	0.000	0.000	10.146	0.000	0.036
		B	0.000	0.000	17.581	0.000	0.039
		C	0.000	0.000	9.563	0.000	0.086
L27	39.750-38.750	A	0.000	0.000	1.517	0.000	0.005
		B	0.000	0.000	2.605	0.000	0.006
		C	0.000	0.000	1.417	0.000	0.013
L28	38.750-33.750	A	0.000	0.000	7.586	0.000	0.027
		B	0.000	0.000	13.023	0.000	0.029
		C	0.000	0.000	7.083	0.000	0.064
L29	33.750-31.750	A	0.000	0.000	3.034	0.000	0.011
		B	0.000	0.000	5.209	0.000	0.011
		C	0.000	0.000	2.833	0.000	0.025
L30	31.750-31.500	A	0.000	0.000	0.379	0.000	0.001
		B	0.000	0.000	0.651	0.000	0.001
		C	0.000	0.000	0.354	0.000	0.003
L31	31.500-26.500	A	0.000	0.000	7.586	0.000	0.027
		B	0.000	0.000	13.023	0.000	0.029
		C	0.000	0.000	7.083	0.000	0.064
L32	26.500-21.500	A	0.000	0.000	7.586	0.000	0.027
		B	0.000	0.000	13.023	0.000	0.029
		C	0.000	0.000	7.083	0.000	0.064
L33	21.500-17.750	A	0.000	0.000	11.648	0.000	0.020
		B	0.000	0.000	9.768	0.000	0.022
		C	0.000	0.000	5.313	0.000	0.048
L34	17.750-17.500	A	0.000	0.000	0.921	0.000	0.001
		B	0.000	0.000	0.651	0.000	0.001
		C	0.000	0.000	0.354	0.000	0.003
L35	17.500-14.250	A	0.000	0.000	11.972	0.000	0.017
		B	0.000	0.000	8.465	0.000	0.019
		C	0.000	0.000	4.604	0.000	0.041
L36	14.250-14.000	A	0.000	0.000	0.921	0.000	0.001
		B	0.000	0.000	0.651	0.000	0.001
		C	0.000	0.000	0.354	0.000	0.003
L37	14.000-9.000	A	0.000	0.000	18.419	0.000	0.027
		B	0.000	0.000	13.023	0.000	0.029
		C	0.000	0.000	5.210	0.000	0.064
L38	9.000-4.000	A	0.000	0.000	18.419	0.000	0.027
		B	0.000	0.000	13.023	0.000	0.029
		C	0.000	0.000	0.315	0.000	0.064
L39	4.000-0.000	A	0.000	0.000	14.735	0.000	0.021
		B	0.000	0.000	10.419	0.000	0.023
		C	0.000	0.000	0.252	0.000	0.052

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	148.000-143.000	A	1.479	0.000	0.000	1.666	0.000	0.042
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.000
L2	143.000-138.000	A	1.474	0.000	0.000	1.661	0.000	0.042
		B		0.000	0.000	0.000	0.000	0.000
		C		0.000	0.000	0.000	0.000	0.000
L3	138.000-133.000	A	1.468	0.000	0.000	1.656	0.000	0.042
		B		0.000	0.000	9.261	0.000	0.124
		C		0.000	0.000	0.000	0.000	0.000
L4	133.000-128.000	A	1.463	0.000	0.000	1.650	0.000	0.042
		B		0.000	0.000	9.254	0.000	0.124
		C		0.000	0.000	0.000	0.000	0.000
L5	128.000-123.000	A	1.457	0.000	0.000	1.645	0.000	0.041
		B		0.000	0.000	9.246	0.000	0.124
		C		0.000	0.000	0.000	0.000	0.015
L6	123.000-116.500	A	1.450	0.000	0.000	2.129	0.000	0.054
		B		0.000	0.000	12.009	0.000	0.160
		C		0.000	0.000	0.000	0.000	0.019
L7	116.500-115.250	A	1.446	0.000	0.000	0.409	0.000	0.010
		B		0.000	0.000	2.309	0.000	0.031
		C		0.000	0.000	0.000	0.000	0.004
L8	115.250-110.250	A	1.442	0.000	0.000	1.629	0.000	0.041
		B		0.000	0.000	9.227	0.000	0.123
		C		0.000	0.000	0.000	0.000	0.051
L9	110.250-105.250	A	1.435	0.000	0.000	1.623	0.000	0.041
		B		0.000	0.000	9.219	0.000	0.122
		C		0.000	0.000	0.000	0.000	0.064
L10	105.250-100.250	A	1.428	0.000	0.000	2.259	0.000	0.046
		B		0.000	0.000	9.853	0.000	0.127
		C		0.000	0.000	0.643	0.000	0.069
L11	100.250-98.750	A	1.424	0.000	0.000	2.411	0.000	0.028
		B		0.000	0.000	4.689	0.000	0.052
		C		0.000	0.000	1.927	0.000	0.035
L12	98.750-98.500	A	1.423	0.000	0.000	0.402	0.000	0.005
		B		0.000	0.000	0.781	0.000	0.009
		C		0.000	0.000	0.321	0.000	0.006
L13	98.500-98.250	A	1.422	0.000	0.000	0.402	0.000	0.005
		B		0.000	0.000	0.781	0.000	0.009
		C		0.000	0.000	0.321	0.000	0.006
L14	98.250-93.250	A	1.418	0.000	0.000	8.024	0.000	0.094
		B		0.000	0.000	15.616	0.000	0.174
		C		0.000	0.000	6.418	0.000	0.117
L15	93.250-88.250	A	1.411	0.000	0.000	8.009	0.000	0.094
		B		0.000	0.000	15.599	0.000	0.173
		C		0.000	0.000	6.411	0.000	0.117
L16	88.250-80.250	A	1.400	0.000	0.000	12.781	0.000	0.149
		B		0.000	0.000	24.921	0.000	0.276
		C		0.000	0.000	10.240	0.000	0.186
L17	80.250-79.750	A	1.393	0.000	0.000	0.799	0.000	0.009
		B		0.000	0.000	1.558	0.000	0.017
		C		0.000	0.000	0.640	0.000	0.012
L18	79.750-74.750	A	1.388	0.000	0.000	7.964	0.000	0.093
		B		0.000	0.000	15.548	0.000	0.171
		C		0.000	0.000	6.388	0.000	0.116
L19	74.750-69.750	A	1.379	0.000	0.000	8.150	0.000	0.093
		B		0.000	0.000	15.733	0.000	0.171
		C		0.000	0.000	6.584	0.000	0.116
L20	69.750-66.750	A	1.371	0.000	0.000	6.008	0.000	0.064
		B		0.000	0.000	10.556	0.000	0.110
		C		0.000	0.000	5.073	0.000	0.078

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L21	66.750-66.500	A	1.368	0.000	0.000	0.500	0.000	0.005
		B		0.000	0.000	0.879	0.000	0.009
		C		0.000	0.000	0.423	0.000	0.006
L22	66.500-61.500	A	1.362	0.000	0.000	9.995	0.000	0.106
		B		0.000	0.000	17.573	0.000	0.182
		C		0.000	0.000	8.446	0.000	0.129
L23	61.500-56.500	A	1.351	0.000	0.000	9.973	0.000	0.105
		B		0.000	0.000	17.549	0.000	0.181
		C		0.000	0.000	8.435	0.000	0.128
L24	56.500-51.500	A	1.339	0.000	0.000	9.950	0.000	0.104
		B		0.000	0.000	17.522	0.000	0.180
		C		0.000	0.000	8.423	0.000	0.128
L25	51.500-46.500	A	1.326	0.000	0.000	9.924	0.000	0.103
		B		0.000	0.000	17.493	0.000	0.178
		C		0.000	0.000	8.410	0.000	0.127
L26	46.500-39.750	A	1.310	0.000	0.000	15.057	0.000	0.154
		B		0.000	0.000	23.564	0.000	0.237
		C		0.000	0.000	11.330	0.000	0.170
L27	39.750-38.750	A	1.297	0.000	0.000	2.303	0.000	0.024
		B		0.000	0.000	3.491	0.000	0.035
		C		0.000	0.000	1.679	0.000	0.025
L28	38.750-33.750	A	1.287	0.000	0.000	11.447	0.000	0.116
		B		0.000	0.000	17.404	0.000	0.173
		C		0.000	0.000	8.370	0.000	0.125
L29	33.750-31.750	A	1.274	0.000	0.000	4.563	0.000	0.046
		B		0.000	0.000	6.950	0.000	0.069
		C		0.000	0.000	3.343	0.000	0.050
L30	31.750-31.500	A	1.270	0.000	0.000	0.570	0.000	0.006
		B		0.000	0.000	0.868	0.000	0.009
		C		0.000	0.000	0.418	0.000	0.006
L31	31.500-26.500	A	1.259	0.000	0.000	11.362	0.000	0.113
		B		0.000	0.000	17.340	0.000	0.170
		C		0.000	0.000	8.342	0.000	0.123
L32	26.500-21.500	A	1.235	0.000	0.000	11.291	0.000	0.111
		B		0.000	0.000	17.287	0.000	0.167
		C		0.000	0.000	8.318	0.000	0.122
L33	21.500-17.750	A	1.210	0.000	0.000	15.703	0.000	0.133
		B		0.000	0.000	12.924	0.000	0.123
		C		0.000	0.000	6.220	0.000	0.090
L34	17.750-17.500	A	1.197	0.000	0.000	1.220	0.000	0.010
		B		0.000	0.000	0.860	0.000	0.008
		C		0.000	0.000	0.414	0.000	0.006
L35	17.500-14.250	A	1.185	0.000	0.000	15.824	0.000	0.129
		B		0.000	0.000	11.163	0.000	0.104
		C		0.000	0.000	5.374	0.000	0.077
L36	14.250-14.000	A	1.171	0.000	0.000	1.214	0.000	0.010
		B		0.000	0.000	0.857	0.000	0.008
		C		0.000	0.000	0.413	0.000	0.006
L37	14.000-9.000	A	1.147	0.000	0.000	24.156	0.000	0.191
		B		0.000	0.000	17.090	0.000	0.156
		C		0.000	0.000	6.931	0.000	0.111
L38	9.000-4.000	A	1.084	0.000	0.000	23.838	0.000	0.180
		B		0.000	0.000	16.947	0.000	0.149
		C		0.000	0.000	1.399	0.000	0.076
L39	4.000-0.000	A	0.963	0.000	0.000	18.588	0.000	0.127
		B		0.000	0.000	13.340	0.000	0.108
		C		0.000	0.000	1.022	0.000	0.059

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L1	148.000-143.000	-0.274	-0.125	-1.210	-0.554
L2	143.000-138.000	-0.274	-0.125	-1.215	-0.556
L3	138.000-133.000	3.302	-4.836	1.971	-3.989
L4	133.000-128.000	3.340	-4.893	2.002	-4.051
L5	128.000-123.000	3.377	-4.948	2.032	-4.110
L6	123.000-116.500	3.418	-5.009	2.066	-4.176
L7	116.500-115.250	3.428	-5.024	2.074	-4.191
L8	115.250-110.250	3.449	-5.055	2.093	-4.225
L9	110.250-105.250	3.483	-5.105	2.121	-4.279
L10	105.250-100.250	3.211	-4.706	2.024	-4.079
L11	100.250-98.750	1.825	-2.675	1.344	-2.707
L12	98.750-98.500	1.830	-2.683	1.348	-2.715
L13	98.500-98.250	1.832	-2.686	1.350	-2.718
L14	98.250-93.250	1.848	-2.709	1.362	-2.741
L15	93.250-88.250	1.878	-2.754	1.386	-2.786
L16	88.250-80.250	1.917	-2.810	1.416	-2.842
L17	80.250-79.750	1.925	-2.822	1.422	-2.854
L18	79.750-74.750	1.941	-2.846	1.436	-2.877
L19	74.750-69.750	1.926	-2.825	1.442	-2.885
L20	69.750-66.750	1.400	-2.053	1.318	-2.632
L21	66.750-66.500	1.407	-2.063	1.325	-2.645
L22	66.500-61.500	1.416	-2.077	1.336	-2.665
L23	61.500-56.500	1.434	-2.104	1.358	-2.704
L24	56.500-51.500	1.452	-2.130	1.380	-2.741
L25	51.500-46.500	1.470	-2.156	1.402	-2.778
L26	46.500-39.750	1.380	-2.199	0.982	-2.861
L27	39.750-38.750	1.349	-2.205	0.861	-2.874
L28	38.750-33.750	1.359	-2.220	0.879	-2.893
L29	33.750-31.750	1.652	-2.699	0.893	-2.917
L30	31.750-31.500	1.657	-2.707	0.897	-2.924
L31	31.500-26.500	1.668	-2.725	0.908	-2.941
L32	26.500-21.500	1.689	-2.760	0.931	-2.973
L33	21.500-17.750	-1.465	-4.014	-1.571	-3.984
L34	17.750-17.500	-2.386	-4.387	-2.330	-4.297
L35	17.500-14.250	-2.397	-4.408	-2.335	-4.314
L36	14.250-14.000	-2.409	-4.428	-2.339	-4.330
L37	14.000-9.000	-2.417	-5.500	-2.312	-4.844
L38	9.000-4.000	-2.448	-8.699	-2.291	-7.162
L39	4.000-0.000	-2.475	-8.793	-2.246	-7.259

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L1	19	Safety Line 3/8	143.00 - 148.00	1.0000	1.0000
L2	19	Safety Line 3/8	138.00 - 143.00	1.0000	1.0000
L3	4	LDF7-50A(1-5/8)	133.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			138.00		
L3	19	Safety Line 3/8	133.00 - 138.00	1.0000	1.0000
L4	4	LDF7-50A(1-5/8)	128.00 - 133.00	1.0000	1.0000
L4	19	Safety Line 3/8	128.00 - 133.00	1.0000	1.0000
L5	4	LDF7-50A(1-5/8)	123.00 - 128.00	1.0000	1.0000
L5	19	Safety Line 3/8	123.00 - 128.00	1.0000	1.0000
L6	4	LDF7-50A(1-5/8)	116.50 - 123.00	1.0000	1.0000
L6	19	Safety Line 3/8	116.50 - 123.00	1.0000	1.0000
L8	4	LDF7-50A(1-5/8)	110.25 - 115.25	1.0000	1.0000
L8	19	Safety Line 3/8	110.25 - 115.25	1.0000	1.0000
L9	4	LDF7-50A(1-5/8)	105.25 - 110.25	1.0000	1.0000
L9	19	Safety Line 3/8	105.25 - 110.25	1.0000	1.0000
L10	4	LDF7-50A(1-5/8)	100.25 - 105.25	1.0000	1.0000
L10	19	Safety Line 3/8	100.25 - 105.25	1.0000	1.0000
L10	21	CCI 6" x 1" Plate	100.25 - 100.75	1.0000	1.0000
L10	22	CCI 6" x 1" Plate	100.25 - 100.75	1.0000	1.0000
L10	23	CCI 6" x 1" Plate	100.25 - 100.75	1.0000	1.0000
L11	4	LDF7-50A(1-5/8)	98.75 - 100.25	1.0000	1.0000
L11	19	Safety Line 3/8	98.75 - 100.25	1.0000	1.0000
L11	21	CCI 6" x 1" Plate	98.75 - 100.25	1.0000	1.0000
L11	22	CCI 6" x 1" Plate	98.75 - 100.25	1.0000	1.0000
L11	23	CCI 6" x 1" Plate	98.75 - 100.25	1.0000	1.0000
L12	4	LDF7-50A(1-5/8)	98.50 - 98.75	1.0000	1.0000
L12	19	Safety Line 3/8	98.50 - 98.75	1.0000	1.0000
L12	21	CCI 6" x 1" Plate	98.50 - 98.75	1.0000	1.0000
L12	22	CCI 6" x 1" Plate	98.50 - 98.75	1.0000	1.0000
L12	23	CCI 6" x 1" Plate	98.50 - 98.75	1.0000	1.0000
L13	4	LDF7-50A(1-5/8)	98.25 - 98.50	1.0000	1.0000
L13	19	Safety Line 3/8	98.25 - 98.50	1.0000	1.0000
L13	21	CCI 6" x 1" Plate	98.25 - 98.50	1.0000	1.0000
L13	22	CCI 6" x 1" Plate	98.25 - 98.50	1.0000	1.0000
L13	23	CCI 6" x 1" Plate	98.25 - 98.50	1.0000	1.0000
L14	4	LDF7-50A(1-5/8)	93.25 - 98.25	1.0000	1.0000
L14	19	Safety Line 3/8	93.25 - 98.25	1.0000	1.0000
L14	21	CCI 6" x 1" Plate	93.25 - 98.25	1.0000	1.0000
L14	22	CCI 6" x 1" Plate	93.25 - 98.25	1.0000	1.0000
L14	23	CCI 6" x 1" Plate	93.25 - 98.25	1.0000	1.0000
L15	4	LDF7-50A(1-5/8)	88.25 - 93.25	1.0000	1.0000
L15	19	Safety Line 3/8	88.25 - 93.25	1.0000	1.0000
L15	21	CCI 6" x 1" Plate	88.25 - 93.25	1.0000	1.0000
L15	22	CCI 6" x 1" Plate	88.25 - 93.25	1.0000	1.0000
L15	23	CCI 6" x 1" Plate	88.25 - 93.25	1.0000	1.0000
L16	4	LDF7-50A(1-5/8)	80.25 - 88.25	1.0000	1.0000
L16	19	Safety Line 3/8	80.25 - 88.25	1.0000	1.0000
L16	21	CCI 6" x 1" Plate	80.25 - 88.25	1.0000	1.0000
L16	22	CCI 6" x 1" Plate	80.25 - 88.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L16	23	CCI 6" x 1" Plate	80.25 - 88.25	1.0000	1.0000
L18	4	LDF7-50A(1-5/8)	74.75 - 79.75	1.0000	1.0000
L18	19	Safety Line 3/8	74.75 - 79.75	1.0000	1.0000
L18	21	CCI 6" x 1" Plate	74.75 - 79.75	1.0000	1.0000
L18	22	CCI 6" x 1" Plate	74.75 - 79.75	1.0000	1.0000
L18	23	CCI 6" x 1" Plate	74.75 - 79.75	1.0000	1.0000
L19	4	LDF7-50A(1-5/8)	69.75 - 74.75	1.0000	1.0000
L19	19	Safety Line 3/8	69.75 - 74.75	1.0000	1.0000
L19	21	CCI 6" x 1" Plate	70.75 - 74.75	1.0000	1.0000
L19	22	CCI 6" x 1" Plate	70.75 - 74.75	1.0000	1.0000
L19	23	CCI 6" x 1" Plate	70.75 - 74.75	1.0000	1.0000
L19	28	CCI 8.5" x 1.25" Plate	69.75 - 70.63	1.0000	1.0000
L19	29	CCI 8.5" x 1.25" Plate	69.75 - 70.63	1.0000	1.0000
L19	30	CCI 8.5" x 1.25" Plate	69.75 - 70.63	1.0000	1.0000
L20	4	LDF7-50A(1-5/8)	66.75 - 69.75	1.0000	1.0000
L20	19	Safety Line 3/8	66.75 - 69.75	1.0000	1.0000
L20	28	CCI 8.5" x 1.25" Plate	66.75 - 69.75	1.0000	1.0000
L20	29	CCI 8.5" x 1.25" Plate	66.75 - 69.75	1.0000	1.0000
L20	30	CCI 8.5" x 1.25" Plate	66.75 - 69.75	1.0000	1.0000
L21	4	LDF7-50A(1-5/8)	66.50 - 66.75	1.0000	1.0000
L21	19	Safety Line 3/8	66.50 - 66.75	1.0000	1.0000
L21	28	CCI 8.5" x 1.25" Plate	66.50 - 66.75	1.0000	1.0000
L21	29	CCI 8.5" x 1.25" Plate	66.50 - 66.75	1.0000	1.0000
L21	30	CCI 8.5" x 1.25" Plate	66.50 - 66.75	1.0000	1.0000
L22	4	LDF7-50A(1-5/8)	61.50 - 66.50	1.0000	1.0000
L22	19	Safety Line 3/8	61.50 - 66.50	1.0000	1.0000
L22	28	CCI 8.5" x 1.25" Plate	61.50 - 66.50	1.0000	1.0000
L22	29	CCI 8.5" x 1.25" Plate	61.50 - 66.50	1.0000	1.0000
L22	30	CCI 8.5" x 1.25" Plate	61.50 - 66.50	1.0000	1.0000
L23	4	LDF7-50A(1-5/8)	56.50 - 61.50	1.0000	1.0000
L23	19	Safety Line 3/8	56.50 - 61.50	1.0000	1.0000
L23	28	CCI 8.5" x 1.25" Plate	56.50 - 61.50	1.0000	1.0000
L23	29	CCI 8.5" x 1.25" Plate	56.50 - 61.50	1.0000	1.0000
L23	30	CCI 8.5" x 1.25" Plate	56.50 - 61.50	1.0000	1.0000
L24	4	LDF7-50A(1-5/8)	51.50 - 56.50	1.0000	1.0000
L24	19	Safety Line 3/8	51.50 - 56.50	1.0000	1.0000
L24	28	CCI 8.5" x 1.25" Plate	51.50 - 56.50	1.0000	1.0000
L24	29	CCI 8.5" x 1.25" Plate	51.50 - 56.50	1.0000	1.0000
L24	30	CCI 8.5" x 1.25" Plate	51.50 - 56.50	1.0000	1.0000
L25	4	LDF7-50A(1-5/8)	46.50 - 51.50	1.0000	1.0000
L25	19	Safety Line 3/8	46.50 - 51.50	1.0000	1.0000
L25	28	CCI 8.5" x 1.25" Plate	46.50 - 51.50	1.0000	1.0000
L25	29	CCI 8.5" x 1.25" Plate	46.50 - 51.50	1.0000	1.0000
L25	30	CCI 8.5" x 1.25" Plate	46.50 - 51.50	1.0000	1.0000
L26	4	LDF7-50A(1-5/8)	39.75 - 46.50	1.0000	1.0000
L26	15	LDF4-50A(1/2)	39.75 - 45.00	1.0000	1.0000
L26	19	Safety Line 3/8	39.75 - 46.50	1.0000	1.0000
L26	28	CCI 8.5" x 1.25" Plate	39.75 - 46.50	1.0000	1.0000
L26	29	CCI 8.5" x 1.25" Plate	39.75 - 46.50	1.0000	1.0000
L26	30	CCI 8.5" x 1.25" Plate	39.75 - 46.50	1.0000	1.0000
L28	4	LDF7-50A(1-5/8)	33.75 - 38.75	1.0000	1.0000
L28	15	LDF4-50A(1/2)	33.75 - 38.75	1.0000	1.0000
L28	19	Safety Line 3/8	33.75 - 38.75	1.0000	1.0000
L28	28	CCI 8.5" x 1.25" Plate	33.75 - 38.75	1.0000	1.0000
L28	29	CCI 8.5" x 1.25" Plate	33.75 - 38.75	1.0000	1.0000
L28	30	CCI 8.5" x 1.25" Plate	33.75 - 38.75	1.0000	1.0000
L29	4	LDF7-50A(1-5/8)	31.75 - 33.75	1.0000	1.0000
L29	15	LDF4-50A(1/2)	31.75 - 33.75	1.0000	1.0000
L29	19	Safety Line 3/8	31.75 - 33.75	1.0000	1.0000
L29	28	CCI 8.5" x 1.25" Plate	31.75 - 33.75	1.0000	1.0000
L29	29	CCI 8.5" x 1.25" Plate	31.75 - 33.75	1.0000	1.0000
L29	30	CCI 8.5" x 1.25" Plate	31.75 - 33.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L30	4	LDF7-50A(1-5/8)	31.50 - 31.75	1.0000	1.0000
L30	15	LDF4-50A(1/2)	31.50 - 31.75	1.0000	1.0000
L30	19	Safety Line 3/8	31.50 - 31.75	1.0000	1.0000
L30	28	CCI 8.5" x 1.25" Plate	31.50 - 31.75	1.0000	1.0000
L30	29	CCI 8.5" x 1.25" Plate	31.50 - 31.75	1.0000	1.0000
L30	30	CCI 8.5" x 1.25" Plate	31.50 - 31.75	1.0000	1.0000
L31	4	LDF7-50A(1-5/8)	26.50 - 31.50	1.0000	1.0000
L31	15	LDF4-50A(1/2)	26.50 - 31.50	1.0000	1.0000
L31	19	Safety Line 3/8	26.50 - 31.50	1.0000	1.0000
L31	28	CCI 8.5" x 1.25" Plate	26.50 - 31.50	1.0000	1.0000
L31	29	CCI 8.5" x 1.25" Plate	26.50 - 31.50	1.0000	1.0000
L31	30	CCI 8.5" x 1.25" Plate	26.50 - 31.50	1.0000	1.0000
L32	4	LDF7-50A(1-5/8)	21.50 - 26.50	1.0000	1.0000
L32	15	LDF4-50A(1/2)	21.50 - 26.50	1.0000	1.0000
L32	19	Safety Line 3/8	21.50 - 26.50	1.0000	1.0000
L32	28	CCI 8.5" x 1.25" Plate	21.50 - 26.50	1.0000	1.0000
L32	29	CCI 8.5" x 1.25" Plate	21.50 - 26.50	1.0000	1.0000
L32	30	CCI 8.5" x 1.25" Plate	21.50 - 26.50	1.0000	1.0000
L33	4	LDF7-50A(1-5/8)	17.75 - 21.50	1.0000	1.0000
L33	15	LDF4-50A(1/2)	17.75 - 21.50	1.0000	1.0000
L33	19	Safety Line 3/8	17.75 - 21.50	1.0000	1.0000
L33	25	CCI 6.5" x 1.25" Plate	17.75 - 20.50	1.0000	1.0000
L33	26	CCI 6.5" x 1.25" Plate	17.75 - 20.50	1.0000	1.0000
L33	28	CCI 8.5" x 1.25" Plate	17.75 - 21.50	1.0000	1.0000
L33	29	CCI 8.5" x 1.25" Plate	17.75 - 21.50	1.0000	1.0000
L33	30	CCI 8.5" x 1.25" Plate	17.75 - 21.50	1.0000	1.0000
L34	4	LDF7-50A(1-5/8)	17.50 - 17.75	1.0000	1.0000
L34	15	LDF4-50A(1/2)	17.50 - 17.75	1.0000	1.0000
L34	19	Safety Line 3/8	17.50 - 17.75	1.0000	1.0000
L34	25	CCI 6.5" x 1.25" Plate	17.50 - 17.75	1.0000	1.0000
L34	26	CCI 6.5" x 1.25" Plate	17.50 - 17.75	1.0000	1.0000
L34	28	CCI 8.5" x 1.25" Plate	17.50 - 17.75	1.0000	1.0000
L34	29	CCI 8.5" x 1.25" Plate	17.50 - 17.75	1.0000	1.0000
L34	30	CCI 8.5" x 1.25" Plate	17.50 - 17.75	1.0000	1.0000
L35	4	LDF7-50A(1-5/8)	14.25 - 17.50	1.0000	1.0000
L35	15	LDF4-50A(1/2)	14.25 - 17.50	1.0000	1.0000
L35	19	Safety Line 3/8	14.25 - 17.50	1.0000	1.0000
L35	25	CCI 6.5" x 1.25" Plate	14.25 - 17.50	1.0000	1.0000
L35	26	CCI 6.5" x 1.25" Plate	14.25 - 17.50	1.0000	1.0000
L35	28	CCI 8.5" x 1.25" Plate	14.25 - 17.50	1.0000	1.0000
L35	29	CCI 8.5" x 1.25" Plate	14.25 - 17.50	1.0000	1.0000
L35	30	CCI 8.5" x 1.25" Plate	14.25 - 17.50	1.0000	1.0000
L36	4	LDF7-50A(1-5/8)	14.00 - 14.25	1.0000	1.0000
L36	15	LDF4-50A(1/2)	14.00 - 14.25	1.0000	1.0000
L36	19	Safety Line 3/8	14.00 - 14.25	1.0000	1.0000
L36	25	CCI 6.5" x 1.25" Plate	14.00 - 14.25	1.0000	1.0000
L36	26	CCI 6.5" x 1.25" Plate	14.00 - 14.25	1.0000	1.0000
L36	28	CCI 8.5" x 1.25" Plate	14.00 - 14.25	1.0000	1.0000
L36	29	CCI 8.5" x 1.25" Plate	14.00 - 14.25	1.0000	1.0000
L36	30	CCI 8.5" x 1.25" Plate	14.00 - 14.25	1.0000	1.0000
L37	4	LDF7-50A(1-5/8)	9.00 - 14.00	1.0000	1.0000
L37	15	LDF4-50A(1/2)	9.00 - 14.00	1.0000	1.0000
L37	17	LDF4-50A(1/2)	9.00 - 13.00	1.0000	1.0000
L37	19	Safety Line 3/8	9.00 - 14.00	1.0000	1.0000
L37	25	CCI 6.5" x 1.25" Plate	9.00 - 14.00	1.0000	1.0000
L37	26	CCI 6.5" x 1.25" Plate	9.00 - 14.00	1.0000	1.0000
L37	28	CCI 8.5" x 1.25" Plate	9.00 - 14.00	1.0000	1.0000
L37	29	CCI 8.5" x 1.25" Plate	9.00 - 14.00	1.0000	1.0000
L37	30	CCI 8.5" x 1.25" Plate	10.50 - 14.00	1.0000	1.0000
L38	4	LDF7-50A(1-5/8)	4.00 - 9.00	1.0000	1.0000
L38	15	LDF4-50A(1/2)	4.00 - 9.00	1.0000	1.0000
L38	17	LDF4-50A(1/2)	4.00 - 9.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L38	19	Safety Line 3/8	4.00 - 9.00	1.0000	1.0000
L38	25	CCI 6.5" x 1.25" Plate	4.00 - 9.00	1.0000	1.0000
L38	26	CCI 6.5" x 1.25" Plate	4.00 - 9.00	1.0000	1.0000
L38	28	CCI 8.5" x 1.25" Plate	4.00 - 9.00	1.0000	1.0000
L38	29	CCI 8.5" x 1.25" Plate	4.00 - 9.00	1.0000	1.0000
L39	4	LDF7-50A(1-5/8)	0.00 - 4.00	1.0000	1.0000
L39	15	LDF4-50A(1/2)	0.00 - 4.00	1.0000	1.0000
L39	17	LDF4-50A(1/2)	0.00 - 4.00	1.0000	1.0000
L39	19	Safety Line 3/8	0.00 - 4.00	1.0000	1.0000
L39	25	CCI 6.5" x 1.25" Plate	0.00 - 4.00	1.0000	1.0000
L39	26	CCI 6.5" x 1.25" Plate	0.00 - 4.00	1.0000	1.0000
L39	28	CCI 8.5" x 1.25" Plate	0.00 - 4.00	1.0000	1.0000
L39	29	CCI 8.5" x 1.25" Plate	0.00 - 4.00	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Top Hat	C	None		0.000	149.500	No Ice	3.000	3.000	0.081
						1/2" Ice	3.480	3.480	0.111
						1" Ice	3.960	3.960	0.141
						2" Ice	4.920	4.920	0.201
*									
800MHZ RRH	A	From Leg	1.000 0.000 1.000	0.000	149.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.134 2.320 2.512 2.920	1.773 1.946 2.127 2.510	0.053 0.074 0.098 0.157
800MHZ RRH	B	From Leg	1.000 0.000 1.000	0.000	149.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.134 2.320 2.512 2.920	1.773 1.946 2.127 2.510	0.053 0.074 0.098 0.157
800MHZ RRH	C	From Leg	1.000 0.000 1.000	0.000	149.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.134 2.320 2.512 2.920	1.773 1.946 2.127 2.510	0.053 0.074 0.098 0.157
800 EXTERNAL NOTCH FILTER	A	From Leg	1.000 0.000 1.000	0.000	149.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.660 0.763 0.873 1.115	0.321 0.398 0.483 0.674	0.011 0.017 0.024 0.045
800 EXTERNAL NOTCH FILTER	B	From Leg	1.000 0.000 1.000	0.000	149.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.660 0.763 0.873 1.115	0.321 0.398 0.483 0.674	0.011 0.017 0.024 0.045
800 EXTERNAL NOTCH FILTER	C	From Leg	1.000 0.000 1.000	0.000	149.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.660 0.763 0.873 1.115	0.321 0.398 0.483 0.674	0.011 0.017 0.024 0.045
1900MHZ RRH (65MHZ)	A	From Leg	1.000 0.000 1.000	0.000	149.000	No Ice 1/2" Ice 1" Ice	2.313 2.517 2.728	2.375 2.581 2.794	0.060 0.084 0.111

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	3.174	3.243	0.176
1900MHZ RRH (65MHZ)	B	From Leg	1.000	0.000	149.000	No Ice	2.313	2.375	0.060
			0.000			1/2" Ice	2.517	2.581	0.084
			1.000			1" Ice	2.728	2.794	0.111
						2" Ice	3.174	3.243	0.176
1900MHZ RRH (65MHZ)	C	From Leg	1.000	0.000	149.000	No Ice	2.313	2.375	0.060
			0.000			1/2" Ice	2.517	2.581	0.084
			1.000			1" Ice	2.728	2.794	0.111
						2" Ice	3.174	3.243	0.176
Pipe Mount [PM 601-3]	C	None		0.000	149.000	No Ice	3.170	3.170	0.195
						1/2" Ice	3.790	3.790	0.232
						1" Ice	4.420	4.420	0.279
						2" Ice	5.760	5.760	0.401
*									
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.000	0.000	148.000	No Ice	4.600	4.010	0.095
			0.000			1/2" Ice	5.050	4.450	0.160
			2.000			1" Ice	5.500	4.890	0.235
						2" Ice	6.440	5.820	0.419
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.000	0.000	148.000	No Ice	4.600	4.010	0.095
			0.000			1/2" Ice	5.050	4.450	0.160
			2.000			1" Ice	5.500	4.890	0.235
						2" Ice	6.440	5.820	0.419
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.000	0.000	148.000	No Ice	4.600	4.010	0.095
			0.000			1/2" Ice	5.050	4.450	0.160
			2.000			1" Ice	5.500	4.890	0.235
						2" Ice	6.440	5.820	0.419
(3) ACU-A20-N	A	From Leg	4.000	0.000	148.000	No Ice	0.067	0.117	0.001
			0.000			1/2" Ice	0.104	0.162	0.002
			2.000			1" Ice	0.148	0.215	0.004
						2" Ice	0.259	0.343	0.012
(3) ACU-A20-N	B	From Leg	4.000	0.000	148.000	No Ice	0.067	0.117	0.001
			0.000			1/2" Ice	0.104	0.162	0.002
			2.000			1" Ice	0.148	0.215	0.004
						2" Ice	0.259	0.343	0.012
(3) ACU-A20-N	C	From Leg	4.000	0.000	148.000	No Ice	0.067	0.117	0.001
			0.000			1/2" Ice	0.104	0.162	0.002
			2.000			1" Ice	0.148	0.215	0.004
						2" Ice	0.259	0.343	0.012
APXVTM14-ALU-I20 w/ Mount Pipe	A	From Leg	4.000	0.000	148.000	No Ice	4.090	2.860	0.077
			0.000			1/2" Ice	4.480	3.230	0.127
			2.000			1" Ice	4.880	3.610	0.185
						2" Ice	5.710	4.400	0.331
APXVTM14-ALU-I20 w/ Mount Pipe	B	From Leg	4.000	0.000	148.000	No Ice	4.090	2.860	0.077
			0.000			1/2" Ice	4.480	3.230	0.127
			2.000			1" Ice	4.880	3.610	0.185
						2" Ice	5.710	4.400	0.331
APXVTM14-ALU-I20 w/ Mount Pipe	C	From Leg	4.000	0.000	148.000	No Ice	4.090	2.860	0.077
			0.000			1/2" Ice	4.480	3.230	0.127
			2.000			1" Ice	4.880	3.610	0.185
						2" Ice	5.710	4.400	0.331
(2) TD-RRH8x20-25	A	From Leg	4.000	0.000	148.000	No Ice	4.045	1.535	0.070
			0.000			1/2" Ice	4.298	1.714	0.097
			2.000			1" Ice	4.557	1.901	0.128
						2" Ice	5.098	2.295	0.201
TD-RRH8x20-25	B	From Leg	4.000	0.000	148.000	No Ice	4.045	1.535	0.070
			0.000			1/2" Ice	4.298	1.714	0.097
			2.000			1" Ice	4.557	1.901	0.128

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	5.098	2.295	0.201
6' x 2" Mount Pipe	A	From Leg	4.000 0.000 1.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.425 1.925 2.294 3.060	1.425 1.925 2.294 3.060	0.022 0.033 0.048 0.090
6' x 2" Mount Pipe	B	From Leg	4.000 0.000 1.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.425 1.925 2.294 3.060	1.425 1.925 2.294 3.060	0.022 0.033 0.048 0.090
6' x 2" Mount Pipe	C	From Leg	4.000 0.000 1.000	0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.425 1.925 2.294 3.060	1.425 1.925 2.294 3.060	0.022 0.033 0.048 0.090
Platform Mount [LP 1201-1]	C	None		0.000	148.000	No Ice 1/2" Ice 1" Ice 2" Ice	18.380 22.110 25.870 33.470	18.380 22.110 25.870 33.470	2.100 2.652 3.263 4.662
*									
(2) LPA-80080/6CF	A	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.326 4.764 5.210 6.123	8.619 9.075 9.539 10.486	0.021 0.069 0.123 0.251
(2) LPA-80063/6CF	B	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	9.567 10.033 10.505 11.471	8.554 9.010 9.473 10.420	0.000 0.074 0.155 0.336
(2) LPA-80080/6CF	C	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.326 4.764 5.210 6.123	8.619 9.075 9.539 10.486	0.021 0.069 0.123 0.251
(2) QS6656-5	A	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.010 4.410 4.810 5.650	3.370 3.760 4.150 4.970	0.065 0.122 0.186 0.332
(2) QS6656-5	B	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.010 4.410 4.810 5.650	3.370 3.760 4.150 4.970	0.065 0.122 0.186 0.332
(2) QS6656-5	C	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.010 4.410 4.810 5.650	3.370 3.760 4.150 4.970	0.065 0.122 0.186 0.332
(2) RFV01U-D1A	A	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.875 2.045 2.223 2.601	1.250 1.393 1.543 1.865	0.084 0.103 0.124 0.175
RFV01U-D1A	B	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.875 2.045 2.223 2.601	1.250 1.393 1.543 1.865	0.084 0.103 0.124 0.175
RFV01U-D2A	B	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.875 2.045 2.223 2.601	1.013 1.145 1.284 1.585	0.070 0.087 0.106 0.153
(2) RFV01U-D2A	C	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice	1.875 2.045 2.223	1.013 1.145 1.284	0.070 0.087 0.106

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	2.601	1.585	0.153
DB-C1-12C-24AB-0Z	C	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	4.056 4.316 4.582 5.138	3.098 3.335 3.580 4.092	0.032 0.068 0.109 0.203
(4) 8' x 2.375" Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
(4) 8' x 2.375" Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
(4) 8' x 2.375" Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
Platform Mount [LP 712-1]	C	None		0.000	138.000	No Ice 1/2" Ice 1" Ice 2" Ice	24.560 27.920 31.270 37.980	24.560 27.920 31.270 37.980	1.335 1.915 2.548 3.971
*									
HPA-65R-BUU-H8 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	12.250 13.190 14.160 16.140	8.330 9.230 10.150 12.050	0.105 0.194 0.297 0.543
HPA-65R-BUU-H8 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	12.250 13.190 14.160 16.140	8.330 9.230 10.150 12.050	0.105 0.194 0.297 0.543
HPA-65R-BUU-H8 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	12.250 13.190 14.160 16.140	8.330 9.230 10.150 12.050	0.105 0.194 0.297 0.543
DC6-48-60-18-8F	A	From Leg	2.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.212 1.892 2.105 2.570	1.212 1.892 2.105 2.570	0.033 0.055 0.080 0.138
OPA65R-BU8D w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	18.326 19.062 19.807 21.232	10.338 11.860 13.406 15.752	0.109 0.232 0.365 0.668
OPA65R-BU8D w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	18.326 19.062 19.807 21.232	10.338 11.860 13.406 15.752	0.109 0.232 0.365 0.668
OPA65R-BU8D w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	18.326 19.062 19.807 21.232	10.338 11.860 13.406 15.752	0.109 0.232 0.365 0.668
DMP65R-BU8D w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	15.890 16.810 17.760 19.700	7.890 8.740 9.600 11.370	0.139 0.252 0.380 0.679
DMP65R-BU8D w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice	15.890 16.810 17.760	7.890 8.740 9.600	0.139 0.252 0.380

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
						2" Ice	19.700	11.370	0.679
DMP65R-BU8D w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	15.890 16.810 17.760 19.700	7.890 8.740 9.600 11.370	0.139 0.252 0.380 0.679
RRUS 8843 B2/B66A	A	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.639 1.799 1.966 2.323	1.353 1.500 1.655 1.986	0.072 0.090 0.110 0.159
RRUS 8843 B2/B66A	C	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.639 1.799 1.966 2.323	1.353 1.500 1.655 1.986	0.072 0.090 0.110 0.159
RRUS 8843 B2/B66A	B	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.639 1.799 1.966 2.323	1.353 1.500 1.655 1.986	0.072 0.090 0.110 0.159
RRUS 4449 B5/B12	A	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.968 2.144 2.328 2.718	1.408 1.564 1.727 2.075	0.071 0.090 0.111 0.163
RRUS 4449 B5/B12	B	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.968 2.144 2.328 2.718	1.408 1.564 1.727 2.075	0.071 0.090 0.111 0.163
RRUS 4449 B5/B12	C	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.968 2.144 2.328 2.718	1.408 1.564 1.727 2.075	0.071 0.090 0.111 0.163
RADIO 4415 B30	A	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.643 1.803 1.971 2.328	0.639 0.750 0.867 1.132	0.043 0.055 0.069 0.106
RADIO 4415 B30	B	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.643 1.803 1.971 2.328	0.639 0.750 0.867 1.132	0.043 0.055 0.069 0.106
RADIO 4415 B30	C	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.643 1.803 1.971 2.328	0.639 0.750 0.867 1.132	0.043 0.055 0.069 0.106
DC9-48-60-24-8C-EV	A	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.737 2.963 3.196 3.684	4.785 5.065 5.352 5.948	0.026 0.063 0.104 0.200
8' x 2.375" Mount Pipe	A	From Leg	2.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
8' x 2.375" Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119
8' x 2.375" Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	128.000	No Ice 1/2" Ice 1" Ice 2" Ice	1.900 2.728 3.401 4.396	1.900 2.728 3.401 4.396	0.029 0.044 0.063 0.119

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Platform Mount [LP 303-1_HR-1]	C	None		0.000	128.000	No Ice	17.090	17.090	1.495
						1/2" Ice	21.470	21.470	1.881
						1" Ice	25.720	25.720	2.346
						2" Ice	33.960	33.960	3.518
*									
(2) AIR 32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.000 0.000	0.000	114.000	No Ice	6.747	6.070	0.153
			0.000			1/2" Ice	7.202	6.867	0.214
						1" Ice	7.648	7.583	0.282
						2" Ice	8.565	9.063	0.441
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.000 0.000	0.000	114.000	No Ice	6.747	6.070	0.153
			0.000			1/2" Ice	7.202	6.867	0.214
						1" Ice	7.648	7.583	0.282
						2" Ice	8.565	9.063	0.441
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.000 0.000	0.000	114.000	No Ice	6.747	6.070	0.153
			0.000			1/2" Ice	7.202	6.867	0.214
						1" Ice	7.648	7.583	0.282
						2" Ice	8.565	9.063	0.441
(2) APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.000 0.000	0.000	114.000	No Ice	14.690	6.870	0.186
			0.000			1/2" Ice	15.460	7.550	0.315
						1" Ice	16.230	8.250	0.458
						2" Ice	17.820	9.670	0.788
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.000 0.000	0.000	114.000	No Ice	14.690	6.870	0.186
			0.000			1/2" Ice	15.460	7.550	0.315
						1" Ice	16.230	8.250	0.458
						2" Ice	17.820	9.670	0.788
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.000 0.000	0.000	114.000	No Ice	14.690	6.870	0.186
			0.000			1/2" Ice	15.460	7.550	0.315
						1" Ice	16.230	8.250	0.458
						2" Ice	17.820	9.670	0.788
(3) RADIO 4449 B12/B71	A	From Leg	4.000 0.000	0.000	114.000	No Ice	1.650	1.163	0.074
			0.000			1/2" Ice	1.810	1.301	0.090
						1" Ice	1.978	1.447	0.109
						2" Ice	2.336	1.762	0.155
(2) RADIO 4449 B12/B71	B	From Leg	4.000 0.000	0.000	114.000	No Ice	1.650	1.163	0.074
			0.000			1/2" Ice	1.810	1.301	0.090
						1" Ice	1.978	1.447	0.109
						2" Ice	2.336	1.762	0.155
(3) RADIO 4449 B12/B71	C	From Leg	4.000 0.000	0.000	114.000	No Ice	1.650	1.163	0.074
			0.000			1/2" Ice	1.810	1.301	0.090
						1" Ice	1.978	1.447	0.109
						2" Ice	2.336	1.762	0.155
6' x 2" Mount Pipe	A	From Leg	4.000 0.000	0.000	114.000	No Ice	1.425	1.425	0.022
			0.000			1/2" Ice	1.925	1.925	0.033
						1" Ice	2.294	2.294	0.048
						2" Ice	3.060	3.060	0.090
12.5' x 2.375" Horizontal Mount Pipe	A	From Leg	4.000 0.000	0.000	114.000	No Ice	2.980	0.010	0.046
			0.000			1/2" Ice	4.250	0.050	0.068
						1" Ice	5.550	0.100	0.981
						2" Ice	8.060	0.240	0.183
Miscellaneous [NA 507-1]	C	None		0.000	114.000	No Ice	4.560	4.560	0.245
						1/2" Ice	6.390	6.390	0.311
						1" Ice	8.180	8.180	0.402
						2" Ice	11.660	11.660	0.657
F4P-12W Mount	C	None		0.000	114.000	No Ice	46.210	51.770	2.636
						1/2" Ice	58.750	64.270	3.447
						1" Ice	75.540	80.620	4.638
						2" Ice	109.120	113.320	7.020

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
*									
PD1109E	A	From Leg	1.500 0.000 3.000	0.000	79.000	No Ice 1/2" Ice 1" Ice 2" Ice	2.854 3.924 5.010 6.434	2.854 3.924 5.010 6.434	0.017 0.038 0.066 0.142
Side Arm Mount [SO 701-1]	A	From Leg	1.500 0.000 0.000	0.000	79.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.850 1.140 1.430 2.010	1.670 2.340 3.010 4.350	0.065 0.079 0.093 0.121
*									
GPS_A	C	From Leg	3.000 0.000 0.000	0.000	45.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.255 0.320 0.393 0.561	0.255 0.320 0.393 0.561	0.001 0.005 0.010 0.025
Side Arm Mount [SO 701-1]	C	From Leg	1.500 0.000 0.000	0.000	45.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.850 1.140 1.430 2.010	1.670 2.340 3.010 4.350	0.065 0.079 0.093 0.121
*									
GPS_A	A	From Leg	3.000 0.000 0.000	0.000	13.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.255 0.320 0.393 0.561	0.255 0.320 0.393 0.561	0.001 0.005 0.010 0.025
Side Arm Mount [SO 701-1]	A	From Leg	1.500 0.000 0.000	0.000	13.000	No Ice 1/2" Ice 1" Ice 2" Ice	0.850 1.140 1.430 2.010	1.670 2.340 3.010 4.350	0.065 0.079 0.093 0.121
*									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
SC2-W100AB	A	Paraboloid w/Shroud (HP)	From Leg	4.000 0.000 0.000	0.000		114.000	2.200	No Ice 1/2" Ice 1" Ice 2" Ice	3.801 4.095 4.388 4.975	0.022 0.043 0.064 0.106
*											

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice

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

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	148 - 143	Pole	Max Tension	26	0.000	0.000	-0.000
			Max. Compression	26	-9.195	-0.758	1.385
			Max. Mx	8	-4.370	-21.155	0.295
			Max. My	2	-4.361	-0.026	22.438
			Max. Vy	8	3.523	-21.155	0.295

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	14	3.672	-0.655	-21.200
			Max. Torque	22			-0.584
L2	143 - 138	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-9.841	-0.749	1.446
			Max. Mx	8	-4.733	-39.580	0.079
			Max. My	2	-4.724	0.207	41.583
			Max. Vy	8	3.849	-39.580	0.079
			Max. Vx	14	3.998	-0.885	-40.369
			Max. Torque	22			-0.584
L3	138 - 133	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-19.181	-0.734	1.131
			Max. Mx	8	-7.999	-81.164	-0.568
			Max. My	2	-8.008	1.329	83.404
			Max. Vy	8	8.541	-81.164	-0.568
			Max. Vx	14	8.505	-1.495	-81.882
			Max. Torque	22			-0.584
L4	133 - 128	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-19.995	-0.860	1.317
			Max. Mx	8	-8.431	-124.727	-1.387
			Max. My	2	-8.441	2.168	126.727
			Max. Vy	8	8.875	-124.727	-1.387
			Max. Vx	14	8.839	-2.391	-125.215
			Max. Torque	6			0.364
L5	128 - 123	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-30.260	-0.994	2.511
			Max. Mx	8	-12.456	-194.562	-2.046
			Max. My	2	-12.473	3.020	196.217
			Max. Vy	8	14.128	-194.562	-2.046
			Max. Vx	14	14.033	-3.302	-194.308
			Max. Torque	20			-1.085
L6	123 - 116.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-30.737	-1.069	2.643
			Max. Mx	8	-12.727	-233.668	-2.496
			Max. My	2	-12.745	3.488	235.012
			Max. Vy	8	14.308	-233.668	-2.496
			Max. Vx	14	14.213	-3.803	-233.123
			Max. Torque	20			-1.084
L7	116.5 - 115.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-32.177	-1.206	2.885
			Max. Mx	8	-13.582	-306.148	-3.313
			Max. My	2	-13.600	4.340	306.925
			Max. Vy	8	14.672	-306.148	-3.313
			Max. Vx	14	14.577	-4.714	-305.077
			Max. Torque	20			-1.084
L8	115.25 - 110.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-45.999	-0.695	13.057
			Max. Mx	8	-19.811	-397.668	-1.322
			Max. My	2	-19.806	5.574	402.723
			Max. Vy	8	19.723	-397.668	-1.322
			Max. Vx	14	20.077	-5.226	-395.241
			Max. Torque	20			-3.789
L9	110.25 - 105.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-47.024	-0.841	13.336
			Max. Mx	8	-20.498	-497.018	-2.044
			Max. My	2	-20.495	6.409	503.534
			Max. Vy	8	20.019	-497.018	-2.044
			Max. Vx	14	20.374	-6.124	-496.312
			Max. Torque	20			-3.788
L10	105.25 -	Pole	Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
	100.25						
			Max. Compression	26	-48.085	-0.989	13.593
			Max. Mx	8	-21.212	-597.817	-2.769
			Max. My	2	-21.212	7.239	605.787
			Max. Vy	8	20.305	-597.817	-2.769
			Max. Vx	14	20.661	-7.021	-598.834
			Max. Torque	20			-3.787
L11	100.25 - 98.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-48.450	-1.034	13.667
			Max. Mx	8	-21.421	-628.390	-2.987
			Max. My	2	-21.426	7.487	636.737
			Max. Vy	8	20.469	-628.390	-2.987
			Max. Vx	14	20.825	-7.289	-629.923
			Max. Torque	20			-3.786
L12	98.75 - 98.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-48.511	-1.041	13.679
			Max. Mx	8	-21.469	-633.508	-3.024
			Max. My	2	-21.476	7.529	641.908
			Max. Vy	8	20.483	-633.508	-3.024
			Max. Vx	14	20.841	-7.334	-635.128
			Max. Torque	20			-3.785
L13	98.5 - 98.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-48.591	-1.049	13.692
			Max. Mx	8	-21.523	-638.634	-3.060
			Max. My	2	-21.530	7.570	647.082
			Max. Vy	8	20.512	-638.634	-3.060
			Max. Vx	14	20.869	-7.379	-640.339
			Max. Torque	20			-3.785
L14	98.25 - 93.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-50.185	-1.199	13.927
			Max. Mx	8	-22.572	-742.689	-3.785
			Max. My	2	-22.594	8.394	751.452
			Max. Vy	8	21.106	-742.689	-3.785
			Max. Vx	14	21.462	-8.272	-746.116
			Max. Torque	20			-3.785
L15	93.25 - 88.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-51.798	-1.351	14.156
			Max. Mx	8	-23.648	-849.675	-4.511
			Max. My	2	-23.684	9.216	857.485
			Max. Vy	8	21.690	-849.675	-4.511
			Max. Vx	14	22.046	-9.166	-854.825
			Max. Torque	20			-3.784
L16	88.25 - 80.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-52.941	-1.460	14.312
			Max. Mx	8	-24.414	-926.289	-5.019
			Max. My	2	-24.458	9.790	932.679
			Max. Vy	8	22.093	-926.289	-5.019
			Max. Vx	14	22.449	-9.791	-932.644
			Max. Torque	20			-3.783
L17	80.25 - 79.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-55.834	-1.615	14.532
			Max. Mx	8	-26.464	-1038.419	-5.745
			Max. My	14	-26.438	-10.685	-1046.496
			Max. Vy	8	22.749	-1038.419	-5.745
			Max. Vx	14	23.107	-10.685	-1046.496
			Max. Torque	20			-3.782
L18	79.75 - 74.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-57.841	-1.772	15.387
			Max. Mx	8	-27.814	-1154.527	-6.202
			Max. My	14	-27.790	-11.579	-1163.924
			Max. Vy	8	23.474	-1154.527	-6.202

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	14	23.805	-11.579	-1163.924
			Max. Torque	20			-4.218
L19	74.75 - 69.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-59.656	-1.930	15.595
			Max. Mx	8	-29.100	-1273.293	-6.930
			Max. My	14	-29.077	-12.473	-1284.278
			Max. Vy	8	24.037	-1273.293	-6.930
			Max. Vx	14	24.367	-12.473	-1284.278
			Max. Torque	20			-4.217
L20	69.75 - 66.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-60.780	-2.026	15.716
			Max. Mx	8	-29.883	-1345.916	-7.367
			Max. My	14	-29.862	-13.008	-1357.852
			Max. Vy	8	24.383	-1345.916	-7.367
			Max. Vx	14	24.713	-13.008	-1357.852
			Max. Torque	20			-4.216
L21	66.75 - 66.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-60.889	-2.034	15.727
			Max. Mx	8	-29.969	-1352.015	-7.403
			Max. My	14	-29.948	-13.052	-1364.030
			Max. Vy	8	24.405	-1352.015	-7.403
			Max. Vx	14	24.737	-13.052	-1364.030
			Max. Torque	20			-4.216
L22	66.5 - 61.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-63.057	-2.195	15.922
			Max. Mx	8	-31.551	-1475.561	-8.130
			Max. My	14	-31.531	-13.943	-1489.160
			Max. Vy	8	25.009	-1475.561	-8.130
			Max. Vx	14	25.339	-13.943	-1489.160
			Max. Torque	20			-4.216
L23	61.5 - 56.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-65.246	-2.357	16.114
			Max. Mx	8	-33.161	-1602.067	-8.856
			Max. My	14	-33.142	-14.832	-1617.246
			Max. Vy	8	25.596	-1602.067	-8.856
			Max. Vx	14	25.925	-14.832	-1617.246
			Max. Torque	20			-4.215
L24	56.5 - 51.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-67.453	-2.521	16.299
			Max. Mx	8	-34.794	-1731.465	-9.582
			Max. My	14	-34.777	-15.721	-1748.222
			Max. Vy	8	26.167	-1731.465	-9.582
			Max. Vx	14	26.496	-15.721	-1748.222
			Max. Torque	20			-4.214
L25	51.5 - 46.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-69.678	-2.686	16.480
			Max. Mx	8	-36.450	-1863.680	-10.306
			Max. My	14	-36.434	-16.607	-1882.010
			Max. Vy	8	26.723	-1863.680	-10.306
			Max. Vx	14	27.052	-16.607	-1882.010
			Max. Torque	20			-4.214
L26	46.5 - 39.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-70.354	-2.730	16.536
			Max. Mx	8	-36.949	-1903.881	-10.522
			Max. My	14	-36.934	-16.872	-1922.683
			Max. Vy	8	26.889	-1903.881	-10.522
			Max. Vx	14	27.217	-16.872	-1922.683
			Max. Torque	20			-4.213
L27	39.75 - 38.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-75.422	-2.534	16.551
			Max. Mx	8	-40.848	-2074.359	-11.611

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. My	14	-40.834	-17.822	-2095.544
			Max. Vy	8	27.688	-2074.359	-11.611
			Max. Vx	14	28.028	-17.822	-2095.544
			Max. Torque	20			-4.119
L28	38.75 - 33.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-77.855	-2.675	16.735
			Max. Mx	8	-42.712	-2214.042	-12.382
			Max. My	14	-42.699	-18.754	-2236.852
			Max. Vy	8	28.192	-2214.042	-12.382
			Max. Vx	14	28.531	-18.754	-2236.852
			Max. Torque	20			-4.119
L29	33.75 - 31.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-78.835	-2.732	16.807
			Max. Mx	8	-43.466	-2270.613	-12.689
			Max. My	14	-43.454	-19.126	-2294.071
			Max. Vy	8	28.387	-2270.613	-12.689
			Max. Vx	14	28.726	-19.126	-2294.071
			Max. Torque	20			-4.118
L30	31.75 - 31.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-78.958	-2.739	16.817
			Max. Mx	8	-43.567	-2277.712	-12.728
			Max. My	14	-43.555	-19.173	-2301.251
			Max. Vy	8	28.401	-2277.712	-12.728
			Max. Vx	14	28.741	-19.173	-2301.251
			Max. Torque	20			-4.118
L31	31.5 - 26.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-81.415	-2.881	16.991
			Max. Mx	8	-45.461	-2420.918	-13.495
			Max. My	14	-45.451	-20.100	-2446.073
			Max. Vy	8	28.880	-2420.918	-13.495
			Max. Vx	14	29.218	-20.100	-2446.073
			Max. Torque	20			-4.118
L32	26.5 - 21.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-83.888	-3.017	17.122
			Max. Mx	8	-47.388	-2566.462	-14.260
			Max. My	14	-47.380	-21.024	-2593.226
			Max. Vy	8	29.347	-2566.462	-14.260
			Max. Vx	14	29.684	-21.024	-2593.226
			Max. Torque	20			-4.117
L33	21.5 - 17.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-85.804	-3.034	17.270
			Max. Mx	8	-48.848	-2677.200	-14.831
			Max. My	14	-48.841	-21.714	-2705.166
			Max. Vy	8	29.727	-2677.200	-14.831
			Max. Vx	14	30.063	-21.714	-2705.166
			Max. Torque	20			-4.117
L34	17.75 - 17.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-85.950	-3.033	17.282
			Max. Mx	8	-48.972	-2684.633	-14.870
			Max. My	14	-48.965	-21.760	-2712.679
			Max. Vy	8	29.739	-2684.633	-14.870
			Max. Vx	14	30.076	-21.760	-2712.679
			Max. Torque	20			-4.117
L35	17.5 - 14.25	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-87.844	-3.021	17.425
			Max. Mx	8	-50.451	-2781.873	-15.363
			Max. My	14	-50.445	-22.357	-2810.957
			Max. Vy	8	30.099	-2781.873	-15.363
			Max. Vx	14	30.434	-22.357	-2810.957
			Max. Torque	20			-4.117
L36	14.25 - 14	Pole	Max Tension	1	0.000	0.000	0.000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-87.979	-3.021	17.436
			Max. Mx	8	-50.562	-2789.400	-15.401
			Max. My	14	-50.556	-22.403	-2818.563
			Max. Vy	8	30.115	-2789.400	-15.401
			Max. Vx	14	30.450	-22.403	-2818.563
			Max. Torque	20			-4.117
L37	14 - 9	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-90.792	-3.008	18.101
			Max. Mx	8	-52.735	-2941.456	-15.889
			Max. My	14	-52.732	-23.317	-2971.884
			Max. Vy	8	30.680	-2941.456	-15.889
			Max. Vx	14	31.002	-23.317	-2971.884
			Max. Torque	20			-4.290
L38	9 - 4	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-93.435	-3.006	18.384
			Max. Mx	8	-54.862	-3096.024	-16.644
			Max. My	14	-54.860	-24.226	-3128.064
			Max. Vy	8	31.160	-3096.024	-16.644
			Max. Vx	14	31.514	-24.226	-3128.064
			Max. Torque	20			-4.290
L39	4 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-95.511	-3.013	18.589
			Max. Mx	8	-56.581	-3221.406	-17.245
			Max. My	14	-56.581	-24.949	-3254.847
			Max. Vy	8	31.544	-3221.406	-17.245
			Max. Vx	14	31.923	-24.949	-3254.847
			Max. Torque	20			-4.290

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	95.511	-0.000	0.000
	Max. H_x	21	42.443	27.879	0.185
	Max. H_z	2	56.591	0.170	28.155
	Max. M_x	2	3081.626	0.170	28.155
	Max. M_z	8	3221.406	-31.527	-0.155
	Max. Torsion	8	4.282	-31.527	-0.155
	Min. Vert	19	42.443	24.035	-13.990
	Min. H_x	9	42.443	-31.527	-0.155
	Min. H_z	14	56.591	-0.170	-31.906
	Min. M_x	14	-3254.847	-0.170	-31.906
	Min. M_z	20	-3040.693	27.879	0.185
	Min. Torsion	20	-4.290	27.879	0.185

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	47.159	0.000	-0.000	-4.383	-0.423	0.000
1.2 Dead+1.0 Wind 0 deg - No	56.591	-0.170	-28.155	-3081.626	23.911	-0.449

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
Ice 0.9 Dead+1.0 Wind 0 deg - No Ice	42.443	-0.170	-28.155	-3046.135	23.734	-0.450
1.2 Dead+1.0 Wind 30 deg - No Ice	56.591	14.072	-24.826	-2666.511	-1502.321	-2.444
0.9 Dead+1.0 Wind 30 deg - No Ice	42.443	14.072	-24.826	-2635.710	-1485.628	-2.438
1.2 Dead+1.0 Wind 60 deg - No Ice	56.591	27.204	-15.782	-1615.544	-2776.017	-3.871
0.9 Dead+1.0 Wind 60 deg - No Ice	42.443	27.204	-15.782	-1596.701	-2745.813	-3.861
1.2 Dead+1.0 Wind 90 deg - No Ice	56.591	31.527	0.155	17.245	-3221.406	-4.282
0.9 Dead+1.0 Wind 90 deg - No Ice	42.443	31.527	0.155	18.380	-3186.354	-4.270
1.2 Dead+1.0 Wind 120 deg - No Ice	56.591	25.213	14.867	1567.161	-2654.317	-3.328
0.9 Dead+1.0 Wind 120 deg - No Ice	42.443	25.213	14.867	1551.205	-2624.874	-3.318
1.2 Dead+1.0 Wind 150 deg - No Ice	56.591	14.658	25.522	2686.952	-1547.142	-1.666
0.9 Dead+1.0 Wind 150 deg - No Ice	42.443	14.658	25.522	2658.657	-1529.906	-1.660
1.2 Dead+1.0 Wind 180 deg - No Ice	56.591	0.170	31.906	3254.847	-24.949	0.442
0.9 Dead+1.0 Wind 180 deg - No Ice	42.443	0.170	31.906	3220.940	-24.506	0.442
1.2 Dead+1.0 Wind 210 deg - No Ice	56.591	-15.588	27.474	2806.902	1587.146	2.434
0.9 Dead+1.0 Wind 210 deg - No Ice	42.443	-15.588	27.474	2777.861	1570.103	2.429
1.2 Dead+1.0 Wind 240 deg - No Ice	56.591	-24.035	13.990	1518.705	2618.215	3.778
0.9 Dead+1.0 Wind 240 deg - No Ice	42.443	-24.035	13.990	1503.294	2589.358	3.769
1.2 Dead+1.0 Wind 270 deg - No Ice	56.591	-27.879	-0.185	-31.618	3040.693	4.290
0.9 Dead+1.0 Wind 270 deg - No Ice	42.443	-27.879	-0.185	-29.862	3007.138	4.278
1.2 Dead+1.0 Wind 300 deg - No Ice	56.591	-26.842	-15.770	-1655.832	2795.901	3.429
0.9 Dead+1.0 Wind 300 deg - No Ice	42.443	-26.842	-15.770	-1636.456	2765.659	3.418
1.2 Dead+1.0 Wind 330 deg - No Ice	56.591	-15.585	-27.106	-2835.110	1626.835	1.668
0.9 Dead+1.0 Wind 330 deg - No Ice	42.443	-15.585	-27.106	-2802.952	1609.265	1.662
1.2 Dead+1.0 Ice+1.0 Temp	95.511	0.000	-0.000	-18.589	-3.013	0.001
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	95.511	-0.032	-7.203	-848.844	1.668	-0.102
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	95.511	3.542	-6.230	-735.659	-409.248	-0.593
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	95.511	6.289	-3.651	-433.703	-717.359	-0.946
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	95.511	7.284	0.029	-14.391	-831.013	-1.049
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	95.511	6.225	3.659	402.217	-716.459	-0.825
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	95.511	3.613	6.294	704.102	-417.724	-0.417
1.2 Dead+1.0 Wind 180	95.511	0.032	7.366	818.951	-7.732	0.103

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
deg+1.0 Ice+1.0 Temp						
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	95.511	-3.608	6.350	704.638	406.543	0.595
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	95.511	-6.162	3.586	393.895	705.382	0.928
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	95.511	-7.140	-0.036	-23.791	818.416	1.051
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	95.511	-6.290	-3.689	-441.652	715.663	0.845
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	95.511	-3.648	-6.349	-745.584	414.342	0.417
Dead+Wind 0 deg - Service	47.159	-0.040	-6.629	-723.986	5.280	-0.106
Dead+Wind 30 deg - Service	47.159	3.313	-5.845	-626.898	-351.695	-0.576
Dead+Wind 60 deg - Service	47.159	6.405	-3.716	-381.144	-649.704	-0.914
Dead+Wind 90 deg - Service	47.159	7.423	0.037	0.814	-753.899	-1.013
Dead+Wind 120 deg - Service	47.159	5.937	3.501	363.342	-621.151	-0.788
Dead+Wind 150 deg - Service	47.159	3.451	6.009	625.270	-362.184	-0.395
Dead+Wind 180 deg - Service	47.159	0.040	7.512	758.214	-6.138	0.105
Dead+Wind 210 deg - Service	47.159	-3.670	6.469	653.415	370.983	0.577
Dead+Wind 240 deg - Service	47.159	-5.659	3.294	351.999	612.066	0.894
Dead+Wind 270 deg - Service	47.159	-6.564	-0.044	-10.605	710.881	1.013
Dead+Wind 300 deg - Service	47.159	-6.320	-3.713	-390.566	653.747	0.809
Dead+Wind 330 deg - Service	47.159	-3.670	-6.382	-666.446	380.263	0.393

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.000	-47.159	0.000	0.000	47.159	0.000	0.000%
2	-0.170	-56.591	-28.155	0.170	56.591	28.155	0.000%
3	-0.170	-42.443	-28.155	0.170	42.443	28.155	0.000%
4	14.072	-56.591	-24.826	-14.072	56.591	24.826	0.000%
5	14.072	-42.443	-24.826	-14.072	42.443	24.826	0.000%
6	27.204	-56.591	-15.782	-27.204	56.591	15.782	0.000%
7	27.204	-42.443	-15.782	-27.204	42.443	15.782	0.000%
8	31.527	-56.591	0.155	-31.527	56.591	-0.155	0.000%
9	31.527	-42.443	0.155	-31.527	42.443	-0.155	0.000%
10	25.213	-56.591	14.867	-25.213	56.591	-14.867	0.000%
11	25.213	-42.443	14.867	-25.213	42.443	-14.867	0.000%
12	14.658	-56.591	25.522	-14.658	56.591	-25.522	0.000%
13	14.658	-42.443	25.522	-14.658	42.443	-25.522	0.000%
14	0.170	-56.591	31.906	-0.170	56.591	-31.906	0.000%
15	0.170	-42.443	31.906	-0.170	42.443	-31.906	0.000%
16	-15.588	-56.591	27.474	15.588	56.591	-27.474	0.000%
17	-15.588	-42.443	27.474	15.588	42.443	-27.474	0.000%
18	-24.035	-56.591	13.990	24.035	56.591	-13.990	0.000%
19	-24.035	-42.443	13.990	24.035	42.443	-13.990	0.000%
20	-27.879	-56.591	-0.185	27.879	56.591	0.185	0.000%
21	-27.879	-42.443	-0.185	27.879	42.443	0.185	0.000%
22	-26.842	-56.591	-15.770	26.842	56.591	15.770	0.000%
23	-26.842	-42.443	-15.770	26.842	42.443	15.770	0.000%
24	-15.585	-56.591	-27.106	15.585	56.591	27.106	0.000%
25	-15.585	-42.443	-27.106	15.585	42.443	27.106	0.000%
26	0.000	-95.511	0.000	-0.000	95.511	0.000	0.000%
27	-0.032	-95.511	-7.203	0.032	95.511	7.203	0.000%
28	3.542	-95.511	-6.230	-3.542	95.511	6.230	0.000%
29	6.289	-95.511	-3.651	-6.289	95.511	3.651	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
30	7.284	-95.511	0.029	-7.284	95.511	-0.029	0.000%
31	6.225	-95.511	3.659	-6.225	95.511	-3.659	0.000%
32	3.613	-95.511	6.293	-3.613	95.511	-6.294	0.000%
33	0.032	-95.511	7.366	-0.032	95.511	-7.366	0.000%
34	-3.608	-95.511	6.350	3.608	95.511	-6.350	0.000%
35	-6.162	-95.511	3.586	6.162	95.511	-3.586	0.000%
36	-7.140	-95.511	-0.036	7.140	95.511	0.036	0.000%
37	-6.290	-95.511	-3.689	6.290	95.511	3.689	0.000%
38	-3.648	-95.511	-6.349	3.648	95.511	6.349	0.000%
39	-0.040	-47.159	-6.629	0.040	47.159	6.629	0.000%
40	3.313	-47.159	-5.845	-3.313	47.159	5.845	0.000%
41	6.405	-47.159	-3.716	-6.405	47.159	3.716	0.000%
42	7.423	-47.159	0.037	-7.423	47.159	-0.037	0.000%
43	5.937	-47.159	3.501	-5.937	47.159	-3.501	0.000%
44	3.451	-47.159	6.009	-3.451	47.159	-6.009	0.000%
45	0.040	-47.159	7.512	-0.040	47.159	-7.512	0.000%
46	-3.670	-47.159	6.469	3.670	47.159	-6.469	0.000%
47	-5.659	-47.159	3.294	5.659	47.159	-3.294	0.000%
48	-6.564	-47.159	-0.044	6.564	47.159	0.044	0.000%
49	-6.320	-47.159	-3.713	6.320	47.159	3.713	0.000%
50	-3.670	-47.159	-6.382	3.670	47.159	6.382	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00001039
2	Yes	5	0.00000001	0.00028036
3	Yes	5	0.00000001	0.00012897
4	Yes	6	0.00000001	0.00034659
5	Yes	6	0.00000001	0.00012056
6	Yes	6	0.00000001	0.00041927
7	Yes	6	0.00000001	0.00014586
8	Yes	6	0.00000001	0.00005576
9	Yes	5	0.00000001	0.00049987
10	Yes	6	0.00000001	0.00035485
11	Yes	6	0.00000001	0.00012325
12	Yes	6	0.00000001	0.00039004
13	Yes	6	0.00000001	0.00013631
14	Yes	5	0.00000001	0.00016373
15	Yes	5	0.00000001	0.00006254
16	Yes	6	0.00000001	0.00040382
17	Yes	6	0.00000001	0.00014044
18	Yes	6	0.00000001	0.00033590
19	Yes	6	0.00000001	0.00011727
20	Yes	6	0.00000001	0.00007101
21	Yes	5	0.00000001	0.00064017
22	Yes	6	0.00000001	0.00043237
23	Yes	6	0.00000001	0.00014960
24	Yes	6	0.00000001	0.00039252
25	Yes	6	0.00000001	0.00013455
26	Yes	5	0.00000001	0.00019861
27	Yes	6	0.00000001	0.00060473
28	Yes	6	0.00000001	0.00067597
29	Yes	6	0.00000001	0.00068047
30	Yes	6	0.00000001	0.00058408

31	Yes	6	0.00000001	0.00063850
32	Yes	6	0.00000001	0.00064095
33	Yes	6	0.00000001	0.00056052
34	Yes	6	0.00000001	0.00062865
35	Yes	6	0.00000001	0.00062220
36	Yes	6	0.00000001	0.00057683
37	Yes	6	0.00000001	0.00068392
38	Yes	6	0.00000001	0.00068374
39	Yes	4	0.00000001	0.00059110
40	Yes	5	0.00000001	0.00009380
41	Yes	5	0.00000001	0.00013866
42	Yes	5	0.00000001	0.00006298
43	Yes	5	0.00000001	0.00009478
44	Yes	5	0.00000001	0.00011444
45	Yes	4	0.00000001	0.00058340
46	Yes	5	0.00000001	0.00012258
47	Yes	5	0.00000001	0.00008977
48	Yes	5	0.00000001	0.00006417
49	Yes	5	0.00000001	0.00014069
50	Yes	5	0.00000001	0.00010867

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	148 - 143	18.164	50	1.083	0.005
L2	143 - 138	17.032	50	1.079	0.005
L3	138 - 133	15.906	50	1.071	0.005
L4	133 - 128	14.791	50	1.057	0.005
L5	128 - 123	13.694	50	1.036	0.005
L6	123 - 116.5	12.624	50	1.007	0.005
L7	120.25 - 115.25	12.049	50	0.987	0.005
L8	115.25 - 110.25	11.027	50	0.961	0.004
L9	110.25 - 105.25	10.044	50	0.914	0.004
L10	105.25 - 100.25	9.115	50	0.859	0.003
L11	100.25 - 98.75	8.248	50	0.797	0.003
L12	98.75 - 98.5	8.000	50	0.777	0.003
L13	98.5 - 98.25	7.960	50	0.774	0.003
L14	98.25 - 93.25	7.919	50	0.772	0.003
L15	93.25 - 88.25	7.131	50	0.732	0.002
L16	88.25 - 80.25	6.387	50	0.689	0.002
L17	84.75 - 79.75	5.893	50	0.658	0.002
L18	79.75 - 74.75	5.215	50	0.634	0.002
L19	74.75 - 69.75	4.575	50	0.589	0.002
L20	69.75 - 66.75	3.983	50	0.542	0.001
L21	66.75 - 66.5	3.651	50	0.514	0.001
L22	66.5 - 61.5	3.624	50	0.512	0.001
L23	61.5 - 56.5	3.108	50	0.474	0.001
L24	56.5 - 51.5	2.632	50	0.435	0.001
L25	51.5 - 46.5	2.198	50	0.394	0.001
L26	46.5 - 39.75	1.806	50	0.354	0.001
L27	45 - 38.75	1.697	50	0.341	0.001
L28	38.75 - 33.75	1.267	50	0.312	0.001
L29	33.75 - 31.75	0.961	50	0.272	0.001
L30	31.75 - 31.5	0.851	50	0.256	0.001
L31	31.5 - 26.5	0.837	50	0.254	0.001
L32	26.5 - 21.5	0.593	50	0.214	0.000
L33	21.5 - 17.75	0.391	50	0.172	0.000
L34	17.75 - 17.5	0.268	50	0.141	0.000

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L35	17.5 - 14.25	0.260	50	0.139	0.000
L36	14.25 - 14	0.173	50	0.116	0.000
L37	14 - 9	0.167	50	0.114	0.000
L38	9 - 4	0.069	50	0.073	0.000
L39	4 - 0	0.014	50	0.032	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
149.500	Top Hat	50	18.164	1.083	0.005	47581
149.000	800MHZ RRH	50	18.164	1.083	0.005	47581
148.000	APXVSPP18-C-A20 w/ Mount Pipe	50	18.164	1.083	0.005	47581
138.000	(2) LPA-80080/6CF	50	15.906	1.071	0.005	27056
128.000	HPA-65R-BUU-H8 w/ Mount Pipe	50	13.694	1.036	0.005	11486
114.000	SC2-W100AB	50	10.777	0.952	0.004	6887
79.000	PD1109E	50	5.117	0.629	0.002	7678
45.000	GPS_A	50	1.697	0.341	0.001	9571
13.000	GPS_A	50	0.144	0.106	0.000	7295

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	148 - 143	77.169	24	4.595	0.022
L2	143 - 138	72.372	24	4.580	0.022
L3	138 - 133	67.600	24	4.548	0.021
L4	133 - 128	62.873	24	4.490	0.021
L5	128 - 123	58.224	24	4.401	0.021
L6	123 - 116.5	53.684	24	4.277	0.020
L7	120.25 - 115.25	51.249	24	4.191	0.019
L8	115.25 - 110.25	46.913	24	4.083	0.019
L9	110.25 - 105.25	42.744	24	3.885	0.016
L10	105.25 - 100.25	38.800	24	3.652	0.014
L11	100.25 - 98.75	35.114	24	3.390	0.012
L12	98.75 - 98.5	34.063	24	3.308	0.011
L13	98.5 - 98.25	33.890	24	3.294	0.011
L14	98.25 - 93.25	33.718	24	3.286	0.011
L15	93.25 - 88.25	30.368	24	3.117	0.010
L16	88.25 - 80.25	27.200	24	2.935	0.009
L17	84.75 - 79.75	25.098	24	2.802	0.008
L18	79.75 - 74.75	22.215	24	2.699	0.008
L19	74.75 - 69.75	19.490	24	2.508	0.007
L20	69.75 - 66.75	16.968	24	2.311	0.006
L21	66.75 - 66.5	15.554	24	2.190	0.005
L22	66.5 - 61.5	15.440	24	2.182	0.005
L23	61.5 - 56.5	13.241	24	2.018	0.005
L24	56.5 - 51.5	11.215	24	1.852	0.004
L25	51.5 - 46.5	9.365	24	1.681	0.004
L26	46.5 - 39.75	7.696	24	1.508	0.003

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L27	45 - 38.75	7.231	24	1.454	0.003
L28	38.75 - 33.75	5.400	24	1.329	0.003
L29	33.75 - 31.75	4.097	24	1.160	0.002
L30	31.75 - 31.5	3.625	24	1.092	0.002
L31	31.5 - 26.5	3.568	24	1.083	0.002
L32	26.5 - 21.5	2.525	24	0.910	0.002
L33	21.5 - 17.75	1.664	24	0.734	0.001
L34	17.75 - 17.5	1.140	24	0.602	0.001
L35	17.5 - 14.25	1.109	24	0.594	0.001
L36	14.25 - 14	0.738	24	0.495	0.001
L37	14 - 9	0.712	24	0.487	0.001
L38	9 - 4	0.294	24	0.312	0.001
L39	4 - 0	0.058	24	0.138	0.000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
149.500	Top Hat	24	77.169	4.595	0.023	12023
149.000	800MHZ RRH	24	77.169	4.595	0.023	12023
148.000	APXVSPP18-C-A20 w/ Mount Pipe	24	77.169	4.595	0.023	12023
138.000	(2) LPA-80080/6CF	24	67.600	4.548	0.022	6626
128.000	HPA-65R-BUU-H8 w/ Mount Pipe	24	58.224	4.401	0.021	2751
114.000	SC2-W100AB	24	45.853	4.043	0.019	1650
79.000	PD1109E	24	21.795	2.677	0.008	1816
45.000	GPS_A	24	7.231	1.454	0.003	2250
13.000	GPS_A	24	0.614	0.452	0.001	1712

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	148 - 143 (1)	TP24.87x24x0.219	5.000	0.000	0.0	17.116	-4.361	924.240	0.005
L2	143 - 138 (2)	TP25.74x24.87x0.219	5.000	0.000	0.0	17.719	-4.724	956.853	0.005
L3	138 - 133 (3)	TP26.61x25.74x0.219	5.000	0.000	0.0	18.323	-7.977	989.466	0.008
L4	133 - 128 (4)	TP27.479x26.61x0.219	5.000	0.000	0.0	18.927	-8.410	1022.080	0.008
L5	128 - 123 (5)	TP28.349x27.479x0.219	5.000	0.000	0.0	19.531	-12.431	1054.690	0.012
L6	123 - 116.5 (6)	TP29.48x28.349x0.219	6.500	0.000	0.0	19.864	-12.702	1072.630	0.012
L7	116.5 - 115.25 (7)	TP29.26x28.39x0.25	5.000	0.000	0.0	23.020	-13.557	1346.640	0.010
L8	115.25 - 110.25 (8)	TP30.13x29.26x0.25	5.000	0.000	0.0	23.710	-19.761	1387.030	0.014
L9	110.25 - 105.25 (9)	TP31x30.13x0.25	5.000	0.000	0.0	24.400	-20.450	1427.410	0.014
L10	105.25 - 100.25 (10)	TP31.87x31x0.25	5.000	0.000	0.0	25.090	-21.167	1467.800	0.014

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L11	100.25 - 98.75 (11)	TP32.131x31.87x0.25	1.500	0.000	0.0	25.298	-21.378	1479.910	0.014
L12	98.75 - 98.5 (12)	TP32.175x32.131x0.25	0.250	0.000	0.0	25.332	-21.427	1481.930	0.014
L13	98.5 - 98.25 (13)	TP32.218x32.175x0.45	0.250	0.000	0.0	45.374	-21.480	2654.400	0.008
L14	98.25 - 93.25 (14)	TP33.088x32.218x0.444	5.000	0.000	0.0	45.978	-22.531	2689.730	0.008
L15	93.25 - 88.25 (15)	TP33.958x33.088x0.438	5.000	0.000	0.0	46.547	-23.609	2723.030	0.009
L16	88.25 - 80.25 (16)	TP35.35x33.958x0.438	8.000	0.000	0.0	47.393	-24.376	2772.500	0.009
L17	80.25 - 79.75 (17)	TP34.937x34.067x0.5	5.000	0.000	0.0	54.652	-26.427	3197.150	0.008
L18	79.75 - 74.75 (18)	TP35.808x34.937x0.488	5.000	0.000	0.0	54.652	-27.780	3197.130	0.009
L19	74.75 - 69.75 (19)	TP36.678x35.808x0.488	5.000	0.000	0.0	55.999	-29.069	3275.910	0.009
L20	69.75 - 66.75 (20)	TP37.2x36.678x0.488	3.000	0.000	0.0	56.806	-29.854	3323.180	0.009
L21	66.75 - 66.5 (21)	TP37.244x37.2x0.625	0.250	0.000	0.0	72.642	-29.940	4249.580	0.007
L22	66.5 - 61.5 (22)	TP38.114x37.244x0.613	5.000	0.000	0.0	72.906	-31.524	4264.990	0.007
L23	61.5 - 56.5 (23)	TP38.984x38.114x0.613	5.000	0.000	0.0	74.598	-33.135	4363.970	0.008
L24	56.5 - 51.5 (24)	TP39.855x38.984x0.6	5.000	0.000	0.0	74.757	-34.771	4373.270	0.008
L25	51.5 - 46.5 (25)	TP40.725x39.855x0.6	5.000	0.000	0.0	76.414	-36.429	4470.230	0.008
L26	46.5 - 39.75 (26)	TP41.9x40.725x0.588	6.750	0.000	0.0	75.332	-36.928	4406.940	0.008
L27	39.75 - 38.75 (27)	TP41.448x40.361x0.65	6.250	0.000	0.0	84.171	-40.829	4924.030	0.008
L28	38.75 - 33.75 (28)	TP42.318x41.448x0.65	5.000	0.000	0.0	85.966	-42.695	5029.010	0.008
L29	33.75 - 31.75 (29)	TP42.666x42.318x0.65	2.000	0.000	0.0	86.684	-43.450	5071.010	0.009
L30	31.75 - 31.5 (30)	TP42.71x42.666x0.65	0.250	0.000	0.0	86.774	-43.551	5076.260	0.009
L31	31.5 - 26.5 (31)	TP43.58x42.71x0.638	5.000	0.000	0.0	86.890	-45.448	5083.080	0.009
L32	26.5 - 21.5 (32)	TP44.45x43.58x0.625	5.000	0.000	0.0	86.937	-47.377	5085.810	0.009
L33	21.5 - 17.75 (33)	TP45.102x44.45x0.625	3.750	0.000	0.0	88.231	-48.839	5161.520	0.009
L34	17.75 - 17.5 (34)	TP45.145x45.102x0.725	0.250	0.000	0.0	102.218	-48.963	5979.760	0.008
L35	17.5 - 14.25 (35)	TP45.711x45.145x0.725	3.250	0.000	0.0	103.519	-50.444	6055.870	0.008
L36	14.25 - 14 (36)	TP45.754x45.711x0.638	0.250	0.000	0.0	91.291	-50.555	5340.500	0.009
L37	14 - 9 (37)	TP46.624x45.754x0.625	5.000	0.000	0.0	91.251	-52.731	5338.180	0.010
L38	9 - 4 (38)	TP47.494x46.624x0.625	5.000	0.000	0.0	92.977	-54.861	5439.130	0.010
L39	4 - 0 (39)	TP48.19x47.494x0.625	4.000	0.000	0.0	94.357	-56.581	5519.890	0.010

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	148 - 143 (1)	TP24.87x24x0.219	22.438	574.482	0.039	0.000	574.482	0.000
L2	143 - 138 (2)	TP25.74x24.87x0.219	41.583	609.819	0.068	0.000	609.819	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L3	138 - 133 (3)	TP26.61x25.74x0.219	84.213	645.749	0.130	0.000	645.749	0.000
L4	133 - 128 (4)	TP27.479x26.61x0.219	128.376	682.230	0.188	0.000	682.230	0.000
L5	128 - 123 (5)	TP28.349x27.479x0.219	198.798	719.217	0.276	0.000	719.217	0.000
L6	123 - 116.5 (6)	TP29.48x28.349x0.219	238.124	739.762	0.322	0.000	739.762	0.000
L7	116.5 - 115.25 (7)	TP29.26x28.39x0.25	311.007	965.833	0.322	0.000	965.833	0.000
L8	115.25 - 110.25 (8)	TP30.13x29.26x0.25	407.221	1015.442	0.401	0.000	1015.442	0.000
L9	110.25 - 105.25 (9)	TP31x30.13x0.25	508.522	1065.692	0.477	0.000	1065.692	0.000
L10	105.25 - 100.25 (10)	TP31.87x31x0.25	611.269	1116.517	0.547	0.000	1116.517	0.000
L11	100.25 - 98.75 (11)	TP32.131x31.87x0.25	642.424	1131.875	0.568	0.000	1131.875	0.000
L12	98.75 - 98.5 (12)	TP32.175x32.131x0.25	647.640	1134.433	0.571	0.000	1134.433	0.000
L13	98.5 - 98.25 (13)	TP32.218x32.175x0.45	652.862	2188.483	0.298	0.000	2188.483	0.000
L14	98.25 - 93.25 (14)	TP33.088x32.218x0.444	758.857	2280.067	0.333	0.000	2280.067	0.000
L15	93.25 - 88.25 (15)	TP33.958x33.088x0.438	867.775	2371.525	0.366	0.000	2371.525	0.000
L16	88.25 - 80.25 (16)	TP35.35x33.958x0.438	945.750	2459.042	0.385	0.000	2459.042	0.000
L17	80.25 - 79.75 (17)	TP34.937x34.067x0.5	1059.808	2856.458	0.371	0.000	2856.458	0.000
L18	79.75 - 74.75 (18)	TP35.808x34.937x0.488	1178.025	2931.742	0.402	0.000	2931.742	0.000
L19	74.75 - 69.75 (19)	TP36.678x35.808x0.488	1298.617	3079.017	0.422	0.000	3079.017	0.000
L20	69.75 - 66.75 (20)	TP37.2x36.678x0.488	1372.333	3169.108	0.433	0.000	3169.108	0.000
L21	66.75 - 66.5 (21)	TP37.244x37.2x0.625	1378.525	4027.125	0.342	0.000	4027.125	0.000
L22	66.5 - 61.5 (22)	TP38.114x37.244x0.613	1503.892	4142.167	0.363	0.000	4142.167	0.000
L23	61.5 - 56.5 (23)	TP38.984x38.114x0.613	1632.217	4338.242	0.376	0.000	4338.242	0.000
L24	56.5 - 51.5 (24)	TP39.855x38.984x0.6	1763.425	4450.475	0.396	0.000	4450.475	0.000
L25	51.5 - 46.5 (25)	TP40.725x39.855x0.6	1897.442	4651.525	0.408	0.000	4651.525	0.000
L26	46.5 - 39.75 (26)	TP41.9x40.725x0.588	1938.183	4618.817	0.420	0.000	4618.817	0.000
L27	39.75 - 38.75 (27)	TP41.448x40.361x0.65	2111.242	5204.700	0.406	0.000	5204.700	0.000
L28	38.75 - 33.75 (28)	TP42.318x41.448x0.65	2252.808	5430.792	0.415	0.000	5430.792	0.000
L29	33.75 - 31.75 (29)	TP42.666x42.318x0.65	2310.133	5522.567	0.418	0.000	5522.567	0.000
L30	31.75 - 31.5 (30)	TP42.71x42.666x0.65	2317.325	5534.092	0.419	0.000	5534.092	0.000
L31	31.5 - 26.5 (31)	TP43.58x42.71x0.638	2462.400	5661.183	0.435	0.000	5661.183	0.000
L32	26.5 - 21.5 (32)	TP44.45x43.58x0.625	2609.800	5783.941	0.451	0.000	5783.941	0.000
L33	21.5 - 17.75 (33)	TP45.102x44.45x0.625	2721.875	5958.667	0.457	0.000	5958.667	0.000
L34	17.75 - 17.5 (34)	TP45.145x45.102x0.725	2729.400	6879.100	0.397	0.000	6879.100	0.000
L35	17.5 - 14.25 (35)	TP45.711x45.145x0.725	2827.683	7056.767	0.401	0.000	7056.767	0.000
L36	14.25 - 14 (36)	TP45.754x45.711x0.638	2835.283	6253.500	0.453	0.000	6253.500	0.000
L37	14 - 9 (37)	TP46.624x45.754x0.625	2988.900	6376.450	0.469	0.000	6376.450	0.000
L38	9 - 4 (38)	TP47.494x46.624x0.625	3143.950	6621.541	0.475	0.000	6621.541	0.000
L39	4 - 0 (39)	TP48.19x47.494x0.625	3268.708	6820.950	0.479	0.000	6820.950	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	148 - 143 (1)	TP24.87x24x0.219	3.667	277.272	0.013	0.284	598.580	0.000
L2	143 - 138 (2)	TP25.74x24.87x0.219	3.993	287.056	0.014	0.284	641.568	0.000
L3	138 - 133 (3)	TP26.61x25.74x0.219	8.668	296.840	0.029	0.056	686.048	0.000
L4	133 - 128 (4)	TP27.479x26.61x0.219	9.002	306.624	0.029	0.056	732.018	0.000
L5	128 - 123 (5)	TP28.349x27.479x0.219	14.215	316.408	0.045	0.431	779.477	0.001
L6	123 - 116.5 (6)	TP29.48x28.349x0.219	14.394	321.789	0.045	0.431	806.216	0.001
L7	116.5 - 115.25 (7)	TP29.26x28.39x0.25	14.759	403.993	0.037	0.430	1026.367	0.000
L8	115.25 - 110.25 (8)	TP30.13x29.26x0.25	20.121	416.108	0.048	1.558	1088.850	0.001
L9	110.25 - 105.25 (9)	TP31x30.13x0.25	20.416	428.223	0.048	1.558	1153.175	0.001
L10	105.25 - 100.25 (10)	TP31.87x31x0.25	20.701	440.339	0.047	1.557	1219.350	0.001
L11	100.25 - 98.75 (11)	TP32.131x31.87x0.25	20.865	443.973	0.047	1.557	1239.567	0.001
L12	98.75 - 98.5 (12)	TP32.175x32.131x0.25	20.882	444.579	0.047	1.557	1242.950	0.001
L13	98.5 - 98.25 (13)	TP32.218x32.175x0.45	20.913	796.319	0.026	1.557	2215.425	0.001
L14	98.25 - 93.25 (14)	TP33.088x32.218x0.444	21.501	806.918	0.027	1.556	2306.833	0.001
L15	93.25 - 88.25 (15)	TP33.958x33.088x0.438	22.084	816.908	0.027	1.556	2398.083	0.001
L16	88.25 - 80.25 (16)	TP35.35x33.958x0.438	22.487	831.749	0.027	1.556	2486.008	0.001
L17	80.25 - 79.75 (17)	TP34.937x34.067x0.5	23.145	959.144	0.024	1.555	2892.633	0.001
L18	79.75 - 74.75 (18)	TP35.808x34.937x0.488	23.848	959.139	0.025	1.773	2966.775	0.001
L19	74.75 - 69.75 (19)	TP36.678x35.808x0.488	24.410	982.773	0.025	1.772	3114.783	0.001
L20	69.75 - 66.75 (20)	TP37.2x36.678x0.488	24.755	996.954	0.025	1.772	3205.325	0.001
L21	66.75 - 66.5 (21)	TP37.244x37.2x0.625	24.781	1274.870	0.019	1.772	4088.375	0.000
L22	66.5 - 61.5 (22)	TP38.114x37.244x0.613	25.381	1279.500	0.020	1.772	4202.125	0.000
L23	61.5 - 56.5 (23)	TP38.984x38.114x0.613	25.967	1309.190	0.020	1.772	4399.433	0.000
L24	56.5 - 51.5 (24)	TP39.855x38.984x0.6	26.537	1311.980	0.020	1.771	4510.233	0.000
L25	51.5 - 46.5 (25)	TP40.725x39.855x0.6	27.092	1341.070	0.020	1.771	4712.450	0.000
L26	46.5 - 39.75 (26)	TP41.9x40.725x0.588	27.257	1322.080	0.021	1.771	4677.408	0.000
L27	39.75 - 38.75 (27)	TP41.448x40.361x0.65	28.074	1477.210	0.019	1.583	5277.958	0.000
L28	38.75 - 33.75 (28)	TP42.318x41.448x0.65	28.576	1508.700	0.019	1.583	5505.417	0.000
L29	33.75 - 31.75 (29)	TP42.666x42.318x0.65	28.770	1521.300	0.019	1.582	5597.750	0.000
L30	31.75 - 31.5 (30)	TP42.71x42.666x0.65	28.785	1522.880	0.019	1.582	5609.341	0.000

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L31	31.5 - 26.5 (31)	TP43.58x42.71x0.638	29.262	1524.920	0.019	1.582	5734.725	0.000
L32	26.5 - 21.5 (32)	TP44.45x43.58x0.625	29.727	1525.740	0.019	1.582	5855.700	0.000
L33	21.5 - 17.75 (33)	TP45.102x44.45x0.625	30.078	1548.460	0.019	1.582	6031.341	0.000
L34	17.75 - 17.5 (34)	TP45.145x45.102x0.725	30.087	1793.930	0.017	1.582	6978.591	0.000
L35	17.5 - 14.25 (35)	TP45.711x45.145x0.725	30.414	1816.760	0.017	1.582	7157.383	0.000
L36	14.25 - 14 (36)	TP45.754x45.711x0.638	30.427	1602.150	0.019	1.582	6330.267	0.000
L37	14 - 9 (37)	TP46.624x45.754x0.625	30.924	1601.450	0.019	1.668	6451.267	0.000
L38	9 - 4 (38)	TP47.494x46.624x0.625	31.126	1631.740	0.019	1.668	6697.575	0.000
L39	4 - 0 (39)	TP48.19x47.494x0.625	31.285	1655.970	0.019	1.668	6897.933	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	148 - 143 (1)	0.005	0.039	0.000	0.013	0.000	0.044 ✔	1.050	4.8.2 ✔
L2	143 - 138 (2)	0.005	0.068	0.000	0.014	0.000	0.073 ✔	1.050	4.8.2 ✔
L3	138 - 133 (3)	0.008	0.130	0.000	0.029	0.000	0.139 ✔	1.050	4.8.2 ✔
L4	133 - 128 (4)	0.008	0.188	0.000	0.029	0.000	0.197 ✔	1.050	4.8.2 ✔
L5	128 - 123 (5)	0.012	0.276	0.000	0.045	0.001	0.290 ✔	1.050	4.8.2 ✔
L6	123 - 116.5 (6)	0.012	0.322	0.000	0.045	0.001	0.336 ✔	1.050	4.8.2 ✔
L7	116.5 - 115.25 (7)	0.010	0.322	0.000	0.037	0.000	0.333 ✔	1.050	4.8.2 ✔
L8	115.25 - 110.25 (8)	0.014	0.401	0.000	0.048	0.001	0.418 ✔	1.050	4.8.2 ✔
L9	110.25 - 105.25 (9)	0.014	0.477	0.000	0.048	0.001	0.494 ✔	1.050	4.8.2 ✔
L10	105.25 - 100.25 (10)	0.014	0.547	0.000	0.047	0.001	0.564 ✔	1.050	4.8.2 ✔
L11	100.25 - 98.75 (11)	0.014	0.568	0.000	0.047	0.001	0.584 ✔	1.050	4.8.2 ✔
L12	98.75 - 98.5 (12)	0.014	0.571	0.000	0.047	0.001	0.588 ✔	1.050	4.8.2 ✔
L13	98.5 - 98.25 (13)	0.008	0.298	0.000	0.026	0.001	0.307 ✔	1.050	4.8.2 ✔
L14	98.25 - 93.25 (14)	0.008	0.333	0.000	0.027	0.001	0.342 ✔	1.050	4.8.2 ✔
L15	93.25 - 88.25 (15)	0.009	0.366	0.000	0.027	0.001	0.375 ✔	1.050	4.8.2 ✔
L16	88.25 - 80.25 (16)	0.009	0.385	0.000	0.027	0.001	0.394 ✔	1.050	4.8.2 ✔

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L17	80.25 - 79.75 (17)	0.008	0.371	0.000	0.024	0.001	0.380 ✔	1.050	4.8.2 ✔
L18	79.75 - 74.75 (18)	0.009	0.402	0.000	0.025	0.001	0.411 ✔	1.050	4.8.2 ✔
L19	74.75 - 69.75 (19)	0.009	0.422	0.000	0.025	0.001	0.431 ✔	1.050	4.8.2 ✔
L20	69.75 - 66.75 (20)	0.009	0.433	0.000	0.025	0.001	0.443 ✔	1.050	4.8.2 ✔
L21	66.75 - 66.5 (21)	0.007	0.342	0.000	0.019	0.000	0.350 ✔	1.050	4.8.2 ✔
L22	66.5 - 61.5 (22)	0.007	0.363	0.000	0.020	0.000	0.371 ✔	1.050	4.8.2 ✔
L23	61.5 - 56.5 (23)	0.008	0.376	0.000	0.020	0.000	0.384 ✔	1.050	4.8.2 ✔
L24	56.5 - 51.5 (24)	0.008	0.396	0.000	0.020	0.000	0.405 ✔	1.050	4.8.2 ✔
L25	51.5 - 46.5 (25)	0.008	0.408	0.000	0.020	0.000	0.416 ✔	1.050	4.8.2 ✔
L26	46.5 - 39.75 (26)	0.008	0.420	0.000	0.021	0.000	0.428 ✔	1.050	4.8.2 ✔
L27	39.75 - 38.75 (27)	0.008	0.406	0.000	0.019	0.000	0.414 ✔	1.050	4.8.2 ✔
L28	38.75 - 33.75 (28)	0.008	0.415	0.000	0.019	0.000	0.424 ✔	1.050	4.8.2 ✔
L29	33.75 - 31.75 (29)	0.009	0.418	0.000	0.019	0.000	0.427 ✔	1.050	4.8.2 ✔
L30	31.75 - 31.5 (30)	0.009	0.419	0.000	0.019	0.000	0.428 ✔	1.050	4.8.2 ✔
L31	31.5 - 26.5 (31)	0.009	0.435	0.000	0.019	0.000	0.444 ✔	1.050	4.8.2 ✔
L32	26.5 - 21.5 (32)	0.009	0.451	0.000	0.019	0.000	0.461 ✔	1.050	4.8.2 ✔
L33	21.5 - 17.75 (33)	0.009	0.457	0.000	0.019	0.000	0.467 ✔	1.050	4.8.2 ✔
L34	17.75 - 17.5 (34)	0.008	0.397	0.000	0.017	0.000	0.405 ✔	1.050	4.8.2 ✔
L35	17.5 - 14.25 (35)	0.008	0.401	0.000	0.017	0.000	0.409 ✔	1.050	4.8.2 ✔
L36	14.25 - 14 (36)	0.009	0.453	0.000	0.019	0.000	0.463 ✔	1.050	4.8.2 ✔
L37	14 - 9 (37)	0.010	0.469	0.000	0.019	0.000	0.479 ✔	1.050	4.8.2 ✔
L38	9 - 4 (38)	0.010	0.475	0.000	0.019	0.000	0.485 ✔	1.050	4.8.2 ✔
L39	4 - 0 (39)	0.010	0.479	0.000	0.019	0.000	0.490 ✔	1.050	4.8.2 ✔

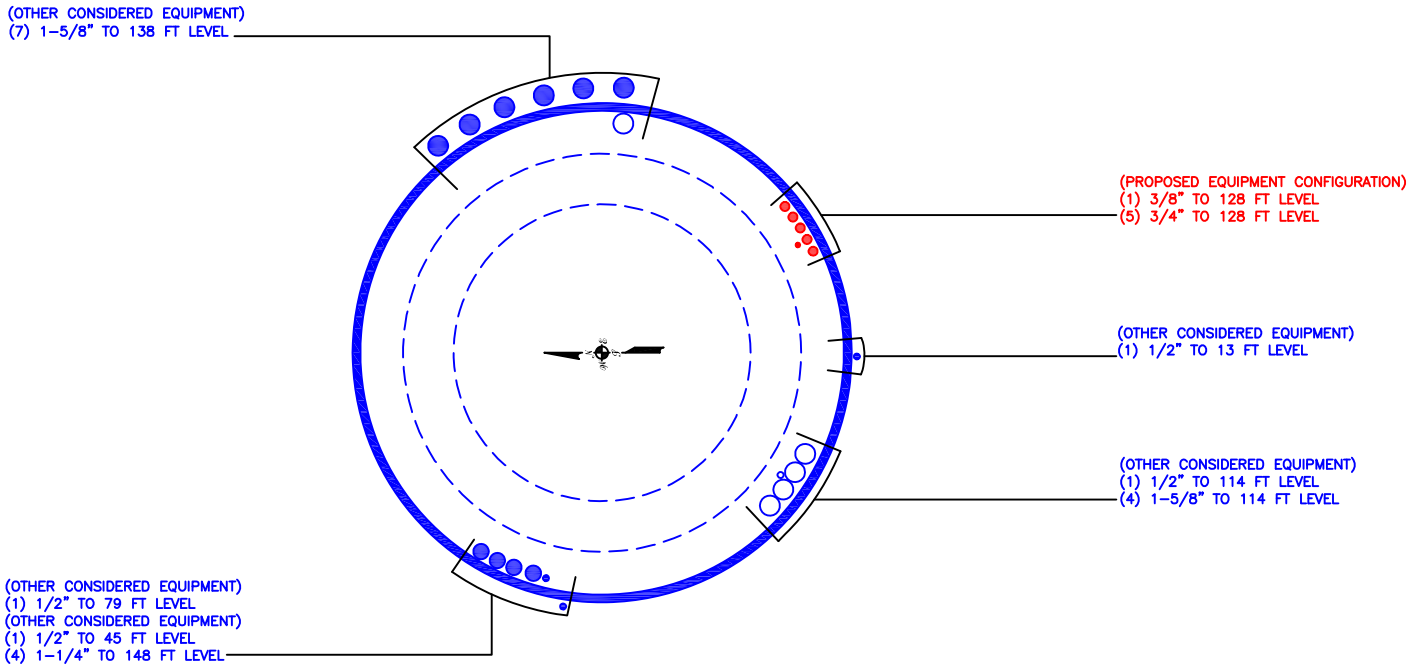
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	148 - 143	Pole	TP24.87x24x0.219	1	-4.361	--	**	**
L2	143 - 138	Pole	TP25.74x24.87x0.219	2	-4.724	--	**	**
L3	138 - 133	Pole	TP26.61x25.74x0.219	3	-7.977	--	**	**
L4	133 - 128	Pole	TP27.479x26.61x0.219	4	-8.410	--	**	**
L5	128 - 123	Pole	TP28.349x27.479x0.219	5	-12.431	--	**	**
L6	123 - 116.5	Pole	TP29.48x28.349x0.219	6	-12.702	--	**	**
L7	116.5 - 115.25	Pole	TP29.26x28.39x0.25	7	-13.557	--	**	**
L8	115.25 - 110.25	Pole	TP30.13x29.26x0.25	8	-19.761	--	**	**
L9	110.25 - 105.25	Pole	TP31x30.13x0.25	9	-20.450	--	**	**
L10	105.25 - 100.25	Pole	TP31.87x31x0.25	10	-21.167	--	**	**
L11	100.25 - 98.75	Pole	TP32.131x31.87x0.25	11	-21.378	--	**	**
L12	98.75 - 98.5	Pole	TP32.175x32.131x0.25	12	-21.427	--	**	**
L13	98.5 - 98.25	Pole	TP32.218x32.175x0.45	13	-21.480	--	**	**
L14	98.25 - 93.25	Pole	TP33.088x32.218x0.444	14	-22.531	--	**	**
L15	93.25 - 88.25	Pole	TP33.958x33.088x0.438	15	-23.609	--	**	**
L16	88.25 - 80.25	Pole	TP35.35x33.958x0.438	16	-24.376	--	**	**
L17	80.25 - 79.75	Pole	TP34.937x34.067x0.5	17	-26.427	--	**	**
L18	79.75 - 74.75	Pole	TP35.808x34.937x0.488	18	-27.780	--	**	**
L19	74.75 - 69.75	Pole	TP36.678x35.808x0.488	19	-29.069	--	**	**
L20	69.75 - 66.75	Pole	TP37.2x36.678x0.488	20	-29.854	--	**	**
L21	66.75 - 66.5	Pole	TP37.244x37.2x0.625	21	-29.940	--	**	**
L22	66.5 - 61.5	Pole	TP38.114x37.244x0.613	22	-31.524	--	**	**
L23	61.5 - 56.5	Pole	TP38.984x38.114x0.613	23	-33.135	--	**	**
L24	56.5 - 51.5	Pole	TP39.855x38.984x0.6	24	-34.771	--	**	**
L25	51.5 - 46.5	Pole	TP40.725x39.855x0.6	25	-36.429	--	**	**
L26	46.5 - 39.75	Pole	TP41.9x40.725x0.588	26	-36.928	--	**	**
L27	39.75 - 38.75	Pole	TP41.448x40.361x0.65	27	-40.829	--	**	**
L28	38.75 - 33.75	Pole	TP42.318x41.448x0.65	28	-42.695	--	**	**
L29	33.75 - 31.75	Pole	TP42.666x42.318x0.65	29	-43.450	--	**	**
L30	31.75 - 31.5	Pole	TP42.71x42.666x0.65	30	-43.551	--	**	**
L31	31.5 - 26.5	Pole	TP43.58x42.71x0.638	31	-45.448	--	**	**
L32	26.5 - 21.5	Pole	TP44.45x43.58x0.625	32	-47.377	--	**	**
L33	21.5 - 17.75	Pole	TP45.102x44.45x0.625	33	-48.839	--	**	**
L34	17.75 - 17.5	Pole	TP45.145x45.102x0.725	34	-48.963	--	**	**
L35	17.5 - 14.25	Pole	TP45.711x45.145x0.725	35	-50.444	--	**	**
L36	14.25 - 14	Pole	TP45.754x45.711x0.638	36	-50.555	--	**	**
L37	14 - 9	Pole	TP46.624x45.754x0.625	37	-52.731	--	**	**
L38	9 - 4	Pole	TP47.494x46.624x0.625	38	-54.861	--	**	**
L39	4 - 0	Pole	TP48.19x47.494x0.625	39	-56.581	--	**	**
							Summary	
						Pole (L12)	**	**
						RATING =	**	**

***NOTE: Above stress ratios for reinforced sections are approximate. More exact calculations are presented in Appendix C.**

APPENDIX B

BASE LEVEL DRAWING



BUSINESS UNIT: 876373

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 876373

Work Order: 1842272

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	148	31.5	3.75	18	24	29.48	0.21875	Auto	A607-60
2	120.25	40	4.5	18	28.39	35.35	0.25	Auto	A607-65
3	84.75	45	5.25	18	34.07	41.9	0.3125	Auto	A607-65
4	45	45	0	18	40.36	48.19	0.375	Auto	A607-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	17.75	plate	CCI-SFP-065125	2				E			E											
2	0	31.75	plate	CCI-SFP-085125	2												E						E
3	14.25	31.75	plate	CCI-SFP-085125	1						E												
4	31.75	66.75	plate	CCI-SFP-085125	3						E						E						E
5	66.75	98.5	plate	CCI-SFP-060100	2						E						E						
6	66.75	98.75	plate	CCI-SFP-060100	1																		E
7																							
8																							
9																							
10																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L_u (in)	Net Area (in^2)	Bolt Hole Size (in)	Reinforcement Material
1	6.5	1.25	8.125	0.625	33.000	33.000	19.000	6.563	1.1875	A572-65
2	8.5	1.25	10.625	0.625	45.000	45.000	17.000	9.063	1.1875	A572-65
3	8.5	1.25	10.625	0.625	45.000	45.000	17.000	9.063	1.1875	A572-65
4	8.5	1.25	10.625	0.625	45.000	45.000	17.000	9.063	1.1875	A572-65
5	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
6	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5 Export to TNX

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	148 - 143	5		18	24.000	24.870	0.21875	A607-60	1.000
2	143 - 138	5		18	24.870	25.740	0.21875	A607-60	1.000
3	138 - 133	5		18	25.740	26.610	0.21875	A607-60	1.000
4	133 - 128	5		18	26.610	27.479	0.21875	A607-60	1.000
5	128 - 123	5		18	27.479	28.349	0.21875	A607-60	1.000
6	123 - 120.25	6.5	3.75	18	28.349	29.480	0.21875	A607-60	1.000
7	120.25 - 115.25	5		18	28.390	29.260	0.25	A607-65	1.000
8	115.25 - 110.25	5		18	29.260	30.130	0.25	A607-65	1.000
9	110.25 - 105.25	5		18	30.130	31.000	0.25	A607-65	1.000
10	105.25 - 100.25	5		18	31.000	31.870	0.25	A607-65	1.000
11	100.25 - 98.75	1.5		18	31.870	32.131	0.25	A607-65	1.000
12	98.75 - 98.5	0.25		18	32.131	32.175	0.25	A607-65	1.000
13	98.5 - 98.25	0.25		18	32.175	32.218	0.45	A607-65	0.956
14	98.25 - 93.25	5		18	32.218	33.088	0.44375	A607-65	0.958
15	93.25 - 88.25	5		18	33.088	33.958	0.4375	A607-65	0.961
16	88.25 - 84.75	8	4.5	18	33.958	35.350	0.4375	A607-65	0.954
17	84.75 - 79.75	5		18	34.067	34.937	0.5	A607-65	0.958
18	79.75 - 74.75	5		18	34.937	35.808	0.4875	A607-65	0.974
19	74.75 - 69.75	5		18	35.808	36.678	0.4875	A607-65	0.966
20	69.75 - 66.75	3		18	36.678	37.200	0.4875	A607-65	0.961
21	66.75 - 66.5	0.25		18	37.200	37.244	0.625	A607-65	0.943
22	66.5 - 61.5	5		18	37.244	38.114	0.6125	A607-65	0.952
23	61.5 - 56.5	5		18	38.114	38.984	0.6125	A607-65	0.941
24	56.5 - 51.5	5		18	38.984	39.855	0.6	A607-65	0.951
25	51.5 - 46.5	5		18	39.855	40.725	0.6	A607-65	0.942
26	46.5 - 45	6.75	5.25	18	40.725	41.900	0.5875	A607-65	0.959
27	45 - 38.75	6.25		18	40.361	41.448	0.65	A607-65	0.960
28	38.75 - 33.75	5		18	41.448	42.318	0.65	A607-65	0.952
29	33.75 - 31.75	2		18	42.318	42.666	0.65	A607-65	0.948
30	31.75 - 31.5	0.25		18	42.666	42.710	0.65	A607-65	0.948
31	31.5 - 26.5	5		18	42.710	43.580	0.6375	A607-65	0.959
32	26.5 - 21.5	5		18	43.580	44.450	0.625	A607-65	0.970
33	21.5 - 17.75	3.75		18	44.450	45.102	0.625	A607-65	0.965
34	17.75 - 17.5	0.25		18	45.102	45.145	0.725	A607-65	0.992
35	17.5 - 14.25	3.25		18	45.145	45.711	0.725	A607-65	0.986
36	14.25 - 14	0.25		18	45.711	45.754	0.6375	A607-65	1.002
37	14 - 9	5		18	45.754	46.624	0.625	A607-65	1.014
38	9 - 4	5		18	46.624	47.494	0.625	A607-65	1.007
39	4 - 0	4		18	47.494	48.190	0.625	A607-65	1.001

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	148 - 143	4.36	22.44	3.67
2	143 - 138	4.72	41.58	3.99
3	138 - 133	7.98	84.21	8.67
4	133 - 128	8.41	128.38	9.00
5	128 - 123	12.43	198.80	14.21
6	123 - 120.25	12.70	238.12	14.39
7	120.25 - 115.25	13.56	311.01	14.76
8	115.25 - 110.25	19.76	407.22	20.12
9	110.25 - 105.25	20.45	508.52	20.42
10	105.25 - 100.25	21.17	611.27	20.70
11	100.25 - 98.75	21.38	642.42	20.86
12	98.75 - 98.5	21.43	647.64	20.88
13	98.5 - 98.25	21.48	652.86	20.91
14	98.25 - 93.25	22.53	758.86	21.50
15	93.25 - 88.25	23.61	867.78	22.08
16	88.25 - 84.75	24.38	945.75	22.49
17	84.75 - 79.75	26.43	1059.81	23.14
18	79.75 - 74.75	27.78	1178.02	23.85
19	74.75 - 69.75	29.07	1298.62	24.41
20	69.75 - 66.75	29.85	1372.34	24.76
21	66.75 - 66.5	29.94	1378.53	24.78
22	66.5 - 61.5	31.52	1503.89	25.38
23	61.5 - 56.5	33.14	1632.21	25.97
24	56.5 - 51.5	34.77	1763.42	26.54
25	51.5 - 46.5	36.43	1897.44	27.09
26	46.5 - 45	36.93	1938.18	27.26
27	45 - 38.75	40.83	2111.24	28.07
28	38.75 - 33.75	42.69	2252.81	28.58
29	33.75 - 31.75	43.45	2310.13	28.77
30	31.75 - 31.5	43.55	2317.32	28.79
31	31.5 - 26.5	45.45	2462.40	29.26
32	26.5 - 21.5	47.38	2609.80	29.73
33	21.5 - 17.75	48.84	2721.88	30.08
34	17.75 - 17.5	48.96	2729.40	30.09
35	17.5 - 14.25	50.44	2827.68	30.41
36	14.25 - 14	50.56	2835.29	30.43
37	14 - 9	52.73	2988.90	30.92
38	9 - 4	54.86	3143.95	31.13
39	4 - 0	56.58	3268.71	31.28

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
148 - 143	Pole	TP24.87x24x0.2188	Pole	4.1%	Pass
143 - 138	Pole	TP25.74x24.87x0.2188	Pole	6.9%	Pass
138 - 133	Pole	TP26.61x25.74x0.2188	Pole	13.1%	Pass
133 - 128	Pole	TP27.479x26.61x0.2188	Pole	18.6%	Pass
128 - 123	Pole	TP28.349x27.479x0.2188	Pole	27.3%	Pass
123 - 120.25	Pole	TP29.48x28.349x0.2188	Pole	31.7%	Pass
120.25 - 115.25	Pole	TP29.26x28.39x0.25	Pole	31.5%	Pass
115.25 - 110.25	Pole	TP30.13x29.26x0.25	Pole	39.4%	Pass
110.25 - 105.25	Pole	TP31x30.13x0.25	Pole	46.7%	Pass
105.25 - 100.25	Pole	TP31.87x31x0.25	Pole	53.4%	Pass
100.25 - 98.75	Pole	TP32.131x31.87x0.25	Pole	55.3%	Pass
98.75 - 98.5	Pole	TP32.175x32.131x0.25	Pole	55.6%	Pass
98.5 - 98.25	Pole + Reinf.	TP32.218x32.175x0.45	Reinf. 5 Tension Rupture	45.9%	Pass
98.25 - 93.25	Pole + Reinf.	TP33.088x32.218x0.4438	Reinf. 5 Tension Rupture	51.1%	Pass
93.25 - 88.25	Pole + Reinf.	TP33.958x33.088x0.4375	Reinf. 5 Tension Rupture	56.0%	Pass
88.25 - 84.75	Pole + Reinf.	TP35.35x33.958x0.4375	Reinf. 5 Tension Rupture	59.3%	Pass
84.75 - 79.75	Pole + Reinf.	TP34.937x34.067x0.5	Reinf. 5 Tension Rupture	57.1%	Pass
79.75 - 74.75	Pole + Reinf.	TP35.808x34.937x0.4875	Reinf. 5 Tension Rupture	60.9%	Pass
74.75 - 69.75	Pole + Reinf.	TP36.678x35.808x0.4875	Reinf. 5 Tension Rupture	64.5%	Pass
69.75 - 66.75	Pole + Reinf.	TP37.2x36.678x0.4875	Reinf. 5 Tension Rupture	66.5%	Pass
66.75 - 66.5	Pole + Reinf.	TP37.244x37.2x0.625	Reinf. 4 Bolt Shear	50.8%	Pass
66.5 - 61.5	Pole + Reinf.	TP38.114x37.244x0.6125	Reinf. 4 Compression	51.5%	Pass
61.5 - 56.5	Pole + Reinf.	TP38.984x38.114x0.6125	Reinf. 4 Compression	54.0%	Pass
56.5 - 51.5	Pole + Reinf.	TP39.855x38.984x0.6	Reinf. 4 Compression	56.4%	Pass
51.5 - 46.5	Pole + Reinf.	TP40.725x39.855x0.6	Reinf. 4 Compression	58.7%	Pass
46.5 - 45	Pole + Reinf.	TP41.9x40.725x0.5875	Reinf. 4 Compression	59.4%	Pass
45 - 38.75	Pole + Reinf.	TP41.448x40.361x0.65	Reinf. 4 Compression	57.5%	Pass
38.75 - 33.75	Pole + Reinf.	TP42.318x41.448x0.65	Reinf. 4 Compression	59.3%	Pass
33.75 - 31.75	Pole + Reinf.	TP42.666x42.318x0.65	Reinf. 4 Bolt Shear	62.4%	Pass
31.75 - 31.5	Pole + Reinf.	TP42.71x42.666x0.65	Reinf. 2 Bolt Shear	62.5%	Pass
31.5 - 26.5	Pole + Reinf.	TP43.58x42.71x0.6375	Reinf. 2 Compression	61.8%	Pass
26.5 - 21.5	Pole + Reinf.	TP44.45x43.58x0.625	Reinf. 2 Compression	63.5%	Pass
21.5 - 17.75	Pole + Reinf.	TP45.102x44.45x0.625	Reinf. 2 Compression	64.7%	Pass
17.75 - 17.5	Pole + Reinf.	TP45.145x45.102x0.725	Reinf. 2 Compression	60.6%	Pass
17.5 - 14.25	Pole + Reinf.	TP45.711x45.145x0.725	Reinf. 2 Compression	61.6%	Pass
14.25 - 14	Pole + Reinf.	TP45.754x45.711x0.6375	Reinf. 1 Tension Rupture	66.5%	Pass
14 - 9	Pole + Reinf.	TP46.624x45.754x0.625	Reinf. 1 Tension Rupture	68.0%	Pass
9 - 4	Pole + Reinf.	TP47.494x46.624x0.625	Reinf. 1 Tension Rupture	69.5%	Pass
4 - 0	Pole + Reinf.	TP48.19x47.494x0.625	Reinf. 1 Tension Rupture	70.6%	Pass
				Summary	
			Pole	55.6%	Pass
			Reinforcement	70.6%	Pass
			Overall	70.6%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*						
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6
148 - 143	1314	n/a	1314	17.11	n/a	17.11	4.1%						
143 - 138	1458	n/a	1458	17.72	n/a	17.72	6.9%						
138 - 133	1612	n/a	1612	18.32	n/a	18.32	13.1%						
133 - 128	1776	n/a	1776	18.93	n/a	18.93	18.6%						
128 - 123	1952	n/a	1952	19.53	n/a	19.53	27.3%						
123 - 120.25	2053	n/a	2053	19.86	n/a	19.86	31.7%						
120.25 - 115.25	2447	n/a	2447	23.02	n/a	23.02	31.5%						
115.25 - 110.25	2673	n/a	2673	23.71	n/a	23.71	39.4%						
110.25 - 105.25	2914	n/a	2914	24.40	n/a	24.40	46.7%						
105.25 - 100.25	3168	n/a	3168	25.09	n/a	25.09	53.4%						
100.25 - 98.75	3247	n/a	3247	25.30	n/a	25.30	55.3%						
98.75 - 98.5	3261	n/a	3261	25.33	n/a	25.33	55.6%						
98.5 - 98.25	3274	2510	5784	25.37	18.00	43.37	31.3%					45.9%	45.9%
98.25 - 93.25	3549	2642	6191	26.06	18.00	44.06	35.2%					51.1%	51.1%
93.25 - 88.25	3838	2777	6616	26.75	18.00	44.75	38.9%					56.0%	56.0%
88.25 - 84.75	4050	2874	6924	27.23	18.00	45.23	41.5%					59.3%	59.3%
84.75 - 79.75	5200	2934	8134	34.34	18.00	52.34	37.2%					57.1%	57.1%
79.75 - 74.75	5602	3076	8678	35.21	18.00	53.21	40.0%					60.9%	60.9%
74.75 - 69.75	6024	3222	9246	36.07	18.00	54.07	42.7%					64.5%	64.5%
69.75 - 66.75	6288	3311	9599	36.59	18.00	54.59	44.3%					66.5%	66.5%
66.75 - 66.5	6310	6002	12312	36.63	31.88	68.50	34.8%				50.8%		
66.5 - 61.5	6767	6272	13038	37.49	31.88	69.37	36.9%				51.5%		
61.5 - 56.5	7245	6548	13793	38.36	31.88	70.23	39.0%				54.0%		
56.5 - 51.5	7745	6830	14575	39.22	31.88	71.09	41.1%				56.4%		
51.5 - 46.5	8268	7118	15386	40.08	31.88	71.96	43.1%				58.7%		
46.5 - 45	8429	7206	15635	40.34	31.88	72.22	43.7%				59.4%		
45 - 38.75	10416	7362	17778	48.89	31.88	80.76	40.1%				57.5%		
38.75 - 33.75	11092	7661	18753	49.92	31.88	81.80	41.6%				59.3%		
33.75 - 31.75	11370	7782	19153	50.34	31.88	82.21	42.2%				62.4%		
31.75 - 31.5	11405	7798	19203	50.39	31.88	82.26	42.3%		62.5%	62.5%			
31.5 - 26.5	12123	8105	20229	51.42	31.88	83.30	43.8%		61.8%	61.8%			
26.5 - 21.5	12870	8419	21289	52.46	31.88	84.33	45.3%		63.5%	63.5%			
21.5 - 17.75	13450	8658	22109	53.23	31.88	85.11	46.4%		64.7%	64.7%			
17.75 - 17.5	13718	12037	25755	53.29	48.13	101.41	43.6%	50.6%	60.6%	45.2%			
17.5 - 14.25	14241	12332	26573	53.96	48.13	102.08	44.5%	51.5%	61.6%	47.8%			
14.25 - 14	14065	9296	23361	54.01	37.50	91.51	47.7%	66.5%	62.5%				
14 - 9	14889	9640	24528	55.05	37.50	92.55	49.1%	68.0%	63.9%				
9 - 4	15744	9989	25734	56.08	37.50	93.58	50.5%	69.5%	65.3%				
4 - 0	16452	10274	26726	56.91	37.50	94.41	51.5%	70.6%	68.9%				

Note: Section capacity checked in 5 degree increments.
Rating per TIA-222-H Section 15.5.

PROJECT	**89028.015.01 - LONG EDDY / WRIGHTPROPERTY, CT**
SUBJECT	**Anchor Rod Bracket Analysis**
DATE	**05-27-20**
v4.5.1	

TIA-222 Rev. H
Apply TIA-222-H Section 15.5? Yes

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Analysis Criteria		
Design/Analysis	Analysis	
Load Type	Current Load	
Current load	162.2	kips
AR Capacity	375.7	kips

Tower Type	Monopole

Manufacturers Tower Prop.		
Pole Thickness	0.375	in
Pole Grade	Custom	
Fy	65	ksi
Fu	80	ksi
Base Plate Gr.	Custom	
Fy	55	ksi
Fu	70	ksi

Post-Installed Adhesive AR Mod.		
ARB Type	Welded	
Size	2.25	in
Grade	A193 Gr B7	
Fy	105	ksi
Fu	125	ksi

Anchor Rod Bracket Analysis Checks		
Tube Bearing	40.4%	-
Tube Compression	N/A	
Gusset Shear	24.5%	-
Gusset Flexure	N/A	-
Welds: Gusset to Tower and BP	46.6%	-
Welds: Gusset to Tube	50.2%	-
Welds: Geometry	N/A	
Tower Punching	8.0%	-
Tube Punching	37.6%	-
Utilization	**50.2%**	

Bracket Properties

Gusset			Pipe/Tube			Weld - Gusset to Pipe/Tube		
Thickness	1.25	in	Size	4 XXS Pipe		FEXX	70	ksi
Width at Tube	4.5625	in	Total Length	14	in	Weld Type	PJP - Double Bevel	
Height at Pole	54	in	Length above Gusset	0	in	Fillet Size	3/8	in
Height at Tube	14	in	Length below Gusset	0	in	Bevel Depth	3/8	in
Grade	A572-65		Grade	A53-B				
Fy	65	ksi	Fy	35	ksi			
Fu	80	ksi	Fu	60	ksi			

Weld - Gusset to Tower			Weld - Gusset to Base Plate		
FEXX	70	ksi	FEXX	70	ksi
Weld Type	Double Fillet		Weld Type	PJP - Double Bevel	
Fillet Size	3/8	in	Fillet Size	1/2	in
			Bevel Depth	1/2	in
			Gap	0	in
			Notch (horiz)	0.75	in
			Notch (vert)	0.75	in
			Pipe/Tube Welded to Base/Footpad?	Yes	
			Fillet Size	1/2	in

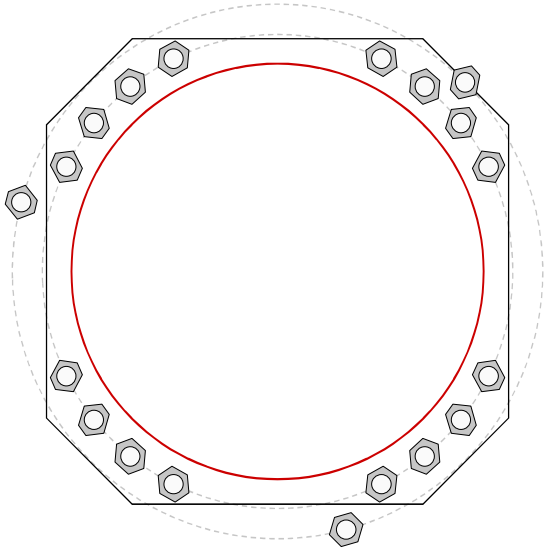
Monopole Base Plate Connection

Site Info	
BU #	876373
Site Name	DDY / WRIGHTPROPER
Order #	509330, Rev.0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	0.75

Applied Loads	
Moment (kip-ft)	3268.52
Axial Force (kips)	56.76
Shear Force (kips)	31.28

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (16) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 55" BC

Anchor Spacing: 6 in

GROUP 2: (3) 2-1/4" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 62" BC

Base Plate Data

54" OD x 2.75" Plate (A572-55; Fy=55 ksi, Fu=70 ksi)

Stiffener Data

N/A

Pole Data

48.19" x 0.375" 18-sided pole (A607-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

GROUP 1:		
Pu_c = 147.4	ϕPn_c = 268.39	**Stress Rating**
Vu = 1.95	ϕVn = 120.77	**52.3%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:		
Pu_c = 162.2	ϕPn_c = 375.74	**Stress Rating**
Vu = 0	ϕVn = 169.08	**41.1%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	28.01	(Flexural)
Allowable Stress (ksi):	49.5	
Stress Rating:	**53.9%**	**Pass**

Pier and Pad Foundation

BU # :	876373
Site Name:	LONG EDDY /
App. Number:	509330, Rev.0

TIA-222 Revision:	H
Tower Type:	Monopole

Top & Bot. Pad Rein. Different?:	☐
Block Foundation?:	☑

Superstructure Analysis Reactions		
Compression, P_{comp}:	57	kips
Base Shear, Vu_comp:	32	kips
Moment, M_u:	3269	ft-kips
Tower Height, **H**:	148	ft
BP Dist. Above Fdn, bp_{dist}:	3	in
Bolt Circle / Bearing Plate Width, **BC**:	55	in

Foundation Analysis Checks	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	111.63	32.00	**27.3%**	**Pass**
Bearing Pressure (ksf)	9.00	4.25	**47.2%**	**Pass**
*Overturning (kip*ft)*	4087.72	3405.00	**83.3%**	**Pass**
*Pad Flexure (kip*ft)*	3944.73	1908.22	**46.1%**	**Pass**
Pad Shear - 1-way (kips)	1050.72	252.46	**22.9%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.003	**1.9%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	3807.33	0.00	**0.0%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Soil Rating*:	**83.3%**
Structural Rating*:	**46.1%**

Pad Properties		
Depth, **D**:	3.5	ft
Pad Width, **W**:	24.5	ft
Pad Thickness, **T**:	4	ft
Pad Rebar Size (Bottom), **Sp**:	8	
Pad Rebar Quantity (Bottom), **mp**:	26	
Pad Clear Cover, cc_{pad}:	3	in

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

Soil Properties		
Total Soil Unit Weight, γ:	120	pcf
Ultimate Gross Bearing, Qult:	12.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	32	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:		
Neglected Depth, **N**:	3.33	ft
Foundation Bearing on Rock?	Yes	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-10	**Elevation:**	1095.02 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.827317
Soil Class:	D - Stiff Soil	**Longitude:**	-73.170547

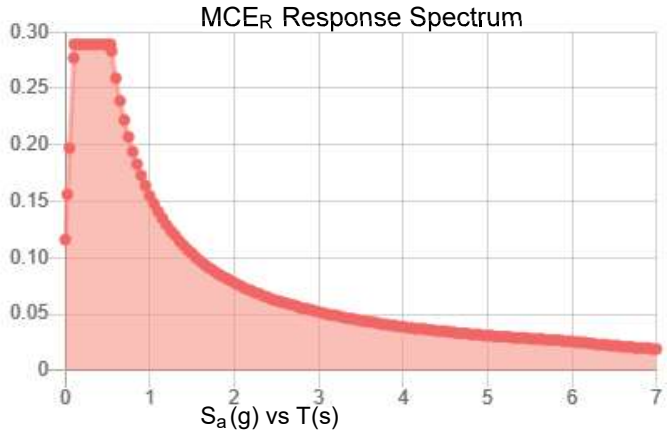
Seismic

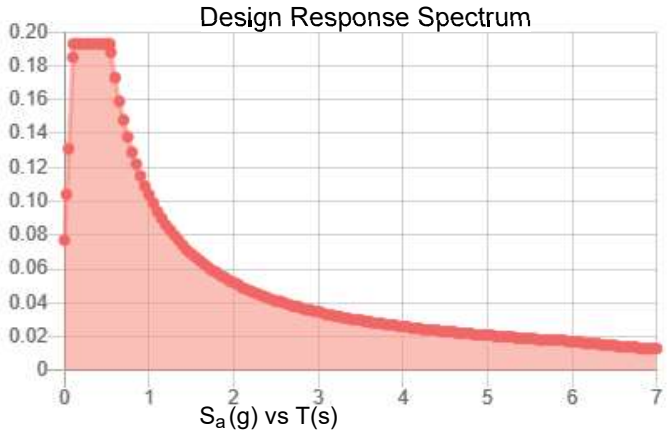
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.181	S_{DS} :	0.193
S_1 :	0.065	S_{D1} :	0.104
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.091
S_{MS} :	0.289	PGA_M :	0.145
S_{M1} :	0.155	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Wed May 27 2020

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

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Wed May 27 2020

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

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

Exhibit E

Mount Analysis

Date: May 21, 2020

Darcy Tarr
Crown Castle
9105 Monroe Road, Suite 150
Charlotte, NC 28270
(704) 405-6589

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
btwo@btgrp.com

Subject:	**Mount Analysis Report**	
Carrier Designation:	**AT&T Mobility Equipment Change-Out**	
	Carrier Site Number:	12676386
	Carrier Site Name:	CT1304
Crown Castle Designation:	**Crown Castle BU Number:**	876373
	Crown Castle Site Name:	Long Eddy / Wright Property
	Crown Castle JDE Job Number:	596337
	Crown Castle Order Number:	509330, Rev.0
Engineering Firm Designation:	**B+T Group Report Designation:**	89028.014.01
Site Data:	**136 Wright Rd., Torrington, CT, Litchfield, 06790** **Latitude 41° 49' 38.34" Longitude -73° 10' 13.97"**	
Structure Information:	**Tower Height & Type:**	**148 ft. Monopole**
	Mount Elevation:	**128 ft.**
	Mount Type:	**12.5 ft. Platform Mount**

Dear Ms. Tarr,

B+T Group is pleased to submit this **"Mount Analysis Report"** to determine the structural integrity of *AT&T Mobility*'s antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount's stress level. Based on our analysis we have determined the stress level to be:

Platform Mount **Sufficient**
***See Section 4.1 of this report for the structural modifications required in order for the mount to support the loading listed in Table 1**

This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 115 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Ramya Pasnoor, E.I.T.

Respectfully submitted by: B&T Engineering, Inc.

Scott S. Vance, P.E.

TABLE OF CONTENTS

1) INTRODUCTION

This is a 12.5' Platform Mount, designed by Commscope (Part# RMQP) and mapped by B+T Group.

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	115 mph
Exposure Category:	B
Topographic Factor at Base:	1
Topographic Factor at Mount:	1
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.173
Seismic S_1:	0.054
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	500 lb

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft.)	Antenna Centerline (ft.)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
128	128	3	CCI	DMP65R-BU8D	12.5 ft. Platform Mount
		3	CCI	HPA-65R-BUU-H8	
		3	CCI	OPA65R-BU8D	
		3	Ericsson	RADIO 4415 B30	
		3	Ericsson	RRUS 4449 B5/B12	
		3	Ericsson	RRUS 8843 B2/B66A	
		1	Raycap	DC6-48-60-18-8F	
		1	Raycap	DC9-48-60-24-8C-EV	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing Loading Proposed Loading	Date: 04/01/2020	Crown Castle
RFDS		Date: 03/23/2020	
Mount Mapping	B+T Group	Date: 12/27/2019	On File

3.1) Analysis Method

RISA-3D (Version 17.0.4), a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

A tool internally developed by B+T Group, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B "Software Input Calculations".

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision C). In addition, this analysis is in accordance with AT&T's Mount Technical Directive *– R15.0.*

Manufacturers drawing were used to create the model.

3.2) Assumptions

1. The mount was properly fabricated and installed in accordance with its original design and manufacturer's specifications.
2. The mount has been maintained in accordance with the manufacturer's specifications and is free of damage.
3. The configuration of antennas, mounts, and other appurtenances are as specified in Table-1.
4. All mount components have been assumed to be in sufficient condition to carry their full design capacity for the analysis.
5. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.
   The following assumptions have been included in the analysis of the mount

Component	Section	Length	Note
Proposed Mount Pipe for New Antenna	2" Std. Pipe	8'-0"	In Pos.2

6. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
7. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
8. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
9. The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
10. The following material grades were assumed (Unless Noted Otherwise):
    (a) Connection Bolts : ASTM A325
    (b) Steel Pipe : ASTM A53 (GR. 35)
    (c) HSS (Round) : ASTM 500 (GR. B-42)
    (d) HSS (Rectangular) : ASTM 500 (GR. B-46)
    (e) Channel : ASTM A36 (GR. 36)
    (f) Steel Solid Rod : ASTM A36 (GR. 36)
    (g) Steel Plate : ASTM A36 (GR. 36)
    (h) Steel Angle : ASTM A36 (GR. 36)
    (i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (Platform Mount)

Notes	Component	Critical Member	Centerline (ft.)	% Capacity	Pass / Fail
1,2	Main Horizontals	3	128	16.3	Pass
	Support Tubes	24	128	39.4	Pass
	Mount Pipes	37	128	55.7	Pass
	Connection Plates	52	128	13.4	Pass
	Supporting Angles	39	128	22.3	Pass
	Handrail kit	M90A	128	27.0	Pass

Structure Rating (max from all components) =	55.7%

Notes:
1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
2) All sectors are typical

4.1) Recommendations

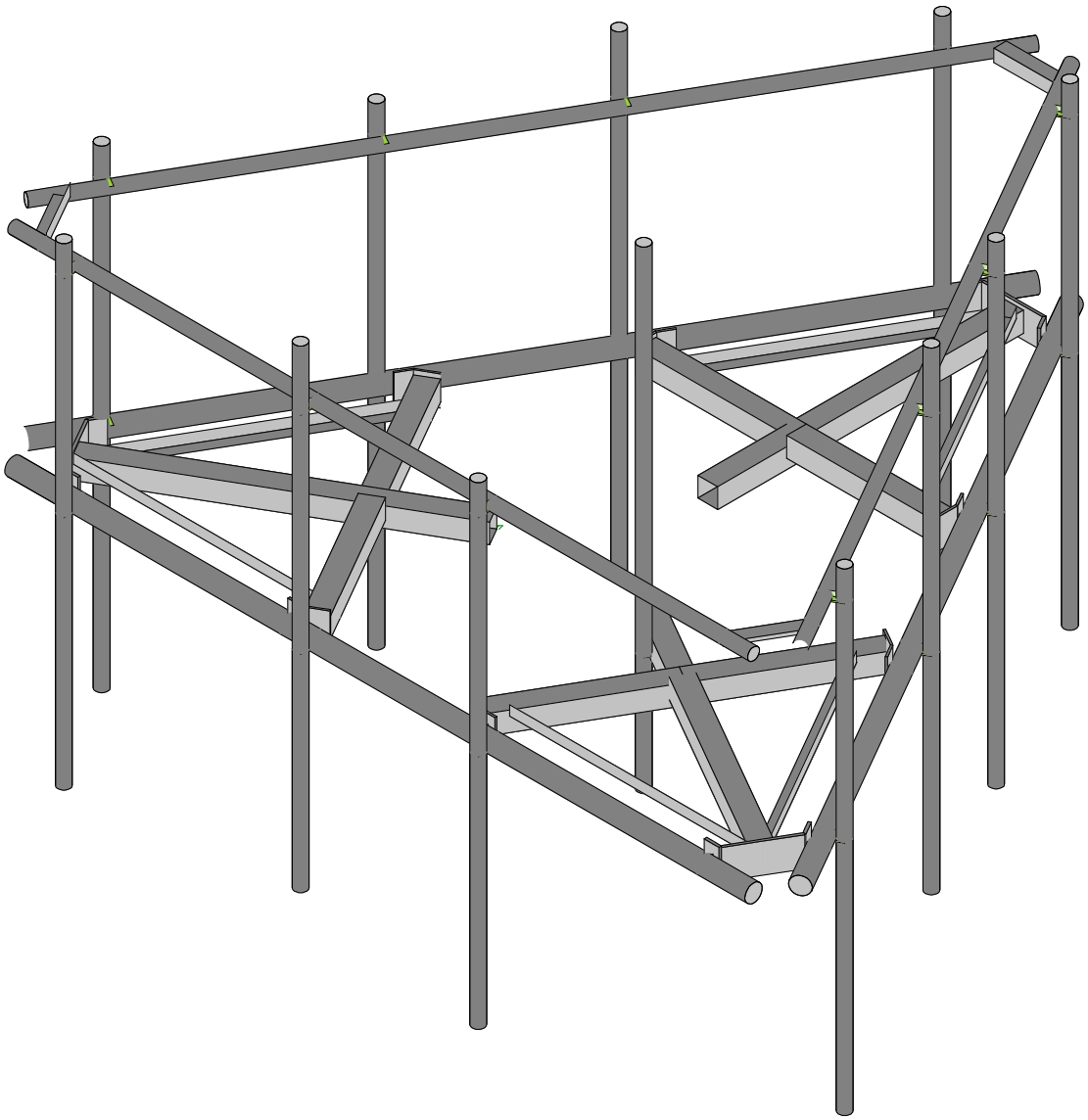
The mount designed by Commscope (Part# RMQP) has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modification listed below must be completed.

1. Add HRK 12 handrail kit, 3'-6" above the face horizontal.

No structural modifications are required at this time, provided that the above-listed changes are implemented.

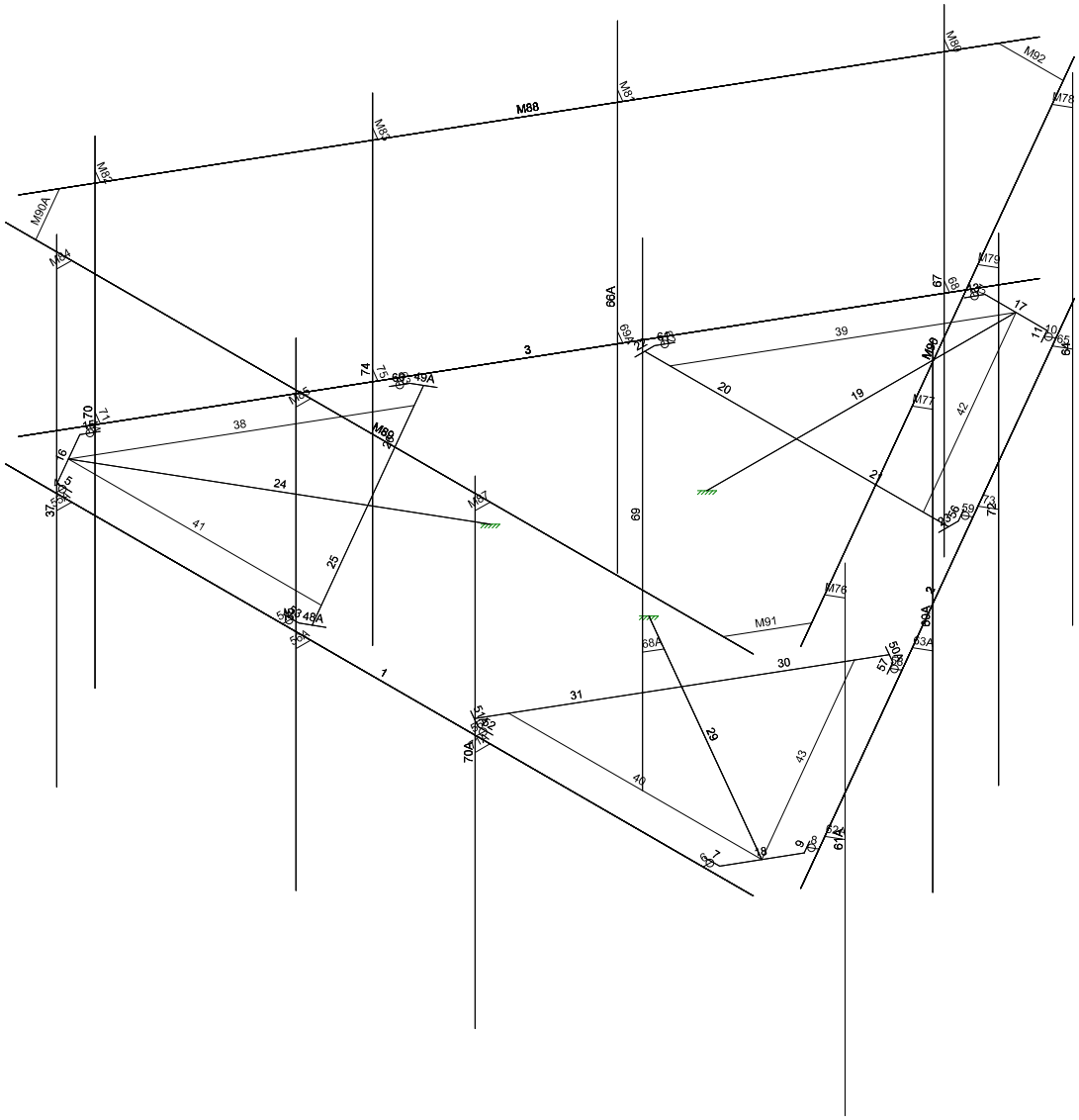
APPENDIX A

WIRE FRAME AND RENDERED MODELS



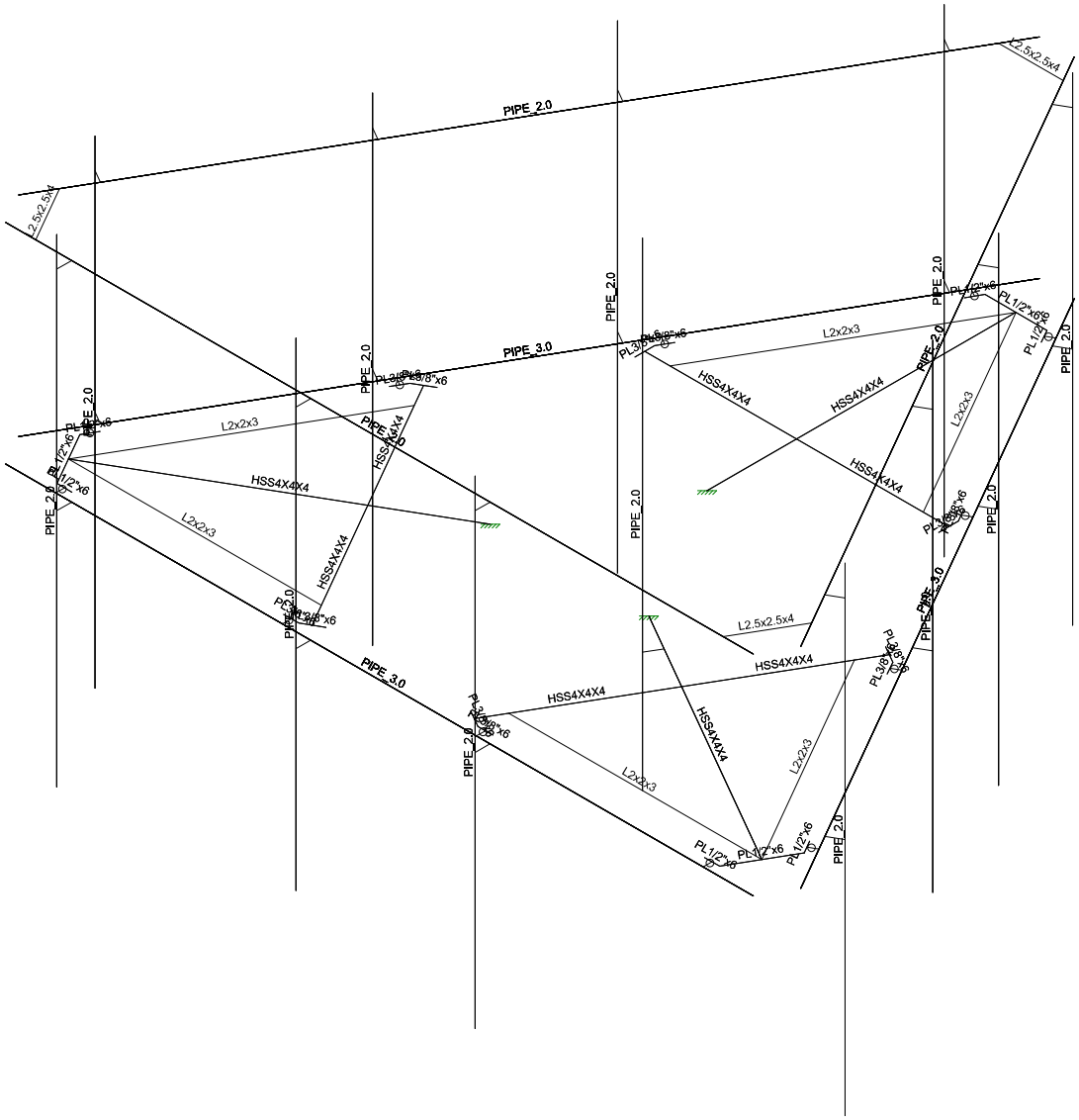
Envelope Only Solution

B+T Group	876373 - Long Eddy Wright Property	SK - 1
RP		May 21, 2020 at 4:45 PM
89028.014.01		89028_014_01_Long Eddy Wright ...



Envelope Only Solution

B+T Group	876373 - Long Eddy Wright Property	SK - 2
RP		May 21, 2020 at 4:45 PM
89028.014.01		89028_014_01_Long Eddy Wright ...



Envelope Only Solution

B+T Group	876373 - Long Eddy Wright Property	SK - 3
RP		May 21, 2020 at 4:49 PM
89028.014.01		89028_014_01_Long Eddy Wright ...

APPENDIX B

SOFTWARE INPUT CALCULATIONS

PROJECT	**89028.014.01 - Long Eddy Wright Prop KSC**			
SUBJECT	**Platform Mount Mount Analysis**			
DATE	**05/21/20**	PAGE	1	OF 1

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

INPUT

[REF: ANSI/TIA-222-H]

Tower Type		:	Monopole						
Ground Elevation	z_s	:	1085	ft	[ASCE7 Hazard Tool]				
Tower Height		:	148	ft					
Mount Elevation		:	128	ft					
Antenna Elevation		:	128	ft					
Crest Height		:	0	ft					
Risk Category		:	II		[Table 2-1]	Gust Factor	G_h	: 1.00	[Sec. 16.6]
Exposure Category		:	B		[Sec. 2.6.5.1.2]	Pressure Coefficient	K_z	: 1.06	[Sec. 2.6.5.2]
Topography Category		:	1		[Sec. 2.6.6.2]	Topography Factor	K_{zt}	: 1.00	[Sec. 2.6.6]
Wind Velocity	V	:	115	mph	[ASCE7 Hazard Tool]	Elevation Factor	K_e	: 0.96	[Sec. 2.6.8]
Ice wind Velocity	V_i	:	50	mph	[ASCE7 Hazard Tool]	Directionality Factor	K_d	: 0.95	[Sec. 16.6]
Service Velocity	V_s	:	30	mph	[ASCE7 Hazard Tool]	Shielding Factor	K_a	: 0.90	[Sec. 16.6]
Base Ice thickness	t_i	:	1	in	[ASCE7 Hazard Tool]	Design Ice Thickness	t_{iz}	: 1.15 in	[Sec. 2.6.10]
Seismic Design Cat.		:	B		[ASCE7 Hazard Tool]				
	S_S	:	0.173			Importance Factor	I_e	: 1	[Table 2-3]
	S_1	:	0.054			Response Coefficient	C_s	: 0.09	[Sec. 2.7.7.1]
	S_{DS}	:	0.184			Amplification	A_s	: 2.46	[Sec. 16.7]
	S_{D1}	:	0.086						

ANTENNAS

	Manufacturer	Model	Height (in)	Front Width (in)	Side Width (in)	Weight (lbs)	Shape	Quantity	Location (%)
Mount Pipe **70A**									
	CCI ANTENNAS	HPA-65R-BUU-H8	92.40	14.80	7.40	73.00	Flat	0.5	20
	CCI ANTENNAS	HPA-65R-BUU-H8	92.40	14.80	7.40	73.00	Flat	0.5	80
	ERICSSON	RRUS 8843 B2/B66A	14.90	13.20	10.90	72.00	Flat	1	30
Mount Pipe **35**									
	CCI ANTENNAS	OPA65R-BU8D	96.00	21.00	7.80	76.50	Flat	0.5	5
	CCI ANTENNAS	OPA65R-BU8D	96.00	21.00	7.80	76.50	Flat	0.5	95
Mount Pipe **37**									
	CCI ANTENNAS	DMP65R-BU8D	96.00	20.70	7.70	105.60	Flat	0.5	5
	CCI ANTENNAS	DMP65R-BU8D	96.00	20.70	7.70	105.60	Flat	0.5	95
	ERICSSON	RRUS 4449 B5/B12	17.90	9.44	13.19	71.00	Flat	1	30
	ERICSSON	RADIO 4415 B30	14.96	5.04	13.18	42.90	Flat	1	30
Mount Pipe **69**									
	RAYCAP	TME-DC9-48-60-24-8C-EV	31.40	10.24	18.28	26.20	Flat	1	20
69									
	RAYCAP	TME-DC6-48-60-18-8F	31.25	11.00	11.00	32.80	Round	1	40
74									
	CCI ANTENNAS	HPA-65R-BUU-H8	92.40	14.80	7.40	73.00	Flat	0.5	20
	CCI ANTENNAS	HPA-65R-BUU-H8	92.40	14.80	7.40	73.00	Flat	0.5	80
	ERICSSON	RRUS 8843 B2/B66A	14.90	13.20	10.90	72.00	Flat	1	30

PROJECT	**89028.014.01 - Long Eddy Wright Prop KSC**
SUBJECT	**Platform Mount Mount Analysis**
DATE	**05/21/20**

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Mount Pipe **66A**

	CCI ANTENNAS	OPA65R-BU8D	96.00	21.00	7.80	76.50	Flat	0.5	5
	CCI ANTENNAS	OPA65R-BU8D	96.00	21.00	7.80	76.50	Flat	0.5	95

Mount Pipe **67**

	CCI ANTENNAS	DMP65R-BU8D	96.00	20.70	7.70	105.60	Flat	0.5	5
	CCI ANTENNAS	DMP65R-BU8D	96.00	20.70	7.70	105.60	Flat	0.5	95
	ERICSSON	RRUS 4449 B5/B12	17.90	9.44	13.19	71.00	Flat	1	30
	ERICSSON	RADIO 4415 B30	14.96	5.04	13.18	42.90	Flat	1	30

Mount Pipe **72**

	CCI ANTENNAS	HPA-65R-BUU-H8	92.40	14.80	7.40	73.00	Flat	0.5	20
	CCI ANTENNAS	HPA-65R-BUU-H8	92.40	14.80	7.40	73.00	Flat	0.5	80
	ERICSSON	RRUS 8843 B2/B66A	14.90	13.20	10.90	72.00	Flat	1	30

Mount Pipe **60A**

	CCI ANTENNAS	OPA65R-BU8D	96.00	21.00	7.80	76.50	Flat	0.5	5
	CCI ANTENNAS	OPA65R-BU8D	96.00	21.00	7.80	76.50	Flat	0.5	95

Mount Pipe **61A**

	CCI ANTENNAS	DMP65R-BU8D	96.00	20.70	7.70	105.60	Flat	0.5	5
	CCI ANTENNAS	DMP65R-BU8D	96.00	20.70	7.70	105.60	Flat	0.5	95
	ERICSSON	RRUS 4449 B5/B12	17.90	9.44	13.19	71.00	Flat	1	30
	ERICSSON	RADIO 4415 B30	14.96	5.04	13.18	42.90	Flat	1	30

Mount Pipe

Mount Pipe

Mount Pipe

Mount Pipe

PROJECT	**89028.014.01 - Long Eddy Wright Prop KSC**				
SUBJECT	**Platform Mount Mount Analysis**				
DATE	**05/21/20**	PAGE	1	OF	1

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

INPUT

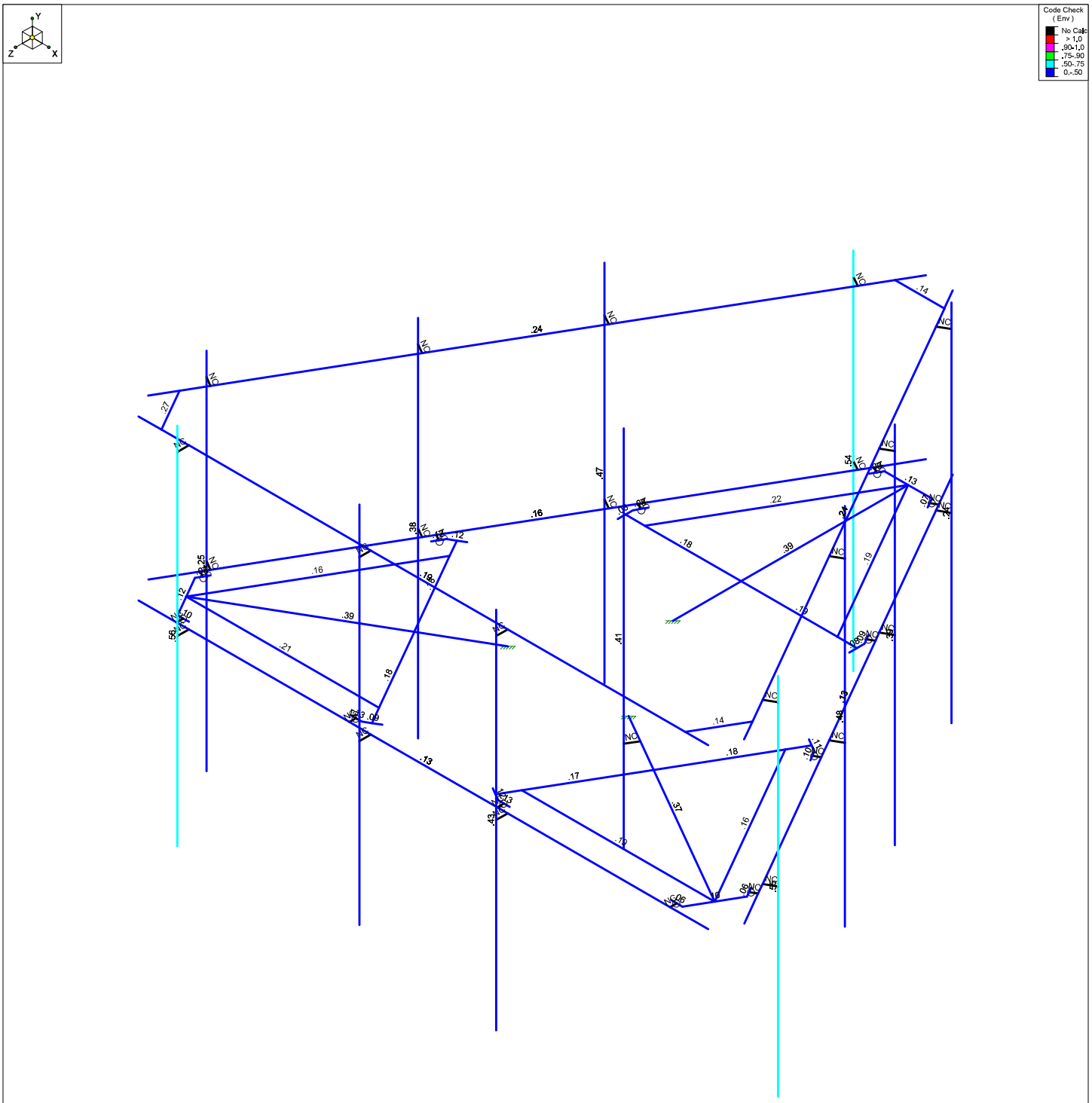
[REF: ANSI/TIA-222-H]

	Member Number	Section Set	Wind Projection (in)	Length (in)	Perimeter (in)	Shape	D_c (in)
	1	MF-H1	3.50	150.00	11.00	Round	3.50
	2	MF-H1	3.50	150.00	11.00	Round	3.50
	3	MF-H1	3.50	150.00	11.00	Round	3.50
	5	MF-CP2	6.00	3.00	13.00	Flat	6.02
	7	MF-CP2	6.00	3.00	13.00	Flat	6.02
	9	MF-CP2	6.00	3.00	13.00	Flat	6.02
	11	MF-CP2	6.00	3.00	13.00	Flat	6.02
	13	MF-CP2	6.00	3.00	13.00	Flat	6.02
	15	MF-CP2	6.00	3.00	13.00	Flat	6.02
	16	MF-CP2	6.00	12.47	13.00	Flat	6.02
	17	MF-CP2	6.00	12.47	13.00	Flat	6.02
	18	MF-CP2	6.00	12.47	13.00	Flat	6.02
	19	SF-H1	4.00	62.00	16.00	Flat	5.66
	20	SF-H1	4.00	30.49	16.00	Flat	5.66
	21	SF-H1	4.00	30.49	16.00	Flat	5.66
	22	MF-CP1	6.00	3.97	12.75	Flat	6.01
	23	MF-CP1	6.00	3.97	12.75	Flat	6.01
	24	SF-H1	4.00	62.00	16.00	Flat	5.66
	25	SF-H1	4.00	30.49	16.00	Flat	5.66
	26	SF-H1	4.00	30.49	16.00	Flat	5.66
	29	SF-H1	4.00	62.00	16.00	Flat	5.66
	30	SF-H1	4.00	30.49	16.00	Flat	5.66
	31	SF-H1	4.00	30.49	16.00	Flat	5.66
	35	MF-P1	2.38	96.00	7.46	Round	2.38
	37	MF-P1	2.38	96.00	7.46	Round	2.38
	38	SF-H2	2.00	50.81	8.00	Flat	2.83
	39	SF-H2	2.00	50.81	8.00	Flat	2.83
	40	SF-H2	2.00	50.81	8.00	Flat	2.83
	41	SF-H2	2.00	50.81	8.00	Flat	2.83
	42	SF-H2	2.00	50.81	8.00	Flat	2.83
	43	SF-H2	2.00	50.81	8.00	Flat	2.83
	48A	MF-CP1	6.00	3.97	12.75	Flat	6.01
	49A	MF-CP1	6.00	3.97	12.75	Flat	6.01
	50A	MF-CP1	6.00	3.97	12.75	Flat	6.01
	51A	MF-CP1	6.00	3.97	12.75	Flat	6.01
	52	MF-CP1	6.00	3.00	12.75	Flat	6.01
	53	MF-CP1	6.00	3.00	12.75	Flat	6.01
	56	MF-CP1	6.00	3.00	12.75	Flat	6.01
	57	MF-CP1	6.00	3.00	12.75	Flat	6.01
	60	MF-CP1	6.00	3.00	12.75	Flat	6.01
	61	MF-CP1	6.00	3.00	12.75	Flat	6.01
	60A	MF-P1	2.38	96.00	7.46	Round	2.38
	61A	MF-P1	2.38	96.00	7.46	Round	2.38
	64	MF-P1	2.38	96.00	7.46	Round	2.38
	66A	MF-P1	2.38	96.00	7.46	Round	2.38
	67	MF-P1	2.38	96.00	7.46	Round	2.38
	70	MF-P1	2.38	96.00	7.46	Round	2.38
	69	MF-P1	2.38	96.00	7.46	Round	2.38
	70A	MF-P1	2.38	96.00	7.46	Round	2.38
	72	MF-P1	2.38	96.00	7.46	Round	2.38
	74	MF-P1	2.38	96.00	7.46	Round	2.38
	M88	ADD HR	2.38	150.00	7.46	Round	2.38

	M89	ADD HR	2.38	150.00	7.46	Round	2.38
	M90	ADD HR	2.38	150.00	7.46	Round	2.38
	M90A	CONNECTION ANGLES	2.50	13.00	10.00	Flat	3.54
	M91	CONNECTION ANGLES	2.50	13.00	10.00	Flat	3.54
	M92	CONNECTION ANGLES	2.50	13.00	10.00	Flat	3.54

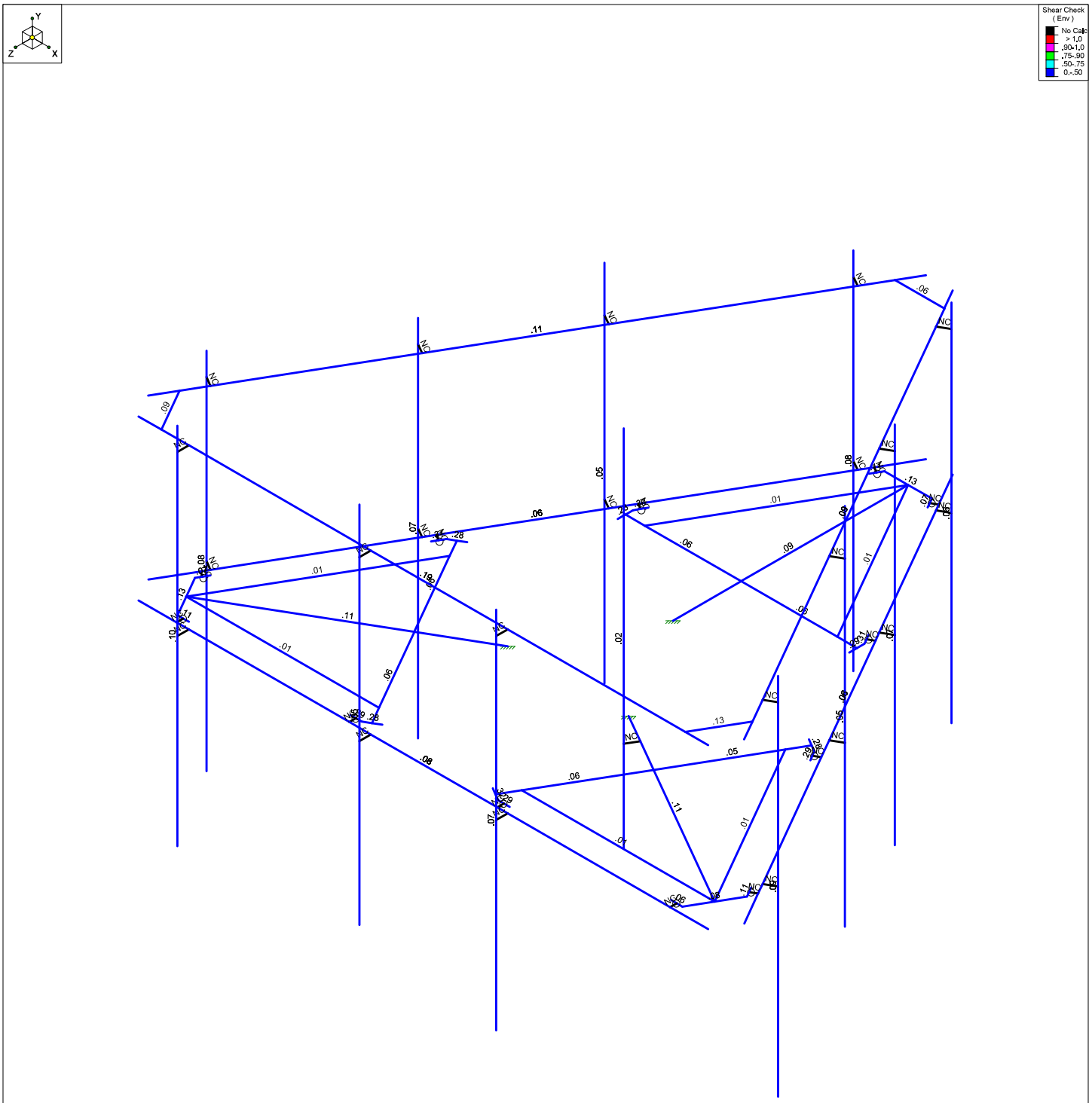
APPENDIX C

SOFTWARE ANALYSIS OUTPUT



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	876373 - Long Eddy Wright Property	SK - 4
RP		May 21, 2020 at 4:50 PM
89028.014.01		89028_014_01_Long Eddy Wright ...



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	876373 - Long Eddy Wright Property	SK - 5
RP		May 21, 2020 at 4:50 PM
89028.014.01		89028_014_01_Long Eddy Wright ...

PROJECT	**89028.014.01 - Long Eddy Wr**		**KSC**
SUBJECT	**Platform Mount Mount Analysis**		
DATE	**05/21/20**	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

Tower Type		:	Monopole		
Ground Elevation	z_s	:	1085	ft	[ASCE7 Hazard Tool]
Tower Height		:	148.00	ft	
Mount Elevation		:	128.00	ft	
Antenna Elevation		:	128.00	ft	
Crest Height		:	0	ft	
Risk Category		:	II		[Table 2-1]
Exposure Category		:	B		[Sec. 2.6.5.1.2]
Topography Category		:	1.00		[Sec. 2.6.6.2]
Wind Velocity	V	:	115	mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i	:	50	mph	[ASCE7 Hazard Tool]
Service Velocity	V_s	:	30	mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i	:	1.00	in	[ASCE7 Hazard Tool]
Seismic Design Cat.		:	B		[ASCE7 Hazard Tool]
	S_S	:	0.17		
	S_1	:	0.05		
	S_{DS}	:	0.18		
	S_{D1}	:	0.09		

Gust Factor	G_h	:	1.00		[Sec. 16.6]
Pressure Coefficient	K_z	:	1.06		[Sec. 2.6.5.2]
Topography Factor	K_{zt}	:	1.00		[Sec. 2.6.6]
Elevation Factor	K_e	:	0.96		[Sec. 2.6.8]
Directionality Factor	K_d	:	0.95		[Sec. 16.6]
Shielding Factor	K_a	:	0.90		[Sec. 16.6]
Design Ice Thickness	t_{iz}	:	1.15	in	[Sec. 2.6.10]

Importance Factor	I_e	:	1		[Table 2-3]
Response Coefficient	C_s	:	0.092		[Sec. 2.7.7.1]
Amplification	A_s	:	2.459459		[Sec. 16.7]

PROJECT	89028.014.01 - Long Eddy Wr		KSC
SUBJECT	Platform Mount Mount Analysis		
DATE	05/21/20	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	$EPA_{N\text{-}Ice}$ (ft^2)	$EPA_{T\text{-}Ice}$ (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
CCI ANTENNAS	HPA-65R-BUU-H8	0.5	6.24	#NAME?	4.75	2.37	5.62	3.19	0.20	0.10	0.00	0.00
CCI ANTENNAS	HPA-65R-BUU-H8	0.5	6.24	1.37	4.75	2.37	5.62	3.19	0.20	0.10	0.00	0.00
ERICSSON	RRUS 8843 B2/B66A	1	1.13	1.20	1.37	1.13	1.85	1.57	0.05	0.04	0.01	0.01
CCI ANTENNAS	OPA65R-BU8D	0.5	4.57	1.29	7.00	2.60	7.95	3.44	0.27	0.10	0.05	0.02
CCI ANTENNAS	OPA65R-BU8D	0.5	4.57	1.29	7.00	2.60	7.95	3.44	0.27	0.10	0.05	0.02
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	6.90	2.57	7.85	3.41	0.26	0.10	0.00	0.00
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	6.90	2.57	7.85	3.41	0.26	0.10	0.00	0.00
ERICSSON	RRUS 4449 B5/B12	1	1.90	1.20	1.17	1.64	1.64	2.17	0.04	0.06	0.01	0.01
ERICSSON	RADIO 4415 B30	1	2.97	1.22	0.52	1.37	0.88	1.85	0.02	0.05	0.00	0.01
RAYCAP	TME-DC9-48-60-24-8C-EV	1	3.07	1.23	2.23	3.99	2.93	4.81	0.08	0.14	0.02	0.03
RAYCAP	TME-DC6-48-60-18-8F	1	2.84	#NAME?	2.39	2.39	3.10	3.10	0.00	0.00	0.00	0.00
CCI ANTENNAS	HPA-65R-BUU-H8	0.5	6.24	1.37	4.75	2.37	5.62	3.19	0.20	0.10	0.00	0.00
CCI ANTENNAS	HPA-65R-BUU-H8	0.5	6.24	1.37	4.75	2.37	5.62	3.19	0.20	0.10	0.00	0.00
ERICSSON	RRUS 8843 B2/B66A	1	1.13	1.20	1.37	1.13	1.85	1.57	0.05	0.04	0.01	0.01

PROJECT	89028.014.01 - Long Eddy Wr		KSC
SUBJECT	Platform Mount Mount Analysis		
DATE	05/21/20	PAGE 3	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	$EPA_{N\text{-}Ice}$ (ft^2)	$EPA_{T\text{-}Ice}$ (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
CCI ANTENNAS	OPA65R-BU8D	0.5	4.57	1.29	7.00	2.60	7.95	3.44	0.00	0.10	0.05	0.02
CCI ANTENNAS	OPA65R-BU8D	0.5	4.57	1.29	7.00	2.60	7.95	3.44	0.00	0.10	0.05	0.02
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	6.90	2.57	7.85	3.41	0.00	0.10	0.00	0.00
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	6.90	2.57	7.85	3.41	0.00	0.10	0.00	0.00
ERICSSON	RRUS 4449 B5/B12	1	1.90	1.20	1.17	1.64	1.64	2.17	0.00	0.06	0.01	0.01
ERICSSON	RADIO 4415 B30	1	2.97	1.22	0.52	1.37	0.88	1.85	0.00	0.05	0.00	0.01
CCI ANTENNAS	HPA-65R-BUU-H8	0.5	6.24	1.37	4.75	2.37	5.62	3.19	0.00	0.10	0.00	0.00
CCI ANTENNAS	HPA-65R-BUU-H8	0.5	6.24	1.37	4.75	2.37	5.62	3.19	0.00	0.10	0.00	0.00
ERICSSON	RRUS 8843 B2/B66A	1	1.13	1.20	1.37	1.13	1.85	1.57	0.00	0.04	0.01	0.01
CCI ANTENNAS	OPA65R-BU8D	0.5	4.57	1.29	7.00	2.60	7.95	3.44	0.00	0.10	0.05	0.02
CCI ANTENNAS	OPA65R-BU8D	0.5	4.57	1.29	7.00	2.60	7.95	3.44	0.00	0.10	0.05	0.02
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	6.90	2.57	7.85	3.41	0.00	0.10	0.00	0.00
CCI ANTENNAS	DMP65R-BU8D	0.5	4.64	1.30	6.90	2.57	7.85	3.41	0.00	0.10	0.00	0.00
ERICSSON	RRUS 4449 B5/B12	1	1.90	1.20	1.17	1.64	1.64	2.17	0.00	0.06	0.01	0.01
ERICSSON	RADIO 4415 B30	1	2.97	1.22	0.52	1.37	0.88	1.85	0.00	0.05	0.00	0.01

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	MF-H1	PIPE 3.0	Beam	None	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	SF-H1	HSS4X4X4	Beam	None	A53 Gr.B	Typical	3.37	7.8	7.8	12.8
3	MF-P1	PIPE 2.0	Column	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
4	MF-CP1	PL3/8"x6	Beam	None	A36 Gr.36	Typical	2.25	.026	6.75	.101
5	MF-CP2	PL1/2"x6	Beam	None	A36 Gr.36	Typical	3	.063	9	.237
6	CONNECTI...	L2.5x2.5x4	Beam	None	A36 Gr.36	Typical	1.19	.692	.692	.026
7	ADD HR	PIPE 2.0	Beam	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
8	SF-H2	L2x2x3	Beam	None	A36 Gr.36	Typical	.722	.271	.271	.009

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	1	2	1			MF-H1	Beam	None	A53 Gr.B	Typical
2	2	4	3			MF-H1	Beam	None	A53 Gr.B	Typical
3	3	6	5			MF-H1	Beam	None	A53 Gr.B	Typical
4	4	7	8			RIGID	None	None	RIGID	Typical
5	5	9	10			MF-CP2	Beam	None	A36 Gr.36	Typical
6	6	11	12			RIGID	None	None	RIGID	Typical
7	7	13	14			MF-CP2	Beam	None	A36 Gr.36	Typical
8	8	15	16			RIGID	None	None	RIGID	Typical
9	9	17	18			MF-CP2	Beam	None	A36 Gr.36	Typical
10	10	19	20			RIGID	None	None	RIGID	Typical
11	11	21	22			MF-CP2	Beam	None	A36 Gr.36	Typical
12	12	23	24			RIGID	None	None	RIGID	Typical
13	13	25	26			MF-CP2	Beam	None	A36 Gr.36	Typical
14	14	27	28			RIGID	None	None	RIGID	Typical
15	15	29	30			MF-CP2	Beam	None	A36 Gr.36	Typical
16	16	10	30			MF-CP2	Beam	None	A36 Gr.36	Typical
17	17	26	22			MF-CP2	Beam	None	A36 Gr.36	Typical
18	18	18	14			MF-CP2	Beam	None	A36 Gr.36	Typical
19	19	32	31			SF-H1	Beam	None	A53 Gr.B	Typical
20	20	34	33			SF-H1	Beam	None	A53 Gr.B	Typical
21	21	33	35			SF-H1	Beam	None	A53 Gr.B	Typical
22	22	40	91			MF-CP1	Beam	None	A36 Gr.36	Typical
23	23	41	90			MF-CP1	Beam	None	A36 Gr.36	Typical
24	24	43	42			SF-H1	Beam	None	A53 Gr.B	Typical
25	25	45	44			SF-H1	Beam	None	A53 Gr.B	Typical
26	26	44	46			SF-H1	Beam	None	A53 Gr.B	Typical
27	29	48	47			SF-H1	Beam	None	A53 Gr.B	Typical
28	30	50	49			SF-H1	Beam	None	A53 Gr.B	Typical
29	31	49	51			SF-H1	Beam	None	A53 Gr.B	Typical
30	35	54	58			MF-P1	Column	None	A53 Gr.B	Typical
31	37	56	52			MF-P1	Column	None	A53 Gr.B	Typical
32	38	42	61			SF-H2	Beam	None	A36 Gr.36	Typical
33	39	60	31			SF-H2	Beam	None	A36 Gr.36	Typical
34	40	47	63			SF-H2	Beam	None	A36 Gr.36	Typical
35	41	62	42			SF-H2	Beam	None	A36 Gr.36	Typical
36	42	31	65			SF-H2	Beam	None	A36 Gr.36	Typical
37	43	64	47			SF-H2	Beam	None	A36 Gr.36	Typical
38	48A	92	95			MF-CP1	Beam	None	A36 Gr.36	Typical
39	49A	93	94			MF-CP1	Beam	None	A36 Gr.36	Typical
40	50A	96	99			MF-CP1	Beam	None	A36 Gr.36	Typical
41	51A	97	98			MF-CP1	Beam	None	A36 Gr.36	Typical
42	52	98	100			MF-CP1	Beam	None	A36 Gr.36	Typical
43	53	95	101			MF-CP1	Beam	None	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
44	54	103	105			RIGID	None	None	RIGID	Typical
45	55	102	104			RIGID	None	None	RIGID	Typical
46	56	90	106			MF-CP1	Beam	None	A36 Gr.36	Typical
47	57	99	107			MF-CP1	Beam	None	A36 Gr.36	Typical
48	58	109	111			RIGID	None	None	RIGID	Typical
49	59	108	110			RIGID	None	None	RIGID	Typical
50	60	94	112			MF-CP1	Beam	None	A36 Gr.36	Typical
51	61	91	113			MF-CP1	Beam	None	A36 Gr.36	Typical
52	62	115	117			RIGID	None	None	RIGID	Typical
53	63	114	116			RIGID	None	None	RIGID	Typical
54	55A	36	91A			RIGID	None	None	RIGID	Typical
55	56A	38	92A			RIGID	None	None	RIGID	Typical
56	60A	101A	103A			MF-P1	Column	None	A53 Gr.B	Typical
57	61A	102A	100A			MF-P1	Column	None	A53 Gr.B	Typical
58	62A	98A	104A			RIGID	None	None	RIGID	Typical
59	63A	99A	105A			RIGID	None	None	RIGID	Typical
60	64	108A	107A			MF-P1	Column	None	A53 Gr.B	Typical
61	65	106A	109A			RIGID	None	None	RIGID	Typical
62	66A	113B	115A			MF-P1	Column	None	A53 Gr.B	Typical
63	67	114B	112B			MF-P1	Column	None	A53 Gr.B	Typical
64	68	110A	116A			RIGID	None	None	RIGID	Typical
65	69A	111A	117B			RIGID	None	None	RIGID	Typical
66	70	120	119			MF-P1	Column	None	A53 Gr.B	Typical
67	71	118	121			RIGID	None	None	RIGID	Typical
68	68A	115B	116B			RIGID	None	None	RIGID	Typical
69	69	117A	118A			MF-P1	Column	None	A53 Gr.B	Typical
70	70A	121A	120A			MF-P1	Column	None	A53 Gr.B	Typical
71	71A	119A	122			RIGID	None	None	RIGID	Typical
72	72	125	124			MF-P1	Column	None	A53 Gr.B	Typical
73	73	123	126			RIGID	None	None	RIGID	Typical
74	74	129	128			MF-P1	Column	None	A53 Gr.B	Typical
75	75	127	130			RIGID	None	None	RIGID	Typical
76	M76	N131	N133			RIGID	None	None	RIGID	Typical
77	M77	N132	N134			RIGID	None	None	RIGID	Typical
78	M78	N135	N136			RIGID	None	None	RIGID	Typical
79	M79	N137	N138			RIGID	None	None	RIGID	Typical
80	M80	N139	N141			RIGID	None	None	RIGID	Typical
81	M81	N140	N142			RIGID	None	None	RIGID	Typical
82	M82	N143	N144			RIGID	None	None	RIGID	Typical
83	M83	N145	N146			RIGID	None	None	RIGID	Typical
84	M84	N147	N149			RIGID	None	None	RIGID	Typical
85	M85	N148	N150			RIGID	None	None	RIGID	Typical
86	M87	N153	N154			RIGID	None	None	RIGID	Typical
87	M88	N156	N155			ADD HR	Beam	None	A53 Gr.B	Typical
88	M89	N157	N158			ADD HR	Beam	None	A53 Gr.B	Typical
89	M90	N160	N159			ADD HR	Beam	None	A53 Gr.B	Typical
90	M90A	N164	N159A			CONNECTIO...	Beam	None	A36 Gr.36	Typical
91	M91	N161	N160A		180	CONNECTIO...	Beam	None	A36 Gr.36	Typical
92	M92	N163	N162		180	CONNECTIO...	Beam	None	A36 Gr.36	Typical

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Dead	DL		-1			55		3	
2	0 Wind - No Ice	WLZ					55	57		
3	90 Wind - No Ice	WLX					55	57		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
4	0 Wind - Ice	WLZ					55	57		
5	90 Wind - Ice	WLX					55	57		
6	0 Wind - Service	WLZ					55	57		
7	90 Wind - Service	WLX					55	57		
8	Ice	OL1					55	57	3	
9	0 Seismic	ELZ					55	57		
10	90 Seismic	ELX					55	57		
11	Live Load a	LL				3				
12	Live Load b	LL				3				
13	Live Load c	LL				3				
14	Live Load d	LL				2				
15	Maint LL 1	LL					1			
16	Maint LL 2	LL					1			
17	Maint LL 3	LL					1			
18	Maint LL 4	LL					1			
19	Maint LL 5	LL					1			
20	Maint LL 6	LL					1			
21	Maint LL 7	LL					1			
22	Maint LL 8	LL					1			
23	Maint LL 9	LL					1			
24	BLC 1 Transient Area...	None						21		
25	BLC 8 Transient Area...	None						21		

Load Combinations

	Description	Sol...	PD...	SR...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
1	1.4 Dead	Yes	Y		1	1.4																				
2	1.2 D + 1....	Yes	Y		1	1.2	2	1																		
3	1.2 D + 1....	Yes	Y		1	1.2	2	.866	3	.5																
4	1.2 D + 1....	Yes	Y		1	1.2	3	.866	2	.5																
5	1.2 D + 1....	Yes	Y		1	1.2	3	1																		
6	1.2 D + 1....	Yes	Y		1	1.2	3	.866	2	-.5																
7	1.2 D + 1....	Yes	Y		1	1.2	2	-.866	3	.5																
8	1.2 D + 1....	Yes	Y		1	1.2	2	-1																		
9	1.2 D + 1....	Yes	Y		1	1.2	2	-.866	3	-.5																
10	1.2 D + 1....	Yes	Y		1	1.2	3	-.866	2	-.5																
11	1.2 D + 1....	Yes	Y		1	1.2	3	-1																		
12	1.2 D + 1....	Yes	Y		1	1.2	3	-.866	2	.5																
13	1.2 D + 1....	Yes	Y		1	1.2	2	.866	3	-.5																
14	1.2 D + 1....	Yes	Y		1	1.2	4	1			8	1														
15	1.2 D + 1....	Yes	Y		1	1.2	4	.866	5	.5	8	1														
16	1.2 D + 1....	Yes	Y		1	1.2	5	.866	4	.5	8	1														
17	1.2 D + 1....	Yes	Y		1	1.2	5	1			8	1														
18	1.2 D + 1....	Yes	Y		1	1.2	5	.866	4	-.5	8	1														
19	1.2 D + 1....	Yes	Y		1	1.2	4	-.866	5	.5	8	1														
20	1.2 D + 1....	Yes	Y		1	1.2	4	-1			8	1														
21	1.2 D + 1....	Yes	Y		1	1.2	4	-.866	5	-.5	8	1														
22	1.2 D + 1....	Yes	Y		1	1.2	5	-.866	4	-.5	8	1														
23	1.2 D + 1....	Yes	Y		1	1.2	5	-1			8	1														
24	1.2 D + 1....	Yes	Y		1	1.2	5	-.866	4	.5	8	1														
25	1.2 D + 1....	Yes	Y		1	1.2	4	.866	5	-.5	8	1														
26	1.2 D + 1....	Yes	Y		1	1.2	9	1																		
27	1.2 D + 1....	Yes	Y		1	1.2	9	.866	10	.5																
28	1.2 D + 1....	Yes	Y		1	1.2	10	.866	9	.5																
29	1.2 D + 1....	Yes	Y		1	1.2	10	1																		
30	1.2 D + 1....	Yes	Y		1	1.2	10	.866	9	-.5																

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
31	1.2 D + 1....	Yes	Y		1	1.2	9	-.866	10	.5																
32	1.2 D + 1....	Yes	Y		1	1.2	9	-1																		
33	1.2 D + 1....	Yes	Y		1	1.2	9	-.866	10	-.5																
34	1.2 D + 1....	Yes	Y		1	1.2	10	-.866	9	-.5																
35	1.2 D + 1....	Yes	Y		1	1.2	10	-1																		
36	1.2 D + 1....	Yes	Y		1	1.2	10	-.866	9	.5																
37	1.2 D + 1....	Yes	Y		1	1.2	9	.866	10	-.5																
38	1.2 D + 1....	Yes	Y		1	1.2	6	1			11	1.5														
39	1.2 D + 1....	Yes	Y		1	1.2	6	.866	7	.5	11	1.5														
40	1.2 D + 1....	Yes	Y		1	1.2	7	.866	6	.5	11	1.5														
41	1.2 D + 1....	Yes	Y		1	1.2	7	1			11	1.5														
42	1.2 D + 1....	Yes	Y		1	1.2	7	.866	6	-.5	11	1.5														
43	1.2 D + 1....	Yes	Y		1	1.2	6	-.866	7	.5	11	1.5														
44	1.2 D + 1....	Yes	Y		1	1.2	6	-1			11	1.5														
45	1.2 D + 1....	Yes	Y		1	1.2	6	-.866	7	-.5	11	1.5														
46	1.2 D + 1....	Yes	Y		1	1.2	7	-.866	6	-.5	11	1.5														
47	1.2 D + 1....	Yes	Y		1	1.2	7	-1			11	1.5														
48	1.2 D + 1....	Yes	Y		1	1.2	7	-.866	6	.5	11	1.5														
49	1.2 D + 1....	Yes	Y		1	1.2	6	.866	7	-.5	11	1.5														
50	1.2 D + 1....	Yes	Y		1	1.2	6	1			12	1.5														
51	1.2 D + 1....	Yes	Y		1	1.2	6	.866	7	.5	12	1.5														
52	1.2 D + 1....	Yes	Y		1	1.2	7	.866	6	.5	12	1.5														
53	1.2 D + 1....	Yes	Y		1	1.2	7	1			12	1.5														
54	1.2 D + 1....	Yes	Y		1	1.2	7	.866	6	-.5	12	1.5														
55	1.2 D + 1....	Yes	Y		1	1.2	6	-.866	7	.5	12	1.5														
56	1.2 D + 1....	Yes	Y		1	1.2	6	-1			12	1.5														
57	1.2 D + 1....	Yes	Y		1	1.2	6	-.866	7	-.5	12	1.5														
58	1.2 D + 1....	Yes	Y		1	1.2	7	-.866	6	-.5	12	1.5														
59	1.2 D + 1....	Yes	Y		1	1.2	7	-1			12	1.5														
60	1.2 D + 1....	Yes	Y		1	1.2	7	-.866	6	.5	12	1.5														
61	1.2 D + 1....	Yes	Y		1	1.2	6	.866	7	-.5	12	1.5														
62	1.2 D + 1....	Yes	Y		1	1.2	6	1			13	1.5														
63	1.2 D + 1....	Yes	Y		1	1.2	6	.866	7	.5	13	1.5														
64	1.2 D + 1....	Yes	Y		1	1.2	7	.866	6	.5	13	1.5														
65	1.2 D + 1....	Yes	Y		1	1.2	7	1			13	1.5														
66	1.2 D + 1....	Yes	Y		1	1.2	7	.866	6	-.5	13	1.5														
67	1.2 D + 1....	Yes	Y		1	1.2	6	-.866	7	.5	13	1.5														
68	1.2 D + 1....	Yes	Y		1	1.2	6	-1			13	1.5														
69	1.2 D + 1....	Yes	Y		1	1.2	6	-.866	7	-.5	13	1.5														
70	1.2 D + 1....	Yes	Y		1	1.2	7	-.866	6	-.5	13	1.5														
71	1.2 D + 1....	Yes	Y		1	1.2	7	-1			13	1.5														
72	1.2 D + 1....	Yes	Y		1	1.2	7	-.866	6	.5	13	1.5														
73	1.2 D + 1....	Yes	Y		1	1.2	6	.866	7	-.5	13	1.5														
74	1.2 D + 1....	Yes	Y		1	1.2	6	1			14	1.5														
75	1.2 D + 1....	Yes	Y		1	1.2	6	.866	7	.5	14	1.5														
76	1.2 D + 1....	Yes	Y		1	1.2	7	.866	6	.5	14	1.5														
77	1.2 D + 1....	Yes	Y		1	1.2	7	1			14	1.5														
78	1.2 D + 1....	Yes	Y		1	1.2	7	.866	6	-.5	14	1.5														
79	1.2 D + 1....	Yes	Y		1	1.2	6	-.866	7	.5	14	1.5														
80	1.2 D + 1....	Yes	Y		1	1.2	6	-1			14	1.5														
81	1.2 D + 1....	Yes	Y		1	1.2	6	-.866	7	-.5	14	1.5														
82	1.2 D + 1....	Yes	Y		1	1.2	7	-.866	6	-.5	14	1.5														
83	1.2 D + 1....	Yes	Y		1	1.2	7	-1			14	1.5														
84	1.2 D + 1....	Yes	Y		1	1.2	7	-.866	6	.5	14	1.5														
85	1.2 D + 1....	Yes	Y		1	1.2	6	.866	7	-.5	14	1.5														
86	1.2 D + 1....	Yes	Y		1	1.2					15	1.5														
87	1.2 D + 1....	Yes	Y		1	1.2					16	1.5														

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
88	1.2 D + 1....	Yes	Y		1	1.2					17	1.5														
89	1.2 D + 1....	Yes	Y		1	1.2					18	1.5														
90	1.2 D + 1....	Yes	Y		1	1.2					19	1.5														
91	1.2 D + 1....	Yes	Y		1	1.2					20	1.5														
92	1.2 D + 1....	Yes	Y		1	1.2					21	1.5														
93	1.2 D + 1....	Yes	Y		1	1.2					22	1.5														
94	1.2 D + 1....	Yes	Y		1	1.2					23	1.5														

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	70A	Y	-.036	%20
2	70A	Y	-.036	%80
3	70A	Y	-.072	%30
4	70A	Y	0	0
5	70A	Y	0	0
6	35	Y	-.038	%5
7	35	Y	-.038	%95
8	35	Y	0	0
9	35	Y	0	0
10	35	Y	0	0
11	37	Y	-.053	%5
12	37	Y	-.053	%95
13	37	Y	-.071	%30
14	37	Y	-.043	%30
15	37	Y	0	0
16	69	Y	-.026	%20
17	69	Y	0	0
18	69	Y	0	0
19	69	Y	0	0
20	69	Y	0	0
21	69	Y	-.033	%40
22	69	Y	0	0
23	69	Y	0	0
24	69	Y	0	0
25	69	Y	0	0
26	74	Y	-.036	%20
27	74	Y	-.036	%80
28	74	Y	-.072	%30
29	74	Y	0	0
30	74	Y	0	0
31	66A	Y	-.038	%5
32	66A	Y	-.038	%95
33	66A	Y	0	0
34	66A	Y	0	0
35	66A	Y	0	0
36	67	Y	-.053	%5
37	67	Y	-.053	%95
38	67	Y	-.071	%30
39	67	Y	-.043	%30
40	67	Y	0	0
41	72	Y	-.036	%20
42	72	Y	-.036	%80
43	72	Y	-.072	%30
44	72	Y	0	0
45	72	Y	0	0

Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
46	60A	Y	-.038	%5
47	60A	Y	-.038	%95
48	60A	Y	0	0
49	60A	Y	0	0
50	60A	Y	0	0
51	61A	Y	-.053	%5
52	61A	Y	-.053	%95
53	61A	Y	-.071	%30
54	61A	Y	-.043	%30
55	61A	Y	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	70A	Z	-.201	%20
2	70A	Z	-.201	%80
3	70A	Z	-.048	%30
4	70A	Z	0	0
5	70A	Z	0	0
6	35	Z	-.267	%5
7	35	Z	-.267	%95
8	35	Z	0	0
9	35	Z	0	0
10	35	Z	0	0
11	37	Z	-.26	%5
12	37	Z	-.26	%95
13	37	Z	-.042	%30
14	37	Z	-.019	%30
15	37	Z	0	0
16	69	Z	-.081	%20
17	69	Z	0	0
18	69	Z	0	0
19	69	Z	0	0
20	69	Z	0	0
21	69	Z	0	%40
22	69	Z	0	0
23	69	Z	0	0
24	69	Z	0	0
25	69	Z	0	0
26	74	Z	-.201	%20
27	74	Z	-.201	%80
28	74	Z	-.048	%30
29	74	Z	0	0
30	74	Z	0	0
31	66A	Z	-.267	%5
32	66A	Z	-.267	%95
33	66A	Z	0	0
34	66A	Z	0	0
35	66A	Z	0	0
36	67	Z	-.26	%5
37	67	Z	-.26	%95
38	67	Z	-.042	%30
39	67	Z	-.019	%30
40	67	Z	0	0
41	72	Z	-.201	%20
42	72	Z	-.201	%80
43	72	Z	-.048	%30

Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
44	72	Z	0	0
45	72	Z	0	0
46	60A	Z	-.267	%5
47	60A	Z	-.267	%95
48	60A	Z	0	0
49	60A	Z	0	0
50	60A	Z	0	0
51	61A	Z	-.26	%5
52	61A	Z	-.26	%95
53	61A	Z	-.042	%30
54	61A	Z	-.019	%30
55	61A	Z	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	70A	X	-.103	%20
2	70A	X	-.103	%80
3	70A	X	-.04	%30
4	70A	X	0	0
5	70A	X	0	0
6	35	X	-.099	%5
7	35	X	-.099	%95
8	35	X	0	0
9	35	X	0	0
10	35	X	0	0
11	37	X	-.098	%5
12	37	X	-.098	%95
13	37	X	-.058	%30
14	37	X	-.049	%30
15	37	X	0	0
16	69	X	-.144	%20
17	69	X	0	0
18	69	X	0	0
19	69	X	0	0
20	69	X	0	0
21	69	X	0	%40
22	69	X	0	0
23	69	X	0	0
24	69	X	0	0
25	69	X	0	0
26	74	X	-.103	%20
27	74	X	-.103	%80
28	74	X	-.04	%30
29	74	X	0	0
30	74	X	0	0
31	66A	X	-.099	%5
32	66A	X	-.099	%95
33	66A	X	0	0
34	66A	X	0	0
35	66A	X	0	0
36	67	X	-.098	%5
37	67	X	-.098	%95
38	67	X	-.058	%30
39	67	X	-.049	%30
40	67	X	0	0
41	72	X	-.103	%20

Member Point Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
42	72	X	-.103	%80
43	72	X	-.04	%30
44	72	X	0	0
45	72	X	0	0
46	60A	X	-.099	%5
47	60A	X	-.099	%95
48	60A	X	0	0
49	60A	X	0	0
50	60A	X	0	0
51	61A	X	-.098	%5
52	61A	X	-.098	%95
53	61A	X	-.058	%30
54	61A	X	-.049	%30
55	61A	X	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	70A	Z	0	%20
2	70A	Z	0	%80
3	70A	Z	-.009	%30
4	70A	Z	0	0
5	70A	Z	0	0
6	35	Z	-.051	%5
7	35	Z	-.051	%95
8	35	Z	0	0
9	35	Z	0	0
10	35	Z	0	0
11	37	Z	0	%5
12	37	Z	0	%95
13	37	Z	-.008	%30
14	37	Z	-.004	%30
15	37	Z	0	0
16	69	Z	-.015	%20
17	69	Z	0	0
18	69	Z	0	0
19	69	Z	0	0
20	69	Z	0	0
21	69	Z	0	%40
22	69	Z	0	0
23	69	Z	0	0
24	69	Z	0	0
25	69	Z	0	0
26	74	Z	0	%20
27	74	Z	0	%80
28	74	Z	-.009	%30
29	74	Z	0	0
30	74	Z	0	0
31	66A	Z	-.051	%5
32	66A	Z	-.051	%95
33	66A	Z	0	0
34	66A	Z	0	0
35	66A	Z	0	0
36	67	Z	0	%5
37	67	Z	0	%95
38	67	Z	-.008	%30
39	67	Z	-.004	%30

Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
40	67	Z	0	0
41	72	Z	0	%20
42	72	Z	0	%80
43	72	Z	-.009	%30
44	72	Z	0	0
45	72	Z	0	0
46	60A	Z	-.051	%5
47	60A	Z	-.051	%95
48	60A	Z	0	0
49	60A	Z	0	0
50	60A	Z	0	0
51	61A	Z	0	%5
52	61A	Z	0	%95
53	61A	Z	-.008	%30
54	61A	Z	-.004	%30
55	61A	Z	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	70A	X	0	%20
2	70A	X	0	%80
3	70A	X	-.008	%30
4	70A	X	0	0
5	70A	X	0	0
6	35	X	-.019	%5
7	35	X	-.019	%95
8	35	X	0	0
9	35	X	0	0
10	35	X	0	0
11	37	X	0	%5
12	37	X	0	%95
13	37	X	-.011	%30
14	37	X	-.009	%30
15	37	X	0	0
16	69	X	-.027	%20
17	69	X	0	0
18	69	X	0	0
19	69	X	0	0
20	69	X	0	0
21	69	X	0	%40
22	69	X	0	0
23	69	X	0	0
24	69	X	0	0
25	69	X	0	0
26	74	X	0	%20
27	74	X	0	%80
28	74	X	-.008	%30
29	74	X	0	0
30	74	X	0	0
31	66A	X	-.019	%5
32	66A	X	-.019	%95
33	66A	X	0	0
34	66A	X	0	0
35	66A	X	0	0
36	67	X	0	%5
37	67	X	0	%95

Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
38	67	X	-.011	%30
39	67	X	-.009	%30
40	67	X	0	0
41	72	X	0	%20
42	72	X	0	%80
43	72	X	-.008	%30
44	72	X	0	0
45	72	X	0	0
46	60A	X	-.019	%5
47	60A	X	-.019	%95
48	60A	X	0	0
49	60A	X	0	0
50	60A	X	0	0
51	61A	X	0	%5
52	61A	X	0	%95
53	61A	X	-.011	%30
54	61A	X	-.009	%30
55	61A	X	0	0

Member Point Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	70A	Z	-.014	%20
2	70A	Z	-.014	%80
3	70A	Z	-.003	%30
4	70A	Z	0	0
5	70A	Z	0	0
6	35	Z	-.018	%5
7	35	Z	-.018	%95
8	35	Z	0	0
9	35	Z	0	0
10	35	Z	0	0
11	37	Z	-.018	%5
12	37	Z	-.018	%95
13	37	Z	-.003	%30
14	37	Z	-.001	%30
15	37	Z	0	0
16	69	Z	-.005	%20
17	69	Z	0	0
18	69	Z	0	0
19	69	Z	0	0
20	69	Z	0	0
21	69	Z	0	%40
22	69	Z	0	0
23	69	Z	0	0
24	69	Z	0	0
25	69	Z	0	0
26	74	Z	-.014	%20
27	74	Z	-.014	%80
28	74	Z	-.003	%30
29	74	Z	0	0
30	74	Z	0	0
31	66A	Z	-.018	%5
32	66A	Z	-.018	%95
33	66A	Z	0	0
34	66A	Z	0	0
35	66A	Z	0	0

Member Point Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
36	67	Z	-.018	%5
37	67	Z	-.018	%95
38	67	Z	-.003	%30
39	67	Z	-.001	%30
40	67	Z	0	0
41	72	Z	-.014	%20
42	72	Z	-.014	%80
43	72	Z	-.003	%30
44	72	Z	0	0
45	72	Z	0	0
46	60A	Z	-.018	%5
47	60A	Z	-.018	%95
48	60A	Z	0	0
49	60A	Z	0	0
50	60A	Z	0	0
51	61A	Z	-.018	%5
52	61A	Z	-.018	%95
53	61A	Z	-.003	%30
54	61A	Z	-.001	%30
55	61A	Z	0	0

Member Point Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	70A	X	-.007	%20
2	70A	X	-.007	%80
3	70A	X	-.003	%30
4	70A	X	0	0
5	70A	X	0	0
6	35	X	-.007	%5
7	35	X	-.007	%95
8	35	X	0	0
9	35	X	0	0
10	35	X	0	0
11	37	X	-.007	%5
12	37	X	-.007	%95
13	37	X	-.004	%30
14	37	X	-.003	%30
15	37	X	0	0
16	69	X	-.01	%20
17	69	X	0	0
18	69	X	0	0
19	69	X	0	0
20	69	X	0	0
21	69	X	0	%40
22	69	X	0	0
23	69	X	0	0
24	69	X	0	0
25	69	X	0	0
26	74	X	-.007	%20
27	74	X	-.007	%80
28	74	X	-.003	%30
29	74	X	0	0
30	74	X	0	0
31	66A	X	-.007	%5
32	66A	X	-.007	%95
33	66A	X	0	0

Member Point Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
34	66A	X	0	0
35	66A	X	0	0
36	67	X	-.007	%5
37	67	X	-.007	%95
38	67	X	-.004	%30
39	67	X	-.003	%30
40	67	X	0	0
41	72	X	-.007	%20
42	72	X	-.007	%80
43	72	X	-.003	%30
44	72	X	0	0
45	72	X	0	0
46	60A	X	-.007	%5
47	60A	X	-.007	%95
48	60A	X	0	0
49	60A	X	0	0
50	60A	X	0	0
51	61A	X	-.007	%5
52	61A	X	-.007	%95
53	61A	X	-.004	%30
54	61A	X	-.003	%30
55	61A	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	70A	Y	0	%20
2	70A	Y	0	%80
3	70A	Y	-.032	%30
4	70A	Y	0	0
5	70A	Y	0	0
6	35	Y	-.132	%5
7	35	Y	-.132	%95
8	35	Y	0	0
9	35	Y	0	0
10	35	Y	0	0
11	37	Y	0	%5
12	37	Y	0	%95
13	37	Y	-.036	%30
14	37	Y	-.027	%30
15	37	Y	0	0
16	69	Y	-.081	%20
17	69	Y	0	0
18	69	Y	0	0
19	69	Y	0	0
20	69	Y	0	0
21	69	Y	-.044	%40
22	69	Y	0	0
23	69	Y	0	0
24	69	Y	0	0
25	69	Y	0	0
26	74	Y	0	%20
27	74	Y	0	%80
28	74	Y	-.032	%30
29	74	Y	0	0
30	74	Y	0	0
31	66A	Y	-.132	%5

Member Point Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
32	66A	Y	-.132	%95
33	66A	Y	0	0
34	66A	Y	0	0
35	66A	Y	0	0
36	67	Y	0	%5
37	67	Y	0	%95
38	67	Y	-.036	%30
39	67	Y	-.027	%30
40	67	Y	0	0
41	72	Y	0	%20
42	72	Y	0	%80
43	72	Y	-.032	%30
44	72	Y	0	0
45	72	Y	0	0
46	60A	Y	-.132	%5
47	60A	Y	-.132	%95
48	60A	Y	0	0
49	60A	Y	0	0
50	60A	Y	0	0
51	61A	Y	0	%5
52	61A	Y	0	%95
53	61A	Y	-.036	%30
54	61A	Y	-.027	%30
55	61A	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	70A	Z	-.017	%20
2	70A	Z	-.017	%80
3	70A	Z	-.016	%30
4	70A	Z	0	0
5	70A	Z	0	0
6	35	Z	-.017	%5
7	35	Z	-.017	%95
8	35	Z	0	0
9	35	Z	0	0
10	35	Z	0	0
11	37	Z	-.024	%5
12	37	Z	-.024	%95
13	37	Z	-.016	%30
14	37	Z	-.01	%30
15	37	Z	0	0
16	69	Z	-.006	%20
17	69	Z	0	0
18	69	Z	0	0
19	69	Z	0	0
20	69	Z	0	0
21	69	Z	-.007	%40
22	69	Z	0	0
23	69	Z	0	0
24	69	Z	0	0
25	69	Z	0	0
26	74	Z	-.017	%20
27	74	Z	-.017	%80
28	74	Z	-.016	%30
29	74	Z	0	0

Member Point Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
30	74	Z	0	0
31	66A	Z	-.017	%5
32	66A	Z	-.017	%95
33	66A	Z	0	0
34	66A	Z	0	0
35	66A	Z	0	0
36	67	Z	-.024	%5
37	67	Z	-.024	%95
38	67	Z	-.016	%30
39	67	Z	-.01	%30
40	67	Z	0	0
41	72	Z	-.017	%20
42	72	Z	-.017	%80
43	72	Z	-.016	%30
44	72	Z	0	0
45	72	Z	0	0
46	60A	Z	-.017	%5
47	60A	Z	-.017	%95
48	60A	Z	0	0
49	60A	Z	0	0
50	60A	Z	0	0
51	61A	Z	-.024	%5
52	61A	Z	-.024	%95
53	61A	Z	-.016	%30
54	61A	Z	-.01	%30
55	61A	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	70A	X	-.017	%20
2	70A	X	-.017	%80
3	70A	X	-.016	%30
4	70A	X	0	0
5	70A	X	0	0
6	35	X	-.017	%5
7	35	X	-.017	%95
8	35	X	0	0
9	35	X	0	0
10	35	X	0	0
11	37	X	-.024	%5
12	37	X	-.024	%95
13	37	X	-.016	%30
14	37	X	-.01	%30
15	37	X	0	0
16	69	X	-.006	%20
17	69	X	0	0
18	69	X	0	0
19	69	X	0	0
20	69	X	0	0
21	69	X	-.007	%40
22	69	X	0	0
23	69	X	0	0
24	69	X	0	0
25	69	X	0	0
26	74	X	-.017	%20
27	74	X	-.017	%80

Member Point Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
28	74	X	-.016	%30
29	74	X	0	0
30	74	X	0	0
31	66A	X	-.017	%5
32	66A	X	-.017	%95
33	66A	X	0	0
34	66A	X	0	0
35	66A	X	0	0
36	67	X	-.024	%5
37	67	X	-.024	%95
38	67	X	-.016	%30
39	67	X	-.01	%30
40	67	X	0	0
41	72	X	-.017	%20
42	72	X	-.017	%80
43	72	X	-.016	%30
44	72	X	0	0
45	72	X	0	0
46	60A	X	-.017	%5
47	60A	X	-.017	%95
48	60A	X	0	0
49	60A	X	0	0
50	60A	X	0	0
51	61A	X	-.024	%5
52	61A	X	-.024	%95
53	61A	X	-.016	%30
54	61A	X	-.01	%30
55	61A	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	1	Y	-.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	1	Y	-.25	%95

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	3	Y	-.25	%5

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	3	Y	-.25	%95

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	2	Y	-.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	2	Y	-.25	%95

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	24	Y	-.25	%95

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	19	Y	-.25	%95

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	29	Y	-.25	%95

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	1	Z	-.01	-.01	0	0
2	2	Z	-.01	-.01	0	0
3	3	Z	-.01	-.01	0	0
4	5	Z	-.018	-.018	0	0
5	7	Z	-.018	-.018	0	0
6	9	Z	-.018	-.018	0	0
7	11	Z	-.018	-.018	0	0
8	13	Z	-.018	-.018	0	0
9	15	Z	-.018	-.018	0	0
10	16	Z	-.018	-.018	0	0
11	17	Z	-.018	-.018	0	0
12	18	Z	-.018	-.018	0	0
13	19	Z	-.016	-.016	0	0
14	20	Z	-.014	-.014	0	0
15	21	Z	-.014	-.014	0	0
16	22	Z	-.018	-.018	0	0
17	23	Z	-.018	-.018	0	0
18	24	Z	-.016	-.016	0	0
19	25	Z	-.014	-.014	0	0
20	26	Z	-.014	-.014	0	0
21	29	Z	-.016	-.016	0	0
22	30	Z	-.014	-.014	0	0
23	31	Z	-.014	-.014	0	0
24	35	Z	-.007	-.007	0	0
25	37	Z	-.007	-.007	0	0
26	38	Z	-.01	-.01	0	0
27	39	Z	-.01	-.01	0	0
28	40	Z	-.01	-.01	0	0
29	41	Z	-.01	-.01	0	0
30	42	Z	-.01	-.01	0	0
31	43	Z	-.01	-.01	0	0
32	48A	Z	-.018	-.018	0	0
33	49A	Z	-.018	-.018	0	0
34	50A	Z	-.018	-.018	0	0
35	51A	Z	-.018	-.018	0	0
36	52	Z	-.018	-.018	0	0
37	53	Z	-.018	-.018	0	0
38	56	Z	-.018	-.018	0	0
39	57	Z	-.018	-.018	0	0
40	60	Z	-.018	-.018	0	0
41	61	Z	-.018	-.018	0	0
42	60A	Z	-.007	-.007	0	0

Member Distributed Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
43	61A	Z	-.007	-.007	0	0
44	64	Z	-.007	-.007	0	0
45	66A	Z	-.007	-.007	0	0
46	67	Z	-.007	-.007	0	0
47	70	Z	-.007	-.007	0	0
48	69	Z	-.007	-.007	0	0
49	70A	Z	-.007	-.007	0	0
50	72	Z	-.007	-.007	0	0
51	74	Z	-.007	-.007	0	0
52	M88	Z	-.007	-.007	0	0
53	M89	Z	-.007	-.007	0	0
54	M90	Z	-.007	-.007	0	0
55	M90A	Z	-.008	-.008	0	0
56	M91	Z	-.008	-.008	0	0
57	M92	Z	-.008	-.008	0	0

Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	1	X	-.01	-.01	0	0
2	2	X	-.01	-.01	0	0
3	3	X	-.01	-.01	0	0
4	5	X	-.018	-.018	0	0
5	7	X	-.018	-.018	0	0
6	9	X	-.018	-.018	0	0
7	11	X	-.018	-.018	0	0
8	13	X	-.018	-.018	0	0
9	15	X	-.018	-.018	0	0
10	16	X	-.018	-.018	0	0
11	17	X	-.018	-.018	0	0
12	18	X	-.018	-.018	0	0
13	19	X	-.016	-.016	0	0
14	20	X	-.014	-.014	0	0
15	21	X	-.014	-.014	0	0
16	22	X	-.018	-.018	0	0
17	23	X	-.018	-.018	0	0
18	24	X	-.016	-.016	0	0
19	25	X	-.014	-.014	0	0
20	26	X	-.014	-.014	0	0
21	29	X	-.016	-.016	0	0
22	30	X	-.014	-.014	0	0
23	31	X	-.014	-.014	0	0
24	35	X	-.007	-.007	0	0
25	37	X	-.007	-.007	0	0
26	38	X	-.01	-.01	0	0
27	39	X	-.01	-.01	0	0
28	40	X	-.01	-.01	0	0
29	41	X	-.01	-.01	0	0
30	42	X	-.01	-.01	0	0
31	43	X	-.01	-.01	0	0
32	48A	X	-.018	-.018	0	0
33	49A	X	-.018	-.018	0	0
34	50A	X	-.018	-.018	0	0
35	51A	X	-.018	-.018	0	0
36	52	X	-.018	-.018	0	0
37	53	X	-.018	-.018	0	0
38	56	X	-.018	-.018	0	0

Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
39	57	X	-.018	-.018	0	0
40	60	X	-.018	-.018	0	0
41	61	X	-.018	-.018	0	0
42	60A	X	-.007	-.007	0	0
43	61A	X	-.007	-.007	0	0
44	64	X	-.007	-.007	0	0
45	66A	X	-.007	-.007	0	0
46	67	X	-.007	-.007	0	0
47	70	X	-.007	-.007	0	0
48	69	X	-.007	-.007	0	0
49	70A	X	-.007	-.007	0	0
50	72	X	-.007	-.007	0	0
51	74	X	-.007	-.007	0	0
52	M88	X	-.007	-.007	0	0
53	M89	X	-.007	-.007	0	0
54	M90	X	-.007	-.007	0	0
55	M90A	X	-.008	-.008	0	0
56	M91	X	-.008	-.008	0	0
57	M92	X	-.008	-.008	0	0

Member Distributed Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	1	Z	-.002	-.002	0	0
2	2	Z	-.002	-.002	0	0
3	3	Z	-.002	-.002	0	0
4	5	Z	-.008	-.008	0	0
5	7	Z	-.008	-.008	0	0
6	9	Z	-.008	-.008	0	0
7	11	Z	-.008	-.008	0	0
8	13	Z	-.008	-.008	0	0
9	15	Z	-.008	-.008	0	0
10	16	Z	-.005	-.005	0	0
11	17	Z	-.005	-.005	0	0
12	18	Z	-.005	-.005	0	0
13	19	Z	-.005	-.005	0	0
14	20	Z	-.004	-.004	0	0
15	21	Z	-.004	-.004	0	0
16	22	Z	-.007	-.007	0	0
17	23	Z	-.007	-.007	0	0
18	24	Z	-.005	-.005	0	0
19	25	Z	-.004	-.004	0	0
20	26	Z	-.004	-.004	0	0
21	29	Z	-.005	-.005	0	0
22	30	Z	-.004	-.004	0	0
23	31	Z	-.004	-.004	0	0
24	35	Z	-.001	-.001	0	0
25	37	Z	-.001	-.001	0	0
26	38	Z	-.004	-.004	0	0
27	39	Z	-.004	-.004	0	0
28	40	Z	-.004	-.004	0	0
29	41	Z	-.004	-.004	0	0
30	42	Z	-.004	-.004	0	0
31	43	Z	-.004	-.004	0	0
32	48A	Z	-.007	-.007	0	0
33	49A	Z	-.007	-.007	0	0
34	50A	Z	-.007	-.007	0	0

Member Distributed Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
35	51A	Z	-.007	-.007	0	0
36	52	Z	-.008	-.008	0	0
37	53	Z	-.008	-.008	0	0
38	56	Z	-.008	-.008	0	0
39	57	Z	-.008	-.008	0	0
40	60	Z	-.008	-.008	0	0
41	61	Z	-.008	-.008	0	0
42	60A	Z	-.001	-.001	0	0
43	61A	Z	-.001	-.001	0	0
44	64	Z	-.001	-.001	0	0
45	66A	Z	-.001	-.001	0	0
46	67	Z	-.001	-.001	0	0
47	70	Z	-.001	-.001	0	0
48	69	Z	-.001	-.001	0	0
49	70A	Z	-.001	-.001	0	0
50	72	Z	-.001	-.001	0	0
51	74	Z	-.001	-.001	0	0
52	M88	Z	-.001	-.001	0	0
53	M89	Z	-.001	-.001	0	0
54	M90	Z	-.001	-.001	0	0
55	M90A	Z	-.003	-.003	0	0
56	M91	Z	-.003	-.003	0	0
57	M92	Z	-.003	-.003	0	0

Member Distributed Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	1	X	-.002	-.002	0	0
2	2	X	-.002	-.002	0	0
3	3	X	-.002	-.002	0	0
4	5	X	-.008	-.008	0	0
5	7	X	-.008	-.008	0	0
6	9	X	-.008	-.008	0	0
7	11	X	-.008	-.008	0	0
8	13	X	-.008	-.008	0	0
9	15	X	-.008	-.008	0	0
10	16	X	-.005	-.005	0	0
11	17	X	-.005	-.005	0	0
12	18	X	-.005	-.005	0	0
13	19	X	-.005	-.005	0	0
14	20	X	-.004	-.004	0	0
15	21	X	-.004	-.004	0	0
16	22	X	-.007	-.007	0	0
17	23	X	-.007	-.007	0	0
18	24	X	-.005	-.005	0	0
19	25	X	-.004	-.004	0	0
20	26	X	-.004	-.004	0	0
21	29	X	-.005	-.005	0	0
22	30	X	-.004	-.004	0	0
23	31	X	-.004	-.004	0	0
24	35	X	-.001	-.001	0	0
25	37	X	-.001	-.001	0	0
26	38	X	-.004	-.004	0	0
27	39	X	-.004	-.004	0	0
28	40	X	-.004	-.004	0	0
29	41	X	-.004	-.004	0	0
30	42	X	-.004	-.004	0	0

Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
31	43	X	-.004	-.004	0	0
32	48A	X	-.007	-.007	0	0
33	49A	X	-.007	-.007	0	0
34	50A	X	-.007	-.007	0	0
35	51A	X	-.007	-.007	0	0
36	52	X	-.008	-.008	0	0
37	53	X	-.008	-.008	0	0
38	56	X	-.008	-.008	0	0
39	57	X	-.008	-.008	0	0
40	60	X	-.008	-.008	0	0
41	61	X	-.008	-.008	0	0
42	60A	X	-.001	-.001	0	0
43	61A	X	-.001	-.001	0	0
44	64	X	-.001	-.001	0	0
45	66A	X	-.001	-.001	0	0
46	67	X	-.001	-.001	0	0
47	70	X	-.001	-.001	0	0
48	69	X	-.001	-.001	0	0
49	70A	X	-.001	-.001	0	0
50	72	X	-.001	-.001	0	0
51	74	X	-.001	-.001	0	0
52	M88	X	-.001	-.001	0	0
53	M89	X	-.001	-.001	0	0
54	M90	X	-.001	-.001	0	0
55	M90A	X	-.003	-.003	0	0
56	M91	X	-.003	-.003	0	0
57	M92	X	-.003	-.003	0	0

Member Distributed Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	1	Z	-.0004	-.0004	0	0
2	2	Z	-.0004	-.0004	0	0
3	3	Z	-.0004	-.0004	0	0
4	5	Z	-.001	-.001	0	0
5	7	Z	-.001	-.001	0	0
6	9	Z	-.001	-.001	0	0
7	11	Z	-.001	-.001	0	0
8	13	Z	-.001	-.001	0	0
9	15	Z	-.001	-.001	0	0
10	16	Z	-.001	-.001	0	0
11	17	Z	-.001	-.001	0	0
12	18	Z	-.001	-.001	0	0
13	19	Z	-.001	-.001	0	0
14	20	Z	-.0009	-.0009	0	0
15	21	Z	-.0009	-.0009	0	0
16	22	Z	-.001	-.001	0	0
17	23	Z	-.001	-.001	0	0
18	24	Z	-.001	-.001	0	0
19	25	Z	-.0009	-.0009	0	0
20	26	Z	-.0009	-.0009	0	0
21	29	Z	-.001	-.001	0	0
22	30	Z	-.0009	-.0009	0	0
23	31	Z	-.0009	-.0009	0	0
24	35	Z	-.0002	-.0002	0	0
25	37	Z	-.0002	-.0002	0	0
26	38	Z	-.0007	-.0007	0	0

Member Distributed Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
27	39	Z	-.0007	-.0007	0	0
28	40	Z	-.0007	-.0007	0	0
29	41	Z	-.0007	-.0007	0	0
30	42	Z	-.0007	-.0007	0	0
31	43	Z	-.0007	-.0007	0	0
32	48A	Z	-.001	-.001	0	0
33	49A	Z	-.001	-.001	0	0
34	50A	Z	-.001	-.001	0	0
35	51A	Z	-.001	-.001	0	0
36	52	Z	-.001	-.001	0	0
37	53	Z	-.001	-.001	0	0
38	56	Z	-.001	-.001	0	0
39	57	Z	-.001	-.001	0	0
40	60	Z	-.001	-.001	0	0
41	61	Z	-.001	-.001	0	0
42	60A	Z	-.0002	-.0002	0	0
43	61A	Z	-.0002	-.0002	0	0
44	64	Z	-.0002	-.0002	0	0
45	66A	Z	-.0002	-.0002	0	0
46	67	Z	-.0002	-.0002	0	0
47	70	Z	-.0002	-.0002	0	0
48	69	Z	-.0002	-.0002	0	0
49	70A	Z	-.0002	-.0002	0	0
50	72	Z	-.0002	-.0002	0	0
51	74	Z	-.0002	-.0002	0	0
52	M88	Z	-.0002	-.0002	0	0
53	M89	Z	-.0002	-.0002	0	0
54	M90	Z	-.0002	-.0002	0	0
55	M90A	Z	-.0005	-.0005	0	0
56	M91	Z	-.0005	-.0005	0	0
57	M92	Z	-.0005	-.0005	0	0

Member Distributed Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	1	X	-.0004	-.0004	0	0
2	2	X	-.0004	-.0004	0	0
3	3	X	-.0004	-.0004	0	0
4	5	X	-.001	-.001	0	0
5	7	X	-.001	-.001	0	0
6	9	X	-.001	-.001	0	0
7	11	X	-.001	-.001	0	0
8	13	X	-.001	-.001	0	0
9	15	X	-.001	-.001	0	0
10	16	X	-.001	-.001	0	0
11	17	X	-.001	-.001	0	0
12	18	X	-.001	-.001	0	0
13	19	X	-.001	-.001	0	0
14	20	X	-.0009	-.0009	0	0
15	21	X	-.0009	-.0009	0	0
16	22	X	-.001	-.001	0	0
17	23	X	-.001	-.001	0	0
18	24	X	-.001	-.001	0	0
19	25	X	-.0009	-.0009	0	0
20	26	X	-.0009	-.0009	0	0
21	29	X	-.001	-.001	0	0
22	30	X	-.0009	-.0009	0	0

Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
23	31	X	-.0009	-.0009	0	0
24	35	X	-.0002	-.0002	0	0
25	37	X	-.0002	-.0002	0	0
26	38	X	-.0007	-.0007	0	0
27	39	X	-.0007	-.0007	0	0
28	40	X	-.0007	-.0007	0	0
29	41	X	-.0007	-.0007	0	0
30	42	X	-.0007	-.0007	0	0
31	43	X	-.0007	-.0007	0	0
32	48A	X	-.001	-.001	0	0
33	49A	X	-.001	-.001	0	0
34	50A	X	-.001	-.001	0	0
35	51A	X	-.001	-.001	0	0
36	52	X	-.001	-.001	0	0
37	53	X	-.001	-.001	0	0
38	56	X	-.001	-.001	0	0
39	57	X	-.001	-.001	0	0
40	60	X	-.001	-.001	0	0
41	61	X	-.001	-.001	0	0
42	60A	X	-.0002	-.0002	0	0
43	61A	X	-.0002	-.0002	0	0
44	64	X	-.0002	-.0002	0	0
45	66A	X	-.0002	-.0002	0	0
46	67	X	-.0002	-.0002	0	0
47	70	X	-.0002	-.0002	0	0
48	69	X	-.0002	-.0002	0	0
49	70A	X	-.0002	-.0002	0	0
50	72	X	-.0002	-.0002	0	0
51	74	X	-.0002	-.0002	0	0
52	M88	X	-.0002	-.0002	0	0
53	M89	X	-.0002	-.0002	0	0
54	M90	X	-.0002	-.0002	0	0
55	M90A	X	-.0005	-.0005	0	0
56	M91	X	-.0005	-.0005	0	0
57	M92	X	-.0005	-.0005	0	0

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	1	Y	-.006	-.006	0	0
2	2	Y	-.006	-.006	0	0
3	3	Y	-.006	-.006	0	0
4	5	Y	-.01	-.01	0	0
5	7	Y	-.01	-.01	0	0
6	9	Y	-.01	-.01	0	0
7	11	Y	-.01	-.01	0	0
8	13	Y	-.01	-.01	0	0
9	15	Y	-.01	-.01	0	0
10	16	Y	-.01	-.01	0	0
11	17	Y	-.01	-.01	0	0
12	18	Y	-.01	-.01	0	0
13	19	Y	-.01	-.01	0	0
14	20	Y	-.01	-.01	0	0
15	21	Y	-.01	-.01	0	0
16	22	Y	-.01	-.01	0	0
17	23	Y	-.01	-.01	0	0
18	24	Y	-.01	-.01	0	0

Member Distributed Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
19	25	Y	-.01	-.01	0	0
20	26	Y	-.01	-.01	0	0
21	29	Y	-.01	-.01	0	0
22	30	Y	-.01	-.01	0	0
23	31	Y	-.01	-.01	0	0
24	35	Y	-.005	-.005	0	0
25	37	Y	-.005	-.005	0	0
26	38	Y	-.006	-.006	0	0
27	39	Y	-.006	-.006	0	0
28	40	Y	-.006	-.006	0	0
29	41	Y	-.006	-.006	0	0
30	42	Y	-.006	-.006	0	0
31	43	Y	-.006	-.006	0	0
32	48A	Y	-.01	-.01	0	0
33	49A	Y	-.01	-.01	0	0
34	50A	Y	-.01	-.01	0	0
35	51A	Y	-.01	-.01	0	0
36	52	Y	-.01	-.01	0	0
37	53	Y	-.01	-.01	0	0
38	56	Y	-.01	-.01	0	0
39	57	Y	-.01	-.01	0	0
40	60	Y	-.01	-.01	0	0
41	61	Y	-.01	-.01	0	0
42	60A	Y	-.005	-.005	0	0
43	61A	Y	-.005	-.005	0	0
44	64	Y	-.005	-.005	0	0
45	66A	Y	-.005	-.005	0	0
46	67	Y	-.005	-.005	0	0
47	70	Y	-.005	-.005	0	0
48	69	Y	-.005	-.005	0	0
49	70A	Y	-.005	-.005	0	0
50	72	Y	-.005	-.005	0	0
51	74	Y	-.005	-.005	0	0
52	M88	Y	-.005	-.005	0	0
53	M89	Y	-.005	-.005	0	0
54	M90	Y	-.005	-.005	0	0
55	M90A	Y	-.007	-.007	0	0
56	M91	Y	-.007	-.007	0	0
57	M92	Y	-.007	-.007	0	0

Member Distributed Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	1	Z	-.002	-.002	0	0
2	2	Z	-.002	-.002	0	0
3	3	Z	-.002	-.002	0	0
4	5	Z	-.002	-.002	0	0
5	7	Z	-.002	-.002	0	0
6	9	Z	-.002	-.002	0	0
7	11	Z	-.002	-.002	0	0
8	13	Z	-.002	-.002	0	0
9	15	Z	-.002	-.002	0	0
10	16	Z	-.002	-.002	0	0
11	17	Z	-.002	-.002	0	0
12	18	Z	-.002	-.002	0	0
13	19	Z	-.003	-.003	0	0
14	20	Z	-.003	-.003	0	0

Member Distributed Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
15	21	Z	-.003	-.003	0	0
16	22	Z	-.002	-.002	0	0
17	23	Z	-.002	-.002	0	0
18	24	Z	-.003	-.003	0	0
19	25	Z	-.003	-.003	0	0
20	26	Z	-.003	-.003	0	0
21	29	Z	-.003	-.003	0	0
22	30	Z	-.003	-.003	0	0
23	31	Z	-.003	-.003	0	0
24	35	Z	-.0008	-.0008	0	0
25	37	Z	-.0008	-.0008	0	0
26	38	Z	-.0005	-.0005	0	0
27	39	Z	-.0005	-.0005	0	0
28	40	Z	-.0005	-.0005	0	0
29	41	Z	-.0005	-.0005	0	0
30	42	Z	-.0005	-.0005	0	0
31	43	Z	-.0005	-.0005	0	0
32	48A	Z	-.002	-.002	0	0
33	49A	Z	-.002	-.002	0	0
34	50A	Z	-.002	-.002	0	0
35	51A	Z	-.002	-.002	0	0
36	52	Z	-.002	-.002	0	0
37	53	Z	-.002	-.002	0	0
38	56	Z	-.002	-.002	0	0
39	57	Z	-.002	-.002	0	0
40	60	Z	-.002	-.002	0	0
41	61	Z	-.002	-.002	0	0
42	60A	Z	-.0008	-.0008	0	0
43	61A	Z	-.0008	-.0008	0	0
44	64	Z	-.0008	-.0008	0	0
45	66A	Z	-.0008	-.0008	0	0
46	67	Z	-.0008	-.0008	0	0
47	70	Z	-.0008	-.0008	0	0
48	69	Z	-.0008	-.0008	0	0
49	70A	Z	-.0008	-.0008	0	0
50	72	Z	-.0008	-.0008	0	0
51	74	Z	-.0008	-.0008	0	0
52	M88	Z	-.0008	-.0008	0	0
53	M89	Z	-.0008	-.0008	0	0
54	M90	Z	-.0008	-.0008	0	0
55	M90A	Z	-.0009	-.0009	0	0
56	M91	Z	-.0009	-.0009	0	0
57	M92	Z	-.0009	-.0009	0	0

Member Distributed Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	1	X	-.002	-.002	0	0
2	2	X	-.002	-.002	0	0
3	3	X	-.002	-.002	0	0
4	5	X	-.002	-.002	0	0
5	7	X	-.002	-.002	0	0
6	9	X	-.002	-.002	0	0
7	11	X	-.002	-.002	0	0
8	13	X	-.002	-.002	0	0
9	15	X	-.002	-.002	0	0
10	16	X	-.002	-.002	0	0

Member Distributed Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
11	17	X	-.002	-.002	0	0
12	18	X	-.002	-.002	0	0
13	19	X	-.003	-.003	0	0
14	20	X	-.003	-.003	0	0
15	21	X	-.003	-.003	0	0
16	22	X	-.002	-.002	0	0
17	23	X	-.002	-.002	0	0
18	24	X	-.003	-.003	0	0
19	25	X	-.003	-.003	0	0
20	26	X	-.003	-.003	0	0
21	29	X	-.003	-.003	0	0
22	30	X	-.003	-.003	0	0
23	31	X	-.003	-.003	0	0
24	35	X	-.0008	-.0008	0	0
25	37	X	-.0008	-.0008	0	0
26	38	X	-.0005	-.0005	0	0
27	39	X	-.0005	-.0005	0	0
28	40	X	-.0005	-.0005	0	0
29	41	X	-.0005	-.0005	0	0
30	42	X	-.0005	-.0005	0	0
31	43	X	-.0005	-.0005	0	0
32	48A	X	-.002	-.002	0	0
33	49A	X	-.002	-.002	0	0
34	50A	X	-.002	-.002	0	0
35	51A	X	-.002	-.002	0	0
36	52	X	-.002	-.002	0	0
37	53	X	-.002	-.002	0	0
38	56	X	-.002	-.002	0	0
39	57	X	-.002	-.002	0	0
40	60	X	-.002	-.002	0	0
41	61	X	-.002	-.002	0	0
42	60A	X	-.0008	-.0008	0	0
43	61A	X	-.0008	-.0008	0	0
44	64	X	-.0008	-.0008	0	0
45	66A	X	-.0008	-.0008	0	0
46	67	X	-.0008	-.0008	0	0
47	70	X	-.0008	-.0008	0	0
48	69	X	-.0008	-.0008	0	0
49	70A	X	-.0008	-.0008	0	0
50	72	X	-.0008	-.0008	0	0
51	74	X	-.0008	-.0008	0	0
52	M88	X	-.0008	-.0008	0	0
53	M89	X	-.0008	-.0008	0	0
54	M90	X	-.0008	-.0008	0	0
55	M90A	X	-.0009	-.0009	0	0
56	M91	X	-.0009	-.0009	0	0
57	M92	X	-.0009	-.0009	0	0

Member Distributed Loads (BLC 24 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	24	Y	-.011	-.011	2.445	4.125
2	25	Y	-.009	-.009	1.575	2.541
3	26	Y	-.009	-.009	0	.967
4	38	Y	-.001	-.005	0	2.117
5	38	Y	-.005	-.009	2.117	4.234
6	41	Y	-.009	-.005	0	2.117

Member Distributed Loads (BLC 24 : BLC 1 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
7	41	Y	-.005	-.001	2.117	4.234
8	19	Y	-.011	-.011	2.445	4.125
9	20	Y	-.009	-.009	1.575	2.541
10	21	Y	-.009	-.009	0	.967
11	39	Y	-.009	-.005	0	2.117
12	39	Y	-.005	-.001	2.117	4.234
13	42	Y	-.001	-.005	0	2.117
14	42	Y	-.005	-.009	2.117	4.234
15	29	Y	-.011	-.011	2.444	4.129
16	30	Y	-.009	-.009	1.576	2.541
17	31	Y	-.009	-.009	0	.967
18	40	Y	-.001	-.005	0	2.117
19	40	Y	-.005	-.009	2.117	4.234
20	43	Y	-.009	-.005	0	2.117
21	43	Y	-.005	-.001	2.117	4.234

Member Distributed Loads (BLC 25 : BLC 8 Transient Area Loads)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	24	Y	-.006	-.006	2.444	4.129
2	25	Y	-.005	-.005	1.576	2.541
3	26	Y	-.005	-.005	0	.967
4	38	Y	-.0006842	-.003	0	2.117
5	38	Y	-.003	-.005	2.117	4.234
6	41	Y	-.005	-.003	0	2.117
7	41	Y	-.003	-.0006537	2.117	4.234
8	19	Y	-.006	-.006	2.444	4.129
9	20	Y	-.005	-.005	1.576	2.541
10	21	Y	-.005	-.005	0	.967
11	39	Y	-.005	-.003	0	2.117
12	39	Y	-.003	-.0006537	2.117	4.234
13	42	Y	-.0006842	-.003	0	2.117
14	42	Y	-.003	-.005	2.117	4.234
15	29	Y	-.006	-.006	2.444	4.129
16	30	Y	-.005	-.005	1.576	2.541
17	31	Y	-.005	-.005	0	.967
18	40	Y	-.0006839	-.003	0	2.117
19	40	Y	-.003	-.005	2.117	4.234
20	43	Y	-.005	-.003	0	2.117
21	43	Y	-.003	-.0006537	2.117	4.234

Member Area Loads (BLC 1 : Dead)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	62	42	61		Y	Two Way	-.01
2	60	31	65		Y	Two Way	-.01
3	63	64	47		Y	Two Way	-.01

Member Area Loads (BLC 8 : Ice)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	62	42	61		Y	Two Way	-.005
2	60	31	65		Y	Two Way	-.005
3	63	64	47		Y	Two Way	-.005

Joint Loads and Enforced Displacements (BLC 11 : Live Load a)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	91A	L	Y	-.5
2	116A	L	Y	-.5
3	104A	L	Y	-.5

Joint Loads and Enforced Displacements (BLC 12 : Live Load b)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	92A	L	Y	-.5
2	117B	L	Y	-.5
3	105A	L	Y	-.5

Joint Loads and Enforced Displacements (BLC 13 : Live Load c)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	122	L	Y	-.5
2	130	L	Y	-.5
3	126	L	Y	-.5

Joint Loads and Enforced Displacements (BLC 14 : Live Load d)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	121	L	Y	-.5
2	109A	L	Y	-.5

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	1	-6.24964	0	3.945	0	
2	2	6.25036	0	3.945	0	
3	3	6.54129	0	3.439847	0	
4	4	0.29129	0	-7.38547	0	
5	5	-0.29165	0	-7.384847	0	
6	6	-6.54165	0	3.44047	0	
7	7	-5.41664	0	3.945	0	
8	8	-5.41664	0	3.79917	0	
9	9	-5.29164	0	3.79917	0	
10	10	-5.54164	0	3.79917	0	
11	11	5.41664	0	3.945	0	
12	12	5.41664	0	3.79917	0	
13	13	5.29164	0	3.79917	0	
14	14	5.54164	0	3.79917	0	
15	15	6.12479	0	2.718448	0	
16	16	5.998498	0	2.791363	0	
17	17	5.935998	0	2.68311	0	
18	18	6.060998	0	2.899616	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
19	19	0.70815	0	-6.663448	0	
20	20	0.581858	0	-6.590533	0	
21	21	0.644358	0	-6.48228	0	
22	22	0.519358	0	-6.698786	0	
23	23	-0.70815	0	-6.663448	0	
24	24	-0.581858	0	-6.590533	0	
25	25	-0.644358	0	-6.48228	0	
26	26	-0.519358	0	-6.698786	0	
27	27	-6.12479	0	2.718448	0	
28	28	-5.998498	0	2.791363	0	
29	29	-5.935998	0	2.68311	0	
30	30	-6.060998	0	2.899616	0	
31	31	-0.	0	-6.698786	0	
32	32	-0.	0	-1.532086	0	
33	33	-0.	0	-3.032086	0	
34	34	-2.54129	0	-3.032086	0	
35	35	2.54129	0	-3.032086	0	
36	36	-5.14964	0	4.195	0	
37	38	-1.14964	0	4.195	0	
38	40	-2.54129	0	-2.865386	0	
39	41	2.54129	0	-2.865386	0	
40	42	-5.801319	0	3.349393	0	
41	43	-1.326826	0	0.766043	0	
42	44	-2.625864	0	1.516043	0	
43	45	-1.355219	0	3.716865	0	
44	46	-3.896509	0	-0.684779	0	
45	47	5.801319	0	3.349393	0	
46	48	1.326826	0	0.766043	0	
47	49	2.625864	0	1.516043	0	
48	50	3.896509	0	-0.684779	0	
49	51	1.355219	0	3.716865	0	
50	52	-5.14964	-4	4.195	0	
51	54	-1.14964	4.5	4.195	0	
52	56	-5.14964	4.0003	4.195	0	
53	58	-1.14964	-3.5	4.195	0	
54	60	-2.11697	0	-3.032086	0	
55	61	-3.684349	0	-0.317307	0	
56	62	-1.567379	0	3.349393	0	
57	63	1.567379	0	3.349393	0	
58	64	3.684349	0	-0.317307	0	
59	65	2.11697	0	-3.032086	0	
60	90	2.54129	0	-3.196696	0	
61	91	-2.54129	0	-3.196696	0	
62	92	-1.210852	0	3.633515	0	
63	93	-3.752143	0	-0.768129	0	
64	94	-4.039065	0	-0.602474	0	
65	95	-1.497775	0	3.79917	0	
66	96	3.752143	0	-0.768129	0	
67	97	1.210852	0	3.633515	0	
68	98	1.497775	0	3.79917	0	
69	99	4.039065	0	-0.602474	0	
70	100	1.747775	0	3.79917	0	
71	101	-1.747775	0	3.79917	0	
72	102	1.622775	0	3.79917	0	
73	103	-1.622775	0	3.79917	0	
74	104	1.622775	0	3.945	0	
75	105	-1.622775	0	3.945	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
76	106	2.41629	0	-3.413202	0	
77	107	4.164065	0	-0.385968	0	
78	108	2.47879	0	-3.304949	0	
79	109	4.101565	0	-0.494221	0	
80	110	2.605083	0	-3.377864	0	
81	111	4.227858	0	-0.567136	0	
82	112	-4.164065	0	-0.385968	0	
83	113	-2.41629	0	-3.413202	0	
84	114	-4.101565	0	-0.494221	0	
85	115	-2.47879	0	-3.304949	0	
86	116	-4.227858	0	-0.567136	0	
87	117	-2.605083	0	-3.377864	0	
88	91A	-5.14964	0	3.945	0	
89	92A	-1.14964	0	3.945	0	
90	98A	6.207797	0	2.362219	0	
91	99A	4.207797	0	-1.101883	0	
92	100A	6.207797	-4	2.362219	0	
93	101A	4.207797	4.5	-1.101883	0	
94	102A	6.207797	4.0003	2.362219	0	
95	103A	4.207797	-3.5	-1.101883	0	
96	104A	5.99129	0	2.487219	0	
97	105A	3.99129	0	-0.976883	0	
98	106A	1.007797	0	-6.644445	0	
99	107A	1.007797	-4	-6.644445	0	
100	108A	1.007797	4.0003	-6.644445	0	
101	109A	0.79129	0	-6.519445	0	
102	110A	-1.058157	0	-6.557219	0	
103	111A	-3.058157	0	-3.093117	0	
104	112B	-1.058157	-4	-6.557219	0	
105	113B	-3.058157	4.5	-3.093117	0	
106	114B	-1.058157	4.0003	-6.557219	0	
107	115A	-3.058157	-3.5	-3.093117	0	
108	116A	-0.84165	0	-6.432219	0	
109	117B	-2.84165	0	-2.968117	0	
110	118	-6.258157	0	2.449445	0	
111	119	-6.258157	-4	2.449445	0	
112	120	-6.258157	4.0003	2.449445	0	
113	121	-6.04165	0	2.574445	0	
114	114A	0	0	0	0	
115	115B	1.933044	0	1.116043	0	
116	116B	1.800231	0	1.346081	0	
117	117A	1.800231	6	1.346081	0	
118	118A	1.800231	-2	1.346081	0	
119	119A	1.85036	0	4.195	0	
120	120A	1.85036	-4	4.195	0	
121	121A	1.85036	4.0003	4.195	0	
122	122	1.85036	0	3.945	0	
123	123	2.707797	0	-3.699959	0	
124	124	2.707797	-4	-3.699959	0	
125	125	2.707797	4.0003	-3.699959	0	
126	126	2.49129	0	-3.574959	0	
127	127	-4.558157	0	-0.495041	0	
128	128	-4.558157	-4	-0.495041	0	
129	129	-4.558157	4.0003	-0.495041	0	
130	130	-4.34165	0	-0.370041	0	
131	N131	6.207797	3.5	2.362219	0	
132	N132	4.207797	3.5	-1.101883	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
133	N133	5.99129	3.5	2.487219	0	
134	N134	3.99129	3.5	-0.976883	0	
135	N135	1.007797	3.5	-6.644445	0	
136	N136	0.79129	3.5	-6.519445	0	
137	N137	2.707797	3.5	-3.699959	0	
138	N138	2.49129	3.5	-3.574959	0	
139	N139	-1.058157	3.5	-6.557219	0	
140	N140	-3.058157	3.5	-3.093117	0	
141	N141	-0.84165	3.5	-6.432219	0	
142	N142	-2.84165	3.5	-2.968117	0	
143	N143	-6.258157	3.5	2.449445	0	
144	N144	-6.04165	3.5	2.574445	0	
145	N145	-4.558157	3.5	-0.495041	0	
146	N146	-4.34165	3.5	-0.370041	0	
147	N147	-5.14964	3.5	4.195	0	
148	N148	-1.14964	3.5	4.195	0	
149	N149	-5.14964	3.5	3.945	0	
150	N150	-1.14964	3.5	3.945	0	
151	N153	1.85036	3.5	4.195	0	
152	N154	1.85036	3.5	3.945	0	
153	N155	-0.29165	3.5	-7.384847	0	
154	N156	-6.54165	3.5	3.44047	0	
155	N157	-6.24964	3.5	3.945	0	
156	N158	6.25036	3.5	3.945	0	
157	N159	6.54129	3.5	3.439847	0	
158	N160	0.29129	3.5	-7.38547	0	
159	N159A	-5.74964	3.5	3.945	0	
160	N160A	5.74964	3.5	3.945	0	
161	N161	6.29129	3.5	3.006835	0	
162	N162	0.54165	3.5	-6.951835	0	
163	N163	-0.54165	3.5	-6.951835	0	
164	N164	-6.29129	3.5	3.006835	0	

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	48	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	43	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	32	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	115B						
5	116B						
6	117A						
7	118A						

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Function
1	1	MF-H1	12.5			Lbyy						Lateral
2	2	MF-H1	12.5			Lbyy						Lateral
3	3	MF-H1	12.5			Lbyy						Lateral
4	5	MF-CP2	.25			Lbyy						Lateral
5	7	MF-CP2	.25			Lbyy						Lateral
6	9	MF-CP2	.25			Lbyy						Lateral
7	11	MF-CP2	.25			Lbyy						Lateral
8	13	MF-CP2	.25			Lbyy						Lateral
9	15	MF-CP2	.25			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torq...	Kyy	Kzz	Cb	Function
10	16	MF-CP2	1.039			Lbyy						Lateral
11	17	MF-CP2	1.039			Lbyy						Lateral
12	18	MF-CP2	1.039			Lbyy						Lateral
13	19	SF-H1	5.167			Lbyy						Lateral
14	20	SF-H1	2.541			Lbyy						Lateral
15	21	SF-H1	2.541			Lbyy						Lateral
16	22	MF-CP1	.331			Lbyy						Lateral
17	23	MF-CP1	.331			Lbyy						Lateral
18	24	SF-H1	5.167			Lbyy						Lateral
19	25	SF-H1	2.541			Lbyy						Lateral
20	26	SF-H1	2.541			Lbyy						Lateral
21	29	SF-H1	5.167			Lbyy						Lateral
22	30	SF-H1	2.541			Lbyy						Lateral
23	31	SF-H1	2.541			Lbyy						Lateral
24	35	MF-P1	8			Lbyy						Lateral
25	37	MF-P1	8			Lbyy						Lateral
26	38	SF-H2	4.234			Lbyy						Lateral
27	39	SF-H2	4.234			Lbyy						Lateral
28	40	SF-H2	4.234			Lbyy						Lateral
29	41	SF-H2	4.234			Lbyy						Lateral
30	42	SF-H2	4.234			Lbyy						Lateral
31	43	SF-H2	4.234			Lbyy						Lateral
32	48A	MF-CP1	.331			Lbyy						Lateral
33	49A	MF-CP1	.331			Lbyy						Lateral
34	50A	MF-CP1	.331			Lbyy						Lateral
35	51A	MF-CP1	.331			Lbyy						Lateral
36	52	MF-CP1	.25			Lbyy						Lateral
37	53	MF-CP1	.25			Lbyy						Lateral
38	56	MF-CP1	.25			Lbyy						Lateral
39	57	MF-CP1	.25			Lbyy						Lateral
40	60	MF-CP1	.25			Lbyy						Lateral
41	61	MF-CP1	.25			Lbyy						Lateral
42	60A	MF-P1	8			Lbyy						Lateral
43	61A	MF-P1	8			Lbyy						Lateral
44	64	MF-P1	8			Lbyy						Lateral
45	66A	MF-P1	8			Lbyy						Lateral
46	67	MF-P1	8			Lbyy						Lateral
47	70	MF-P1	8			Lbyy						Lateral
48	69	MF-P1	8			Lbyy						Lateral
49	70A	MF-P1	8			Lbyy						Lateral
50	72	MF-P1	8			Lbyy						Lateral
51	74	MF-P1	8			Lbyy						Lateral
52	M88	ADD HR	12.5			Lbyy						Lateral
53	M89	ADD HR	12.5			Lbyy						Lateral
54	M90	ADD HR	12.5			Lbyy						Lateral
55	M90A	CONNECTI...	1.083			Lbyy						Lateral
56	M91	CONNECTI...	1.083			Lbyy						Lateral
57	M92	CONNECTI...	1.083			Lbyy						Lateral

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	48	max	2.028	4	2.21	22	1.929	2	-.529	3	1.241	7	4.134	47
2		min	-1.995	10	.875	4	-1.905	8	-2.015	69	-1.241	13	.843	5
3	43	max	1.851	6	2.079	18	1.968	2	-.378	13	1.302	3	-1.218	12
4		min	-1.884	12	.819	12	-1.95	8	-2.406	43	-1.298	9	-4.351	78

Envelope Joint Reactions (Continued)

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
5	32	max	.933	5	2.078	14	3.079	2	4.802	74	.9	11	.315	9
6		min	-.934	11	.802	8	-3.122	8	1.336	8	-.9	5	-.343	3
7	Totals:	max	4.586	5	6.196	18	6.977	2						
8		min	-4.586	11	3.414	12	-6.977	8						

Envelope AISC 15th(360-16): LRFD Steel Code Checks

	Member	Shape	Code C...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-...	phi*Mn z-...	Cb	Eqn
1	1	PIPE_3.0	.127	4.297	44	.079	4.557		8	28.251	65.205	5.749	5.749	1....	H1-1b
2	2	PIPE_3.0	.129	7.943	45	.058	4.557		67	28.251	65.205	5.749	5.749	1....	H1-1b
3	3	PIPE_3.0	.163	7.813	74	.064	4.557		9	28.251	65.205	5.749	5.749	1....	H1-1b
4	5	PL1/2"x6	.103	.125	2	.115	.25	y	44	95.014	97.2	1.012	12.15	1....	H1-1b
5	7	PL1/2"x6	.059	.25	9	.059	.25	y	86	95.014	97.2	1.012	12.15	1....	H1-1b
6	9	PL1/2"x6	.061	.125	5	.108	.25	y	49	95.014	97.2	1.012	12.15	1....	H1-1b
7	11	PL1/2"x6	.071	.25	2	.072	.25	y	84	95.014	97.2	1.012	12.15	1....	H1-1b
8	13	PL1/2"x6	.090	.125	9	.107	.25	y	41	95.014	97.2	1.012	12.15	1....	H1-1b
9	15	PL1/2"x6	.054	.25	6	.074	.25	y	75	95.014	97.2	1.012	12.15	1....	H1-1b
10	16	PL1/2"x6	.122	.519	7	.130	.519	y	45	65.639	97.2	1.012	12.15	1....	H1-1b
11	17	PL1/2"x6	.132	.519	2	.129	.519	y	43	65.639	97.2	1.012	12.15	1....	H1-1b
12	18	PL1/2"x6	.099	.519	9	.078	.519	y	86	65.639	97.2	1.012	12.15	1....	H1-1b
13	19	HSS4X4X4	.393	0	75	.088	0	y	70	97.504	106.155	12.311	12.311	2....	H1-1b
14	20	HSS4X4X4	.182	2.541	51	.059	.424	z	3	103.994	106.155	12.311	12.311	1....	H1-1b
15	21	HSS4X4X4	.185	0	73	.061	0	y	71	103.994	106.155	12.311	12.311	1....	H1-1b
16	22	PL3/8"x6	.075	.331	2	.285	.169	y	70	67.903	72.9	.57	9.113	2....	H1-1b
17	23	PL3/8"x6	.082	.169	5	.294	.169	y	50	67.903	72.9	.57	9.113	2.8	H1-1b
18	24	HSS4X4X4	.394	0	80	.108	0	y	75	97.504	106.155	12.311	12.311	2....	H1-1b
19	25	HSS4X4X4	.177	2.541	55	.059	.424	z	7	103.994	106.155	12.311	12.311	1....	H1-1b
20	26	HSS4X4X4	.184	0	64	.061	0	y	64	103.994	106.155	12.311	12.311	1....	H1-1b
21	29	HSS4X4X4	.372	0	48	.106	0	y	48	97.504	106.155	12.311	12.311	2....	H1-1b
22	30	HSS4X4X4	.176	2.541	56	.055	2.541	y	57	103.994	106.155	12.311	12.311	1....	H1-1b
23	31	HSS4X4X4	.175	0	69	.056	0	y	71	103.994	106.155	12.311	12.311	1....	H1-1b
24	35	PIPE_2.0	.474	4.5	2	.047	4.5		8	14.916	32.13	1.872	1.872	1....	H1-1b
25	37	PIPE_2.0	.557	4	8	.097	4		8	14.915	32.13	1.872	1.872	1....	H1-1b
26	38	L2x2x3	.158	0	6	.009	0	y	21	9.529	23.393	.558	1.191	1....	H2-1
27	39	L2x2x3	.223	0	3	.008	0	y	22	9.529	23.393	.558	1.21	2....	H2-1
28	40	L2x2x3	.190	0	9	.009	0	y	21	9.529	23.393	.558	1.21	2....	H2-1
29	41	L2x2x3	.214	0	7	.008	0	y	14	9.529	23.393	.558	1.162	1....	H2-1
30	42	L2x2x3	.190	4.234	13	.010	0	y	19	9.529	23.393	.558	1.207	2....	H2-1
31	43	L2x2x3	.155	0	11	.008	0	y	18	9.529	23.393	.558	1.204	2....	H2-1
32	48A	PL3/8"x6	.095	.169	9	.276	.169	y	62	67.903	72.9	.57	9.113	2....	H1-1b
33	49A	PL3/8"x6	.118	.169	8	.277	.169	y	56	67.903	72.9	.57	9.113	2....	H1-1b
34	50A	PL3/8"x6	.109	.169	8	.275	.169	y	69	67.903	72.9	.57	9.113	2....	H1-1b
35	51A	PL3/8"x6	.120	.169	13	.318	.169	y	56	67.903	72.9	.57	9.113	2....	H1-1b
36	52	PL3/8"x6	.134	.125	2	.288	0	y	70	70.011	72.9	.57	9.113	1....	H1-1b
37	53	PL3/8"x6	.131	.125	2	.288	0	y	54	70.011	72.9	.57	9.113	1....	H1-1b
38	56	PL3/8"x6	.094	.125	6	.308	0	y	72	70.011	72.9	.57	9.113	1....	H1-1b
39	57	PL3/8"x6	.099	.125	7	.288	0	y	57	70.011	72.9	.57	9.113	1....	H1-1b
40	60	PL3/8"x6	.121	.125	9	.307	0	y	64	70.011	72.9	.57	9.113	1....	H1-1b
41	61	PL3/8"x6	.077	.125	10	.296	0	y	50	70.011	72.9	.57	9.113	1....	H1-1b
42	60A	PIPE_2.0	.477	4.5	8	.047	4.5		3	14.916	32.13	1.872	1.872	1....	H1-1b
43	61A	PIPE_2.0	.553	4	8	.087	4		13	14.915	32.13	1.872	1.872	1....	H1-1b
44	64	PIPE_2.0	.245	4	9	.065	4		11	14.915	32.13	1.872	1.872	1....	H1-1b
45	66A	PIPE_2.0	.474	4.5	2	.046	4.5		8	14.916	32.13	1.872	1.872	1....	H1-1b
46	67	PIPE_2.0	.541	4	2	.077	4		5	14.915	32.13	1.872	1.872	1....	H1-1b
47	70	PIPE_2.0	.253	4	2	.081	4		2	14.915	32.13	1.872	1.872	1....	H1-1b
48	69	PIPE_2.0	.411	6	11	.019	6		11	14.916	32.13	1.872	1.872	1....	H1-1b

Envelope AISC 15th(360-16): LRFD Steel Code Checks (Continued)

	Member	Shape	Code C...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-...	phi*Mn z-...	Cb	Eqn
49	70A	PIPE_2.0	.432	4	2	.072	4		8	14.915	32.13	1.872	1.872	1....	H1-1b
50	72	PIPE_2.0	.387	4	8	.066	4		13	14.915	32.13	1.872	1.872	2....	H1-1b
51	74	PIPE_2.0	.378	4	2	.067	4		3	14.915	32.13	1.872	1.872	2....	H1-1b
52	M88	PIPE_2.0	.238	11.328	8	.113	.911		3	6.295	32.13	1.872	1.872	3....	H1-1b
53	M89	PIPE_2.0	.194	8.203	7	.194	.521		2	6.295	32.13	1.872	1.872	2....	H1-1b
54	M90	PIPE_2.0	.243	11.328	2	.093	.521		5	6.295	32.13	1.872	1.872	4....	H1-1b
55	M90A	L2.5x2.5x4	.270	1.083	2	.092	0	y	3	37.107	38.556	1.114	2.537	1....	H2-1
56	M91	L2.5x2.5x4	.137	1.083	11	.129	1.083	z	7	37.107	38.556	1.114	2.537	1....	H2-1
57	M92	L2.5x2.5x4	.143	1.083	2	.056	1.083	y	11	37.107	38.556	1.114	2.537	1....	H2-1

Exhibit F

Power Density/RF Emissions Report

RF EMISSIONS COMPLIANCE REPORT

Crown Castle on behalf of AT&T Mobility, LLC

Crown Castle Site Order ID: 509330
Crown Castle BU Number: 876373
Crown Castle Site Name: LONG EDDY / WRIGHT PROPERTY
AT&T Mobility, LLC Site FA Number: 12676386
AT&T Mobility, LLC Site ID: CT1304
136 Wright Road
Torrington, CT
6/12/2020

Report Status:

AT&T Mobility, LLC is Compliant

Michael Fischer, P.E.
Registered Professional Engineer (Electrical)
Connecticut License Number 33928
Expires January 31, 2021

Signed 12 June 2020

Prepared By:

Site Safe, LLC

8618 Westwood Center Drive
Suite 315

Vienna, VA 22182

Voice: 703-276-1100
Fax: 703-276-1169

That this statement specifically addresses the uncontrolled environment (which is more conservative than the controlled environment) and the limit set forth in the FCC rules for licensees of AT&T Mobility, LLC's operating frequencies as shown on the attached antenna worksheet; and

That when applying the uncontrolled environment standards, the predicted Maximum Power Density at two meters above ground level from the proposed AT&T Mobility, LLC operation is no more than 2.827% of the maximum permissible exposure limits in any accessible area on the ground; and

That it is understood per FCC Guidelines and OET 65 Appendix A, that regardless of the existent radio frequency environment, only those licensees whose contributions exceed 5% of the exposure limit pertinent to their operation(s) bear any responsibility for bringing any non-compliant area(s) into compliance; and

That when applying the uncontrolled environment standards, the cumulative predicted energy density from the proposed operation is no more than 9.617% of the maximum in any accessible area up to two meters above the ground per OET 65; and

That the calculations provided in this report are based on data provided by the client and antenna pattern data supplied by the antenna manufacturer, in accordance with FCC guidelines listed in OET 65. Horizontal and vertical antenna patterns are combined for modeling purposes to accurately reflect the energy two meters above ground level where on-axis energy refers to maximum energy two meters above the ground along the azimuth of the antenna and where area energy refers to the maximum energy anywhere two meters above the ground regardless of the antenna azimuth, accounting for cumulative energy from multiple antennas for the carrier(s) and frequency range(s) indicated; and

That the Occupational Safety and Health Administration has policies in place which address worker safety in and around communications sites, thus individual companies will be responsible for their employees' training regarding radio frequency safety; and

In summary, it is stated here that the proposed operation at the site will not result in exposure of the public to excessive levels of radio frequency energy as defined in the FCC Rules and Regulations, specifically 47 CFR 1.1307(b), and that AT&T Mobility, LLC's proposed operation is completely compliant.

Finally, it is stated that access to the tower should be restricted to communication industry professionals and approved contractor personnel trained in radio frequency safety and that this instant analysis addresses exposure levels at two meters above ground level and does not address exposure levels on the tower or in the immediate proximity of the antennas.

Crown Castle
LONG EDDY / WRIGHT PROPERTY
Site Summary

Carrier	Area Maximum Percentage MPE
AT&T Mobility, LLC (Not in Service)	0.000 %
AT&T Mobility, LLC (Proposed)	0.774 %
AT&T Mobility, LLC (Proposed)	0.663 %
AT&T Mobility, LLC (Proposed)	0.332 %
AT&T Mobility, LLC (Proposed)	0.414 %
AT&T Mobility, LLC (Proposed)	0.644 %
City of Torrington PD	0.065 %
Sprint	0.195 %
Sprint	0.155 %
Sprint	0.297 %
T-Mobile	1.590 %
T-Mobile	0.476 %
T-Mobile	0.761 %
T-Mobile	0.539 %
Verizon Wireless	0.933 %
Verizon Wireless	0.424 %
Verizon Wireless	0.519 %
Verizon Wireless	0.409 %
Verizon Wireless	0.427 %
Composite Site MPE:	9.617 %

AT&T Mobility, LLC (Not in Service)
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	850	MHz
Maximum Permissible Exposure (MPE):	566.67	$\mu W/cm^2$
Maximum power density at ground level:	0.00000	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.00000	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
CCI Antennas	HPA-65R-BUU-H8	128	0	0	0.000000	0.000000	0.000000	0.000000
CCI Antennas	HPA-65R-BUU-H8	128	120	0	0.000000	0.000000	0.000000	0.000000
CCI Antennas	HPA-65R-BUU-H8	128	240	0	0.000000	0.000000	0.000000	0.000000

AT&T Mobility, LLC (Proposed)
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	2100	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	7.73997	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.77400	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
CCI Antennas	DMP65R-BU8D	128	0	5250	6.463750	0.646375	7.710837	0.771084
CCI Antennas	DMP65R-BU8D	128	120	5250	6.463750	0.646375	7.710837	0.771084
CCI Antennas	DMP65R-BU8D	128	240	5250	6.463750	0.646375	7.710837	0.771084

AT&T Mobility, LLC (Proposed)
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	1900	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	6.63102	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.66310	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
CCI Antennas	DMP65R-BU8D	128	0	4170	5.095871	0.509587	6.602960	0.660296
CCI Antennas	DMP65R-BU8D	128	120	4170	5.095871	0.509587	6.602960	0.660296
CCI Antennas	DMP65R-BU8D	128	240	4170	5.095871	0.509587	6.602960	0.660296

AT&T Mobility, LLC (Proposed)
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	850	MHz
Maximum Permissible Exposure (MPE):	566.67	$\mu W/cm^2$
Maximum power density at ground level:	1.88062	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.33187	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
CCI Antennas	DMP65R-BU8D	128	0	2885	0.979999	0.172941	1.865602	0.329224
CCI Antennas	DMP65R-BU8D	128	120	2885	0.979999	0.172941	1.865602	0.329224
CCI Antennas	DMP65R-BU8D	128	240	2885	0.979999	0.172941	1.865602	0.329224

AT&T Mobility, LLC (Proposed)
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	737	MHz
Maximum Permissible Exposure (MPE):	491.33	$\mu W/cm^2$
Maximum power density at ground level:	2.03466	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.41411	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
CCI Antennas	DMP65R-BU8D	128	0	2692	0.967840	0.196982	1.786066	0.363514
CCI Antennas	DMP65R-BU8D	128	120	2692	0.967840	0.196982	1.786066	0.363514
CCI Antennas	DMP65R-BU8D	128	240	2692	0.967840	0.196982	1.786066	0.363514

AT&T Mobility, LLC (Proposed)
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	2300	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	6.43978	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.64398	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
CCI	OPA65R-BU8D	128	0	2661	6.393916	0.639392	6.425689	0.642569
CCI	OPA65R-BU8D	128	120	2661	6.393916	0.639392	6.425689	0.642569
CCI	OPA65R-BU8D	128	240	2661	6.393916	0.639392	6.425689	0.642569

City of Torrington PD
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	850	MHz
Maximum Permissible Exposure (MPE):	566.67	$\mu W/cm^2$
Maximum power density at ground level:	0.36930	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.06517	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
RFS	PD1109E	84	0	100	0.369295	0.065170	0.369295	0.065170

Sprint
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	1900	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	1.94530	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.19453	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
RFS	APXVSPP18-C-A20	150	20	3804	0.812518	0.081252	1.511773	0.151177
RFS	APXVSPP18-C-A20	150	120	3804	0.812518	0.081252	1.511773	0.151177
RFS	APXVSPP18-C-A20	150	220	3804	0.812518	0.081252	1.511773	0.151177

Sprint
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	850	MHz
Maximum Permissible Exposure (MPE):	566.67	$\mu W/cm^2$
Maximum power density at ground level:	0.87635	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.15465	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
RFS	APXVSPP18-C-A20	150	20	2168	0.689686	0.121709	0.704734	0.124365
RFS	APXVSPP18-C-A20	150	120	2168	0.689686	0.121709	0.704734	0.124365
RFS	APXVSPP18-C-A20	150	220	2168	0.689686	0.121709	0.704734	0.124365

Sprint
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	2500	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	2.96677	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.29668	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
RFS	APXVTM14-C-I20	150	20	6168	1.003626	0.100363	1.877372	0.187737
RFS	APXVTM14-C-I20	150	120	6168	1.003626	0.100363	1.877372	0.187737
RFS	APXVTM14-C-I20	150	220	6168	1.003626	0.100363	1.877372	0.187737

T-Mobile
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	2100	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	15.89970	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	1.58997	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
Ericsson	AIR 32 B2A B66AA	114	10	6168	10.050817	1.005082	10.088809	1.008881
Ericsson	AIR 32 B2A B66AA	114	100	6168	10.050817	1.005082	10.088809	1.008881
Ericsson	AIR 32 B2A B66AA	114	190	6168	10.050817	1.005082	10.088809	1.008881
Ericsson	AIR 32 B2A B66AA	114	280	6168	10.050817	1.005082	10.088809	1.008881

T-Mobile
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	1900	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	4.75658	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.47566	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
Ericsson	AIR 32 B2A B66AA	114	10	6168	2.352630	0.235263	2.695875	0.269588
Ericsson	AIR 32 B2A B66AA	114	100	6168	2.352630	0.235263	2.695875	0.269588
Ericsson	AIR 32 B2A B66AA	114	190	6168	2.352630	0.235263	2.695875	0.269588
Ericsson	AIR 32 B2A B66AA	114	280	6168	2.352630	0.235263	2.695875	0.269588

T-Mobile
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	700	MHz
Maximum Permissible Exposure (MPE):	466.67	$\mu W/cm^2$
Maximum power density at ground level:	3.54992	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.76070	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
RFS	APXVAARR24_43-U-NA20	114	10	3484	1.771726	0.379656	1.855351	0.397575
RFS	APXVAARR24_43-U-NA20	114	100	3484	1.771726	0.379656	1.855351	0.397575
RFS	APXVAARR24_43-U-NA20	114	190	3484	1.771726	0.379656	1.855351	0.397575
RFS	APXVAARR24_43-U-NA20	114	280	3484	1.771726	0.379656	1.855351	0.397575

T-Mobile
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	600	MHz
Maximum Permissible Exposure (MPE):	400	$\mu W/cm^2$
Maximum power density at ground level:	2.15521	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.53880	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
RFS	APXVAARR24_43-U-NA20	114	10	2501	1.369831	0.342458	1.389352	0.347338
RFS	APXVAARR24_43-U-NA20	114	100	2501	1.369831	0.342458	1.389352	0.347338
RFS	APXVAARR24_43-U-NA20	114	190	2501	1.369831	0.342458	1.389352	0.347338
RFS	APXVAARR24_43-U-NA20	114	280	2501	1.369831	0.342458	1.389352	0.347338

Verizon Wireless
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	850	MHz
Maximum Permissible Exposure (MPE):	566.67	$\mu W/cm^2$
Maximum power density at ground level:	5.28825	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.93322	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
Antel	LPA-80080-6CF	138	20	4019	1.415685	0.249827	2.179454	0.384610
Antel	LPA-80080-6CF	138	20	4019	1.415685	0.249827	2.179454	0.384610
Antel	LPA-80063-6CF	138	130	4019	1.448879	0.255684	1.472767	0.259900
Antel	LPA-80063-6CF	138	130	4019	1.448879	0.255684	1.472767	0.259900
Antel	LPA-80080-6CF	138	260	4019	1.415685	0.249827	2.179454	0.384610
Antel	LPA-80080-6CF	138	260	4019	1.415685	0.249827	2.179454	0.384610

Verizon Wireless
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	2100	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	4.24370	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.42437	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
Quintel	QS6656-5	138	20	6476	1.798499	0.179850	4.044618	0.404462
Quintel	QS6656-5	138	130	6476	1.798499	0.179850	4.044618	0.404462
Quintel	QS6656-5	138	260	6476	1.798499	0.179850	4.044618	0.404462

Verizon Wireless
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	1900	MHz
Maximum Permissible Exposure (MPE):	1000	$\mu W/cm^2$
Maximum power density at ground level:	5.19206	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.51921	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
Quintel	QS6656-5	138	20	5130	3.131717	0.313172	5.045753	0.504575
Quintel	QS6656-5	138	130	5130	3.131717	0.313172	5.045753	0.504575
Quintel	QS6656-5	138	260	5130	3.131717	0.313172	5.045753	0.504575

Verizon Wireless
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	850	MHz
Maximum Permissible Exposure (MPE):	566.67	$\mu W/cm^2$
Maximum power density at ground level:	2.31614	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.40873	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
Quintel	QS6656-5	138	20	2188	2.046580	0.361161	2.298548	0.405626
Quintel	QS6656-5	138	130	2188	2.046580	0.361161	2.298548	0.405626
Quintel	QS6656-5	138	260	2188	2.046580	0.361161	2.298548	0.405626

Verizon Wireless
LONG EDDY / WRIGHT PROPERTY
Carrier Summary

Frequency:	700	MHz
Maximum Permissible Exposure (MPE):	466.67	$\mu W/cm^2$
Maximum power density at ground level:	1.99083	$\mu W/cm^2$
Highest percentage of Maximum Permissible Exposure:	0.42661	%

					On Axis		Area	
Antenna Make	**Model**	**Height (feet)**	**Orientation (degrees true)**	**ERP (Watts)**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**	**Max Power Density ($\mu W/cm^2$)**	**Percent of MPE**
Quintel	QS6656-5	138	20	2139	1.511066	0.323800	1.920378	0.411510
Quintel	QS6656-5	138	130	2139	1.511066	0.323800	1.920378	0.411510
Quintel	QS6656-5	138	260	2139	1.511066	0.323800	1.920378	0.411510

LONG EDDY / WRIGHT PROPERTY
Composite Microwave Antenna Summary

Carrier	Antenna Make/Model	Height (feet)
T-Mobile	RFS SC2-W100AB	114