



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

April 16, 2020

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

RE: Notice of Exempt Modification for AT&T - 876371
557 Route 82, Oakdale, CT 06370
Latitude: 41° 30' 20.30" / Longitude: -72° 11' 51.10"

Dear Ms. Bachman:

AT&T currently maintains nine (9) antennas at the 147-foot mount on the existing 180-foot Monopole Tower, located at 557 Route 82, Oakdale, CT. The tower is owned by Crown Castle and the property is owned by Carolyn Besade. AT&T now intends to remove and replace three (3) antennas to their existing configuration. The new antennas will be installed at the 147-ft level of the tower. AT&T is also proposing mound modification as shown on the enclosed Mount Analysis.

The facility was approved by the Montville Planning & Zoning Commission on October 26, 1999 by way of Zoning Permit 99-276.

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 Ronald McDaniel, Mayor for the Town of Montville, Marcia Vlaun, Montville Director of Planning, Crown Castle as the tower owner, and Carolyn Besade, the property owner.

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.

Melanie A. Bachman

Page 2

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:

Ronald McDaniel, Mayor (*via email only to rmcdaniel@montville-ct.org*)
Town Hall, 2nd Floor
310 Norwich-New London Turnpike
Uncasville, CT 06382

Marcia Vlaun, Director of Planning (*via email only to planningdept@montville-ct.org*)
Montville Town Hall
310 Norwich-New London Turnpike
Uncasville, CT 06382

Carolyn Besade (*via email only to redmoebesade@yahoo.com*)
70 Platt Road
PO Box 788
Shelton, CT 06484

Crown Castle, Tower Owner

From: [Zsamba, Anne Marie](#)
To: redmoebesade@yahoo.com
Subject: AT&T Exempt Modification Notice - 557 Route 82, Oakdale
Date: Thursday, April 16, 2020 11:14:00 AM
Attachments: [EM-AT&T-557 Route 82 Oakdale-876371_2.pdf](#)

Dear Ms. Besade:

Attached please find AT&T's exempt modification application that is being submitted to the Connecticut Siting Council, today April 16, 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
Network Real Estate 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: ["rmcdaniel@montville-ct.org"](mailto:rmcdaniel@montville-ct.org)
Subject: AT&T Exempt Modification Notice - 557 Route 82, Oakdale
Date: Thursday, April 16, 2020 11:14:00 AM
Attachments: [EM-AT&T-557 Route 82 Oakdale-876371_2.pdf](#)

Dear Mayor McDaniel:

Attached please find AT&T's exempt modification application that is being submitted to the Connecticut Siting Council, today April 16, 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

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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: ["planningdept@montville-ct.org"](mailto:planningdept@montville-ct.org)
Subject: AT&T Exempt Modification Notice - 557 Route 82, Oakdale
Date: Thursday, April 16, 2020 11:14:00 AM
Attachments: [EM-AT&T-557 Route 82 Oakdale-876371_2.pdf](#)

Dear Ms. Vlaun:

Attached please find AT&T's exempt modification application that is being submitted to the Connecticut Siting Council, today April 16, 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

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

Exhibit A

Original Facility Approval

Phone: 848-7166

Town of Montvill
Building Department
310 Norwich New London Tpke

Fax: 848-7231

Building / Trades Permit

Permit Number BP2000-2 Permit Date 1/5/2000 Permit Type Building Permit Code C2

Job Street # 557 Job Location Route 82 Map/Block-Lot 058/015-000

Job Description telecommunications tower & equip. building

Owner Carolyn Besade/Sprint PCS Mailing Address 1 International Blvd., Suite 800

City Mahwah State N.J. Zip 07495 Telephone 201/512/6700

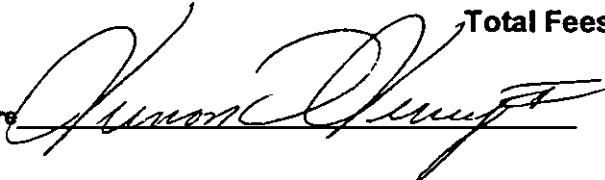
Contractor Sprint PCS *Mailing Address 1 International Blvd., Suite 800

*City Mahwah *State N.J. *Zip 07495 *Telephone 201/512/4700

Lic/Reg Number _____ Lic/Reg Type _____ Expiration Date _____

Use Group B Size 180' high Type Construction 2C

Building Value	\$130,000.00	Building Fee	\$778.00
Plumbing Value	\$0.00	Plumbing Fee	\$0.00
Heating Value	\$0.00	Heating Fee	\$0.00
Electrical Value	\$0.00	Electrical Fee	\$0.00
A/C Value	\$0.00	A/C Fee	\$0.00
Other Value	\$0.00	Other Fee	\$0.00
Total Values	\$130,000.00	State Ed Fee	\$20.80
		C/O Fee	\$25.00
		Plan Review Fee	\$111.60
		Total Fees	\$935.40

Building Official's Signature 

Date 1/5/00

Required Inspection

- Footings - Prior to pouring concrete
- Footing Drains / Waterproofing - Prior to backfill
- Framing
- Rough Electrical
- Electrical Service
- Rough Plumbing - Leak test required
- Pool Bonding and Electric
- Rough Heating and Air Conditioning
- Chimney - One flue above thimble
- Fireplace - Throat
- Fireplace - Final
- Firestopping / Draftstopping
- Insulation

Final Inspection for Certificate of Occupancy - PRIOR to Use or Occupancy

**TOWN OF MONTVILLE
PLANNING & ZONING COMMISSION**

310 NORWICH-NEW LONDON TPKE.
UNCASVILLE, CONNECTICUT 06382-2599

L E G A L N O T I C E

The Montville Planning and Zoning Commission at its meeting held on October 26, 1999, took the following action:

Carolyn Besade/Sprint Spectrum L.P.: Application for a special permit to construct a wireless telecommunications facility, including a 180 foot monopole tower with antenna, base station equipment, fencing, and an access drive on property located at 557 Route 82, Montville, Ct. Shown on Assessor's Map 58, Lot 15. **GRANTED WITH CONDITION.**

The Mohegan Tribe of Indians of Connecticut: Application for a special permit to develop 36 elderly housing units for senior members of the Mohegan Tribe of Indians of Connecticut on property located at 1710 Norwich-New London Tpke., Montville, Ct. Shown on Assessor's Map 41, Lot 1. **GRANTED.**

Maps and documentation concerning the above applications are on file in the office of the Town Planner, Town Hall Annex, Montville, Ct.

Dated at Montville, Ct. this 27th day of October 1999.

MONTVILLE PLANNING AND ZONING COMMISSION

Gregory Majewski, Chairman

PUBLISH IN THE NEW LONDON DAY October 29, 1999

PLEASE REFERENCE PURCHASE ORDER 6100 | 1 ON INVOICE.

ZONING PERMIT

ZONING PERMIT NUMBER 99-276 OR N/A EXPIRATION DATE 12-9-2004

APPLICANT Sprint Spectrum, L.P.

APPLICANT'S ADDRESS 1 International Blvd., Suite 800 TELEPHONE (201) 512-4700

PROPERTY OWNER Carolyn Besade Mahwah, NJ 07495

LOCATION 557 Route 82, Montville, CT LOT AREA 10.08 acres ZONE R-120

ASSESSOR'S MAP NUMBER 58 LOT NUMBER 15

BUILDING HEIGHT 180-ft Monopole Tower PROPOSED FLOOR AREA N/A

NATURE OF REQUEST/PROPOSED USE Telecommunications tower, antennas, and associated equipment

SKETCH ON REVERSE OR PROVIDE TWO COPIES OF PLANS DRAWN TO A SCALE OF AT LEAST 1" = 40' SHOWING: DIMENSIONS OF THE LOT, THE SIZE, AREA, AND LOCATION OF EXISTING, PROPOSED, PRINCIPAL AND ACCESSORY STRUCTURES, DRIVEWAYS, SANITARY FACILITIES AND WATER SUPPLY, PARKING FACILITIES, AND ADJACENT STREETS; DISTANCES OF PROPOSED STRUCTURES FROM PROPERTY LINES. IN THE CASE OF FILL OR EXCAVATION REQUESTS (UNDER 500 CUBIC YARDS), DIMENSIONS OF FILL OR EXCAVATION AREA MUST BE INCLUDED. A PLAN PREPARED BY A CONNECTICUT REGISTERED LAND SURVEYOR MAY BE REQUIRED. THE PROPOSED USE SPECIFIED ABOVE SHALL NOT BE AUTHORIZED UNTIL AN ACTUAL CERTIFICATE OF COMPLIANCE IS ISSUED BY THE COMMISSION OR ITS APPOINTED AGENTS.

- SKETCH PLAN OR GRADING PLAN YES N/A Submitted 9/21/99
- SEPTIC PERMIT YES N/A
- DRIVEWAY PERMIT (STATE, LOCAL) YES N/A Existing driveway
- WETLANDS PERMIT YES N/A
- HAS A VARIANCE EVER BEEN GRANTED FOR THIS PROPERTY YES NO
- HAS BOND BEEN FILED YES N/A
- FEE PAID CASH CHECK # N/A Submitted 9/21/99

- THE APPLICANT AGREES TO:
1. ADHERE TO ALL THE APPLICABLE REQUIREMENTS OF THE ZONING REGULATIONS.
 2. NOTIFY THE COMMISSION OR ITS APPOINTED AGENT OF ANY ALTERATION IN THE PLANS.
 3. CALL FOR FINAL INSPECTION AND REQUEST CERTIFICATE OF COMPLIANCE BEFORE ISSUANCE OF C. O.

APPLICANT'S SIGNATURE [Signature] DATE 12/8/99

COMMISSION AGENT Thomas E. Sanders DATE 12/9/99

CERTIFICATE OF COMPLIANCE Thomas E. Sanders DATE 7/17/01

THIS SIGNED PERMIT AUTHORIZES THE APPLICANT TO PROCEED TO THE BUILDING DEPARTMENT FOR ANY REQUIRED PERMITS

CONTACT THE ZONING OFFICER (848-8549) AT LEAST 24 HOURS BEFORE CONSTRUCTION BEGINS TO ALLOW ZONING OFFICER TO INSPECT LOCATION.

REV. 9/14/98

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 2016.



Information on the Property Records for the Municipality of Montville was last updated on 4/3/2020.

Parcel Information

Location:	557 ROUTE 82	Property Use:	Residential	Primary Use:	Residential
Unique ID:	B0269700	Map Block Lot:	058/015/000	Acres:	11.22
490 Acres:	0.00	Zone:	R120	Volume / Page:	0429/0737
Developers Map / Lot:		Census:	695202		

Value Information

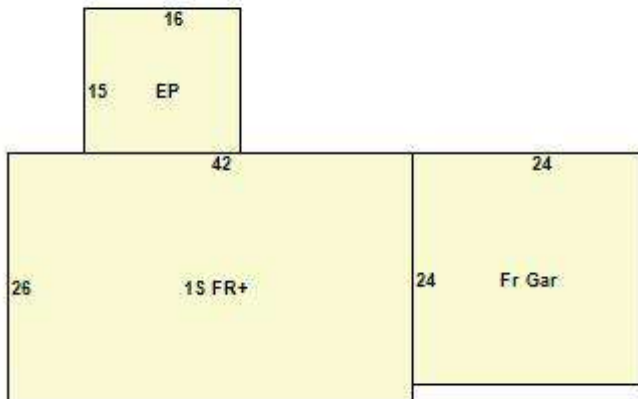
	Appraised Value	Assessed Value
Land	197,680	138,370
Buildings	147,894	103,530
Detached Outbuildings	676,910	473,840
Total	1,022,484	715,740

Owner's Information

Owner's Data

BESADE CAROLYN J L/U & BESADE THOMAS E &
EDWARD J & JOHN R & BRIAN H
557 ROUTE 82
OAKDALE CT 06370

Building 1



Building Use:	Single Family	Style:	Ranch	Living Area:	1,092
Stories:	1.00	Construction:	Wood Frame	Year Built:	1979
Total Rooms:	5	Bedrooms:	3	Full Baths:	2

Half Baths:	0	Fireplaces:	1	Heating:	Hot Water
Fuel:	Oil	Cooling Percent:	0	Basement Area:	1,092
Basement Finished Area:	0	Basement Garages:	0	Roof Material:	Asphalt
Siding:	Vinyl Siding	Units:			

Special Features

Attached Components

Type:	Year Built:	Area:
Frame Garage	1979	576
Enclosed Porch	1979	240

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
6 Ft Top Rail Fence	0000	288.00	0.00	288
Cell Shed	0000	120.00	0.00	120
Cell Shed	0000	160.00	0.00	160
Cell Tower	0000	4.00	0.00	4

Owner History - Sales

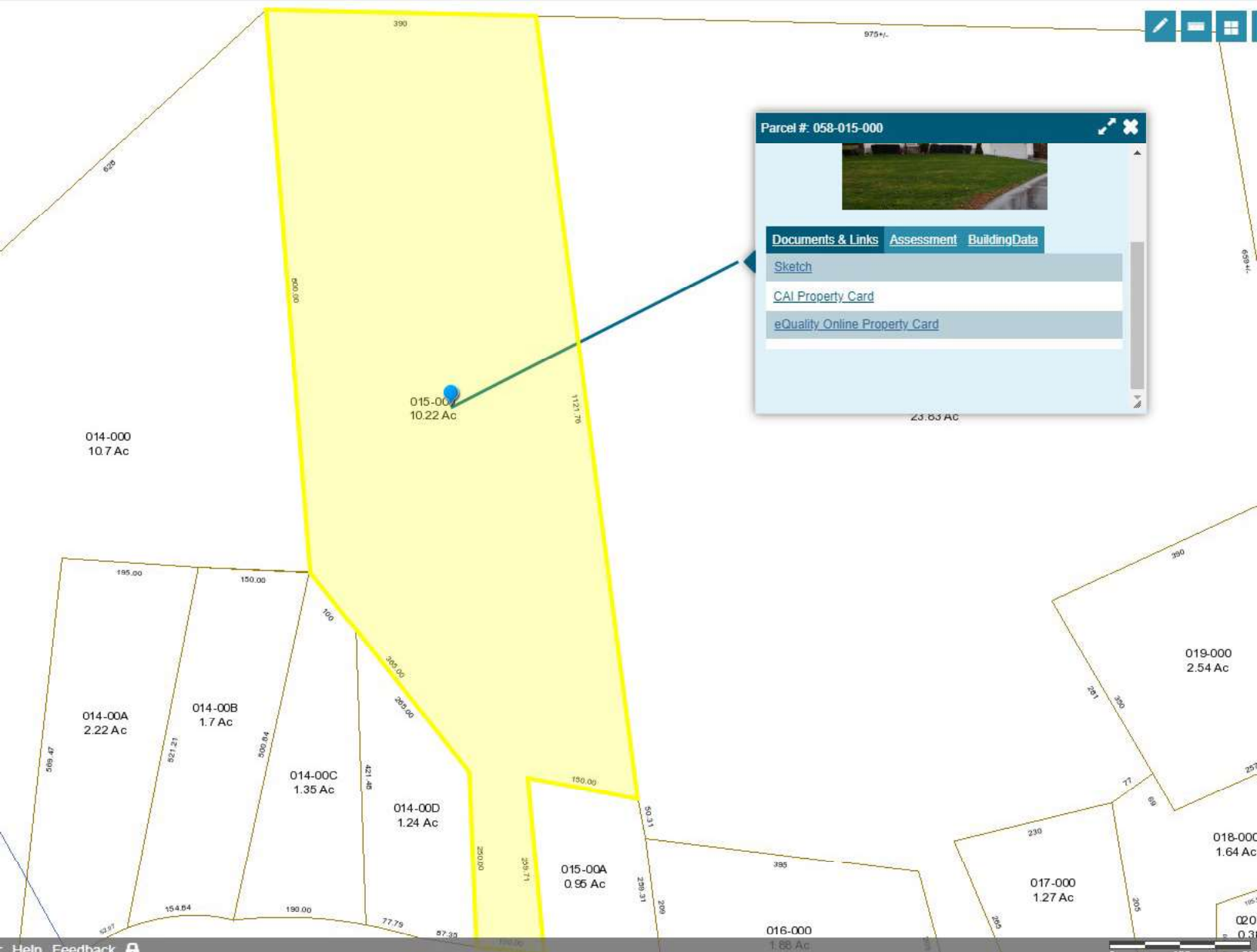
Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
BESADE CAROLYN J L/U & BESADE THOMAS E &	0429	0737	02/04/2004	Warranty Deed	No	\$0
BESADE CAROLYN J L/U ET AL	0404	0638	05/29/2003	Warranty Deed	No	\$0

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
BESADE CAROLYN J	0170	0742	07/24/1986		No	\$0
BESADE THOMAS H EST & CAROLYN J	0163	0325	02/01/1985		No	\$0
BESADE THOMAS H & CAROLYN J	0138	1104	05/01/1979		No	\$0
COHEN RUBIN & GILBERT J MILONE	0119	0244	05/01/1973		No	\$0

Building Permits

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
B2018-0553	Commercial New	12/31/2018		Needs Visit	SPRINT TO REPLACE SIX ANTENNAS & ADD NINE REMOTE RADIO HEADS
B2017-0002	Commercial New	01/03/2017		Permit Issued	REPLACE ANTENNA PANELS & REMOTE RADIO HEADS TO EXISTING TOWER
E2013-0128	Electrical	06/14/2013		Permit Issued	LTE EQUIPMENT
B2009-0044	Commercial New	02/25/2009		Permit Issued	REPLACEMENT OF ANTENNAS
B2006-0398	Residential Addition	08/10/2006		Permit Issued	CO ISSUED-ADDITION 14' X 16'
E2006-0169	Electrical	08/10/2006		Permit Issued	ELECTRICAL FOR ADDITION 14' X 16'
E2003-0052	Electrical	03/19/2003		Permit Issued	ELECTRIC SERVICE & WIRING FOR AT & T EQUIPMENT

Information Published With Permission From The Assessor



Parcel #: 058-015-000



Documents & Links | Assessment | BuildingData

- [Sketch](#)
- [CAI Property Card](#)
- [eQuality Online Property Card](#)

23.83 AC

Exhibit C

Construction Drawings



AT&T

AT&T SITE NUMBER: CTL02194
AT&T SITE NAME: MONTVILLE RT 82
AT&T FA CODE: 10041786
AT&T PACE NUMBER: MRCTB040625/MRCTB040395
SITE TYPE: MONOPOLE

BUSINESS UNIT #: 876371
SITE ADDRESS: 557 RTE. 82
COUNTY: OAKDALE, CT 06370
TOWER HEIGHT: NEW LONDON
 180'-0"

PROJECT: AT&T LTE 3C/4C



ONE AT&T WAY
 BEDMINSTER, NJ 07921



3200 HORIZON DRIVE, SUITE 150
 KING OF PRUSSIA, PA 19406



177 S. BOULDER
 TULSA, OK 74119
 PH: (918) 587-4830
 www.btggrp.com

AT&T SITE NUMBER:
 CTL02194

BU #: 876371
**WALDEN / CAROLYN
 BESADE**

557 RTE. 82
 OAKDALE, CT 06370
 EXISTING 180'-0"
 MONOPOLE

ISSUED FOR:

REV	DATE	BY	DESCRIPTION	CHKD BY	DATE
0	1/2/20	DJS	CONSTRUCTION	RJM	
1	4/1/20	GRT	CONSTRUCTION	RJM	



B&T ENGINEERING, INC.
 PEC 0001564
 Expires 2/10/21
 177 S. BOULDER, SUITE 150
 KING OF PRUSSIA, PA 19406
 PH: (918) 587-4830
 WWW.BTENGINEERING.COM

SHEET NUMBER:
T-1
REVISION:
 1



CTL02194
MONTVILLE RT 82
10041786
MRCTB040625/MRCTB040395
MONOPOLE

DRAWING INDEX

SHEET #	TITLE SHEET	SHEET DESCRIPTION
T-1	GENERAL NOTES	
T-2	SITE PLAN	
G-1	EQUIPMENT PLAN	
G-2	TOWER ELEVATIONS	
G-3	ANTENNA ORIENTATION	
G-4	ANTENNA SCHEDULE	
G-5	ANTENNA AND RRH SPECS.	
G-6	ANTENNA AND RRH DETAIL	
G-7	BULMING DIAGRAM	
G-8	GROUNDING DETAILS	
G-9	MOUNT MODIFICATION	

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR I1817.
 CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS
 AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY
 THE ENGINEER OF ANY DISCREPANCIES. THE CONTRACTOR SHALL
 PROCEED WITH THE WORKS OR BE RESPONSIBLE FOR SAME.

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO PROPOSE AN ANTENNA
 MODIFICATION ON AN EXISTING WIRELESS SITE.

TOWER SCOPE OF WORK

- MODIFY EXISTING MOUNT PER MOUNT MODIFICATION BY B+T GROUP DATED 2/3/20
- REMOVE (0) MONOPOLE RT 77A ANTENNAS
- REMOVE (0) MONOPOLE RT 109 ANTENNAS
- REMOVE (0) ERICSSON RRH101 RRHS
- INSTALL (0) CCL DM063R-RUCDA ANTENNAS
- INSTALL (0) ERICSSON 4449 B5/B12 RRHS
- INSTALL (0) RAYCIP DC648466-034CEV
- INSTALL (0) FIBER TRUNK
- INSTALL (0) FIBER RUN
- INSTALL UNITS RET HOME RUN

GROUND SCOPE OF WORK

- INSTALL (0) 1/2" x 1/2" x 1/2" DIM. EXEMPS
- INSTALL (0) FIBER MANAGEMENT BOX
- INSTALL (0) ERICSSON 4478 B14 RRHS
- INSTALL (0) BB6630 + (0) IDL6

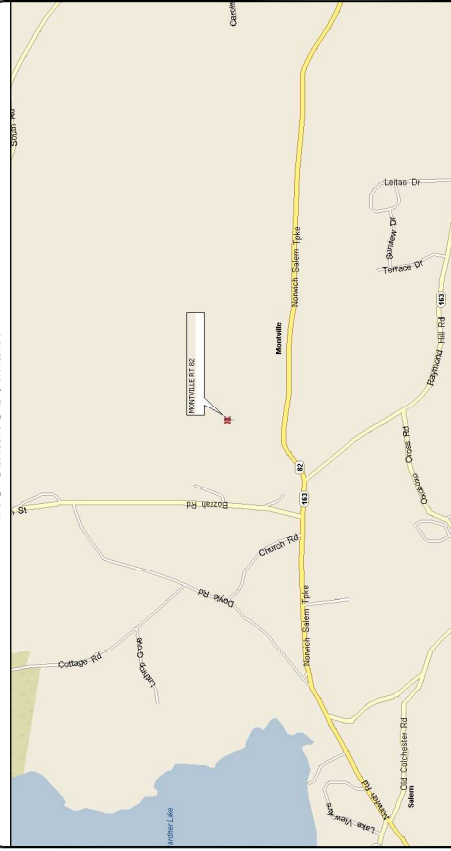
DESIGN PACKAGE BASED ON THE PERMITS AND ANAL. DATE: 3/23/20
 REVISION: 0

PROJECT TEAM

AKE FIRM:
 B+T GROUP
 177 SOUTH BOULDER, SUITE 200
 KING OF PRUSSIA, PA 19406
 PH: (918) 587-4830
 MIKE GARRETT

CROWN CASTLE USA INC. CONTACTS:
 3200 HORIZON DRIVE, SUITE 150
 KING OF PRUSSIA, PA 19406

LOCATION MAP



NO SCALE

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 THE FOLLOWING:

CODE TYPE
 BUILDING: 2018 BUILDING CODE OF CONNECTICUT
 MECHANICAL: 2018 MECHANICAL CODE OF CONNECTICUT
 ELECTRICAL: 2017 NEC

MOUNT ANALYSIS: B+T GROUP
 FEBRUARY 3, 2020

REFERENCE DOCUMENTS:

STRUCTURAL ANALYSIS:
 B&T ENGINEERING, INC.
 FEBRUARY 3, 2020



CALL CONNECTICUT ONE CALL
 (800) 922-4455
 CALL 3 WORKING DAYS
 BEFORE YOU DIG



NOTE: BEFORE ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN NCC AT (800) 788-3011 & CROWN CONSTRUCTION MANAGER



ONE AT&T WAY
BEDMINSTER, NJ 07921



3200 HORIZON DRIVE, SUITE 150
KING OF PRUSSIA, PA 19406



1777 S. BOULDER
TULSA, OK 74119
PH: (918) 587-4830
www.bttgrp.com

AT&T SITE NUMBER:
CTL02194

BU #: 876371
WALDEN / CAROLYN
BESADE

557 RTE. 82
OAKDALE, CT 06370
EXISTING 180'-0"
MONOPOLE

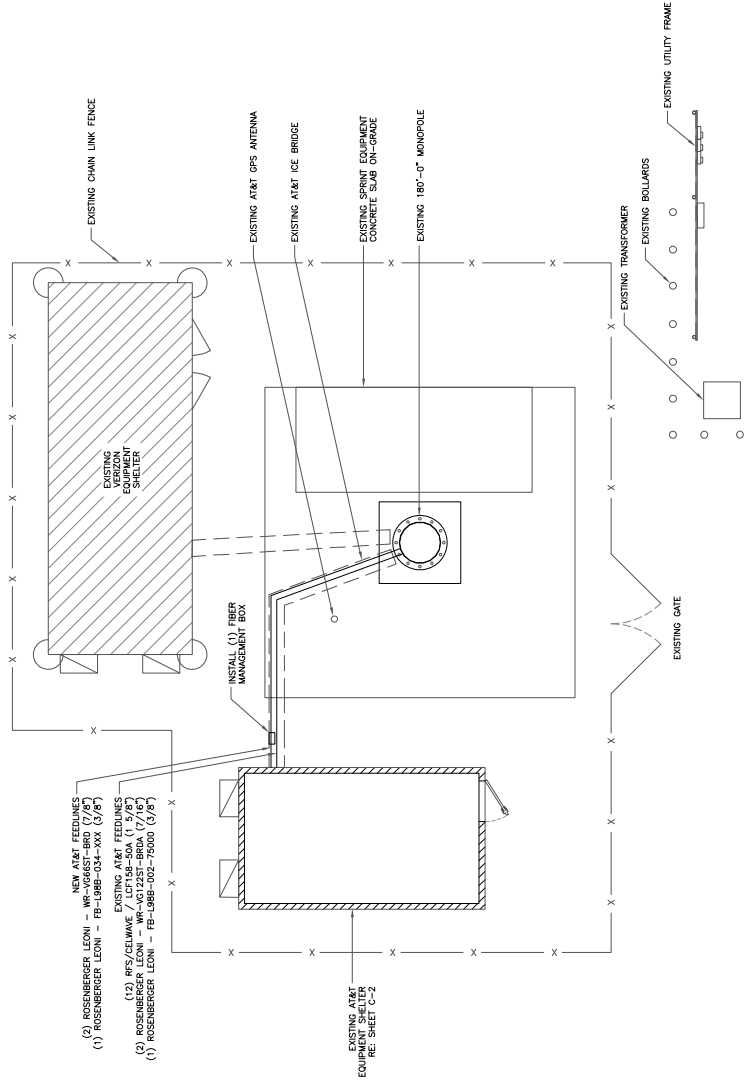
ISSUED FOR:			
REV	DATE	DESCRIPTION	DESIGNER
0	3/2/20	DIS. CONSTRUCTION	R.M.
1	4/1/20	CONSTRUCTION	R.M.



B&T ENGINEERING, INC.
PEC 0001564
Expires: 2/10/21

THIS PLAN AND ALL INFORMATION CONTAINED HEREIN
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OR A LICENSED PROFESSIONAL ENGINEER,
ELECTRICIAN OR SURVEYOR.

SHEET NUMBER: **C-1** REVISION: **1**



- (2) ROSENBERGER LEONI - WP-1988-034-XX (5/8')
- (1) ROSENBERGER LEONI - FB-1988-034-XX (5/8')
- (12) RFS/CELWAVE / LCF158-50A (1 5/8')
- (2) ROSENBERGER LEONI - WP-AG12251-BRDA (7/16')
- (1) ROSENBERGER LEONI - FB-1988-002-75000 (5/8')

EXISTING AT&T
EQUIPMENT SHELTER
REF. SHEET C-2



1 SITE PLAN
SCALE: 3/16"=1'-0" (FULL SIZE)
3/32"=1'-0" (1:12)



ONE AT&T WAY
BEDMINSTER, NJ 07921



3200 HORIZON DRIVE, SUITE 150
KING OF PRUSSIA, PA 19406



1717 S. BOKUMBER
TULSA, OK 74119
PH: (918) 587-8330
www.btp.com

AT&T SITE NUMBER:
CTL02194

BU #: 876371
WALDEN / CAROLYN
BESADE

557 RTE. 82
OAKDALE, CT 066370

EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

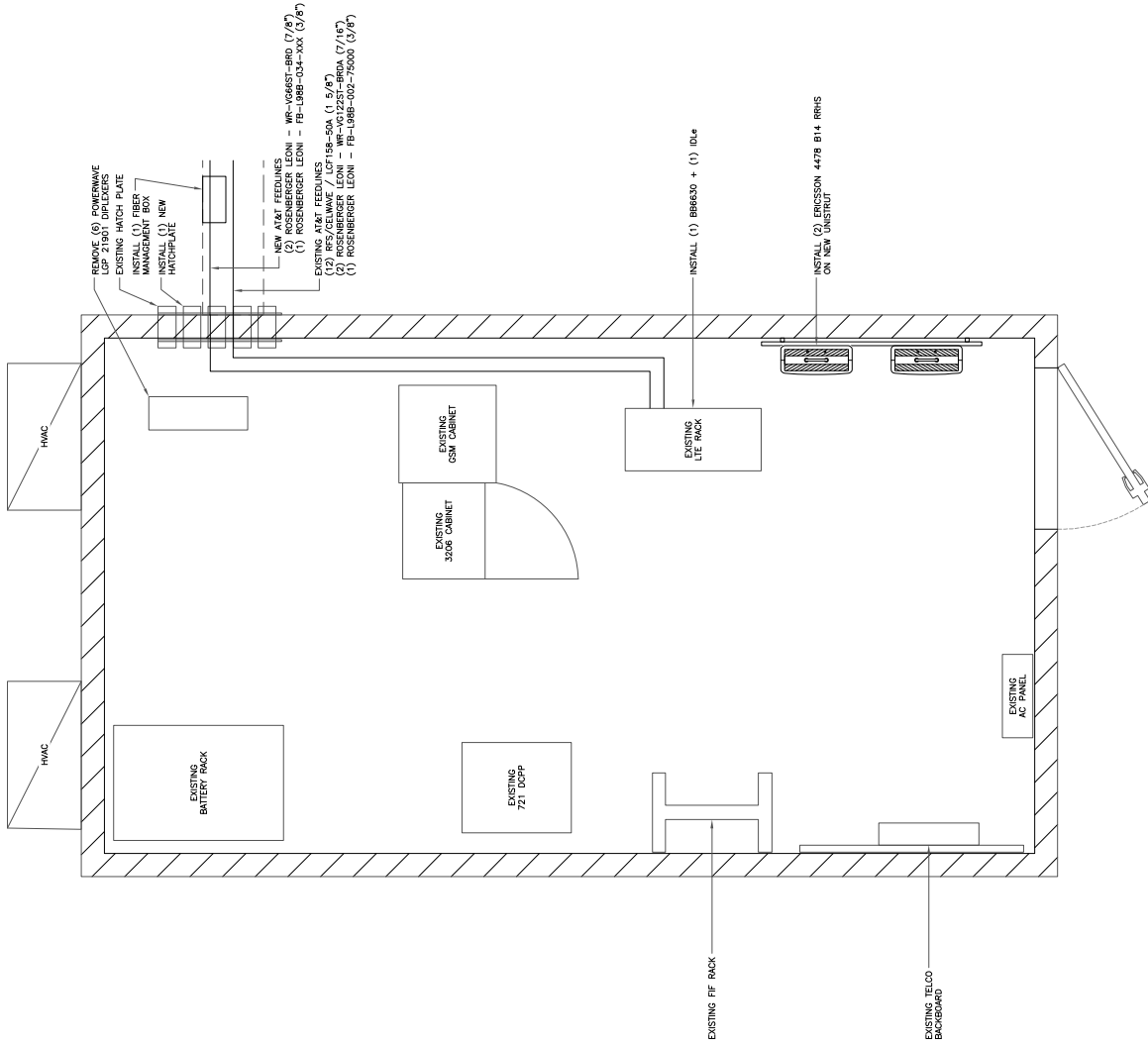
REV	DATE	ISSUES	DESCRIPTION	ISSUED FOR
0	1/2/20	DIS	CONSTRUCTION	RM
1	4/1/20	CON	CONSTRUCTION	RM



B&T ENGINEERING, INC.
PEC 0001564
Expires: 2/10/21

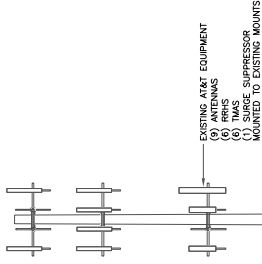
THIS SHEET AND ALL INFORMATION CONTAINED HEREON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OR AUTHORITY OF A LICENSED PROFESSIONAL ENGINEER, SHALL BE THE PROPERTY OF B&T ENGINEERING, INC.

SHEET NUMBER: C-2 REVISION: 1

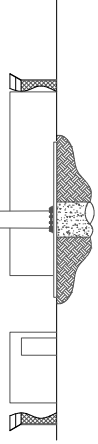


1 EXISTING EQUIPMENT PLAN
SCALE: 3/8"=1'-0" (FULL SIZE)
3/8"=1'-0" (1:16)

AXIS EQUIPMENT
ANTENNA CL: 147'-0"
MOUNT CL: 147'-0"

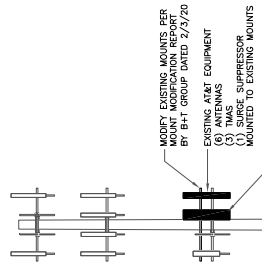


EXISTING 180'-0" MONOPOLE
EXISTING 144' FEEDLINES
(12) RFS/CELMAK / LCF-158-50A (1.5/8')
(2) ROSENBERGER LEONI - WR-VG1225-BROA (7/16')
(1) ROSENBERGER LEONI - PB-L98B-022-75000 (3/8')



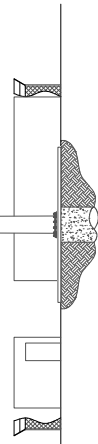
1 EXISTING ELEVATION
SCALE: NOT TO SCALE

AXIS EQUIPMENT
ANTENNA CL: 147'-0"
MOUNT CL: 147'-0"



EXISTING 180'-0" MONOPOLE
EXISTING 144' FEEDLINES
(12) RFS/CELMAK / LCF-158-50A (1.5/8')
(2) ROSENBERGER LEONI - WR-VG1225-BROA (7/16')
(1) ROSENBERGER LEONI - PB-L98B-022-75000 (3/8')

NEW 44' FEEDLINES
(6) ROSENBERGER LEONI - WR-VG85T-BRO (7/8')
(1) ROSENBERGER LEONI - PB-L98B-034-XXX (3/8')
IN NEW 2" INNERDUCT ROUTED INSIDE MONOPOLE



2 FINAL ELEVATION
SCALE: NOT TO SCALE



AT&T SITE NUMBER:
CTL02194
BU #: 876371
WALDEN / CAROLYN
BESADE
557 RTE. 82
OAKDALE, CT 06370
EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	DESCRIPTION	DESIGN
0	1/2/20	DWG CONSTRUCTION	RJM
1	4/1/20	GEN CONSTRUCTION	RJM



B&T ENGINEERING, INC.
PEC 0001564
Expires: 2/10/21
I, B. T. WILSON, LICENSED PROFESSIONAL ENGINEER, STATE OF CONNECTICUT, HEREBY CERTIFY THAT I AM ACTING UNDER THE DIRECTION OR A L.L.C.-EMPLOYED LICENSED ENGINEER, ENGINEER-IN-TRAINING, OR ARCHITECT.

SHEET NUMBER: C-3
REVISION: 1



ONE AT&T WAY
BEDMINSTER, NJ 07821



3200 HORIZON DRIVE, SUITE 150
KING OF PRUSSIA, PA 19406



1717 S. BOULDER
TULSA, OK 74119
PH: (918) 597-4830
www.btggrp.com

AT&T SITE NUMBER:
CTL02194

BU #: 876371
WALDEN / CAROLYN
BESADE

557 RTE. 82
OAKDALE, CT 066370
EXISTING 180'-0"
MONOPOLE

ISSUED FOR:			
REV	DATE	DESCRIPTION	DESIGNER
0	1/24/20	DIS. CONSTRUCTION	R.M.
1	4/1/20	GEN. CONSTRUCTION	R.M.

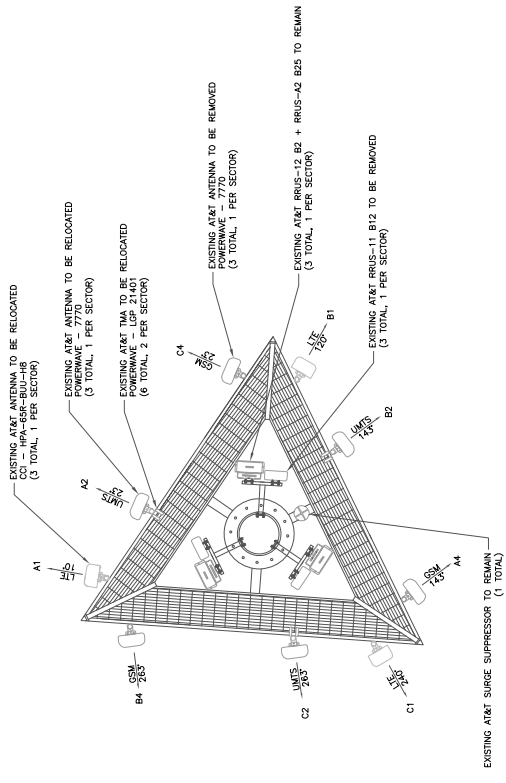


4/1/20

B&T ENGINEERING, INC.
PEC 0001564
Expires: 2/10/21

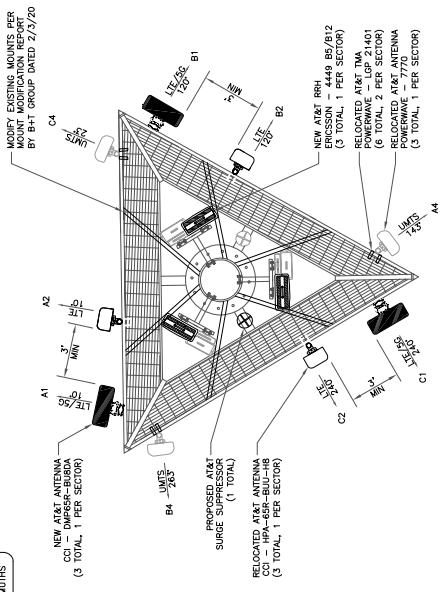
THIS SEAL IS VALID ONLY WHEN USED BY THE ENGINEER OR A LICENSEE OF THE PROFESSIONAL ENGINEER, REGISTERED UNDER HIS/HER NAME.

SHEET NUMBER: C-4
REVISION: 1



1 EXISTING ANTENNA LAYOUT
SCALE: NOT TO SCALE

NOTE:
ROUTE PLATFORMS TO
MATCH LITE ADMITTIS



2 FINAL ANTENNA LAYOUT
SCALE: NOT TO SCALE



ONE AT&T WAY
BEDMINSTER, NJ 07921



3300 HORIZON DRIVE, SUITE 150
KING OF PESSIA, PA 19605



1775 BOULDER
TULSA, OK 74119
PH: (918) 897-8500
www.btggrp.com

AT&T SITE NUMBER:
CTL02194

BU #: 876371
WALDEN / CAROLYN
BESADE

557 RTE. 82
OAKDALE, CT 066370

EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

REV	DATE	BY	DESCRIPTION	DESIGNER
0	1/2/20	DIS	CONSTRUCTION	RM
1	4/1/20	GRT	CONSTRUCTION	RM



B&T ENGINEERING, INC.
PEC 0001584
Expires: 2/10/21

THIS SEAL IS VALID ONLY FOR THE PROJECT AND EXPIRES ON THE DATE INDICATED. IT IS VOID IF USED FOR ANY OTHER PROJECT OR A LICENSEE IS NOT A REGISTERED PROFESSIONAL ENGINEER.

SHEET NUMBER: C-5
REVISION: 1

FINAL ANTENNA AND COAXIAL CABLE SCHEDULE

POS.	TECH	STATUS	AZIMUTH	ANTENNA TYPE	ANTENNA RAD CENTER	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	MAIN COAX SIZE	MAIN COAX LENGTH	COAX QTY	TMA QTY AND MODEL	RAYCAP	DC (KRAV66ST-URD) FIBER CABLES (EPL58BL604LXXX)	RRHs (QTY)	DUPLEXER ON TOWER	DUPLEXER ON GROUND	REF CABLE	
ALPHA SECTOR																		
A1	LTE	NEW	10°	CCI DMP66R-BU8DA	147'-0"	0'	9°/5/5'	-	-	-	-	-	(1) 4449 B5/B12	-	-	-	-	
A2	LTE	EXISTING	10°	CCI HPA-65R-BUU-HB	147'-0"	0'	9°/5/5'	1-5/8"	185'-0"	2	-	DC6-48-60-18-8F	(1) 4478 B14 (SHELTER)	-	-	YES	-	
A3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
A4	UMTS	EXISTING	143°	POWERWAVE 7770	147'-0"	0'	4°	1-5/8"	185'-0"	2	LGP 21401	-	-	-	-	YES	YES	
BETA SECTOR																		
B1	LTE/5G	NEW	120°	CCI DMP66R-BU8DA	147'-0"	0'	10°/6°/6°	-	-	-	-	-	(1) 4449 B5/B12	-	-	-	-	
B2	LTE	EXISTING	120°	CCI HPA-65R-BUU-HB	147'-0"	0'	10°/6°/6°	1-5/8"	185'-0"	2	-	DC6-48-60-18-8C-EV	(1) 4478 B14 (SHELTER)	-	-	YES	-	
B3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
B4	GSM	EXISTING	263°	POWERWAVE 7770	147'-0"	0'	6°	-	185'-0"	2	LGP 21401	-	-	-	-	YES	YES	
GAMMA SECTOR																		
C1	LTE/5G	NEW	240°	CCI DMP66R-BU8DA	147'-0"	0'	2°/2°/2°	-	-	-	-	-	(1) 4449 B5/B12	-	-	-	-	
C2	LTE	EXISTING	240°	CCI HPA-65R-BUU-HB	147'-0"	0'	2°/2°/2°	1-5/8"	185'-0"	2	-	-	(1) 4478 B14 (SHELTER)	-	-	YES	-	
C3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
C4	UMTS	EXISTING	23°	POWERWAVE 7770	147'-0"	0'	10°	1-5/8"	185'-0"	2	LGP 21401	-	-	-	-	YES	YES	

NOTE: BOLD DENOTES NEW EQUIPMENT

1 FINAL ANTENNA AND COAXIAL CABLE SCHEDULE
SCALE: NOT TO SCALE



ONE AT&T WAY
MEDMINSTER, NJ 07921



3200 HORIZON DRIVE, SUITE 150
KING OF PRUSSIA, PA 19406



1775 BOLLER
TULSA, OK 74119
PH: (918) 587-4500
www.btg.com

AT&T SITE NUMBER:
CTL02194

BU #: 876371
WALDEN / CAROLYN
BESADE

557 RTE. 82
OAKDALE, CT 06370
EXISTING 180'-0"
MONOPOLE

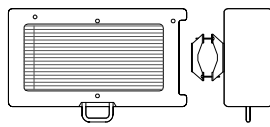
ISSUED FOR:			
REV	DATE	DESCRIPTION	DESIGNER
0	1/2/20	D/S CONSTRUCTION	RAC
1	4/1/20	GER CONSTRUCTION	RAC



B&T ENGINEERING, INC.
PEC 0001564
Expires: 2/10/21

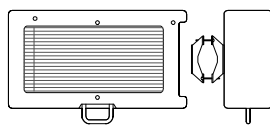
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OF A LICENSED PROFESSIONAL ENGINEER,
REGISTERED IN THE STATE.

SHEET NUMBER: **C-6** REVISION: **1**



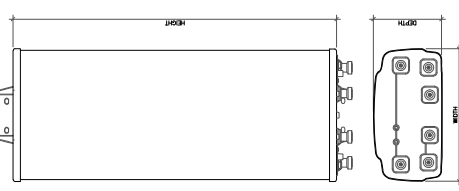
ERICSSON - 4478 B14
WEIGHT (FULLY EQUIPPED): 59.9 LBS
SIZE (HxWxD): 15.0x13.2x7.4 IN.

3 RRH DETAIL
SCALE: NOT TO SCALE



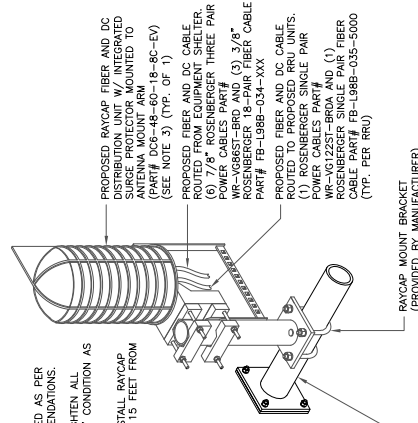
ERICSSON - 4449 B5/012
WEIGHT (FULLY EQUIPPED): 71.0 LBS
SIZE (HxWxD): 17.9x13.19x6.44 IN.

2 RRH DETAIL
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)			
MODEL	HEIGHT	WIDTH	DEPTH
DMF65R-B14SD	96"	20.7"	7.7"
			95.7 lbs

1 ANTENNA DETAIL
SCALE: NOT TO SCALE



NOTES:

- UNIT SHALL BE MOUNTED AS PER MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL TIGHTEN ALL BOLTS TO A "SNUG TIGHT" CONDITION AS DEFINED BY ASC.
- CONTRACTOR SHALL INSTALL RAYCAP DISTRIBUTION UNIT WITHIN 15 FEET FROM ALL RRHS.

PROPOSED RAYCAP FIBER AND DC DISTRIBUTION UNIT W/ INTEGRATED FIBER AND DC CABLE MOUNTED TO ANTENNA MOUNT ARM (PART# DC6-48-60-18-8C-EV) (SEE NOTE 3) (TYP. OF 1)

PROPOSED FIBER AND DC CABLE ROUTED FROM EQUIPMENT SHELTER (6) 7/8" ROSENBERGER THREE PAIR POWER CABLES AND (3) 3/8" ROSENBERGER 18-PAIR FIBER CABLE PART# FB-1988-034-XXX

PROPOSED FIBER AND DC CABLE ROUTED TO PROPOSED RRU UNITS. (1) ROSENBERGER SINGLE PAIR POWER CABLES PART# WR-VG1225T-BROA AND (1) ROSENBERGER SINGLE PAIR FIBER CABLE PART# FB-1968-035-5000 (TYP. PER RRU)

PROPOSED ANTENNA MOUNT ARM

RAYCAP MOUNT BRACKET (PROVIDED BY MANUFACTURER)

4 SQUID DETAIL
SCALE: NOT TO SCALE



ONE AT&T WAY
BEDMINSTER, NJ 07921



3200 HORIZON DRIVE, SUITE 150
KING OF PRUSSIA, PA 19406



1775 S. BOULDER
TULSA, OK 74119
PH: (918) 587-4530
www.btggrp.com

AT&T SITE NUMBER:
CTL02194

BU #: 876371
WALDEN / CAROLYN
BESADE

557 RTE. 82
OAKDALE, CT 06370
EXISTING 180'-0"
MONOPOLE

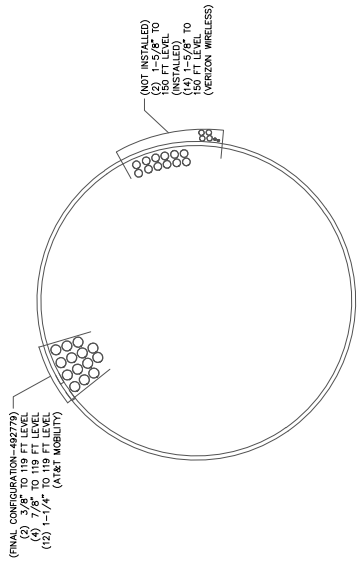
ISSUED FOR:			
REV	DATE	DESCRIPTION	DESIGN
0	1/2/20	DIS. CONSTRUCTION	PKC
1	4/1/20	GER. CONSTRUCTION	PKC



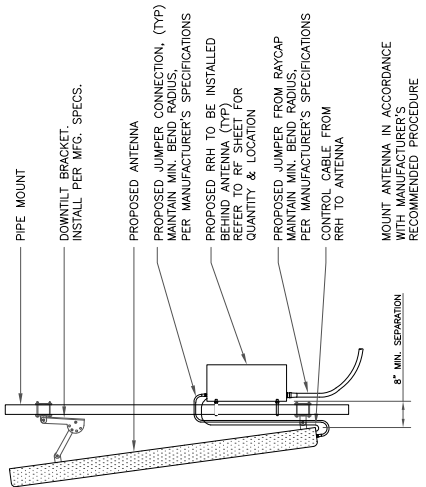
B&T ENGINEERING, INC.
PEC 0001564
Expires: 2/10/21

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SHEET NUMBER: C-7
REVISION: 1



2 BASE LEVEL DRAWING
SCALE: NOT TO SCALE



1 ANTENNA MOUNTING DETAIL
SCALE: NOT TO SCALE



ONE AT&T WAY
BEDMINSTER, NJ 07921



3200 HORIZON DRIVE, SUITE 150
KING OF PRUSSIA, PA 19406



1775 S. BOKLBER
TULSA, OK 74119
PH: (918) 587-8330
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AT&T SITE NUMBER:
CTL02194

BU #: 876371
WALDEN / CAROLYN
BESADE

557 RTE. 82
OAKDALE, CT 06370
EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

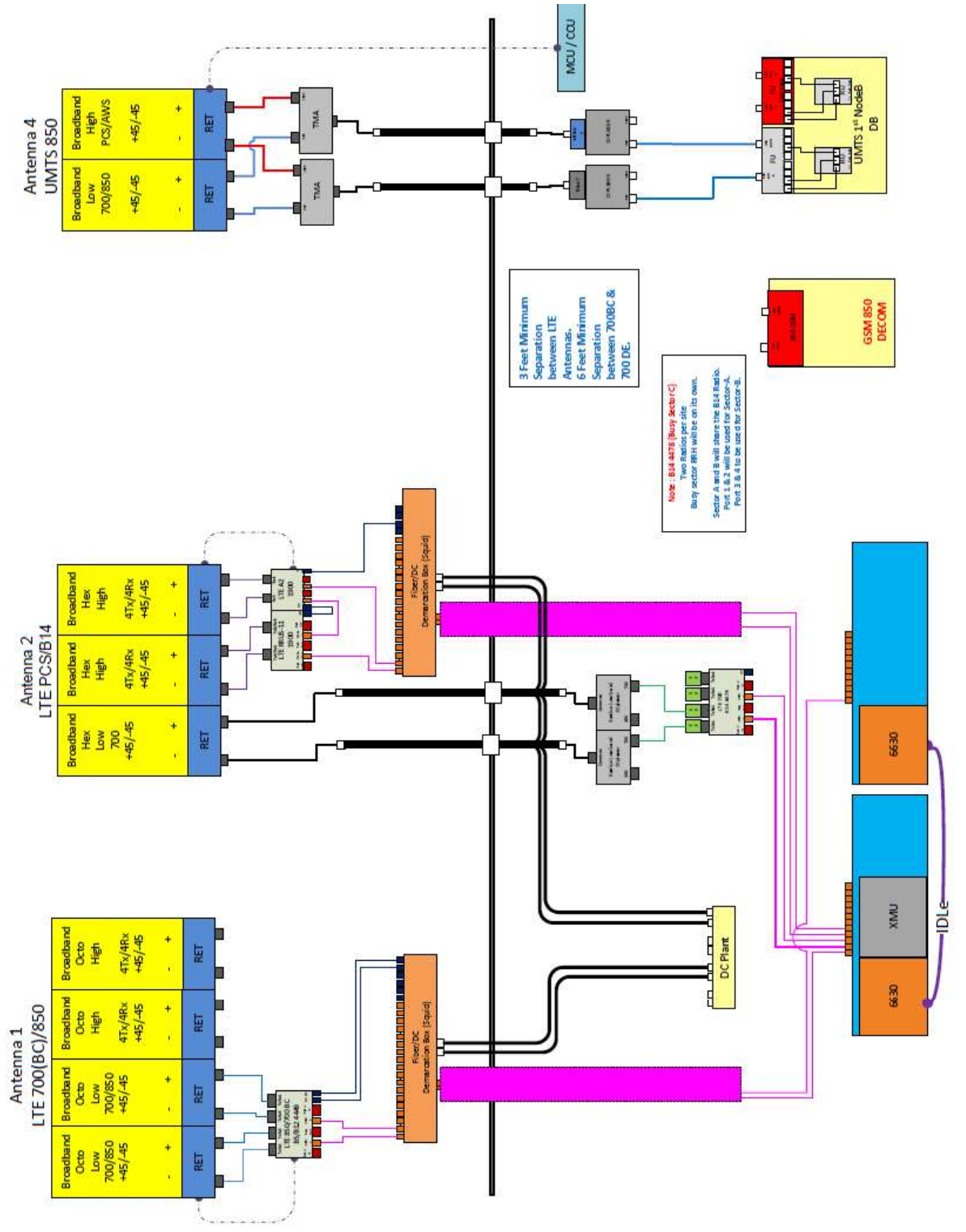
REV	DATE	ISSUES	DESCRIPTION	DRAWN	DESIGNED
0	1/2/20	DIS	CONSTRUCTION	RM	
1	4/1/20	GRN	CONSTRUCTION	RM	



B&T ENGINEERING, INC.
PEC 0001584

Expires: 2/10/21
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UNLESS THEY ARE ACTING UNDER THE DIRECTION
OR A LICENSED PROFESSIONAL ENGINEER,
FOR THE PUBLIC INTEREST.

SHEET NUMBER: C-8
REVISION: 1



1 PLUMBING DIAGRAM
SCALE: NOT TO SCALE



ONE AT&T WAY
BEDMINSTER, NJ 07921



3200 HORIZON DRIVE, SUITE 150
KING OF PRUSSIA, PA 19406



1777 S. BOULDER
TULSA, OK 74119
PAC (918) 587-4830
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AT&T SITE NUMBER:
CTL02194

BU #: 876371
WALDEN / CAROLYN
BESADE

557 RTE. 82
OAKDALE, CT 06370
EXISTING 180'-0"
MONOPOLE

ISSUED FOR:

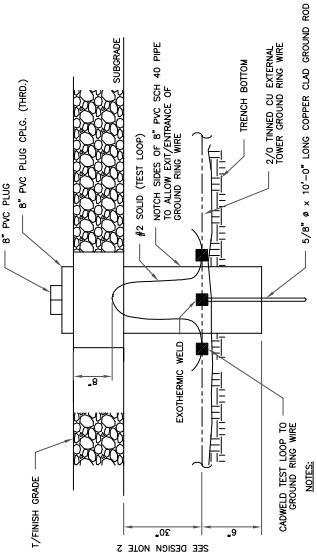
REV	DATE	DESCRIPTION	DESIGNER	DATE	DESCRIPTION	DESIGNER
0	1/2/20	CONSTRUCTION	RM			
1	4/1/20	CONSTRUCTION	RM			



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PEC 0001584
Expires: 2/10/21

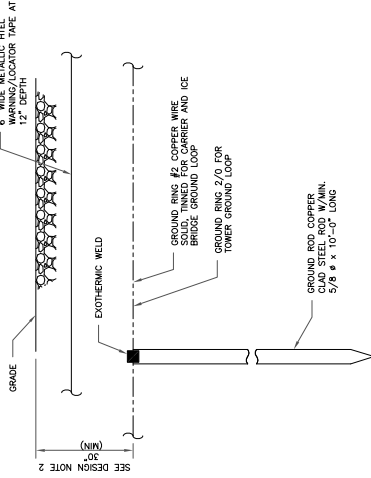
THIS SEAL IS VALID ONLY IN THE STATE OF CONNECTICUT.
UNLESS THEY ARE ACTING UNDER THE DIRECTION
OR A LICENSED PROFESSIONAL ENGINEER,
THEY ARE NOT TO BE USED.

SHEET NUMBER: **G-1** REVISION: **1**



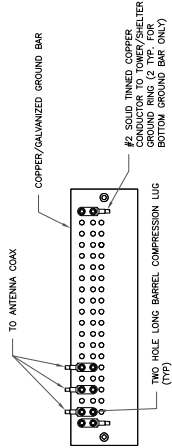
- NOTES:
- GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.
 - GROUND WIRE SHALL BE MIN. 30\"/>

3 INSPECTION WELL DETAIL
SCALE: NOT TO SCALE



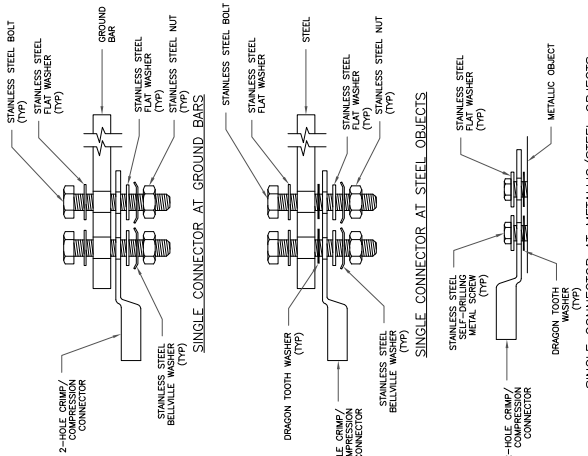
- NOTES:
- GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL. VERTICAL WIRE SHALL BE MIN. 30\"/>
 - GROUND WIRE SHALL BE MIN. 30\"/>

6 GROUND ROD DETAIL
SCALE: NOT TO SCALE

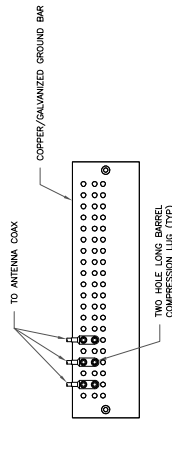


- NOTES:
- EXTERIOR ANTI-OXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 - GROUND BAR SHALL NOT BE ISOLATED FROM TOWER, MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
 - GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

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

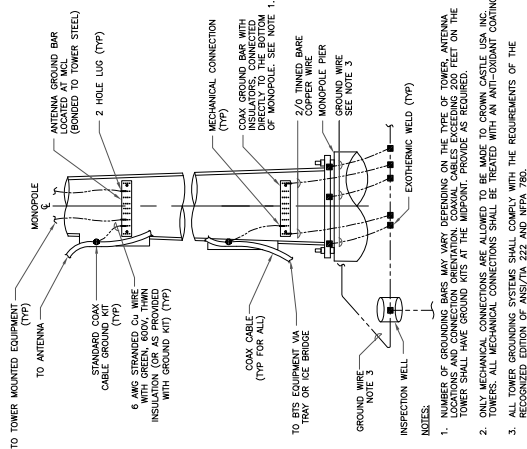


5 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



- NOTES:
- DOUBLE UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
 - EXTERIOR ANTI-OXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 - GROUND BAR SHALL NOT BE ISOLATED FROM TOWER, MOUNT DIRECTLY TO TOWER STEEL.

1 ANTENNA GROUND BAR DETAIL
SCALE: NOT TO SCALE



- NOTES:
- NUMBERS OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. COAXIAL CABLES EXCEEDING 200 FEET ON THE TOWER SHALL HAVE GROUND KITS AT THE MIDPOINT. PROVIDE AS REQUIRED.
 - ONLY MECHANICAL CONNECTIONS ARE ALLOWED TO BE MADE TO CROWN CASTLE USA INC. TOWERS. ALL MECHANICAL CONNECTIONS SHALL BE TREATED WITH AN ANTI-OXIDANT COATING.
 - ALL TOWER GROUNDING SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF THE RECOMMENDED EDITION OF ANSI/TIA 222 AND NFPA 780.

4 TYPICAL ANTENNA CABLE GROUNDING
SCALE: NOT TO SCALE



ONE AT&T WAY
BEDMINSTER, NJ 07921



3200 HORIZON DRIVE, SUITE 150
KING OF PRUSSIA, PA 19395



1717 E. BOKER
TULSA, OK 74119
PH: (918) 387-8530
www.btggrp.com

AT&T SITE NUMBER:
CTL02194

BU #: 876371
WALDEN / CAROLYN
BESADE

557 RTE. 82
OAKDALE, CT 066370
EXISTING 180'-0"
MONOPOLE

REV	DATE	ISSUES	DESCRIPTION	DESIGNER	DATE
0	1/2/20	DIS	CONSTRUCTION	R.M.	
1	4/1/20	GR	CONSTRUCTION	R.M.	

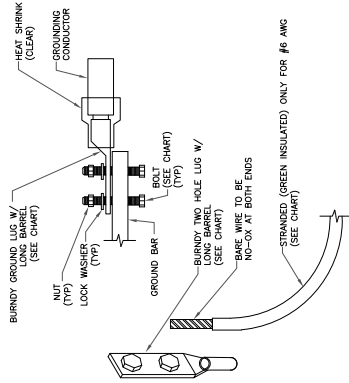


B&T ENGINEERING, INC.
PEC 0001584
Expires: 2/10/21

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SHEET NUMBER: **G-2** REVISION: **1**

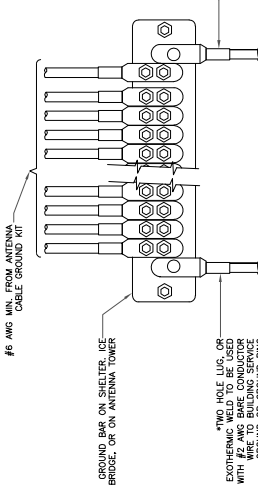
WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YAGC-ZTC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YAC-ZTC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YAZC-ZTC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YAGB-ZTC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YAGB-2N	1/2" - 16 NC S 2 BOLT



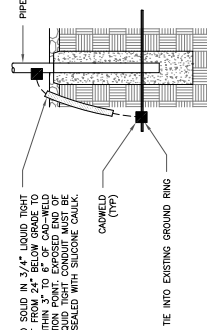
NOTES:

- ALL GROUNDING LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.

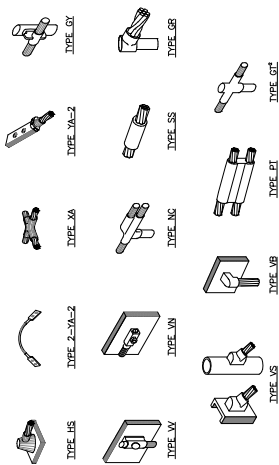
MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



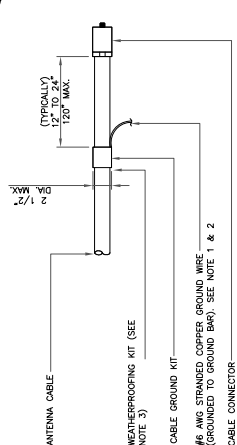
TRANSITIONING GROUND DETAIL
SCALE: NOT TO SCALE



NOTE:

- ERCO EXOTHERMIC "MOLD TYPES" SHOWN HERE ARE EXAMPLES. CONSULT WITH CONSTRUCTION MANAGER FOR SPECIFIC MOLD TYPE. ONLY TO BE USED BELOW GRADE WHEN CONNECTING GROUND RING TO GROUND ROD.

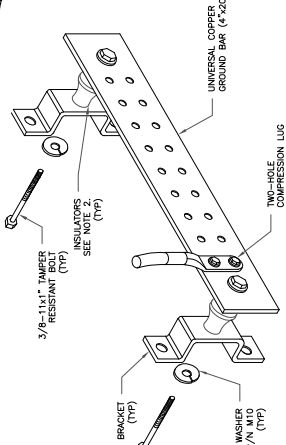
CADWELD GROUNDING CONNECTIONS
SCALE: NOT TO SCALE



NOTES:

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

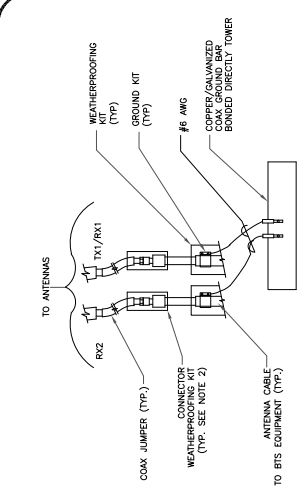
CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE



NOTES:

- DOWN LEAD (HOME RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE MONOPOLES OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION. NO CAD-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
- OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL. USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

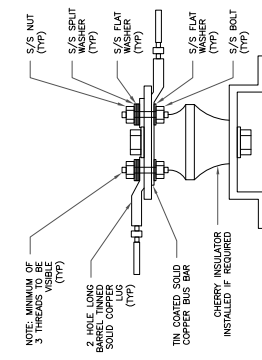
GROUND BAR DETAIL
SCALE: NOT TO SCALE



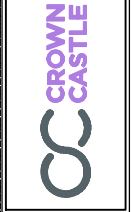
NOTES:

- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR.
- WEATHER PROOFING SHALL BE TWO-PART TAPE KIT. COLD SHRINK SHALL NOT BE USED.

GROUND CABLE CONNECTION
SCALE: NOT TO SCALE



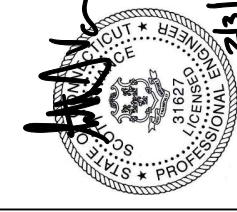
LUG DETAIL
SCALE: NOT TO SCALE



**WALDEN-CAROLYN
BESADE**
557 RTE. 82
OAKDALE, CT 06370
NEW LONDON
EXISTING PLATFORM
AT 147.40'

PROJECT NO:	14031-004-01		
CHECKED BY:	SR		
ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
0	02/01/20	KRS	CONSTRUCTION

B&T ENGINEERING, INC.
PROFESSIONAL ENGINEER
Expires 2/10/20



IT IS THE POLICY OF B&T ENGINEERING, INC. TO ONLY EMPLOY PROFESSIONAL ENGINEERS WHOSE LICENSES ARE ACTIVE UNDER THE JURISDICTION OF A LICENSED STATE OR COUNTRY.
SHEET NUMBER: **S1** REVISION: **0**

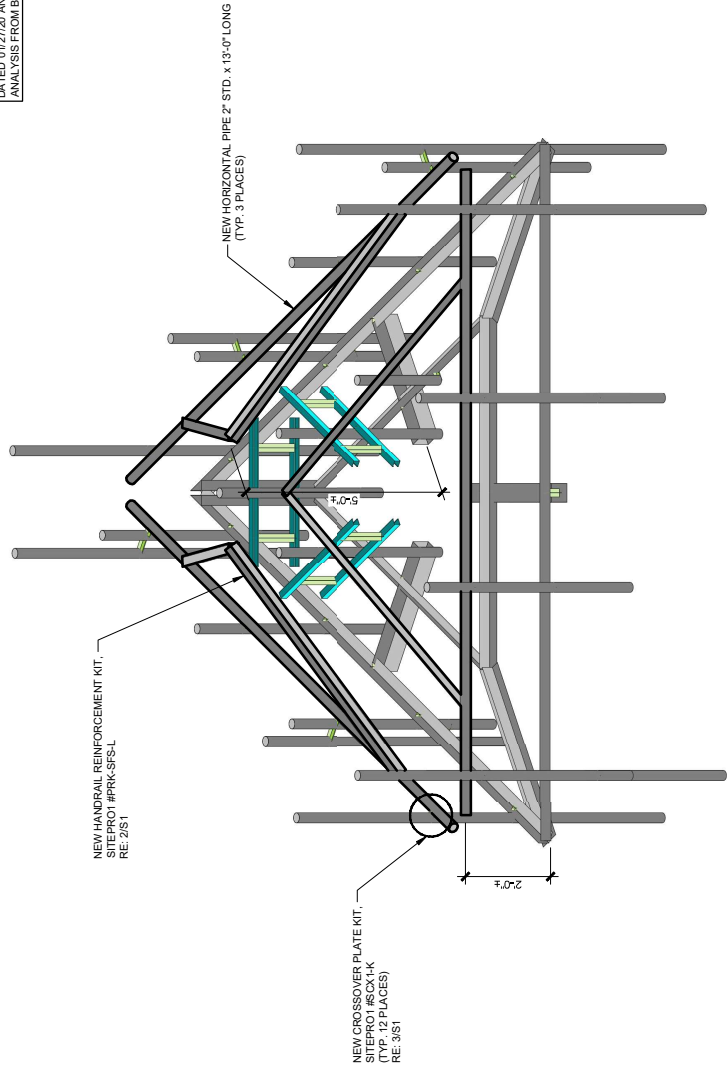
GENERAL NOTES

- CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO THE MOBILIZATION ON THE SITE FOR INSTALLATION OF THE MOUNT MODIFICATION AND SHALL NOTIFY THE ENGINEER OF RECORD IF THE FIELD CONDITIONS VARY FROM WHAT IS SHOWN ON THE DRAWINGS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY IN WRITING AT THE SITE IF ANY MOUNT REINFORCEMENT SHOWN WILL NEED TO BE RE-DESIGNED TO SATISFY FIELD CONDITIONS.
- CONTRACTOR SHALL RELOCATE NON-ANTENNA EQUIPMENT ALONG THE EXISTING PIPE MOUNT THAT IT IS MOUNTED TO, TO ALLOW FOR THE INSTALLATION OF THE MOUNT MODIFICATION. ALL MOUNT REINFORCEMENT SHALL BE RELOCATED TO ANY OTHER EXISTING MEMBERS TO ALLOW FOR INSTALLATION OF MOUNT MODIFICATION.
- PROVIDE MOUNT MODIFICATION WITH THE TIA-222-H STANDARD, ANSI/TIA-322 AND ANS/ASSE A10.48, AS WELL AS ANY OTHER GOVERNING BUILDING CODES.
- FIELD WORK WILL BE DONE AROUND EXISTING COAXIAL CABLE AND FIBER OPTIC CABLES. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING COAXIAL CABLES AND FIBER OPTIC CABLES. A MINIMUM OF TWO COATS OF ZINCS COLD GALVANIZING COMPOUND (OR APPROVED EQUIVALENT) SHALL BE APPLIED TO ANY FIELD CUTS OR FIELD DRILLED HOLES.
- ALL FIELD CUTS OR WELDS WILL NOT BE PERMITTED ON THE TOWER WITHOUT THE CONSENT OF THE OWNER.
- ALL FIELD CONNECTIONS SHALL BE MADE WITH A325N BOLTS, U.N.O. IN LIEU OF TEMPORARY BRACING, CONTRACTOR MAY HAVE A STABILITY ANALYSIS PERFORMED BY AN ENGINEER LICENSED IN THE STATE THE PROJECT IS LOCATED PER ANSI/TIA-222 AND ANS/ASSE A10.48.
- ALL CUTTING AND WELDING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH CCUSA POLICY CUTTING AND WELDING PLAN (DOC #ENG-PLN-10015) ON AN ONGOING BASIS THROUGHOUT THE ENTIRE PROJECT. ALL DIMENSIONS WITHIN 2' MUST BE WITHIN 3/8" OF THE INDICATED DIMENSION.

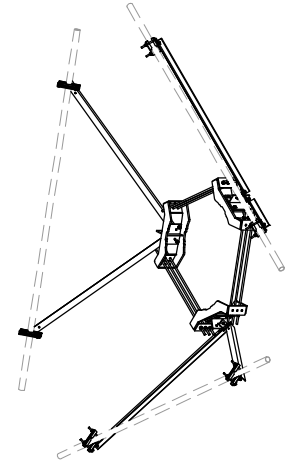
FABRICATION

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH A.I.S.C. "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
- STRUCTURAL STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:
FIELD CUTS: A572 GR50
WELDS: A572 GR50
STEEL PIPE: U.N.O.
- ALL NEW MATERIAL INCLUDING STRUCTURAL STEEL AND FASTENERS SHALL BE FABRICATED IN ACCORDANCE WITH ASTM A133 AND A153.
- WELDING SHALL MEET ANS/ASME D1.1 STRUCTURAL WELDING CODE (LATEST REVISION). ELECTRODES SHALL BE E60 SERIES.
- CONTRACTOR SHALL PROVIDE SHOP FABRICATION DRAWINGS TO B+T GROUP 5 DAYS PRIOR TO FABRICATION.

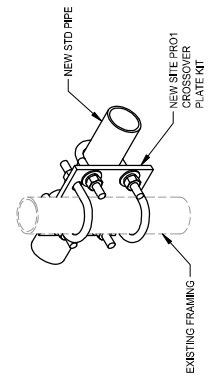
MODIFICATIONS BASED ON THE FAILING STRUCTURAL ANALYSIS FROM B+T GROUP DATED 01/27/20 AND ACCOMPANIED BY ANALYSIS FROM BHT GROUP DATED 02/10/20



1 MODIFIED PLATFORM
SCALE: N.T.S.



2 SITEPRO1 PRK-SFS-L REINFORCEMENT KIT
SCALE: N.T.S.



3 SITEPRO1 SCX1-K CROSSOVER PLATE KIT
SCALE: N.T.S.

Exhibit D

Structural Analysis Report



Date: **April 07, 2020**

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

Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2000

Subject: **Structural Analysis Report**

Carrier Designation: **AT&T Mobility Co-Locate**
Carrier Site Number: CTL02194

Crown Castle Designation: **Crown Castle BU Number:** 876371
Crown Castle Site Name: WALDEN / CAROLYN BESADE
Crown Castle JDE Job Number: 588468
Crown Castle Work Order Number: 1843223
Crown Castle Order Number: 503651 Rev. 0

Engineering Firm Designation: **Crown Castle Project Number:** 1843223

Site Data: **557 Rte. 82, Oakdale, New London County, CT**
Latitude 41° 30' 20.3", Longitude -72° 11' 51.1"
180 Foot - Monopole Tower

Dear Amanda D Brown,

Crown Castle 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 – 89.8%**

This analysis utilizes an ultimate 3-second gust wind speed of 135 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Structural analysis prepared by: Daniel Chen

Respectfully submitted by:

Terry P. Styran, P.E.
Senior Project Engineer



4/8/2020

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1) INTRODUCTION

This tower is a 180 ft Monopole tower designed by Engineered Endeavors, Inc. The tower has been modified multiple times to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	135 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Seismic Ss:	0.161
Seismic S1:	0.058
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)
147.0	147.0	3	cci antennas	DMP65R-BU8D w/ Mount Pipe	12 2 2 2 1	1-5/8 7/8 7/16 3/8 Conduit
		3	cci antennas	HPA-65R-BUU-H8 w/ Mount Pipe		
		3	ericsson	RRUS 4449 B5/B12		
		3	ericsson	RRUS11 A2		
		3	powerwave technologies	7770.00 w/ Mount Pipe		
		3	powerwave technologies	LGP21401		
		1	raycap	DC6-48-60-18-8C-EV		
		1	raycap	DC6-48-60-18-8F		
		1	tower mounts	Platform Mount [LP 1201-1]		
		3	tower mounts	2" STD. Pipe x 13'-0" New Horizontal Pipe		
		1	site pro 1	PRK-SFS-L		

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)
180.0	180.0	3	alcatel lucent	PCS 1900MHZ 4X45W 65MHZ	4	1-1/4
		6	alcatel lucent	RRH2X50-800		
		3	alcatel lucent	TD-RRH8x20-25		
		3	commscope	NNVV-65B-R4 w/ Mount Pipe		
		3	nokia	FZHN		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		3	rfs celwave	APXVTM14-ALU-I20 w/ Mount Pipe		
		2	tower mounts	Miscellaneous [NA 507-1]		
		1	tower mounts	Miscellaneous [NA 509-3]		
		1	tower mounts	Platform Mount [LP 712-1]		
165.0	169.0	3	alcatel lucent	B66A RRH4X45	14 1	1-5/8 1/2
		3	alcatel lucent	RRH2X60-700		
		3	alcatel lucent	RRH2X60-PCS		
		3	amphenol	QUAD656C0000X w/ Mount Pipe		
		4	antel	LPA-80063/6CF w/ Mount Pipe		
		2	antel	LPA-80080-6CF-EDIN w/ Mount Pipe		
		6	commscope	HBXX-6516DS-A2M w/ Mount Pipe		
		2	rfs celwave	DB-T1-6Z-8AB-0Z		
		6	rfs celwave	FD9R6004/2C-3L		
		167.0	1	gps		
	165.0	1	tower mounts	Platform Mount [LP 712-1]		
148.0	149.0	3	ericsson	TME-RRUS-11	-	-
	148.0	3	ericsson	RRUS-11		
		1	tower mounts	Pipe Mount [PM 601-3]		
75.0	76.0	1	gps	GPS_A	1	1/2
	75.0	1	tower mounts	Pipe Mount [PM 501-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Dr. Clarence Welti	2053524	CCISITES
4-POST-MODIFICATION INSPECTION	Vertical Structures	2447495	CCISITES
4-POST-MODIFICATION INSPECTION	TEP	3868204	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	EEI	1615419	CCISITES
4-TOWER MANUFACTURER DRAWINGS	EEI	1615393	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Vertical Structures	2254969	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	PJF	3345718	CCISITES

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.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the reinforced leg sections. These calculations are presented in Appendix C.

3.2) Assumptions

- 1) Tower and structures were built and maintained in accordance with the manufacturer's specifications.
- 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. Crown Castle should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
180 - 175	Pole	TP19.063x18x0.25	Pole	7.5%	Pass
175 - 170	Pole	TP20.126x19.063x0.25	Pole	13.6%	Pass
170 - 165	Pole	TP21.188x20.126x0.25	Pole	18.7%	Pass
165 - 160	Pole	TP22.251x21.188x0.25	Pole	33.7%	Pass
160 - 155	Pole	TP23.314x22.251x0.25	Pole	42.4%	Pass
155 - 150	Pole	TP24.377x23.314x0.25	Pole	50.0%	Pass
150 - 145	Pole	TP25.439x24.377x0.25	Pole	59.3%	Pass
145 - 140	Pole	TP26.502x25.439x0.25	Pole	69.5%	Pass
140 - 137	Pole	TP27.99x26.502x0.25	Pole	75.1%	Pass
137 - 132	Pole	TP27.69x26.64x0.3125	Pole	66.8%	Pass
132 - 131	Pole	TP27.9x27.69x0.3125	Pole	67.9%	Pass
131 - 130.75	Pole + Reinf.	TP27.952x27.9x0.4688	Reinf. 4 Tension Rupture	61.5%	Pass
130.75 - 125.75	Pole + Reinf.	TP29.002x27.952x0.4625	Reinf. 4 Tension Rupture	66.9%	Pass
125.75 - 120.75	Pole + Reinf.	TP30.052x29.002x0.4563	Reinf. 4 Tension Rupture	71.8%	Pass
120.75 - 115.75	Pole + Reinf.	TP31.102x30.052x0.45	Reinf. 4 Tension Rupture	76.2%	Pass
115.75 - 110.75	Pole + Reinf.	TP32.151x31.102x0.45	Reinf. 4 Tension Rupture	80.2%	Pass
110.75 - 105.75	Pole + Reinf.	TP33.201x32.151x0.4375	Reinf. 4 Tension Rupture	83.9%	Pass
105.75 - 104.5	Pole + Reinf.	TP33.464x33.201x0.4375	Reinf. 4 Tension Rupture	84.8%	Pass
104.5 - 104.25	Pole + Reinf.	TP33.516x33.464x0.475	Reinf. 3 Tension Rupture	72.8%	Pass
104.25 - 99.25	Pole + Reinf.	TP34.566x33.516x0.4625	Reinf. 3 Tension Rupture	75.7%	Pass
99.25 - 94.25	Pole + Reinf.	TP35.616x34.566x0.4625	Reinf. 3 Tension Rupture	78.5%	Pass
94.25 - 92.59	Pole + Reinf.	TP37.05x35.616x0.4625	Reinf. 3 Tension Rupture	79.4%	Pass
92.59 - 86.42	Pole + Reinf.	TP36.633x35.339x0.525	Reinf. 3 Tension Rupture	74.8%	Pass
86.42 - 81.42	Pole + Reinf.	TP37.681x36.633x0.5125	Reinf. 3 Tension Rupture	76.8%	Pass
81.42 - 76.42	Pole + Reinf.	TP38.729x37.681x0.5125	Reinf. 3 Tension Rupture	78.6%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
76.42 - 71.42	Pole + Reinf.	TP39.777x38.729x0.5125	Reinf. 3 Tension Rupture	80.3%	Pass
71.42 - 69	Pole + Reinf.	TP40.285x39.777x0.5063	Reinf. 3 Tension Rupture	81.1%	Pass
69 - 68.75	Pole + Reinf.	TP40.337x40.285x0.5375	Reinf. 2 Compression	73.5%	Pass
68.75 - 63.75	Pole + Reinf.	TP41.385x40.337x0.525	Reinf. 2 Compression	74.9%	Pass
63.75 - 58.75	Pole + Reinf.	TP42.433x41.385x0.525	Reinf. 2 Compression	76.3%	Pass
58.75 - 53.75	Pole + Reinf.	TP43.481x42.433x0.525	Reinf. 2 Compression	77.6%	Pass
53.75 - 49.13	Pole + Reinf.	TP45.76x43.481x0.5125	Reinf. 2 Compression	78.7%	Pass
49.13 - 41.88	Pole + Reinf.	TP45.22x43.7x0.575	Reinf. 2 Compression	73.8%	Pass
41.88 - 36.88	Pole + Reinf.	TP46.268x45.22x0.575	Reinf. 2 Compression	74.7%	Pass
36.88 - 34.5	Pole + Reinf.	TP46.767x46.268x0.575	Reinf. 2 Compression	75.1%	Pass
34.5 - 34.25	Pole + Reinf.	TP46.819x46.767x0.55	Reinf. 1 Tension Rupture	82.1%	Pass
34.25 - 29.25	Pole + Reinf.	TP47.868x46.819x0.55	Reinf. 1 Tension Rupture	82.8%	Pass
29.25 - 24.25	Pole + Reinf.	TP48.916x47.868x0.5438	Reinf. 1 Tension Rupture	83.5%	Pass
24.25 - 19.25	Pole + Reinf.	TP49.964x48.916x0.5375	Reinf. 1 Tension Rupture	84.2%	Pass
19.25 - 14.25	Pole + Reinf.	TP51.012x49.964x0.5375	Reinf. 1 Tension Rupture	84.7%	Pass
14.25 - 9.25	Pole + Reinf.	TP52.061x51.012x0.5375	Reinf. 1 Tension Rupture	85.2%	Pass
9.25 - 4.25	Pole + Reinf.	TP53.109x52.061x0.5375	Reinf. 1 Tension Rupture	85.6%	Pass
4.25 - 0	Pole + Reinf.	TP54x53.109x0.5375	Reinf. 1 Tension Rupture	85.9%	Pass
				Summary	
			Pole	75.6%	Pass
			Reinforcement	85.9%	Pass
			Overall	85.9%	Pass

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	69.9	Pass
1	Base Plate	0	89.8	Pass
1,2	Base Foundation (Compared w/ Design Loads)	0	75.0	Pass

Structure Rating (max from all components) =	89.8%
---	--------------

Notes:

- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Foundation capacity determined by comparing analysis reactions to original design reactions.

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

Tower Input Data

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

- 1) Tower is located in New London County, Connecticut.
- 2) Tower base elevation above sea level: 481.0000 ft.
- 3) Basic wind speed of 135 mph.
- 4) Risk Category II.
- 5) Exposure Category B.
- 6) Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- 7) Topographic Category: 1.
- 8) Crest Height: 0.0000 ft.
- 9) Nominal ice thickness of 1.5000 in.
- 10) Ice thickness is considered to increase with height.
- 11) Ice density of 56.00 pcf.
- 12) A wind speed of 50 mph is used in combination with ice.
- 13) Temperature drop of 50 °F.
- 14) Deflections calculated using a wind speed of 60 mph.
- 15) A non-linear (P-delta) analysis was used.
- 16) Pressures are calculated at each section.
- 17) Stress ratio used in pole design is 1.05.
- 18) Tower analysis based on target reliabilities in accordance with Annex S.
- 19) Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- 20) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

- | | | |
|--|---|--|
| Consider Moments - Legs
Consider Moments - Horizontals
Consider Moments - Diagonals
Use Moment Magnification
Use Code Stress Ratios
✓ Use Code Safety Factors - Guys
Escalate Ice
Always Use Max Kz
Use Special Wind Profile

Include Bolts In Member Capacity

Leg Bolts Are At Top Of Section
Secondary Horizontal Braces Leg
Use Diamond Inner Bracing (4 Sided)
SR Members Have Cut Ends
SR Members Are Concentric | Distribute Leg Loads As Uniform
Assume Legs Pinned
✓ Assume Rigid Index Plate
✓ Use Clear Spans For Wind Area
Use Clear Spans For KL/r
Retension Guys To Initial Tension
✓ Bypass Mast Stability Checks
✓ Use Azimuth Dish Coefficients
✓ Project Wind Area of Appurt.

Autocalc Torque Arm Areas

Add IBC .6D+W Combination
✓ Sort Capacity Reports By Component
Triangulate Diamond Inner Bracing
Treat Feed Line Bundles As Cylinder
Ignore KL/ry For 60 Deg. Angle Legs | Use ASCE 10 X-Brace Ly Rules
Calculate Redundant Bracing Forces
Ignore Redundant Members in FEA
SR Leg Bolts Resist Compression
All Leg Panels Have Same Allowable
Offset Girt At Foundation
✓ Consider Feed Line Torque
Include Angle Block Shear Check
Use TIA-222-H Bracing Resist.
Exemption
Use TIA-222-H Tension Splice
Exemption

<div style="background-color: #e0e0e0; text-align: center; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction
Always Use Sub-Critical Flow
Use Top Mounted Sockets
Pole Without Linear Attachments
Pole With Shroud Or No
Appurtenances
Outside and Inside Corner Radii Are
Known |
|--|---|--|

Tapered Pole Section Geometry

Section	Elevation	Section Length	Splice Length	Number of Sides	Top Diameter	Bottom Diameter	Wall Thickness	Bend Radius	Pole Grade
	ft	ft	ft		in	in	in	in	
L1	180.0000- 175.0000	5.0000	0.00	18	18.0000	19.0628	0.2500	1.0000	A572-65 (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
L2	175.0000-170.0000	5.0000	0.00	18	19.0628	20.1255	0.2500	1.0000	A572-65 (65 ksi)
L3	170.0000-165.0000	5.0000	0.00	18	20.1255	21.1883	0.2500	1.0000	A572-65 (65 ksi)
L4	165.0000-160.0000	5.0000	0.00	18	21.1883	22.2511	0.2500	1.0000	A572-65 (65 ksi)
L5	160.0000-155.0000	5.0000	0.00	18	22.2511	23.3138	0.2500	1.0000	A572-65 (65 ksi)
L6	155.0000-150.0000	5.0000	0.00	18	23.3138	24.3766	0.2500	1.0000	A572-65 (65 ksi)
L7	150.0000-145.0000	5.0000	0.00	18	24.3766	25.4394	0.2500	1.0000	A572-65 (65 ksi)
L8	145.0000-140.0000	5.0000	0.00	18	25.4394	26.5021	0.2500	1.0000	A572-65 (65 ksi)
L9	140.0000-133.0000	7.0000	4.00	18	26.5021	27.9900	0.2500	1.0000	A572-65 (65 ksi)
L10	133.0000-132.0000	5.0000	0.00	18	26.6398	27.6896	0.3125	1.2500	A572-65 (65 ksi)
L11	132.0000-131.0000	1.0000	0.00	18	27.6896	27.8996	0.3125	1.2500	A572-65 (65 ksi)
L12	131.0000-130.7500	0.2500	0.00	18	27.8996	27.9521	0.4688	1.8750	A572-65 (65 ksi)
L13	130.7500-125.7500	5.0000	0.00	18	27.9521	29.0019	0.4625	1.8500	A572-65 (65 ksi)
L14	125.7500-120.7500	5.0000	0.00	18	29.0019	30.0518	0.4562	1.8250	A572-65 (65 ksi)
L15	120.7500-115.7500	5.0000	0.00	18	30.0518	31.1016	0.4500	1.8000	A572-65 (65 ksi)
L16	115.7500-110.7500	5.0000	0.00	18	31.1016	32.1514	0.4500	1.8000	A572-65 (65 ksi)
L17	110.7500-105.7500	5.0000	0.00	18	32.1514	33.2013	0.4375	1.7500	A572-65 (65 ksi)
L18	105.7500-104.5000	1.2500	0.00	18	33.2013	33.4637	0.4375	1.7500	A572-65 (65 ksi)
L19	104.5000-104.2500	0.2500	0.00	18	33.4637	33.5162	0.4750	1.9000	A572-65 (65 ksi)
L20	104.2500-99.2500	5.0000	0.00	18	33.5162	34.5661	0.4625	1.8500	A572-65 (65 ksi)
L21	99.2500-94.2500	5.0000	0.00	18	34.5661	35.6159	0.4625	1.8500	A572-65 (65 ksi)
L22	94.2500-87.4200	6.8300	5.17	18	35.6159	37.0500	0.4625	1.8500	A572-65 (65 ksi)
L23	87.4200-86.4200	6.1700	0.00	18	35.3395	36.6329	0.5250	2.1000	A572-65 (65 ksi)
L24	86.4200-81.4200	5.0000	0.00	18	36.6329	37.6810	0.5125	2.0500	A572-65 (65 ksi)
L25	81.4200-76.4200	5.0000	0.00	18	37.6810	38.7291	0.5125	2.0500	A572-65 (65 ksi)
L26	76.4200-71.4200	5.0000	0.00	18	38.7291	39.7773	0.5125	2.0500	A572-65 (65 ksi)
L27	71.4200-69.0000	2.4200	0.00	18	39.7773	40.2846	0.5062	2.0250	A572-65 (65 ksi)
L28	69.0000-68.7500	0.2500	0.00	18	40.2846	40.3370	0.5375	2.1500	A572-65 (65 ksi)
L29	68.7500-63.7500	5.0000	0.00	18	40.3370	41.3851	0.5250	2.1000	A572-65 (65 ksi)
L30	63.7500-58.7500	5.0000	0.00	18	41.3851	42.4332	0.5250	2.1000	A572-65 (65 ksi)
L31	58.7500-53.7500	5.0000	0.00	18	42.4332	43.4814	0.5250	2.1000	A572-65 (65 ksi)
L32	53.7500-42.8800	10.8700	6.25	18	43.4814	45.7600	0.5125	2.0500	A572-65 (65 ksi)
L33	42.8800-41.8800	7.2500	0.00	18	43.6998	45.2198	0.5750	2.3000	A572-65 (65 ksi)
L34	41.8800-36.8800	5.0000	0.00	18	45.2198	46.2681	0.5750	2.3000	A572-65 (65 ksi)
L35	36.8800-34.5000	2.3800	0.00	18	46.2681	46.7670	0.5750	2.3000	A572-65 (65 ksi)
L36	34.5000-	0.2500	0.00	18	46.7670	46.8194	0.5500	2.2000	A572-65

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
L37	34.2500 34.2500- 29.2500	5.0000	0.00	18	46.8194	47.8677	0.5500	2.2000	(65 ksi) A572-65
L38	29.2500- 24.2500	5.0000	0.00	18	47.8677	48.9160	0.5437	2.1750	(65 ksi) A572-65
L39	24.2500- 19.2500	5.0000	0.00	18	48.9160	49.9642	0.5375	2.1500	(65 ksi) A572-65
L40	19.2500- 14.2500	5.0000	0.00	18	49.9642	51.0125	0.5375	2.1500	(65 ksi) A572-65
L41	14.2500- 9.2500	5.0000	0.00	18	51.0125	52.0607	0.5375	2.1500	(65 ksi) A572-65
L42	9.2500-4.2500	5.0000	0.00	18	52.0607	53.1090	0.5375	2.1500	(65 ksi) A572-65
L43	4.2500-0.0000	4.2500		18	53.1090	54.0000	0.5375	2.1500	(65 ksi) A572-65

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	18.2391	14.0846	560.6340	6.3012	9.1440	61.3117	1122.0058	7.0437	2.7280	10.912
	19.3183	14.9279	667.4863	6.6785	9.6839	68.9275	1335.8508	7.4654	2.9150	11.66
L2	19.3183	14.9279	667.4863	6.6785	9.6839	68.9275	1335.8508	7.4654	2.9150	11.66
	20.3974	15.7712	787.1195	7.0558	10.2238	76.9892	1575.2747	7.8871	3.1021	12.408
L3	20.3974	15.7712	787.1195	7.0558	10.2238	76.9892	1575.2747	7.8871	3.1021	12.408
	21.4766	16.6145	920.2557	7.4331	10.7637	85.4966	1841.7222	8.3088	3.2891	13.157
L4	21.4766	16.6145	920.2557	7.4331	10.7637	85.4966	1841.7222	8.3088	3.2891	13.157
	22.5558	17.4578	1067.6169	7.8104	11.3035	94.4498	2136.6385	8.7306	3.4762	13.905
L5	22.5558	17.4578	1067.6169	7.8104	11.3035	94.4498	2136.6385	8.7306	3.4762	13.905
	23.6349	18.3011	1229.9251	8.1877	11.8434	103.8488	2461.4685	9.1523	3.6632	14.653
L6	23.6349	18.3011	1229.9251	8.1877	11.8434	103.8488	2461.4685	9.1523	3.6632	14.653
	24.7141	19.1445	1407.9023	8.5649	12.3833	113.6935	2817.6572	9.5740	3.8503	15.401
L7	24.7141	19.1445	1407.9023	8.5649	12.3833	113.6935	2817.6572	9.5740	3.8503	15.401
	25.7932	19.9878	1602.2706	8.9422	12.9232	123.9841	3206.6495	9.9958	4.0373	16.149
L8	25.7932	19.9878	1602.2706	8.9422	12.9232	123.9841	3206.6495	9.9958	4.0373	16.149
	26.8724	20.8311	1813.7520	9.3195	13.4631	134.7204	3629.8906	10.4175	4.2244	16.897
L9	26.8724	20.8311	1813.7520	9.3195	13.4631	134.7204	3629.8906	10.4175	4.2244	16.897
	28.3832	22.0117	2139.9506	9.8477	14.2189	150.5002	4282.7170	11.0079	4.4862	17.945
L10	27.8554	26.1134	2286.7186	9.3462	13.5330	168.9734	4576.4462	13.0592	4.1386	13.244
	28.0686	27.1547	2571.3312	9.7189	14.0663	182.8004	5146.0458	13.5799	4.3234	13.835
L11	28.0686	27.1547	2571.3312	9.7189	14.0663	182.8004	5146.0458	13.5799	4.3234	13.835
	28.2818	27.3630	2630.9483	9.7934	14.1730	185.6311	5265.3585	13.6841	4.3603	13.953
L12	28.2577	40.8120	3879.7453	9.7380	14.1730	273.7421	7764.5957	20.4099	4.0853	8.715
	28.3110	40.8901	3902.0610	9.7566	14.1997	274.7996	7809.2564	20.4489	4.0946	8.735
L13	28.3119	40.3540	3852.6607	9.7588	14.1997	271.3206	7710.3908	20.1808	4.1056	8.877
	29.3780	41.8952	4311.1374	10.1315	14.7330	292.6182	8627.9474	20.9516	4.2903	9.276
L14	29.3789	41.3381	4255.6734	10.1337	14.7330	288.8536	8516.9466	20.6730	4.3013	9.428
	30.4450	42.8584	4742.6933	10.5064	15.2663	310.6643	9491.6272	21.4333	4.4861	9.833
L15	30.4459	42.2802	4680.6891	10.5086	15.2663	306.6028	9367.5372	21.1441	4.4971	9.994
	31.5120	43.7797	5196.5682	10.8813	15.7996	328.9047	10399.974	21.8940	4.6819	10.404
L16	31.5120	43.7797	5196.5682	10.8813	15.7996	328.9047	10399.974	21.8940	4.6819	10.404
	32.5780	45.2792	5749.0242	11.2540	16.3329	351.9897	11505.613	22.6439	4.8667	10.815
L17	32.5799	44.0388	5595.9434	11.2585	16.3329	342.6171	11199.250	22.0236	4.8887	11.174
	33.6460	45.4966	6170.2776	11.6311	16.8663	365.8357	12348.674	22.7526	5.0734	11.596
L18	33.6460	45.4966	6170.2776	11.6311	16.8663	365.8357	12348.674	22.7526	5.0734	11.596
	33.9125	45.8611	6319.7529	11.7243	16.9996	371.7593	12647.821	22.9349	5.1196	11.702
L19	33.9067	49.7355	6838.0998	11.7110	16.9996	402.2510	13685.197	24.8725	5.0536	10.639

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
	33.9600	49.8146	6870.7943	11.7296	17.0262	403.5413	13750.629	24.9120	5.0629	10.659
L20	33.9619	48.5221	6697.5796	11.7341	17.0262	393.3679	13403.972	24.2656	5.0849	10.994
	35.0280	50.0632	7356.2414	12.1068	17.5596	418.9307	14722.162	25.0364	5.2696	11.394
L21	35.0280	50.0632	7356.2414	12.1068	17.5596	418.9307	14722.162	25.0364	5.2696	11.394
	36.0940	51.6043	8056.7300	12.4795	18.0929	445.2982	16124.061	25.8071	5.4544	11.793
L22	36.0940	51.6043	8056.7300	12.4795	18.0929	445.2982	16124.061	25.8071	5.4544	11.793
	37.5502	53.7095	9083.5229	12.9886	18.8214	482.6168	18178.998	26.8599	5.7068	12.339
L23	36.9041	58.0131	8883.4747	12.3591	17.9524	494.8336	17778.638	29.0121	5.2957	10.087
	37.1170	60.1683	9910.8058	12.8183	18.6095	532.5672	19834.652	30.0899	5.5234	10.521
L24	37.1189	58.7561	9684.8856	12.8227	18.6095	520.4271	19382.514	29.3836	5.5454	10.82
	38.1832	60.4611	10552.688	13.1948	19.1419	551.2861	21119.263	30.2363	5.7299	11.18
L25	38.1832	60.4611	10552.688	13.1948	19.1419	551.2861	21119.263	30.2363	5.7299	11.18
	39.2475	62.1660	11470.841	13.5669	19.6744	583.0340	22956.776	31.0889	5.9143	11.54
L26	39.2475	62.1660	11470.841	13.5669	19.6744	583.0340	22956.776	31.0889	5.9143	11.54
	40.3118	63.8710	12440.764	13.9390	20.2068	615.6707	24897.897	31.9416	6.0988	11.9
L27	40.3128	63.1021	12294.916	13.9412	20.2068	608.4530	24606.011	31.5571	6.1098	12.069
	40.8279	63.9173	12777.569	14.1213	20.4646	624.3756	25571.951	31.9647	6.1991	12.245
L28	40.8231	67.8095	13534.359	14.1102	20.4646	661.3562	27086.528	33.9112	6.1441	11.431
	40.8763	67.8989	13587.965	14.1288	20.4912	663.1130	27193.810	33.9559	6.1533	11.448
L29	40.8782	66.3407	13284.475	14.1332	20.4912	648.3022	26586.431	33.1766	6.1753	11.762
	41.9425	68.0872	14361.565	14.5053	21.0236	683.1155	28742.027	34.0501	6.3598	12.114
L30	41.9425	68.0872	14361.565	14.5053	21.0236	683.1155	28742.027	34.0501	6.3598	12.114
	43.0068	69.8338	15495.355	14.8774	21.5561	718.8392	31011.100	34.9235	6.5442	12.465
L31	43.0068	69.8338	15495.355	14.8774	21.5561	718.8392	31011.100	34.9235	6.5442	12.465
	44.0711	71.5803	16687.300	15.2495	22.0885	755.4735	33396.558	35.7970	6.7287	12.817
L32	44.0731	69.8964	16304.208	15.2539	22.0885	738.1301	32629.871	34.9548	6.7507	13.172
	46.3869	73.6030	19038.030	16.0629	23.2461	818.9781	38101.110	36.8085	7.1518	13.955
L33	45.6158	78.7050	18492.453	15.3093	22.1995	833.0116	37009.239	39.3600	6.6792	11.616
	45.8287	81.4790	20517.527	15.8489	22.9717	893.1669	41062.053	40.7472	6.9467	12.081
L34	45.8287	81.4790	20517.527	15.8489	22.9717	893.1669	41062.053	40.7472	6.9467	12.081
	46.8931	83.3921	21996.977	16.2210	23.5042	935.8753	44022.898	41.7040	7.1312	12.402
L35	46.8931	83.3921	21996.977	16.2210	23.5042	935.8753	44022.898	41.7040	7.1312	12.402
	47.3998	84.3028	22725.498	16.3982	23.7577	956.5549	45480.899	42.1594	7.2190	12.555
L36	47.4036	80.6811	21772.746	16.4070	23.7577	916.4519	43574.142	40.3482	7.2630	13.205
	47.4569	80.7726	21846.905	16.4257	23.7843	918.5440	43722.557	40.3940	7.2722	13.222

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L37	47.4569	80.7726	21846.905 3	16.4257	23.7843	918.5440	43722.557 4	40.3940	7.2722	13.222
	48.5213	82.6025	23365.655 5	16.7978	24.3168	960.8856	46762.056 2	41.3091	7.4567	13.558
L38	48.5223	81.6746	23109.291 5	16.8000	24.3168	950.3429	46248.990 8	40.8451	7.4677	13.734
	49.5867	83.4838	24679.215 9	17.1721	24.8493	993.1551	49390.905 4	41.7498	7.6522	14.073
L39	49.5876	82.5349	24405.004 2	17.1744	24.8493	982.1201	48842.121 1	41.2753	7.6632	14.257
	50.6521	84.3232	26026.037 0	17.5465	25.3818	1025.3810	52086.319 8	42.1696	7.8477	14.6
L40	50.6521	84.3232	26026.037 0	17.5465	25.3818	1025.3810	52086.319 8	42.1696	7.8477	14.6
	51.7165	86.1116	27717.307 7	17.9186	25.9143	1069.5744	55471.086 5	43.0640	8.0322	14.944
L41	51.7165	86.1116	27717.307 7	17.9186	25.9143	1069.5744	55471.086 5	43.0640	8.0322	14.944
	52.7809	87.8999	29480.305 7	18.2907	26.4468	1114.7001	58999.402 4	43.9583	8.2167	15.287
L42	52.7809	87.8999	29480.305 7	18.2907	26.4468	1114.7001	58999.402 4	43.9583	8.2167	15.287
	53.8454	89.6883	31316.520 8	18.6629	26.9794	1160.7583	62674.248 6	44.8527	8.4012	15.63
L43	53.8454	89.6883	31316.520 8	18.6629	26.9794	1160.7583	62674.248 6	44.8527	8.4012	15.63
	54.7501	91.2084	32935.983 1	18.9792	27.4320	1200.6410	65915.304 2	45.6128	8.5580	15.922

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontal in	Double Angle Stitch Bolt Spacing Redundants in
ft	ft ²	in							
L1 180.0000- 175.0000				1	1	1			
L2 175.0000- 170.0000				1	1	1			
L3 170.0000- 165.0000				1	1	1			
L4 165.0000- 160.0000				1	1	1			
L5 160.0000- 155.0000				1	1	1			
L6 155.0000- 150.0000				1	1	1			
L7 150.0000- 145.0000				1	1	1			
L8 145.0000- 140.0000				1	1	1			
L9 140.0000- 133.0000				1	1	1			
L10 133.0000- 132.0000				1	1	1			
L11 132.0000- 131.0000				1	1	1			
L12 131.0000- 130.7500				1	1	0.963937			
L13 130.7500- 125.7500				1	1	0.965667			
L14 125.7500- 120.7500				1	1	0.96826			
L15 120.7500-				1	1	0.971669			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	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
ft	ft ²	in							
115.7500 L16				1	1	0.962489			
115.7500- 110.7500 L17				1	1	0.980776			
110.7500- 105.7500 L18				1	1	0.978658			
105.7500- 104.5000 L19				1	1	0.962258			
104.5000- 104.2500 L20				1	1	0.97828			
104.2500- 99.2500 L21				1	1	0.969242			
99.2500- 94.2500 L22				1	1	0.96636			
94.2500- 87.4200 L23				1	1	0.966563			
87.4200- 86.4200 L24				1	1	0.982517			
86.4200- 81.4200 L25				1	1	0.975638			
81.4200- 76.4200 L26				1	1	0.969126			
76.4200- 71.4200 L27				1	1	0.977872			
71.4200- 69.0000 L28				1	1	0.965633			
69.0000- 68.7500 L29				1	1	0.981284			
68.7500- 63.7500 L30				1	1	0.974607			
63.7500- 58.7500 L31				1	1	0.968255			
58.7500- 53.7500 L32				1	1	0.985854			
53.7500- 42.8800 L33				1	1	0.984137			
42.8800- 41.8800 L34				1	1	0.979015			
41.8800- 36.8800 L35				1	1	0.976658			
36.8800- 34.5000 L36				1	1	0.983102			
34.5000- 34.2500 L37				1	1	0.978945			
34.2500- 29.2500 L38				1	1	0.986047			
29.2500- 24.2500 L39				1	1	0.993494			
24.2500- 19.2500 L40				1	1	0.989765			
19.2500- 14.2500 L41				1	1	0.986188			
14.2500- 9.2500 L42				1	1	0.982754			
9.2500- 4.2500 L43				1	1	0.97994			
4.2500- 0.0000									

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 plf

5"x1" Flat Plate	A	No	Surface Af (CaAa)	36.8000 - 1.8000	1	1	0.340 0.500	5.0000	12.0000	0.00
5"x1" Flat Plate	B	No	Surface Af (CaAa)	36.8000 - 1.8000	1	1	0.340 0.500	5.0000	12.0000	0.00
5"x1" Flat Plate	C	No	Surface Af (CaAa)	36.8000 - 1.8000	1	1	0.340 0.500	5.0000	12.0000	0.00

CCI-65FP-060100	A	No	Surface Af (CaAa)	71.7500 - 31.7500	1	1	0.170 0.340	6.0000	14.0000	0.00
CCI-65FP-060100	B	No	Surface Af (CaAa)	71.7500 - 31.7500	1	1	0.170 0.340	6.0000	14.0000	0.00
CCI-65FP-060100	C	No	Surface Af (CaAa)	71.7500 - 31.7500	1	1	0.170 0.340	6.0000	14.0000	0.00

5"x1" Flat Plate	A	No	Surface Af (CaAa)	106.7500 - 66.9000	1	1	0.340 0.500	5.0000	12.0000	0.00
5"x1" Flat Plate	B	No	Surface Af (CaAa)	106.7500 - 66.9000	1	1	0.340 0.500	5.0000	12.0000	0.00
5"x1" Flat Plate	C	No	Surface Af (CaAa)	106.7500 - 66.9000	1	1	0.340 0.500	5.0000	12.0000	0.00

4"x1" Flat Plate	A	No	Surface Af (CaAa)	132.7500 - 102.9000	1	1	0.170 0.340	4.0000	10.0000	0.00
4"x1" Flat Plate	B	No	Surface Af (CaAa)	132.7500 - 102.9000	1	1	0.170 0.340	4.0000	10.0000	0.00
4"x1" Flat Plate	C	No	Surface Af (CaAa)	132.7500 - 102.9000	1	1	0.170 0.340	4.0000	10.0000	0.00

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
*** 180 ****									
HB114-1-0813U4-M5J(1-1/4)	B	No	No	Inside Pole	180.0000 - 0.0000	3	No Ice	0.0000	1.20
							1/2" Ice	0.0000	1.20
							1" Ice	0.0000	1.20
							2" Ice	0.0000	1.20
HB114-13U3M12-XXXF(1-1/4)	B	No	No	Inside Pole	180.0000 - 0.0000	1	No Ice	0.0000	0.99
							1/2" Ice	0.0000	0.99
							1" Ice	0.0000	0.99
							2" Ice	0.0000	0.99
*** 165 ****									
LDF4-50A(1/2)	B	No	No	Inside Pole	165.0000 - 0.0000	1	No Ice	0.0000	0.15
							1/2" Ice	0.0000	0.15
							1" Ice	0.0000	0.15
							2" Ice	0.0000	0.15
LDF7-50A(1-5/8)	B	No	No	Inside Pole	165.0000 - 0.0000	12	No Ice	0.0000	0.82
							1/2" Ice	0.0000	0.82
							1" Ice	0.0000	0.82
							2" Ice	0.0000	0.82
HB158-1-08U8-S8J18(1-5/8)	B	No	No	Inside Pole	165.0000 - 0.0000	2	No Ice	0.0000	1.30
							1/2" Ice	0.0000	1.30
							1" Ice	0.0000	1.30
							2" Ice	0.0000	1.30
*** 147P ***									
LCF158-50A(1-5/8)	A	No	No	Inside Pole	147.0000 - 0.0000	12	No Ice	0.0000	0.80
							1/2" Ice	0.0000	0.80
							1" Ice	0.0000	0.80
							2" Ice	0.0000	0.80
FB-L98B-002-	A	No	No	Inside Pole	147.0000 - 0.0000	1	No Ice	0.0000	0.06

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight plf
75000(3/8)					0.0000		1/2" Ice	0.0000	0.06
							1" Ice	0.0000	0.06
							2" Ice	0.0000	0.06
WR-VG122ST-BRDA(7/16)	A	No	No	Inside Pole	147.0000 - 0.0000	2	No Ice	0.0000	0.14
							1/2" Ice	0.0000	0.14
							1" Ice	0.0000	0.14
							2" Ice	0.0000	0.14
FB-L98B-034-XXX(3/8)	A	No	No	Inside Pole	147.0000 - 0.0000	1	No Ice	0.0000	0.06
							1/2" Ice	0.0000	0.06
							1" Ice	0.0000	0.06
							2" Ice	0.0000	0.06
WR-VG66ST-BRD(7/8)	A	No	No	Inside Pole	147.0000 - 0.0000	2	No Ice	0.0000	0.91
							1/2" Ice	0.0000	0.91
							1" Ice	0.0000	0.91
							2" Ice	0.0000	0.91
2" Rigid Conduit	A	No	No	Inside Pole	147.0000 - 0.0000	1	No Ice	0.0000	2.80
							1/2" Ice	0.0000	2.80
							1" Ice	0.0000	2.80
							2" Ice	0.0000	2.80
*** 75 ***									
LCF12-50J(1/2)	B	No	No	Inside Pole	75.0000 - 0.0000	1	No Ice	0.0000	0.15
							1/2" Ice	0.0000	0.15
							1" Ice	0.0000	0.15
							2" Ice	0.0000	0.15

Feed Line/Linear Appurtenances Section Areas

Tower Section n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	180.0000-175.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.00
L2	175.0000-170.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.00
L3	170.0000-165.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.02
		C	0.000	0.000	0.000	0.000	0.00
L4	165.0000-160.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.09
		C	0.000	0.000	0.000	0.000	0.00
L5	160.0000-155.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.09
		C	0.000	0.000	0.000	0.000	0.00
L6	155.0000-150.0000	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.09
		C	0.000	0.000	0.000	0.000	0.00
L7	150.0000-145.0000	A	0.000	0.000	0.000	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.09
		C	0.000	0.000	0.000	0.000	0.00
L8	145.0000-140.0000	A	0.000	0.000	0.000	0.000	0.07
		B	0.000	0.000	0.000	0.000	0.09
		C	0.000	0.000	0.000	0.000	0.00
L9	140.0000-133.0000	A	0.000	0.000	0.000	0.000	0.10
		B	0.000	0.000	0.000	0.000	0.12
		C	0.000	0.000	0.000	0.000	0.00
L10	133.0000-132.0000	A	0.000	0.000	0.500	0.000	0.01
		B	0.000	0.000	0.500	0.000	0.02
		C	0.000	0.000	0.500	0.000	0.00
L11	132.0000-	A	0.000	0.000	0.667	0.000	0.01

Tower Section	Tower Elevation	Face	A _R	A _F	C _{AA} In Face	C _{AA} Out Face	Weight
n	ft		ft ²	ft ²	ft ²	ft ²	K
	131.0000	B	0.000	0.000	0.667	0.000	0.02
		C	0.000	0.000	0.667	0.000	0.00
L12	131.0000-130.7500	A	0.000	0.000	0.167	0.000	0.00
		B	0.000	0.000	0.167	0.000	0.00
		C	0.000	0.000	0.167	0.000	0.00
L13	130.7500-125.7500	A	0.000	0.000	3.333	0.000	0.07
		B	0.000	0.000	3.333	0.000	0.09
		C	0.000	0.000	3.333	0.000	0.00
L14	125.7500-120.7500	A	0.000	0.000	3.333	0.000	0.07
		B	0.000	0.000	3.333	0.000	0.09
		C	0.000	0.000	3.333	0.000	0.00
L15	120.7500-115.7500	A	0.000	0.000	3.333	0.000	0.07
		B	0.000	0.000	3.333	0.000	0.09
		C	0.000	0.000	3.333	0.000	0.00
L16	115.7500-110.7500	A	0.000	0.000	3.333	0.000	0.07
		B	0.000	0.000	3.333	0.000	0.09
		C	0.000	0.000	3.333	0.000	0.00
L17	110.7500-105.7500	A	0.000	0.000	4.167	0.000	0.07
		B	0.000	0.000	4.167	0.000	0.09
		C	0.000	0.000	4.167	0.000	0.00
L18	105.7500-104.5000	A	0.000	0.000	1.875	0.000	0.02
		B	0.000	0.000	1.875	0.000	0.02
		C	0.000	0.000	1.875	0.000	0.00
L19	104.5000-104.2500	A	0.000	0.000	0.375	0.000	0.00
		B	0.000	0.000	0.375	0.000	0.00
		C	0.000	0.000	0.375	0.000	0.00
L20	104.2500-99.2500	A	0.000	0.000	5.067	0.000	0.07
		B	0.000	0.000	5.067	0.000	0.09
		C	0.000	0.000	5.067	0.000	0.00
L21	99.2500-94.2500	A	0.000	0.000	4.167	0.000	0.07
		B	0.000	0.000	4.167	0.000	0.09
		C	0.000	0.000	4.167	0.000	0.00
L22	94.2500-87.4200	A	0.000	0.000	5.692	0.000	0.10
		B	0.000	0.000	5.692	0.000	0.12
		C	0.000	0.000	5.692	0.000	0.00
L23	87.4200-86.4200	A	0.000	0.000	0.833	0.000	0.01
		B	0.000	0.000	0.833	0.000	0.02
		C	0.000	0.000	0.833	0.000	0.00
L24	86.4200-81.4200	A	0.000	0.000	4.167	0.000	0.07
		B	0.000	0.000	4.167	0.000	0.09
		C	0.000	0.000	4.167	0.000	0.00
L25	81.4200-76.4200	A	0.000	0.000	4.167	0.000	0.07
		B	0.000	0.000	4.167	0.000	0.09
		C	0.000	0.000	4.167	0.000	0.00
L26	76.4200-71.4200	A	0.000	0.000	4.497	0.000	0.07
		B	0.000	0.000	4.497	0.000	0.09
		C	0.000	0.000	4.497	0.000	0.00
L27	71.4200-69.0000	A	0.000	0.000	4.437	0.000	0.04
		B	0.000	0.000	4.437	0.000	0.04
		C	0.000	0.000	4.437	0.000	0.00
L28	69.0000-68.7500	A	0.000	0.000	0.458	0.000	0.00
		B	0.000	0.000	0.458	0.000	0.00
		C	0.000	0.000	0.458	0.000	0.00
L29	68.7500-63.7500	A	0.000	0.000	6.542	0.000	0.07
		B	0.000	0.000	6.542	0.000	0.09
		C	0.000	0.000	6.542	0.000	0.00
L30	63.7500-58.7500	A	0.000	0.000	5.000	0.000	0.07
		B	0.000	0.000	5.000	0.000	0.09
		C	0.000	0.000	5.000	0.000	0.00
L31	58.7500-53.7500	A	0.000	0.000	5.000	0.000	0.07
		B	0.000	0.000	5.000	0.000	0.09
		C	0.000	0.000	5.000	0.000	0.00
L32	53.7500-42.8800	A	0.000	0.000	10.870	0.000	0.16
		B	0.000	0.000	10.870	0.000	0.19
		C	0.000	0.000	10.870	0.000	0.00
L33	42.8800-41.8800	A	0.000	0.000	1.000	0.000	0.01
		B	0.000	0.000	1.000	0.000	0.02
		C	0.000	0.000	1.000	0.000	0.00
L34	41.8800-36.8800	A	0.000	0.000	5.000	0.000	0.07

Tower Section n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L35	36.8800-34.5000	B	0.000	0.000	5.000	0.000	0.09
		C	0.000	0.000	5.000	0.000	0.00
		A	0.000	0.000	4.297	0.000	0.03
L36	34.5000-34.2500	B	0.000	0.000	4.297	0.000	0.04
		C	0.000	0.000	4.297	0.000	0.00
		A	0.000	0.000	0.458	0.000	0.00
L37	34.2500-29.2500	B	0.000	0.000	0.458	0.000	0.00
		C	0.000	0.000	0.458	0.000	0.00
		A	0.000	0.000	6.667	0.000	0.07
L38	29.2500-24.2500	B	0.000	0.000	6.667	0.000	0.09
		C	0.000	0.000	6.667	0.000	0.00
		A	0.000	0.000	4.167	0.000	0.07
L39	24.2500-19.2500	B	0.000	0.000	4.167	0.000	0.09
		C	0.000	0.000	4.167	0.000	0.00
		A	0.000	0.000	4.167	0.000	0.07
L40	19.2500-14.2500	B	0.000	0.000	4.167	0.000	0.09
		C	0.000	0.000	4.167	0.000	0.00
		A	0.000	0.000	4.167	0.000	0.07
L41	14.2500-9.2500	B	0.000	0.000	4.167	0.000	0.09
		C	0.000	0.000	4.167	0.000	0.00
		A	0.000	0.000	4.167	0.000	0.07
L42	9.2500-4.2500	B	0.000	0.000	4.167	0.000	0.09
		C	0.000	0.000	4.167	0.000	0.00
		A	0.000	0.000	4.167	0.000	0.07
L43	4.2500-0.0000	B	0.000	0.000	2.042	0.000	0.07
		C	0.000	0.000	2.042	0.000	0.00
		A	0.000	0.000	2.042	0.000	0.06

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section n	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	180.0000-175.0000	A	1.509	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.00
L2	175.0000-170.0000	A	1.504	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.00
L3	170.0000-165.0000	A	1.500	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.00
L4	165.0000-160.0000	A	1.495	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.09
		C		0.000	0.000	0.000	0.000	0.00
L5	160.0000-155.0000	A	1.491	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.09
		C		0.000	0.000	0.000	0.000	0.00
L6	155.0000-150.0000	A	1.486	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.09
		C		0.000	0.000	0.000	0.000	0.00
L7	150.0000-145.0000	A	1.481	0.000	0.000	0.000	0.000	0.03
		B		0.000	0.000	0.000	0.000	0.09
		C		0.000	0.000	0.000	0.000	0.00
L8	145.0000-140.0000	A	1.476	0.000	0.000	0.000	0.000	0.07
		B		0.000	0.000	0.000	0.000	0.09
		C		0.000	0.000	0.000	0.000	0.00
L9	140.0000-133.0000	A	1.469	0.000	0.000	0.000	0.000	0.10
		B		0.000	0.000	0.000	0.000	0.12
		C		0.000	0.000	0.000	0.000	0.00
L10	133.0000-132.0000	A	1.465	0.000	0.000	0.720	0.000	0.02
		B		0.000	0.000	0.720	0.000	0.02
		C		0.000	0.000	0.720	0.000	0.01
L11	132.0000-	A	1.464	0.000	0.000	0.959	0.000	0.02

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
L12	131.0000-130.7500	B	1.463	0.000	0.000	0.959	0.000	0.03
		C		0.000	0.000	0.959	0.000	0.01
		A		0.000	0.000	0.240	0.000	0.01
L13	130.7500-125.7500	B	1.460	0.000	0.000	0.240	0.000	0.01
		C		0.000	0.000	0.240	0.000	0.00
		A		0.000	0.000	4.794	0.000	0.12
L14	125.7500-120.7500	B	1.455	0.000	0.000	4.794	0.000	0.13
		C		0.000	0.000	4.794	0.000	0.04
		A		0.000	0.000	4.788	0.000	0.12
L15	120.7500-115.7500	B	1.449	0.000	0.000	4.788	0.000	0.13
		C		0.000	0.000	4.788	0.000	0.04
		A		0.000	0.000	4.782	0.000	0.12
L16	115.7500-110.7500	B	1.442	0.000	0.000	4.782	0.000	0.13
		C		0.000	0.000	4.782	0.000	0.04
		A		0.000	0.000	4.776	0.000	0.12
L17	110.7500-105.7500	B	1.436	0.000	0.000	4.776	0.000	0.13
		C		0.000	0.000	4.776	0.000	0.04
		A		0.000	0.000	5.890	0.000	0.13
L18	105.7500-104.5000	B	1.432	0.000	0.000	5.890	0.000	0.14
		C		0.000	0.000	5.890	0.000	0.05
		A		0.000	0.000	2.591	0.000	0.04
L19	104.5000-104.2500	B	1.431	0.000	0.000	2.591	0.000	0.04
		C		0.000	0.000	2.591	0.000	0.02
		A		0.000	0.000	0.518	0.000	0.01
L20	104.2500-99.2500	B	1.427	0.000	0.000	0.518	0.000	0.01
		C		0.000	0.000	0.518	0.000	0.00
		A		0.000	0.000	6.879	0.000	0.13
L21	99.2500-94.2500	B	1.420	0.000	0.000	6.879	0.000	0.15
		C		0.000	0.000	6.879	0.000	0.06
		A		0.000	0.000	5.586	0.000	0.12
L22	94.2500-87.4200	B	1.411	0.000	0.000	5.586	0.000	0.13
		C		0.000	0.000	5.586	0.000	0.05
		A		0.000	0.000	7.619	0.000	0.16
L23	87.4200-86.4200	B	1.405	0.000	0.000	7.619	0.000	0.18
		C		0.000	0.000	7.619	0.000	0.06
		A		0.000	0.000	1.115	0.000	0.02
L24	86.4200-81.4200	B	1.400	0.000	0.000	1.115	0.000	0.03
		C		0.000	0.000	1.115	0.000	0.01
		A		0.000	0.000	5.566	0.000	0.12
L25	81.4200-76.4200	B	1.391	0.000	0.000	5.566	0.000	0.13
		C		0.000	0.000	5.566	0.000	0.05
		A		0.000	0.000	5.558	0.000	0.12
L26	76.4200-71.4200	B	1.382	0.000	0.000	5.558	0.000	0.13
		C		0.000	0.000	5.558	0.000	0.05
		A		0.000	0.000	5.970	0.000	0.12
L27	71.4200-69.0000	B	1.375	0.000	0.000	5.970	0.000	0.14
		C		0.000	0.000	5.970	0.000	0.05
		A		0.000	0.000	5.768	0.000	0.08
L28	69.0000-68.7500	B	1.372	0.000	0.000	5.768	0.000	0.09
		C		0.000	0.000	5.768	0.000	0.05
		A		0.000	0.000	0.596	0.000	0.01
L29	68.7500-63.7500	B	1.367	0.000	0.000	0.596	0.000	0.01
		C		0.000	0.000	0.596	0.000	0.00
		A		0.000	0.000	8.414	0.000	0.14
L30	63.7500-58.7500	B	1.356	0.000	0.000	8.414	0.000	0.15
		C		0.000	0.000	8.414	0.000	0.07
		A		0.000	0.000	6.356	0.000	0.12
L31	58.7500-53.7500	B	1.345	0.000	0.000	6.356	0.000	0.14
		C		0.000	0.000	6.356	0.000	0.05
		A		0.000	0.000	6.345	0.000	0.12
L32	53.7500-42.8800	B	1.324	0.000	0.000	6.345	0.000	0.14
		C		0.000	0.000	6.345	0.000	0.05
		A		0.000	0.000	13.749	0.000	0.27
L33	42.8800-41.8800	B	1.307	0.000	0.000	13.749	0.000	0.29
		C		0.000	0.000	13.749	0.000	0.11
		A		0.000	0.000	1.265	0.000	0.02
L34	41.8800-36.8800	B	1.298	0.000	0.000	1.265	0.000	0.03
		C		0.000	0.000	1.265	0.000	0.01
		A		0.000	0.000	6.298	0.000	0.12

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
L35	36.8800-34.5000	B	1.285	0.000	0.000	6.298	0.000	0.13
		C		0.000	0.000	6.298	0.000	0.05
		A		0.000	0.000	5.499	0.000	0.08
L36	34.5000-34.2500	B	1.280	0.000	0.000	5.499	0.000	0.08
		C		0.000	0.000	5.499	0.000	0.04
		A		0.000	0.000	0.586	0.000	0.01
L37	34.2500-29.2500	B	1.270	0.000	0.000	0.586	0.000	0.01
		C		0.000	0.000	0.586	0.000	0.00
		A		0.000	0.000	8.572	0.000	0.14
L38	29.2500-24.2500	B	1.248	0.000	0.000	8.572	0.000	0.15
		C		0.000	0.000	8.572	0.000	0.06
		A		0.000	0.000	5.415	0.000	0.11
L39	24.2500-19.2500	B	1.223	0.000	0.000	5.415	0.000	0.13
		C		0.000	0.000	5.415	0.000	0.04
		A		0.000	0.000	5.390	0.000	0.11
L40	19.2500-14.2500	B	1.191	0.000	0.000	5.390	0.000	0.13
		C		0.000	0.000	5.390	0.000	0.04
		A		0.000	0.000	5.358	0.000	0.11
L41	14.2500-9.2500	B	1.150	0.000	0.000	5.358	0.000	0.12
		C		0.000	0.000	5.358	0.000	0.04
		A		0.000	0.000	5.316	0.000	0.11
L42	9.2500-4.2500	B	1.088	0.000	0.000	5.316	0.000	0.12
		C		0.000	0.000	5.316	0.000	0.04
		A		0.000	0.000	5.254	0.000	0.11
L43	4.2500-0.0000	B	0.969	0.000	0.000	5.254	0.000	0.12
		C		0.000	0.000	5.254	0.000	0.03
		A		0.000	0.000	2.516	0.000	0.08
		B		0.000	0.000	2.516	0.000	0.09
		C		0.000	0.000	2.516	0.000	0.01

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
L1	180.0000-175.0000	0.0000	0.0000	0.0000	0.0000
L2	175.0000-170.0000	0.0000	0.0000	0.0000	0.0000
L3	170.0000-165.0000	0.0000	0.0000	0.0000	0.0000
L4	165.0000-160.0000	0.0000	0.0000	0.0000	0.0000
L5	160.0000-155.0000	0.0000	0.0000	0.0000	0.0000
L6	155.0000-150.0000	0.0000	0.0000	0.0000	0.0000
L7	150.0000-145.0000	0.0000	0.0000	0.0000	0.0000
L8	145.0000-140.0000	0.0000	0.0000	0.0000	0.0000
L9	140.0000-133.0000	0.0000	0.0000	0.0000	0.0000
L10	133.0000-132.0000	0.0000	0.0000	0.0000	0.0000
L11	132.0000-131.0000	0.0000	0.0000	0.0000	0.0000
L12	131.0000-130.7500	0.0000	0.0000	0.0000	0.0000
L13	130.7500-125.7500	0.0000	0.0000	0.0000	0.0000
L14	125.7500-120.7500	0.0000	0.0000	0.0000	0.0000
L15	120.7500-115.7500	0.0000	0.0000	0.0000	0.0000

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
L16	115.7500-110.7500	0.0000	0.0000	0.0000	0.0000
L17	110.7500-105.7500	0.0000	0.0000	0.0000	0.0000
L18	105.7500-104.5000	0.0000	0.0000	0.0000	0.0000
L19	104.5000-104.2500	0.0000	0.0000	0.0000	0.0000
L20	104.2500-99.2500	0.0000	0.0000	0.0000	0.0000
L21	99.2500-94.2500	0.0000	0.0000	0.0000	0.0000
L22	94.2500-87.4200	0.0000	0.0000	0.0000	0.0000
L23	87.4200-86.4200	0.0000	0.0000	0.0000	0.0000
L24	86.4200-81.4200	0.0000	0.0000	0.0000	0.0000
L25	81.4200-76.4200	0.0000	0.0000	0.0000	0.0000
L26	76.4200-71.4200	0.0000	0.0000	0.0000	0.0000
L27	71.4200-69.0000	0.0000	0.0000	0.0000	0.0000
L28	69.0000-68.7500	0.0000	0.0000	0.0000	0.0000
L29	68.7500-63.7500	0.0000	0.0000	0.0000	0.0000
L30	63.7500-58.7500	0.0000	0.0000	0.0000	0.0000
L31	58.7500-53.7500	0.0000	0.0000	0.0000	0.0000
L32	53.7500-42.8800	0.0000	0.0000	0.0000	0.0000
L33	42.8800-41.8800	0.0000	0.0000	0.0000	0.0000
L34	41.8800-36.8800	0.0000	0.0000	0.0000	0.0000
L35	36.8800-34.5000	0.0000	0.0000	0.0000	0.0000
L36	34.5000-34.2500	0.0000	0.0000	0.0000	0.0000
L37	34.2500-29.2500	0.0000	0.0000	0.0000	0.0000
L38	29.2500-24.2500	0.0000	0.0000	0.0000	0.0000
L39	24.2500-19.2500	0.0000	0.0000	0.0000	0.0000
L40	19.2500-14.2500	0.0000	0.0000	0.0000	0.0000
L41	14.2500-9.2500	0.0000	0.0000	0.0000	0.0000
L42	9.2500-4.2500	0.0000	0.0000	0.0000	0.0000
L43	4.2500-0.0000	0.0000	0.0000	0.0000	0.0000

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
L9	30	4"x1" Flat Plate	133.00 - 132.75	1.0000	1.0000
L9	31	4"x1" Flat Plate	133.00 - 132.75	1.0000	1.0000
L9	32	4"x1" Flat Plate	133.00 - 132.75	1.0000	1.0000
L11	30	4"x1" Flat Plate	131.00 - 132.00	1.0000	1.0000
L11	31	4"x1" Flat Plate	131.00 - 132.00	1.0000	1.0000
L11	32	4"x1" Flat Plate	131.00 - 132.00	1.0000	1.0000
L12	30	4"x1" Flat Plate	130.75 - 131.00	1.0000	1.0000
L12	31	4"x1" Flat Plate	130.75 - 131.00	1.0000	1.0000
L12	32	4"x1" Flat Plate	130.75 - 131.00	1.0000	1.0000
L13	30	4"x1" Flat Plate	125.75 - 130.75	1.0000	1.0000
L13	31	4"x1" Flat Plate	125.75 - 130.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L13	32	4"x1" Flat Plate	125.75 - 130.75	1.0000	1.0000
L14	30	4"x1" Flat Plate	120.75 - 125.75	1.0000	1.0000
L14	31	4"x1" Flat Plate	120.75 - 125.75	1.0000	1.0000
L14	32	4"x1" Flat Plate	120.75 - 125.75	1.0000	1.0000
L15	30	4"x1" Flat Plate	115.75 - 120.75	1.0000	1.0000
L15	31	4"x1" Flat Plate	115.75 - 120.75	1.0000	1.0000
L15	32	4"x1" Flat Plate	115.75 - 120.75	1.0000	1.0000
L16	30	4"x1" Flat Plate	110.75 - 115.75	1.0000	1.0000
L16	31	4"x1" Flat Plate	110.75 - 115.75	1.0000	1.0000
L16	32	4"x1" Flat Plate	110.75 - 115.75	1.0000	1.0000
L17	26	5"x1" Flat Plate	105.75 - 106.75	1.0000	1.0000
L17	27	5"x1" Flat Plate	105.75 - 106.75	1.0000	1.0000
L17	28	5"x1" Flat Plate	105.75 - 106.75	1.0000	1.0000
L17	30	4"x1" Flat Plate	105.75 - 110.75	1.0000	1.0000
L17	31	4"x1" Flat Plate	105.75 - 110.75	1.0000	1.0000
L17	32	4"x1" Flat Plate	105.75 - 110.75	1.0000	1.0000
L18	26	5"x1" Flat Plate	104.50 - 105.75	1.0000	1.0000
L18	27	5"x1" Flat Plate	104.50 - 105.75	1.0000	1.0000
L18	28	5"x1" Flat Plate	104.50 - 105.75	1.0000	1.0000
L18	30	4"x1" Flat Plate	104.50 - 105.75	1.0000	1.0000
L18	31	4"x1" Flat Plate	104.50 - 105.75	1.0000	1.0000
L18	32	4"x1" Flat Plate	104.50 - 105.75	1.0000	1.0000
L19	26	5"x1" Flat Plate	104.25 - 104.50	1.0000	1.0000
L19	27	5"x1" Flat Plate	104.25 - 104.50	1.0000	1.0000
L19	28	5"x1" Flat Plate	104.25 - 104.50	1.0000	1.0000
L19	30	4"x1" Flat Plate	104.25 - 104.50	1.0000	1.0000
L19	31	4"x1" Flat Plate	104.25 - 104.50	1.0000	1.0000
L19	32	4"x1" Flat Plate	104.25 - 104.50	1.0000	1.0000
L20	26	5"x1" Flat Plate	99.25 - 104.25	1.0000	1.0000
L20	27	5"x1" Flat Plate	99.25 - 104.25	1.0000	1.0000
L20	28	5"x1" Flat Plate	99.25 - 104.25	1.0000	1.0000
L20	30	4"x1" Flat Plate	102.90 - 104.25	1.0000	1.0000
L20	31	4"x1" Flat Plate	102.90 - 104.25	1.0000	1.0000
L20	32	4"x1" Flat Plate	102.90 - 104.25	1.0000	1.0000
L21	26	5"x1" Flat Plate	94.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L21	27	5"x1" Flat Plate	99.25 94.25 -	1.0000	1.0000
L21	28	5"x1" Flat Plate	99.25 94.25 -	1.0000	1.0000
L22	26	5"x1" Flat Plate	99.25 87.42 -	1.0000	1.0000
L22	27	5"x1" Flat Plate	94.25 87.42 -	1.0000	1.0000
L22	28	5"x1" Flat Plate	94.25 87.42 -	1.0000	1.0000
L24	26	5"x1" Flat Plate	94.25 81.42 -	1.0000	1.0000
L24	27	5"x1" Flat Plate	86.42 81.42 -	1.0000	1.0000
L24	28	5"x1" Flat Plate	86.42 81.42 -	1.0000	1.0000
L25	26	5"x1" Flat Plate	86.42 76.42 -	1.0000	1.0000
L25	27	5"x1" Flat Plate	81.42 76.42 -	1.0000	1.0000
L25	28	5"x1" Flat Plate	81.42 76.42 -	1.0000	1.0000
L26	22	CCI-65FP-060100	81.42 71.42 -	1.0000	1.0000
L26	23	CCI-65FP-060100	71.75 71.42 -	1.0000	1.0000
L26	24	CCI-65FP-060100	71.75 71.42 -	1.0000	1.0000
L26	26	5"x1" Flat Plate	71.75 71.42 -	1.0000	1.0000
L26	27	5"x1" Flat Plate	76.42 71.42 -	1.0000	1.0000
L26	28	5"x1" Flat Plate	76.42 71.42 -	1.0000	1.0000
L27	22	CCI-65FP-060100	76.42 69.00 -	1.0000	1.0000
L27	23	CCI-65FP-060100	71.42 69.00 -	1.0000	1.0000
L27	24	CCI-65FP-060100	71.42 69.00 -	1.0000	1.0000
L27	26	5"x1" Flat Plate	71.42 69.00 -	1.0000	1.0000
L27	27	5"x1" Flat Plate	71.42 69.00 -	1.0000	1.0000
L27	28	5"x1" Flat Plate	71.42 69.00 -	1.0000	1.0000
L28	22	CCI-65FP-060100	71.42 68.75 -	1.0000	1.0000
L28	23	CCI-65FP-060100	69.00 68.75 -	1.0000	1.0000
L28	24	CCI-65FP-060100	69.00 68.75 -	1.0000	1.0000
L28	26	5"x1" Flat Plate	69.00 68.75 -	1.0000	1.0000
L28	27	5"x1" Flat Plate	69.00 68.75 -	1.0000	1.0000
L28	28	5"x1" Flat Plate	69.00 68.75 -	1.0000	1.0000
L29	22	CCI-65FP-060100	69.00 63.75 -	1.0000	1.0000
L29	23	CCI-65FP-060100	68.75 63.75 -	1.0000	1.0000
L29	24	CCI-65FP-060100	68.75 63.75 -	1.0000	1.0000
L29	26	5"x1" Flat Plate	68.75 66.90 -	1.0000	1.0000
L29	27	5"x1" Flat Plate	68.75 66.90 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L29	28	5"x1" Flat Plate	66.90 - 68.75	1.0000	1.0000
L30	22	CCI-65FP-060100	58.75 - 63.75	1.0000	1.0000
L30	23	CCI-65FP-060100	58.75 - 63.75	1.0000	1.0000
L30	24	CCI-65FP-060100	58.75 - 63.75	1.0000	1.0000
L31	22	CCI-65FP-060100	53.75 - 58.75	1.0000	1.0000
L31	23	CCI-65FP-060100	53.75 - 58.75	1.0000	1.0000
L31	24	CCI-65FP-060100	53.75 - 58.75	1.0000	1.0000
L32	22	CCI-65FP-060100	42.88 - 53.75	1.0000	1.0000
L32	23	CCI-65FP-060100	42.88 - 53.75	1.0000	1.0000
L32	24	CCI-65FP-060100	42.88 - 53.75	1.0000	1.0000
L34	22	CCI-65FP-060100	36.88 - 41.88	1.0000	1.0000
L34	23	CCI-65FP-060100	36.88 - 41.88	1.0000	1.0000
L34	24	CCI-65FP-060100	36.88 - 41.88	1.0000	1.0000
L35	18	5"x1" Flat Plate	34.50 - 36.80	1.0000	1.0000
L35	19	5"x1" Flat Plate	34.50 - 36.80	1.0000	1.0000
L35	20	5"x1" Flat Plate	34.50 - 36.80	1.0000	1.0000
L35	22	CCI-65FP-060100	34.50 - 36.88	1.0000	1.0000
L35	23	CCI-65FP-060100	34.50 - 36.88	1.0000	1.0000
L35	24	CCI-65FP-060100	34.50 - 36.88	1.0000	1.0000
L36	18	5"x1" Flat Plate	34.25 - 34.50	1.0000	1.0000
L36	19	5"x1" Flat Plate	34.25 - 34.50	1.0000	1.0000
L36	20	5"x1" Flat Plate	34.25 - 34.50	1.0000	1.0000
L36	22	CCI-65FP-060100	34.25 - 34.50	1.0000	1.0000
L36	23	CCI-65FP-060100	34.25 - 34.50	1.0000	1.0000
L36	24	CCI-65FP-060100	34.25 - 34.50	1.0000	1.0000
L37	18	5"x1" Flat Plate	29.25 - 34.25	1.0000	1.0000
L37	19	5"x1" Flat Plate	29.25 - 34.25	1.0000	1.0000
L37	20	5"x1" Flat Plate	29.25 - 34.25	1.0000	1.0000
L37	22	CCI-65FP-060100	31.75 - 34.25	1.0000	1.0000
L37	23	CCI-65FP-060100	31.75 - 34.25	1.0000	1.0000
L37	24	CCI-65FP-060100	31.75 - 34.25	1.0000	1.0000
L38	18	5"x1" Flat Plate	24.25 - 29.25	1.0000	1.0000
L38	19	5"x1" Flat Plate	24.25 - 29.25	1.0000	1.0000
L38	20	5"x1" Flat Plate	24.25 - 29.25	1.0000	1.0000
L39	18	5"x1" Flat Plate	19.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L39	19	5"x1" Flat Plate	24.25 19.25 - 24.25	1.0000	1.0000
L39	20	5"x1" Flat Plate	24.25 19.25 - 24.25	1.0000	1.0000
L40	18	5"x1" Flat Plate	14.25 - 19.25	1.0000	1.0000
L40	19	5"x1" Flat Plate	14.25 - 19.25	1.0000	1.0000
L40	20	5"x1" Flat Plate	14.25 - 19.25	1.0000	1.0000
L41	18	5"x1" Flat Plate	9.25 - 14.25	1.0000	1.0000
L41	19	5"x1" Flat Plate	9.25 - 14.25	1.0000	1.0000
L41	20	5"x1" Flat Plate	9.25 - 14.25	1.0000	1.0000
L42	18	5"x1" Flat Plate	4.25 - 9.25	1.0000	1.0000
L42	19	5"x1" Flat Plate	4.25 - 9.25	1.0000	1.0000
L42	20	5"x1" Flat Plate	4.25 - 9.25	1.0000	1.0000
L43	18	5"x1" Flat Plate	1.80 - 4.25	1.0000	1.0000
L43	19	5"x1" Flat Plate	1.80 - 4.25	1.0000	1.0000
L43	20	5"x1" Flat Plate	1.80 - 4.25	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
*** 180 ***									
NNVV-65B-R4 w/ Mount Pipe	A	From Leg	4.0000 0.00 0.00	0.0000	180.0000	No Ice	7.5500	4.2300	0.11
						1/2" Ice	8.0400	4.6700	0.20
						Ice	8.5300	5.1200	0.30
						1" Ice	9.5600	6.0500	0.53
						2" Ice			
NNVV-65B-R4 w/ Mount Pipe	B	From Leg	4.0000 0.00 0.00	0.0000	180.0000	No Ice	7.5500	4.2300	0.11
						1/2" Ice	8.0400	4.6700	0.20
						Ice	8.5300	5.1200	0.30
						1" Ice	9.5600	6.0500	0.53
						2" Ice			
NNVV-65B-R4 w/ Mount Pipe	C	From Leg	4.0000 0.00 0.00	0.0000	180.0000	No Ice	7.5500	4.2300	0.11
						1/2" Ice	8.0400	4.6700	0.20
						Ice	8.5300	5.1200	0.30
						1" Ice	9.5600	6.0500	0.53
						2" Ice			
APXVTM14-ALU-I20 w/ Mount Pipe	A	From Leg	4.0000 0.00 0.00	0.0000	180.0000	No Ice	4.0900	2.8600	0.08
						1/2" Ice	4.4800	3.2300	0.13
						Ice	4.8800	3.6100	0.19
						1" Ice	5.7100	4.4000	0.33
						2" Ice			
APXVTM14-ALU-I20 w/ Mount Pipe	B	From Leg	4.0000 0.00 0.00	0.0000	180.0000	No Ice	4.0900	2.8600	0.08
						1/2" Ice	4.4800	3.2300	0.13
						Ice	4.8800	3.6100	0.19
						1" Ice	5.7100	4.4000	0.33
						2" Ice			
APXVTM14-ALU-I20 w/ Mount Pipe	C	From Leg	4.0000 0.00 0.00	0.0000	180.0000	No Ice	4.0900	2.8600	0.08
						1/2" Ice	4.4800	3.2300	0.13
						Ice	4.8800	3.6100	0.19
						1" Ice	5.7100	4.4000	0.33
						2" Ice			
TD-RRH8x20-25	A	From Leg	4.0000	0.0000	180.0000	No Ice	4.0455	1.5345	0.07

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _{Front}	C _A A _{Side}	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
			0.00			1/2"	4.2975	1.7142	0.10
			0.00			Ice	4.5570	1.9008	0.13
						1" Ice	5.0981	2.2951	0.20
						2" Ice			
TD-RRH8x20-25	B	From Leg	4.0000	0.0000	180.0000	No Ice	4.0455	1.5345	0.07
			0.00			1/2"	4.2975	1.7142	0.10
			0.00			Ice	4.5570	1.9008	0.13
						1" Ice	5.0981	2.2951	0.20
						2" Ice			
TD-RRH8x20-25	C	From Leg	4.0000	0.0000	180.0000	No Ice	4.0455	1.5345	0.07
			0.00			1/2"	4.2975	1.7142	0.10
			0.00			Ice	4.5570	1.9008	0.13
						1" Ice	5.0981	2.2951	0.20
						2" Ice			
(2) RRH2X50-800	A	From Leg	4.0000	0.0000	180.0000	No Ice	1.7008	1.2822	0.05
			0.00			1/2"	1.8640	1.4275	0.07
			0.00			Ice	2.0345	1.5803	0.09
						1" Ice	2.3979	1.9081	0.14
						2" Ice			
(2) RRH2X50-800	B	From Leg	4.0000	0.0000	180.0000	No Ice	1.7008	1.2822	0.05
			0.00			1/2"	1.8640	1.4275	0.07
			0.00			Ice	2.0345	1.5803	0.09
						1" Ice	2.3979	1.9081	0.14
						2" Ice			
(2) RRH2X50-800	C	From Leg	4.0000	0.0000	180.0000	No Ice	1.7008	1.2822	0.05
			0.00			1/2"	1.8640	1.4275	0.07
			0.00			Ice	2.0345	1.5803	0.09
						1" Ice	2.3979	1.9081	0.14
						2" Ice			
PCS 1900MHZ 4X45W 65MHZ	A	From Leg	4.0000	0.0000	180.0000	No Ice	2.3125	2.2292	0.06
			0.00			1/2"	2.5168	2.4312	0.08
			0.00			Ice	2.7284	2.6406	0.11
						1" Ice	3.1740	3.0818	0.17
						2" Ice			
PCS 1900MHZ 4X45W 65MHZ	B	From Leg	4.0000	0.0000	180.0000	No Ice	2.3125	2.2292	0.06
			0.00			1/2"	2.5168	2.4312	0.08
			0.00			Ice	2.7284	2.6406	0.11
						1" Ice	3.1740	3.0818	0.17
						2" Ice			
PCS 1900MHZ 4X45W 65MHZ	C	From Leg	4.0000	0.0000	180.0000	No Ice	2.3125	2.2292	0.06
			0.00			1/2"	2.5168	2.4312	0.08
			0.00			Ice	2.7284	2.6406	0.11
						1" Ice	3.1740	3.0818	0.17
						2" Ice			
FZHN	A	From Leg	4.0000	0.0000	180.0000	No Ice	2.0197	0.6068	0.04
			0.00			1/2"	2.1967	0.7146	0.06
			0.00			Ice	2.3811	0.8294	0.07
						1" Ice	2.7723	1.0888	0.12
						2" Ice			
FZHN	B	From Leg	4.0000	0.0000	180.0000	No Ice	2.0197	0.6068	0.04
			0.00			1/2"	2.1967	0.7146	0.06
			0.00			Ice	2.3811	0.8294	0.07
						1" Ice	2.7723	1.0888	0.12
						2" Ice			
FZHN	C	From Leg	4.0000	0.0000	180.0000	No Ice	2.0197	0.6068	0.04
			0.00			1/2"	2.1967	0.7146	0.06
			0.00			Ice	2.3811	0.8294	0.07
						1" Ice	2.7723	1.0888	0.12
						2" Ice			
5' x 2" Pipe Mount	A	From Leg	4.0000	0.0000	180.0000	No Ice	1.1875	1.1875	0.02
			0.00			1/2"	1.4956	1.4956	0.03
			0.00			Ice	1.8071	1.8071	0.04
						1" Ice	2.4580	2.4580	0.08
						2" Ice			
5' x 2" Pipe Mount	B	From Leg	4.0000	0.0000	180.0000	No Ice	1.1875	1.1875	0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			0.00			1/2"	1.4956	1.4956	0.03
			0.00			Ice	1.8071	1.8071	0.04
						1" Ice	2.4580	2.4580	0.08
						2" Ice			
5' x 2" Pipe Mount	C	From Leg	4.0000	0.0000	180.0000	No Ice	1.1875	1.1875	0.02
			0.00			1/2"	1.4956	1.4956	0.03
			0.00			Ice	1.8071	1.8071	0.04
						1" Ice	2.4580	2.4580	0.08
						2" Ice			
Miscellaneous [NA 509-3]	C	None		0.0000	180.0000	No Ice	11.8400	11.8400	0.28
						1/2"	16.9600	16.9600	0.30
						Ice	22.0800	22.0800	0.32
						1" Ice	32.3200	32.3200	0.36
						2" Ice			
(2) Miscellaneous [NA 507-1]	C	None		0.0000	180.0000	No Ice	4.5600	4.5600	0.25
						1/2"	6.3900	6.3900	0.31
						Ice	8.1800	8.1800	0.40
						1" Ice	11.6600	11.6600	0.66
						2" Ice			
Platform Mount [LP 712-1]	C	None		0.0000	180.0000	No Ice	24.5600	24.5600	1.34
						1/2"	27.9200	27.9200	1.91
						Ice	31.2700	31.2700	2.55
						1" Ice	37.9800	37.9800	3.97
						2" Ice			
Transition Ladder	C	None		0.0000	180.0000	No Ice	6.0000	6.0000	0.16
						1/2"	8.0000	8.0000	0.24
						Ice	10.0000	10.0000	0.32
						1" Ice	14.0000	14.0000	0.48
						2" Ice			
*** 165 *** GPS_A	A	From Leg	4.0000	0.0000	165.0000	No Ice	0.2550	0.2550	0.00
			0.00			1/2"	0.3205	0.3205	0.00
			2.00			Ice	0.3934	0.3934	0.01
						1" Ice	0.5614	0.5614	0.02
						2" Ice			
(2) LPA-80080-6CF-EDIN w/ Mount Pipe	A	From Leg	4.0000	0.0000	165.0000	No Ice	4.5604	10.2691	0.05
			0.00			1/2"	5.1019	11.4385	0.11
			4.00			Ice	5.6085	12.3233	0.19
						1" Ice	6.6479	14.1415	0.36
						2" Ice			
(2) LPA-80063/6CF w/ Mount Pipe	B	From Leg	4.0000	0.0000	165.0000	No Ice	9.8309	10.2155	0.05
			0.00			1/2"	10.3998	11.3844	0.14
			4.00			Ice	10.9334	12.2686	0.25
						1" Ice	12.0258	14.0859	0.48
						2" Ice			
(2) LPA-80063/6CF w/ Mount Pipe	C	From Leg	4.0000	0.0000	165.0000	No Ice	9.8309	10.2155	0.05
			0.00			1/2"	10.3998	11.3844	0.14
			4.00			Ice	10.9334	12.2686	0.25
						1" Ice	12.0258	14.0859	0.48
						2" Ice			
QUAD656C0000X w/ Mount Pipe	A	From Leg	4.0000	0.0000	165.0000	No Ice	13.4791	7.3313	0.08
			0.00			1/2"	14.0955	8.5469	0.17
			4.00			Ice	14.6815	9.5003	0.28
						1" Ice	15.8670	11.3757	0.51
						2" Ice			
QUAD656C0000X w/ Mount Pipe	B	From Leg	4.0000	0.0000	165.0000	No Ice	13.4791	7.3313	0.08
			0.00			1/2"	14.0955	8.5469	0.17
			4.00			Ice	14.6815	9.5003	0.28
						1" Ice	15.8670	11.3757	0.51
						2" Ice			
QUAD656C0000X w/ Mount Pipe	C	From Leg	4.0000	0.0000	165.0000	No Ice	13.4791	7.3313	0.08
			0.00			1/2"	14.0955	8.5469	0.17
			4.00			Ice	14.6815	9.5003	0.28
						1" Ice	15.8670	11.3757	0.51
						2" Ice			

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
(2) HBXX-6516DS-A2M w/ Mount Pipe	A	From Leg	4.0000	0.0000	165.0000	No Ice	5.1800	3.9700	0.05
			0.00			1/2"	5.7000	4.4700	0.09
			4.00			Ice	6.2400	4.9800	0.15
						1" Ice	7.3600	6.0600	0.28
						2" Ice			
(2) HBXX-6516DS-A2M w/ Mount Pipe	B	From Leg	4.0000	0.0000	165.0000	No Ice	5.1800	3.9700	0.05
			0.00			1/2"	5.7000	4.4700	0.09
			4.00			Ice	6.2400	4.9800	0.15
						1" Ice	7.3600	6.0600	0.28
						2" Ice			
(2) HBXX-6516DS-A2M w/ Mount Pipe	C	From Leg	4.0000	0.0000	165.0000	No Ice	5.1800	3.9700	0.05
			0.00			1/2"	5.7000	4.4700	0.09
			4.00			Ice	6.2400	4.9800	0.15
						1" Ice	7.3600	6.0600	0.28
						2" Ice			
(2) FD9R6004/2C-3L	A	From Leg	4.0000	0.0000	165.0000	No Ice	0.3142	0.0762	0.00
			0.00			1/2"	0.3862	0.1189	0.01
			4.00			Ice	0.4656	0.1685	0.01
						1" Ice	0.6468	0.2940	0.02
						2" Ice			
(2) FD9R6004/2C-3L	B	From Leg	4.0000	0.0000	165.0000	No Ice	0.3142	0.0762	0.00
			0.00			1/2"	0.3862	0.1189	0.01
			4.00			Ice	0.4656	0.1685	0.01
						1" Ice	0.6468	0.2940	0.02
						2" Ice			
(2) FD9R6004/2C-3L	C	From Leg	4.0000	0.0000	165.0000	No Ice	0.3142	0.0762	0.00
			0.00			1/2"	0.3862	0.1189	0.01
			4.00			Ice	0.4656	0.1685	0.01
						1" Ice	0.6468	0.2940	0.02
						2" Ice			
B66A RRH4X45	A	From Leg	4.0000	0.0000	165.0000	No Ice	2.5800	1.6296	0.07
			0.00			1/2"	2.7937	1.8106	0.09
			4.00			Ice	3.0148	1.9986	0.11
						1" Ice	3.4793	2.3955	0.17
						2" Ice			
B66A RRH4X45	B	From Leg	4.0000	0.0000	165.0000	No Ice	2.5800	1.6296	0.07
			0.00			1/2"	2.7937	1.8106	0.09
			4.00			Ice	3.0148	1.9986	0.11
						1" Ice	3.4793	2.3955	0.17
						2" Ice			
B66A RRH4X45	C	From Leg	4.0000	0.0000	165.0000	No Ice	2.5800	1.6296	0.07
			0.00			1/2"	2.7937	1.8106	0.09
			4.00			Ice	3.0148	1.9986	0.11
						1" Ice	3.4793	2.3955	0.17
						2" Ice			
RRH2X60-700	A	From Leg	4.0000	0.0000	165.0000	No Ice	3.5002	1.8157	0.06
			0.00			1/2"	3.7609	2.0519	0.08
			4.00			Ice	4.0285	2.2894	0.11
						1" Ice	4.5849	2.7852	0.17
						2" Ice			
RRH2X60-700	B	From Leg	4.0000	0.0000	165.0000	No Ice	3.5002	1.8157	0.06
			0.00			1/2"	3.7609	2.0519	0.08
			4.00			Ice	4.0285	2.2894	0.11
						1" Ice	4.5849	2.7852	0.17
						2" Ice			
RRH2X60-700	C	From Leg	4.0000	0.0000	165.0000	No Ice	3.5002	1.8157	0.06
			0.00			1/2"	3.7609	2.0519	0.08
			4.00			Ice	4.0285	2.2894	0.11
						1" Ice	4.5849	2.7852	0.17
						2" Ice			
DB-T1-6Z-8AB-OZ	A	From Leg	4.0000	0.0000	165.0000	No Ice	4.8000	2.0000	0.04
			0.00			1/2"	5.0704	2.1926	0.08
			4.00			Ice	5.3481	2.3926	0.12
						1" Ice	5.9259	2.8148	0.21
						2" Ice			

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
DB-T1-6Z-8AB-0Z	C	From Leg	4.0000	0.0000	165.0000	No Ice	4.8000	2.0000	0.04
			0.00			1/2"	5.0704	2.1926	0.08
			4.00			Ice	5.3481	2.3926	0.12
						1" Ice	5.9259	2.8148	0.21
						2" Ice			
RRH2X60-PCS	A	From Leg	4.0000	0.0000	165.0000	No Ice	2.2000	1.7233	0.06
			0.00			1/2"	2.3926	1.9015	0.08
			4.00			Ice	2.5926	2.0870	0.10
						1" Ice	3.0148	2.4804	0.16
						2" Ice			
RRH2X60-PCS	B	From Leg	4.0000	0.0000	165.0000	No Ice	2.2000	1.7233	0.06
			0.00			1/2"	2.3926	1.9015	0.08
			4.00			Ice	2.5926	2.0870	0.10
						1" Ice	3.0148	2.4804	0.16
						2" Ice			
RRH2X60-PCS	C	From Leg	4.0000	0.0000	165.0000	No Ice	2.2000	1.7233	0.06
			0.00			1/2"	2.3926	1.9015	0.08
			4.00			Ice	2.5926	2.0870	0.10
						1" Ice	3.0148	2.4804	0.16
						2" Ice			
Platform Mount [LP 712-1]	C	None		0.0000	165.0000	No Ice	24.5600	24.5600	1.34
						1/2"	27.9200	27.9200	1.91
						Ice	31.2700	31.2700	2.55
						1" Ice	37.9800	37.9800	3.97
						2" Ice			
*** 148R *** TME-RRUS-11	A	From Leg	4.0000	0.0000	148.0000	No Ice	2.9588	1.6650	0.06
			0.00			1/2"	3.2259	1.9756	0.08
			1.00			Ice	3.5037	2.3039	0.12
						1" Ice	4.0917	3.0202	0.19
						2" Ice			
TME-RRUS-11	B	From Leg	4.0000	0.0000	148.0000	No Ice	2.9588	1.6650	0.06
			0.00			1/2"	3.2259	1.9756	0.08
			1.00			Ice	3.5037	2.3039	0.12
						1" Ice	4.0917	3.0202	0.19
						2" Ice			
TME-RRUS-11	C	From Leg	4.0000	0.0000	148.0000	No Ice	2.9588	1.6650	0.06
			0.00			1/2"	3.2259	1.9756	0.08
			1.00			Ice	3.5037	2.3039	0.12
						1" Ice	4.0917	3.0202	0.19
						2" Ice			
RRUS-11	A	From Leg	4.0000	0.0000	148.0000	No Ice	2.7845	1.1872	0.05
			0.00			1/2"	2.9919	1.3342	0.07
			0.00			Ice	3.2066	1.4897	0.09
						1" Ice	3.6584	1.8326	0.15
						2" Ice			
RRUS-11	B	From Leg	4.0000	0.0000	148.0000	No Ice	2.7845	1.1872	0.05
			0.00			1/2"	2.9919	1.3342	0.07
			0.00			Ice	3.2066	1.4897	0.09
						1" Ice	3.6584	1.8326	0.15
						2" Ice			
RRUS-11	C	From Leg	4.0000	0.0000	148.0000	No Ice	2.7845	1.1872	0.05
			0.00			1/2"	2.9919	1.3342	0.07
			0.00			Ice	3.2066	1.4897	0.09
						1" Ice	3.6584	1.8326	0.15
						2" Ice			
Pipe Mount [PM 601-3]	C	None		0.0000	148.0000	No Ice	3.1700	3.1700	0.20
						1/2"	3.7900	3.7900	0.23
						Ice	4.4200	4.4200	0.28
						1" Ice	5.7600	5.7600	0.40
						2" Ice			
*** 147P *** 7770.00 w/ Mount Pipe	A	From Leg	4.0000	0.0000	147.0000	No Ice	5.7460	4.2543	0.06
			0.00			1/2"	6.1791	5.0137	0.10
			0.00			Ice	6.6067	5.7109	0.16

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Lateral						ft
7770.00 w/ Mount Pipe	B	From Leg	4.0000	0.0000	147.0000	1" Ice	7.4880	7.1553	0.29	
						2" Ice				
						No Ice	5.7460	4.2543	0.06	
						1/2" Ice	6.1791	5.0137	0.10	
7770.00 w/ Mount Pipe	C	From Leg	4.0000	0.0000	147.0000	1" Ice	6.6067	5.7109	0.16	
						2" Ice				
						No Ice	5.7460	4.2543	0.06	
						1/2" Ice	6.1791	5.0137	0.10	
HPA-65R-BUU-H8 w/ Mount Pipe	A	From Leg	4.0000	0.0000	147.0000	1" Ice	7.4880	7.1553	0.29	
						2" Ice				
						No Ice	5.7460	4.2543	0.06	
						1/2" Ice	6.1791	5.0137	0.10	
HPA-65R-BUU-H8 w/ Mount Pipe	B	From Leg	4.0000	0.0000	147.0000	Ice	6.6067	5.7109	0.16	
						1" Ice	7.4880	7.1553	0.29	
						2" Ice				
						No Ice	5.7460	4.2543	0.06	
HPA-65R-BUU-H8 w/ Mount Pipe	C	From Leg	4.0000	0.0000	147.0000	1/2" Ice	13.1900	9.2300	0.19	
						Ice	14.1600	10.1500	0.30	
						1" Ice	16.1400	12.0500	0.54	
						2" Ice				
HPA-65R-BUU-H8 w/ Mount Pipe	A	From Leg	4.0000	0.0000	147.0000	No Ice	12.2500	8.3300	0.10	
						1/2" Ice	13.1900	9.2300	0.19	
						Ice	14.1600	10.1500	0.30	
						1" Ice	16.1400	12.0500	0.54	
DMP65R-BU8D w/ Mount Pipe	B	From Leg	4.0000	0.0000	147.0000	2" Ice				
						No Ice	12.2500	8.3300	0.10	
						1/2" Ice	13.1900	9.2300	0.19	
						Ice	14.1600	10.1500	0.30	
DMP65R-BU8D w/ Mount Pipe	C	From Leg	4.0000	0.0000	147.0000	1" Ice	16.1400	12.0500	0.54	
						2" Ice				
						No Ice	12.2500	8.3300	0.10	
						1/2" Ice	13.1900	9.2300	0.19	
DMP65R-BU8D w/ Mount Pipe	A	From Leg	4.0000	0.0000	147.0000	Ice	14.1600	10.1500	0.30	
						1" Ice	16.1400	12.0500	0.54	
						2" Ice				
						No Ice	12.2500	8.3300	0.10	
DMP65R-BU8D w/ Mount Pipe	B	From Leg	4.0000	0.0000	147.0000	1/2" Ice	16.8100	8.7400	0.25	
						Ice	17.7600	9.6000	0.38	
						1" Ice	19.7000	11.3700	0.68	
						2" Ice				
DMP65R-BU8D w/ Mount Pipe	C	From Leg	4.0000	0.0000	147.0000	No Ice	15.8900	7.8900	0.14	
						1/2" Ice	16.8100	8.7400	0.25	
						Ice	17.7600	9.6000	0.38	
						1" Ice	19.7000	11.3700	0.68	
LGP21401	A	From Leg	4.0000	0.0000	147.0000	2" Ice				
						No Ice	1.1040	0.2070	0.01	
						1/2" Ice	1.2388	0.2738	0.02	
						Ice	1.3810	0.3475	0.03	
LGP21401	B	From Leg	4.0000	0.0000	147.0000	1" Ice	1.6877	0.5208	0.05	
						2" Ice				
						No Ice	1.1040	0.2070	0.01	
						1/2" Ice	1.2388	0.2738	0.02	
LGP21401	C	From Leg	4.0000	0.0000	147.0000	Ice	1.3810	0.3475	0.03	
						1" Ice	1.6877	0.5208	0.05	
						2" Ice				
						No Ice	1.1040	0.2070	0.01	
RRUS11 A2	A	From Leg	4.0000	0.0000	147.0000	1/2" Ice	1.2388	0.2738	0.02	
						Ice	1.3810	0.3475	0.03	
						1" Ice	1.6877	0.5208	0.05	
						2" Ice				
RRUS11 A2	B	From Leg	4.0000	0.0000	147.0000	No Ice	2.7908	1.7237	0.07	
						1/2" Ice	2.9984	1.8952	0.10	
						Ice	3.2134	2.0741	0.13	
						1" Ice	3.6656	2.4541	0.19	
RRUS11 A2	C	From Leg	4.0000	0.0000	147.0000	2" Ice				
						No Ice	2.7908	1.7237	0.07	
						1/2" Ice	2.9984	1.8952	0.10	
						Ice	3.2134	2.0741	0.13	

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _{Front}	C _A A _{Side}	Weight	
			Horz	Lateral						Vert
			ft	ft	°	ft	ft ²	ft ²	K	
RRUS11 A2	C	From Leg	4.0000	0.0000	147.0000	1" Ice	3.6656	2.4541	0.19	
						2" Ice				
						No Ice	2.7908	1.7237	0.07	
						1/2" Ice	2.9984	1.8952	0.10	
						Ice	3.2134	2.0741	0.13	
DC6-48-60-18-8C-EV	A	From Leg	4.0000	0.0000	147.0000	1" Ice	3.6656	2.4541	0.19	
						2" Ice				
						No Ice	2.7357	2.7357	0.03	
						1/2" Ice	2.9620	2.9620	0.05	
						Ice	3.1953	3.1953	0.08	
DC6-48-60-18-8F	B	From Leg	4.0000	0.0000	147.0000	1" Ice	3.6830	3.6830	0.15	
						2" Ice				
						No Ice	1.2117	1.2117	0.02	
						1/2" Ice	1.8924	1.8924	0.04	
						Ice	2.1051	2.1051	0.07	
RRUS 4449 B5/B12	A	From Leg	4.0000	0.0000	147.0000	1" Ice	2.5703	2.5703	0.13	
						2" Ice				
						No Ice	1.9675	1.4081	0.07	
						1/2" Ice	2.1439	1.5637	0.09	
						Ice	2.3278	1.7267	0.11	
RRUS 4449 B5/B12	B	From Leg	4.0000	0.0000	147.0000	1" Ice	2.7177	2.0749	0.16	
						2" Ice				
						No Ice	1.9675	1.4081	0.07	
						1/2" Ice	2.1439	1.5637	0.09	
						Ice	2.3278	1.7267	0.11	
RRUS 4449 B5/B12	B	From Leg	4.0000	0.0000	147.0000	1" Ice	2.7177	2.0749	0.16	
						2" Ice				
						No Ice	1.9675	1.4081	0.07	
						1/2" Ice	2.1439	1.5637	0.09	
						Ice	2.3278	1.7267	0.11	
5' x 2" Pipe Mount	A	From Leg	4.0000	0.0000	147.0000	1" Ice	2.4580	2.4580	0.08	
						2" Ice				
						No Ice	1.1875	1.1875	0.02	
						1/2" Ice	1.4956	1.4956	0.03	
						Ice	1.8071	1.8071	0.04	
5' x 2" Pipe Mount	B	From Leg	4.0000	0.0000	147.0000	1" Ice	2.4580	2.4580	0.08	
						2" Ice				
						No Ice	1.1875	1.1875	0.02	
						1/2" Ice	1.4956	1.4956	0.03	
						Ice	1.8071	1.8071	0.04	
5' x 2" Pipe Mount	C	From Leg	4.0000	0.0000	147.0000	1" Ice	2.4580	2.4580	0.08	
						2" Ice				
						No Ice	1.1875	1.1875	0.02	
						1/2" Ice	1.4956	1.4956	0.03	
						Ice	1.8071	1.8071	0.04	
Platform Mount [LP 1201-1_KCKR-HR-1]	C	None			0.0000	147.0000	1" Ice	69.6500	69.6500	6.85
							2" Ice			
							No Ice	37.6100	37.6100	2.63
							1/2" Ice	45.6200	45.6200	3.48
							Ice	53.5900	53.5900	4.46
*** 75 *** GPS_A	C	From Leg	4.0000	0.0000	75.0000	1" Ice	0.5614	0.5614	0.02	
						2" Ice				
						No Ice	0.2550	0.2550	0.00	
						1/2" Ice	0.3205	0.3205	0.00	
						Ice	0.3934	0.3934	0.01	
Pipe Mount [PM 501-1]	C	None			0.0000	75.0000	1" Ice	3.6200	4.0100	0.16
							2" Ice			
							No Ice	1.7000	2.0200	0.05
							1/2" Ice	2.1300	2.4700	0.07
							Ice	2.5900	2.9600	0.10

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
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	180 - 175	Pole	Max Tension	15	0.00	-0.00	0.00
			Max. Compression	26	-10.42	-0.00	0.00
			Max. Mx	8	-3.68	-32.25	0.02

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L2	175 - 170	Pole	Max. My	2	-3.69	-0.01	32.20
			Max. Vy	8	6.63	-32.25	0.02
			Max. Vx	2	-6.62	-0.01	32.20
			Max. Torque	10			-0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-10.96	-0.00	-0.00
			Max. Mx	8	-3.97	-66.28	0.03
			Max. My	2	-3.99	-0.02	66.18
			Max. Vy	8	6.99	-66.28	0.03
			Max. Vx	2	-6.98	-0.02	66.18
L3	170 - 165	Pole	Max. Torque	10			-0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-11.52	-0.00	-0.00
			Max. Mx	8	-4.28	-102.16	0.04
			Max. My	2	-4.30	-0.03	101.99
			Max. Vy	8	7.37	-102.16	0.04
			Max. Vx	2	-7.35	-0.03	101.99
			Max. Torque	10			-0.00
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-22.13	0.74	-0.33
L4	165 - 160	Pole	Max. Mx	8	-6.86	-203.58	0.60
			Max. My	2	-6.97	-0.36	200.19
			Max. Vy	8	15.62	-203.58	0.60
			Max. Vx	2	-15.22	-0.36	200.19
			Max. Torque	16			-0.57
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-22.82	0.74	-0.33
			Max. Mx	8	-7.35	-282.64	0.87
			Max. My	2	-7.45	-0.63	277.26
			Max. Vy	8	16.02	-282.64	0.87
L5	160 - 155	Pole	Max. Vx	2	-15.62	-0.63	277.26
			Max. Torque	16			-0.57
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-23.54	0.74	-0.33
			Max. Mx	8	-7.87	-363.68	1.14
			Max. My	2	-7.97	-0.90	356.29
			Max. Vy	8	16.41	-363.68	1.14
			Max. Vx	2	-16.01	-0.90	356.29
			Max. Torque	16			-0.57
			Max Tension	1	0.00	0.00	0.00
L6	155 - 150	Pole	Max. Compression	26	-23.54	0.74	-0.33
			Max. Mx	8	-7.87	-363.68	1.14
			Max. My	2	-7.97	-0.90	356.29
			Max. Vy	8	16.41	-363.68	1.14
			Max. Vx	2	-16.01	-0.90	356.29
			Max. Torque	16			-0.57
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.88	-1.00	0.04
			Max. Mx	8	-12.97	-463.48	1.43
			Max. My	2	-13.08	-1.86	453.33
L7	150 - 145	Pole	Max. Vy	8	24.26	-463.48	1.43
			Max. Vx	2	-23.84	-1.86	453.33
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.73	-1.00	0.04
			Max. Mx	8	-13.70	-585.64	1.61
			Max. My	2	-13.81	-2.05	573.42
			Max. Vy	8	24.64	-585.64	1.61
			Max. Vx	2	-24.22	-2.05	573.42
			Max. Torque	10			0.95
L8	145 - 140	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.73	-1.00	0.04
			Max. Mx	8	-13.70	-585.64	1.61
			Max. My	2	-13.81	-2.05	573.42
			Max. Vy	8	24.64	-585.64	1.61
			Max. Vx	2	-24.22	-2.05	573.42
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.26	-1.00	0.04
			Max. Mx	8	-14.16	-659.83	1.72
L9	140 - 133	Pole	Max. My	2	-14.26	-2.15	646.37
			Max. Vy	8	24.86	-659.83	1.72
			Max. Vx	2	-24.45	-2.15	646.37
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.84	-1.00	0.04
			Max. Mx	8	-15.29	-785.33	1.90
			Max. My	2	-15.39	-2.33	769.80
			Max. Vy	8	25.40	-785.33	1.90
			Max. Vx	2	-24.98	-2.33	769.80
L10	133 - 132	Pole	Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.84	-1.00	0.04
			Max. Mx	8	-15.29	-785.33	1.90
			Max. My	2	-15.39	-2.33	769.80
			Max. Vy	8	25.40	-785.33	1.90
			Max. Vx	2	-24.98	-2.33	769.80
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.07	-1.00	0.04
L11	132 - 131	Pole	Max. Compression	26	-40.07	-1.00	0.04

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L12	131 - 130.75	Pole	Max. Mx	8	-15.46	-810.78	1.94
			Max. My	2	-15.56	-2.37	794.84
			Max. Vy	8	25.53	-810.78	1.94
			Max. Vx	2	-25.12	-2.37	794.84
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.14	-1.00	0.04
			Max. Mx	8	-15.53	-817.17	2.01
			Max. My	2	-15.63	-2.42	801.13
			Max. Vy	8	25.66	-817.17	2.01
L13	130.75 - 125.75	Pole	Max. Vx	14	25.33	1.07	-799.17
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41.54	-1.00	0.04
			Max. Mx	8	-16.56	-946.78	2.13
			Max. My	2	-16.66	-2.56	928.67
			Max. Vy	8	26.31	-946.78	2.13
			Max. Vx	2	-25.90	-2.56	928.67
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
L14	125.75 - 120.75	Pole	Max. Compression	26	-42.98	-1.00	0.04
			Max. Mx	8	-17.64	-1080.13	2.31
			Max. My	2	-17.73	-2.74	1059.94
			Max. Vy	8	27.06	-1080.13	2.31
			Max. Vx	2	-26.65	-2.74	1059.94
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.44	-1.00	0.04
			Max. Mx	8	-18.75	-1217.23	2.48
			Max. My	2	-18.84	-2.91	1194.96
L15	120.75 - 115.75	Pole	Max. Vy	8	27.81	-1217.23	2.48
			Max. Vx	2	-27.40	-2.91	1194.96
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.93	-1.00	0.04
			Max. Mx	8	-19.90	-1358.09	2.66
			Max. My	2	-19.98	-3.09	1333.74
			Max. Vy	8	28.57	-1358.09	2.66
			Max. Vx	2	-28.15	-3.09	1333.74
			Max. Torque	10			0.95
L16	115.75 - 110.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.48	-1.00	0.04
			Max. Mx	8	-21.07	-1502.75	2.83
			Max. My	2	-21.16	-3.26	1476.32
			Max. Vy	8	29.34	-1502.75	2.83
			Max. Vx	2	-28.92	-3.26	1476.32
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.90	-1.00	0.04
			Max. Mx	8	-21.37	-1539.52	2.87
L17	110.75 - 105.75	Pole	Max. My	2	-21.45	-3.31	1512.57
			Max. Vy	8	29.54	-1539.52	2.87
			Max. Vx	2	-29.13	-3.31	1512.57
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.99	-1.00	0.04
			Max. Mx	8	-21.45	-1546.92	2.93
			Max. My	2	-21.53	-3.35	1519.87
			Max. Vy	8	29.72	-1546.92	2.93
			Max. Vx	14	29.44	1.96	-1516.26
L18	105.75 - 104.5	Pole	Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.99	-1.00	0.04
			Max. Mx	8	-21.45	-1546.92	2.93
			Max. My	2	-21.53	-3.35	1519.87
			Max. Vy	8	29.72	-1546.92	2.93
			Max. Vx	14	29.44	1.96	-1516.26
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.99	-1.00	0.04
L19	104.5 - 104.25	Pole	Max. Mx	8	-21.45	-1546.92	2.93
			Max. My	2	-21.53	-3.35	1519.87
			Max. Vy	8	29.72	-1546.92	2.93
			Max. Vx	14	29.44	1.96	-1516.26
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.99	-1.00	0.04
			Max. Mx	8	-21.45	-1546.92	2.93
			Max. My	2	-21.53	-3.35	1519.87
			Max. Vy	8	29.72	-1546.92	2.93
L20	104.25 -	Pole	Max. Vx	14	29.44	1.96	-1516.26
			Max. Torque	10			0.95
			Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
	99.25		Max. Compression	26	-49.65	-1.00	0.04
			Max. Mx	8	-22.70	-1696.71	3.06
			Max. My	2	-22.78	-3.49	1667.58
			Max. Vy	8	30.38	-1696.71	3.06
			Max. Vx	2	-29.97	-3.49	1667.58
			Max. Torque	10			0.95
L21	99.25 - 94.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.31	-1.00	0.04
			Max. Mx	8	-24.00	-1850.45	3.23
			Max. My	2	-24.07	-3.66	1819.25
			Max. Vy	8	31.16	-1850.45	3.23
			Max. Vx	2	-30.75	-3.66	1819.25
			Max. Torque	10			0.94
L22	94.25 - 87.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-51.87	-1.00	0.04
			Max. Mx	8	-24.42	-1902.35	3.29
			Max. My	2	-24.49	-3.72	1870.46
			Max. Vy	8	31.42	-1902.35	3.29
			Max. Vx	2	-31.01	-3.72	1870.46
			Max. Torque	10			0.94
L23	87.42 - 86.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-55.55	-1.00	0.04
			Max. Mx	8	-27.22	-2099.65	3.50
			Max. My	2	-27.29	-3.94	2065.20
			Max. Vy	8	32.56	-2099.65	3.50
			Max. Vx	2	-32.14	-3.94	2065.20
			Max. Torque	10			0.94
L24	86.42 - 81.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.41	-1.00	0.04
			Max. Mx	8	-28.72	-2264.24	3.68
			Max. My	2	-28.78	-4.11	2227.71
			Max. Vy	8	33.33	-2264.24	3.68
			Max. Vx	2	-32.92	-4.11	2227.71
			Max. Torque	10			0.94
L25	81.42 - 76.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.30	-1.00	0.04
			Max. Mx	8	-30.25	-2432.69	3.85
			Max. My	2	-30.31	-4.28	2394.08
			Max. Vy	8	34.10	-2432.69	3.85
			Max. Vx	2	-33.69	-4.28	2394.08
			Max. Torque	10			0.94
L26	76.42 - 71.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-61.38	-0.93	-0.01
			Max. Mx	8	-31.87	-2605.34	4.02
			Max. My	2	-31.92	-4.45	2564.66
			Max. Vy	8	34.97	-2605.34	4.02
			Max. Vx	2	-34.56	-4.45	2564.66
			Max. Torque	10			0.94
L27	71.42 - 69	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.40	-0.93	-0.01
			Max. Mx	8	-32.63	-2690.38	4.10
			Max. My	2	-32.68	-4.53	2648.70
			Max. Vy	8	35.37	-2690.38	4.10
			Max. Vx	2	-34.96	-4.53	2648.70
			Max. Torque	10			0.89
L28	69 - 68.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.51	-0.93	-0.01
			Max. Mx	8	-32.73	-2699.24	4.13
			Max. My	2	-32.78	-4.56	2657.46
			Max. Vy	8	35.60	-2699.24	4.13
			Max. Vx	2	-35.19	-4.56	2657.46
			Max. Torque	10			0.89

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L29	68.75 - 63.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.61	-0.93	-0.01
			Max. Mx	8	-34.38	-2878.13	4.28
			Max. My	2	-34.43	-4.71	2834.29
			Max. Vy	8	36.21	-2878.13	4.28
			Max. Vx	2	-35.80	-4.71	2834.29
L30	63.75 - 58.75	Pole	Max. Torque	10			0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.69	-0.93	-0.01
			Max. Mx	8	-36.08	-3060.92	4.45
			Max. My	2	-36.12	-4.88	3015.02
			Max. Vy	8	36.97	-3060.92	4.45
L31	58.75 - 53.75	Pole	Max. Vx	2	-36.56	-4.88	3015.02
			Max. Torque	10			0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.79	-0.93	-0.01
			Max. Mx	8	-37.81	-3247.46	4.61
			Max. My	2	-37.85	-5.05	3199.51
L32	53.75 - 42.88	Pole	Max. Vy	8	37.71	-3247.46	4.61
			Max. Vx	2	-37.30	-5.05	3199.51
			Max. Torque	10			0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-70.77	-0.93	-0.01
			Max. Mx	8	-39.44	-3423.06	4.77
L33	42.88 - 41.88	Pole	Max. My	2	-39.47	-5.21	3373.22
			Max. Vy	8	38.37	-3423.06	4.77
			Max. Vx	2	-37.96	-5.21	3373.22
			Max. Torque	10			0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.43	-0.93	-0.01
L34	41.88 - 36.88	Pole	Max. Mx	8	-43.97	-3705.62	5.01
			Max. My	2	-44.01	-5.45	3652.82
			Max. Vy	8	39.61	-3705.62	5.01
			Max. Vx	2	-39.20	-5.45	3652.82
			Max. Torque	10			0.89
			Max Tension	1	0.00	0.00	0.00
L35	36.88 - 34.5	Pole	Max. Compression	26	-78.79	-0.93	-0.01
			Max. Mx	8	-45.96	-3905.19	5.18
			Max. My	2	-45.99	-5.61	3850.36
			Max. Vy	8	40.29	-3905.19	5.18
			Max. Vx	2	-39.88	-5.61	3850.36
			Max. Torque	10			0.89
L36	34.5 - 34.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-79.98	-0.93	-0.01
			Max. Mx	8	-46.92	-4001.39	5.25
			Max. My	2	-46.95	-5.69	3945.60
			Max. Vy	8	40.62	-4001.39	5.25
			Max. Vx	2	-40.22	-5.69	3945.60
L37	34.25 - 29.25	Pole	Max. Torque	10			0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-80.10	-0.93	-0.01
			Max. Mx	8	-47.03	-4011.56	5.27
			Max. My	2	-47.06	-5.71	3955.67
			Max. Vy	8	40.83	-4011.56	5.27
			Max. Vx	2	-40.43	-5.71	3955.67
			Max. Torque	10			0.89
			Max. Compression	26	-82.50	-0.93	-0.01
			Max. Mx	8	-49.00	-4216.27	5.43
			Max. My	2	-49.03	-5.87	4158.35
			Max. Vy	8	41.30	-4216.27	5.43
			Max. Vx	2	-40.90	-5.87	4158.35

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L38	29.25 - 24.25	Pole	Max. Torque	10			0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-84.86	-0.93	-0.01
			Max. Mx	8	-51.03	-4424.11	5.59
			Max. My	2	-51.05	-6.03	4364.18
			Max. Vy	8	41.90	-4424.11	5.59
			Max. Vx	2	-41.50	-6.03	4364.18
L39	24.25 - 19.25	Pole	Max. Torque	10			0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.25	-0.93	-0.01
			Max. Mx	8	-53.09	-4634.17	5.75
			Max. My	2	-53.10	-6.19	4572.25
			Max. Vy	8	42.19	-4634.17	5.75
			Max. Vx	2	-41.79	-6.19	4572.25
L40	19.25 - 14.25	Pole	Max. Torque	10			0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-89.66	-0.93	-0.01
			Max. Mx	8	-55.18	-4845.67	5.91
			Max. My	2	-55.19	-6.35	4781.77
			Max. Vy	8	42.47	-4845.67	5.91
			Max. Vx	2	-42.08	-6.35	4781.77
L41	14.25 - 9.25	Pole	Max. Torque	10			0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-92.08	-0.93	-0.01
			Max. Mx	8	-57.30	-5058.59	6.07
			Max. My	2	-57.31	-6.51	4992.72
			Max. Vy	8	42.76	-5058.59	6.07
			Max. Vx	2	-42.36	-6.51	4992.72
L42	9.25 - 4.25	Pole	Max. Torque	10			0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-94.52	-0.93	-0.01
			Max. Mx	8	-59.45	-5272.93	6.23
			Max. My	2	-59.46	-6.67	5205.11
			Max. Vy	8	43.04	-5272.93	6.23
			Max. Vx	2	-42.65	-6.67	5205.11
L43	4.25 - 0	Pole	Max. Torque	10			0.89
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-96.54	-0.93	-0.04
			Max. Mx	8	-61.31	-5456.21	6.36
			Max. My	2	-61.31	-6.80	5386.75
			Max. Vy	9	43.27	-5376.45	6.18
			Max. Vx	2	-42.89	-6.80	5386.75
			Max. Torque	10			0.89

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	96.54	-0.00	-0.05
	Max. H _x	19	45.99	37.49	-21.47
	Max. H _z	2	61.32	-0.03	42.86
	Max. M _x	2	5386.75	-0.03	42.86
	Max. M _z	8	5456.21	-43.25	0.03
	Max. Torsion	10	0.89	-37.46	-21.41
	Min. Vert	15	45.99	0.03	-40.53
	Min. H _x	9	45.99	-43.25	0.03
	Min. H _z	14	61.32	0.03	-40.54
	Min. M _x	14	-5200.18	0.03	-40.54
	Min. M _z	20	-4906.27	36.47	-0.03
	Min. Torsion	22	-0.70	35.48	20.27

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	51.11	0.00	-0.00	-0.20	-0.53	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	61.32	0.03	-42.86	-5386.75	-6.80	0.41
0.9 Dead+1.0 Wind 0 deg - No Ice	45.99	0.03	-42.86	-5306.82	-6.50	0.38
1.2 Dead+1.0 Wind 30 deg - No Ice	61.33	18.28	-31.29	-4197.37	-2462.28	0.07
0.9 Dead+1.0 Wind 30 deg - No Ice	45.99	18.28	-31.30	-4132.76	-2424.16	0.05
1.2 Dead+1.0 Wind 60 deg - No Ice	61.33	35.51	-20.33	-2609.88	-4574.92	-0.35
0.9 Dead+1.0 Wind 60 deg - No Ice	45.99	35.51	-20.33	-2570.72	-4506.10	-0.35
1.2 Dead+1.0 Wind 90 deg - No Ice	61.32	43.25	-0.03	-6.36	-5456.21	-0.72
0.9 Dead+1.0 Wind 90 deg - No Ice	45.99	43.25	-0.03	-6.18	-5376.45	-0.71
1.2 Dead+1.0 Wind 120 deg - No Ice	61.33	37.46	21.41	2689.17	-4725.35	-0.89
0.9 Dead+1.0 Wind 120 deg - No Ice	45.99	37.46	21.41	2649.57	-4655.29	-0.87
1.2 Dead+1.0 Wind 150 deg - No Ice	61.33	18.23	31.26	4190.81	-2451.74	-0.74
0.9 Dead+1.0 Wind 150 deg - No Ice	45.99	18.23	31.26	4126.44	-2413.80	-0.71
1.2 Dead+1.0 Wind 180 deg - No Ice	61.32	-0.03	40.54	5200.18	5.40	-0.35
0.9 Dead+1.0 Wind 180 deg - No Ice	45.99	-0.03	40.53	5121.52	5.47	-0.33
1.2 Dead+1.0 Wind 210 deg - No Ice	61.33	-21.66	37.15	4670.34	2734.23	0.11
0.9 Dead+1.0 Wind 210 deg - No Ice	45.99	-21.66	37.15	4601.46	2693.94	0.13
1.2 Dead+1.0 Wind 240 deg - No Ice	61.33	-37.49	21.47	2699.70	4729.98	0.48
0.9 Dead+1.0 Wind 240 deg - No Ice	45.99	-37.49	21.47	2659.90	4660.19	0.48
1.2 Dead+1.0 Wind 270 deg - No Ice	61.32	-36.47	0.03	5.84	4906.27	0.67
0.9 Dead+1.0 Wind 270 deg - No Ice	45.99	-36.47	0.03	5.80	4830.38	0.66
1.2 Dead+1.0 Wind 300 deg - No Ice	61.33	-35.48	-20.27	-2599.35	4567.51	0.70
0.9 Dead+1.0 Wind 300 deg - No Ice	45.99	-35.48	-20.27	-2560.38	4499.16	0.68
1.2 Dead+1.0 Wind 330 deg - No Ice	61.33	-21.61	-37.12	-4664.85	2723.72	0.61
0.9 Dead+1.0 Wind 330 deg - No Ice	45.99	-21.61	-37.12	-4595.92	2683.61	0.59
1.2 Dead+1.0 Ice+1.0 Temp	96.54	0.00	0.05	0.04	-0.93	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	96.54	0.00	-7.80	-1089.61	-2.15	0.10
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	96.54	3.90	-6.70	-939.01	-549.08	0.04
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	96.54	6.78	-3.89	-544.28	-951.95	-0.04
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	96.54	7.86	-0.00	-0.96	-1101.18	-0.11
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	96.54	6.80	3.90	543.99	-953.32	-0.15
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	96.54	3.89	6.69	938.07	-547.39	-0.14
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	96.54	-0.00	7.77	1086.93	-0.20	-0.10

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	96.54	-3.93	6.76	944.15	549.68	-0.03
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	96.54	-6.81	3.91	545.67	951.95	0.05
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	96.54	-7.79	0.00	0.99	1092.95	0.11
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	96.54	-6.77	-3.88	-542.59	948.63	0.14
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	96.54	-3.92	-6.76	-943.14	547.99	0.14
Dead+Wind 0 deg - Service	51.10	0.01	-7.96	-993.90	-1.70	0.07
Dead+Wind 30 deg - Service	51.11	3.40	-5.82	-774.65	-454.77	-0.00
Dead+Wind 60 deg - Service	51.11	6.60	-3.78	-481.95	-844.96	-0.08
Dead+Wind 90 deg - Service	51.10	8.03	-0.01	-1.34	-1007.08	-0.13
Dead+Wind 120 deg - Service	51.11	6.96	3.98	496.33	-872.87	-0.15
Dead+Wind 150 deg - Service	51.11	3.39	5.81	773.08	-452.82	-0.13
Dead+Wind 180 deg - Service	51.10	-0.01	7.54	959.95	0.55	-0.07
Dead+Wind 210 deg - Service	51.11	-4.03	6.91	862.08	504.35	0.01
Dead+Wind 240 deg - Service	51.11	-6.97	3.99	498.28	872.85	0.08
Dead+Wind 270 deg - Service	51.10	-6.78	0.01	0.90	904.54	0.13
Dead+Wind 300 deg - Service	51.11	-6.60	-3.77	-480.00	842.68	0.15
Dead+Wind 330 deg - Service	51.11	-4.02	-6.90	-861.39	502.40	0.12

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-51.11	0.00	-0.00	51.11	0.00	0.000%
2	0.03	-61.33	-42.88	-0.03	61.32	42.86	0.030%
3	0.03	-45.99	-42.88	-0.03	45.99	42.86	0.040%
4	18.28	-61.33	-31.30	-18.28	61.33	31.29	0.001%
5	18.28	-45.99	-31.30	-18.28	45.99	31.30	0.001%
6	35.51	-61.33	-20.33	-35.51	61.33	20.33	0.001%
7	35.51	-45.99	-20.33	-35.51	45.99	20.33	0.001%
8	43.27	-61.33	-0.03	-43.25	61.32	0.03	0.031%
9	43.27	-45.99	-0.03	-43.25	45.99	0.03	0.024%
10	37.46	-61.33	21.41	-37.46	61.33	-21.41	0.001%
11	37.46	-45.99	21.41	-37.46	45.99	-21.41	0.001%
12	18.23	-61.33	31.26	-18.23	61.33	-31.26	0.001%
13	18.23	-45.99	31.26	-18.23	45.99	-31.26	0.001%
14	-0.03	-61.33	40.60	0.03	61.32	-40.54	0.079%
15	-0.03	-45.99	40.60	0.03	45.99	-40.53	0.105%
16	-21.66	-61.33	37.15	21.66	61.33	-37.15	0.001%
17	-21.66	-45.99	37.15	21.66	45.99	-37.15	0.001%
18	-37.49	-61.33	21.47	37.49	61.33	-21.47	0.001%
19	-37.49	-45.99	21.47	37.49	45.99	-21.47	0.001%
20	-36.51	-61.33	0.03	36.47	61.32	-0.03	0.049%
21	-36.51	-45.99	0.03	36.47	45.99	-0.03	0.066%
22	-35.48	-61.33	-20.27	35.48	61.33	20.27	0.001%
23	-35.48	-45.99	-20.27	35.48	45.99	20.27	0.001%
24	-21.61	-61.33	-37.12	21.61	61.33	37.12	0.001%
25	-21.61	-45.99	-37.12	21.61	45.99	37.12	0.001%
26	0.00	-96.54	0.00	-0.00	96.54	-0.05	0.053%
27	0.00	-96.54	-7.81	-0.00	96.54	7.80	0.002%
28	3.90	-96.54	-6.70	-3.90	96.54	6.70	0.002%
29	6.78	-96.54	-3.89	-6.78	96.54	3.89	0.002%
30	7.86	-96.54	-0.00	-7.86	96.54	0.00	0.002%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
31	6.80	-96.54	3.90	-6.80	96.54	-3.90	0.002%
32	3.89	-96.54	6.70	-3.89	96.54	-6.69	0.002%
33	-0.00	-96.54	7.77	0.00	96.54	-7.77	0.002%
34	-3.93	-96.54	6.76	3.93	96.54	-6.76	0.002%
35	-6.81	-96.54	3.91	6.81	96.54	-3.91	0.002%
36	-7.79	-96.54	0.00	7.79	96.54	-0.00	0.002%
37	-6.78	-96.54	-3.88	6.77	96.54	3.88	0.002%
38	-3.93	-96.54	-6.76	3.92	96.54	6.76	0.002%
39	0.01	-51.11	-7.98	-0.01	51.10	7.96	0.029%
40	3.40	-51.11	-5.82	-3.40	51.11	5.82	0.011%
41	6.61	-51.11	-3.78	-6.60	51.11	3.78	0.011%
42	8.05	-51.11	-0.01	-8.03	51.10	0.01	0.029%
43	6.97	-51.11	3.98	-6.96	51.11	-3.98	0.011%
44	3.39	-51.11	5.82	-3.39	51.11	-5.81	0.011%
45	-0.01	-51.11	7.55	0.01	51.10	-7.54	0.028%
46	-4.03	-51.11	6.91	4.03	51.11	-6.91	0.011%
47	-6.97	-51.11	3.99	6.97	51.11	-3.99	0.011%
48	-6.79	-51.11	0.01	6.78	51.10	-0.01	0.028%
49	-6.60	-51.11	-3.77	6.60	51.11	3.77	0.011%
50	-4.02	-51.11	-6.91	4.02	51.11	6.90	0.011%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.0000001	0.0000001
2	Yes	18	0.00025235	0.00068907
3	Yes	17	0.00027589	0.00077570
4	Yes	25	0.0000001	0.00000000
5	Yes	25	0.0000001	0.00000000
6	Yes	25	0.0000001	0.00000000
7	Yes	25	0.0000001	0.00000000
8	Yes	18	0.00025158	0.00090641
9	Yes	18	0.00016971	0.00068840
10	Yes	25	0.0000001	0.00000000
11	Yes	25	0.0000001	0.00000000
12	Yes	25	0.0000001	0.00000000
13	Yes	25	0.0000001	0.00000000
14	Yes	16	0.00064186	0.00085865
15	Yes	15	0.00070190	0.00089778
16	Yes	25	0.0000001	0.00000000
17	Yes	25	0.0000001	0.00000000
18	Yes	25	0.0000001	0.00000000
19	Yes	25	0.0000001	0.00000000
20	Yes	17	0.00040714	0.00077242
21	Yes	16	0.00044565	0.00088838
22	Yes	25	0.0000001	0.00000000
23	Yes	25	0.0000001	0.00000000
24	Yes	25	0.0000001	0.00000000
25	Yes	25	0.0000001	0.00000000
26	Yes	6	0.0000001	0.00013372
27	Yes	22	0.00015529	0.00066631
28	Yes	22	0.00015513	0.00089427
29	Yes	22	0.00015512	0.00089969
30	Yes	22	0.00015534	0.00067507
31	Yes	22	0.00015509	0.00089600
32	Yes	22	0.00015513	0.00089262
33	Yes	22	0.00015534	0.00066559
34	Yes	22	0.00015506	0.00089298
35	Yes	22	0.00015506	0.00089625
36	Yes	22	0.00015536	0.00067038
37	Yes	22	0.00015507	0.00089373
38	Yes	22	0.00015504	0.00088844
39	Yes	15	0.00086255	0.00028060
40	Yes	17	0.00034921	0.00083355

41	Yes	17	0.00034787	0.00095551
42	Yes	15	0.00086281	0.00029599
43	Yes	17	0.00034708	0.00095393
44	Yes	17	0.00034915	0.00084283
45	Yes	15	0.00086428	0.00027348
46	Yes	17	0.00034700	0.00097381
47	Yes	17	0.00034705	0.00096823
48	Yes	15	0.00086778	0.00027577
49	Yes	17	0.00034779	0.00095375
50	Yes	17	0.00034702	0.00094843

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	180 - 175	34.01	42	1.8205	0.0013
L2	175 - 170	32.11	42	1.8138	0.0013
L3	170 - 165	30.22	42	1.7962	0.0013
L4	165 - 160	28.35	42	1.7704	0.0013
L5	160 - 155	26.52	42	1.7271	0.0012
L6	155 - 150	24.74	42	1.6717	0.0011
L7	150 - 145	23.02	42	1.6075	0.0011
L8	145 - 140	21.37	42	1.5360	0.0010
L9	140 - 133	19.81	42	1.4549	0.0009
L10	137 - 132	18.91	42	1.4026	0.0008
L11	132 - 131	17.46	42	1.3529	0.0007
L12	131 - 130.75	17.18	42	1.3369	0.0007
L13	130.75 - 125.75	17.11	42	1.3341	0.0007
L14	125.75 - 120.75	15.75	42	1.2772	0.0006
L15	120.75 - 115.75	14.44	42	1.2180	0.0005
L16	115.75 - 110.75	13.20	42	1.1568	0.0005
L17	110.75 - 105.75	12.02	42	1.0949	0.0004
L18	105.75 - 104.5	10.90	42	1.0310	0.0004
L19	104.5 - 104.25	10.64	42	1.0152	0.0004
L20	104.25 - 99.25	10.58	42	1.0122	0.0004
L21	99.25 - 94.25	9.55	42	0.9516	0.0003
L22	94.25 - 87.42	8.59	42	0.8911	0.0003
L23	92.59 - 86.42	8.28	42	0.8711	0.0003
L24	86.42 - 81.42	7.18	42	0.8300	0.0003
L25	81.42 - 76.42	6.34	42	0.7734	0.0002
L26	76.42 - 71.42	5.56	42	0.7174	0.0002
L27	71.42 - 69	4.84	42	0.6621	0.0002
L28	69 - 68.75	4.51	42	0.6353	0.0002
L29	68.75 - 63.75	4.48	42	0.6327	0.0002
L30	63.75 - 58.75	3.84	42	0.5797	0.0001
L31	58.75 - 53.75	3.26	42	0.5275	0.0001
L32	53.75 - 42.88	2.74	42	0.4761	0.0001
L33	49.13 - 41.88	2.30	42	0.4281	0.0001
L34	41.88 - 36.88	1.68	42	0.3877	0.0001
L35	36.88 - 34.5	1.30	42	0.3407	0.0001
L36	34.5 - 34.25	1.13	42	0.3186	0.0001
L37	34.25 - 29.25	1.11	42	0.3162	0.0001
L38	29.25 - 24.25	0.81	42	0.2684	0.0001
L39	24.25 - 19.25	0.55	42	0.2209	0.0000
L40	19.25 - 14.25	0.35	42	0.1738	0.0000
L41	14.25 - 9.25	0.19	42	0.1274	0.0000
L42	9.25 - 4.25	0.08	42	0.0820	0.0000
L43	4.25 - 0	0.02	42	0.0373	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
180.0000	NNVV-65B-R4 w/ Mount Pipe	42	34.01	1.8205	0.0013	23127
165.0000	GPS_A	42	28.35	1.7704	0.0013	8416
148.0000	TME-RRUS-11	42	22.35	1.5796	0.0011	4065
147.0000	7770.00 w/ Mount Pipe	42	22.02	1.5652	0.0011	3976
75.0000	GPS_A	42	5.35	0.7020	0.0002	5179

Maximum Tower Deflections - Design Wind

Section No.	Elevation	Horz. Deflection	Gov. Load Comb.	Tilt	Twist
	ft	in		°	°
L1	180 - 175	183.79	8	9.8586	0.0067
L2	175 - 170	173.53	8	9.8225	0.0067
L3	170 - 165	163.34	8	9.7269	0.0067
L4	165 - 160	153.27	8	9.5871	0.0068
L5	160 - 155	143.39	8	9.3518	0.0063
L6	155 - 150	133.79	8	9.0512	0.0062
L7	150 - 145	124.53	8	8.7028	0.0061
L8	145 - 140	115.65	8	8.3164	0.0056
L9	140 - 133	107.19	8	7.8797	0.0047
L10	137 - 132	102.34	8	7.5971	0.0042
L11	132 - 131	94.53	8	7.3288	0.0038
L12	131 - 130.75	93.01	8	7.2425	0.0037
L13	130.75 - 125.75	92.63	8	7.2277	0.0036
L14	125.75 - 120.75	85.24	8	6.9202	0.0033
L15	120.75 - 115.75	78.18	8	6.5997	0.0029
L16	115.75 - 110.75	71.45	8	6.2687	0.0026
L17	110.75 - 105.75	65.08	8	5.9338	0.0023
L18	105.75 - 104.5	59.05	8	5.5878	0.0020
L19	104.5 - 104.25	57.60	8	5.5022	0.0019
L20	104.25 - 99.25	57.32	8	5.4862	0.0019
L21	99.25 - 94.25	51.75	8	5.1577	0.0017
L22	94.25 - 87.42	46.53	8	4.8302	0.0015
L23	92.59 - 86.42	44.87	8	4.7218	0.0014
L24	86.42 - 81.42	38.90	8	4.4992	0.0013
L25	81.42 - 76.42	34.35	8	4.1923	0.0012
L26	76.42 - 71.42	30.13	8	3.8888	0.0010
L27	71.42 - 69	26.22	8	3.5889	0.0009
L28	69 - 68.75	24.43	8	3.4434	0.0008
L29	68.75 - 63.75	24.25	8	3.4293	0.0008
L30	63.75 - 58.75	20.82	8	3.1422	0.0007
L31	58.75 - 53.75	17.68	8	2.8591	0.0006
L32	53.75 - 42.88	14.83	8	2.5801	0.0006
L33	49.13 - 41.88	12.46	8	2.3201	0.0005
L34	41.88 - 36.88	9.09	8	2.1009	0.0004
L35	36.88 - 34.5	7.02	8	1.8461	0.0004
L36	34.5 - 34.25	6.13	8	1.7264	0.0003
L37	34.25 - 29.25	6.04	8	1.7133	0.0003
L38	29.25 - 24.25	4.38	8	1.4543	0.0003
L39	24.25 - 19.25	2.99	8	1.1970	0.0002
L40	19.25 - 14.25	1.87	8	0.9414	0.0002
L41	14.25 - 9.25	1.02	8	0.6903	0.0001
L42	9.25 - 4.25	0.43	8	0.4439	0.0001
L43	4.25 - 0	0.09	8	0.2020	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
180.0000	NNVV-65B-R4 w/ Mount Pipe	8	183.79	9.8586	0.0067	4509

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
165.0000	GPS_A	8	153.27	9.5871	0.0068	1637
148.0000	TME-RRUS-11	8	120.93	8.5519	0.0060	784
147.0000	7770.00 w/ Mount Pipe	8	119.15	8.4744	0.0059	768
75.0000	GPS_A	8	28.98	3.8050	0.0011	963

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	KI/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	180 - 175 (1)	TP19.0628x18x0.25	5.0000	0.0000	0.0	14.927 9	-3.68	873.28	0.004
L2	175 - 170 (2)	TP20.1255x19.0628x0.25	5.0000	0.0000	0.0	15.771 2	-3.97	922.62	0.004
L3	170 - 165 (3)	TP21.1883x20.1255x0.25	5.0000	0.0000	0.0	16.614 5	-4.29	971.95	0.004
L4	165 - 160 (4)	TP22.2511x21.1883x0.25	5.0000	0.0000	0.0	17.457 8	-6.86	1021.28	0.007
L5	160 - 155 (5)	TP23.3138x22.2511x0.25	5.0000	0.0000	0.0	18.301 1	-7.35	1070.62	0.007
L6	155 - 150 (6)	TP24.3766x23.3138x0.25	5.0000	0.0000	0.0	19.144 5	-7.87	1119.95	0.007
L7	150 - 145 (7)	TP25.4394x24.3766x0.25	5.0000	0.0000	0.0	19.987 8	-12.97	1169.28	0.011
L8	145 - 140 (8)	TP26.5021x25.4394x0.25	5.0000	0.0000	0.0	20.831 1	-13.70	1218.62	0.011
L9	140 - 133 (9)	TP27.99x26.5021x0.25	7.0000	0.0000	0.0	21.337 0	-14.16	1248.22	0.011
L10	133 - 132 (10)	TP27.6896x26.6398x0.31 25	5.0000	0.0000	0.0	27.154 7	-15.29	1588.55	0.010
L11	132 - 131 (11)	TP27.8996x27.6896x0.31 25	1.0000	0.0000	0.0	27.362 9	-15.46	1600.73	0.010
L12	131 - 130.75 (12)	TP27.9521x27.8996x0.46 88	0.2500	0.0000	0.0	40.890 1	-15.53	2392.07	0.006
L13	130.75 - 125.75 (13)	TP29.0019x27.9521x0.46 25	5.0000	0.0000	0.0	41.895 2	-16.56	2450.87	0.007
L14	125.75 - 120.75 (14)	TP30.0518x29.0019x0.45 63	5.0000	0.0000	0.0	42.858 4	-17.64	2507.22	0.007
L15	120.75 - 115.75 (15)	TP31.1016x30.0518x0.45 7	5.0000	0.0000	0.0	43.779 7	-18.75	2561.11	0.007
L16	115.75 - 110.75 (16)	TP32.1514x31.1016x0.45 2	5.0000	0.0000	0.0	45.279 2	-19.90	2648.83	0.008
L17	110.75 - 105.75 (17)	TP33.2013x32.1514x0.43 75	5.0000	0.0000	0.0	45.496 6	-21.07	2661.55	0.008
L18	105.75 - 104.5 (18)	TP33.4637x33.2013x0.43 75	1.2500	0.0000	0.0	45.861 1	-21.37	2682.87	0.008
L19	104.5 - 104.25 (19)	TP33.5162x33.4637x0.47 5	0.2500	0.0000	0.0	49.814 6	-21.45	2914.16	0.007
L20	104.25 - 99.25 (20)	TP34.5661x33.5162x0.46 25	5.0000	0.0000	0.0	50.063 2	-22.70	2928.70	0.008
L21	99.25 - 94.25 (21)	TP35.6159x34.5661x0.46 25	5.0000	0.0000	0.0	51.604 3	-24.00	3018.85	0.008
L22	94.25 - 87.42 (22)	TP37.05x35.6159x0.4625 0	6.8300	0.0000	0.0	52.116 0	-24.42	3048.79	0.008
L23	87.42 - 86.42 (23)	TP36.6329x35.3395x0.52 5	6.1700	0.0000	0.0	60.168 3	-27.22	3519.85	0.008
L24	86.42 - 81.42 (24)	TP37.681x36.6329x0.512 5	5.0000	0.0000	0.0	60.461 1	-28.72	3536.97	0.008
L25	81.42 - 76.42 (25)	TP38.7291x37.681x0.512 5	5.0000	0.0000	0.0	62.166 0	-30.25	3636.71	0.008

Section No.	Elevation ft	Size	L ft	L _u ft	KI/r	A in ²	P _u K	φP _n K	Ratio P _u / φP _n
L26	76.42 - 71.42 (26)	TP39.7773x38.7291x0.51 25	5.0000	0.0000	0.0	63.871 0	-31.87	3736.45	0.009
L27	71.42 - 69 (27)	TP40.2846x39.7773x0.50 63	2.4200	0.0000	0.0	63.917 3	-32.63	3739.16	0.009
L28	69 - 68.75 (28)	TP40.337x40.2846x0.537 5	0.2500	0.0000	0.0	67.898 9	-32.73	3972.08	0.008
L29	68.75 - 63.75 (29)	TP41.3851x40.337x0.525 2	5.0000	0.0000	0.0	68.087 2	-34.38	3983.10	0.009
L30	63.75 - 58.75 (30)	TP42.4332x41.3851x0.52 5	5.0000	0.0000	0.0	69.833 8	-36.08	4085.28	0.009
L31	58.75 - 53.75 (31)	TP43.4814x42.4332x0.52 5	5.0000	0.0000	0.0	71.580 3	-37.81	4187.45	0.009
L32	53.75 - 42.88 (32)	TP45.76x43.4814x0.5125 0	10.870	0.0000	0.0	71.471 8	-39.44	4181.10	0.009
L33	42.88 - 41.88 (33)	TP45.2198x43.6998x0.57 5	7.2500	0.0000	0.0	81.479 0	-43.97	4766.52	0.009
L34	41.88 - 36.88 (34)	TP46.2681x45.2198x0.57 5	5.0000	0.0000	0.0	83.392 1	-45.96	4878.44	0.009
L35	36.88 - 34.5 (35)	TP46.767x46.2681x0.575 8	2.3800	0.0000	0.0	84.302 8	-46.92	4931.71	0.010
L36	34.5 - 34.25 (36)	TP46.8194x46.767x0.55 6	0.2500	0.0000	0.0	80.772 6	-47.03	4725.20	0.010
L37	34.25 - 29.25 (37)	TP47.8677x46.8194x0.55 5	5.0000	0.0000	0.0	82.602 5	-49.00	4832.25	0.010
L38	29.25 - 24.25 (38)	TP48.916x47.8677x0.543 8	5.0000	0.0000	0.0	83.483 8	-51.03	4883.80	0.010
L39	24.25 - 19.25 (39)	TP49.9642x48.916x0.537 5	5.0000	0.0000	0.0	84.323 2	-53.09	4932.91	0.011
L40	19.25 - 14.25 (40)	TP51.0125x49.9642x0.53 75	5.0000	0.0000	0.0	86.111 6	-55.18	5037.53	0.011
L41	14.25 - 9.25 (41)	TP52.0607x51.0125x0.53 75	5.0000	0.0000	0.0	87.899 9	-57.30	5142.15	0.011
L42	9.25 - 4.25 (42)	TP53.109x52.0607x0.537 5	5.0000	0.0000	0.0	89.688 3	-59.45	5246.76	0.011
L43	4.25 - 0 (43)	TP54x53.109x0.5375 4	4.2500	0.0000	0.0	91.208 4	-61.31	5335.69	0.011

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{nx} kip-ft	Ratio M _{ux} / φM _{nx}	M _{uy} kip-ft	φM _{ny} kip-ft	Ratio M _{uy} / φM _{ny}
L1	180 - 175 (1)	TP19.0628x18x0.25	32.27	426.75	0.076	0.00	426.75	0.000
L2	175 - 170 (2)	TP20.1255x19.0628x0.25	66.31	476.66	0.139	0.00	476.66	0.000
L3	170 - 165 (3)	TP21.1883x20.1255x0.25	102.20	529.33	0.193	0.00	529.33	0.000
L4	165 - 160 (4)	TP22.2511x21.1883x0.25	203.58	584.76	0.348	0.00	584.76	0.000
L5	160 - 155 (5)	TP23.3138x22.2511x0.25	282.65	642.95	0.440	0.00	642.95	0.000
L6	155 - 150 (6)	TP24.3766x23.3138x0.25	363.68	701.36	0.519	0.00	701.36	0.000
L7	150 - 145 (7)	TP25.4394x24.3766x0.25	463.48	756.65	0.613	0.00	756.65	0.000
L8	145 - 140 (8)	TP26.5021x25.4394x0.25	585.64	813.28	0.720	0.00	813.28	0.000
L9	140 - 133 (9)	TP27.99x26.5021x0.25	659.83	847.87	0.778	0.00	847.87	0.000
L10	133 - 132 (10)	TP27.6896x26.6398x0.31 25	785.33	1131.77	0.694	0.00	1131.77	0.000
L11	132 - 131 (11)	TP27.8996x27.6896x0.31 25	810.78	1149.29	0.705	0.00	1149.29	0.000
L12	131 - 130.75 (12)	TP27.9521x27.8996x0.46 88	817.17	1701.35	0.480	0.00	1701.35	0.000
L13	130.75 - 125.75 (13)	TP29.0019x27.9521x0.46 25	946.78	1811.68	0.523	0.00	1811.68	0.000
L14	125.75 - 120.75 (14)	TP30.0518x29.0019x0.45 63	1080.13	1923.40	0.562	0.00	1923.40	0.000
L15	120.75 - 115.75 (15)	TP31.1016x30.0518x0.45	1217.23	2036.33	0.598	0.00	2036.33	0.000
L16	115.75 - 110.75 (16)	TP32.1514x31.1016x0.45	1358.09	2179.26	0.623	0.00	2179.26	0.000

Section No.	Elevation ft	Size	M_{ux}	ϕM_{nx}	Ratio	M_{uy}	ϕM_{ny}	Ratio
			kip-ft	kip-ft	$\frac{M_{ux}}{\phi M_{nx}}$	kip-ft	kip-ft	$\frac{M_{uy}}{\phi M_{ny}}$
L17	110.75 - 105.75 (17)	TP33.2013x32.1514x0.4375	1502.75	2264.98	0.663	0.00	2264.98	0.000
L18	105.75 - 104.5 (18)	TP33.4637x33.2013x0.4375	1539.53	2301.66	0.669	0.00	2301.66	0.000
L19	104.5 - 104.25 (19)	TP33.5162x33.4637x0.475	1546.93	2498.43	0.619	0.00	2498.43	0.000
L20	104.25 - 99.25 (20)	TP34.5661x33.5162x0.4625	1696.71	2593.71	0.654	0.00	2593.71	0.000
L21	99.25 - 94.25 (21)	TP35.6159x34.5661x0.4625	1850.45	2756.95	0.671	0.00	2756.95	0.000
L22	94.25 - 87.42 (22)	TP37.05x35.6159x0.4625	1902.35	2812.25	0.676	0.00	2812.25	0.000
L23	87.42 - 86.42 (23)	TP36.6329x35.3395x0.525	2099.66	3297.26	0.637	0.00	3297.26	0.000
L24	86.42 - 81.42 (24)	TP37.681x36.6329x0.5125	2264.24	3413.15	0.663	0.00	3413.15	0.000
L25	81.42 - 76.42 (25)	TP38.7291x37.681x0.5125	2432.69	3609.71	0.674	0.00	3609.71	0.000
L26	76.42 - 71.42 (26)	TP39.7773x38.7291x0.5125	2605.34	3811.78	0.683	0.00	3811.78	0.000
L27	71.42 - 69 (27)	TP40.2846x39.7773x0.5063	2690.38	3865.67	0.696	0.00	3865.67	0.000
L28	69 - 68.75 (28)	TP40.337x40.2846x0.5375	2699.25	4105.50	0.657	0.00	4105.50	0.000
L29	68.75 - 63.75 (29)	TP41.3851x40.337x0.525	2878.13	4229.34	0.681	0.00	4229.34	0.000
L30	63.75 - 58.75 (30)	TP42.4332x41.3851x0.525	3060.92	4450.52	0.688	0.00	4450.52	0.000
L31	58.75 - 53.75 (31)	TP43.4814x42.4332x0.525	3247.46	4677.32	0.694	0.00	4677.32	0.000
L32	53.75 - 42.88 (32)	TP45.76x43.4814x0.5125	3423.06	4779.52	0.716	0.00	4779.52	0.000
L33	42.88 - 41.88 (33)	TP45.2198x43.6998x0.575	3705.63	5529.82	0.670	0.00	5529.82	0.000
L34	41.88 - 36.88 (34)	TP46.2681x45.2198x0.575	3905.19	5794.24	0.674	0.00	5794.24	0.000
L35	36.88 - 34.5 (35)	TP46.767x46.2681x0.575	4001.39	5922.27	0.676	0.00	5922.27	0.000
L36	34.5 - 34.25 (36)	TP46.8194x46.767x0.55	4011.57	5686.93	0.705	0.00	5686.93	0.000
L37	34.25 - 29.25 (37)	TP47.8677x46.8194x0.55	4216.27	5949.08	0.709	0.00	5949.08	0.000
L38	29.25 - 24.25 (38)	TP48.916x47.8677x0.5438	4424.11	6148.87	0.720	0.00	6148.87	0.000
L39	24.25 - 19.25 (39)	TP49.9642x48.916x0.5375	4634.18	6348.39	0.730	0.00	6348.39	0.000
L40	19.25 - 14.25 (40)	TP51.0125x49.9642x0.5375	4845.68	6622.00	0.732	0.00	6622.00	0.000
L41	14.25 - 9.25 (41)	TP52.0607x51.0125x0.5375	5058.59	6887.62	0.734	0.00	6887.62	0.000
L42	9.25 - 4.25 (42)	TP53.109x52.0607x0.5375	5272.93	7137.07	0.739	0.00	7137.07	0.000
L43	4.25 - 0 (43)	TP54x53.109x0.5375	5456.22	7351.39	0.742	0.00	7351.39	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual	ϕV_n	Ratio	Actual	ϕT_n	Ratio
			V_u K	K	$\frac{V_u}{\phi V_n}$	T_u kip-ft	kip-ft	$\frac{T_u}{\phi T_n}$
L1	180 - 175 (1)	TP19.0628x18x0.25	6.66	261.99	0.025	0.00	431.63	0.000
L2	175 - 170 (2)	TP20.1255x19.0628x0.25	7.03	276.79	0.025	0.00	481.77	0.000
L3	170 - 165 (3)	TP21.1883x20.1255x0.25	7.41	291.58	0.025	0.00	534.67	0.000
L4	165 - 160 (4)	TP22.2511x21.1883x0.25	15.62	306.38	0.051	0.32	590.33	0.001
L5	160 - 155 (5)	TP23.3138x22.2511x0.25	16.02	321.19	0.050	0.32	648.73	0.000
L6	155 - 150 (6)	TP24.3766x23.3138x0.25	16.41	335.99	0.049	0.32	709.90	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 $\frac{T_u}{\phi T_n}$
L7	150 - 145 (7)	TP25.4394x24.3766x0.25	24.26	350.79	0.069	0.76	773.82	0.001
L8	145 - 140 (8)	TP26.5021x25.4394x0.25	24.64	365.58	0.067	0.76	840.49	0.001
L9	140 - 133 (9)	TP27.99x26.5021x0.25	24.86	374.46	0.066	0.76	881.82	0.001
L10	133 - 132 (10)	TP27.6896x26.6398x0.3125	25.40	476.57	0.053	0.76	1142.59	0.001
L11	132 - 131 (11)	TP27.8996x27.6896x0.3125	25.53	480.22	0.053	0.76	1160.18	0.001
L12	131 - 130.75 (12)	TP27.9521x27.8996x0.4688	25.66	717.62	0.036	0.76	1727.21	0.000
L13	130.75 - 125.75 (13)	TP29.0019x27.9521x0.4625	26.31	735.26	0.036	0.76	1837.67	0.000
L14	125.75 - 120.75 (14)	TP30.0518x29.0019x0.4563	27.06	752.16	0.036	0.76	1949.48	0.000
L15	120.75 - 115.75 (15)	TP31.1016x30.0518x0.45	27.82	768.33	0.036	0.76	2062.45	0.000
L16	115.75 - 110.75 (16)	TP32.1514x31.1016x0.45	28.57	794.65	0.036	0.76	2206.15	0.000
L17	110.75 - 105.75 (17)	TP33.2013x32.1514x0.4375	29.34	798.47	0.037	0.76	2291.03	0.000
L18	105.75 - 104.5 (18)	TP33.4637x33.2013x0.4375	29.54	804.86	0.037	0.76	2327.88	0.000
L19	104.5 - 104.25 (19)	TP33.5162x33.4637x0.475	29.73	874.25	0.034	0.76	2529.71	0.000
L20	104.25 - 99.25 (20)	TP34.5661x33.5162x0.4625	30.38	878.61	0.035	0.76	2624.07	0.000
L21	99.25 - 94.25 (21)	TP35.6159x34.5661x0.4625	31.16	905.66	0.034	0.76	2788.12	0.000
L22	94.25 - 87.42 (22)	TP37.05x35.6159x0.4625	31.42	914.64	0.034	0.76	2843.68	0.000
L23	87.42 - 86.42 (23)	TP36.6329x35.3395x0.525	32.56	1055.95	0.031	0.76	3339.08	0.000
L24	86.42 - 81.42 (24)	TP37.681x36.6329x0.5125	33.33	1061.09	0.031	0.76	3453.88	0.000
L25	81.42 - 76.42 (25)	TP38.7291x37.681x0.5125	34.10	1091.01	0.031	0.75	3651.43	0.000
L26	76.42 - 71.42 (26)	TP39.7773x38.7291x0.5125	34.97	1120.94	0.031	0.72	3854.46	0.000
L27	71.42 - 69 (27)	TP40.2846x39.7773x0.5063	35.37	1121.75	0.032	0.72	3907.70	0.000
L28	69 - 68.75 (28)	TP40.337x40.2846x0.5375	35.60	1191.63	0.030	0.72	4153.33	0.000
L29	68.75 - 63.75 (29)	TP41.3851x40.337x0.525	36.21	1194.93	0.030	0.72	4275.85	0.000
L30	63.75 - 58.75 (30)	TP42.4332x41.3851x0.525	36.97	1225.58	0.030	0.72	4498.02	0.000
L31	58.75 - 53.75 (31)	TP43.4814x42.4332x0.525	37.71	1256.23	0.030	0.72	4725.83	0.000
L32	53.75 - 42.88 (32)	TP45.76x43.4814x0.5125	38.37	1254.33	0.031	0.72	4826.43	0.000
L33	42.88 - 41.88 (33)	TP45.2198x43.6998x0.575	39.61	1429.96	0.028	0.72	5590.80	0.000
L34	41.88 - 36.88 (34)	TP46.2681x45.2198x0.575	40.29	1463.53	0.028	0.72	5856.42	0.000
L35	36.88 - 34.5 (35)	TP46.767x46.2681x0.575	40.62	1479.51	0.027	0.72	5985.02	0.000
L36	34.5 - 34.25 (36)	TP46.8194x46.767x0.55	40.83	1417.56	0.029	0.72	5744.01	0.000
L37	34.25 - 29.25 (37)	TP47.8677x46.8194x0.55	41.30	1449.67	0.028	0.72	6007.22	0.000
L38	29.25 - 24.25 (38)	TP48.916x47.8677x0.5438	41.90	1465.14	0.029	0.72	6206.62	0.000
L39	24.25 - 19.25 (39)	TP49.9642x48.916x0.5375	42.19	1479.87	0.029	0.72	6405.69	0.000
L40	19.25 - 14.25 (40)	TP51.0125x49.9642x0.5375	42.47	1511.26	0.028	0.72	6680.28	0.000
L41	14.25 - 9.25 (41)	TP52.0607x51.0125x0.5375	42.76	1542.64	0.028	0.72	6960.63	0.000
L42	9.25 - 4.25 (42)	TP53.109x52.0607x0.5375	43.04	1574.03	0.027	0.72	7246.74	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 $\frac{T_u}{\phi T_n}$
L43	4.25 - 0 (43)	TP54x53.109x0.5375	43.27	1600.71	0.027	0.72	7494.47	0.000

Pole Interaction Design Data

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
L1	180 - 175 (1)	0.004	0.076	0.000	0.025	0.000	0.080	1.050	4.8.2
L2	175 - 170 (2)	0.004	0.139	0.000	0.025	0.000	0.144	1.050	4.8.2
L3	170 - 165 (3)	0.004	0.193	0.000	0.025	0.000	0.198	1.050	4.8.2
L4	165 - 160 (4)	0.007	0.348	0.000	0.051	0.001	0.358	1.050	4.8.2
L5	160 - 155 (5)	0.007	0.440	0.000	0.050	0.000	0.449	1.050	4.8.2
L6	155 - 150 (6)	0.007	0.519	0.000	0.049	0.000	0.528	1.050	4.8.2
L7	150 - 145 (7)	0.011	0.613	0.000	0.069	0.001	0.629	1.050	4.8.2
L8	145 - 140 (8)	0.011	0.720	0.000	0.067	0.001	0.736	1.050	4.8.2
L9	140 - 133 (9)	0.011	0.778	0.000	0.066	0.001	0.794	1.050	4.8.2
L10	133 - 132 (10)	0.010	0.694	0.000	0.053	0.001	0.706	1.050	4.8.2
L11	132 - 131 (11)	0.010	0.705	0.000	0.053	0.001	0.718	1.050	4.8.2
L12	131 - 130.75 (12)	0.006	0.480	0.000	0.036	0.000	0.488	1.050	4.8.2
L13	130.75 - 125.75 (13)	0.007	0.523	0.000	0.036	0.000	0.531	1.050	4.8.2
L14	125.75 - 120.75 (14)	0.007	0.562	0.000	0.036	0.000	0.570	1.050	4.8.2
L15	120.75 - 115.75 (15)	0.007	0.598	0.000	0.036	0.000	0.606	1.050	4.8.2
L16	115.75 - 110.75 (16)	0.008	0.623	0.000	0.036	0.000	0.632	1.050	4.8.2
L17	110.75 - 105.75 (17)	0.008	0.663	0.000	0.037	0.000	0.673	1.050	4.8.2
L18	105.75 - 104.5 (18)	0.008	0.669	0.000	0.037	0.000	0.678	1.050	4.8.2
L19	104.5 - 104.25 (19)	0.007	0.619	0.000	0.034	0.000	0.628	1.050	4.8.2
L20	104.25 - 99.25 (20)	0.008	0.654	0.000	0.035	0.000	0.663	1.050	4.8.2
L21	99.25 - 94.25 (21)	0.008	0.671	0.000	0.034	0.000	0.680	1.050	4.8.2
L22	94.25 - 87.42 (22)	0.008	0.676	0.000	0.034	0.000	0.686	1.050	4.8.2
L23	87.42 - 86.42 (23)	0.008	0.637	0.000	0.031	0.000	0.645	1.050	4.8.2
L24	86.42 - 81.42 (24)	0.008	0.663	0.000	0.031	0.000	0.673	1.050	4.8.2
L25	81.42 - 76.42 (25)	0.008	0.674	0.000	0.031	0.000	0.683	1.050	4.8.2
L26	76.42 - 71.42 (26)	0.009	0.683	0.000	0.031	0.000	0.693	1.050	4.8.2
L27	71.42 - 69 (27)	0.009	0.696	0.000	0.032	0.000	0.706	1.050	4.8.2
L28	69 - 68.75 (28)	0.008	0.657	0.000	0.030	0.000	0.667	1.050	4.8.2
L29	68.75 - 63.75 (29)	0.009	0.681	0.000	0.030	0.000	0.690	1.050	4.8.2
L30	63.75 - 58.75 (30)	0.009	0.688	0.000	0.030	0.000	0.698	1.050	4.8.2
L31	58.75 - 53.75 (31)	0.009	0.694	0.000	0.030	0.000	0.704	1.050	4.8.2
L32	53.75 - 42.88 (32)	0.009	0.716	0.000	0.031	0.000	0.727	1.050	4.8.2
L33	42.88 - 41.88 (33)	0.009	0.670	0.000	0.028	0.000	0.680	1.050	4.8.2
L34	41.88 - 36.88	0.009	0.674	0.000	0.028	0.000	0.684	1.050	4.8.2

Section No.	Elevation ft	Ratio	Ratio	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
		P_u	M_{ux}	M_{uy}	V_u	T_u			
		ϕP_n	ϕM_{nx}	ϕM_{ny}	ϕV_n	ϕT_n			
L35	36.88 - 34.5 (34)	0.010	0.676	0.000	0.027	0.000	0.686	1.050	4.8.2
L36	34.5 - 34.25 (35)	0.010	0.705	0.000	0.029	0.000	0.716	1.050	4.8.2
L37	34.25 - 29.25 (36)	0.010	0.709	0.000	0.028	0.000	0.720	1.050	4.8.2
L38	29.25 - 24.25 (37)	0.010	0.720	0.000	0.029	0.000	0.731	1.050	4.8.2
L39	24.25 - 19.25 (38)	0.011	0.730	0.000	0.029	0.000	0.742	1.050	4.8.2
L40	19.25 - 14.25 (39)	0.011	0.732	0.000	0.028	0.000	0.744	1.050	4.8.2
L41	14.25 - 9.25 (40)	0.011	0.734	0.000	0.028	0.000	0.746	1.050	4.8.2
L42	9.25 - 4.25 (41)	0.011	0.739	0.000	0.027	0.000	0.751	1.050	4.8.2
L43	4.25 - 0 (43) (42)	0.011	0.742	0.000	0.027	0.000	0.754	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	180 - 175	Pole	TP19.0628x18x0.25	1	-3.68	916.95	7.7	Pass
L2	175 - 170	Pole	TP20.1255x19.0628x0.25	2	-3.97	968.75	13.7	Pass
L3	170 - 165	Pole	TP21.1883x20.1255x0.25	3	-4.29	1020.55	18.9	Pass
L4	165 - 160	Pole	TP22.2511x21.1883x0.25	4	-6.86	1072.34	34.0	Pass
L5	160 - 155	Pole	TP23.3138x22.2511x0.25	5	-7.35	1124.15	42.8	Pass
L6	155 - 150	Pole	TP24.3766x23.3138x0.25	6	-7.87	1175.95	50.3	Pass
L7	150 - 145	Pole	TP25.4394x24.3766x0.25	7	-12.97	1227.74	59.9	Pass
L8	145 - 140	Pole	TP26.5021x25.4394x0.25	8	-13.70	1279.55	70.1	Pass
L9	140 - 133	Pole	TP27.99x26.5021x0.25	9	-14.16	1310.63	75.6	Pass
L10	133 - 132	Pole	TP27.6896x26.6398x0.3125	10	-15.29	1667.98	67.3	Pass
L11	132 - 131	Pole	TP27.8996x27.6896x0.3125	11	-15.46	1680.77	68.4	Pass
L12	131 - 130.75	Pole	TP27.9521x27.8996x0.4688	12	-15.53	2511.67	46.5	Pass
L13	130.75 - 125.75	Pole	TP29.0019x27.9521x0.4625	13	-16.56	2573.41	50.5	Pass
L14	125.75 - 120.75	Pole	TP30.0518x29.0019x0.4563	14	-17.64	2632.58	54.3	Pass
L15	120.75 - 115.75	Pole	TP31.1016x30.0518x0.45	15	-18.75	2689.17	57.8	Pass
L16	115.75 - 110.75	Pole	TP32.1514x31.1016x0.45	16	-19.90	2781.27	60.2	Pass
L17	110.75 - 105.75	Pole	TP33.2013x32.1514x0.4375	17	-21.07	2794.63	64.1	Pass
L18	105.75 - 104.5	Pole	TP33.4637x33.2013x0.4375	18	-21.37	2817.01	64.6	Pass
L19	104.5 - 104.25	Pole	TP33.5162x33.4637x0.475	19	-21.45	3059.87	59.8	Pass
L20	104.25 - 99.25	Pole	TP34.5661x33.5162x0.4625	20	-22.70	3075.13	63.2	Pass
L21	99.25 - 94.25	Pole	TP35.6159x34.5661x0.4625	21	-24.00	3169.79	64.8	Pass
L22	94.25 - 87.42	Pole	TP37.05x35.6159x0.4625	22	-24.42	3201.23	65.3	Pass
L23	87.42 - 86.42	Pole	TP36.6329x35.3395x0.525	23	-27.22	3695.84	61.5	Pass
L24	86.42 - 81.42	Pole	TP37.681x36.6329x0.5125	24	-28.72	3713.82	64.0	Pass
L25	81.42 - 76.42	Pole	TP38.7291x37.681x0.5125	25	-30.25	3818.55	65.1	Pass
L26	76.42 - 71.42	Pole	TP39.7773x38.7291x0.5125	26	-31.87	3923.27	66.0	Pass
L27	71.42 - 69	Pole	TP40.2846x39.7773x0.5063	27	-32.63	3926.12	67.2	Pass
L28	69 - 68.75	Pole	TP40.337x40.2846x0.5375	28	-32.73	4170.68	63.5	Pass
L29	68.75 - 63.75	Pole	TP41.3851x40.337x0.525	29	-34.38	4182.25	65.7	Pass
L30	63.75 - 58.75	Pole	TP42.4332x41.3851x0.525	30	-36.08	4289.54	66.4	Pass
L31	58.75 - 53.75	Pole	TP43.4814x42.4332x0.525	31	-37.81	4396.82	67.1	Pass
L32	53.75 - 42.88	Pole	TP45.76x43.4814x0.5125	32	-39.44	4390.15	69.2	Pass
L33	42.88 - 41.88	Pole	TP45.2198x43.6998x0.575	33	-43.97	5004.85	64.8	Pass
L34	41.88 - 36.88	Pole	TP46.2681x45.2198x0.575	34	-45.96	5122.36	65.2	Pass
L35	36.88 - 34.5	Pole	TP46.767x46.2681x0.575	35	-46.92	5178.30	65.3	Pass
L36	34.5 - 34.25	Pole	TP46.8194x46.767x0.55	36	-47.03	4961.46	68.2	Pass
L37	34.25 - 29.25	Pole	TP47.8677x46.8194x0.55	37	-49.00	5073.86	68.5	Pass
L38	29.25 - 24.25	Pole	TP48.916x47.8677x0.5438	38	-51.03	5127.99	69.6	Pass
L39	24.25 - 19.25	Pole	TP49.9642x48.916x0.5375	39	-53.09	5179.56	70.6	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L40	19.25 - 14.25	Pole	TP51.0125x49.9642x0.5375	40	-55.18	5289.41	70.8	Pass	
L41	14.25 - 9.25	Pole	TP52.0607x51.0125x0.5375	41	-57.30	5399.26	71.1	Pass	
L42	9.25 - 4.25	Pole	TP53.109x52.0607x0.5375	42	-59.45	5509.10	71.5	Pass	
L43	4.25 - 0	Pole	TP54x53.109x0.5375	43	-61.31	5602.47	71.9	Pass	
							Summary		
							Pole (L9)	75.6	Pass
							RATING =	75.6	Pass

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

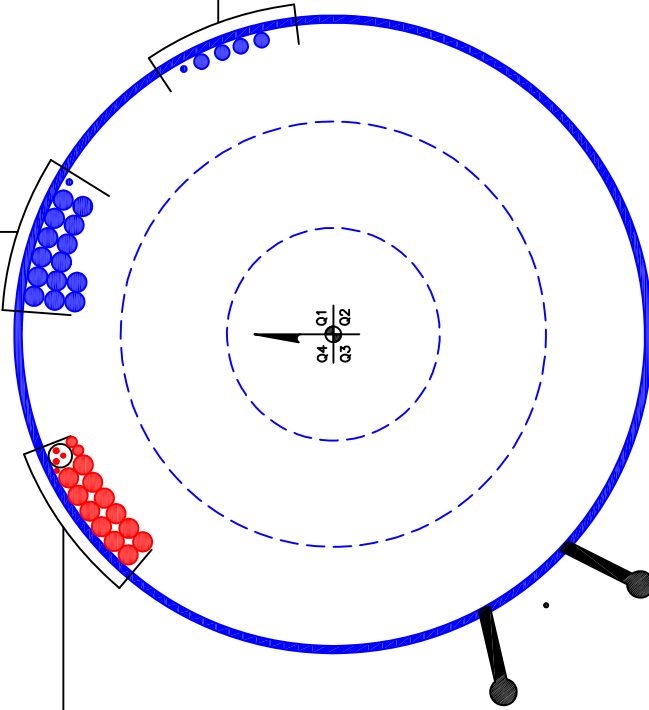
APPENDIX B
BASE LEVEL DRAWING



(PROPOSED EQUIPMENT CONFIGURATION-IN
CONDUIT)
(1) 3/8" TO 147 FT LEVEL
(2) 7/16" TO 147 FT LEVEL
(PROPOSED EQUIPMENT CONFIGURATION)
(1) 3/8" TO 147 FT LEVEL
(2) 7/8" TO 147 FT LEVEL
(12) 1-5/8" TO 147 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 1/2" TO 165 FT LEVEL
(14) 1-5/8" TO 165 FT LEVEL

(OTHER CONSIDERED EQUIPMENT)
(1) 1/2" TO 75 FT LEVEL
(4) 1-1/4" TO 180 FT LEVEL



CLIMBING PEGS
W/ SAFETY CLIMB

APPENDIX C
ADDITIONAL CALCULATIONS

Pole Geometry

Site BU: 876371
Work Order: 1843223

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	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	180	47	4	18	18	27.99	0.25	Auto	A572-65
2	137	49.58	5.17	18	26.64	37.05	0.3125	Auto	A572-65
3	92.59	49.71	6.25	18	35.34	45.76	0.375	Auto	A572-65
4	49.13	49.13	0	18	43.70	54	0.4375	Auto	A572-65

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	34.5	plate	100FP-050100	3					E							E						E
2	34.5	69	plate	100FP-060100	3				E							E							E
3	69	104.5	plate	100FP-050100	3					E						E							E
4	104.5	131	plate	100FP-040100	3					E						E							E
5																							
6																							
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	5	1	5	0.5	29,000	29,000	18,000	3,750	1.1875	A514-GR100
2	6	1	6	0.5	35,000	35,000	17,000	4,750	1.1875	A514-GR100
3	5	1	5	0.5	29,000	29,000	18,000	3,750	1.1875	A514-GR100
4	4	1	4	0.5	20,000	20,000	20,000	2,750	1.1875	A514-GR100

TNX Geometry Input

Increment (ft): [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	180 - 175	5		18	18.000	19.063	0.25	A572-65	1.000
2	175 - 170	5		18	19.063	20.126	0.25	A572-65	1.000
3	170 - 165	5		18	20.126	21.188	0.25	A572-65	1.000
4	165 - 160	5		18	21.188	22.251	0.25	A572-65	1.000
5	160 - 155	5		18	22.251	23.314	0.25	A572-65	1.000
6	155 - 150	5		18	23.314	24.377	0.25	A572-65	1.000
7	150 - 145	5		18	24.377	25.439	0.25	A572-65	1.000
8	145 - 140	5		18	25.439	26.502	0.25	A572-65	1.000
9	140 - 137	7	4	18	26.502	27.990	0.25	A572-65	1.000
10	137 - 132	5		18	26.640	27.690	0.3125	A572-65	1.000
11	132 - 131	1		18	27.690	27.900	0.3125	A572-65	1.000
12	131 - 130.75	0.25		18	27.900	27.952	0.46875	A572-65	0.964
13	130.75 - 125.75	5		18	27.952	29.002	0.4625	A572-65	0.966
14	125.75 - 120.75	5		18	29.002	30.052	0.45625	A572-65	0.968
15	120.75 - 115.75	5		18	30.052	31.102	0.45	A572-65	0.972
16	115.75 - 110.75	5		18	31.102	32.151	0.45	A572-65	0.962
17	110.75 - 105.75	5		18	32.151	33.201	0.4375	A572-65	0.981
18	105.75 - 104.5	1.25		18	33.201	33.464	0.4375	A572-65	0.979
19	104.5 - 104.25	0.25		18	33.464	33.516	0.475	A572-65	0.962
20	104.25 - 99.25	5		18	33.516	34.566	0.4625	A572-65	0.978
21	99.25 - 94.25	5		18	34.566	35.616	0.4625	A572-65	0.969
22	94.25 - 92.59	6.83	5.17	18	35.616	37.050	0.4625	A572-65	0.966
23	92.59 - 86.42	6.17		18	35.339	36.633	0.525	A572-65	0.967
24	86.42 - 81.42	5		18	36.633	37.681	0.5125	A572-65	0.983
25	81.42 - 76.42	5		18	37.681	38.729	0.5125	A572-65	0.976
26	76.42 - 71.42	5		18	38.729	39.777	0.5125	A572-65	0.969
27	71.42 - 69	2.42		18	39.777	40.285	0.50625	A572-65	0.978
28	69 - 68.75	0.25		18	40.285	40.337	0.5375	A572-65	0.966
29	68.75 - 63.75	5		18	40.337	41.385	0.525	A572-65	0.981
30	63.75 - 58.75	5		18	41.385	42.433	0.525	A572-65	0.975
31	58.75 - 53.75	5		18	42.433	43.481	0.525	A572-65	0.968
32	53.75 - 49.13	10.87	6.25	18	43.481	45.760	0.5125	A572-65	0.986
33	49.13 - 41.88	7.25		18	43.700	45.220	0.575	A572-65	0.984
34	41.88 - 36.88	5		18	45.220	46.268	0.575	A572-65	0.979
35	36.88 - 34.5	2.38		18	46.268	46.767	0.575	A572-65	0.977
36	34.5 - 34.25	0.25		18	46.767	46.819	0.55	A572-65	0.983
37	34.25 - 29.25	5		18	46.819	47.868	0.55	A572-65	0.979
38	29.25 - 24.25	5		18	47.868	48.916	0.54375	A572-65	0.986
39	24.25 - 19.25	5		18	48.916	49.964	0.5375	A572-65	0.993
40	19.25 - 14.25	5		18	49.964	51.012	0.5375	A572-65	0.990
41	14.25 - 9.25	5		18	51.012	52.061	0.5375	A572-65	0.986
42	9.25 - 4.25	5		18	52.061	53.109	0.5375	A572-65	0.983
43	4.25 - 0	4.25		18	53.109	54.000	0.5375	A572-65	0.980

TNX Section Forces

Increment (ft):		5	TNX Output		
	Section Height (ft)	P _u	M _{ux} (kip-ft)	V _u	
		(K)		(K)	
1	180 - 175	3.68	32.27	6.66	
2	175 - 170	3.97	66.31	7.03	
3	170 - 165	4.29	102.20	7.41	
4	165 - 160	6.86	203.58	15.62	
5	160 - 155	7.35	282.65	16.02	
6	155 - 150	7.87	363.68	16.41	
7	150 - 145	12.97	463.48	24.26	
8	145 - 140	13.70	585.64	24.64	
9	140 - 137	14.16	659.83	24.86	
10	137 - 132	15.29	785.33	25.40	
11	132 - 131	15.46	810.78	25.53	
12	131 - 130.75	15.53	817.18	25.66	
13	130.75 - 125.75	16.56	946.79	26.31	
14	125.75 - 120.75	17.64	1080.14	27.06	
15	120.75 - 115.75	18.75	1217.23	27.82	
16	115.75 - 110.75	19.90	1358.09	28.57	
17	110.75 - 105.75	21.07	1502.75	29.34	
18	105.75 - 104.5	21.37	1539.52	29.54	
19	104.5 - 104.25	21.45	1546.92	29.73	
20	104.25 - 99.25	22.70	1696.71	30.38	
21	99.25 - 94.25	24.00	1850.45	31.16	
22	94.25 - 92.59	24.42	1902.35	31.42	
23	92.59 - 86.42	27.22	2099.65	32.56	
24	86.42 - 81.42	28.72	2264.24	33.33	
25	81.42 - 76.42	30.25	2432.69	34.10	
26	76.42 - 71.42	31.87	2605.34	34.97	
27	71.42 - 69	32.63	2690.39	35.37	
28	69 - 68.75	32.73	2699.25	35.60	
29	68.75 - 63.75	34.38	2878.14	36.21	
30	63.75 - 58.75	36.08	3060.92	36.97	
31	58.75 - 53.75	37.81	3247.46	37.71	
32	53.75 - 49.13	39.44	3423.06	38.37	
33	49.13 - 41.88	43.97	3705.62	39.61	
34	41.88 - 36.88	45.96	3905.19	40.29	
35	36.88 - 34.5	46.92	4001.39	40.62	
36	34.5 - 34.25	47.03	4011.57	40.83	
37	34.25 - 29.25	49.00	4216.27	41.30	
38	29.25 - 24.25	51.03	4424.11	41.90	
39	24.25 - 19.25	53.09	4634.17	42.19	
40	19.25 - 14.25	55.18	4845.67	42.47	
41	14.25 - 9.25	57.30	5058.59	42.76	
42	9.25 - 4.25	59.45	5272.93	43.04	
43	4.25 - 0	61.31	5456.22	43.27	

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
180 - 175	Pole	TP19.063x18x0.25	Pole	7.5%	Pass
175 - 170	Pole	TP20.126x19.063x0.25	Pole	13.6%	Pass
170 - 165	Pole	TP21.188x20.126x0.25	Pole	18.7%	Pass
165 - 160	Pole	TP22.251x21.188x0.25	Pole	33.7%	Pass
160 - 155	Pole	TP23.314x22.251x0.25	Pole	42.4%	Pass
155 - 150	Pole	TP24.377x23.314x0.25	Pole	50.0%	Pass
150 - 145	Pole	TP25.439x24.377x0.25	Pole	59.3%	Pass
145 - 140	Pole	TP26.502x25.439x0.25	Pole	69.5%	Pass
140 - 137	Pole	TP27.99x26.502x0.25	Pole	75.1%	Pass
137 - 132	Pole	TP27.69x26.64x0.3125	Pole	66.8%	Pass
132 - 131	Pole	TP27.9x27.69x0.3125	Pole	67.9%	Pass
131 - 130.75	Pole + Reinf.	TP27.952x27.9x0.4688	Reinf. 4 Tension Rupture	61.5%	Pass
130.75 - 125.75	Pole + Reinf.	TP29.002x27.952x0.4625	Reinf. 4 Tension Rupture	66.9%	Pass
125.75 - 120.75	Pole + Reinf.	TP30.052x29.002x0.4563	Reinf. 4 Tension Rupture	71.8%	Pass
120.75 - 115.75	Pole + Reinf.	TP31.102x30.052x0.45	Reinf. 4 Tension Rupture	76.2%	Pass
115.75 - 110.75	Pole + Reinf.	TP32.151x31.102x0.45	Reinf. 4 Tension Rupture	80.2%	Pass
110.75 - 105.75	Pole + Reinf.	TP33.201x32.151x0.4375	Reinf. 4 Tension Rupture	83.9%	Pass
105.75 - 104.5	Pole + Reinf.	TP33.464x33.201x0.4375	Reinf. 4 Tension Rupture	84.8%	Pass
104.5 - 104.25	Pole + Reinf.	TP33.516x33.464x0.475	Reinf. 3 Tension Rupture	72.8%	Pass
104.25 - 99.25	Pole + Reinf.	TP34.566x33.516x0.4625	Reinf. 3 Tension Rupture	75.7%	Pass
99.25 - 94.25	Pole + Reinf.	TP35.616x34.566x0.4625	Reinf. 3 Tension Rupture	78.5%	Pass
94.25 - 92.59	Pole + Reinf.	TP37.05x35.616x0.4625	Reinf. 3 Tension Rupture	79.4%	Pass
92.59 - 86.42	Pole + Reinf.	TP36.633x35.339x0.525	Reinf. 3 Tension Rupture	74.8%	Pass
86.42 - 81.42	Pole + Reinf.	TP37.681x36.633x0.5125	Reinf. 3 Tension Rupture	76.8%	Pass
81.42 - 76.42	Pole + Reinf.	TP38.729x37.681x0.5125	Reinf. 3 Tension Rupture	78.6%	Pass
76.42 - 71.42	Pole + Reinf.	TP39.777x38.729x0.5125	Reinf. 3 Tension Rupture	80.3%	Pass
71.42 - 69	Pole + Reinf.	TP40.285x39.777x0.5063	Reinf. 3 Tension Rupture	81.1%	Pass
69 - 68.75	Pole + Reinf.	TP40.337x40.285x0.5375	Reinf. 2 Compression	73.5%	Pass
68.75 - 63.75	Pole + Reinf.	TP41.385x40.337x0.525	Reinf. 2 Compression	74.9%	Pass
63.75 - 58.75	Pole + Reinf.	TP42.433x41.385x0.525	Reinf. 2 Compression	76.3%	Pass
58.75 - 53.75	Pole + Reinf.	TP43.481x42.433x0.525	Reinf. 2 Compression	77.6%	Pass
53.75 - 49.13	Pole + Reinf.	TP45.76x43.481x0.5125	Reinf. 2 Compression	78.7%	Pass
49.13 - 41.88	Pole + Reinf.	TP45.22x43.7x0.575	Reinf. 2 Compression	73.8%	Pass
41.88 - 36.88	Pole + Reinf.	TP46.268x45.22x0.575	Reinf. 2 Compression	74.7%	Pass
36.88 - 34.5	Pole + Reinf.	TP46.767x46.268x0.575	Reinf. 2 Compression	75.1%	Pass
34.5 - 34.25	Pole + Reinf.	TP46.819x46.767x0.55	Reinf. 1 Tension Rupture	82.1%	Pass
34.25 - 29.25	Pole + Reinf.	TP47.868x46.819x0.55	Reinf. 1 Tension Rupture	82.8%	Pass
29.25 - 24.25	Pole + Reinf.	TP48.916x47.868x0.5438	Reinf. 1 Tension Rupture	83.5%	Pass
24.25 - 19.25	Pole + Reinf.	TP49.964x48.916x0.5375	Reinf. 1 Tension Rupture	84.2%	Pass
19.25 - 14.25	Pole + Reinf.	TP51.012x49.964x0.5375	Reinf. 1 Tension Rupture	84.7%	Pass
14.25 - 9.25	Pole + Reinf.	TP52.061x51.012x0.5375	Reinf. 1 Tension Rupture	85.2%	Pass
9.25 - 4.25	Pole + Reinf.	TP53.109x52.061x0.5375	Reinf. 1 Tension Rupture	85.6%	Pass
4.25 - 0	Pole + Reinf.	TP54x53.109x0.5375	Reinf. 1 Tension Rupture	85.9%	Pass
				Summary	
			Pole	75.6%	Pass
			Reinforcement	85.9%	Pass
			Overall	85.9%	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
180 - 175	667	n/a	667	14.93	n/a	14.93	7.5%				
175 - 170	787	n/a	787	15.77	n/a	15.77	13.6%				
170 - 165	920	n/a	920	16.61	n/a	16.61	18.7%				
165 - 160	1067	n/a	1067	17.46	n/a	17.46	33.7%				
160 - 155	1230	n/a	1230	18.30	n/a	18.30	42.4%				
155 - 150	1407	n/a	1407	19.14	n/a	19.14	50.0%				
150 - 145	1602	n/a	1602	19.99	n/a	19.99	59.3%				
145 - 140	1813	n/a	1813	20.83	n/a	20.83	69.5%				
140 - 137	1948	n/a	1948	21.34	n/a	21.34	75.1%				
137 - 132	2570	n/a	2570	27.15	n/a	27.15	66.8%				
132 - 131	2630	n/a	2630	27.36	n/a	27.36	67.9%				
131 - 130.75	2645	1266	3911	27.41	12.00	39.41	45.5%				61.5%
130.75 - 125.75	2958	1359	4317	28.46	12.00	40.46	49.5%				66.9%
125.75 - 120.75	3295	1455	4750	29.50	12.00	41.50	53.2%				71.8%
120.75 - 115.75	3656	1554	5211	30.54	12.00	42.54	57.0%				76.2%
115.75 - 110.75	4043	1657	5700	31.58	12.00	43.58	60.6%				80.2%
110.75 - 105.75	4456	1763	6220	32.62	12.00	44.62	64.0%				83.9%
105.75 - 104.5	4564	1790	6354	32.88	12.00	44.88	64.9%				84.8%
104.5 - 104.25	4586	2250	6836	32.93	15.00	47.93	60.7%			72.8%	
104.25 - 99.25	5035	2388	7423	33.97	15.00	48.97	63.8%			75.7%	
99.25 - 94.25	5512	2530	8042	35.02	15.00	50.02	66.7%			78.5%	
94.25 - 92.59	5677	2578	8255	35.36	15.00	50.36	67.7%			79.4%	
92.59 - 86.42	7165	2672	9837	43.15	15.00	58.15	61.1%			74.8%	
86.42 - 81.42	7805	2822	10626	44.40	15.00	59.40	63.1%			76.8%	
81.42 - 76.42	8481	2976	11457	45.65	15.00	60.65	65.1%			78.6%	
76.42 - 71.42	9196	3134	12330	46.90	15.00	61.90	67.1%			80.3%	
71.42 - 69	9556	3212	12768	47.50	15.00	62.50	68.0%			81.1%	
69 - 68.75	9593	3872	13466	47.56	18.00	65.56	64.8%		73.5%		
68.75 - 63.75	10368	4070	14438	48.81	18.00	66.81	66.6%		74.9%		
63.75 - 58.75	11183	4272	15456	50.06	18.00	68.06	68.3%		76.3%		
58.75 - 53.75	12041	4480	16520	51.31	18.00	69.31	70.0%		77.6%		
53.75 - 49.13	12870	4676	17546	52.46	18.00	70.46	71.5%		78.7%		
49.13 - 41.88	15750	4834	20585	62.18	18.00	80.18	64.6%		73.8%		
41.88 - 36.88	16882	5055	21937	63.64	18.00	81.64	65.7%		74.7%		
36.88 - 34.5	17440	5162	22601	64.33	18.00	82.33	66.3%		75.1%		
34.5 - 34.25	17499	4304	21803	64.40	15.00	79.40	69.0%	82.1%			
34.25 - 29.25	18713	4494	23206	65.86	15.00	80.86	70.1%	82.8%			
29.25 - 24.25	19981	4688	24669	67.32	15.00	82.32	71.1%	83.5%			
24.25 - 19.25	21305	4886	26192	68.77	15.00	83.77	72.2%	84.2%			
19.25 - 14.25	22687	5089	27776	70.23	15.00	85.23	73.1%	84.7%			
14.25 - 9.25	24127	5295	29422	71.68	15.00	86.68	74.0%	85.2%			
9.25 - 4.25	25627	5506	31133	73.14	15.00	88.14	74.9%	85.6%			
4.25 - 0	26949	5688	32638	74.38	15.00	89.38	75.6%	85.9%			

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

Monopole Base Plate Connection

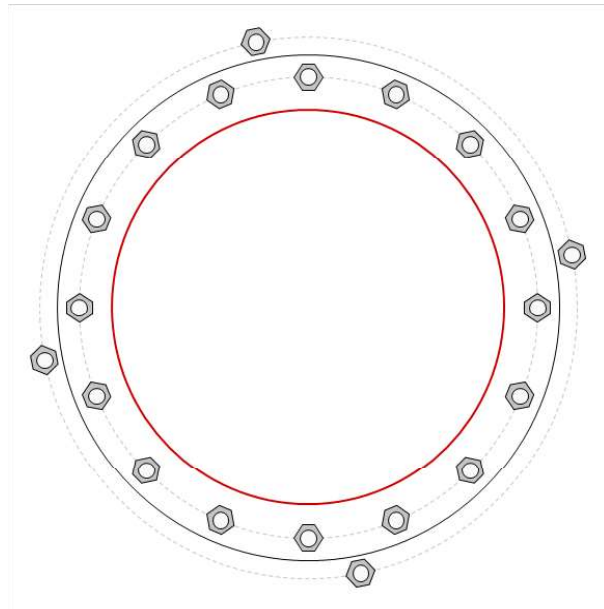


Site Info	
BU #	876371
Site Name	/alden / Carolyn Besad
Order #	503651 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
I_{ar} (in)	1

Applied Loads	
Moment (kip-ft)	5456.22
Axial Force (kips)	61.31
Shear Force (kips)	43.27

*TIA-222-H Section 15.5 Applied



Connection Properties	Analysis Results
-----------------------	------------------

Anchor Rod Data
GROUP 1: (16) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 63" BC
GROUP 2: (4) 2-1/4" ϕ bolts (A193 Gr. B7 N; $F_y=105$ ksi, $F_u=125$ ksi) on 74" BC
Base Plate Data
69" OD x 2" Plate (A572-60; $F_y=60$ ksi, $F_u=75$ ksi)
Stiffener Data
N/A
Pole Data
54" x 0.5375" 18-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary (units of kips, kip-in)		
GROUP 1:		
$Pu_c = 196.92$	$\phi Pn_c = 268.39$	Stress Rating
$Vu = 2.7$	$\phi Vn = 120.77$	69.9%
$Mu = n/a$	$\phi Mn = n/a$	Pass
GROUP 2:		
$Pu_c = 226.75$	$\phi Pn_c = 375.74$	Stress Rating
$Vu = 0$	$\phi Vn = 169.08$	57.5%
$Mu = 0$	$\phi Mn = 179.4$	Pass
Base Plate Summary		
Max Stress (ksi):	50.92	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	89.8%	Pass

Monopole Base Reaction Comparison Test



BU # :	876371
Site Name:	Walden / Carolyn Besade
Order Number:	503651 Rev. 0
Design TIA:	TIA-222-F
Current TIA:	TIA-222-H
Component:	Monopole Base
Reference Doc ID:	3345718

TIA-222-F Compared To TIA-222-H

MONOPOLE BASE FOUNDATION REACTION COMPARISON

REACTIONS	DESIGN REACTIONS	*MODIFIED DESIGN REACTIONS	CURRENT REACTIONS	% CAPACITY
MOMENT (kip-ft)	5129.0	6924.2	5456.0	75.0%
SHEAR (kips)	42.0	56.7	43.0	72.2%

Design loads from: CCLsites Doc #3345718

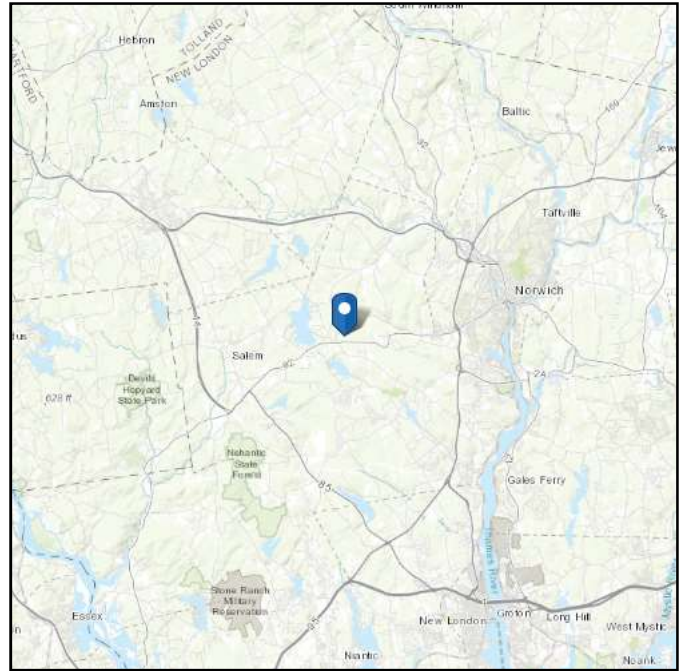
*Design loads were multiplied by 1.35 for comparison as allowed by TIA-222-H, Section 15.6.

ASCE 7 Hazards Report

Address:
No Address at This
Location

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

Elevation: 481.28 ft (NAVD 88)
Latitude: 41.505639
Longitude: -72.197528



Wind

Results:

135 mph jurisdiction requirement

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

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

Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

Ice

Results:

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

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

Date Accessed: Tue Apr 07 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.

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

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

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.



BU: 876371
 WO: 1843223
 Order: 503651

Structure: A
 Rev: 0

Location

	Decimal Degrees	Deg	Min	Sec	
Lat:	41.505639	+	41	30	20.30
Long:	-72.197528	-	72	11	51.10

Code and Site Parameters

Seismic Design Code: ASCE 7-10
 Site Soil: D Stiff Soil (Default)
 Risk Category: II

USGS Seismic Reference

S_S: 0.1650 g
 S₁: 0.0590 g
 T_L: 6 s

Seismic Design Category Determination

Importance Factor, I_e: 1
 Acceleration-based site coefficient, F_a: 1.6000
 Velocity-based site coefficient, F_v: 2.4000

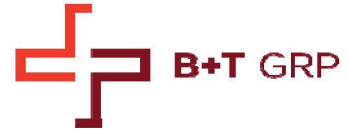
Design spectral response acceleration short period, S_{DS}: 0.1760 g
 Design spectral response acceleration 1 s period, S_{D1}: 0.0944 g

Seismic Design Category Based on S_{DS}: B
 Seismic Design Category Based on S_{D1}: B
 Seismic Design Category Based on S₁: N/A

Controlling Seismic Design Category: B

Exhibit E

Mount Analysis



Date: February 3, 2020

Kevin Morrow
Crown Castle
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Charlotte, NC 28277
(704) 405-6619

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

Subject: Mount Modification Report

Carrier Designation: AT&T Mobility Equipment Change-Out
Carrier Site Number: CTL02194
Carrier Site Name: N/A

Crown Castle Designation: **Crown Castle BU Number:** 876371
Crown Castle Site Name: Walden-Carolyn Besade
Crown Castle JDE Job Number: 588468
Crown Castle Order Number: 503651, Rev.0

Engineering Firm Designation: **B+T Group Report Designation:** 140134.004.01

Site Data: 557 Rte. 82, Oakdale, CT, New London County, 06370
Latitude 41° 30' 20.30" Longitude -72° 11' 51.10"

Structure Information: **Tower Height & Type:** 180 ft. Monopole
Mount Elevation: 147 ft.
Mount Type: 14 ft. Platform Mount

Dear Mr. Morrow,

B+T Group is pleased to submit this "Mount Modification 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

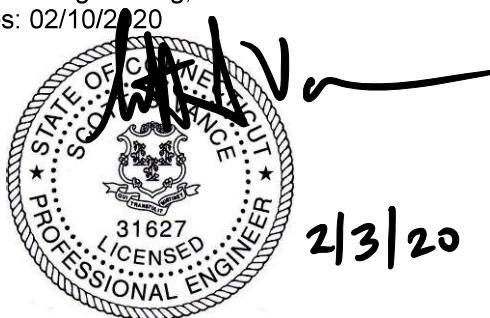
Sufficient

***Sufficient upon completion of the changes listed in the 'Recommendations' section of this report.**

This analysis has been performed in accordance with the 2018 International Building Code based upon an ultimate 3-second gust wind speed of 124 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Suman Rana, E.I.T

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2020



Scott S. Vance, P.E

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Mount Modification Design Drawings (MDD)

1) INTRODUCTION

This is a 14 ft. platform mount, Mapped by B+T Group

2) ANALYSIS CRITERIA

Building Code:	2018 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	124 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:	0.2
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
148	148	3	Ericsson	RRUS11 A2	14 ft. Platform Mount
147	147	3	CCI Antennas	DMP65R-BU8D	
		3	CCI Antennas	HPA-65R-BUU-H8	
		3	Powerwave	7770.00	
		3	Ericsson	RRUS 4449 B5/B12	
		3	Powerwave	LGP21401	
		1	Raycap	DC6-48-60-18-8C-EV	
		1	Raycap	DC6-48-60-18-8F	

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing Loading Proposed Loading	Date: 10/31/2019	Crown Castle
Mount Mapping	B+T Group	Date: 12/02/2019	On File
Failing MA	B+T Group	Date: 02/01/2020	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*

- R14.1.

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
New Mount Pipe for Proposed Antenna	2" Std. Pipe	9'-0"	In Position 4.

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	Mount Pipes	M26	147	46.9	Pass
	Main Horizontals	M1	147	78.9	Pass
	Support Angles	M9	147	34.0	Pass
	Support Tubes	M13	147	20.6	Pass
	Unistruts	M5_1	147	17.7	Pass
	Additional Support Rail	M89	147	39.8	Pass
	Additional Stabilizer kit	M99	147	17.0	Pass

Structure Rating (max from all components) =	78.9%
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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

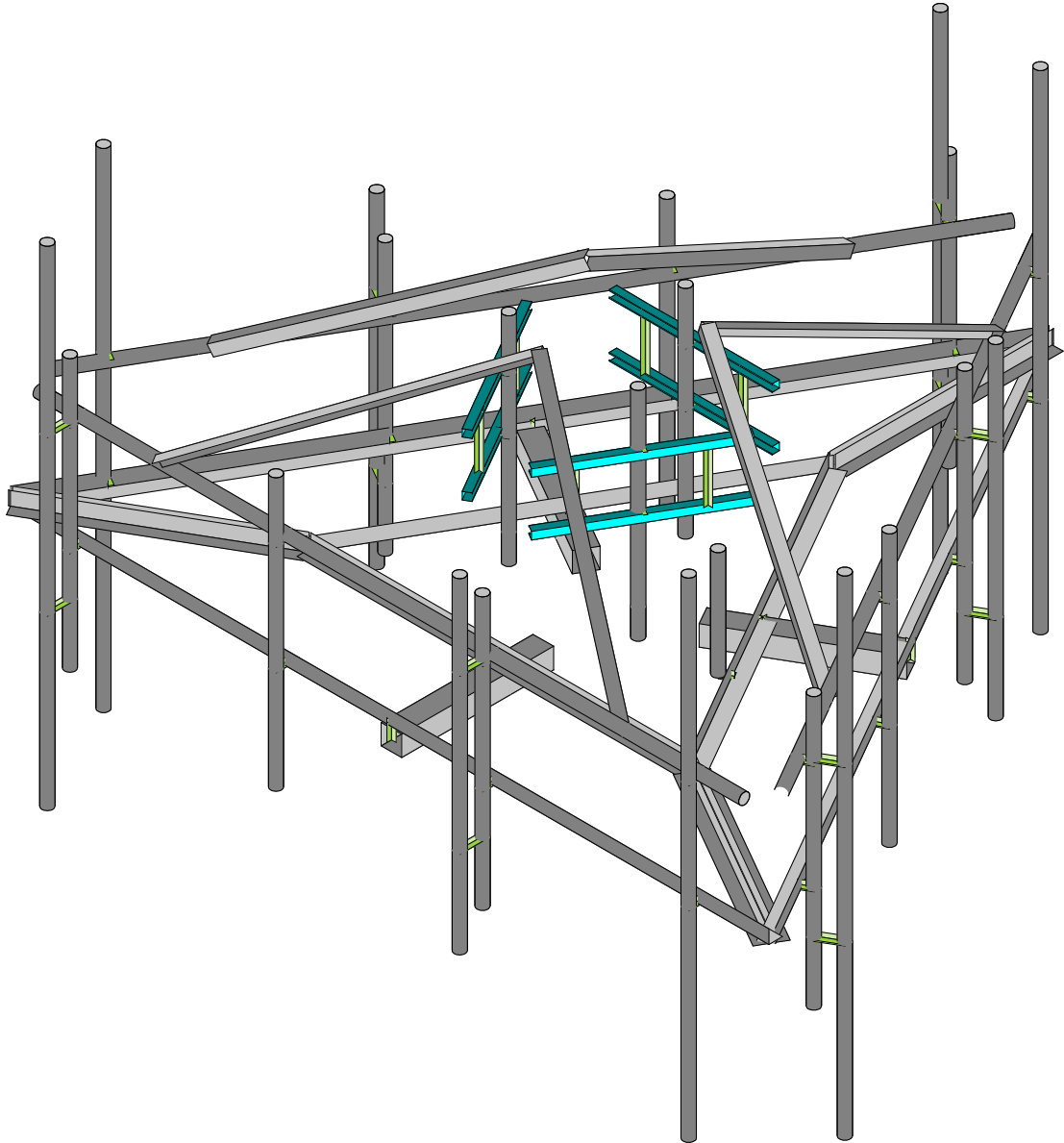
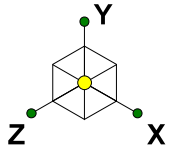
The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the structural modifications listed below must be completed.

1. Add (3) 2" STD. Pipe X 13'-0" new horizontal pipe, 2'-0" above the bottom horizontal
2. Add (1) new handrail reinforcement kit, sitepro1 # PRK-SFS-L.

Engineering detail drawings have been provided in Appendix D – Mount Modification Design Drawings.

Connection from the mount to the tower and local stresses on the tower are sufficient.

APPENDIX A
WIRE FRAME AND RENDERED MODELS

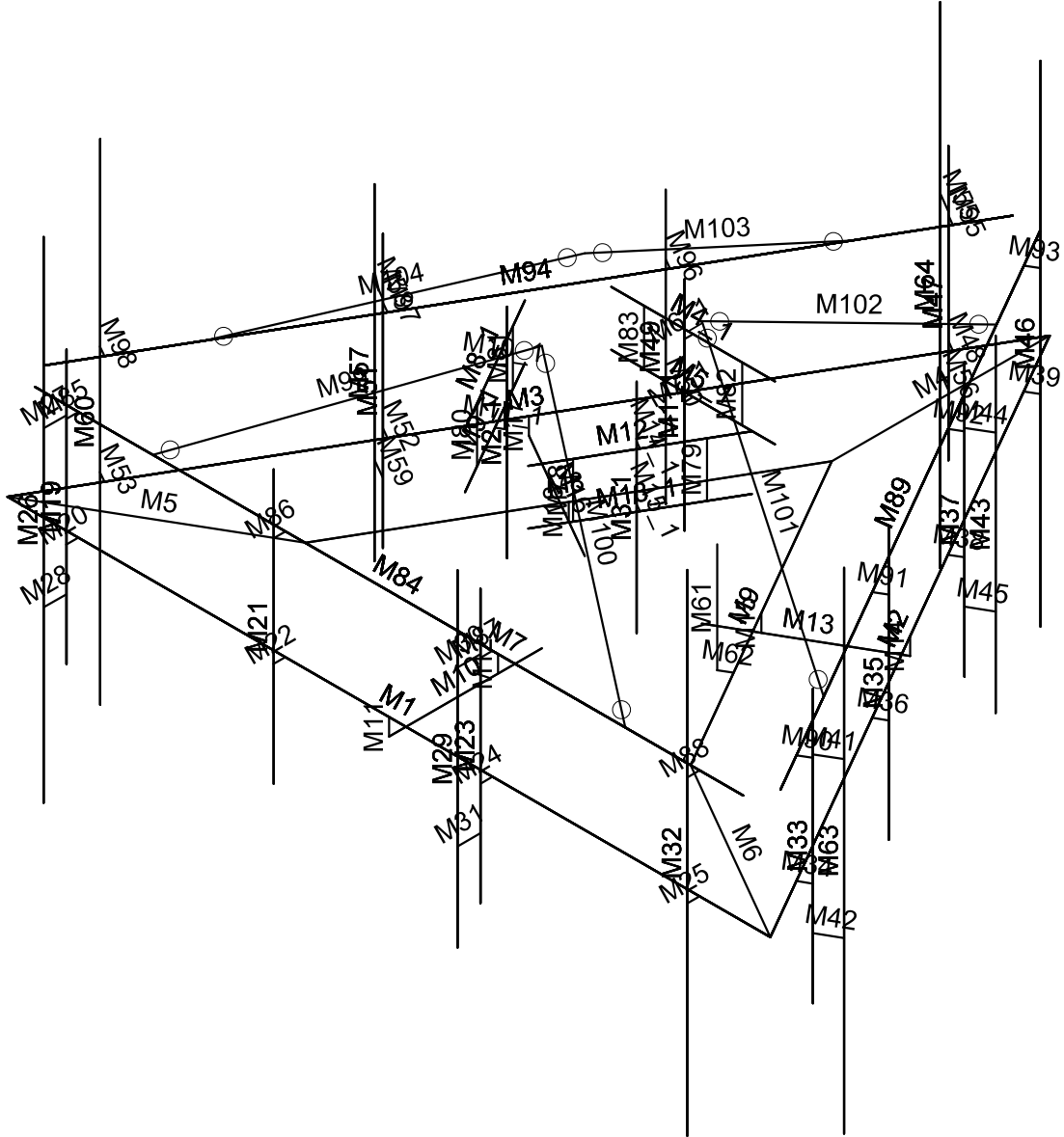
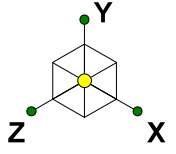


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APPENDIX B
SOFTWARE INPUT CALCULATIONS

PROJECT	140134.003.01 - Walden-Carolyn Besar SR		
SUBJECT	Platform Mount Mount Analysis		
DATE	01/27/20	PAGE	1 OF 1



INPUT

[REF: ANSI/TIA-222-H]

Tower Type	:	Monopole									
Ground Elevation	z_s	: 481	ft	[ASCE7 Hazard Tool]							
Tower Height	:	180	ft								
Mount Elevation	:	147	ft								
Antenna Elevation	:	147	ft								
Crest Height	:	0	ft								
Risk Category	:	II		[Table 2-1]	Gust Factor	G_n	:	1.00	[Sec. 16.6]		
Exposure Category	:	B		[Sec. 2.6.5.1.2]	Pressure Coefficient	K_z	:	1.10	[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	: 124	mph	[ASCE7 Hazard Tool]	Elevation Factor	K_e	:	0.98	[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}	:	1.16	in [Sec. 2.6.10]		
Seismic Design Cat.	:	B		[ASCE7 Hazard Tool]	Importance Factor	I_e	:	1	[Table 2-3]		
	S_s	: 0.2			Response Coefficient	C_s	:	0.11	[Sec. 2.7.7.1]		
	S_1	: 0.054			Amplification	A_s	:	2.27	[Sec. 16.7]		
	S_{DS}	: 0.214									
	S_{D1}	: 0.087									

ANTENNAS

Manufacturer	Model	Height (in)	Front Width (in)	Side Width (in)	Weight (lbs)	Shape	Quantity	Location (%)
Mount Pipe M29								
POWERWAVE TECHNOLOGIES	7770.00	55.00	11.00	5.00	35.00	Flat	0.5	5
POWERWAVE TECHNOLOGIES	7770.00	55.00	11.00	5.00	35.00	Flat	0.5	90
POWERWAVE TECHNOLOGIES	TME-LGP21401	14.40	9.20	2.60	14.10	Flat	1	50
Mount Pipe M32								
CCI ANTENNAS	HPA-65R-BUU-H8	92.40	14.80	7.40	73.00	Flat	0.5	25
CCI ANTENNAS	HPA-65R-BUU-H8	92.40	14.80	7.40	73.00	Flat	0.5	75
Mount Pipe M26								
CCI ANTENNAS	DMP65R-BU8D	96.00	20.70	7.70	95.70	Flat	0.5	5
CCI ANTENNAS	DMP65R-BU8D	96.00	20.70	7.70	95.70	Flat	0.5	80
Mount Pipe M61								
Raycap	TME-DC6-48-60-18-8F	31.25	11.00	11.00	32.80	Round	1	20
Mount Pipe M10								
Raycap	TME-DC6-48-60-18-8C	31.41	10.24	10.24	26.20	Flat	1	90
Mount Pipe M57								
POWERWAVE TECHNOLOGIES	7770.00	55.00	11.00	5.00	35.00	Flat	0.5	5
POWERWAVE TECHNOLOGIES	7770.00	55.00	11.00	5.00	35.00	Flat	0.5	90
POWERWAVE TECHNOLOGIES	TME-LGP21401	14.40	9.20	2.60	14.10	Flat	1	50

PROJECT	140134.003.01 - Walden-Carolyn Besar SR			
SUBJECT	Platform Mount Mount Analysis			
DATE	01/27/20	PAGE	3	OF 5



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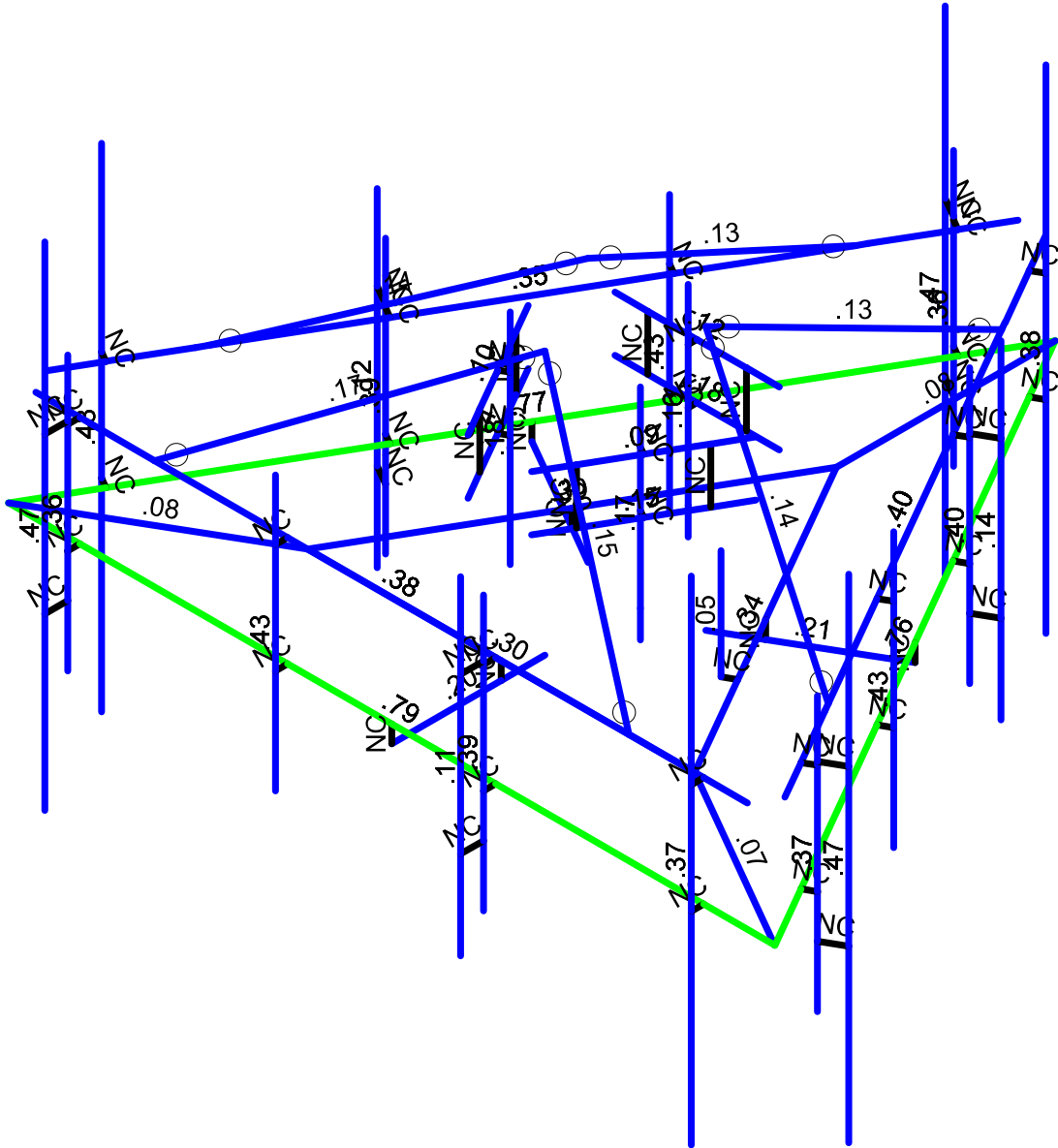
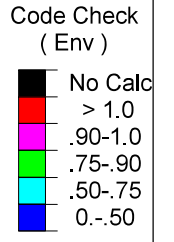
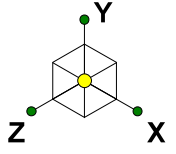
Mount Pipe **M80**

	ERICSSON	TME-RRUS 11 A2	19.70	17.00	10.50	72.70	Flat	1	50

Mount Pipe **M83**

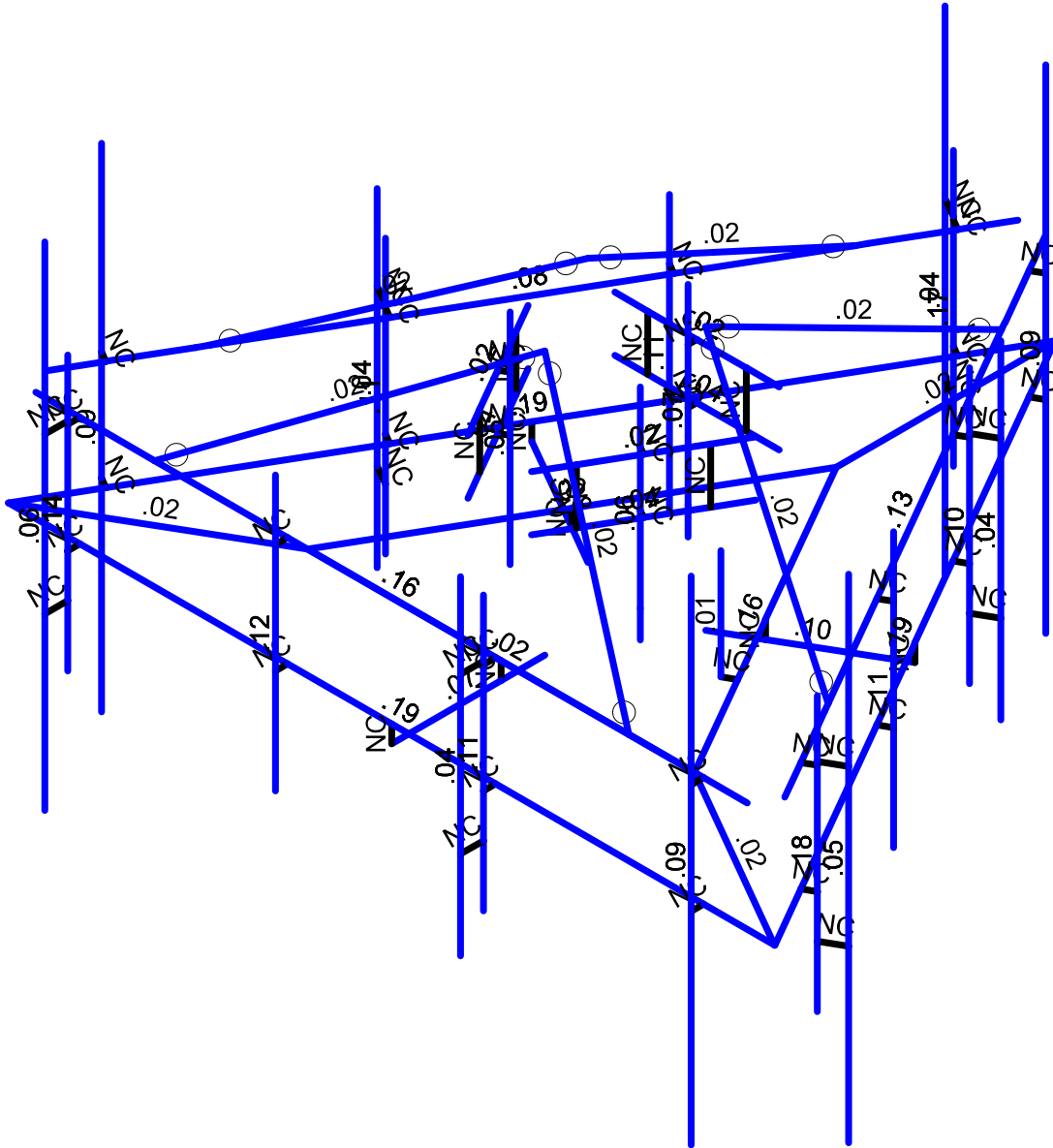
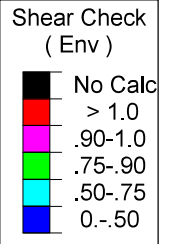
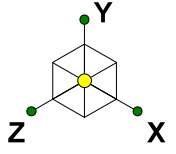
	ERICSSON	TME-RRUS 11 A2	19.70	17.00	10.50	72.70	Flat	1	50
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APPENDIX C
SOFTWARE ANALYSIS OUTPUT



Member Code Checks Displayed (Enveloped)
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Member Shear Checks Displayed (Enveloped)
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Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	MF-P1	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
2	MF-H1	L3X3X5	Beam	Single Angle	A36 Gr.36	Typical	1.78	1.5	1.5	.06
3	F1-SA1	L3X3X5	Beam	Single Angle	A36 Gr.36	Typical	1.78	1.5	1.5	.06
4	F1-SA2	LL3x3x5x0	Beam	Double Angle (No G...	A36 Gr.36	Typical	3.56	5.65	3	.119
5	F1-S1	HSS4.5X4.5X5	Beam	Tube	A500 Gr.B R...	Typical	4.68	13.5	13.5	22.3
6	MF-P2	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
7	NEW HP	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
8	STABILIZER...	L2.5x2.5x3	Beam	Single Angle	A36 Gr.36	Typical	.901	.535	.535	.011

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N3	N4		270	MF-H1	Beam	Single Angle	A36 Gr.36	Typical
2	M2	N4	N2		270	MF-H1	Beam	Single Angle	A36 Gr.36	Typical
3	M3	N2	N3		270	MF-H1	Beam	Single Angle	A36 Gr.36	Typical
4	M4	N2	N6		180	F1-SA2	Beam	Double Angle (...)	A36 Gr.36	Typical
5	M5	N3	N5		180	F1-SA2	Beam	Double Angle (...)	A36 Gr.36	Typical
6	M6	N4	N7		180	F1-SA2	Beam	Double Angle (...)	A36 Gr.36	Typical
7	M7	N5	N7			F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
8	M8	N6	N5			F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
9	M9	N6	N7		270	F1-SA1	Beam	Single Angle	A36 Gr.36	Typical
10	M10	N10	N8			F1-S1	Beam	Tube	A500 Gr.B...	Typical
11	M11	N9	N10			RIGID	None	None	RIGID	Typical
12	M12	N11	N12			RIGID	None	None	RIGID	Typical
13	M13	N15	N13			F1-S1	Beam	Tube	A500 Gr.B...	Typical
14	M14	N14	N15			RIGID	None	None	RIGID	Typical
15	M15	N16	N17			RIGID	None	None	RIGID	Typical
16	M16	N20	N18			F1-S1	Beam	Tube	A500 Gr.B...	Typical
17	M17	N19	N20			RIGID	None	None	RIGID	Typical
18	M18	N21	N22			RIGID	None	None	RIGID	Typical
19	M19	N23	N24			MF-P1	Column	Pipe	A53 Gr.B	Typical
20	M20	N25	N26			RIGID	None	None	RIGID	Typical
21	M21	N27	N28			MF-P1	Column	Pipe	A53 Gr.B	Typical
22	M22	N29	N30			RIGID	None	None	RIGID	Typical
23	M23	N31	N32			MF-P1	Column	Pipe	A53 Gr.B	Typical
24	M24	N33	N34			RIGID	None	None	RIGID	Typical
25	M25	N35	N36			RIGID	None	None	RIGID	Typical
26	M26	N37	N38			MF-P1	Column	Pipe	A53 Gr.B	Typical
27	M27	N39	N40			RIGID	None	None	RIGID	Typical
28	M28	N41	N42			RIGID	None	None	RIGID	Typical
29	M29	N43	N44			MF-P1	Column	Pipe	A53 Gr.B	Typical
30	M30	N45	N46			RIGID	None	None	RIGID	Typical
31	M31	N47	N48			RIGID	None	None	RIGID	Typical
32	M32	N49	N50			MF-P1	Column	Pipe	A53 Gr.B	Typical
33	M33	N51	N52			MF-P1	Column	Pipe	A53 Gr.B	Typical
34	M34	N53	N54			RIGID	None	None	RIGID	Typical
35	M35	N55	N56			MF-P1	Column	Pipe	A53 Gr.B	Typical
36	M36	N57	N58			RIGID	None	None	RIGID	Typical
37	M37	N59	N60			MF-P1	Column	Pipe	A53 Gr.B	Typical
38	M38	N61	N62			RIGID	None	None	RIGID	Typical
39	M39	N63	N64			RIGID	None	None	RIGID	Typical
40	M41	N67	N68			RIGID	None	None	RIGID	Typical
41	M42	N69	N70			RIGID	None	None	RIGID	Typical
42	M43	N71	N72			MF-P1	Column	Pipe	A53 Gr.B	Typical
43	M44	N73	N74			RIGID	None	None	RIGID	Typical



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 Designer : SR
 Job Number : 140134.004.01
 Model Name : 876371 - Walden / Carolyn Besade

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Member Primary Data (Continued)

Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
44	M45	N75	N76		RIGID	None	None	RIGID	Typical
45	M46	N77	N78		MF-P1	Column	Pipe	A53 Gr.B	Typical
46	M47	N79	N80		MF-P1	Column	Pipe	A53 Gr.B	Typical
47	M48	N81	N82		RIGID	None	None	RIGID	Typical
48	M49	N83	N84		MF-P1	Column	Pipe	A53 Gr.B	Typical
49	M50	N85	N86		RIGID	None	None	RIGID	Typical
50	M51	N87	N88		MF-P1	Column	Pipe	A53 Gr.B	Typical
51	M52	N89	N90		RIGID	None	None	RIGID	Typical
52	M53	N91	N92		RIGID	None	None	RIGID	Typical
53	M55	N95	N96		RIGID	None	None	RIGID	Typical
54	M56	N97	N98		RIGID	None	None	RIGID	Typical
55	M57	N99	N100		MF-P1	Column	Pipe	A53 Gr.B	Typical
56	M58	N101	N102		RIGID	None	None	RIGID	Typical
57	M59	N103	N104		RIGID	None	None	RIGID	Typical
58	M60	N105	N106		MF-P1	Column	Pipe	A53 Gr.B	Typical
59	M61	N107	N109		MF-P1	Column	Pipe	A53 Gr.B	Typical
60	M62	N108	N109		RIGID	None	None	RIGID	Typical
61	M63	N110	N111		MF-P1	Column	Pipe	A53 Gr.B	Typical
62	M64	N112	N113		MF-P1	Column	Pipe	A53 Gr.B	Typical
63	M1_1	N2_1	N3_1		MF-P2	Column	Pipe	A53 Gr.B	Typical
64	M2_1	N5_1	N6_1		MF-P2	Column	Pipe	A53 Gr.B	Typical
65	M3_1	N8_1	N9_1		MF-P2	Column	Pipe	A53 Gr.B	Typical
66	M4_1	N11_1	N12_1		CF1	Column	CS	A653 SS ...	Typical
67	M5_1	N13_1	N14_1		CF1	Column	CS	A653 SS ...	Typical
68	M6_1	N15_1	N16_1		RIGID	None	None	RIGID	Typical
69	M7_1	N17_1	N18_1		RIGID	None	None	RIGID	Typical
70	M8_1	N19_1	N20_1		CF1	Column	CS	A653 SS ...	Typical
71	M9_1	N21_1	N22_1		CF1	Column	CS	A653 SS ...	Typical
72	M10_1	N23_1	N24_1		RIGID	None	None	RIGID	Typical
73	M11_1	N25_1	N26_1		RIGID	None	None	RIGID	Typical
74	M12_1	N27_1	N28_1		CF1	Column	CS	A653 SS ...	Typical
75	M13_1	N29_1	N30_1		CF1	Column	CS	A653 SS ...	Typical
76	M14_1	N31_1	N32_1		RIGID	None	None	RIGID	Typical
77	M15_1	N33_1	N34_1		RIGID	None	None	RIGID	Typical
78	M78	N150	N151		RIGID	None	None	RIGID	Typical
79	M79	N144	N149		RIGID	None	None	RIGID	Typical
80	M80	N147	N148		RIGID	None	None	RIGID	Typical
81	M81	N152	N153		RIGID	None	None	RIGID	Typical
82	M82	N154	N155		RIGID	None	None	RIGID	Typical
83	M83	N146	N145		RIGID	None	None	RIGID	Typical
84	M84	N156	N157	270	NEW HP	Beam	Pipe	A53 Gr.B	Typical
85	M85	N158	N159		RIGID	None	None	RIGID	Typical
86	M86	N160	N161		RIGID	None	None	RIGID	Typical
87	M87	N162	N163		RIGID	None	None	RIGID	Typical
88	M88	N164	N165		RIGID	None	None	RIGID	Typical
89	M89	N166A	N167	270	NEW HP	Beam	Pipe	A53 Gr.B	Typical
90	M90	N168	N169		RIGID	None	None	RIGID	Typical
91	M91	N170	N171		RIGID	None	None	RIGID	Typical
92	M92	N172	N173		RIGID	None	None	RIGID	Typical
93	M93	N174	N175		RIGID	None	None	RIGID	Typical
94	M94	N176	N177	270	NEW HP	Beam	Pipe	A53 Gr.B	Typical
95	M95	N178	N179		RIGID	None	None	RIGID	Typical
96	M96	N180	N181		RIGID	None	None	RIGID	Typical
97	M97	N182	N183		RIGID	None	None	RIGID	Typical
98	M98	N184	N185		RIGID	None	None	RIGID	Typical
99	M99	N189	N195	90	STABILIZER K...	Beam	Single Angle	A36 Gr.36	Typical
100	M100	N190	N195	180	STABILIZER K...	Beam	Single Angle	A36 Gr.36	Typical



Company : B+T Group
 Designer : SR
 Job Number : 140134.004.01
 Model Name : 876371 - Walden / Carolyn Besade

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Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
101	M101	N196	N198		90	STABILIZER K..	Beam	Single Angle	A36 Gr.36	Typical
102	M102	N197	N198		180	STABILIZER K..	Beam	Single Angle	A36 Gr.36	Typical
103	M103	N199	N201		90	STABILIZER K..	Beam	Single Angle	A36 Gr.36	Typical
104	M104	N200	N201		180	STABILIZER K..	Beam	Single Angle	A36 Gr.36	Typical

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Grav...	Joint	Point	Distribut...	Area(Me...	Surface(...
1	Dead	DL		-1			85		3	
2	0 Wind - No Ice	WLZ					86	43		
3	90 Wind - No Ice	WLX					85	43		
4	0 Wind - Ice	WLZ					85	43		
5	90 Wind - Ice	WLX					85	43		
6	0 Wind - Service	WLZ					86	43		
7	90 Wind - Service	WLX					85	43		
8	Ice	OL1					85	43	3	
9	0 Seismic	ELZ					84	43		
10	90 Seismic	ELX					84	43		
11	Live Load a	LL				3				
12	Live Load b	LL				3				
13	Live Load c	LL				3				
14	Live Load d	LL				3				
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	Maint LL 10	LL								
25	Maint LL 11	LL								
26	Maint LL 12	LL								
27	BLC 1 Transient Ar...	None						34		
28	BLC 8 Transient Ar...	None						34		

Load Combinations

	Description	S...	PDelta	S...B...Factor	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...
1	1.4 Dead	Y...	Y	1	1.4									
2	1.2 D + 1.0 - 0 W	Y...	Y	1	1.2	2	1							
3	1.2 D + 1.0 - 30 W	Y...	Y	1	1.2	2	.8...	3	.5					
4	1.2 D + 1.0 - 60 W	Y...	Y	1	1.2	3	.8...	2	.5					
5	1.2 D + 1.0 - 90 W	Y...	Y	1	1.2	3	1							
6	1.2 D + 1.0 - 120 W	Y...	Y	1	1.2	3	.8...	2	-.5					
7	1.2 D + 1.0 - 150 W	Y...	Y	1	1.2	2	-.8...	3	.5					
8	1.2 D + 1.0 - 180 W	Y...	Y	1	1.2	2	-1							
9	1.2 D + 1.0 - 210 W	Y...	Y	1	1.2	2	-.8...	3	-.5					
10	1.2 D + 1.0 - 240 W	Y...	Y	1	1.2	3	-.8...	2	-.5					
11	1.2 D + 1.0 - 270 W	Y...	Y	1	1.2	3	-1							
12	1.2 D + 1.0 - 300 W	Y...	Y	1	1.2	3	-.8...	2	.5					
13	1.2 D + 1.0 - 330 W	Y...	Y	1	1.2	2	.8...	3	-.5					
14	1.2 D + 1.0 - 0 W/Ice	Y...	Y	1	1.2	4	1		8	1				
15	1.2 D + 1.0 - 30 W/Ice	Y...	Y	1	1.2	4	.8...	5	.5	8	1			
16	1.2 D + 1.0 - 60 W/Ice	Y...	Y	1	1.2	5	.8...	4	.5	8	1			



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Load Combinations (Continued)

Description	S...	PDelta	S...B...	Factor	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...	B...F...
17	1.2 D + 1.0 - 90 W/Ice	Y...	Y	1	1.2	5	1			8	1				
18	1.2 D + 1.0 - 120 W/Ice	Y...	Y	1	1.2	5	.8...	4	-.5	8	1				
19	1.2 D + 1.0 - 150 W/Ice	Y...	Y	1	1.2	4	----	5	.5	8	1				
20	1.2 D + 1.0 - 180 W/Ice	Y...	Y	1	1.2	4	-1			8	1				
21	1.2 D + 1.0 - 210 W/Ice	Y...	Y	1	1.2	4	----	5	-.5	8	1				
22	1.2 D + 1.0 - 240 W/Ice	Y...	Y	1	1.2	5	----	4	-.5	8	1				
23	1.2 D + 1.0 - 270 W/Ice	Y...	Y	1	1.2	5	-1			8	1				
24	1.2 D + 1.0 - 300 W/Ice	Y...	Y	1	1.2	5	----	4	.5	8	1				
25	1.2 D + 1.0 - 330 W/Ice	Y...	Y	1	1.2	4	.8...	5	-.5	8	1				
26	1.2 D + 1.0 E - 0	Y...	Y	1	1.2	9	1								
27	1.2 D + 1.0 E - 30	Y...	Y	1	1.2	9	.8...	10	.5						
28	1.2 D + 1.0 E - 60	Y...	Y	1	1.2	10	.8...	9	.5						
29	1.2 D + 1.0 E - 90	Y...	Y	1	1.2	10	1								
30	1.2 D + 1.0 E - 120	Y...	Y	1	1.2	10	.8...	9	-.5						
31	1.2 D + 1.0 E - 150	Y...	Y	1	1.2	9	----	10	.5						
32	1.2 D + 1.0 E - 180	Y...	Y	1	1.2	9	-1								
33	1.2 D + 1.0 E - 210	Y...	Y	1	1.2	9	----	10	-.5						
34	1.2 D + 1.0 E - 240	Y...	Y	1	1.2	10	----	9	-.5						
35	1.2 D + 1.0 E - 270	Y...	Y	1	1.2	10	-1								
36	1.2 D + 1.0 E - 300	Y...	Y	1	1.2	10	----	9	.5						
37	1.2 D + 1.0 E - 330	Y...	Y	1	1.2	9	.8...	10	-.5						
38	1.2 D + 1.5 LL a + Service - 0 W	Y...	Y	1	1.2	6	1			11	1.5				
39	1.2 D + 1.5 LL a + Service - 30 W	Y...	Y	1	1.2	6	.8...	7	.5	11	1.5				
40	1.2 D + 1.5 LL a + Service - 60 W	Y...	Y	1	1.2	7	.8...	6	.5	11	1.5				
41	1.2 D + 1.5 LL a + Service - 90 W	Y...	Y	1	1.2	7	1			11	1.5				
42	1.2 D + 1.5 LL a + Service - 120 W	Y...	Y	1	1.2	7	.8...	6	-.5	11	1.5				
43	1.2 D + 1.5 LL a + Service - 150 W	Y...	Y	1	1.2	6	----	7	.5	11	1.5				
44	1.2 D + 1.5 LL a + Service - 180 W	Y...	Y	1	1.2	6	-1			11	1.5				
45	1.2 D + 1.5 LL a + Service - 210 W	Y...	Y	1	1.2	6	----	7	-.5	11	1.5				
46	1.2 D + 1.5 LL a + Service - 240 W	Y...	Y	1	1.2	7	----	6	-.5	11	1.5				
47	1.2 D + 1.5 LL a + Service - 270 W	Y...	Y	1	1.2	7	-1			11	1.5				
48	1.2 D + 1.5 LL a + Service - 300 W	Y...	Y	1	1.2	7	----	6	.5	11	1.5				
49	1.2 D + 1.5 LL a + Service - 330 W	Y...	Y	1	1.2	6	.8...	7	-.5	11	1.5				
50	1.2 D + 1.5 LL b + Service - 0 W	Y...	Y	1	1.2	6	1			12	1.5				
51	1.2 D + 1.5 LL b + Service - 30 W	Y...	Y	1	1.2	6	.8...	7	.5	12	1.5				
52	1.2 D + 1.5 LL b + Service - 60 W	Y...	Y	1	1.2	7	.8...	6	.5	12	1.5				
53	1.2 D + 1.5 LL b + Service - 90 W	Y...	Y	1	1.2	7	1			12	1.5				
54	1.2 D + 1.5 LL b + Service - 120 W	Y...	Y	1	1.2	7	.8...	6	-.5	12	1.5				
55	1.2 D + 1.5 LL b + Service - 150 W	Y...	Y	1	1.2	6	----	7	.5	12	1.5				
56	1.2 D + 1.5 LL b + Service - 180 W	Y...	Y	1	1.2	6	-1			12	1.5				
57	1.2 D + 1.5 LL b + Service - 210 W	Y...	Y	1	1.2	6	----	7	-.5	12	1.5				
58	1.2 D + 1.5 LL b + Service - 240 W	Y...	Y	1	1.2	7	----	6	-.5	12	1.5				
59	1.2 D + 1.5 LL b + Service - 270 W	Y...	Y	1	1.2	7	-1			12	1.5				
60	1.2 D + 1.5 LL b + Service - 300 W	Y...	Y	1	1.2	7	----	6	.5	12	1.5				
61	1.2 D + 1.5 LL b + Service - 330 W	Y...	Y	1	1.2	6	.8...	7	-.5	12	1.5				
62	1.2 D + 1.5 LL c + Service - 0 W	Y...	Y	1	1.2	6	1			13	1.5				
63	1.2 D + 1.5 LL c + Service - 30 W	Y...	Y	1	1.2	6	.8...	7	.5	13	1.5				
64	1.2 D + 1.5 LL c + Service - 60 W	Y...	Y	1	1.2	7	.8...	6	.5	13	1.5				
65	1.2 D + 1.5 LL c + Service - 90 W	Y...	Y	1	1.2	7	1			13	1.5				
66	1.2 D + 1.5 LL c + Service - 120 W	Y...	Y	1	1.2	7	.8...	6	-.5	13	1.5				
67	1.2 D + 1.5 LL c + Service - 150 W	Y...	Y	1	1.2	6	----	7	.5	13	1.5				
68	1.2 D + 1.5 LL c + Service - 180 W	Y...	Y	1	1.2	6	-1			13	1.5				
69	1.2 D + 1.5 LL c + Service - 210 W	Y...	Y	1	1.2	6	----	7	-.5	13	1.5				
70	1.2 D + 1.5 LL c + Service - 240 W	Y...	Y	1	1.2	7	----	6	-.5	13	1.5				
71	1.2 D + 1.5 LL c + Service - 270 W	Y...	Y	1	1.2	7	-1			13	1.5				
72	1.2 D + 1.5 LL c + Service - 300 W	Y...	Y	1	1.2	7	----	6	.5	13	1.5				
73	1.2 D + 1.5 LL c + Service - 330 W	Y...	Y	1	1.2	6	.8...	7	-.5	13	1.5				



Load Combinations (Continued)

Description	S...	PDelta	S...	B...	Factor	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...	B...	F...
74	1.2 D + 1.5 LL d + Service - 0 W	Y...	Y	1	1.2	6	1										14 1.5
75	1.2 D + 1.5 LL d + Service - 30 W	Y...	Y	1	1.2	6	.8...	7	.5								14 1.5
76	1.2 D + 1.5 LL d + Service - 60 W	Y...	Y	1	1.2	7	.8...	6	.5								14 1.5
77	1.2 D + 1.5 LL d + Service - 90 W	Y...	Y	1	1.2	7	1										14 1.5
78	1.2 D + 1.5 LL d + Service - 120 W	Y...	Y	1	1.2	7	.8...	6	-.5								14 1.5
79	1.2 D + 1.5 LL d + Service - 150 W	Y...	Y	1	1.2	6	----	7	.5								14 1.5
80	1.2 D + 1.5 LL d + Service - 180 W	Y...	Y	1	1.2	6	-1										14 1.5
81	1.2 D + 1.5 LL d + Service - 210 W	Y...	Y	1	1.2	6	----	7	-.5								14 1.5
82	1.2 D + 1.5 LL d + Service - 240 W	Y...	Y	1	1.2	7	----	6	-.5								14 1.5
83	1.2 D + 1.5 LL d + Service - 270 W	Y...	Y	1	1.2	7	-1										14 1.5
84	1.2 D + 1.5 LL d + Service - 300 W	Y...	Y	1	1.2	7	----	6	.5								14 1.5
85	1.2 D + 1.5 LL d + Service - 330 W	Y...	Y	1	1.2	6	.8...	7	-.5								14 1.5
86	1.2 D + 1.5 LL Maint (1)	Y...	Y	1	1.2												15 1.5
87	1.2 D + 1.5 LL Maint (2)	Y...	Y	1	1.2												16 1.5
88	1.2 D + 1.5 LL Maint (3)	Y...	Y	1	1.2												17 1.5
89	1.2 D + 1.5 LL Maint (4)	Y...	Y	1	1.2												18 1.5
90	1.2 D + 1.5 LL Maint (5)	Y...	Y	1	1.2												19 1.5
91	1.2 D + 1.5 LL Maint (6)	Y...	Y	1	1.2												20 1.5
92	1.2 D + 1.5 LL Maint (7)	Y...	Y	1	1.2												21 1.5
93	1.2 D + 1.5 LL Maint (8)	Y...	Y	1	1.2												22 1.5
94	1.2 D + 1.5 LL Maint (9)	Y...	Y	1	1.2												23 1.5
95	1.2 D + 1.5 LL Maint (10)	Y...	Y	1	1.2												24 1.5
96	1.2 D + 1.5 LL Maint (11)	Y...	Y	1	1.2												25 1.5
97	1.2 D + 1.5 LL Maint (12)	Y...	Y	1	1.2												26 1.5

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M29	Y	-.018	%5
2	M29	Y	-.018	%90
3	M29	Y	-.014	%50
4	M29	Y	0	0
5	M29	Y	0	0
6	M32	Y	-.036	%25
7	M32	Y	-.036	%75
8	M32	Y	0	0
9	M32	Y	0	0
10	M32	Y	0	0
11	M26	Y	-.048	%5
12	M26	Y	-.048	%80
13	M26	Y	0	0
14	M26	Y	0	0
15	M26	Y	0	0
16	M61	Y	-.033	%20
17	M61	Y	0	0
18	M61	Y	0	0
19	M61	Y	0	0
20	M61	Y	0	0
21	M10	Y	-.026	%90
22	M10	Y	0	0
23	M10	Y	0	0
24	M10	Y	0	0
25	M10	Y	0	0
26	M57	Y	-.018	%5
27	M57	Y	-.018	%90
28	M57	Y	-.014	%50



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
29	M57	Y	0	0
30	M57	Y	0	0
31	M60	Y	-0.036	%25
32	M60	Y	-0.036	%75
33	M60	Y	0	0
34	M60	Y	0	0
35	M60	Y	0	0
36	M64	Y	-0.048	%5
37	M64	Y	-0.048	%80
38	M64	Y	0	0
39	M64	Y	0	0
40	M64	Y	0	0
41	M43	Y	-0.018	%5
42	M43	Y	-0.018	%90
43	M43	Y	-0.014	%50
44	M43	Y	0	0
45	M43	Y	0	0
46	M46	Y	-0.036	%25
47	M46	Y	-0.036	%75
48	M46	Y	0	0
49	M46	Y	0	0
50	M46	Y	0	0
51	M63	Y	-0.048	%5
52	M63	Y	-0.048	%80
53	M63	Y	0	0
54	M63	Y	0	0
55	M63	Y	0	0
56	M19	Y	-0.071	%20
57	M19	Y	0	0
58	M19	Y	0	0
59	M19	Y	0	0
60	M19	Y	0	0
61	M47	Y	-0.071	%20
62	M47	Y	0	0
63	M47	Y	0	0
64	M47	Y	0	0
65	M47	Y	0	0
66	M33	Y	-0.071	%20
67	M33	Y	0	0
68	M33	Y	0	0
69	M33	Y	0	0
70	M33	Y	0	0
71	M79	Y	-0.073	%50
72	M79	Y	0	0
73	M79	Y	0	0
74	M79	Y	0	0
75	M79	Y	0	0
76	M80	Y	-0.073	%50
77	M80	Y	0	0
78	M80	Y	0	0
79	M80	Y	0	0
80	M80	Y	0	0
81	M83	Y	-0.073	%50
82	M83	Y	0	0
83	M83	Y	0	0
84	M83	Y	0	0
85	M83	Y	0	0



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M29	Z	-.101	%5
2	M29	Z	-.101	%90
3	M29	Z	-.04	%50
4	M29	Z	0	0
5	M29	Z	0	0
6	M32	Z	-.249	%25
7	M32	Z	-.249	%75
8	M32	Z	0	0
9	M32	Z	0	0
10	M32	Z	0	0
11	M26	Z	-.326	%5
12	M26	Z	-.326	%80
13	M26	Z	0	0
14	M26	Z	0	0
15	M26	Z	0	0
16	M61	Z	-.044	%20
17	M61	Z	0	0
18	M61	Z	0	0
19	M61	Z	0	0
20	M61	Z	0	0
21	M10	Z	-.1	%90
22	M10	Z	0	0
23	M10	Z	0	0
24	M10	Z	0	0
25	M10	Z	0	0
26	M57	Z	-.101	%5
27	M57	Z	-.101	%90
28	M57	Z	-.04	%50
29	M57	Z	0	0
30	M57	Z	0	0
31	M60	Z	-.249	%25
32	M60	Z	-.249	%75
33	M60	Z	0	0
34	M60	Z	0	0
35	M60	Z	0	0
36	M64	Z	-.326	%5
37	M64	Z	-.326	%80
38	M64	Z	0	0
39	M64	Z	0	0
40	M64	Z	0	0
41	M43	Z	-.101	%5
42	M43	Z	-.101	%90
43	M43	Z	-.04	%50
44	M43	Z	0	0
45	M43	Z	0	0
46	M46	Z	-.249	%25
47	M46	Z	-.249	%75
48	M46	Z	0	0
49	M46	Z	0	0
50	M46	Z	0	0
51	M63	Z	-.326	%5
52	M63	Z	-.326	%80
53	M63	Z	0	0
54	M63	Z	0	0
55	M63	Z	0	0
56	M19	Z	-.072	%20
57	M19	Z	0	0



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
58	M19	Z	0	0
59	M19	Z	0	0
60	M19	Z	0	0
61	M47	Z	-0.072	%20
62	M47	Z	0	0
63	M47	Z	0	0
64	M47	Z	0	0
65	M47	Z	0	0
66	M33	Z	-0.072	%20
67	M33	Z	0	0
68	M33	Z	0	0
69	M33	Z	0	0
70	M33	Z	0	0
71	M79	Z	-0.102	%50
72	M79	Z	0	0
73	M79	Z	0	0
74	M79	Z	0	0
75	M79	Z	0	0
76	M80	Z	-0.102	%50
77	M80	Z	0	0
78	M80	Z	0	0
79	M80	Z	0	0
80	M80	Z	0	0
81	M83	Z	-0.102	%50
82	M83	Z	0	0
83	M83	Z	0	0
84	M83	Z	0	0
85	M83	Z	0	0
86	M82	Z	0	0

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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M29	X	-0.046	%5
2	M29	X	-0.046	%90
3	M29	X	-0.11	%50
4	M29	X	0	0
5	M29	X	0	0
6	M32	X	-0.128	%25
7	M32	X	-0.128	%75
8	M32	X	0	0
9	M32	X	0	0
10	M32	X	0	0
11	M26	X	-0.121	%5
12	M26	X	-0.121	%80
13	M26	X	0	0
14	M26	X	0	0
15	M26	X	0	0
16	M61	X	-0.044	%20
17	M61	X	0	0
18	M61	X	0	0
19	M61	X	0	0
20	M61	X	0	0
21	M10	X	-0.1	%90
22	M10	X	0	0
23	M10	X	0	0
24	M10	X	0	0



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
25	M10	X	0	0
26	M57	X	-.046	%5
27	M57	X	-.046	%90
28	M57	X	-.011	%50
29	M57	X	0	0
30	M57	X	0	0
31	M60	X	-.128	%25
32	M60	X	-.128	%75
33	M60	X	0	0
34	M60	X	0	0
35	M60	X	0	0
36	M64	X	-.121	%5
37	M64	X	-.121	%80
38	M64	X	0	0
39	M64	X	0	0
40	M64	X	0	0
41	M43	X	-.046	%5
42	M43	X	-.046	%90
43	M43	X	-.011	%50
44	M43	X	0	0
45	M43	X	0	0
46	M46	X	-.128	%25
47	M46	X	-.128	%75
48	M46	X	0	0
49	M46	X	0	0
50	M46	X	0	0
51	M63	X	-.121	%5
52	M63	X	-.121	%80
53	M63	X	0	0
54	M63	X	0	0
55	M63	X	0	0
56	M19	X	-.051	%20
57	M19	X	0	0
58	M19	X	0	0
59	M19	X	0	0
60	M19	X	0	0
61	M47	X	-.051	%20
62	M47	X	0	0
63	M47	X	0	0
64	M47	X	0	0
65	M47	X	0	0
66	M33	X	-.051	%20
67	M33	X	0	0
68	M33	X	0	0
69	M33	X	0	0
70	M33	X	0	0
71	M79	X	-.063	%50
72	M79	X	0	0
73	M79	X	0	0
74	M79	X	0	0
75	M79	X	0	0
76	M80	X	-.063	%50
77	M80	X	0	0
78	M80	X	0	0
79	M80	X	0	0
80	M80	X	0	0
81	M83	X	-.063	%50



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
82	M83	X	0	0
83	M83	X	0	0
84	M83	X	0	0
85	M83	X	0	0

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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M29	Z	-.016	%5
2	M29	Z	-.016	%90
3	M29	Z	-.006	%50
4	M29	Z	0	0
5	M29	Z	0	0
6	M32	Z	-.007	%25
7	M32	Z	-.047	%75
8	M32	Z	0	0
9	M32	Z	0	0
10	M32	Z	0	0
11	M26	Z	-.053	%5
12	M26	Z	-.053	%80
13	M26	Z	0	0
14	M26	Z	0	0
15	M26	Z	0	0
16	M61	Z	-.007	%20
17	M61	Z	0	0
18	M61	Z	0	0
19	M61	Z	0	0
20	M61	Z	0	0
21	M10	Z	-.016	%90
22	M10	Z	0	0
23	M10	Z	0	0
24	M10	Z	0	0
25	M10	Z	0	0
26	M57	Z	-.016	%5
27	M57	Z	-.016	%90
28	M57	Z	-.006	%50
29	M57	Z	0	0
30	M57	Z	0	0
31	M60	Z	-.047	%25
32	M60	Z	-.007	%75
33	M60	Z	0	0
34	M60	Z	0	0
35	M60	Z	0	0
36	M64	Z	-.053	%5
37	M64	Z	-.053	%80
38	M64	Z	0	0
39	M64	Z	0	0
40	M64	Z	0	0
41	M43	Z	-.016	%5
42	M43	Z	-.016	%90
43	M43	Z	-.006	%50
44	M43	Z	0	0
45	M43	Z	0	0
46	M46	Z	-.007	%25
47	M46	Z	-.047	%75
48	M46	Z	0	0
49	M46	Z	0	0



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
50	M46	Z	0	0
51	M63	Z	-.053	%5
52	M63	Z	-.053	%80
53	M63	Z	0	0
54	M63	Z	0	0
55	M63	Z	0	0
56	M19	Z	-.012	%20
57	M19	Z	0	0
58	M19	Z	0	0
59	M19	Z	0	0
60	M19	Z	0	0
61	M47	Z	-.012	%20
62	M47	Z	0	0
63	M47	Z	0	0
64	M47	Z	0	0
65	M47	Z	0	0
66	M33	Z	-.012	%20
67	M33	Z	0	0
68	M33	Z	0	0
69	M33	Z	0	0
70	M33	Z	0	0
71	M79	Z	-.017	%50
72	M79	Z	0	0
73	M79	Z	0	0
74	M79	Z	0	0
75	M79	Z	0	0
76	M80	Z	-.017	%50
77	M80	Z	0	0
78	M80	Z	0	0
79	M80	Z	0	0
80	M80	Z	0	0
81	M83	Z	-.017	%50
82	M83	Z	0	0
83	M83	Z	0	0
84	M83	Z	0	0
85	M83	Z	0	0

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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft. %]
1	M29	X	-.007	%5
2	M29	X	-.007	%90
3	M29	X	-.002	%50
4	M29	X	0	0
5	M29	X	0	0
6	M32	X	-.007	%25
7	M32	X	-.027	%75
8	M32	X	0	0
9	M32	X	0	0
10	M32	X	0	0
11	M26	X	-.02	%5
12	M26	X	-.02	%80
13	M26	X	0	0
14	M26	X	0	0
15	M26	X	0	0
16	M61	X	-.007	%20
17	M61	X	0	0



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft,%]
18	M61	X	0	0
19	M61	X	0	0
20	M61	X	0	0
21	M10	X	-.016	%90
22	M10	X	0	0
23	M10	X	0	0
24	M10	X	0	0
25	M10	X	0	0
26	M57	X	-.007	%5
27	M57	X	-.007	%90
28	M57	X	-.002	%50
29	M57	X	0	0
30	M57	X	0	0
31	M60	X	-.027	%25
32	M60	X	-.007	%75
33	M60	X	0	0
34	M60	X	0	0
35	M60	X	0	0
36	M64	X	-.02	%5
37	M64	X	-.02	%80
38	M64	X	0	0
39	M64	X	0	0
40	M64	X	0	0
41	M43	X	-.007	%5
42	M43	X	-.007	%90
43	M43	X	-.002	%50
44	M43	X	0	0
45	M43	X	0	0
46	M46	X	-.007	%25
47	M46	X	-.027	%75
48	M46	X	0	0
49	M46	X	0	0
50	M46	X	0	0
51	M63	X	-.02	%5
52	M63	X	-.02	%80
53	M63	X	0	0
54	M63	X	0	0
55	M63	X	0	0
56	M19	X	-.008	%20
57	M19	X	0	0
58	M19	X	0	0
59	M19	X	0	0
60	M19	X	0	0
61	M47	X	-.008	%20
62	M47	X	0	0
63	M47	X	0	0
64	M47	X	0	0
65	M47	X	0	0
66	M33	X	-.008	%20
67	M33	X	0	0
68	M33	X	0	0
69	M33	X	0	0
70	M33	X	0	0
71	M79	X	-.01	%50
72	M79	X	0	0
73	M79	X	0	0
74	M79	X	0	0



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
75	M79	X	0	0
76	M80	X	-.01	%50
77	M80	X	0	0
78	M80	X	0	0
79	M80	X	0	0
80	M80	X	0	0
81	M83	X	-.01	%50
82	M83	X	0	0
83	M83	X	0	0
84	M83	X	0	0
85	M83	X	0	0

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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M29	Z	-.006	%5
2	M29	Z	-.006	%90
3	M29	Z	-.002	%50
4	M29	Z	0	0
5	M29	Z	0	0
6	M32	Z	-.015	%25
7	M32	Z	-.015	%75
8	M32	Z	0	0
9	M32	Z	0	0
10	M32	Z	0	0
11	M26	Z	-.019	%5
12	M26	Z	-.019	%80
13	M26	Z	0	0
14	M26	Z	0	0
15	M26	Z	0	0
16	M61	Z	-.003	%20
17	M61	Z	0	0
18	M61	Z	0	0
19	M61	Z	0	0
20	M61	Z	0	0
21	M10	Z	-.006	%90
22	M10	Z	0	0
23	M10	Z	0	0
24	M10	Z	0	0
25	M10	Z	0	0
26	M57	Z	-.006	%5
27	M57	Z	-.006	%90
28	M57	Z	-.002	%50
29	M57	Z	0	0
30	M57	Z	0	0
31	M60	Z	-.015	%25
32	M60	Z	-.015	%75
33	M60	Z	0	0
34	M60	Z	0	0
35	M60	Z	0	0
36	M64	Z	-.019	%5
37	M64	Z	-.019	%80
38	M64	Z	0	0
39	M64	Z	0	0
40	M64	Z	0	0
41	M43	Z	-.006	%5
42	M43	Z	-.006	%90



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
43	M43	Z	-.002	%50
44	M43	Z	0	0
45	M43	Z	0	0
46	M46	Z	-.015	%25
47	M46	Z	-.015	%75
48	M46	Z	0	0
49	M46	Z	0	0
50	M46	Z	0	0
51	M63	Z	-.019	%5
52	M63	Z	-.019	%80
53	M63	Z	0	0
54	M63	Z	0	0
55	M63	Z	0	0
56	M19	Z	-.004	%20
57	M19	Z	0	0
58	M19	Z	0	0
59	M19	Z	0	0
60	M19	Z	0	0
61	M47	Z	-.004	%20
62	M47	Z	0	0
63	M47	Z	0	0
64	M47	Z	0	0
65	M47	Z	0	0
66	M33	Z	-.004	%20
67	M33	Z	0	0
68	M33	Z	0	0
69	M33	Z	0	0
70	M33	Z	0	0
71	M79	Z	-.006	%50
72	M79	Z	0	0
73	M79	Z	0	0
74	M79	Z	0	0
75	M79	Z	0	0
76	M80	Z	-.006	%50
77	M80	Z	0	0
78	M80	Z	0	0
79	M80	Z	0	0
80	M80	Z	0	0
81	M83	Z	-.006	%50
82	M83	Z	0	0
83	M83	Z	0	0
84	M83	Z	0	0
85	M83	Z	0	0
86	M82	Z	0	0

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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M29	X	-.003	%5
2	M29	X	-.003	%90
3	M29	X	-.0007	%50
4	M29	X	0	0
5	M29	X	0	0
6	M32	X	-.007	%25
7	M32	X	-.007	%75
8	M32	X	0	0
9	M32	X	0	0



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft,%]
10	M32	X	0	0
11	M26	X	-0.007	%5
12	M26	X	-0.007	%80
13	M26	X	0	0
14	M26	X	0	0
15	M26	X	0	0
16	M61	X	-0.003	%20
17	M61	X	0	0
18	M61	X	0	0
19	M61	X	0	0
20	M61	X	0	0
21	M10	X	-0.006	%90
22	M10	X	0	0
23	M10	X	0	0
24	M10	X	0	0
25	M10	X	0	0
26	M57	X	-0.003	%5
27	M57	X	-0.003	%90
28	M57	X	-0.0007	%50
29	M57	X	0	0
30	M57	X	0	0
31	M60	X	-0.007	%25
32	M60	X	-0.007	%75
33	M60	X	0	0
34	M60	X	0	0
35	M60	X	0	0
36	M64	X	-0.007	%5
37	M64	X	-0.007	%80
38	M64	X	0	0
39	M64	X	0	0
40	M64	X	0	0
41	M43	X	-0.003	%5
42	M43	X	-0.003	%90
43	M43	X	-0.0007	%50
44	M43	X	0	0
45	M43	X	0	0
46	M46	X	-0.007	%25
47	M46	X	-0.007	%75
48	M46	X	0	0
49	M46	X	0	0
50	M46	X	0	0
51	M63	X	-0.007	%5
52	M63	X	-0.007	%80
53	M63	X	0	0
54	M63	X	0	0
55	M63	X	0	0
56	M19	X	-0.003	%20
57	M19	X	0	0
58	M19	X	0	0
59	M19	X	0	0
60	M19	X	0	0
61	M47	X	-0.003	%20
62	M47	X	0	0
63	M47	X	0	0
64	M47	X	0	0
65	M47	X	0	0
66	M33	X	-0.003	%20



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
67	M33	X	0	0
68	M33	X	0	0
69	M33	X	0	0
70	M33	X	0	0
71	M79	X	-0.04	%50
72	M79	X	0	0
73	M79	X	0	0
74	M79	X	0	0
75	M79	X	0	0
76	M80	X	-0.04	%50
77	M80	X	0	0
78	M80	X	0	0
79	M80	X	0	0
80	M80	X	0	0
81	M83	X	-0.04	%50
82	M83	X	0	0
83	M83	X	0	0
84	M83	X	0	0
85	M83	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M29	Y	-0.043	%5
2	M29	Y	-0.043	%90
3	M29	Y	-0.18	%50
4	M29	Y	0	0
5	M29	Y	0	0
6	M32	Y	-0.001	%25
7	M32	Y	-0.114	%75
8	M32	Y	0	0
9	M32	Y	0	0
10	M32	Y	0	0
11	M26	Y	-0.132	%5
12	M26	Y	-0.132	%80
13	M26	Y	0	0
14	M26	Y	0	0
15	M26	Y	0	0
16	M61	Y	-0.045	%20
17	M61	Y	0	0
18	M61	Y	0	0
19	M61	Y	0	0
20	M61	Y	0	0
21	M10	Y	-0.058	%90
22	M10	Y	0	0
23	M10	Y	0	0
24	M10	Y	0	0
25	M10	Y	0	0
26	M57	Y	-0.043	%5
27	M57	Y	-0.043	%90
28	M57	Y	-0.18	%50
29	M57	Y	0	0
30	M57	Y	0	0
31	M60	Y	-0.114	%25
32	M60	Y	-0.001	%75
33	M60	Y	0	0
34	M60	Y	0	0



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
35	M60	Y	0	0
36	M64	Y	-.132	%5
37	M64	Y	-.132	%80
38	M64	Y	0	0
39	M64	Y	0	0
40	M64	Y	0	0
41	M43	Y	-.043	%5
42	M43	Y	-.043	%90
43	M43	Y	-.018	%50
44	M43	Y	0	0
45	M43	Y	0	0
46	M46	Y	-.001	%25
47	M46	Y	-.114	%75
48	M46	Y	0	0
49	M46	Y	0	0
50	M46	Y	0	0
51	M63	Y	-.132	%5
52	M63	Y	-.132	%80
53	M63	Y	0	0
54	M63	Y	0	0
55	M63	Y	0	0
56	M19	Y	-.037	%20
57	M19	Y	0	0
58	M19	Y	0	0
59	M19	Y	0	0
60	M19	Y	0	0
61	M47	Y	-.037	%20
62	M47	Y	0	0
63	M47	Y	0	0
64	M47	Y	0	0
65	M47	Y	0	0
66	M33	Y	-.037	%20
67	M33	Y	0	0
68	M33	Y	0	0
69	M33	Y	0	0
70	M33	Y	0	0
71	M79	Y	-.049	%50
72	M79	Y	0	0
73	M79	Y	0	0
74	M79	Y	0	0
75	M79	Y	0	0
76	M80	Y	-.049	%50
77	M80	Y	0	0
78	M80	Y	0	0
79	M80	Y	0	0
80	M80	Y	0	0
81	M83	Y	-.049	%50
82	M83	Y	0	0
83	M83	Y	0	0
84	M83	Y	0	0
85	M83	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M29	Z	-.009	%5
2	M29	Z	-.009	%90



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
3	M29	Z	-.003	%50
4	M29	Z	0	0
5	M29	Z	0	0
6	M32	Z	-.018	%25
7	M32	Z	-.018	%75
8	M32	Z	0	0
9	M32	Z	0	0
10	M32	Z	0	0
11	M26	Z	-.023	%5
12	M26	Z	-.023	%80
13	M26	Z	0	0
14	M26	Z	0	0
15	M26	Z	0	0
16	M61	Z	-.008	%20
17	M61	Z	0	0
18	M61	Z	0	0
19	M61	Z	0	0
20	M61	Z	0	0
21	M10	Z	-.006	%90
22	M10	Z	0	0
23	M10	Z	0	0
24	M10	Z	0	0
25	M10	Z	0	0
26	M57	Z	-.009	%5
27	M57	Z	-.009	%90
28	M57	Z	-.003	%50
29	M57	Z	0	0
30	M57	Z	0	0
31	M60	Z	-.018	%25
32	M60	Z	-.018	%75
33	M60	Z	0	0
34	M60	Z	0	0
35	M60	Z	0	0
36	M64	Z	-.023	%5
37	M64	Z	-.023	%80
38	M64	Z	0	0
39	M64	Z	0	0
40	M64	Z	0	0
41	M43	Z	-.009	%5
42	M43	Z	-.009	%90
43	M43	Z	-.003	%50
44	M43	Z	0	0
45	M43	Z	0	0
46	M46	Z	-.018	%25
47	M46	Z	-.018	%75
48	M46	Z	0	0
49	M46	Z	0	0
50	M46	Z	0	0
51	M63	Z	-.023	%5
52	M63	Z	-.023	%80
53	M63	Z	0	0
54	M63	Z	0	0
55	M63	Z	0	0
56	M19	Z	-.017	%20
57	M19	Z	0	0
58	M19	Z	0	0
59	M19	Z	0	0



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
60	M19	Z	0	0
61	M47	Z	-.017	%20
62	M47	Z	0	0
63	M47	Z	0	0
64	M47	Z	0	0
65	M47	Z	0	0
66	M33	Z	-.017	%20
67	M33	Z	0	0
68	M33	Z	0	0
69	M33	Z	0	0
70	M33	Z	0	0
71	M79	Z	-.018	%50
72	M79	Z	0	0
73	M79	Z	0	0
74	M79	Z	0	0
75	M79	Z	0	0
76	M80	Z	-.018	%50
77	M80	Z	0	0
78	M80	Z	0	0
79	M80	Z	0	0
80	M80	Z	0	0
81	M83	Z	-.018	0
82	M83	Z	0	0
83	M83	Z	0	0
84	M83	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M29	X	-.009	%5
2	M29	X	-.009	%90
3	M29	X	-.003	%50
4	M29	X	0	0
5	M29	X	0	0
6	M32	X	-.018	%25
7	M32	X	-.018	%75
8	M32	X	0	0
9	M32	X	0	0
10	M32	X	0	0
11	M26	X	-.023	%5
12	M26	X	-.023	%80
13	M26	X	0	0
14	M26	X	0	0
15	M26	X	0	0
16	M61	X	-.008	%20
17	M61	X	0	0
18	M61	X	0	0
19	M61	X	0	0
20	M61	X	0	0
21	M10	X	-.006	%90
22	M10	X	0	0
23	M10	X	0	0
24	M10	X	0	0
25	M10	X	0	0
26	M57	X	-.009	%5
27	M57	X	-.009	%90
28	M57	X	-.003	%50



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

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
29	M57	X	0	0
30	M57	X	0	0
31	M60	X	-.018	%25
32	M60	X	-.018	%75
33	M60	X	0	0
34	M60	X	0	0
35	M60	X	0	0
36	M64	X	-.023	%5
37	M64	X	-.023	%80
38	M64	X	0	0
39	M64	X	0	0
40	M64	X	0	0
41	M43	X	-.009	%5
42	M43	X	-.009	%90
43	M43	X	-.003	%50
44	M43	X	0	0
45	M43	X	0	0
46	M46	X	-.018	%25
47	M46	X	-.018	%75
48	M46	X	0	0
49	M46	X	0	0
50	M46	X	0	0
51	M63	X	-.023	%5
52	M63	X	-.023	%80
53	M63	X	0	0
54	M63	X	0	0
55	M63	X	0	0
56	M19	X	-.017	%20
57	M19	X	0	0
58	M19	X	0	0
59	M19	X	0	0
60	M19	X	0	0
61	M47	X	-.017	%20
62	M47	X	0	0
63	M47	X	0	0
64	M47	X	0	0
65	M47	X	0	0
66	M33	X	-.017	%20
67	M33	X	0	0
68	M33	X	0	0
69	M33	X	0	0
70	M33	X	0	0
71	M79	X	-.018	%50
72	M79	X	0	0
73	M79	X	0	0
74	M79	X	0	0
75	M79	X	0	0
76	M80	X	-.018	%50
77	M80	X	0	0
78	M80	X	0	0
79	M80	X	0	0
80	M80	X	0	0
81	M83	X	-.018	0
82	M83	X	0	0
83	M83	X	0	0
84	M83	X	0	0



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Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M1	Y	-0.25	5%

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M1	Y	-0.25	95%

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M3	Y	-0.25	5%

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M3	Y	-0.25	95%

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M2	Y	-0.25	5%

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M2	Y	-0.25	95%

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M10	Y	-0.25	50%

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M16	Y	-0.25	50%

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude[k.k-ft]	Location[ft.%]
1	M13	Y	-0.25	50%

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	M1	Z	-0.018	-0.018	0	0
2	M2	Z	-0.018	-0.018	0	0
3	M3	Z	-0.018	-0.018	0	0
4	M4	Z	-0.015	-0.015	0	0
5	M5	Z	-0.015	-0.015	0	0
6	M6	Z	-0.015	-0.015	0	0
7	M7	Z	-0.018	-0.018	0	0
8	M8	Z	-0.018	-0.018	0	0
9	M9	Z	-0.018	-0.018	0	0
10	M10	Z	-0.019	-0.019	0	0
11	M13	Z	-0.019	-0.019	0	0
12	M16	Z	-0.019	-0.019	0	0
13	M19	Z	-0.009	-0.009	0	0
14	M21	Z	-0.009	-0.009	0	0
15	M23	Z	-0.009	-0.009	0	0



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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.%]
16	M26	Z	-0.009	-0.009	0	0
17	M29	Z	-0.009	-0.009	0	0
18	M32	Z	-0.009	-0.009	0	0
19	M33	Z	-0.009	-0.009	0	0
20	M35	Z	-0.009	-0.009	0	0
21	M37	Z	-0.009	-0.009	0	0
22	M43	Z	-0.009	-0.009	0	0
23	M46	Z	-0.009	-0.009	0	0
24	M47	Z	-0.009	-0.009	0	0
25	M49	Z	-0.009	-0.009	0	0
26	M51	Z	-0.009	-0.009	0	0
27	M57	Z	-0.009	-0.009	0	0
28	M60	Z	-0.009	-0.009	0	0
29	M61	Z	-0.006	-0.006	0	0
30	M63	Z	-0.009	-0.009	0	0
31	M64	Z	-0.009	-0.009	0	0
32	M1_1	Z	-0.008	-0.008	0	0
33	M2_1	Z	-0.008	-0.008	0	0
34	M3_1	Z	-0.008	-0.008	0	0
35	M84	Z	-0.015	-0.015	0	0
36	M89	Z	-0.015	-0.015	0	0
37	M94	Z	-0.015	-0.015	0	0
38	M99	Z	-0.015	-0.015	0	0
39	M100	Z	-0.015	-0.015	0	0
40	M101	Z	-0.015	-0.015	0	0
41	M102	Z	-0.015	-0.015	0	0
42	M103	Z	-0.015	-0.015	0	0
43	M104	Z	-0.015	-0.015	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	M1	X	-0.018	-0.018	0	0
2	M2	X	-0.018	-0.018	0	0
3	M3	X	-0.018	-0.018	0	0
4	M4	X	-0.015	-0.015	0	0
5	M5	X	-0.015	-0.015	0	0
6	M6	X	-0.015	-0.015	0	0
7	M7	X	-0.018	-0.018	0	0
8	M8	X	-0.018	-0.018	0	0
9	M9	X	-0.018	-0.018	0	0
10	M10	X	-0.019	-0.019	0	0
11	M13	X	-0.019	-0.019	0	0
12	M16	X	-0.019	-0.019	0	0
13	M19	X	-0.009	-0.009	0	0
14	M21	X	-0.009	-0.009	0	0
15	M23	X	-0.009	-0.009	0	0
16	M26	X	-0.009	-0.009	0	0
17	M29	X	-0.009	-0.009	0	0
18	M32	X	-0.009	-0.009	0	0
19	M33	X	-0.009	-0.009	0	0
20	M35	X	-0.009	-0.009	0	0
21	M37	X	-0.009	-0.009	0	0
22	M43	X	-0.009	-0.009	0	0
23	M46	X	-0.009	-0.009	0	0
24	M47	X	-0.009	-0.009	0	0
25	M49	X	-0.009	-0.009	0	0



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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.%]
26	M51	X	-0.009	-0.009	0	0
27	M57	X	-0.009	-0.009	0	0
28	M60	X	-0.009	-0.009	0	0
29	M61	X	-0.006	-0.006	0	0
30	M63	X	-0.009	-0.009	0	0
31	M64	X	-0.009	-0.009	0	0
32	M1_1	X	-0.008	-0.008	0	0
33	M2_1	X	-0.008	-0.008	0	0
34	M3_1	X	-0.008	-0.008	0	0
35	M84	X	-0.015	-0.015	0	0
36	M89	X	-0.015	-0.015	0	0
37	M94	X	-0.015	-0.015	0	0
38	M99	X	-0.015	-0.015	0	0
39	M100	X	-0.015	-0.015	0	0
40	M101	X	-0.015	-0.015	0	0
41	M102	X	-0.015	-0.015	0	0
42	M103	X	-0.015	-0.015	0	0
43	M104	X	-0.015	-0.015	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	M1	Z	-0.005	-0.005	0	0
2	M2	Z	-0.005	-0.005	0	0
3	M3	Z	-0.005	-0.005	0	0
4	M4	Z	-0.005	-0.005	0	0
5	M5	Z	-0.005	-0.005	0	0
6	M6	Z	-0.005	-0.005	0	0
7	M7	Z	-0.005	-0.005	0	0
8	M8	Z	-0.005	-0.005	0	0
9	M9	Z	-0.005	-0.005	0	0
10	M10	Z	-0.005	-0.005	0	0
11	M13	Z	-0.005	-0.005	0	0
12	M16	Z	-0.005	-0.005	0	0
13	M19	Z	-0.001	-0.001	0	0
14	M21	Z	-0.001	-0.001	0	0
15	M23	Z	-0.001	-0.001	0	0
16	M26	Z	-0.001	-0.001	0	0
17	M29	Z	-0.001	-0.001	0	0
18	M32	Z	-0.001	-0.001	0	0
19	M33	Z	-0.001	-0.001	0	0
20	M35	Z	-0.001	-0.001	0	0
21	M37	Z	-0.001	-0.001	0	0
22	M43	Z	-0.001	-0.001	0	0
23	M46	Z	-0.001	-0.001	0	0
24	M47	Z	-0.001	-0.001	0	0
25	M49	Z	-0.001	-0.001	0	0
26	M51	Z	-0.001	-0.001	0	0
27	M57	Z	-0.001	-0.001	0	0
28	M60	Z	-0.001	-0.001	0	0
29	M61	Z	-0.002	-0.002	0	0
30	M63	Z	-0.001	-0.001	0	0
31	M64	Z	-0.001	-0.001	0	0
32	M1_1	Z	-0.002	-0.002	0	0
33	M2_1	Z	-0.002	-0.002	0	0
34	M3_1	Z	-0.002	-0.002	0	0
35	M84	Z	-0.005	-0.005	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.%]
36	M89	Z	-0.005	-0.005	0	0
37	M94	Z	-0.005	-0.005	0	0
38	M99	Z	-0.005	-0.005	0	0
39	M100	Z	-0.005	-0.005	0	0
40	M101	Z	-0.005	-0.005	0	0
41	M102	Z	-0.005	-0.005	0	0
42	M103	Z	-0.005	-0.005	0	0
43	M104	Z	-0.005	-0.005	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	M1	X	-0.005	-0.005	0	0
2	M2	X	-0.005	-0.005	0	0
3	M3	X	-0.005	-0.005	0	0
4	M4	X	-0.005	-0.005	0	0
5	M5	X	-0.005	-0.005	0	0
6	M6	X	-0.005	-0.005	0	0
7	M7	X	-0.005	-0.005	0	0
8	M8	X	-0.005	-0.005	0	0
9	M9	X	-0.005	-0.005	0	0
10	M10	X	-0.005	-0.005	0	0
11	M13	X	-0.005	-0.005	0	0
12	M16	X	-0.005	-0.005	0	0
13	M19	X	-0.001	-0.001	0	0
14	M21	X	-0.001	-0.001	0	0
15	M23	X	-0.001	-0.001	0	0
16	M26	X	-0.001	-0.001	0	0
17	M29	X	-0.001	-0.001	0	0
18	M32	X	-0.001	-0.001	0	0
19	M33	X	-0.001	-0.001	0	0
20	M35	X	-0.001	-0.001	0	0
21	M37	X	-0.001	-0.001	0	0
22	M43	X	-0.001	-0.001	0	0
23	M46	X	-0.001	-0.001	0	0
24	M47	X	-0.001	-0.001	0	0
25	M49	X	-0.001	-0.001	0	0
26	M51	X	-0.001	-0.001	0	0
27	M57	X	-0.001	-0.001	0	0
28	M60	X	-0.001	-0.001	0	0
29	M61	X	-0.002	-0.002	0	0
30	M63	X	-0.001	-0.001	0	0
31	M64	X	-0.001	-0.001	0	0
32	M1_1	X	-0.002	-0.002	0	0
33	M2_1	X	-0.002	-0.002	0	0
34	M3_1	X	-0.002	-0.002	0	0
35	M84	X	-0.005	-0.005	0	0
36	M89	X	-0.005	-0.005	0	0
37	M94	X	-0.005	-0.005	0	0
38	M99	X	-0.005	-0.005	0	0
39	M100	X	-0.005	-0.005	0	0
40	M101	X	-0.005	-0.005	0	0
41	M102	X	-0.005	-0.005	0	0
42	M103	X	-0.005	-0.005	0	0
43	M104	X	-0.005	-0.005	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	M1	Z	-0.001	-0.001	0	0
2	M2	Z	-0.001	-0.001	0	0
3	M3	Z	-0.001	-0.001	0	0
4	M4	Z	-0.0009	-0.0009	0	0
5	M5	Z	-0.0009	-0.0009	0	0
6	M6	Z	-0.0009	-0.0009	0	0
7	M7	Z	-0.001	-0.001	0	0
8	M8	Z	-0.001	-0.001	0	0
9	M9	Z	-0.001	-0.001	0	0
10	M10	Z	-0.001	-0.001	0	0
11	M13	Z	-0.001	-0.001	0	0
12	M16	Z	-0.001	-0.001	0	0
13	M19	Z	-0.0003	-0.0003	0	0
14	M21	Z	-0.0003	-0.0003	0	0
15	M23	Z	-0.0003	-0.0003	0	0
16	M26	Z	-0.0003	-0.0003	0	0
17	M29	Z	-0.0003	-0.0003	0	0
18	M32	Z	-0.0003	-0.0003	0	0
19	M33	Z	-0.0003	-0.0003	0	0
20	M35	Z	-0.0003	-0.0003	0	0
21	M37	Z	-0.0003	-0.0003	0	0
22	M43	Z	-0.0003	-0.0003	0	0
23	M46	Z	-0.0003	-0.0003	0	0
24	M47	Z	-0.0003	-0.0003	0	0
25	M49	Z	-0.0003	-0.0003	0	0
26	M51	Z	-0.0003	-0.0003	0	0
27	M57	Z	-0.0003	-0.0003	0	0
28	M60	Z	-0.0003	-0.0003	0	0
29	M61	Z	-0.0003	-0.0003	0	0
30	M63	Z	-0.0003	-0.0003	0	0
31	M64	Z	-0.0003	-0.0003	0	0
32	M1_1	Z	-0.0003	-0.0003	0	0
33	M2_1	Z	-0.0003	-0.0003	0	0
34	M3_1	Z	-0.0003	-0.0003	0	0
35	M84	Z	-0.0008	-0.0008	0	0
36	M89	Z	-0.0008	-0.0008	0	0
37	M94	Z	-0.0008	-0.0008	0	0
38	M99	Z	-0.0009	-0.0009	0	0
39	M100	Z	-0.0009	-0.0009	0	0
40	M101	Z	-0.0009	-0.0009	0	0
41	M102	Z	-0.0009	-0.0009	0	0
42	M103	Z	-0.0009	-0.0009	0	0
43	M104	Z	-0.0009	-0.0009	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	M1	X	-0.001	-0.001	0	0
2	M2	X	-0.001	-0.001	0	0
3	M3	X	-0.001	-0.001	0	0
4	M4	X	-0.0009	-0.0009	0	0
5	M5	X	-0.0009	-0.0009	0	0
6	M6	X	-0.0009	-0.0009	0	0
7	M7	X	-0.001	-0.001	0	0
8	M8	X	-0.001	-0.001	0	0
9	M9	X	-0.001	-0.001	0	0
10	M10	X	-0.001	-0.001	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.%,]
11	M13	X	-0.001	-0.001	0	0
12	M16	X	-0.001	-0.001	0	0
13	M19	X	-0.0003	-0.0003	0	0
14	M21	X	-0.0003	-0.0003	0	0
15	M23	X	-0.0003	-0.0003	0	0
16	M26	X	-0.0003	-0.0003	0	0
17	M29	X	-0.0003	-0.0003	0	0
18	M32	X	-0.0003	-0.0003	0	0
19	M33	X	-0.0003	-0.0003	0	0
20	M35	X	-0.0003	-0.0003	0	0
21	M37	X	-0.0003	-0.0003	0	0
22	M43	X	-0.0003	-0.0003	0	0
23	M46	X	-0.0003	-0.0003	0	0
24	M47	X	-0.0003	-0.0003	0	0
25	M49	X	-0.0003	-0.0003	0	0
26	M51	X	-0.0003	-0.0003	0	0
27	M57	X	-0.0003	-0.0003	0	0
28	M60	X	-0.0003	-0.0003	0	0
29	M61	X	-0.0003	-0.0003	0	0
30	M63	X	-0.0003	-0.0003	0	0
31	M64	X	-0.0003	-0.0003	0	0
32	M1_1	X	-0.0003	-0.0003	0	0
33	M2_1	X	-0.0003	-0.0003	0	0
34	M3_1	X	-0.0003	-0.0003	0	0
35	M84	X	-0.0008	-0.0008	0	0
36	M89	X	-0.0008	-0.0008	0	0
37	M94	X	-0.0008	-0.0008	0	0
38	M99	X	-0.0009	-0.0009	0	0
39	M100	X	-0.0009	-0.0009	0	0
40	M101	X	-0.0009	-0.0009	0	0
41	M102	X	-0.0009	-0.0009	0	0
42	M103	X	-0.0009	-0.0009	0	0
43	M104	X	-0.0009	-0.0009	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	M1	Y	-0.008	-0.008	0	0
2	M2	Y	-0.008	-0.008	0	0
3	M3	Y	-0.008	-0.008	0	0
4	M4	Y	-0.01	-0.01	0	0
5	M5	Y	-0.01	-0.01	0	0
6	M6	Y	-0.01	-0.01	0	0
7	M7	Y	-0.008	-0.008	0	0
8	M8	Y	-0.008	-0.008	0	0
9	M9	Y	-0.008	-0.008	0	0
10	M10	Y	-0.011	-0.011	0	0
11	M13	Y	-0.011	-0.011	0	0
12	M16	Y	-0.011	-0.011	0	0
13	M19	Y	-0.005	-0.005	0	0
14	M21	Y	-0.005	-0.005	0	0
15	M23	Y	-0.005	-0.005	0	0
16	M26	Y	-0.005	-0.005	0	0
17	M29	Y	-0.005	-0.005	0	0
18	M32	Y	-0.005	-0.005	0	0
19	M33	Y	-0.005	-0.005	0	0
20	M35	Y	-0.005	-0.005	0	0



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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.%]
21	M37	Y	-0.005	-0.005	0	0
22	M43	Y	-0.005	-0.005	0	0
23	M46	Y	-0.005	-0.005	0	0
24	M47	Y	-0.005	-0.005	0	0
25	M49	Y	-0.005	-0.005	0	0
26	M51	Y	-0.005	-0.005	0	0
27	M57	Y	-0.005	-0.005	0	0
28	M60	Y	-0.005	-0.005	0	0
29	M61	Y	-0.005	-0.005	0	0
30	M63	Y	-0.005	-0.005	0	0
31	M64	Y	-0.005	-0.005	0	0
32	M1_1	Y	-0.005	-0.005	0	0
33	M2_1	Y	-0.005	-0.005	0	0
34	M3_1	Y	-0.005	-0.005	0	0
35	M84	Y	-0.006	-0.006	0	0
36	M89	Y	-0.006	-0.006	0	0
37	M94	Y	-0.006	-0.006	0	0
38	M99	Y	-0.007	-0.007	0	0
39	M100	Y	-0.007	-0.007	0	0
40	M101	Y	-0.007	-0.007	0	0
41	M102	Y	-0.007	-0.007	0	0
42	M103	Y	-0.007	-0.007	0	0
43	M104	Y	-0.007	-0.007	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	M1	Z	-0.002	-0.002	0	0
2	M2	Z	-0.002	-0.002	0	0
3	M3	Z	-0.002	-0.002	0	0
4	M4	Z	-0.003	-0.003	0	0
5	M5	Z	-0.003	-0.003	0	0
6	M6	Z	-0.003	-0.003	0	0
7	M7	Z	-0.002	-0.002	0	0
8	M8	Z	-0.002	-0.002	0	0
9	M9	Z	-0.002	-0.002	0	0
10	M10	Z	-0.004	-0.004	0	0
11	M13	Z	-0.004	-0.004	0	0
12	M16	Z	-0.004	-0.004	0	0
13	M19	Z	-0.0009	-0.0009	0	0
14	M21	Z	-0.0009	-0.0009	0	0
15	M23	Z	-0.0009	-0.0009	0	0
16	M26	Z	-0.0009	-0.0009	0	0
17	M29	Z	-0.0009	-0.0009	0	0
18	M32	Z	-0.0009	-0.0009	0	0
19	M33	Z	-0.0009	-0.0009	0	0
20	M35	Z	-0.0009	-0.0009	0	0
21	M37	Z	-0.0009	-0.0009	0	0
22	M43	Z	-0.0009	-0.0009	0	0
23	M46	Z	-0.0009	-0.0009	0	0
24	M47	Z	-0.0009	-0.0009	0	0
25	M49	Z	-0.0009	-0.0009	0	0
26	M51	Z	-0.0009	-0.0009	0	0
27	M57	Z	-0.0009	-0.0009	0	0
28	M60	Z	-0.0009	-0.0009	0	0
29	M61	Z	-0.0009	-0.0009	0	0
30	M63	Z	-0.0009	-0.0009	0	0



Company : B+T Group
 Designer : SR
 Job Number : 140134.004.01
 Model Name : 876371 - Walden / Carolyn Besade

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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.%]
31	M64	Z	-0.009	-0.009	0	0
32	M1_1	Z	-0.009	-0.009	0	0
33	M2_1	Z	-0.009	-0.009	0	0
34	M3_1	Z	-0.009	-0.009	0	0
35	M84	Z	-0.004	-0.004	0	0
36	M89	Z	-0.004	-0.004	0	0
37	M94	Z	-0.004	-0.004	0	0
38	M99	Z	0	0	0	0
39	M100	Z	0	0	0	0
40	M101	Z	0	0	0	0
41	M102	Z	0	0	0	0
42	M103	Z	0	0	0	0
43	M104	Z	0	0	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	M1	X	-0.002	-0.002	0	0
2	M2	X	-0.002	-0.002	0	0
3	M3	X	-0.002	-0.002	0	0
4	M4	X	-0.003	-0.003	0	0
5	M5	X	-0.003	-0.003	0	0
6	M6	X	-0.003	-0.003	0	0
7	M7	X	-0.002	-0.002	0	0
8	M8	X	-0.002	-0.002	0	0
9	M9	X	-0.002	-0.002	0	0
10	M10	X	-0.004	-0.004	0	0
11	M13	X	-0.004	-0.004	0	0
12	M16	X	-0.004	-0.004	0	0
13	M19	X	-0.009	-0.009	0	0
14	M21	X	-0.009	-0.009	0	0
15	M23	X	-0.009	-0.009	0	0
16	M26	X	-0.009	-0.009	0	0
17	M29	X	-0.009	-0.009	0	0
18	M32	X	-0.009	-0.009	0	0
19	M33	X	-0.009	-0.009	0	0
20	M35	X	-0.009	-0.009	0	0
21	M37	X	-0.009	-0.009	0	0
22	M43	X	-0.009	-0.009	0	0
23	M46	X	-0.009	-0.009	0	0
24	M47	X	-0.009	-0.009	0	0
25	M49	X	-0.009	-0.009	0	0
26	M51	X	-0.009	-0.009	0	0
27	M57	X	-0.009	-0.009	0	0
28	M60	X	-0.009	-0.009	0	0
29	M61	X	-0.009	-0.009	0	0
30	M63	X	-0.009	-0.009	0	0
31	M64	X	-0.009	-0.009	0	0
32	M1_1	X	-0.009	-0.009	0	0
33	M2_1	X	-0.009	-0.009	0	0
34	M3_1	X	-0.009	-0.009	0	0
35	M84	X	-0.004	-0.004	0	0
36	M89	X	-0.004	-0.004	0	0
37	M94	X	-0.004	-0.004	0	0
38	M99	X	0	0	0	0
39	M100	X	0	0	0	0
40	M101	X	0	0	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.%,]
41	M102	X	0	0	0	0
42	M103	X	0	0	0	0
43	M104	X	0	0	0	0

Member Distributed Loads (BLC 27 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M3	Y	-.0004841	-.007	0	2.333
2	M3	Y	-.007	-.01	2.333	4.667
3	M3	Y	-.01	-.011	4.667	7
4	M3	Y	-.011	-.012	7	9.333
5	M3	Y	-.012	-.007	9.333	11.667
6	M3	Y	-.007	-.0004841	11.667	14
7	M4	Y	-.01	-.014	.8	4
8	M5	Y	-.011	-.012	.8	4
9	M8	Y	-.012	-.009	0	1.768
10	M8	Y	-.009	-.007	1.768	3.536
11	M8	Y	-.007	-.009	3.536	5.304
12	M8	Y	-.009	-.012	5.304	7.072
13	M1	Y	-.002	-.006	0	2
14	M1	Y	-.006	-.009	2	4
15	M1	Y	-.009	-.012	4	6
16	M1	Y	-.012	-.012	6	8
17	M1	Y	-.012	-.009	8	10
18	M1	Y	-.009	-.006	10	12
19	M1	Y	-.006	-.002	12	14
20	M6	Y	-.011	-.012	.8	4
21	M7	Y	-.012	-.009	0	1.768
22	M7	Y	-.009	-.007	1.768	3.536
23	M7	Y	-.007	-.009	3.536	5.304
24	M7	Y	-.009	-.012	5.304	7.072
25	M2	Y	-.0004841	-.007	0	2.333
26	M2	Y	-.007	-.01	2.333	4.667
27	M2	Y	-.01	-.011	4.667	7
28	M2	Y	-.011	-.012	7	9.333
29	M2	Y	-.012	-.007	9.333	11.667
30	M2	Y	-.007	-.0004841	11.667	14
31	M9	Y	-.012	-.009	0	1.768
32	M9	Y	-.009	-.007	1.768	3.536
33	M9	Y	-.007	-.009	3.536	5.304
34	M9	Y	-.009	-.012	5.304	7.072

Member Distributed Loads (BLC 28 : BLC 8 Transient Area Loads)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%,]	End Location[ft.%,]
1	M3	Y	-.0002677	-.004	0	2.333
2	M3	Y	-.004	-.005	2.333	4.667
3	M3	Y	-.005	-.006	4.667	7
4	M3	Y	-.006	-.006	7	9.333
5	M3	Y	-.006	-.004	9.333	11.667
6	M3	Y	-.004	-.0002677	11.667	14
7	M4	Y	-.005	-.008	.8	4
8	M5	Y	-.006	-.007	.8	4
9	M8	Y	-.007	-.005	0	1.768
10	M8	Y	-.005	-.004	1.768	3.536
11	M8	Y	-.004	-.005	3.536	5.304
12	M8	Y	-.005	-.007	5.304	7.072
13	M1	Y	-.001	-.003	0	2



Member Distributed Loads (BLC 28 : BLC 8 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[k/ft....	End Magnitude[k/ft.F...	Start Location[ft.%]	End Location[ft.%]
14	M1	Y	-0.003	-0.005	2	4
15	M1	Y	-0.005	-0.007	4	6
16	M1	Y	-0.007	-0.007	6	8
17	M1	Y	-0.007	-0.005	8	10
18	M1	Y	-0.005	-0.003	10	12
19	M1	Y	-0.003	-0.001	12	14
20	M6	Y	-0.007	-0.007	.8	4
21	M7	Y	-0.007	-0.005	0	1.768
22	M7	Y	-0.005	-0.004	1.768	3.536
23	M7	Y	-0.004	-0.005	3.536	5.304
24	M7	Y	-0.005	-0.007	5.304	7.072
25	M2	Y	-0.002905	-0.004	0	2.333
26	M2	Y	-0.004	-0.006	2.333	4.667
27	M2	Y	-0.006	-0.007	4.667	7
28	M2	Y	-0.007	-0.007	7	9.333
29	M2	Y	-0.007	-0.004	9.333	11.667
30	M2	Y	-0.004	-0.002905	11.667	14
31	M9	Y	-0.007	-0.005	0	1.768
32	M9	Y	-0.005	-0.004	1.768	3.536
33	M9	Y	-0.004	-0.005	3.536	5.304
34	M9	Y	-0.005	-0.007	5.304	7.072

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	N25	L	Y	-5
2	N81	L	Y	-5
3	N53	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	N29	L	Y	-5
2	N85	L	Y	-5
3	N57	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	N33	L	Y	-5
2	N89	L	Y	-5
3	N61	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	N35	L	Y	-5
2	N91	L	Y	-5
3	N63	L	Y	-5

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	N18	max	1.452	7	2.072	22	2.62	13	2.393	24	2.177	13	-1.279	3
2		min	-1.51	13	.667	4	-2.709	7	.446	5	-2.24	7	-4.151	22
3	N8	max	2.363	5	2.148	14	.681	2	-1.069	8	1.632	5	.619	10
4		min	-2.405	11	.567	8	-.597	8	-4.73	14	-1.693	11	-.573	4



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	N13	max	1.632	3	2.159	19	2.764	3	2.413	15	2.22	9	4.258	19
6		min	-1.532	9	.626	13	-2.761	9	.629	10	-2.292	3	.812	13
7	N10 1	max	.095	5	.186	17	.133	2	.316	2	.074	9	.23	11
8		min	-.095	11	.117	10	-.133	8	-.196	8	-.074	3	-.123	5
9	N7 1	max	.095	5	.186	25	.133	2	.18	2	.063	6	.202	11
10		min	-.094	11	.117	7	-.133	8	-.332	8	-.063	12	-.151	5
11	N4 1	max	.094	5	.186	21	.133	2	.272	2	.092	2	.098	11
12		min	-.094	11	.117	2	-.133	8	-.24	8	-.092	8	-.255	5
13	N186	max	0	97	0	97	0	97	0	97	0	97	0	97
14		min	0	1	0	1	0	1	0	1	0	1	0	1
15	N187	max	0	97	0	97	0	97	0	97	0	97	0	97
16		min	0	1	0	1	0	1	0	1	0	1	0	1
17	N188	max	0	97	0	97	0	97	0	97	0	97	0	97
18		min	0	1	0	1	0	1	0	1	0	1	0	1
19	N195	max	.282	7	1.168	8	1.104	2	.003	38	0	2	0	8
20		min	-.187	13	-.897	2	-1.368	8	0	8	0	8	0	2
21	N198	max	.689	6	.884	12	.463	13	0	13	0	8	0	13
22		min	-.975	12	-.604	6	-.417	7	-.001	7	0	2	-.002	79
23	N201	max	.839	4	.892	4	.738	3	0	5	0	88	.002	46
24		min	-.653	10	-.608	10	-.515	9	-.001	84	0	89	0	4
25	Totals:	max	5.996	5	7.838	16	8.542	2						
26		min	-5.996	11	3.81	10	-8.542	8						

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

Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	phi*P...	phi*P...	phi*...	phi*...	Egn	
1	M1	L3X3X5	.789	7	20	.194	0	y	2	4.843	57.672	2.015	3.73	H2-1
2	M2	L3X3X5	.759	7	23	.189	0	z	43	4.843	57.672	2.015	3.74	H2-1
3	M3	L3X3X5	.768	7	14	.186	0	z	47	4.843	57.672	2.015	3.743	H2-1
4	M4	LL3x3x5x0	.076	0	82	.017	4	y	47	99.882	115....	8.136	5.678	H1-...
5	M5	LL3x3x5x0	.076	0	74	.017	4	v	39	99.882	115....	8.136	5.678	H1-...
6	M6	LL3x3x5x0	.075	0	78	.017	4	y	43	99.882	115....	8.136	5.678	H1-...
7	M7	L3X3X5	.304	3.536	17	.016	3.536	y	19	18.979	57.672	2.015	4.084	H2-1
8	M8	L3X3X5	.299	3.536	20	.015	3.536	y	14	18.979	57.672	2.015	4.07	H2-1
9	M9	L3X3X5	.340	3.536	20	.161	3.536	z	6	18.979	57.672	2.015	4.11	H2-1
10	M10	HSS4.5X4.5X5	.202	2.8	24	.070	2.8	z	10	188....	193....	25.081	25.081	H1-...
11	M13	HSS4.5X4.5X5	.206	2.8	8	.096	2.8	z	3	188....	193....	25.081	25.081	H1-...
12	M16	HSS4.5X4.5X5	.205	2.8	20	.084	2.8	z	7	188....	193....	25.081	25.081	H1-...
13	M19	PIPE 2.0	.358	3.073	81	.144	3.073		8	23.809	32.13	1.872	1.872	H1-...
14	M21	PIPE 2.0	.427	3.073	49	.115	3.073		38	23.809	32.13	1.872	1.872	H1-...
15	M23	PIPE 2.0	.392	3.073	76	.106	3.073		79	23.809	32.13	1.872	1.872	H1-...
16	M26	PIPE 2.0	.469	3	2	.065	3.094		8	12.144	32.13	1.872	1.872	H1-...
17	M29	PIPE 2.0	.105	4.375	4	.042	1.563		8	20.867	32.13	1.872	1.872	H1-...
18	M32	PIPE 2.0	.369	5.25	42	.091	5.25		40	12.144	32.13	1.872	1.872	H1-...
19	M33	PIPE 2.0	.367	3.073	2	.178	3.125		2	23.809	32.13	1.872	1.872	H1-...
20	M35	PIPE 2.0	.427	3.073	40	.115	1.146		43	23.809	32.13	1.872	1.872	H1-...
21	M37	PIPE 2.0	.397	3.073	80	.105	3.073		82	23.809	32.13	1.872	1.872	H1-...
22	M43	PIPE 2.0	.145	4.375	8	.036	4.375		82	20.867	32.13	1.872	1.872	H1-...
23	M46	PIPE 2.0	.376	5.25	9	.092	5.25		44	12.144	32.13	1.872	1.872	H1-...
24	M47	PIPE 2.0	.356	3.073	79	.169	1.094		2	23.809	32.13	1.872	1.872	H1-...
25	M49	PIPE 2.0	.428	3.073	44	.114	3.073		44	23.809	32.13	1.872	1.872	H1-...
26	M51	PIPE 2.0	.393	3.073	85	.106	3.073		74	23.809	32.13	1.872	1.872	H1-...
27	M57	PIPE 2.0	.116	4.375	13	.042	4.375		2	20.867	32.13	1.872	1.872	H1-...
28	M60	PIPE 2.0	.431	5.25	2	.091	5.25		49	12.144	32.13	1.872	1.872	H1-...
29	M61	PIPE 2.0	.046	2	6	.006	2		6	30.625	32.13	1.872	1.872	H1-...
30	M63	PIPE 2.0	.469	3	8	.046	5.813		13	12.144	32.13	1.872	1.872	H1-...



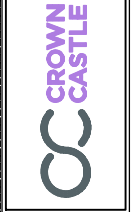
Company : B+T Group
 Designer : SR
 Job Number : 140134.004.01
 Model Name : 876371 - Walden / Carolyn Besade

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

Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	phi*P...	phi*P...	phi*...	phi*...	Eqn	
31	M64	PIPE 2.0	.469	3	8	.037	3.094		3	12.144	32.13	1.872	1.872	... H1-...
32	M1_1	PIPE 2.0	.158	3.5	3	.069	3.5		8	26.521	32.13	1.872	1.872	... H1-...
33	M2_1	PIPE 2.0	.181	3.5	8	.048	3.5		12	26.521	32.13	1.872	1.872	... H1-...
34	M3_1	PIPE 2.0	.174	3.5	2	.057	3.5		9	26.521	32.13	1.872	1.872	... H1-...
35	M84	PIPE 2.0	.375	.813	21	.157	2.167		8	5.82	32.13	1.872	1.872	... H1-...
36	M89	PIPE 2.0	.398	.813	2	.134	2.167		13	5.82	32.13	1.872	1.872	... H1-...
37	M94	PIPE 2.0	.349	.813	18	.084	2.167		4	5.82	32.13	1.872	1.872	... H1-...
38	M99	L2.5x2.5x3	.170	2.926	2	.022	5.733	y	3	9.991	29.192	.873	1.553	... H2-1
39	M100	L2.5x2.5x3	.153	2.867	13	.018	5.733	y	19	9.991	29.192	.873	1.553	... H2-1
40	M101	L2.5x2.5x3	.142	2.867	7	.021	0	y	7	9.991	29.192	.873	1.553	... H2-1
41	M102	L2.5x2.5x3	.126	2.926	6	.017	5.733	v	22	9.991	29.192	.873	1.553	... H2-1
42	M103	L2.5x2.5x3	.132	2.926	10	.017	0	z	22	9.991	29.192	.873	1.553	... H2-1
43	M104	L2.5x2.5x3	.136	2.867	9	.018	5.733	y	23	9.991	29.192	.873	1.553	... H2-1

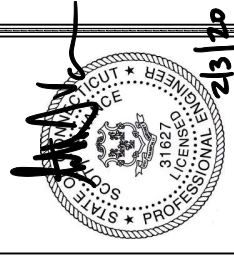
APPENDIX D
MOUNT MODIFICATION DESIGN DRAWINGS (MDD)



**WALDEN-CAROLYN
BESADE**
557 RTE. 82
OAKDALE, CT 06370
NEW LONDON
EXISTING PLATFORM
AT 147.40'

PROJECT NO:	14031-004-01		
CHECKED BY:	SR		
ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
0	02/01/20	KRS	CONSTRUCTION

B&T ENGINEERING, INC.
PROFESSIONAL ENGINEER
Expires 2/10/20



IT IS THE POLICY OF B&T ENGINEERING, INC. TO DESIGN AND CONSTRUCT ALL STRUCTURES UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

SHEET NUMBER:	S1	REVISION:	0
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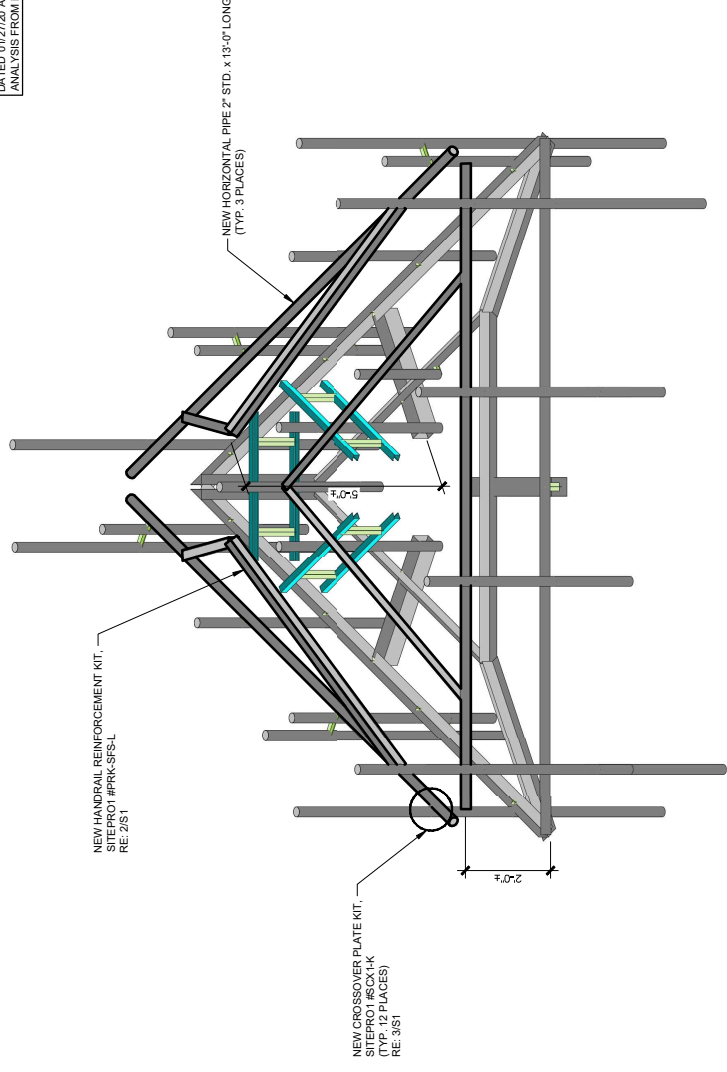
GENERAL NOTES

- CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS PRIOR TO THE MOBILIZATION ON THE SITE FOR INSTALLATION OF THE MOUNT MODIFICATION AND SHALL NOTIFY THE ENGINEER OF RECORD IF THE FIELD CONDITIONS VARY FROM WHAT IS SHOWN ON THE DRAWINGS. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY IN WRITING AT THE SITE IF ANY MOUNT REINFORCEMENT SHOWN WILL NEED TO BE RE-DESIGNED TO SATISFY FIELD CONDITIONS.
- CONTRACTOR SHALL RELOCATE NON-ANTENNA EQUIPMENT ALONG THE EXISTING PIPE MOUNT THAT IT IS MOUNTED TO, TO ALLOW FOR RELOCATION OF THE ANTENNA EQUIPMENT. ALL RELOCATION NEEDS TO BE RELOCATED TO ANY OTHER EXISTING MEMBERS TO ALLOW FOR INSTALLATION OF MOUNT MODIFICATION.
- REINFORCEMENT SHALL BE COMPLETED PRIOR TO ADDING THE MOUNT TO THE EXISTING STRUCTURE.
- ALL WORK SHALL COMPLY WITH THE TIA-222-H STANDARD, ANSI/TIA-322 AND ANS/ASSE A10.48, AS WELL AS ANY OTHER GOVERNING BUILDING CODES.
- FIELD WORK WILL BE DONE AROUND EXISTING COAXIAL CABLE AND FIBER OPTIC CABLES. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING COAXIAL CABLES AND FIBER OPTIC CABLES. A MINIMUM OF TWO COATS OF ZINCS COLD GALVANIZING COMPOUND (OR APPROVED EQUIVALENT) SHALL BE APPLIED TO ANY FIELD CUTS OR FIELD DRILLED HOLES.
- ALL FIELD CUTS OR WELDER SHALL NOT BE PERMITTED ON THE TOWER WITHOUT THE CONSENT OF THE OWNER.
- ALL FIELD CONNECTIONS SHALL BE MADE WITH A325N BOLTS, U.N.O. IN LIEU OF TEMPORARY BRACING, CONTRACTOR MAY HAVE A STABILITY ANALYSIS PERFORMED BY AN ENGINEER LICENSED IN THE STATE THE PROJECT IS LOCATED PER ANSI/TIA-222-H, ANS/ASSE A10.48, OR AS SPECIFIED BY THE OWNER.
- ALL CUTTING AND WELDING ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH CCUSA POLICY CUTTING AND WELDING PLAN (DOC #ENG-PLN-10015) ON AN ONGOING BASIS THROUGHOUT THE ENTIRE PROJECT. ALL FIELD CONNECTIONS SHALL BE WITHIN THE INDICATED DIMENSIONS WITHIN 3" OF THE INDICATED DIMENSION.

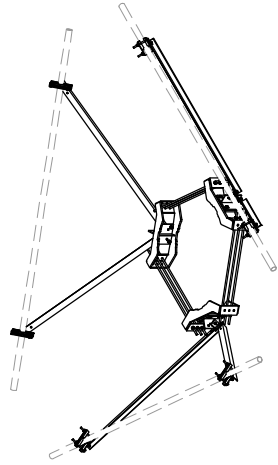
FABRICATION

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH A.I.S.C. "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
- STRUCTURAL STEEL SHALL MEET THE FOLLOWING SPECIFICATIONS:
FIELD CUTS: A572 GR50
WELDER: A572 GR50
STEEL PIPE: U.N.O.
- ALL NEW MATERIAL INCLUDING STRUCTURAL STEEL AND FASTENERS SHALL BE FABRICATED IN ACCORDANCE WITH ASTM A133 AND A153.
- WELDING SHALL MEET ANS/ASME D1.1 STRUCTURAL WELDING CODE (LATEST REVISION). ELECTRODES SHALL BE E60 SERIES.
- CONTRACTOR SHALL PROVIDE SHOP FABRICATION DRAWINGS TO B+T GROUP 5 DAYS PRIOR TO FABRICATION.

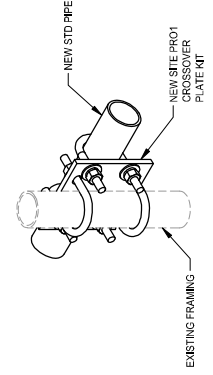
MODIFICATIONS BASED ON THE FAILING STRUCTURAL ANALYSIS FROM B+T GROUP DATED 01/27/20 AND ACCOMPANIED BY ANALYSIS FROM BHT GROUP DATED 02/10/20



1 MODIFIED PLATFORM
SCALE: N.T.S.



2 SITEPRO1 PRK-SFS-L REINFORCEMENT KIT
SCALE: N.T.S.



3 SITEPRO1 SCX1-K CROSSOVER PLATE KIT
SCALE: N.T.S.

Exhibit F

Power Density/RF Emissions Report



RF EMISSIONS COMPLIANCE REPORT

Crown Castle on behalf of AT&T Mobility, LLC

Crown Castle Site Name: WALDEN / CAROLYN BESADE
Crown Castle Site BU: 876371
AT&T Mobility, LLC Site FA #: 10041786
557 Rte. 82
Oakdale, CT
12/12/2019

Report Status:

AT&T Mobility, LLC Is Compliant



Michael Fischer, P.E.
Registered Professional Engineer (Electrical)
Connecticut License Number 33928
Expires January 31, 2020

Signed 12 December 2019

Prepared By:

Site Safe, LLC

Engineering Statement in Re:
Electromagnetic Energy Analysis
Crown Castle
OAKDALE, CT

My signature on the cover of this document indicates:

That I am registered as a Professional Engineer in the jurisdiction indicated; and

That I have extensive professional experience in the wireless communications engineering industry; and

That I am an employee of Site Safe, LLC in Vienna, Virginia; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission ("the FCC" and "the FCC Rules") both in general and specifically as they apply to the FCC's Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields; and

That the technical information serving as the basis for this report was supplied by Crown Castle (see attached Site Summary and Carrier documents) and that AT&T Mobility, LLC's installation involves communications equipment, antennas and associated technical equipment at a location referred to as "WALDEN / CAROLYN BESADE" ("the site"); and

That AT&T Mobility, LLC proposes to operate at the site with transmit antennas listed in the carrier summary and with a maximum effective radiated power as specified by AT&T Mobility, LLC and shown on the worksheet and that worst-case 100% duty cycle has been assumed; and

That this analysis has been performed with the assumption that the ground immediately surrounding the tower is primarily flat or falling; and

That at this time, the FCC requires that certain licensees address specific levels of radio frequency energy to which workers or members of the public might possibly be exposed (at §1.1307(b) of the FCC Rules); and

That such consideration of possible exposure of humans to radio frequency energy must utilize the standards set by the FCC, which is the federal agency having jurisdiction over communications facilities; and

That the FCC rules define two tiers of permissible exposure guidelines: 1) "uncontrolled environments," which defines situations in which persons may not be aware of (the "general public"), or may not be able to control their exposure to a transmission facility; and 2) "controlled environments," which defines situations in which persons are aware of their potential for exposure (industry personnel); and

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 1.280% 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 2.882% 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
WALDEN / CAROLYN BESADE
Site Summary**

Carrier	Area Maximum Percentage MPE
AT&T Mobility, LLC	0.077 %
AT&T Mobility, LLC	0.371 %
AT&T Mobility, LLC	0.257 %
AT&T Mobility, LLC (Proposed)	0.252 %
AT&T Mobility, LLC (Proposed)	0.323 %
Dish Network	0.116 %
Dish Network	0.137 %
Sprint	0.167 %
Sprint	0.091 %
Sprint	0.091 %
Sprint	0.063 %
Sprint	0.063 %
Verizon Wireless	0.304 %
Verizon Wireless	0.157 %
Verizon Wireless	0.119 %
Verizon Wireless	0.294 %
Composite Site MPE:	2.882 %

**AT&T Mobility, LLC
WALDEN / CAROLYN BESADE
Carrier Summary**

Frequency: 850 MHz
 Maximum Permissible Exposure (MPE): 566.67 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 0.43888 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.07745 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Powerwave	7770	147	143	547	0.242298	0.042758	0.376311	0.066408
Powerwave	7770	147	263	547	0.242298	0.042758	0.376311	0.066408
Powerwave	7770	147	23	547	0.242298	0.042758	0.376311	0.066408

**AT&T Mobility, LLC
WALDEN / CAROLYN BESADE
Carrier Summary**

Frequency: 1900 MHz
 Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 3.70734 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.37073 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
CCI Antennas	HPA-65R-BUU-H8	147	10	3583	2.873291	0.287329	3.648653	0.364865
CCI Antennas	HPA-65R-BUU-H8	147	120	3583	2.873291	0.287329	3.648653	0.364865
CCI Antennas	HPA-65R-BUU-H8	147	240	3583	2.873291	0.287329	3.648653	0.364865

**AT&T Mobility, LLC
WALDEN / CAROLYN BESADE
Carrier Summary**

Frequency: 763 MHz
 Maximum Permissible Exposure (MPE): 508.67 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 1.30658 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.25686 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
CCI Antennas	HPA-65R-BUU-H8	147	10	3382	1.008966	0.198355	1.043608	0.205165
CCI Antennas	HPA-65R-BUU-H8	147	120	3382	1.008966	0.198355	1.043608	0.205165
CCI Antennas	HPA-65R-BUU-H8	147	240	3382	1.008966	0.198355	1.043608	0.205165

**AT&T Mobility, LLC (Proposed)
WALDEN / CAROLYN BESADE
Carrier Summary**

Frequency: 850 MHz
 Maximum Permissible Exposure (MPE): 566.67 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 1.42545 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.25155 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
CCI Antennas	DMP65R-BU8D	147	10	2885	0.773546	0.136508	1.397487	0.246615
CCI Antennas	DMP65R-BU8D	147	120	2885	0.773546	0.136508	1.397487	0.246615
CCI Antennas	DMP65R-BU8D	147	240	2885	0.773546	0.136508	1.397487	0.246615

**AT&T Mobility, LLC (Proposed)
WALDEN / CAROLYN BESADE
Carrier Summary**

Frequency: 737 MHz
 Maximum Permissible Exposure (MPE): 491.33 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 1.58619 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.32283 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
CCI Antennas	DMP65R-BU8D	147	10	2692	0.721048	0.146753	1.335987	0.27191
CCI Antennas	DMP65R-BU8D	147	120	2692	0.721048	0.146753	1.335987	0.27191
CCI Antennas	DMP65R-BU8D	147	240	2692	0.721048	0.146753	1.335987	0.27191

**Dish Network
WALDEN / CAROLYN BESADE
Carrier Summary**

Frequency: 2010 MHz
 Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 1.16141 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.11614 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Comba	ODI2-065R18K-GQ	140	0	2945	0.695799	0.06958	1.077611	0.107761
Comba	ODI2-065R18K-GQ	140	120	2945	0.695799	0.06958	1.077611	0.107761
Comba	ODI2-065R18K-GQ	140	240	2945	0.695799	0.06958	1.077611	0.107761

**Dish Network
WALDEN / CAROLYN BESADE
Carrier Summary**

Frequency: 1900 MHz
 Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 1.37172 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.13717 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Comba	ODI2-065R18K-GQ	140	0	2813	0.673365	0.067336	1.224555	0.122455
Comba	ODI2-065R18K-GQ	140	120	2813	0.673365	0.067336	1.224555	0.122455
Comba	ODI2-065R18K-GQ	140	240	2813	0.673365	0.067336	1.224555	0.122455

Sprint
WALDEN / CAROLYN BESADE
Carrier Summary

Frequency: 2500 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 1.66589 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.16659 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
RFS	APXVTM14-C-I20	180	0	6168	0.686455	0.068645	1.284076	0.128408
RFS	APXVTM14-C-I20	180	120	6168	0.686455	0.068645	1.284076	0.128408
RFS	APXVTM14-C-I20	180	240	6168	0.686455	0.068645	1.284076	0.128408

Sprint
WALDEN / CAROLYN BESADE
Carrier Summary

Frequency: 1990 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 0.91146 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.09115 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Commscope	NNVV-65B-R4	180	0	2781	0.706964	0.070696	0.904036	0.090404
Commscope	NNVV-65B-R4	180	120	2781	0.706964	0.070696	0.904036	0.090404
Commscope	NNVV-65B-R4	180	240	2781	0.706964	0.070696	0.904036	0.090404

Sprint
WALDEN / CAROLYN BESADE
Carrier Summary

Frequency: 1900 MHz
Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 0.91146 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.09115 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Commscope	NNVV-65B-R4	180	0	2781	0.706964	0.070696	0.904036	0.090404
Commscope	NNVV-65B-R4	180	120	2781	0.706964	0.070696	0.904036	0.090404
Commscope	NNVV-65B-R4	180	240	2781	0.706964	0.070696	0.904036	0.090404

Sprint
WALDEN / CAROLYN BESADE
Carrier Summary

Frequency: 869 MHz
Maximum Permissible Exposure (MPE): 579.33 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 0.36368 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.06277 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Commscope	NNVV-65B-R4	180	0	782	0.260233	0.044919	0.359033	0.061973
Commscope	NNVV-65B-R4	180	120	782	0.260233	0.044919	0.359033	0.061973
Commscope	NNVV-65B-R4	180	240	782	0.260233	0.044919	0.359033	0.061973

Sprint
WALDEN / CAROLYN BESADE
Carrier Summary

Frequency: 862 MHz
Maximum Permissible Exposure (MPE): 574.67 $\mu\text{W}/\text{cm}^2$
Maximum power density at ground level: 0.36368 $\mu\text{W}/\text{cm}^2$
Highest percentage of Maximum Permissible Exposure: 0.06328 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Commscope	NNVV-65B-R4	180	0	782	0.260233	0.045284	0.359033	0.062477
Commscope	NNVV-65B-R4	180	120	782	0.260233	0.045284	0.359033	0.062477
Commscope	NNVV-65B-R4	180	240	782	0.260233	0.045284	0.359033	0.062477

**Verizon Wireless
WALDEN / CAROLYN BESADE
Carrier Summary**

Frequency: 2100 MHz
 Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 3.03739 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.30374 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
ANDREW	HBXX-6516DS-VTM	169	0	6461	1.691004	0.1691	2.996593	0.299659
ANDREW	HBXX-6516DS-VTM	169	120	6461	1.691004	0.1691	2.996593	0.299659
ANDREW	HBXX-6516DS-VTM	169	240	6461	1.691004	0.1691	2.996593	0.299659

**Verizon Wireless
WALDEN / CAROLYN BESADE
Carrier Summary**

Frequency: 1900 MHz
 Maximum Permissible Exposure (MPE): 1000 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 1.56654 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.15665 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
ANDREW	HBXX-6516DS-VTM	169	0	3726	0.708885	0.070888	1.521816	0.152182
ANDREW	HBXX-6516DS-VTM	169	120	3726	0.708885	0.070888	1.521816	0.152182
ANDREW	HBXX-6516DS-VTM	169	240	3726	0.708885	0.070888	1.521816	0.152182

**Verizon Wireless
WALDEN / CAROLYN BESADE
Carrier Summary**

Frequency: 751 MHz
 Maximum Permissible Exposure (MPE): 500.67 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 0.59825 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.11949 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Amphenol	QUAD656C0000x	169	0	2085	0.568811	0.113611	0.591536	0.11815
Amphenol	QUAD656C0000x	169	120	2085	0.568811	0.113611	0.591536	0.11815
Amphenol	QUAD656C0000x	169	240	2085	0.568811	0.113611	0.591536	0.11815

**Verizon Wireless
WALDEN / CAROLYN BESADE
Carrier Summary**

Frequency: 850 MHz
 Maximum Permissible Exposure (MPE): 566.67 $\mu\text{W}/\text{cm}^2$
 Maximum power density at ground level: 1.66385 $\mu\text{W}/\text{cm}^2$
 Highest percentage of Maximum Permissible Exposure: 0.29362 %

Antenna Make	Model	Height (feet)	Orientation (degrees true)	ERP (Watts)	On Axis		Area	
					Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE	Max Power Density ($\mu\text{W}/\text{cm}^2$)	Percent of MPE
Antel	LPA-80080-6CF	169	0	4019	0.93012	0.164139	1.427468	0.251906
Antel	LPA-80063-6CF	169	120	4509	1.068354	0.188533	1.090934	0.192518
Antel	LPA-80063-6CF	169	240	4509	1.068354	0.188533	1.090934	0.192518