NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Northeast Site Solutions
Denise Sabo
4 Angela's Way, Burlington CT 06013
203-435-3640
denise@northeastsitesolutions.com

August 11, 2021

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Tower Share Application
115 North Mountain Road, New Britain CT 06053
Latitude: 41.676589
Longitude: -72.821414
Site# 876331_Crown_Dish

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of Dish Wireless LLC. Dish Wireless LLC plans to install antennas and related equipment to the tower site located at 115 North Mountain Road in New Britain, Connecticut.

Dish Wireless LLC proposes to install three (3) 600/1900/2100 MHz antenna and six (6) RRUs, at the 62-foot level of the existing 118-foot monopole tower, one (1) Fiber cables will also be installed. Dish Wireless LLC equipment cabinets will be placed within 7x5 lease area. Included are plans by Infinigy, dated July 8, 2021 Exhibit C. Also included is a structural analysis prepared by Crown Castle, dated June 2, 2021, confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as Exhibit D. This facility was approved by the City of New Britain Planning and Zoning on November 22, 1996. Please see attached Exhibit A.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of Dish Wireless LLC intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to The Honorable Erin E. Stewart, Mayor for the City of New Britain, David D. Zajac, Zoning Enforcement Officer, as well as the tower owner (Crown Castle) and property owner (March 17 LLC).

The planned modifications of the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-89.

1. The proposed modification will not result in an increase in the height of the existing structure. The top of the tower is 118-feet; Dish Wireless LLC proposed antennas will be located at a center line height of 62-feet.

2. The proposed modifications will not result in the increase of the site boundary as depicted on the attached site plan.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed local and state criteria. The incremental effect of the proposed changes will be negligent.

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4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. As indicated in the attached power density calculations, the combined site operations will result in a total power density of 98.88% as evidenced by Exhibit F.

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

A. Technical Feasibility. The existing monopole has been deemed structurally capable of supporting Dish Wireless LLC proposed loading. The structural analysis is included as Exhibit D.

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this support tower in New Britain. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit Dish Wireless LLC to obtain a building permit for the proposed installation. Further, a Letter of Authorization is included as Exhibit G, authorizing Dish Wireless LLC to file this application for shared use.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of Dish Wireless LLC equipment at the 62-foot level of the existing 118-foot tower would have an insignificant visual impact on the area around the tower. Dish Wireless LLC ground equipment would be installed within the existing facility compound. Dish Wireless LLC shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

D. Economic Feasibility. Dish Wireless LLC will be entering into an agreement with the owner of this facility to mutually agreeable terms. As previously mentioned, the Letter of Authorization has been provided by the owner to assist Dish Wireless LLC with this tower sharing application.

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting Dish Wireless LLC proposed loading. Dish Wireless LLC is not aware of any public safety concerns relative to the proposed sharing of the existing guyed tower. Dish Wireless LLC intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through New Britain.

Sincerely,

Denise Sabo

Denise Sabo
Mobile: 203-435-3640
Fax: 413-521-0558
Office: 4 Angela's Way, Burlington CT 06013
Email: denise@northeastsitesolutions.com

NORTHEAST SITE SOLUTIONS
Turnkey Wireless Development

Attachments cc:

The Honorable Erin E. Stewart, Mayor (mayor@newbritainct.gov)
City of New Britain
27 West Main Street New Britain, CT 06051

David D. Zajac, Zoning Enforcement Officer
City of New Britain
27 West Main Street, Room 404 New Britain, CT 06051

March 17 LLC
PO Box 3040
One Liberty Square, New Britain CT 06050

Crown Castle, Tower Owner

Exhibit A

Original Facility Approval

10:AM (ELECT) WAYNE GLEIFERT

083

B 85

CITY OF NEW BRITAIN
DEPARTMENT OF LICENSES, PERMITS
AND INSPECTIONS
TELEPHONE: 826-3383

BUILDING/ZONING PERMIT

DATE 11/22/96

COST 112,000.

FEE 1,780.

APPLICANT Sprint PCS TEL. NO. 294-5609

ADDRESS 9 Barnes Indusrial Rd, Wallingford, CT 06492

PERMIT FOR: Construct 120' Monopole Tower, per engineered drawings/specifications.

LOCATION North Mountain Rd, Lot C

BUILDING DIMENSIONS ____ FT. WIDE BY ____ FT. LONG AND ____ FT. IN HEIGHT

BUILDING TYPE ____ USE GROUP ____ LOT SIZE ____ ZONE ____

OWNER October 24 Corporation

ADDRESS

CERT. OF OCCUPANCY REQUIRED YES___ NO✓

AS-BUILT SURVEY REQUIRED YES___ NO✓

THE MATCHING APPLICATION IS PART AND PARCEL OF THIS BUILDING PERMIT.

12-5-96

BUILDING OFFICIAL

WNUK

WHERE APPLICABLE SEPARATE PERMITS ARE REQUIRED FOR ELECTRICAL, PLUMBING AND MECHANICAL INSTALLATIONS.

APPLICANT'S COPY

MANDATORY INSPECTIONS REQUIRED

POST PERMIT FOR DURATION OF WORK

Exhibit B

Property Card

115 NORTH MOUNTAIN RD

Location	115 NORTH MOUNTAIN RD	**Mblu**	F2D/ 102/ / /
Acct#	66600115	**Owner**	MARCH 17 LLC
Assessment	$233,310	**Appraisal**	$333,300
PID	1134	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$234,100	$99,200	$333,300
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$163,870	$69,440	$233,310

Owner of Record

Owner	MARCH 17 LLC	**Sale Price**	$900,000
Co-Owner		**Certificate**	
Address	PO BOX 3040 ONE LIBERTY SQUARE NEW BRITAIN , CT 06050	**Book & Page**	2021/980
		Sale Date	06/12/2019
		Instrument	17

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
MARCH 17 LLC	$900,000		2021/980	17	06/12/2019
OCTOBER TWENTY FOUR INC	$550,000	1	1826/0309	19	09/29/2011
OCTOBER TWENTY FOUR INC	$0		0733/0284		02/02/1978
GIUSEPPE CACCAMO SALVATORE	$0		0431/0424		01/01/1900
	$0		0224/0239		01/01/1900

Building Information

Building 1 : Section 1

Year Built:

Building Photo

Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Attributes	
Field	**Description**
Style	Outbuildings
Model	
Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Central Heat Sys	
Heat Type	
AC Type	
Total Bedrooms	
Total Full Baths	
Total Half Baths	
Total Xtra Fixtrs	
Total Rooms	
Bath Style	
Kitchen Style	
Num Kitchens	
Whirlpool Tub	
Fireplaces	
Rec Room Finish	
Rec Room Qual	
Bsmt Garages	
Fireplaces	
Bldg Nbhd	
Fndtn Cndtn	
Basement	

(http://images.vgsi.com/photos/NewBritainCTPhotos//default.jpg)

Building Layout

Building Layout (ParcelSketch.ashx?pid=1134&bid=1593)

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	4400
Description	Ind Ld De
Zone	TP
Neighborhood	101G
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	0.82
Depth	
Assessed Value	$69,440
Appraised Value	$99,200

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV5	Conc Pad			256.00 S.F.	$3,100	1
FN3	Fence-6' Chain			150.00 L.F.	$1,500	1
CB3	PreCastConcCel			286.00 S.F.	$89,200	1
CB3	PreCastConcCel			360.00 S.F.	$140,300	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$234,100	$99,200	$333,300
2018	$234,100	$99,200	$333,300
2017	$234,100	$99,200	$333,300

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$163,870	$69,440	$233,310
2018	$163,870	$69,440	$233,310
2017	$163,870	$69,440	$233,310


Webster Resource Cent
Loon Lake Rd
Loon Lake Rd
Loon Lake Rd
84
Robindale Dr
Quinnipiac River
Yankee Expy
Yankee Expy
Hillhurst Ave
Elementar
Gaffney PreSchool
Quest Diagnostics
Quest Diagnostics 183...
84
Stanwood Dr

Exhibit C

Construction Drawings

DISH Wireless L.L.C. SITE ID:

BOBDL00083A

DISH Wireless L.L.C. SITE ADDRESS:

115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

CONNECTICUT CODE COMPLIANCE

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

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

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
A-1	OVERALL AND ENLARGED SITE PLAN
A-2	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT PLATFORM AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
E-1	ELECTRICAL/FIBER ROUTE PLAN AND NOTES
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
G-1	GROUNDING PLANS AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
RF-1	RF CABLE COLOR CODE
RF-2	RF PLUMBING DIAGRAM
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES

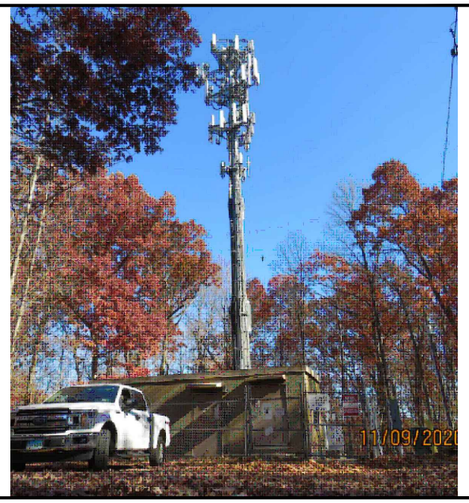
SCOPE OF WORK

THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:

TOWER SCOPE OF WORK:
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
- INSTALL (1) PROPOSED TOWER PLATFORM MOUNT
- INSTALL PROPOSED JUMPERS
- INSTALL (6) PROPOSED RRUs (2 PER SECTOR)
- INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
- INSTALL (1) PROPOSED HYBRID CABLE

GROUND SCOPE OF WORK:
- INSTALL (1) PROPOSED METAL PLATFORM
- INSTALL (1) PROPOSED ICE BRIDGE
- INSTALL (1) PROPOSED PPC CABINET
- INSTALL (1) PROPOSED EQUIPMENT CABINET
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT
- INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED)
- INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)
- INSTALL (1) PROPOSED METER IN SLOT 3 OF EXISTING METER BANK

SITE PHOTO



UNDERGROUND SERVICE ALERT CBYD 811
UTILITY NOTIFICATION CENTER OF CONNECTICUT
(800) 922-4455
WWW.CBYD.COM
CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

811

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

SITE INFORMATION

PROPERTY OWNER:	GLOBAL SIGNAL ACQUISITION
ADDRESS:	PO BOX 277455 ATLANTA, GA 30384-7455
TOWER TYPE:	MONOPOLE
TOWER CO SITE ID:	876331
TOWER APP NUMBER:	556610
COUNTY:	HARTFORD
LATITUDE (NAD 83):	41°40'35.7" N 41.676589 N
LONGITUDE (NAD 83):	72°49'17.1" W 72.821414 W
ZONING JURISDICTION:	CT – CONNECTICUT SITING COUNCIL
ZONING DISTRICT:	N/A
PARCEL NUMBER:	66600115
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	T.B.D.
TELEPHONE COMPANY:	T.B.D.

PROJECT DIRECTORY

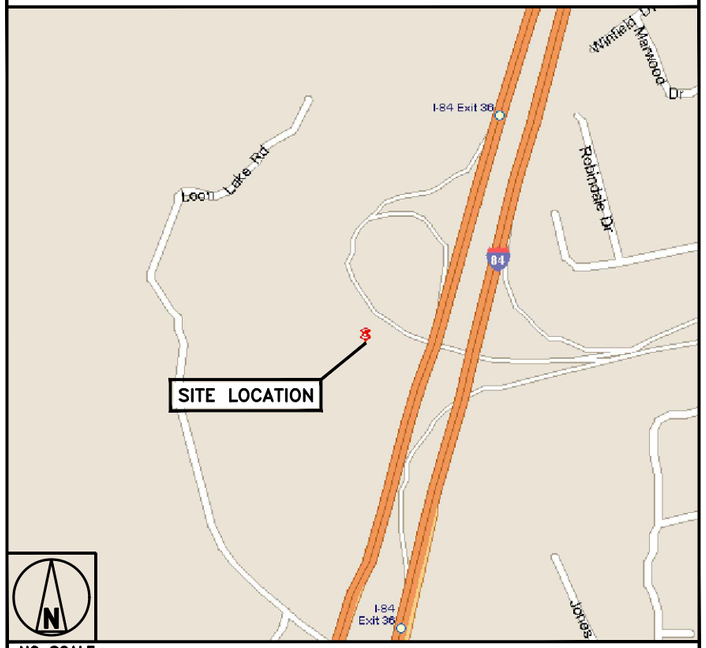
APPLICANT:	DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317 (877) 486-9377
SITE DESIGNER:	B+T GROUP 1717 S. BOULDER AVE, SUITE 300 TULSA, OK 74119 (918) 587-4630
SITE ACQUISITION:	NICHOLAS CURRY (704) 405-6600
CONSTRUCTION MANAGER:	JAVIER SOTO JAVIER.SOTO@DISH.COM
RF ENGINEER:	BOSSENER CHARLES BOSSENER.CHARLES@DISH.COM

DIRECTIONS

DIRECTIONS FROM BRADLEY INTERNATIONAL AIRPORT TO 115 NORTH MOUNTAIN RD NEW BRITAIN, CT 06053:

VIA I-91 S AND I-84, CONTINUE TO BRADLEY INTERNATIONAL AIRPORT CON, TAKE I-91 S AND I-84 TO EXIT 36.

VICINITY MAP



NO SCALE

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

CROWN CASTLE
2000 CORPORATE DRIVE
CANONSBURG, PA 15317

B+T GRP
1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.btgrp.com

STATE OF CONNECTICUT — No. 23924 — LICENSED PROFESSIONAL ENGINEER — 7/8/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
JJR	MTJ	MDW

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	5/25/21	ISSUED FOR REVIEW
0	7/8/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

151136.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00083A
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE

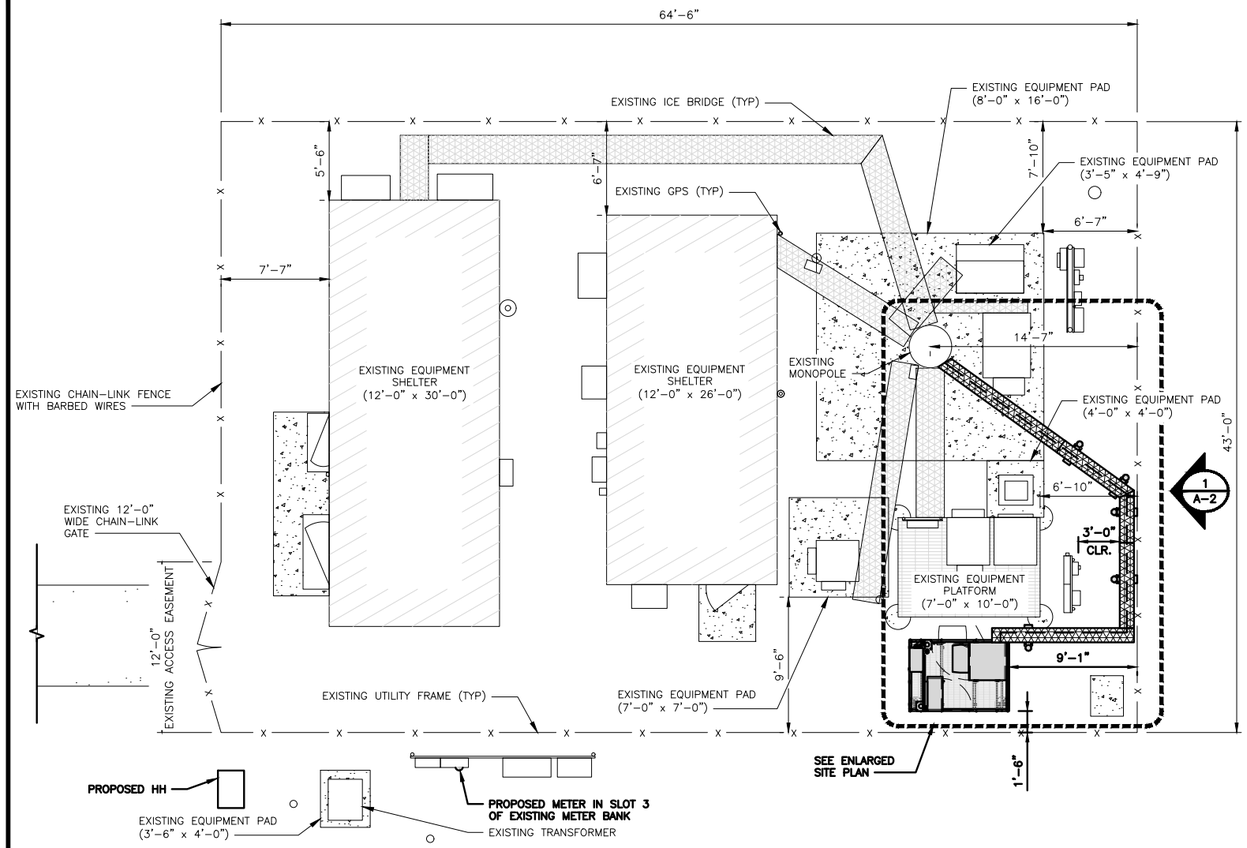
TITLE SHEET

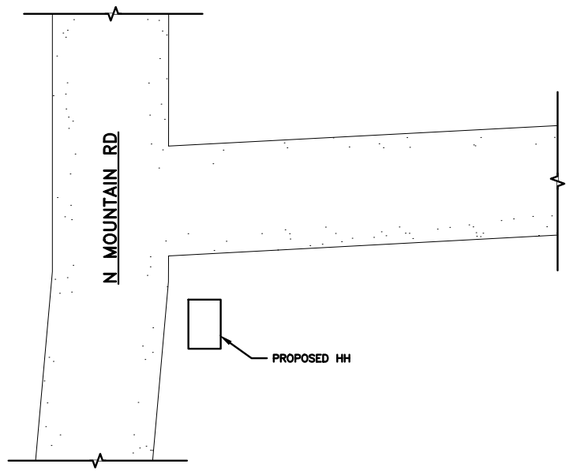
SHEET NUMBER

T-1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.





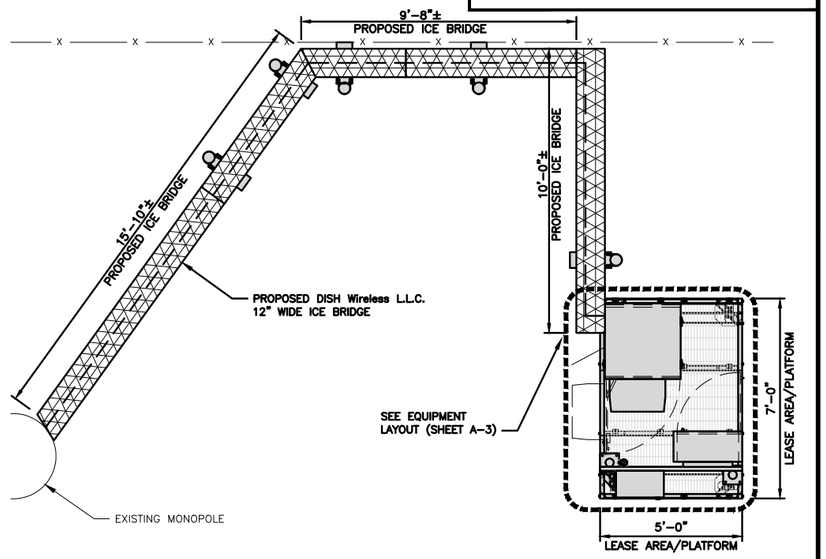
OVERALL SITE PLAN

6' 4' 2' 0 5' 10'
3/16"=1'-0"

1

NOTES

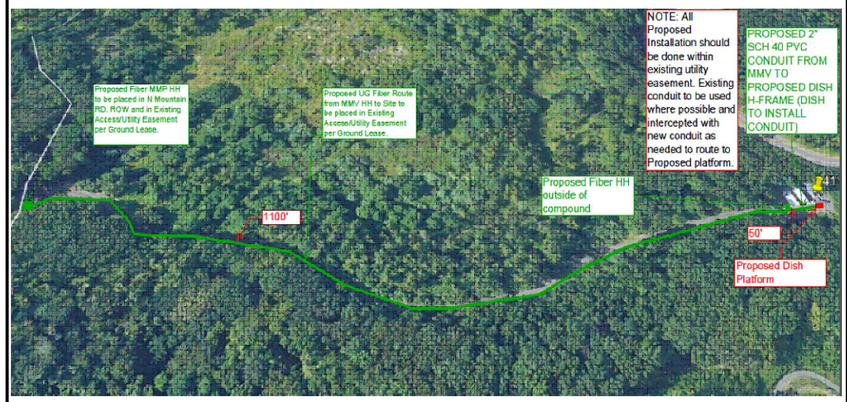
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



ENLARGED SITE PLAN

12" 6" 0 1' 2' 3' 4' 5' 6' 7'
3/8"=1'-0"

2



UTILITY PLAN

3

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

CROWN CASTLE
2000 CORPORATE DRIVE
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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00083A
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE

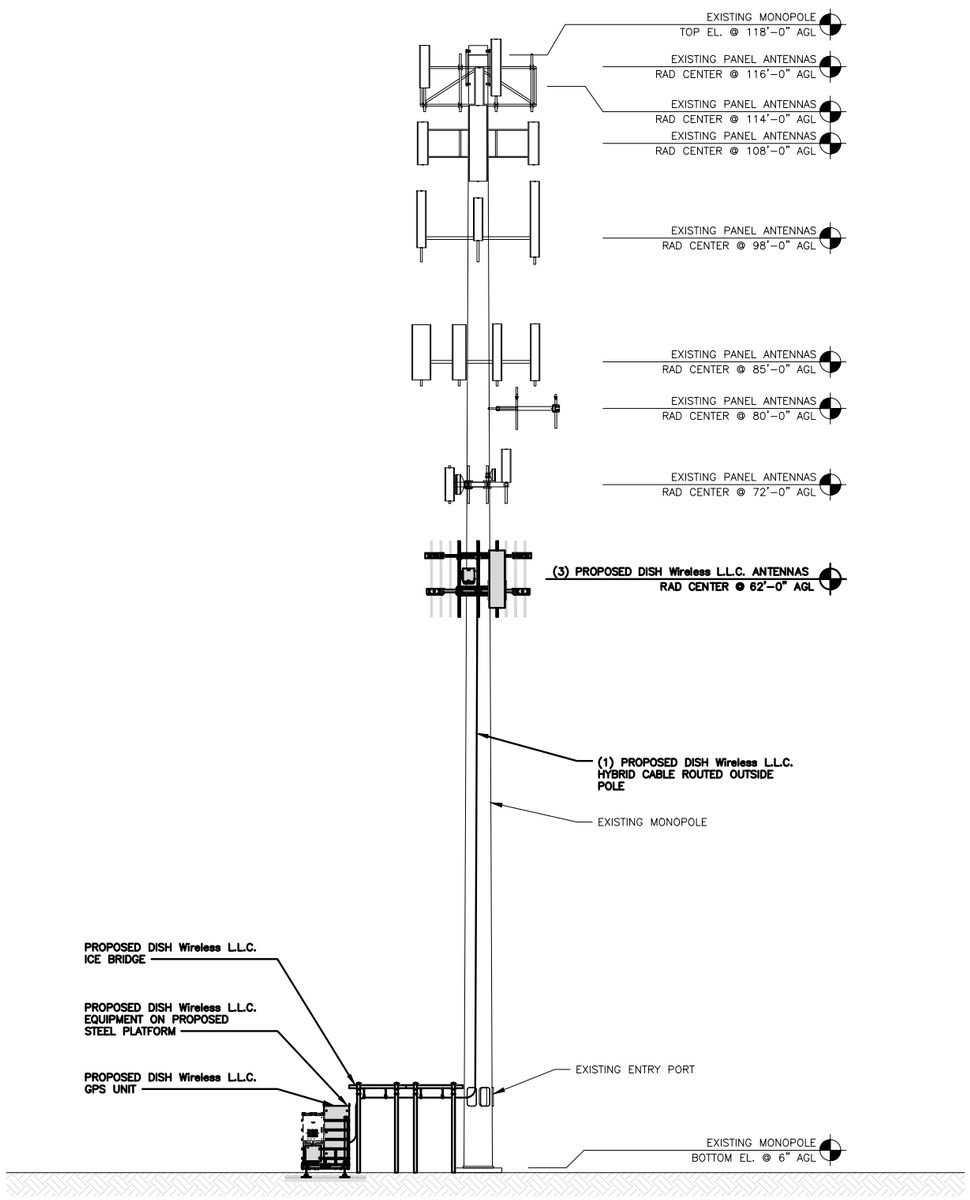
OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER

A-1

NOTES

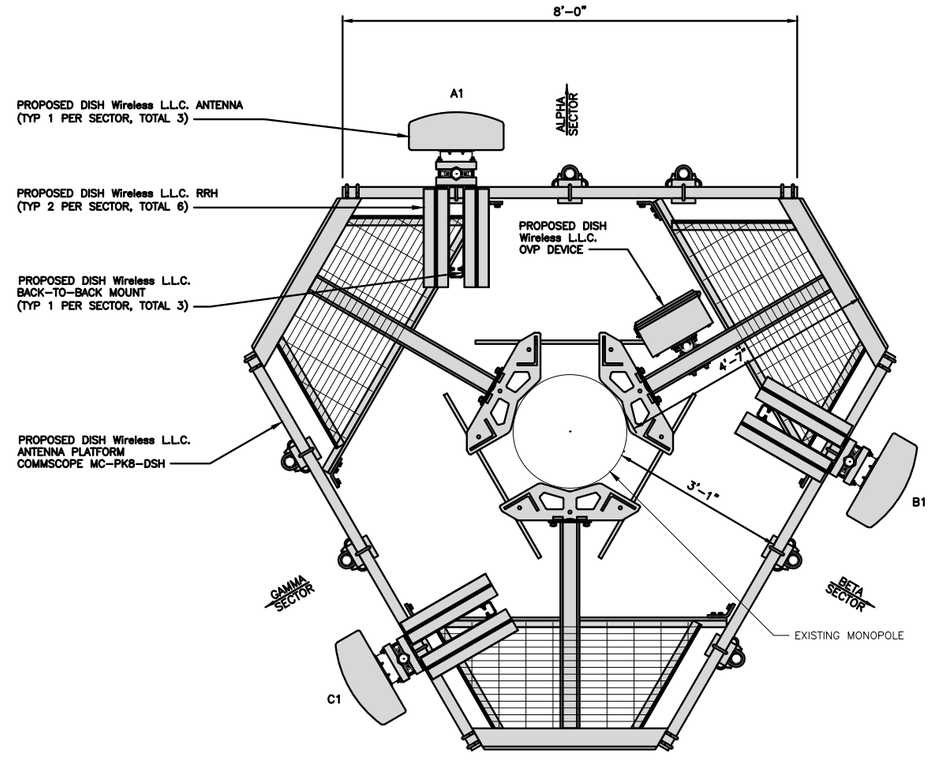
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



PROPOSED EAST ELEVATION

8' 4' 0 8' 16'
1/8"=1'-0"

1



N

ANTENNA LAYOUT

12" 6" 0 1' 2' 3'
3/4"=1'-0"

2

SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	JMA WIRELESS – MX08FRO665-21	5G	72.0" x 20.0"	0°	62'-0"	(1) HIGH-CAPACITY HYBRID CABLE (125'-0" LONG)
BETA	B1	PROPOSED	JMA WIRELESS – MX08FRO665-21	5G	72.0" x 20.0"	120°	62'-0"	
GAMMA	C1	PROPOSED	JMA WIRELESS – MX08FRO665-21	5G	72.0" x 20.0"	240°	62'-0"	

SECTOR	POSITION	RRH	
		MANUFACTURER – MODEL NUMBER	TECHNOLOGY
ALPHA	A1	FUJITSU – TA08025-B604	5G
	A1	FUJITSU – TA08025-B605	5G
BETA	B1	FUJITSU – TA08025-B604	5G
	B1	FUJITSU – TA08025-B605	5G
GAMMA	C1	FUJITSU – TA08025-B604	5G
	C1	FUJITSU – TA08025-B605	5G

NOTES

1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.

ANTENNA SCHEDULE

NO SCALE

3

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

CROWN CASTLE
2000 CORPORATE DRIVE
CANONSBURG, PA 15317

B+T GRP
1717 S. BOULDER
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STATE OF CONNECTICUT — CHRISTOPHER R. CLEVELAND — No. 23924 — LICENSED PROFESSIONAL ENGINEER
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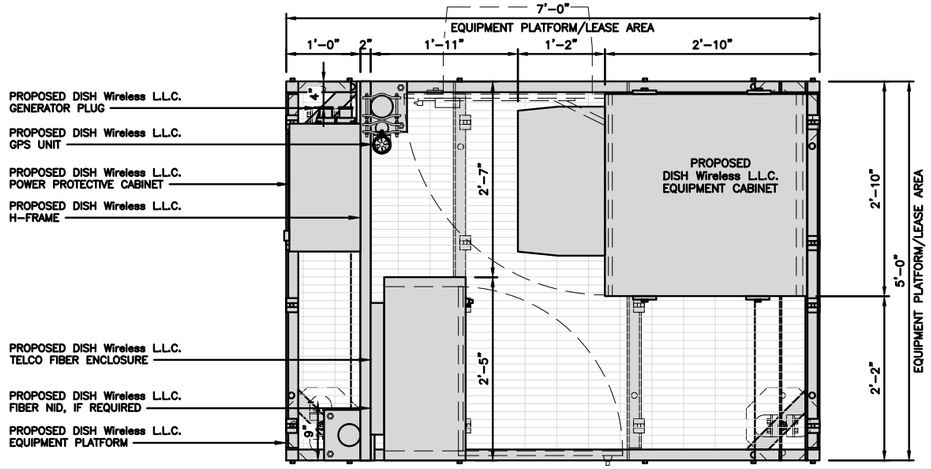
BOBDL00083A
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE

ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER

A-2



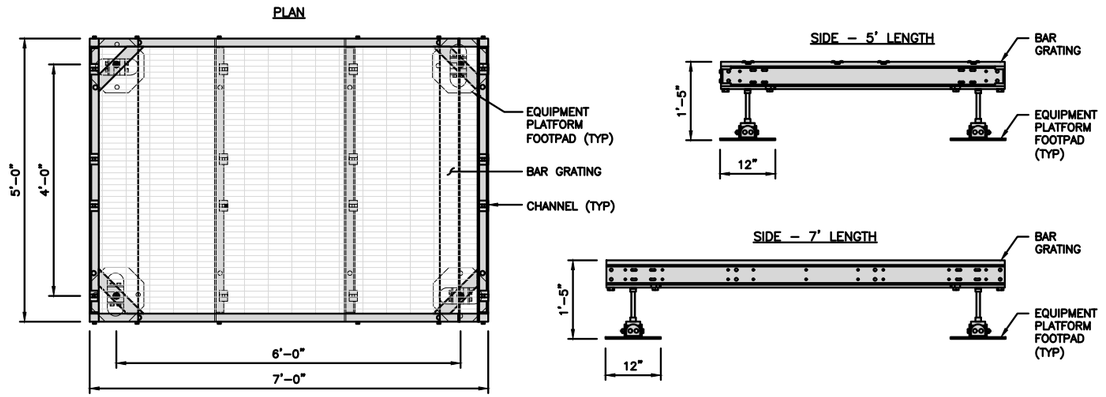
PLATFORM EQUIPMENT PLAN

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

1

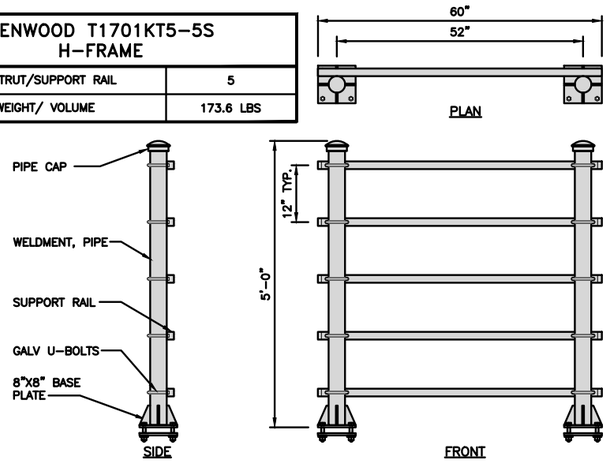
COMMSCOPE MTC4045LP 5X7 PLATFORM	
DIMENSIONS (HxWxD)	16"x84"x60"
TOTAL WEIGHT	423 LBS

NOTE:
GC TO PROVIDE EXTENDED THREAD FOR PLATFORM IF REQUIRED HEIGHT EXCEEDS 17"



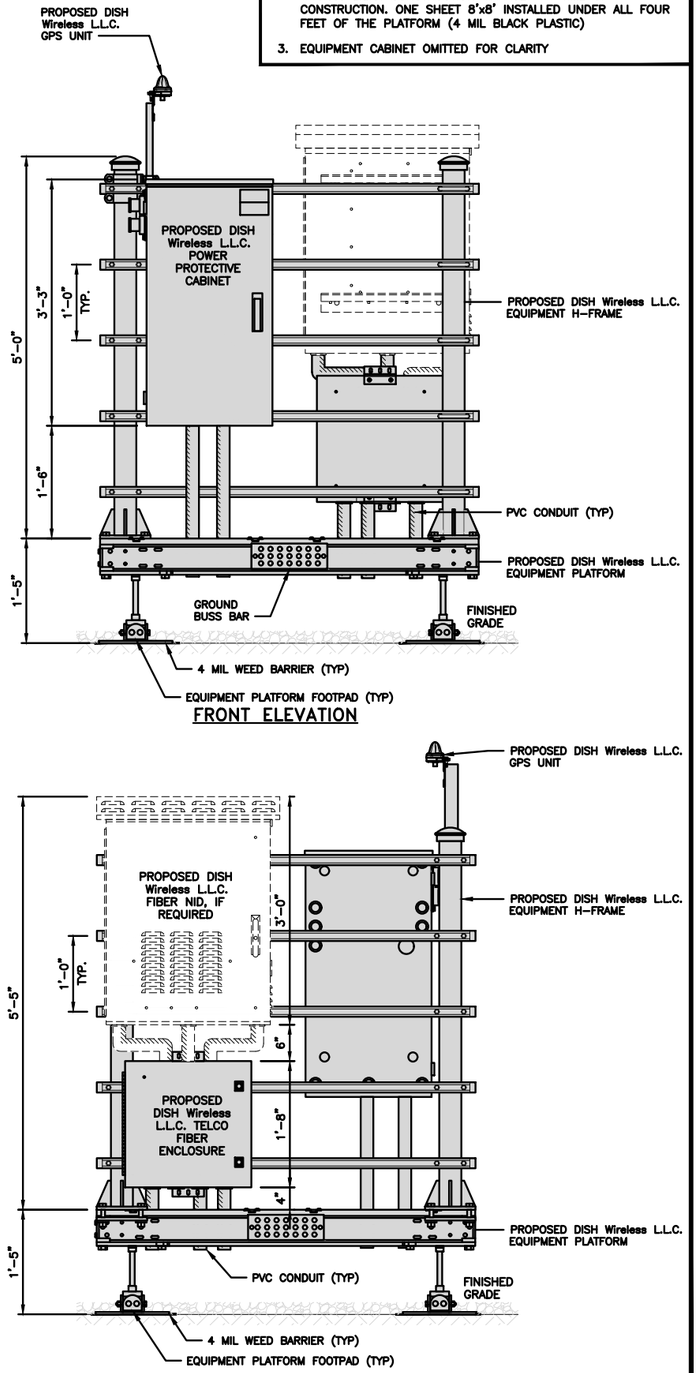
PLATFORM DETAIL | NO SCALE | 2

KENWOOD T1701KT5-5S H-FRAME	
UNISTRUT/SUPPORT RAIL	5
WEIGHT/ VOLUME	173.6 LBS



H-FRAME DETAIL | NO SCALE | 3

NOT USED | NO SCALE | 4



H-FRAME EQUIPMENT ELEVATION | 12" 9" 6" 3" 0 1' 2' 1"=1'-0" | 5

NOTES

1. CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
2. WEED BARRIER FABRIC TO BE ADDED AT DISCRETION OF DISH Wireless L.L.C. CONSTRUCTION MANAGER AT TIME OF CONSTRUCTION. ONE SHEET 8'x8' INSTALLED UNDER ALL FOUR FEET OF THE PLATFORM (4 MIL BLACK PLASTIC)
3. EQUIPMENT CABINET OMITTED FOR CLARITY

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JJR	MTJ	MDW

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CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	5/25/21	ISSUED FOR REVIEW
0	7/8/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
151136.001.01

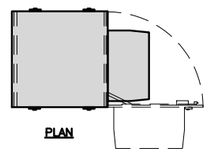
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00083A
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

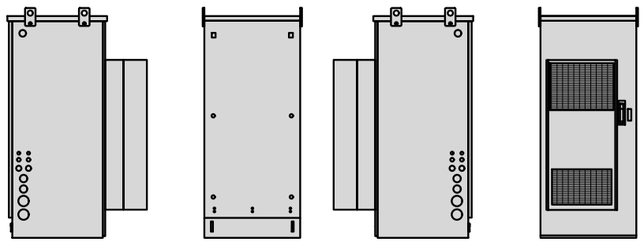
SHEET TITLE
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER
A-3

CHARLES INDUSTRY HEX CUBE–PM639155N4

DIMENSIONS (HxWxD):	74"x32"x32"
POWER PLANT:	–48VDC ABB/600W
TOTAL WEIGHT (EMPTY)	408 LBS

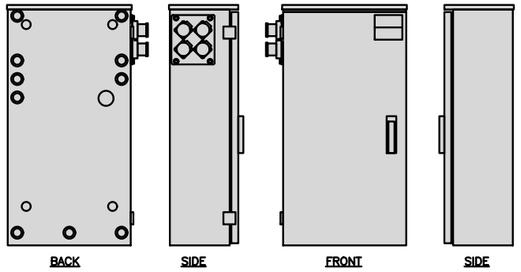




CABINET DETAIL | NO SCALE | 1

RAYCAP PPC RDIAC–2465–P–240–MTS

ENCLOSURE DIMENSIONS (HxWxD):	39"x22.855"x12.593
WEIGHT:	80 lbs
OPERATING AC VOLTAGE	240/120 1 PHASE 3W+G



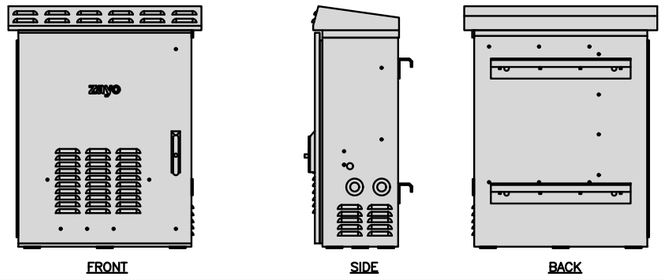
POWER PROTECTION CABINET (PPC) DETAIL | NO SCALE | 2

NOT USED | NO SCALE | 3

NOT USED | NO SCALE | 4

ZAYO 5RU CABINET LEFT SWING DOOR ("LIT" SITES)

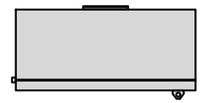
DIMENSIONS (HxWxD)	36.115"x29"x12.9"
WEIGHT	85 LBS
POWER INPUT	20A, –48VDC

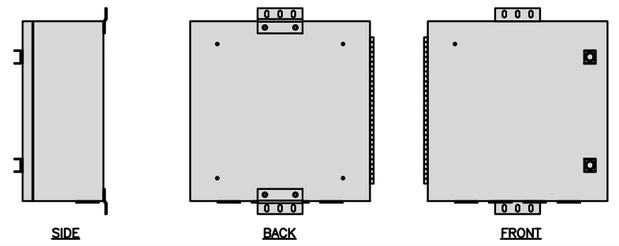


NETWORK INTERFACE UNIT DETAIL | NO SCALE | 5

CHARLES CFIT–PF2020DSH1 FIBER TELCO ENCLOSURE

ENCLOSURE DIMS (HxWxD)	20"x20"x9"
ENCLOSURE WEIGHT	20 lbs
MOUNTING	WALL
COMPLIANCE	TYPE 4



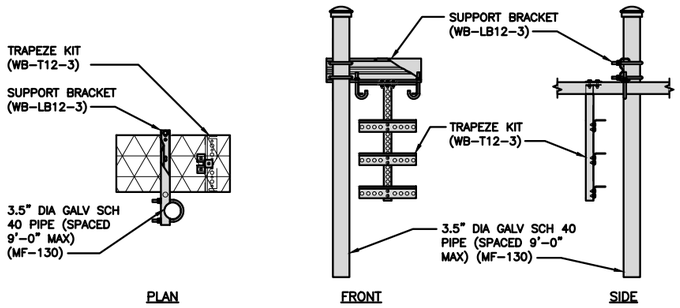


FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 6

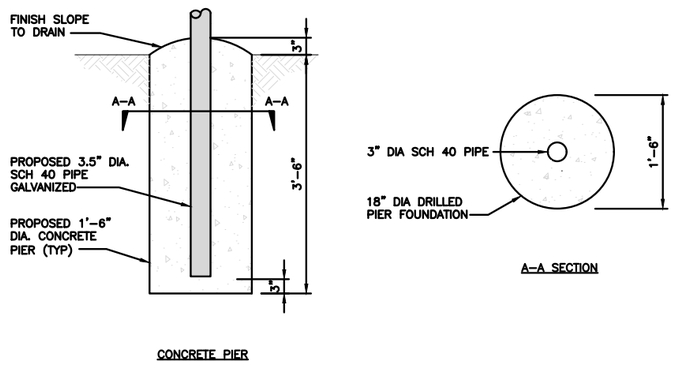
COMMSCOPE WB–K110–B WAVEGUIDE BRIDGE KIT

DIMENSIONS (HxL)	160"x10'
WEIGHT/ VOLUME	325.0 LBS
CABLE RUN (QTY)	12

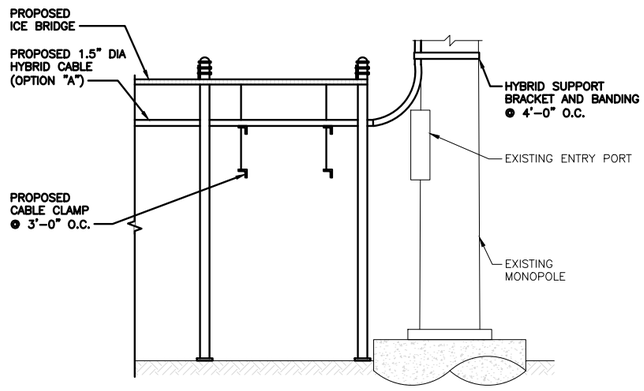
INCLUDED PRODUCTS:	WB–T12–3 TRAPEZE KIT, 3 RUNGS
	WB–LB12–3 SUPPORT BRACKET
	MF–130 DIRECT BURIAL PIPE COLUMN, 13'–4"



ICE BRIDGE DETAIL | NO SCALE | 7



TYPICAL ICE BRIDGE CONCRETE PIER DETAIL | NO SCALE | 8



HYBRID CABLE RUN | NO SCALE | 9

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PROJECT INFORMATION

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115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

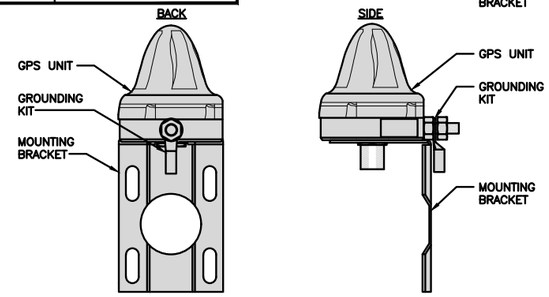
SHEET TITLE

EQUIPMENT DETAILS

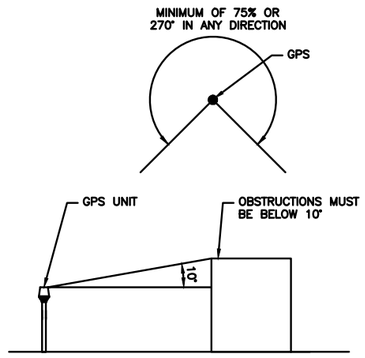
SHEET NUMBER

A-4

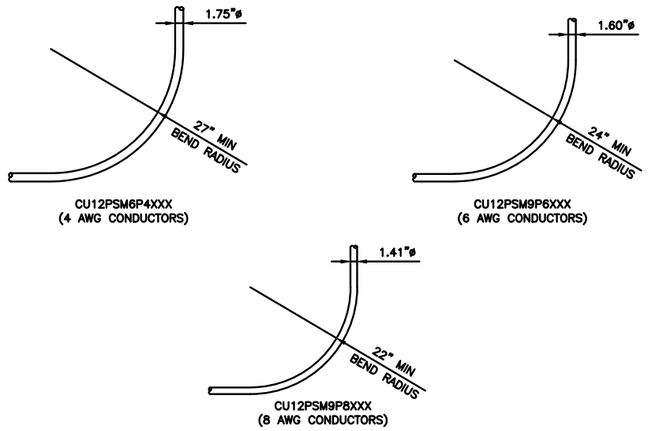
ROSENBERGER GPSGLONASS-36-N-S	
DIMENSION (DIA x H)	69mm x 98.5mm
WEIGHT (WITH ACCESSORIES)	515.74g
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1559 MHz ~ 1610.5MHz



GPS ANTENNA DETAIL | NO SCALE | 1



GPS MINIMUM SKY VIEW REQUIREMENTS | NO SCALE | 2



CABLES UNLIMITED HYBRID CABLE MINIMUM BEND RADIUSES | NO SCALE | 3

NOT USED | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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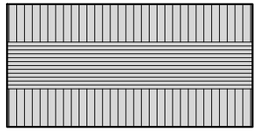
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

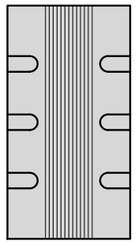
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-5

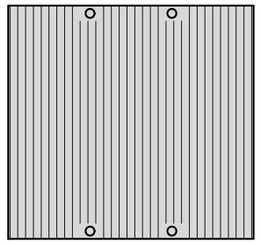
FUJITSU TA08025-B604 RRH	
DIMENSIONS (HxWxD) (KG/IN)	380x400x200/14.9"x15.7"x7.8"
WEIGHT(KG,LB)/ VOLUME	29kg,63.9lb/ 30L
POWER SUPPLY	DC-58~-36V



PLAN



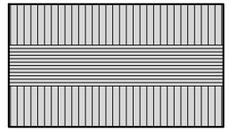
SIDE



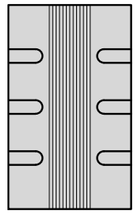
FRONT

REMOTE RADIO HEAD DETAIL | NO SCALE | 1

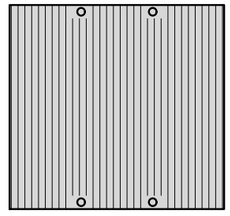
FUJITSU TA08025-B605 RRH	
DIMENSIONS (HxWxD) (KG/IN)	380x400x230/14.9"x15.7"x9.0"
WEIGHT(KG,LB)/ VOLUME	34kg,74.9lb/ 35L
POWER SUPPLY	DC-58~-36V



PLAN



SIDE

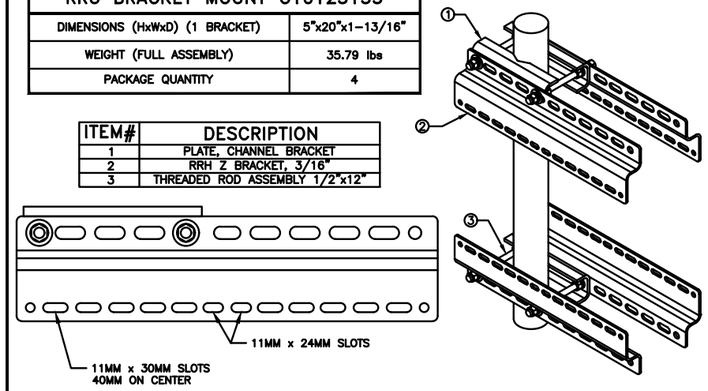


FRONT

REMOTE RADIO HEAD DETAIL | NO SCALE | 2

SABRE INDUSTRIES RRU BRACKET MOUNT C10123155	
DIMENSIONS (HxWxD) (1 BRACKET)	5"x20"x1-13/16"
WEIGHT (FULL ASSEMBLY)	35.79 lbs
PACKAGE QUANTITY	4

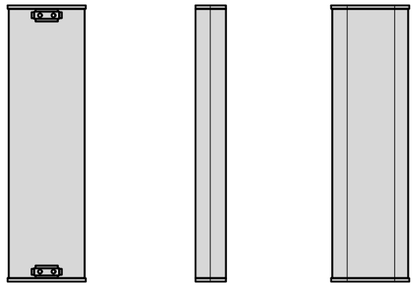
ITEM#	DESCRIPTION
1	PLATE, CHANNEL BRACKET
2	RRH Z BRACKET, 3/16"
3	THREADED ROD ASSEMBLY 1/2"x12"



REMOTE RADIO MOUNT DETAIL | NO SCALE | 3

JMA WIRELESS MX08FRO665-21 ANTENNA	
DIMENSIONS (HxWxD)	72.0"x20.0"x8.0"
TOTAL WEIGHT	64.5 LB
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE

PLAN

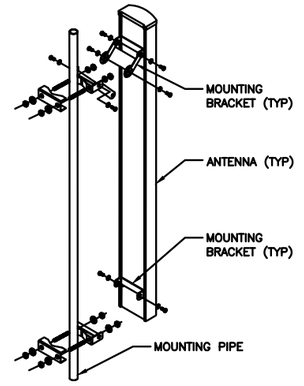


BACK SIDE FRONT

ANTENNA DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

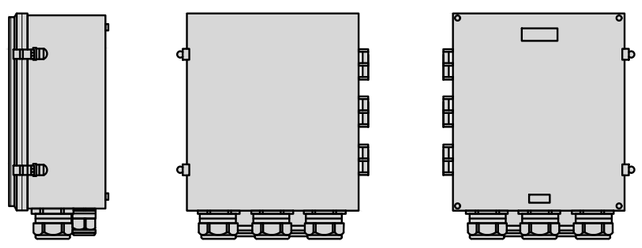
M04 MOUNTING BRACKET HPA-33R-BUU-H4-K	
WIDTH	5" (135mm)
DEPTH	2" (51mm)
HEIGHT	8" (213mm)
TOTAL WEIGHT (WITH BRACKETS)	1.5 LBS (15.50 Kg)
HOUSING MATERIAL	ASA/ABS/ALUMINUM
RADOME COLOR	LIGHT GRAY
CONNECTOR	1X8-PIN DAISY CHAIN



ANTENNA MOUNTING DETAIL | NO SCALE | 6

RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS

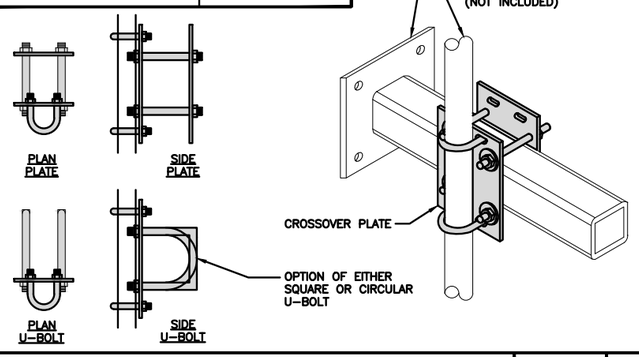
PLAN



SIDE BACK FRONT

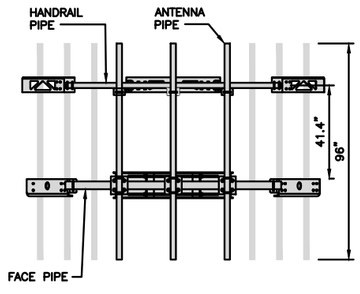
SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

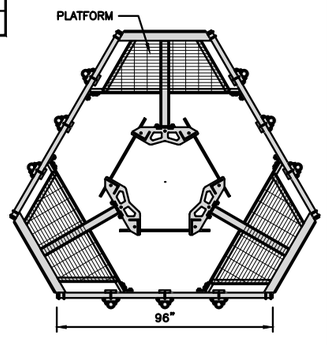
COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11.023 LBS



RRH/OVP MOUNT DETAIL | NO SCALE | 8

COMMSCOPE MC-PK8-DSH	
FACE WIDTH	96"
WEIGHT	1373.08 lbs
NOTE: 15" TO 38" O.D.	





ANTENNA PLATFORM DETAIL | NO SCALE | 9

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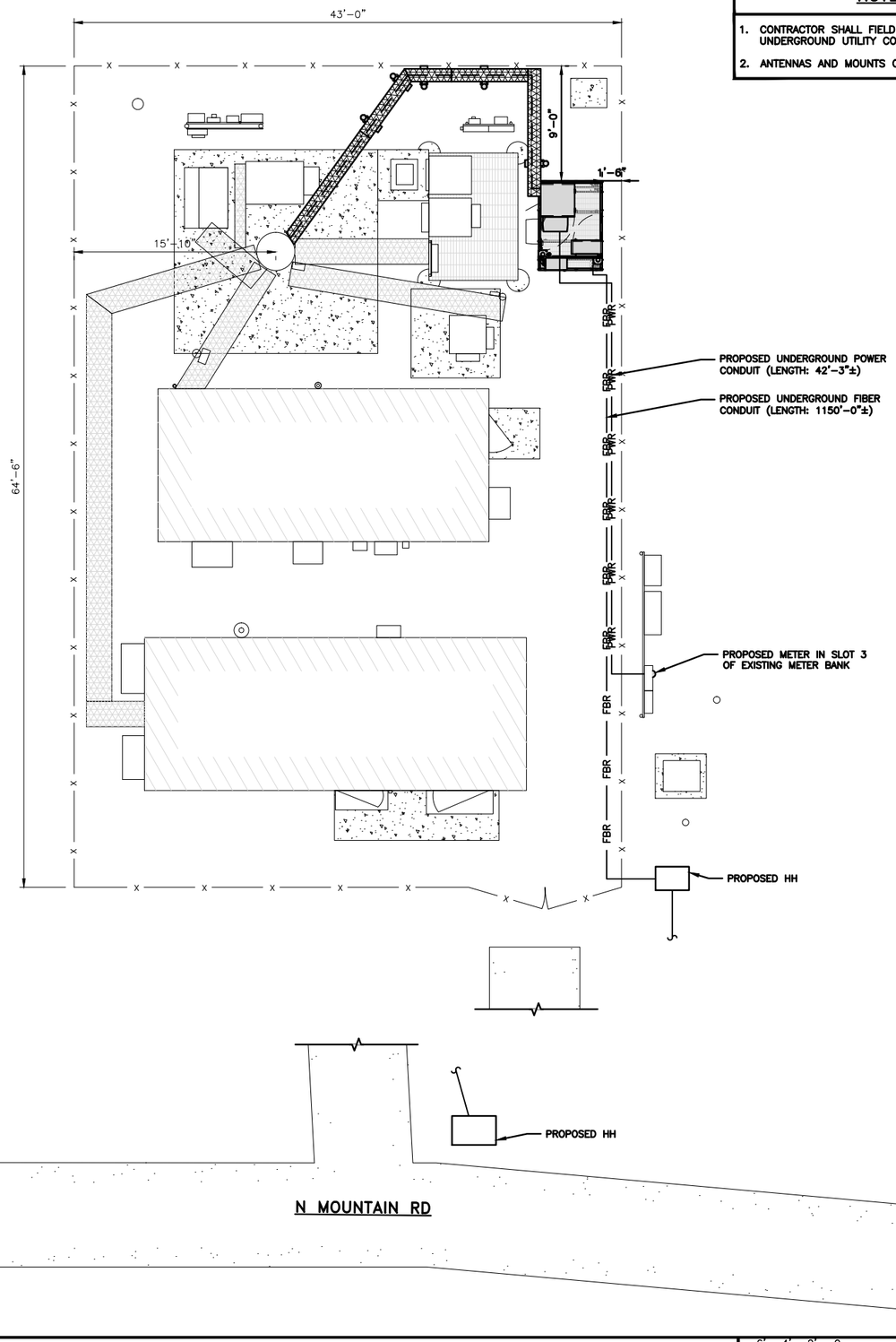
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-6



NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.

UTILITY ROUTE PLAN

6' 4' 2' 0 5' 10'
3/16"=1'-0"

1

DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND -48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY -48V.

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTOR'S FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL STATE AND LOCAL CODES, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
3. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO CONSTRUCTION.
4. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH THE MECHANICAL EQUIPMENT CONTRACTOR AND COMPLY AS REQUIRED.
5. CONTRACTOR SHALL PROVIDE ALL BREAKERS, CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETE SYSTEM.
6. CONTRACTOR SHALL PROVIDE PULL BOXES AND JUNCTION BOXES AS REQUIRED BY THE NEC ARTICLE 314.
7. CONTRACTOR SHALL PROVIDE ALL STRAIN RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
8. ALL DISCONNECTS AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM.
9. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC 250. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, AND EQUIPMENT CABINETS.
10. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
11. PANEL SCHEDULE LOADING AND CIRCUIT ARRANGEMENTS REFLECT POST-CONSTRUCTION EQUIPMENT.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT PANEL SCHEDULE AND SITE DRAWINGS.
13. ALL TRENCHES IN COMPOUND TO BE HAND DUG

ELECTRICAL NOTES

NO SCALE

2

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A&E PROJECT NUMBER

151136.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00083A
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE

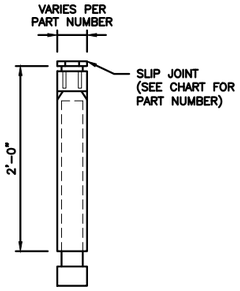
ELECTRICAL/FIBER ROUTE PLAN AND NOTES

SHEET NUMBER

E-1

CARLON EXPANSION FITTINGS

COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
E945M	E945MX	3 1/2"	5	8"
E945N	E945NX	4"	5	8"
E945P	E945PX	5"	1	8"
E945R	E945RX	6"	1	8"

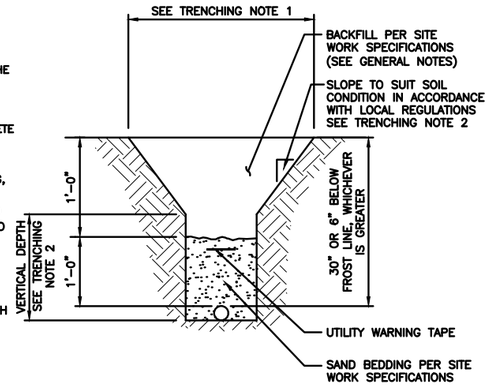


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

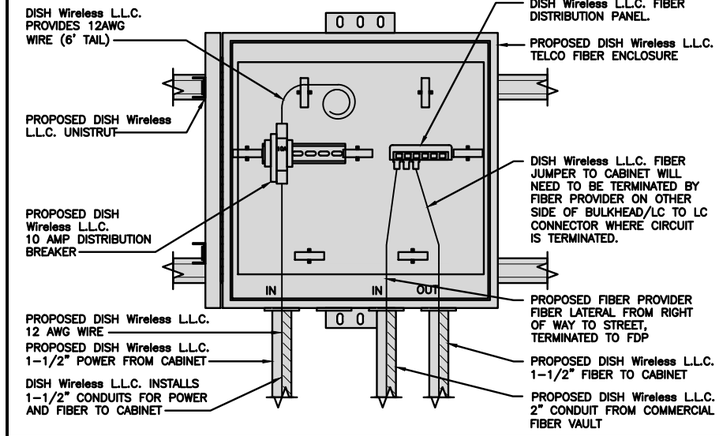
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

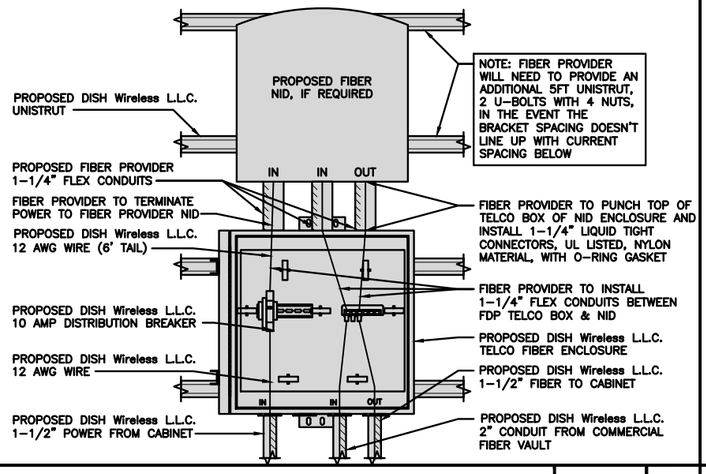
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
3. ALL CONDUITS SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT NATIONAL ELECTRIC CODE (NEC) OR AS REQUIRED BY THE LOCAL JURISDICTION, WHICHEVER IS THE MOST STRINGENT.



TYPICAL UNDERGROUND TRENCH DETAIL | NO SCALE | 2



DARK TELCO BOX – INTERIOR WIRING LAYOUT | NO SCALE | 3



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL) | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
JJR	MTJ	MDW

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	5/25/21	ISSUED FOR REVIEW
0	7/8/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

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DISH Wireless L.L.C.
PROJECT INFORMATION

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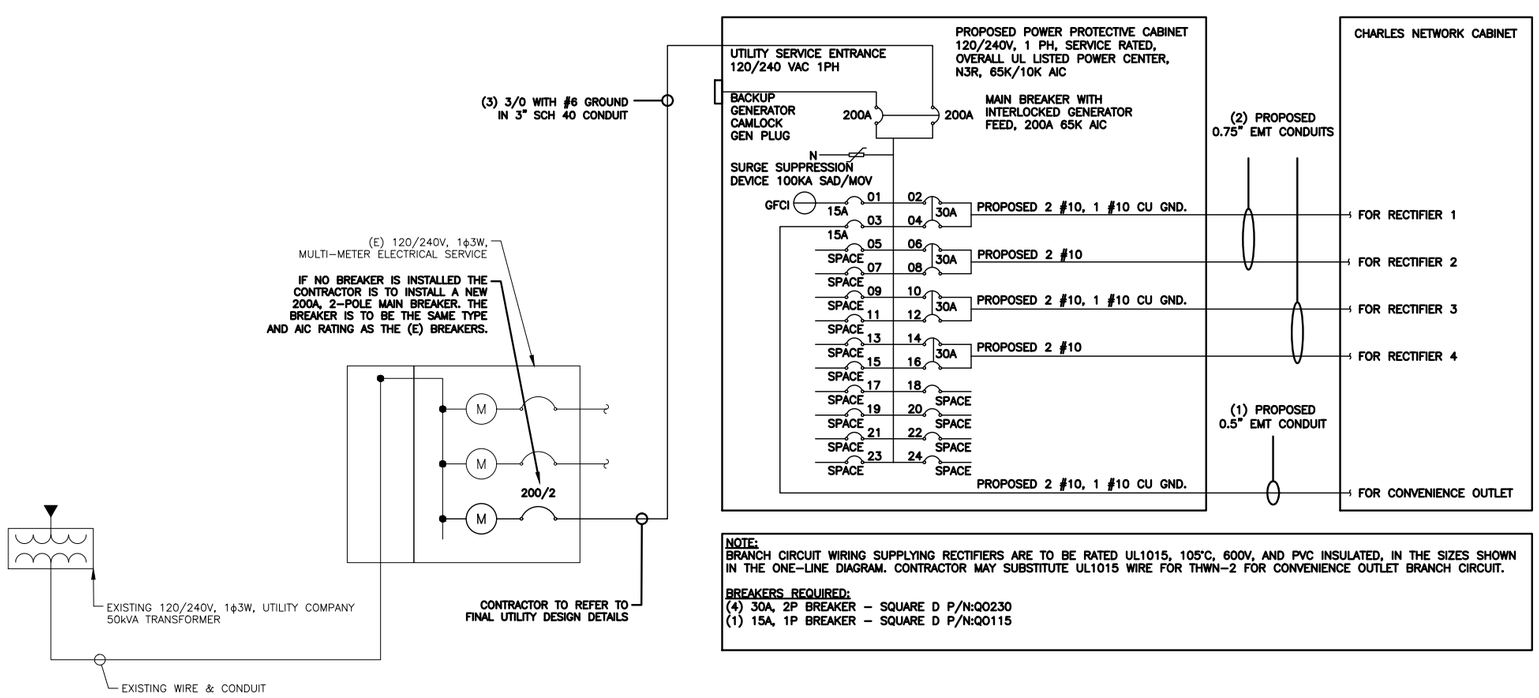
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

E-2



NOTE:
BRANCH CIRCUIT WIRING SUPPLYING RECTIFIERS ARE TO BE RATED UL1015, 105°C, 600V, AND PVC INSULATED, IN THE SIZES SHOWN IN THE ONE-LINE DIAGRAM. CONTRACTOR MAY SUBSTITUTE UL1015 WIRE FOR THWN-2 FOR CONVENIENCE OUTLET BRANCH CIRCUIT.

BREAKERS REQUIRED:
(4) 30A, 2P BREAKER - SQUARE D P/N:QO230
(1) 15A, 1P BREAKER - SQUARE D P/N:QO115

NOTES

THE (2) CONDUITS WITH (4) CURRENT CARRYING CONDUCTORS EACH, SHALL APPLY THE ADJUSTMENT FACTOR OF 80% PER 2014/17 NEC TABLE 310.15(B)(3)(a) OR 2020 NEC TABLE 310.15(C)(1) FOR UL1015 WIRE.

#12 FOR 15A-20A/1P BREAKER: 0.8 x 30A = 24.0A
#10 FOR 25A-30A/2P BREAKER: 0.8 x 40A = 32.0A
#8 FOR 35A-40A/2P BREAKER: 0.8 x 55A = 44.0A
#6 FOR 45A-60A/2P BREAKER: 0.8 x 75A = 60.0A

CONDUIT SIZING: AT 40% FILL PER NEC CHAPTER 9, TABLE 4, ARTICLE 358.
0.5" CONDUIT - 0.122 SQ. IN AREA
0.75" CONDUIT - 0.213 SQ. IN AREA
2.0" CONDUIT - 1.316 SQ. IN AREA
3.0" CONDUIT - 2.907 SQ. IN AREA

CABINET CONVENIENCE OUTLET CONDUCTORS (1 CONDUIT): USING THWN-2, CU.

#10 - 0.0211 SQ. IN X 2 = 0.0422 SQ. IN
#10 - 0.0211 SQ. IN X 1 = 0.0211 SQ. IN <GROUND
TOTAL = 0.0633 SQ. IN

0.5" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

RECTIFIER CONDUCTORS (2 CONDUITS): USING UL1015, CU.

#10 - 0.0266 SQ. IN X 4 = 0.1064 SQ. IN
#10 - 0.0082 SQ. IN X 1 = 0.0082 SQ. IN <BARE GROUND
TOTAL = 0.1146 SQ. IN

0.75" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (5) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC FEED CONDUCTORS (1 CONDUIT): USING THWN, CU.

3/0 - 0.2679 SQ. IN X 3 = 0.8037 SQ. IN
#6 - 0.0507 SQ. IN X 1 = 0.0507 SQ. IN <GROUND
TOTAL = 0.8544 SQ. IN

3.0" SCH 40 PVC CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (4) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC ONE-LINE DIAGRAM — NO SCALE — 1

PROPOSED CHARLES PANEL SCHEDULE

LOAD SERVED	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS) L1	VOLT AMPS (WATTS) L2	LOAD SERVED
PPC GFCI OUTLET	180		15A	1	A	2	30A	2880		ABB/GE INFINITY RECTIFIER 1
CHARLES GFCI OUTLET		180	15A	3	B	4			2880	
-SPACE-				5	A	6	30A	2880		ABB/GE INFINITY RECTIFIER 2
-SPACE-				7	B	8			2880	
-SPACE-				9	A	10	30A	2880		ABB/GE INFINITY RECTIFIER 3
-SPACE-				11	B	12			2880	
-SPACE-				13	A	14	30A	2880		ABB/GE INFINITY RECTIFIER 4
-SPACE-				15	B	16			2880	
-SPACE-				17	A	18				-SPACE-
-SPACE-				19	B	20				-SPACE-
-SPACE-				21	A	22				-SPACE-
-SPACE-				23	B	24				-SPACE-
VOLTAGE AMPS	180	180						11520	11520	
200A MCB, 1ϕ, 24 SPACE, 120/240V			L1		L2					
MB RATING: 65,000 AIC			11700		11700		VOLTAGE AMPS			
			98		98		AMPS			
			98				MAX AMPS			
			123				MAX 125%			

PANEL SCHEDULE — NO SCALE — 2

NOT USED — NO SCALE — 3

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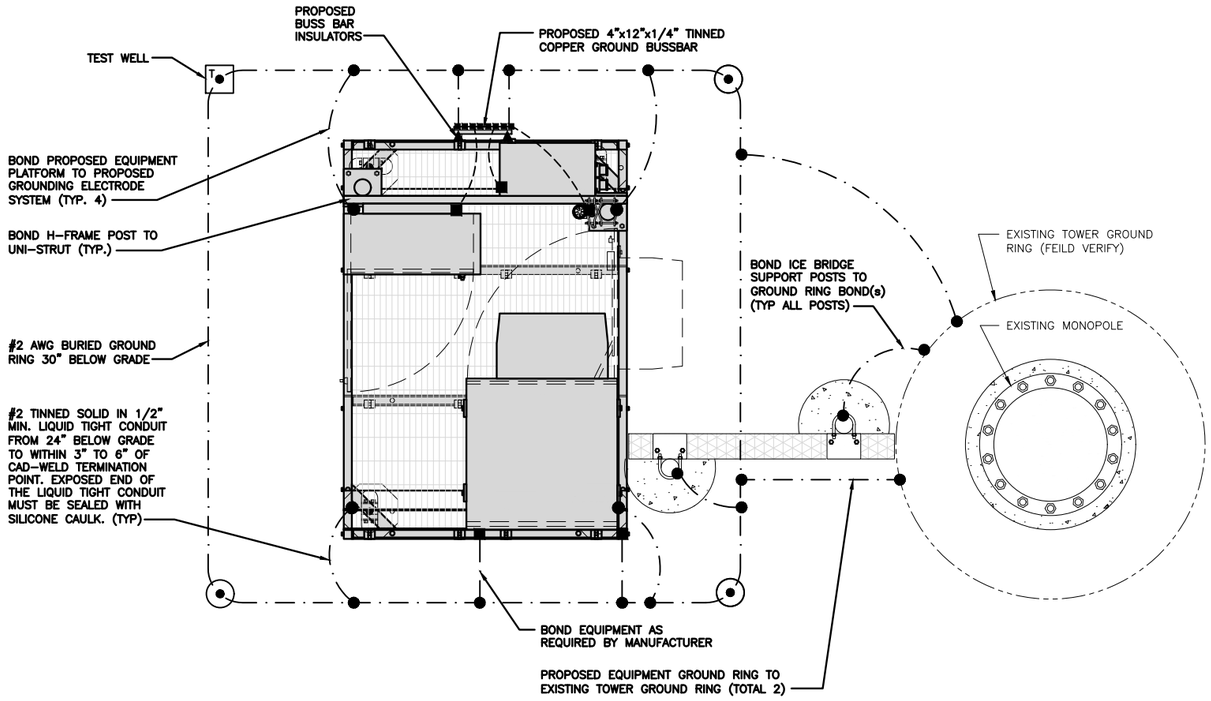
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE
ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE

SHEET NUMBER
E-3

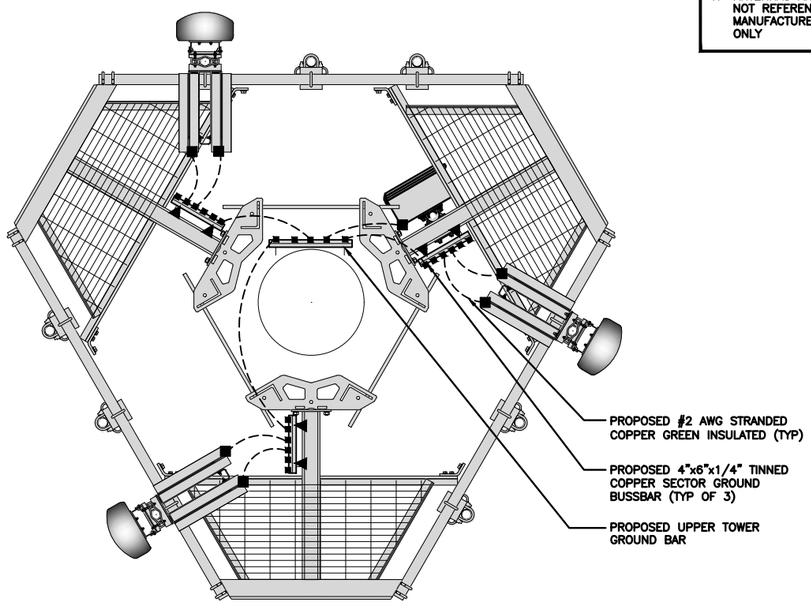


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE | 1

NOTES

1. ANTENNAS AND OVP SHOWN ARE GENERIC AND NOT REFERENCING TO A SPECIFIC MANUFACTURER. THIS LAYOUT IS FOR REFERENCE ONLY



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE | 2

- EXOTHERMIC CONNECTION
- MECHANICAL CONNECTION
- GROUND BUS BAR
- GROUND ROD
- TEST GROUND ROD WITH INSPECTION SLEEVE
- #6 AWG STRANDED & INSULATED
- #2 AWG SOLID COPPER TINNED
- BUSS BAR INSULATOR

GROUNDING LEGEND

1. GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
2. CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND DISH Wireless L.L.C. GROUNDING AND BONDING REQUIREMENTS AND MANUFACTURER'S SPECIFICATIONS.
3. ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

GROUNDING KEY NOTES

(A) EXTERIOR GROUND RING: #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.

(B) TOWER GROUND RING: THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S LEGS, AND/OR GUY ANCHORS. WHERE SEPARATE SYSTEMS HAVE BEEN PROVIDED FOR THE TOWER AND THE BUILDING, AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.

(C) INTERIOR GROUND RING: #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR.

(D) BOND TO INTERIOR GROUND RING: #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING.

(E) GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 1/2" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.

(F) CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG UNLESS NOTED OTHERWISE STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.

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

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

(I) TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.

(J) FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.

(K) INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.

(L) FENCE AND GATE GROUNDING: METAL FENCES WITHIN 7 FEET OF THE EXTERIOR GROUND RING OR OBJECTS BONDED TO THE EXTERIOR GROUND RING SHALL BE BONDED TO THE GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS.

(M) EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. USING #2 TINNED SOLID COPPER WIRE

(N) ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING.

(O) DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR

(P) TOWER TOP COLLECTOR BUSS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT COLLAR.

REFER TO DISH Wireless L.L.C. GROUNDING NOTES.

GROUNDING KEY NOTES

NO SCALE | 3

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STATE OF CONNECTICUT — CHRISTOPHER G. CLEMONS — No. 23924 — LICENSED PROFESSIONAL ENGINEER

7/8/21

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PEC.0001564
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BOBDL00083A
115 NORTH MOUNTAIN RD
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SHEET TITLE

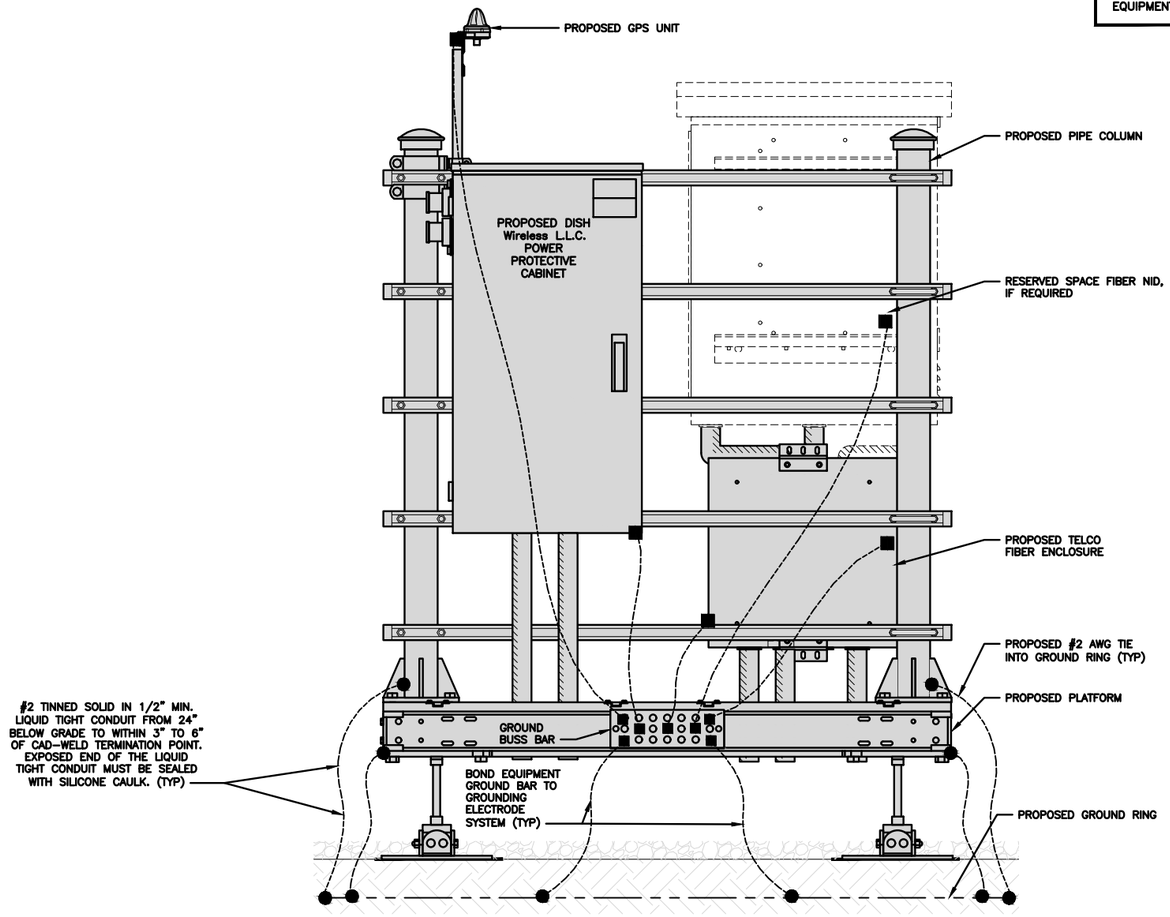
GROUNDING PLANS AND NOTES

SHEET NUMBER

G-1

NOTES

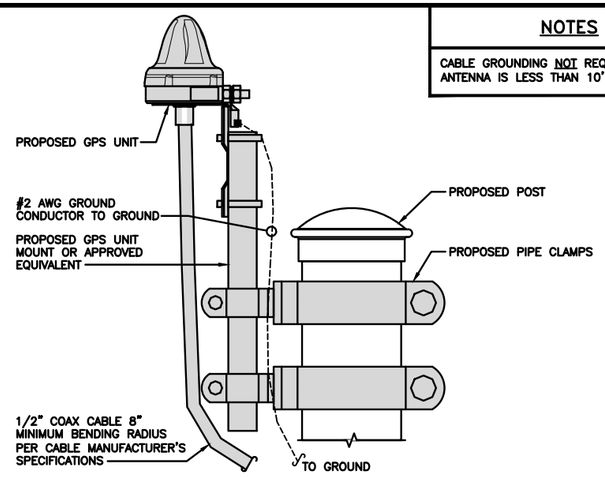
EQUIPMENT CABINET OMITTED FOR CLARITY



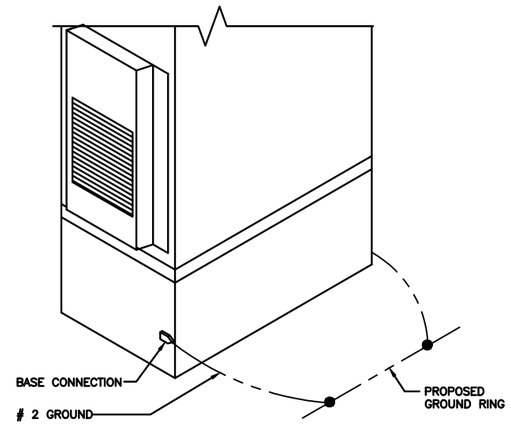
H-FRAME GROUNDING DETAIL | NO SCALE | 1

NOTES

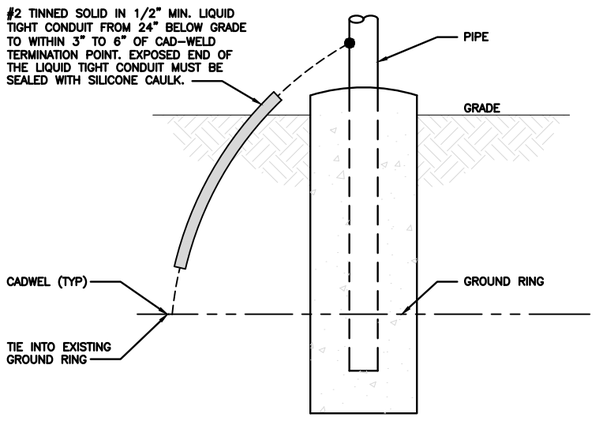
CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET



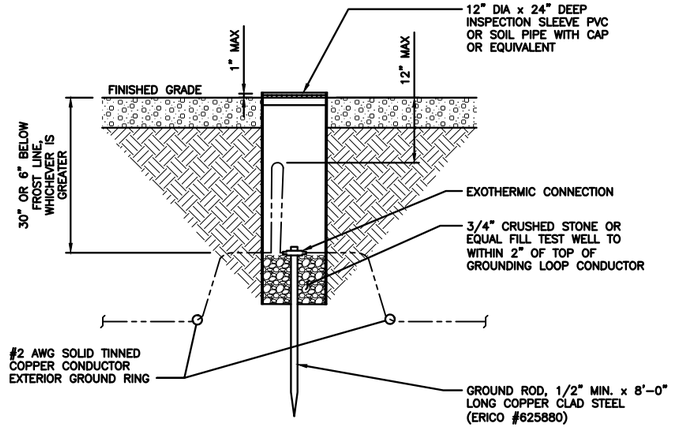
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2



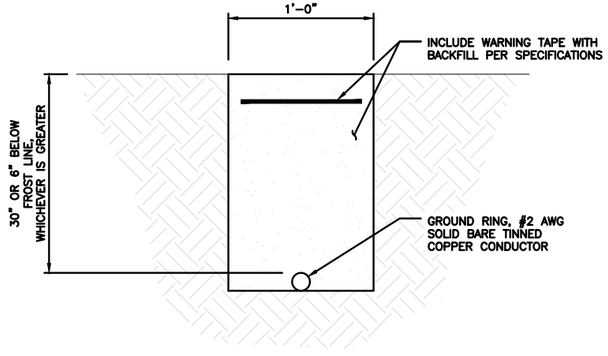
OUTDOOR CABINET GROUNDING | NO SCALE | 3



TRANSITIONING GROUND DETAIL | NO SCALE | 4



TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE | NO SCALE | 5



TYPICAL GROUND RING TRENCH | NO SCALE | 6

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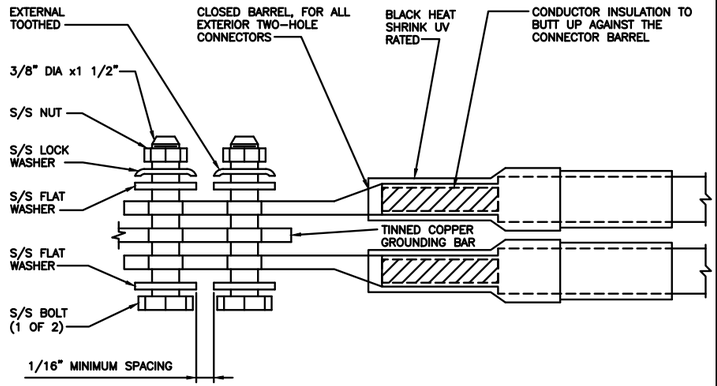
GROUNDING DETAILS

SHEET NUMBER

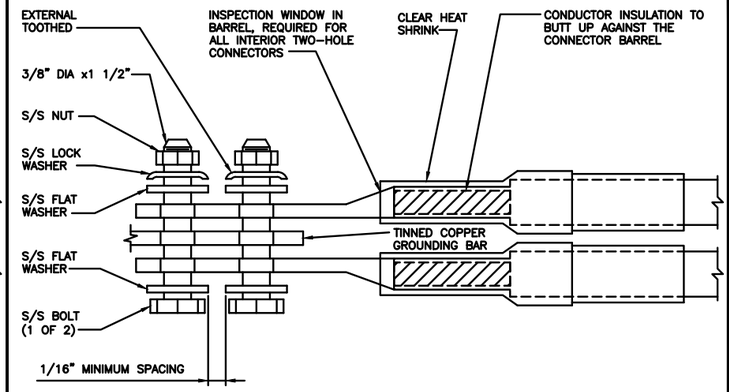
G-2

1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR, ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL EXTERIOR GROUNDING HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
3. FOR GROUND BOND TO STEEL ONLY: COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
4. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE.
6. ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED.
8. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).

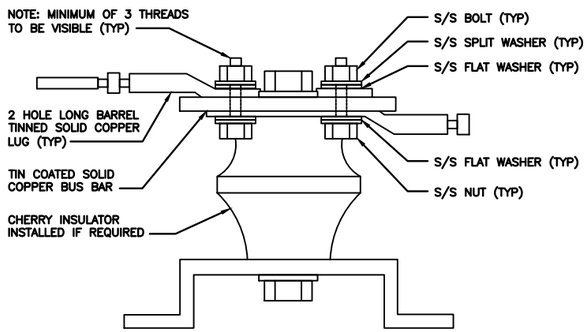
TYPICAL GROUNDING NOTES | NO SCALE | 1



TYPICAL EXTERIOR TWO HOLE LUG | NO SCALE | 2



TYPICAL INTERIOR TWO HOLE LUG | NO SCALE | 3



LUG DETAIL | NO SCALE | 4

NOT USED | NO SCALE | 5

NOT USED | NO SCALE | 6

NOT USED | NO SCALE | 7

NOT USED | NO SCALE | 8

NOT USED | NO SCALE | 9

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0	7/8/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

151136.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00083A
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER

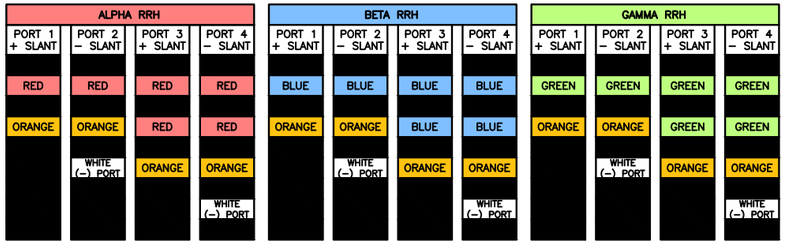
G-3

RF JUMPER COLOR CODING

3/4" TAPE WIDTHS WITH 3/4" SPACING

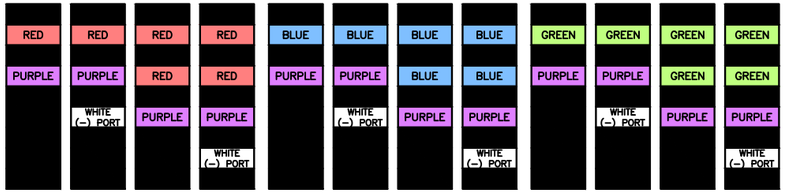
LOW-BAND RRH –
(600MHz N71 BASEBAND) +
(850MHz N26 BAND) +
(700MHz N29 BAND) – OPTIONAL PER MARKET

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BANDS)



MID-BAND RRH –
(AWS BANDS N66+N70)

ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BANDS)

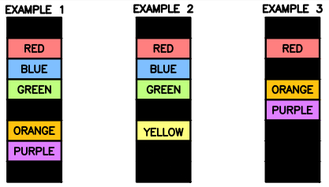


HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED
ALONG WITH FREQUENCY BANDS

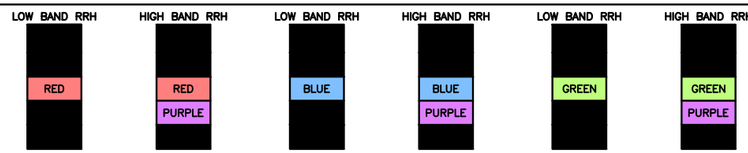
EXAMPLE 1 – HYBRID, OR DISCREET, SUPPORTS
ALL SECTORS, BOTH LOW-BANDS AND MID-BANDS

EXAMPLE 2 – HYBRID, OR DISCREET, SUPPORTS
CBRS ONLY, ALL SECTORS



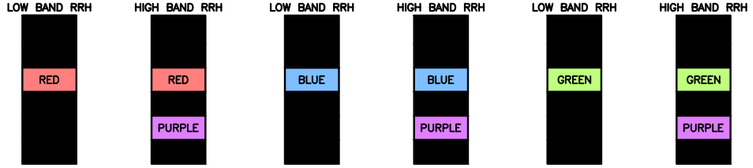
FIBER JUMPERS TO RRHs

LOW-BAND RRH FIBER CABLES HAVE SECTOR
STRIPE ONLY

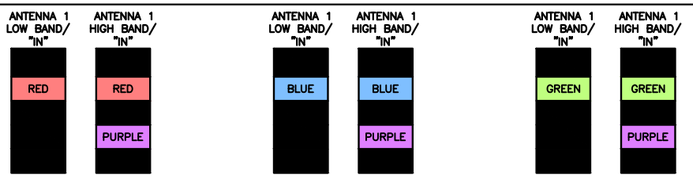


POWER CABLES TO RRHs

LOW-BAND RRH POWER CABLES HAVE SECTOR
STRIPE ONLY



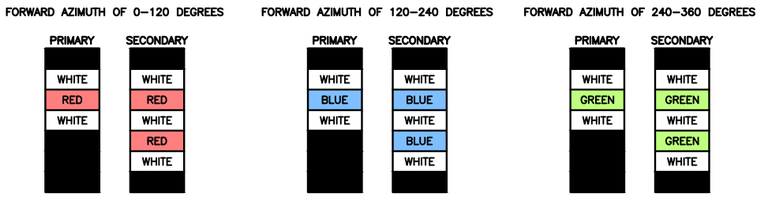
RET MOTORS AT ANTENNAS



MICROWAVE RADIO LINKS

LINKS WILL HAVE A 1.5-2 INCH WHITE WRAP WITH
THE AZIMUTH COLOR OVERLAPPING IN THE MIDDLE.
ADD ADDITIONAL SECTOR COLOR BANDS FOR EACH
ADDITIONAL MW RADIO.

MICROWAVE CABLES WILL REQUIRE P-TOUCH
LABELS INSIDE THE CABINET TO IDENTIFY THE
LOCAL AND REMOTE SITE ID'S



RF CABLE COLOR CODES	NO SCALE	1

LOW BANDS (N71+N26)
OPTIONAL – (N29)
ORANGE

AWS
(N66+N70+H-BLOCK)
PURPLE

CBRS TECH
(3 GHz)
YELLOW

NEGATIVE SLANT PORT
ON ANT/RRH
WHITE

ALPHA SECTOR
RED

BETA SECTOR
BLUE

GAMMA SECTOR
GREEN

COLOR IDENTIFIER	NO SCALE	2

NOT USED	NO SCALE	3

NOT USED	NO SCALE	4

dish wireless.
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STATE OF CONNECTICUT
GREGORY M. FOX
No. 23924
LICENSED PROFESSIONAL ENGINEER
7/8/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
JJR	MTJ	MDW

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

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PROJECT INFORMATION

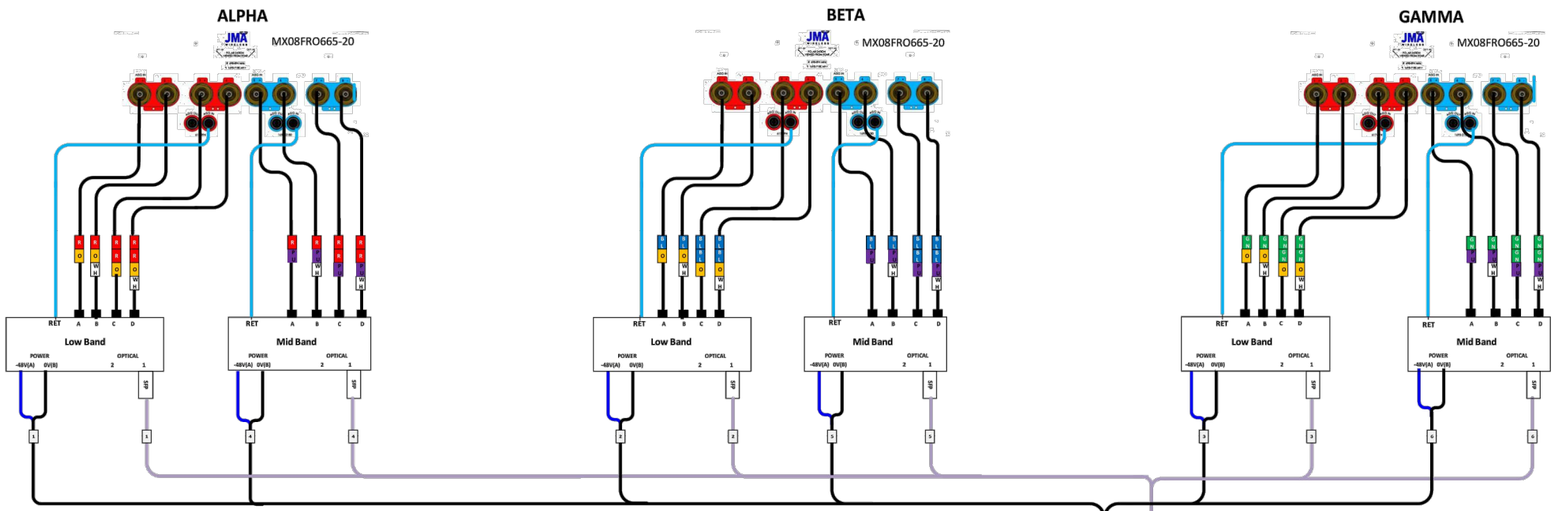
BOBDL00083A
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE

RF
CABLE COLOR CODES

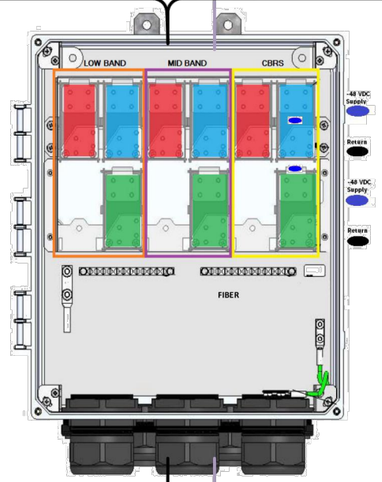
SHEET NUMBER

RF-1



Fiber Patch Panel

Bottom Row	Pair 1	Pair 2	Pair 3	Pair 10	Open	Open
Middle Row	Pair 4	Pair 5	Pair 6	Pair 11	Open	Open
Top Row	Pair 7	Pair 8	Pair 9	Pair 12	Open	Open



CSR NCS540

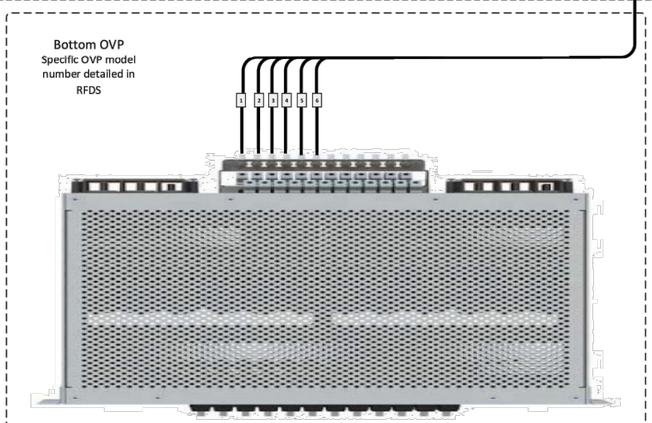
Port	Interface	Description
0	Gi0/0/0/0	SiteBoss
1	Gi0/0/0/1	CBRS - Alpha
2	Gi0/0/0/2	CBRS - Beta
3	Gi0/0/0/3	CBRS - Gamma
4	Te0/0/0/4	Fujitsu Low-Band RU - Alpha
5	Te0/0/0/5	Fujitsu Mid-Band RU - Alpha
6	Te0/0/0/6	Fujitsu Low-Band RU - Beta
7	Te0/0/0/7	Fujitsu Mid-Band RU - Beta
8	Te0/0/0/8	Fujitsu Low-Band RU - Gamma
9	Te0/0/0/9	Fujitsu Mid-Band RU - Gamma
10	Te0/0/0/10	Fixed Wifi
11	Te0/0/0/11	Fixed Wifi
12	Te0/0/0/12	Fixed Wifi
13	Te0/0/0/13	Fixed Wifi
14	Te0/0/0/14	CBRS1
15	Te0/0/0/15	CBRS2
16	Te0/0/0/16	CBRS3
17	Gi0/0/0/17	SM1 - BMC
18	Gi0/0/0/18	SM2 - BMC
19	Te0/0/019	SM1 - Data 1
20	Te0/0/020	SM1 - Data 2
21	Te0/0/021	SM2 - Data 1
22	Te0/0/022	SM2 - Data 2
23	Te0/0/023	Reserved Uplink (EDC, LDC)
24	Te0/0/024	Blank/Future
25	Te0/0/025	Blank/Future
26	Te0/0/026	Fiber NIU
27	Te0/0/027	Fiber NIU
28	Te0/0/028	Blank/Future
29	Te0/0/029	Blank/Future

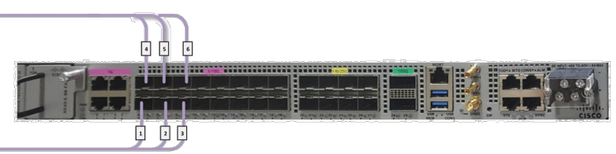
top

bottom

Bottom OVP Layout

Circuit 1	Alpha Low Band
Circuit 2	Beta Low Band
Circuit 3	Gamma Low Band
Circuit 4	Alpha Mid Band
Circuit 5	Beta Mid Band
Circuit 6	Gamma Mid Band
Circuit 7	Alpha CBRS
Circuit 8	Beta CBRS
Circuit 9	Gamma CBRS
Circuit 10	Open
Circuit 11	Open
Circuit 12	Open





Quan Liu	5G plumbing diagram JMA MX08FRO665-20 2-2-2(LB+MB)
5-Jan-2021	SIZE / FSCM NO / DWG NO / REV 3 / SCALE None / SHEET

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115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE

RF
PLUMBING DIAGRAM

SHEET NUMBER

RF-2

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

BUSS BAR INSULATOR

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE

SINGLE POLE SWITCH

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE

FLUORESCENT LIGHTING FIXTURE
(2) TWO LAMPS 48–T8

SMOKE DETECTION (DC)

EMERGENCY LIGHTING (DC)

SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW
LED–1–25A400/51K–SR4–120–PE–DDBTXD

CHAIN LINK FENCE

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE

UNDERGROUND POWER

UNDERGROUND TELCO

OVERHEAD POWER

OVERHEAD TELCO

UNDERGROUND TELCO/POWER

ABOVE GROUND POWER

ABOVE GROUND TELCO

ABOVE GROUND TELCO/POWER

WORKPOINT

SECTION REFERENCE

DETAIL REFERENCE

LEGEND

AB	ANCHOR BOLT
ABV	ABOVE
AC	ALTERNATING CURRENT
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGL	ABOVE GROUND LEVEL
AIC	AMPERAGE INTERRUPTION CAPACITY
ALUM	ALUMINUM
ALT	ALTERNATE
ANT	ANTENNA
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BTC	BARE TINNED COPPER CONDUCTOR
BOF	BOTTOM OF FOOTING
CAB	CABINET
CANT	CANTILEVERED
CHG	CHARGING
CLG	CEILING
CLR	CLEAR
COL	COLUMN
COMM	COMMON
CONC	CONCRETE
CONSTR	CONSTRUCTION
DBL	DOUBLE
DC	DIRECT CURRENT
DEPT	DEPARTMENT
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
EC	ELECTRICAL CONDUCTOR
EL.	ELEVATION
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ENG	ENGINEER
EQ	EQUAL
EXP	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
FAB	FABRICATION
FF	FINISH FLOOR
FG	FINISH GRADE
FIF	FACILITY INTERFACE FRAME
FIN	FINISH(ED)
FLR	FLOOR
FDN	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FS	FINISH SURFACE
FT	FOOT
FTG	FOOTING
GA	GAUGE
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GLB	GLUE LAMINATED BEAM
GLV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE
HDG	HOT DIPPED GALVANIZED
HDR	HEADER
HGR	HANGER
HVAC	HEAT/VENTILATION/AIR CONDITIONING
HT	HEIGHT
IGR	INTERIOR GROUND RING
IN	INCH
INT	INTERIOR
LB(S)	POUND(S)
LF	LINEAR FEET
LTE	LONG TERM EVOLUTION
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NEC	NATIONAL ELECTRIC CODE
NM	NEWTON METERS
NO.	NUMBER
#	NUMBER
NTS	NOT TO SCALE
OC	ON–CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OPNG	OPENING
P/C	PRECAST CONCRETE
PCS	PERSONAL COMMUNICATION SERVICES
PCU	PRIMARY CONTROL UNIT
PRC	PRIMARY RADIO CABINET
PP	POLARIZING PRESERVING
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PWR	POWER CABINET
QTY	QUANTITY
RAD	RADIUS
RECT	RECTIFIER
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
RET	REMOTE ELECTRIC TILT
RF	RADIO FREQUENCY
RMC	RIGID METALLIC CONDUIT
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
RWY	RACEWAY
SCH	SCHEDULE
SHT	SHEET
SIAD	SMART INTEGRATED ACCESS DEVICE
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
TEMP	TEMPORARY
THK	THICKNESS
TMA	TOWER MOUNTED AMPLIFIER
TN	TOE NAIL
TOA	TOP OF ANTENNA
TOC	TOP OF CURB
TOF	TOP OF FOUNDATION
TOP	TOP OF PLATE (PARAPET)
TOS	TOP OF STEEL
TOW	TOP OF WALL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
UPS	UNITERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
VIF	VERIFIED IN FIELD
W	WIDE
W/	WITH
WD	WOOD
WP	WEATHERPROOF
WT	WEIGHT

ABBREVIATIONS

dish wireless.
5701 SOUTH SANTA FE DRIVE
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7/8/21

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PROJECT INFORMATION

BOBDL00083A
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE

LEGEND AND ABBREVIATIONS

SHEET NUMBER

GN-1

SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH Wireless L.L.C. AND TOWER OWNER NOC & THE DISH Wireless L.L.C. AND TOWER OWNER CONSTRUCTION MANAGER.

2. "LOOK UP" – DISH Wireless L.L.C. AND TOWER OWNER SAFETY CLIMB REQUIREMENT:

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

3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.

4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH Wireless L.L.C. AND TOWER OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).

5. ALL SITE WORK TO COMPLY WITH DISH Wireless L.L.C. AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH Wireless L.L.C. AND TOWER OWNER TOWER SITE AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."

6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH Wireless L.L.C. AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.

10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.

11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.

12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH Wireless L.L.C. AND TOWER OWNER, AND/OR LOCAL UTILITIES.

14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.

15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.

16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.

18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

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

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

CARRIER:DISH Wireless L.L.C.

TOWER OWNER:TOWER OWNER

2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.

3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.

4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.

5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.

6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CARRIER POC AND TOWER OWNER.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.

12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH Wireless L.L.C. AND TOWER OWNER

13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

dish wireless.

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7/8/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
JJR	MTJ	MDW

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	5/25/21	ISSUED FOR REVIEW
0	7/8/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

151136.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00083A
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.

3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.

4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.

5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi

6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

- CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
- CONCRETE EXPOSED TO EARTH OR WEATHER:
- #6 BARS AND LARGER 2"
- #5 BARS AND SMALLER 1-1/2"
- CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
- SLAB AND WALLS 3/4"
- BEAMS AND COLUMNS 1-1/2"

7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.

2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.

3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.

4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.

4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.

4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.

5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.

6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).

7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.

8. TIE WRAPS ARE NOT ALLOWED.

9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.

12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.

13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).

14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.

18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.

20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.

21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).

22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).

23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.

24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.

25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.

26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.

27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH Wireless L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.

29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH Wireless L.L.C.".

30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

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7/8/21

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
JJR	MTJ	MDW

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

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REV	DATE	DESCRIPTION
A	5/25/21	ISSUED FOR REVIEW
0	7/8/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

151136.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00083A
115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-3

GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.

2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.

3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.

4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.

5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.

6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.

7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.

8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.

9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.

10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.

11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.

13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.

14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.

15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.

16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.

17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.

18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.

19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.

20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).

21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.

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PROJECT INFORMATION

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115 NORTH MOUNTAIN RD
NEW BRITAIN, CT 06053

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-4

Exhibit D

Structural Analysis Report

Date: **June 02, 2021**

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

Subject:	**Structural Analysis Report**	
Carrier Designation:	***DISH Network* Co-Locate**	
	Site Number:	BOBDL00083A
	Site Name:	CT-CCI-T-876331
Crown Castle Designation:	**BU Number:**	876331
	Site Name:	NEW BRITAIN GRAVEL PIT
	JDE Job Number:	650073
	Work Order Number:	1966745
	Order Number:	556610 Rev. 0
Engineering Firm Designation:	**Crown Castle Project Number:**	1966745
Site Data:	**115 North Mountain Rd, NEW BRITAIN, Hartford County, CT**	
	Latitude *41° 40' 35.72"*, Longitude *-72° 49' 17.09"*	
	118 Foot - Monopole Tower	

Crown Castle is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned tower.

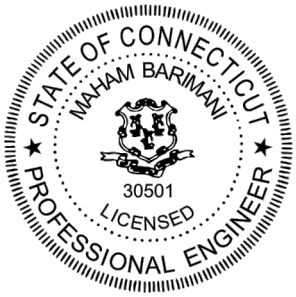
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity**

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code (2015 IBC). Applicable Standard references and design criteria are listed in Section 2 - "Analysis Criteria".

Structural analysis prepared by: Kayla Weimert

Respectfully submitted by:



Maham Barimani, P.E.
Senior Project Engineer

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1) INTRODUCTION

This tower is a 118 ft Monopole tower designed by ROHN. 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:	125 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	2 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
62.0	62.0	3	fujitsu	TA08025-B604	1	1-1/2
		3	fujitsu	TA08025-B605		
		3	jma wireless	MX08FRO665-21 w/ Mount Pipe		
		1	raycap	RDIDC-9181-PF-48		
		1	tower mounts	Commscope MC-PK8-DSH		

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)
116.0	116.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER	-	-
		3	alcatel lucent	PCS 1900MHz 4x45W-65MHz		
		1	tower mounts	Pipe Mount [PM 601-3]		
114.0	116.0	3	alcatel lucent	TD-RRH8x20-25	4 1	1-1/4 1/2
		1	andrew	VHLP1-23		
		1	rfs celwave	APXV9ERR18-C-A20 w/ Mount Pipe		
		2	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe		
		3	rfs celwave	APXVTM14-C-120 w/ Mount Pipe		
		1	samsung telecommunications	WIMAX DAP HEAD		
	114.0	1	tower mounts	Platform Mount [LP 502-1]		
108.0	108.0	3	commscope	SDX1926Q-43	3 6	1-5/8 7/8
		3	ericsson	AIR 32 B2a/B66Aa		
		3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe		
		3	ericsson	KRY 112 144/1		
		3	ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	ericsson	RRUS 4415 B25		

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	APXVAARR24_43-U-NA20 w/ Mount Pipe		
		1	tower mounts	Platform Mount [LP 303-1_KCKR-HR-1]		
98.0	98.0	1	andrew	SBNH-1D6565C w/ Mount Pipe	2 1 1	3/4 3/8 conduit
		2	cci antennas	HPA-65R-BUU-H6 w/ Mount Pipe		
		1	cci antennas	HPA-65R-BUU-H8 w/ Mount Pipe		
		3	communication components inc.	DTMABP7819VG12A		
		3	ericsson	RRUS 11 B12		
		3	ericsson	RRUS 32 B2		
		2	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe		
		6	powerwave technologies	7020.00		
		3	powerwave technologies	7770.00 w/ Mount Pipe		
		3	powerwave technologies	TT19-08BP111-001		
		1	raycap	DC6-48-60-18-8F		
		1	tower mounts	Platform Mount [LP 712-1]		
85.0	86.0	3	alcatel lucent	RRH2X60-AWS	13	1-5/8
		3	alcatel lucent	RRH2X60-PCS		
		6	andrew	CBC721-DF		
		6	andrew	HBXX-6517DS-A2M w/ Mount Pipe		
		2	antel	BXA-70040-6CF-EDIN-2 w/ Mount Pipe		
		4	antel	BXA-70063-6CF-2 w/ Mount Pipe		
		1	rfs celwave	DB-B1-6C-12AB-0Z		
	85.0	1	tower mounts	Platform Mount [LP 303-1]		
80.0	81.0	1	lucent	KS24019-L112A	1 1	1/2 conduit
	80.0	1	tower mounts	Side Arm Mount [SO 701-1]		
72.0	74.0	2	argus technologies	LLPX310R w/ Mount Pipe	2 3 3 2	1/2 1/4 5/8 conduit
		1	dragonwave	HORIZON COMPACT		
		1	samsung telecommunications	WIMAX DAP HEAD		
	73.0	1	andrew	VHLP1-23		
		1	samsung telecommunications	WIMAX DAP HEAD		
	72.0	1	argus technologies	LLPX310R w/ Mount Pipe		
		1	dragonwave	A-ANT-18G-2-C		
		1	dragonwave	HORIZON COMPACT		
		1	samsung telecommunications	WIMAX DAP HEAD		
		1	tower mounts	Side Arm Mount [SO 101-3]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-TOWER MANUFACTURER DRAWINGS	5875885	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1947809	CCISITES
4-GEOTECHNICAL REPORTS	2192549	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	2268906	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3259703	CCISITES
4-POST-MODIFICATION INSPECTION	3684848	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4858411	CCISITES
4-POST-MODIFICATION INSPECTION	5407775	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5371260	CCISITES
4-POST-MODIFICATION INSPECTION	5596857	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	5907683	CCISITES
4-POST-MODIFICATION INSPECTION	6131239	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.9.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the pole and in the reinforcing elements. These calculations are included in Appendix C.

3.2) Assumptions

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

This analysis may be affected if any assumptions are not valid or have been made in error. 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
118 - 113	Pole	TP24x24x0.25	Pole	2.5%	Pass
113 - 108	Pole	TP24x24x0.25	Pole	7.1%	Pass
108 - 103	Pole	TP24x24x0.25	Pole	18.1%	Pass
103 - 98	Pole	TP24x24x0.25	Pole	28.7%	Pass
98 - 93	Pole	TP24x24x0.25	Pole	45.4%	Pass
93 - 90	Pole	TP24x24x0.25	Pole	55.2%	Pass
90 - 85	Pole	TP24x24x0.375	Pole	46.0%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
85 - 80	Pole	TP24x24x0.375	Pole	61.7%	Pass
80 - 76.5	Pole	TP24x24x0.375	Pole	72.3%	Pass
76.5 - 76.25	Pole + Reinf.	TP24x24x0.5875	Reinf. 18 Tension Rupture	52.5%	Pass
76.25 - 74	Pole + Reinf.	TP24x24x0.5875	Reinf. 18 Tension Rupture	57.4%	Pass
74 - 73.75	Pole + Reinf.	TP24x24x0.9	Reinf. 3 Compression	56.9%	Pass
73.75 - 68.88	Pole + Reinf.	TP24x24x0.9	Reinf. 3 Compression	68.1%	Pass
68.88 - 68.63	Pole + Reinf.	TP24x24x0.575	Reinf. 13 Tension Rupture	70.2%	Pass
68.63 - 64.5	Pole + Reinf.	TP24x24x0.575	Reinf. 13 Tension Rupture	80.2%	Pass
64.5 - 64.25	Pole + Reinf.	TP24x24x1.05	Reinf. 3 Compression	69.5%	Pass
64.25 - 63	Pole + Reinf.	TP24x24x1.05	Reinf. 3 Compression	72.1%	Pass
63 - 62.75	Pole + Reinf.	TP24x24x1	Reinf. 3 Compression	74.9%	Pass
62.75 - 60	Pole + Reinf.	TP24x24x1	Reinf. 3 Compression	81.7%	Pass
60 - 59.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	51.8%	Pass
59.75 - 54.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	59.8%	Pass
54.75 - 49.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	67.9%	Pass
49.75 - 49.25	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	68.7%	Pass
49.25 - 49	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	63.3%	Pass
49 - 44	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	70.8%	Pass
44 - 42	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	73.8%	Pass
42 - 41.75	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	65.3%	Pass
41.75 - 36.75	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	72.0%	Pass
36.75 - 34.5	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	75.1%	Pass
34.5 - 34.25	Pole + Reinf.	TP30x30x1.05	Reinf. 8 Compression	67.0%	Pass
34.25 - 34	Pole + Reinf.	TP30x30x1.05	Reinf. 8 Compression	67.3%	Pass
34 - 33.75	Pole + Reinf.	TP30x30x0.95	Reinf. 8 Compression	75.8%	Pass
33.75 - 30	Pole + Reinf.	TP30x30x0.95	Reinf. 8 Compression	81.1%	Pass
30 - 29.75	Pole + Reinf.	TP36x36x0.7	Reinf. 1 Compression	73.4%	Pass
29.75 - 28.5	Pole + Reinf.	TP36x36x0.7	Reinf. 1 Compression	75.0%	Pass
28.5 - 28.25	Pole + Reinf.	TP36x36x0.8375	Reinf. 1 Compression	62.3%	Pass
28.25 - 23.25	Pole + Reinf.	TP36x36x0.8375	Reinf. 1 Compression	67.7%	Pass
23.25 - 23	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	63.6%	Pass
23 - 21.5	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	65.2%	Pass
21.5 - 21.25	Pole + Reinf.	TP36x36x0.825	Reinf. 1 Compression	78.2%	Pass
21.25 - 19	Pole + Reinf.	TP36x36x0.825	Reinf. 1 Compression	81.1%	Pass
19 - 18.75	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	68.7%	Pass
18.75 - 18.5	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	69.0%	Pass
18.5 - 18.25	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	70.8%	Pass
18.25 - 13.25	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	76.3%	Pass
13.25 - 12.7	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	76.9%	Pass
12.7 - 12.45	Pole + Reinf.	TP36x36x0.9	Reinf. 1 Compression	80.1%	Pass
12.45 - 11.5	Pole + Reinf.	TP36x36x0.9	Reinf. 1 Compression	81.2%	Pass
11.5 - 11.25	Pole + Reinf.	TP36x36x0.9	Reinf. 4 Compression	71.8%	Pass
11.25 - 10.5	Pole + Reinf.	TP36x36x0.9	Reinf. 4 Compression	72.6%	Pass
10.5 - 10.25	Pole + Reinf.	TP36x36x1.325	Reinf. 24 Compression	68.4%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
10.25 - 7.5	Pole + Reinf.	TP36x36x1.325	Reinf. 24 Compression	71.1%	Pass
7.5 - 7.25	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	69.0%	Pass
7.25 - 6.25	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	69.9%	Pass
6.25 - 6	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	70.2%	Pass
6 - 3.73	Pole + Reinf.	TP36x36x1.725	Reinf. 24 Compression	60.4%	Pass
3.73 - 3.48	Pole + Reinf.	TP36x36x1.725	Reinf. 24 Compression	60.6%	Pass
3.48 - 2.75	Pole + Reinf.	TP36x36x1.725	Reinf. 24 Compression	61.2%	Pass
2.75 - 2.5	Pole + Reinf.	TP36x36x1.675	Reinf. 24 Compression	65.6%	Pass
2.5 - 2	Pole + Reinf.	TP36x36x1.675	Reinf. 24 Compression	66.1%	Pass
2 - 1.75	Pole + Reinf.	TP36x36x1.425	Reinf. 24 Compression	73.6%	Pass
1.75 - 0	Pole + Reinf.	TP36x36x1.425	Reinf. 24 Compression	75.3%	Pass
				Summary	
			Pole	75.0%	Pass
			Reinforcement	81.7%	Pass
			Overall	81.7%	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Flange Connection	90	21.6	Pass
1	Flange Connection	60	83.3	Pass
1	Flange Connection	30	95.5	Pass
1	Anchor Rods	0	95.4	Pass
1	Base Plate	0	59.4	Pass
1	Base Foundation (Structure)	0	100.0	Pass
1	Base Foundation (Soil Interaction)	0	10.2	Pass

Structure Rating (max from all components) =	100%

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.

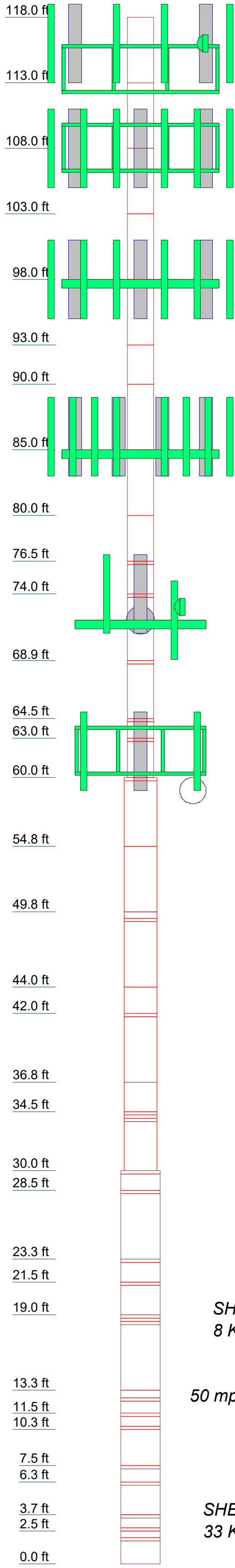
4.1) Recommendations

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

Section	Size	Length (ft)	Grade	Weight (K)
1	P24x0.25	5.0000	A572-42	0.3
2	P24x0.25	5.0000		0.3
3	P24x0.25	5.0000		0.3
4	P24x0.25	5.0000		0.3
5	P24x0.25	5.0000		0.3
6	P24x0.25	3.0000		0.2
7	P24x0.375	5.0000		0.5
8	P24x0.375	5.0000		0.5
9	[illegible]	[illegible]		0.3
10–12	[illegible]	[illegible]		[illegible]
13	[illegible]	[illegible]		1.0
14	[illegible]	[illegible]		0.0
15	[illegible]	[illegible]		0.6
16–20	[illegible]	[illegible]		[illegible]
21	P30x0.675	5.0000		1.1
22	[illegible]	5.0000		1.1
23–24	[illegible]	[illegible]		[illegible]
25	[illegible]	5.0000		1.2
26–27	[illegible]	[illegible]		[illegible]
28	[illegible]	5.0000		1.4
29–36	[illegible]	[illegible]		[illegible]
37	[illegible]	5.0000		1.6
38–44	[illegible]	[illegible]		[illegible]
45	[illegible]	5.0000		1.6
46–62	[illegible]	[illegible]		[illegible]
				24.2



MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-42	42 ksi	60 ksi			

TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 125 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 2.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.0000 ft
8. TOWER RATING: 81.7%

ALL REACTIONS ARE FACTORED

AXIAL 101 K
SHEAR 8 K
MOMENT 688 kip-ft
TORQUE 0 kip-ft
50 mph WIND - 2.0000 in ICE

AXIAL 55 K
SHEAR 33 K
MOMENT 2536 kip-ft
TORQUE 1 kip-ft
REACTIONS - 125 mph WIND

CROWN CASTLE — The Pathway to Possible	Crown Castle 2000 Corporate Drive Canonsburg, PA 15317 Phone: (724) 416-2000 FAX:	Job: **BU# 876331**		
		Project:		
		Client: Crown Castle	Drawn by: Kayla Weimert	App'd:
		Code: TIA-222-H	Date: 06/02/21	Scale: NTS
		Path: C:\Users\KWeimert\Desktop\SAPI WORK\876331\WO 1966745 - SA\Prod\876331.eri		Dwg No. E-1

Tower Input Data

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

- Tower is located in Hartford County, Connecticut.
- Tower base elevation above sea level: 350.0000 ft.
- Basic wind speed of 125 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.0000 ft.
- Nominal ice thickness of 2.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.0000 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50.0000 °F.
- Deflections calculated using a wind speed of 60 mph.
- TOWER RATING: 81.7%.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

	Consider Moments - Legs		Distribute Leg Loads As Uniform		Use ASCE 10 X-Brace Ly Rules
	Consider Moments - Horizontals		Assume Legs Pinned		Calculate Redundant Bracing Forces
	Consider Moments - Diagonals	√	Assume Rigid Index Plate		Ignore Redundant Members in FEA
	Use Moment Magnification	√	Use Clear Spans For Wind Area		SR Leg Bolts Resist Compression
√	Use Code Stress Ratios		Use Clear Spans For KL/r		All Leg Panels Have Same Allowable
√	Use Code Safety Factors - Guys		Retension Guys To Initial Tension		Offset Girt At Foundation
	Escalate Ice	√	Bypass Mast Stability Checks	√	Consider Feed Line Torque
	Always Use Max Kz	√	Use Azimuth Dish Coefficients		Include Angle Block Shear Check
	Use Special Wind Profile	√	Project Wind Area of Appurt.		Use TIA-222-H Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-H Tension Splice Exemption
	Leg Bolts Are At Top Of Section		Add IBC .6D+W Combination		Poles
	Secondary Horizontal Braces Leg	√	Sort Capacity Reports By Component	√	Include Shear-Torsion Interaction
	Use Diamond Inner Bracing (4 Sided)		Triangulate Diamond Inner Bracing		Always Use Sub-Critical Flow
	SR Members Have Cut Ends		Treat Feed Line Bundles As Cylinder		Use Top Mounted Sockets
	SR Members Are Concentric		Ignore KL/ry For 60 Deg. Angle Legs		Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known

Pole Section Geometry

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L1	118.0000-113.0000	5.0000	P24x0.25	A572-42 (42 ksi)	
L2	113.0000-108.0000	5.0000	P24x0.25	A572-42 (42 ksi)	
L3	108.0000-103.0000	5.0000	P24x0.25	A572-42 (42 ksi)	
L4	103.0000-98.0000	5.0000	P24x0.25	A572-42 (42 ksi)	
L5	98.0000-93.0000	5.0000	P24x0.25	A572-42 (42 ksi)	
L6	93.0000-90.0000	3.0000	P24x0.25	A572-42 (42 ksi)	
L7	90.0000-85.0000	5.0000	P24x0.375	A572-42 (42 ksi)	
L8	85.0000-80.0000	5.0000	P24x0.375	A572-42 (42 ksi)	
L9	80.0000-76.5000	3.5000	P24x0.375	A572-42 (42 ksi)	
L10	76.5000-76.2500	0.2500	P24x0.5875	A572-42 (42 ksi)	
L11	76.2500-74.0000	2.2500	P24x0.5875	A572-42 (42 ksi)	
L12	74.0000-73.7500	0.2500	P24x0.9	A572-42 (42 ksi)	
L13	73.7500-68.8800	4.8700	P24x0.9	A572-42 (42 ksi)	
L14	68.8800-68.6300	0.2500	P24x0.575	A572-42 (42 ksi)	
L15	68.6300-64.5000	4.1300	P24x0.575	A572-42 (42 ksi)	
L16	64.5000-64.2500	0.2500	P24x1.05	A572-42 (42 ksi)	
L17	64.2500-63.0000	1.2500	P24x1.05	A572-42 (42 ksi)	
L18	63.0000-62.7500	0.2500	P24x1	A572-42 (42 ksi)	
L19	62.7500-60.0000	2.7500	P24x1	A572-42 (42 ksi)	
L20	60.0000-59.7500	0.2500	P30x0.675	A572-42 (42 ksi)	
L21	59.7500-54.7500	5.0000	P30x0.675	A572-42 (42 ksi)	
L22	54.7500-49.7500	5.0000	P30x0.675	A572-42 (42 ksi)	
L23	49.7500-49.2500	0.5000	P30x0.675	A572-42 (42 ksi)	
L24	49.2500-49.0000	0.2500	P30x0.875	A572-42 (42 ksi)	
L25	49.0000-44.0000	5.0000	P30x0.875	A572-42 (42 ksi)	
L26	44.0000-42.0000	2.0000	P30x0.875	A572-42 (42 ksi)	
L27	42.0000-41.7500	0.2500	P30x1	A572-42 (42 ksi)	
L28	41.7500-36.7500	5.0000	P30x1	A572-42 (42 ksi)	
L29	36.7500-34.5000	2.2500	P30x1	A572-42 (42 ksi)	
L30	34.5000-34.2500	0.2500	P30x1.05	A572-42 (42 ksi)	
L31	34.2500-34.0000	0.2500	P30x1.05	A572-42 (42 ksi)	
L32	34.0000-33.7500	0.2500	P30x0.95	A572-42 (42 ksi)	
L33	33.7500-30.0000	3.7500	P30x0.95	A572-42 (42 ksi)	
L34	30.0000-29.7500	0.2500	P36x0.7	A572-42 (42 ksi)	
L35	29.7500-28.5000	1.2500	P36x0.7	A572-42	

Section	Elevation ft	Section Length ft	Pole Size	Pole Grade	Socket Length ft
L36	28.5000-28.2500	0.2500	P36x0.8375	(42 ksi) A572-42 (42 ksi)	
L37	28.2500-23.2500	5.0000	P36x0.8375	A572-42 (42 ksi)	
L38	23.2500-23.0000	0.2500	P36x0.975	A572-42 (42 ksi)	
L39	23.0000-21.5000	1.5000	P36x0.975	A572-42 (42 ksi)	
L40	21.5000-21.2500	0.2500	P36x0.825	A572-42 (42 ksi)	
L41	21.2500-19.0000	2.2500	P36x0.825	A572-42 (42 ksi)	
L42	19.0000-18.7500	0.2500	P36x0.975	A572-42 (42 ksi)	
L43	18.7500-18.5000	0.2500	P36x0.975	A572-42 (42 ksi)	
L44	18.5000-18.2500	0.2500	P36x0.925	A572-42 (42 ksi)	
L45	18.2500-13.2500	5.0000	P36x0.925	A572-42 (42 ksi)	
L46	13.2500-12.7000	0.5500	P36x0.925	A572-42 (42 ksi)	
L47	12.7000-12.4500	0.2500	P36x0.9	A572-42 (42 ksi)	
L48	12.4500-11.5000	0.9500	P36x0.9	A572-42 (42 ksi)	
L49	11.5000-11.2500	0.2500	P36x0.9	A572-42 (42 ksi)	
L50	11.2500-10.5000	0.7500	P36x0.9	A572-42 (42 ksi)	
L51	10.5000-10.2500	0.2500	P36x1.325	A572-42 (42 ksi)	
L52	10.2500-7.5000	2.7500	P36x1.325	A572-42 (42 ksi)	
L53	7.5000-7.2500	0.2500	P36x1.4	A572-42 (42 ksi)	
L54	7.2500-6.2500	1.0000	P36x1.4	A572-42 (42 ksi)	
L55	6.2500-6.0000	0.2500	P36x1.4	A572-42 (42 ksi)	
L56	6.0000-3.7300	2.2700	P36x1.725	A572-42 (42 ksi)	
L57	3.7300-3.4800	0.2500	P36x1.725	A572-42 (42 ksi)	
L58	3.4800-2.7500	0.7300	P36x1.725	A572-42 (42 ksi)	
L59	2.7500-2.5000	0.2500	P36x1.675	A572-42 (42 ksi)	
L60	2.5000-2.0000	0.5000	P36x1.675	A572-42 (42 ksi)	
L61	2.0000-1.7500	0.2500	P36x1.425	A572-42 (42 ksi)	
L62	1.7500-0.0000	1.7500	P36x1.425	A572-42 (42 ksi)	

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 118.0000-113.0000				1	1	1			
L2 113.0000-108.0000				1	1	1			
L3 108.0000-103.0000				1	1	1			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L4 103.0000-98.0000				1	1	1			
L5 98.0000-93.0000				1	1	1			
L6 93.0000-90.0000				1	1	1			
L7 90.0000-85.0000				1	1	1			
L8 85.0000-80.0000				1	1	1			
L9 80.0000-76.5000				1	1	1			
L10 76.5000-76.2500				1	1	0.956504			
L11 76.2500-74.0000				1	1	0.956504			
L12 74.0000-73.7500				1	1	0.938317			
L13 73.7500-68.8800				1	1	0.938317			
L14 68.8800-68.6300				1	1	0.976776			
L15 68.6300-64.5000				1	1	0.976776			
L16 64.5000-64.2500				1	1	0.928412			
L17 64.2500-63.0000				1	1	0.928412			
L18 63.0000-62.7500				1	1	0.941574			
L19 62.7500-60.0000				1	1	0.941574			
L20 60.0000-59.7500				1	1	1.03516			
L21 59.7500-54.7500				1	1	1.03516			
L22 54.7500-49.7500				1	1	1.03516			
L23 49.7500-49.2500				1	1	1.03516			
L24 49.2500-49.0000				1	1	0.878976			
L25 49.0000-44.0000				1	1	0.878976			
L26 44.0000-42.0000				1	1	0.878976			
L27 42.0000-41.7500				1	1	0.871205			
L28 41.7500-36.7500				1	1	0.871205			
L29 36.7500-34.5000				1	1	0.871205			
L30 34.5000-34.2500				1	1	0.925396			
L31 34.2500-34.0000				1	1	0.925396			
L32 34.0000-33.7500				1	1	0.915479			
L33 33.7500-30.0000				1	1	0.915479			
L34 30.0000-29.7500				1	1	1.02978			
L35 29.7500-28.5000				1	1	1.02978			
L36 28.5000-28.2500				1	1	1.01			
L37 28.2500-				1	1	1.01			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
23.2500									
L38 23.2500-23.0000				1	1	0.982824			
L39 23.0000-21.5000				1	1	0.982824			
L40 21.5000-21.2500				1	1	1.00849			
L41 21.2500-19.0000				1	1	1.00849			
L42 19.0000-18.7500				1	1	0.982824			
L43 18.7500-18.5000				1	1	0.982824			
L44 18.5000-18.2500				1	1	0.95108			
L45 18.2500-13.2500				1	1	0.95108			
L46 13.2500-12.7000				1	1	0.95108			
L47 12.7000-12.4500				1	1	0.981841			
L48 12.4500-11.5000				1	1	0.981841			
L49 11.5000-11.2500				1	1	1.07001			
L50 11.2500-10.5000				1	1	1.07001			
L51 10.5000-10.2500				1	1	0.839629			
L52 10.2500-7.5000				1	1	0.839629			
L53 7.5000-7.2500				1	1	0.828084			
L54 7.2500-6.2500				1	1	0.828084			
L55 6.2500-6.0000				1	1	0.828084			
L56 6.0000-3.7300				1	1	0.713254			
L57 3.7300-3.4800				1	1	0.713254			
L58 3.4800-2.7500				1	1	0.713254			
L59 2.7500-2.5000				1	1	0.667039			
L60 2.5000-2.0000				1	1	0.667039			
L61 2.0000-1.7500				1	1	0.691176			
L62 1.7500-0.0000				1	1	0.691176			

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
***										
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***										
MS-400	A	No	Surface Af (CaAa)	65.5000 - 60.5000	1	1	0.300 0.300	0.7500	9.5000	0.0000

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
MS-400	B	No	Surface Af (CaAa)	65.5000 - 60.5000	1	1	0.300 0.300	0.7500	9.5000	0.0000
MS-400	C	No	Surface Af (CaAa)	65.5000 - 60.5000	1	1	0.300 0.300	0.7500	9.5000	0.0000
MS-400	A	No	Surface Af (CaAa)	35.5000 - 30.5000	1	1	-0.300 -0.300	0.7500	9.5000	0.0000
MS-400	B	No	Surface Af (CaAa)	35.5000 - 30.5000	1	1	-0.300 -0.300	0.7500	9.5000	0.0000
MS-400	C	No	Surface Af (CaAa)	35.5000 - 30.5000	1	1	-0.300 -0.300	0.7500	9.5000	0.0000
MS-450	A	No	Surface Af (CaAa)	20.5000 - 0.5000	1	1	-0.300 -0.300	1.0000	11.0000	0.0000
MS-450	B	No	Surface Af (CaAa)	20.5000 - 0.5000	1	1	-0.300 -0.300	1.0000	11.0000	0.0000
MS-450	C	No	Surface Af (CaAa)	20.5000 - 0.5000	1	1	-0.300 -0.300	1.0000	11.0000	0.0000
***										
CCI-65FP-045100	A	No	Surface Af (CaAa)	70.2500 - 60.2500	1	1	0.000 0.000	4.5000	11.0000	0.0000
CCI-65FP-045100	B	No	Surface Af (CaAa)	70.2500 - 60.2500	1	1	0.000 0.000	4.5000	11.0000	0.0000
CCI-65FP-045100	C	No	Surface Af (CaAa)	70.2500 - 60.2500	1	1	0.000 0.000	4.5000	11.0000	0.0000
CCI-65FP-040075	A	No	Surface Af (CaAa)	43.0000 - 33.0000	1	1	-0.167 -0.167	4.0000	9.5000	0.0000
CCI-65FP-040075	B	No	Surface Af (CaAa)	43.0000 - 33.0000	1	1	-0.167 -0.167	4.0000	9.5000	0.0000
CCI-65FP-040075	C	No	Surface Af (CaAa)	43.0000 - 33.0000	1	1	-0.167 -0.167	4.0000	9.5000	0.0000
CCI-65FP-060100	A	No	Surface Af (CaAa)	25.5000 - 0.5000	1	1	-0.500 -0.500	6.0000	14.0000	0.0000
CCI-65FP-060100	B	No	Surface Af (CaAa)	25.5000 - 0.5000	1	1	0.000 0.000	6.0000	14.0000	0.0000
***										
CCI-65FP-040075	A	No	Surface Af (CaAa)	50.2500 - 30.2500	1	1	-0.500 -0.500	4.0000	9.5000	0.0000
CCI-65FP-040075	C	No	Surface Af (CaAa)	50.2500 - 30.2500	1	1	0.000 0.000	4.0000	9.5000	0.0000
CCI-65FP-045100	A	No	Surface Af (CaAa)	30.0000 - 20.0000	1	1	-0.167 -0.167	4.5000	11.0000	0.0000
CCI-65FP-045100	B	No	Surface Af (CaAa)	30.0000 - 20.0000	1	1	-0.167 -0.167	4.5000	11.0000	0.0000
CCI-65FP-045100	C	No	Surface Af (CaAa)	30.0000 - 20.0000	1	1	-0.167 -0.167	4.5000	11.0000	0.0000
***										
CCI-65FP-045100	A	No	Surface Af (CaAa)	78.0000 - 67.0000	1	1	-0.167 -0.167	4.5000	11.0000	0.0000
CCI-65FP-045100	B	No	Surface Af (CaAa)	78.0000 - 67.0000	1	1	-0.167 -0.167	4.5000	11.0000	0.0000
CCI-65FP-045100	C	No	Surface Af (CaAa)	78.0000 - 67.0000	1	1	-0.167 -0.167	4.5000	11.0000	0.0000
CCI-65FP-045100	A	No	Surface Af (CaAa)	29.5000 - 17.0000	1	1	0.000 0.000	4.5000	11.0000	0.0000
CCI-65FP-045100	C	No	Surface Af (CaAa)	29.5000 - 17.0000	1	1	0.000 0.000	4.5000	11.0000	0.0000
CCI-65FP-065125	B	No	Surface Af (CaAa)	13.0000 - 4.0000	1	1	-0.500 -0.500	6.5000	15.5000	0.0000
***										
***										
LDF7-50A(1-5/8)	A	No	Surface Ar (CaAa)	85.0000 - 0.0000	13	7	0.300 0.500	1.9800		0.8200
1" Rigid Conduit	B	No	Surface Ar (CaAa)	80.0000 - 0.0000	1	1	0.500 0.500	1.0000		0.6000
FSJ4P-50B-1(1/2)	C	No	Surface Ar (CaAa)	72.0000 - 0.0000	2	2	0.480 0.500	0.5300		0.1400
2" Rigid Conduit	C	No	Surface Ar (CaAa)	72.0000 - 0.0000	2	2	0.400 0.460	2.0000		2.8000
***										

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
CU12PSM9P6XXX(1-1/2)	C	No	Surface Ar (CaAa)	62.0000 - 0.0000	1	1	0.470 0.470	1.6000		2.3500
***										
***										

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
***									
***									
***									
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***									
LDF4-50A(1/2)	B	No	No	Inside Pole	114.0000 - 0.0000	1	No Ice	0.0000	0.1500
							1/2" Ice	0.0000	0.1500
							1" Ice	0.0000	0.1500
							2" Ice	0.0000	0.1500
HB114-1-08U4-M5J(1-1/4)	B	No	No	Inside Pole	114.0000 - 0.0000	3	No Ice	0.0000	1.0800
							1/2" Ice	0.0000	1.0800
							1" Ice	0.0000	1.0800
							2" Ice	0.0000	1.0800
HB114-21U3M12-XXXF(1-1/4)	B	No	No	Inside Pole	114.0000 - 0.0000	1	No Ice	0.0000	1.2200
							1/2" Ice	0.0000	1.2200
							1" Ice	0.0000	1.2200
							2" Ice	0.0000	1.2200
***									
AL5-50(7/8)	B	No	No	Inside Pole	108.0000 - 0.0000	6	No Ice	0.0000	0.2600
							1/2" Ice	0.0000	0.2600
							1" Ice	0.0000	0.2600
							2" Ice	0.0000	0.2600
HCS 6X12 4AWG(1-5/8)	B	No	No	Inside Pole	108.0000 - 0.0000	1	No Ice	0.0000	2.4000
							1/2" Ice	0.0000	2.4000
							1" Ice	0.0000	2.4000
							2" Ice	0.0000	2.4000
MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	B	No	No	Inside Pole	108.0000 - 0.0000	1	No Ice	0.0000	1.0700
							1/2" Ice	0.0000	1.0700
							1" Ice	0.0000	1.0700
							2" Ice	0.0000	1.0700
HCS 6X12 4AWG(1-5/8)	B	No	No	Inside Pole	108.0000 - 0.0000	1	No Ice	0.0000	2.4000
							1/2" Ice	0.0000	2.4000
							1" Ice	0.0000	2.4000
							2" Ice	0.0000	2.4000
***									
LDF5-50A(7/8)	C	No	No	Inside Pole	98.0000 - 0.0000	12	No Ice	0.0000	0.3300
							1/2" Ice	0.0000	0.3300
							1" Ice	0.0000	0.3300
							2" Ice	0.0000	0.3300
FB-L98B-002-75000(3/8)	C	No	No	Inside Pole	98.0000 - 0.0000	1	No Ice	0.0000	0.0586
							1/2" Ice	0.0000	0.0586
							1" Ice	0.0000	0.0586
							2" Ice	0.0000	0.0586
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	98.0000 - 0.0000	2	No Ice	0.0000	0.5840
							1/2" Ice	0.0000	0.5840
							1" Ice	0.0000	0.5840
							2" Ice	0.0000	0.5840
2" Rigid Conduit	C	No	No	Inside Pole	98.0000 - 0.0000	1	No Ice	0.0000	2.8000
							1/2" Ice	0.0000	2.8000
							1" Ice	0.0000	2.8000
							2" Ice	0.0000	2.8000
***									
LDF4-50A(1/2)	B	No	No	Inside Pole	80.0000 - 0.0000	1	No Ice	0.0000	0.1500
							1/2" Ice	0.0000	0.1500

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
							1" Ice	0.0000	0.1500
							2" Ice	0.0000	0.1500
***									
FSJ1-50A(1/4)	C	No	No	Inside Pole	72.0000 - 0.0000	3	No Ice	0.0000	0.0450
							1/2" Ice	0.0000	0.0450
							1" Ice	0.0000	0.0450
							2" Ice	0.0000	0.0450
HJ4.5-50(5/8)	C	No	No	Inside Pole	72.0000 - 0.0000	3	No Ice	0.0000	0.4000
							1/2" Ice	0.0000	0.4000
							1" Ice	0.0000	0.4000
							2" Ice	0.0000	0.4000
***									
***									

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	118.0000-113.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0046
		C	0.000	0.000	0.000	0.000	0.0000
L2	113.0000-108.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0231
		C	0.000	0.000	0.000	0.000	0.0000
L3	108.0000-103.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0602
		C	0.000	0.000	0.000	0.000	0.0000
L4	103.0000-98.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0602
		C	0.000	0.000	0.000	0.000	0.0000
L5	98.0000-93.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0602
		C	0.000	0.000	0.000	0.000	0.0399
L6	93.0000-90.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0361
		C	0.000	0.000	0.000	0.000	0.0240
L7	90.0000-85.0000	A	0.000	0.000	0.000	0.000	0.0000
		B	0.000	0.000	0.000	0.000	0.0602
		C	0.000	0.000	0.000	0.000	0.0399
L8	85.0000-80.0000	A	0.000	0.000	6.930	0.000	0.0533
		B	0.000	0.000	0.000	0.000	0.0602
		C	0.000	0.000	0.000	0.000	0.0399
L9	80.0000-76.5000	A	0.000	0.000	5.976	0.000	0.0373
		B	0.000	0.000	1.475	0.000	0.0448
		C	0.000	0.000	1.125	0.000	0.0280
L10	76.5000-76.2500	A	0.000	0.000	0.534	0.000	0.0027
		B	0.000	0.000	0.213	0.000	0.0032
		C	0.000	0.000	0.188	0.000	0.0020
L11	76.2500-74.0000	A	0.000	0.000	4.806	0.000	0.0240
		B	0.000	0.000	1.912	0.000	0.0288
		C	0.000	0.000	1.688	0.000	0.0180
L12	74.0000-73.7500	A	0.000	0.000	0.534	0.000	0.0027
		B	0.000	0.000	0.213	0.000	0.0032
		C	0.000	0.000	0.188	0.000	0.0020
L13	73.7500-68.8800	A	0.000	0.000	11.430	0.000	0.0519
		B	0.000	0.000	5.167	0.000	0.0623
		C	0.000	0.000	6.259	0.000	0.0614
L14	68.8800-68.6300	A	0.000	0.000	0.722	0.000	0.0027
		B	0.000	0.000	0.400	0.000	0.0032
		C	0.000	0.000	0.501	0.000	0.0038
L15	68.6300-64.5000	A	0.000	0.000	10.148	0.000	0.0440

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	4.837	0.000	0.0528
		C	0.000	0.000	6.513	0.000	0.0628
L16	64.5000-64.2500	A	0.000	0.000	0.560	0.000	0.0027
		B	0.000	0.000	0.238	0.000	0.0032
		C	0.000	0.000	0.340	0.000	0.0038
L17	64.2500-63.0000	A	0.000	0.000	2.800	0.000	0.0133
		B	0.000	0.000	1.192	0.000	0.0160
		C	0.000	0.000	1.700	0.000	0.0190
L18	63.0000-62.7500	A	0.000	0.000	0.560	0.000	0.0027
		B	0.000	0.000	0.238	0.000	0.0032
		C	0.000	0.000	0.340	0.000	0.0038
L19	62.7500-60.0000	A	0.000	0.000	5.920	0.000	0.0293
		B	0.000	0.000	2.383	0.000	0.0352
		C	0.000	0.000	3.820	0.000	0.0465
L20	60.0000-59.7500	A	0.000	0.000	0.346	0.000	0.0027
		B	0.000	0.000	0.025	0.000	0.0032
		C	0.000	0.000	0.167	0.000	0.0044
L21	59.7500-54.7500	A	0.000	0.000	6.930	0.000	0.0533
		B	0.000	0.000	0.500	0.000	0.0640
		C	0.000	0.000	3.330	0.000	0.0878
L22	54.7500-49.7500	A	0.000	0.000	7.263	0.000	0.0533
		B	0.000	0.000	0.500	0.000	0.0640
		C	0.000	0.000	3.663	0.000	0.0878
L23	49.7500-49.2500	A	0.000	0.000	1.026	0.000	0.0053
		B	0.000	0.000	0.050	0.000	0.0064
		C	0.000	0.000	0.666	0.000	0.0088
L24	49.2500-49.0000	A	0.000	0.000	0.513	0.000	0.0027
		B	0.000	0.000	0.025	0.000	0.0032
		C	0.000	0.000	0.333	0.000	0.0044
L25	49.0000-44.0000	A	0.000	0.000	10.263	0.000	0.0533
		B	0.000	0.000	0.500	0.000	0.0640
		C	0.000	0.000	6.663	0.000	0.0878
L26	44.0000-42.0000	A	0.000	0.000	4.772	0.000	0.0213
		B	0.000	0.000	0.867	0.000	0.0256
		C	0.000	0.000	3.332	0.000	0.0351
L27	42.0000-41.7500	A	0.000	0.000	0.680	0.000	0.0027
		B	0.000	0.000	0.192	0.000	0.0032
		C	0.000	0.000	0.500	0.000	0.0044
L28	41.7500-36.7500	A	0.000	0.000	13.597	0.000	0.0533
		B	0.000	0.000	3.833	0.000	0.0640
		C	0.000	0.000	9.997	0.000	0.0878
L29	36.7500-34.5000	A	0.000	0.000	6.222	0.000	0.0240
		B	0.000	0.000	1.829	0.000	0.0288
		C	0.000	0.000	4.602	0.000	0.0395
L30	34.5000-34.2500	A	0.000	0.000	0.706	0.000	0.0027
		B	0.000	0.000	0.218	0.000	0.0032
		C	0.000	0.000	0.526	0.000	0.0044
L31	34.2500-34.0000	A	0.000	0.000	0.706	0.000	0.0027
		B	0.000	0.000	0.218	0.000	0.0032
		C	0.000	0.000	0.526	0.000	0.0044
L32	34.0000-33.7500	A	0.000	0.000	0.706	0.000	0.0027
		B	0.000	0.000	0.218	0.000	0.0032
		C	0.000	0.000	0.526	0.000	0.0044
L33	33.7500-30.0000	A	0.000	0.000	8.368	0.000	0.0400
		B	0.000	0.000	1.212	0.000	0.0480
		C	0.000	0.000	5.668	0.000	0.0658
L34	30.0000-29.7500	A	0.000	0.000	0.534	0.000	0.0027
		B	0.000	0.000	0.213	0.000	0.0032
		C	0.000	0.000	0.354	0.000	0.0044
L35	29.7500-28.5000	A	0.000	0.000	3.420	0.000	0.0133
		B	0.000	0.000	1.063	0.000	0.0160
		C	0.000	0.000	2.520	0.000	0.0219
L36	28.5000-28.2500	A	0.000	0.000	0.722	0.000	0.0027
		B	0.000	0.000	0.213	0.000	0.0032
		C	0.000	0.000	0.541	0.000	0.0044
L37	28.2500-23.2500	A	0.000	0.000	16.680	0.000	0.0533
		B	0.000	0.000	6.500	0.000	0.0640
		C	0.000	0.000	10.830	0.000	0.0878
L38	23.2500-23.0000	A	0.000	0.000	0.971	0.000	0.0027

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	0.462	0.000	0.0032
		C	0.000	0.000	0.541	0.000	0.0044
L39	23.0000-21.5000	A	0.000	0.000	5.829	0.000	0.0160
		B	0.000	0.000	2.775	0.000	0.0192
		C	0.000	0.000	3.249	0.000	0.0263
L40	21.5000-21.2500	A	0.000	0.000	0.971	0.000	0.0027
		B	0.000	0.000	0.462	0.000	0.0032
		C	0.000	0.000	0.541	0.000	0.0044
L41	21.2500-19.0000	A	0.000	0.000	8.243	0.000	0.0240
		B	0.000	0.000	3.662	0.000	0.0288
		C	0.000	0.000	4.373	0.000	0.0395
L42	19.0000-18.7500	A	0.000	0.000	0.826	0.000	0.0027
		B	0.000	0.000	0.317	0.000	0.0032
		C	0.000	0.000	0.396	0.000	0.0044
L43	18.7500-18.5000	A	0.000	0.000	0.826	0.000	0.0027
		B	0.000	0.000	0.317	0.000	0.0032
		C	0.000	0.000	0.396	0.000	0.0044
L44	18.5000-18.2500	A	0.000	0.000	0.826	0.000	0.0027
		B	0.000	0.000	0.317	0.000	0.0032
		C	0.000	0.000	0.396	0.000	0.0044
L45	18.2500-13.2500	A	0.000	0.000	13.701	0.000	0.0533
		B	0.000	0.000	6.333	0.000	0.0640
		C	0.000	0.000	5.101	0.000	0.0878
L46	13.2500-12.7000	A	0.000	0.000	1.404	0.000	0.0059
		B	0.000	0.000	0.975	0.000	0.0070
		C	0.000	0.000	0.458	0.000	0.0097
L47	12.7000-12.4500	A	0.000	0.000	0.638	0.000	0.0027
		B	0.000	0.000	0.548	0.000	0.0032
		C	0.000	0.000	0.208	0.000	0.0044
L48	12.4500-11.5000	A	0.000	0.000	2.425	0.000	0.0101
		B	0.000	0.000	2.084	0.000	0.0122
		C	0.000	0.000	0.791	0.000	0.0167
L49	11.5000-11.2500	A	0.000	0.000	0.638	0.000	0.0027
		B	0.000	0.000	0.548	0.000	0.0032
		C	0.000	0.000	0.208	0.000	0.0044
L50	11.2500-10.5000	A	0.000	0.000	1.914	0.000	0.0080
		B	0.000	0.000	1.645	0.000	0.0096
		C	0.000	0.000	0.625	0.000	0.0132
L51	10.5000-10.2500	A	0.000	0.000	0.638	0.000	0.0027
		B	0.000	0.000	0.548	0.000	0.0032
		C	0.000	0.000	0.208	0.000	0.0044
L52	10.2500-7.5000	A	0.000	0.000	7.020	0.000	0.0293
		B	0.000	0.000	6.031	0.000	0.0352
		C	0.000	0.000	2.290	0.000	0.0483
L53	7.5000-7.2500	A	0.000	0.000	0.638	0.000	0.0027
		B	0.000	0.000	0.548	0.000	0.0032
		C	0.000	0.000	0.208	0.000	0.0044
L54	7.2500-6.2500	A	0.000	0.000	2.553	0.000	0.0107
		B	0.000	0.000	2.193	0.000	0.0128
		C	0.000	0.000	0.833	0.000	0.0176
L55	6.2500-6.0000	A	0.000	0.000	0.638	0.000	0.0027
		B	0.000	0.000	0.548	0.000	0.0032
		C	0.000	0.000	0.208	0.000	0.0044
L56	6.0000-3.7300	A	0.000	0.000	5.795	0.000	0.0242
		B	0.000	0.000	4.728	0.000	0.0290
		C	0.000	0.000	1.890	0.000	0.0398
L57	3.7300-3.4800	A	0.000	0.000	0.638	0.000	0.0027
		B	0.000	0.000	0.317	0.000	0.0032
		C	0.000	0.000	0.208	0.000	0.0044
L58	3.4800-2.7500	A	0.000	0.000	1.863	0.000	0.0078
		B	0.000	0.000	0.925	0.000	0.0093
		C	0.000	0.000	0.608	0.000	0.0128
L59	2.7500-2.5000	A	0.000	0.000	0.638	0.000	0.0027
		B	0.000	0.000	0.317	0.000	0.0032
		C	0.000	0.000	0.208	0.000	0.0044
L60	2.5000-2.0000	A	0.000	0.000	1.276	0.000	0.0053
		B	0.000	0.000	0.633	0.000	0.0064
		C	0.000	0.000	0.416	0.000	0.0088
L61	2.0000-1.7500	A	0.000	0.000	0.638	0.000	0.0027

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	0.317	0.000	0.0032
		C	0.000	0.000	0.208	0.000	0.0044
L62	1.7500-0.0000	A	0.000	0.000	3.884	0.000	0.0187
		B	0.000	0.000	1.633	0.000	0.0224
		C	0.000	0.000	1.374	0.000	0.0307

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	118.0000-113.0000	A	1.927	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0046
		C		0.000	0.000	0.000	0.000	0.0000
L2	113.0000-108.0000	A	1.918	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0231
		C		0.000	0.000	0.000	0.000	0.0000
L3	108.0000-103.0000	A	1.910	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0602
		C		0.000	0.000	0.000	0.000	0.0000
L4	103.0000-98.0000	A	1.900	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0602
		C		0.000	0.000	0.000	0.000	0.0000
L5	98.0000-93.0000	A	1.891	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0602
		C		0.000	0.000	0.000	0.000	0.0399
L6	93.0000-90.0000	A	1.883	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0361
		C		0.000	0.000	0.000	0.000	0.0240
L7	90.0000-85.0000	A	1.874	0.000	0.000	0.000	0.000	0.0000
		B		0.000	0.000	0.000	0.000	0.0602
		C		0.000	0.000	0.000	0.000	0.0399
L8	85.0000-80.0000	A	1.863	0.000	0.000	10.991	0.000	0.2138
		B		0.000	0.000	0.000	0.000	0.0602
		C		0.000	0.000	0.000	0.000	0.0399
L9	80.0000-76.5000	A	1.853	0.000	0.000	9.164	0.000	0.1685
		B		0.000	0.000	3.126	0.000	0.0869
		C		0.000	0.000	1.479	0.000	0.0474
L10	76.5000-76.2500	A	1.849	0.000	0.000	0.795	0.000	0.0139
		B		0.000	0.000	0.364	0.000	0.0080
		C		0.000	0.000	0.246	0.000	0.0052
L11	76.2500-74.0000	A	1.846	0.000	0.000	7.153	0.000	0.1246
		B		0.000	0.000	3.272	0.000	0.0723
		C		0.000	0.000	2.217	0.000	0.0470
L12	74.0000-73.7500	A	1.843	0.000	0.000	0.795	0.000	0.0138
		B		0.000	0.000	0.363	0.000	0.0080
		C		0.000	0.000	0.246	0.000	0.0052
L13	73.7500-68.8800	A	1.836	0.000	0.000	16.772	0.000	0.2859
		B		0.000	0.000	8.374	0.000	0.1733
		C		0.000	0.000	10.937	0.000	0.1972
L14	68.8800-68.6300	A	1.829	0.000	0.000	1.031	0.000	0.0169
		B		0.000	0.000	0.600	0.000	0.0112
		C		0.000	0.000	0.871	0.000	0.0146
L15	68.6300-64.5000	A	1.824	0.000	0.000	14.916	0.000	0.2585
		B		0.000	0.000	7.797	0.000	0.1636
		C		0.000	0.000	12.256	0.000	0.2207
L16	64.5000-64.2500	A	1.817	0.000	0.000	0.870	0.000	0.0165
		B		0.000	0.000	0.440	0.000	0.0108
		C		0.000	0.000	0.709	0.000	0.0143
L17	64.2500-63.0000	A	1.815	0.000	0.000	4.351	0.000	0.0826
		B		0.000	0.000	2.197	0.000	0.0540
		C		0.000	0.000	3.543	0.000	0.0712
L18	63.0000-62.7500	A	1.813	0.000	0.000	0.870	0.000	0.0165
		B		0.000	0.000	0.439	0.000	0.0108
		C		0.000	0.000	0.708	0.000	0.0142
L19	62.7500-60.0000	A	1.809	0.000	0.000	9.155	0.000	0.1723

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	4.417	0.000	0.1095
		C		0.000	0.000	8.417	0.000	0.1670
L20	60.0000-59.7500	A	1.804	0.000	0.000	0.546	0.000	0.0104
		B		0.000	0.000	0.115	0.000	0.0047
		C		0.000	0.000	0.514	0.000	0.0106
L21	59.7500-54.7500	A	1.796	0.000	0.000	10.908	0.000	0.2080
		B		0.000	0.000	2.296	0.000	0.0946
		C		0.000	0.000	10.249	0.000	0.2117
L22	54.7500-49.7500	A	1.780	0.000	0.000	11.399	0.000	0.2122
		B		0.000	0.000	2.280	0.000	0.0942
		C		0.000	0.000	10.704	0.000	0.2156
L23	49.7500-49.2500	A	1.770	0.000	0.000	1.598	0.000	0.0262
		B		0.000	0.000	0.227	0.000	0.0094
		C		0.000	0.000	1.526	0.000	0.0265
L24	49.2500-49.0000	A	1.769	0.000	0.000	0.799	0.000	0.0131
		B		0.000	0.000	0.113	0.000	0.0047
		C		0.000	0.000	0.763	0.000	0.0132
L25	49.0000-44.0000	A	1.759	0.000	0.000	15.954	0.000	0.2601
		B		0.000	0.000	2.259	0.000	0.0936
		C		0.000	0.000	15.213	0.000	0.2632
L26	44.0000-42.0000	A	1.746	0.000	0.000	7.264	0.000	0.1143
		B		0.000	0.000	1.793	0.000	0.0482
		C		0.000	0.000	6.955	0.000	0.1154
L27	42.0000-41.7500	A	1.741	0.000	0.000	1.019	0.000	0.0156
		B		0.000	0.000	0.336	0.000	0.0074
		C		0.000	0.000	0.980	0.000	0.0158
L28	41.7500-36.7500	A	1.730	0.000	0.000	20.352	0.000	0.3103
		B		0.000	0.000	6.694	0.000	0.1468
		C		0.000	0.000	19.544	0.000	0.3130
L29	36.7500-34.5000	A	1.713	0.000	0.000	9.469	0.000	0.1490
		B		0.000	0.000	3.332	0.000	0.0762
		C		0.000	0.000	9.088	0.000	0.1501
L30	34.5000-34.2500	A	1.707	0.000	0.000	1.097	0.000	0.0180
		B		0.000	0.000	0.416	0.000	0.0099
		C		0.000	0.000	1.054	0.000	0.0181
L31	34.2500-34.0000	A	1.706	0.000	0.000	1.097	0.000	0.0180
		B		0.000	0.000	0.415	0.000	0.0099
		C		0.000	0.000	1.054	0.000	0.0181
L32	34.0000-33.7500	A	1.704	0.000	0.000	1.097	0.000	0.0179
		B		0.000	0.000	0.415	0.000	0.0099
		C		0.000	0.000	1.053	0.000	0.0181
L33	33.7500-30.0000	A	1.694	0.000	0.000	13.340	0.000	0.2281
		B		0.000	0.000	3.381	0.000	0.1108
		C		0.000	0.000	12.673	0.000	0.2298
L34	30.0000-29.7500	A	1.683	0.000	0.000	0.773	0.000	0.0128
		B		0.000	0.000	0.344	0.000	0.0074
		C		0.000	0.000	0.727	0.000	0.0129
L35	29.7500-28.5000	A	1.679	0.000	0.000	4.877	0.000	0.0750
		B		0.000	0.000	1.716	0.000	0.0370
		C		0.000	0.000	4.647	0.000	0.0755
L36	28.5000-28.2500	A	1.675	0.000	0.000	1.026	0.000	0.0155
		B		0.000	0.000	0.343	0.000	0.0074
		C		0.000	0.000	0.979	0.000	0.0156
L37	28.2500-23.2500	A	1.658	0.000	0.000	23.474	0.000	0.3371
		B		0.000	0.000	9.830	0.000	0.1760
		C		0.000	0.000	19.509	0.000	0.3095
L38	23.2500-23.0000	A	1.641	0.000	0.000	1.354	0.000	0.0185
		B		0.000	0.000	0.672	0.000	0.0105
		C		0.000	0.000	0.971	0.000	0.0153
L39	23.0000-21.5000	A	1.634	0.000	0.000	8.117	0.000	0.1103
		B		0.000	0.000	4.030	0.000	0.0627
		C		0.000	0.000	5.820	0.000	0.0915
L40	21.5000-21.2500	A	1.628	0.000	0.000	1.352	0.000	0.0183
		B		0.000	0.000	0.671	0.000	0.0104
		C		0.000	0.000	0.969	0.000	0.0152
L41	21.2500-19.0000	A	1.618	0.000	0.000	11.957	0.000	0.1692
		B		0.000	0.000	5.830	0.000	0.0985
		C		0.000	0.000	8.502	0.000	0.1413
L42	19.0000-18.7500	A	1.608	0.000	0.000	1.238	0.000	0.0181

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	0.558	0.000	0.0103
		C		0.000	0.000	0.854	0.000	0.0150
L43	18.7500-18.5000	A	1.605	0.000	0.000	1.238	0.000	0.0181
		B		0.000	0.000	0.557	0.000	0.0103
		C		0.000	0.000	0.853	0.000	0.0150
L44	18.5000-18.2500	A	1.603	0.000	0.000	1.237	0.000	0.0180
		B		0.000	0.000	0.557	0.000	0.0103
		C		0.000	0.000	0.853	0.000	0.0150
L45	18.2500-13.2500	A	1.579	0.000	0.000	20.884	0.000	0.3161
		B		0.000	0.000	11.070	0.000	0.2023
		C		0.000	0.000	13.157	0.000	0.2557
L46	13.2500-12.7000	A	1.548	0.000	0.000	2.148	0.000	0.0327
		B		0.000	0.000	1.535	0.000	0.0257
		C		0.000	0.000	1.294	0.000	0.0262
L47	12.7000-12.4500	A	1.544	0.000	0.000	0.976	0.000	0.0148
		B		0.000	0.000	0.821	0.000	0.0131
		C		0.000	0.000	0.587	0.000	0.0119
L48	12.4500-11.5000	A	1.536	0.000	0.000	3.703	0.000	0.0561
		B		0.000	0.000	3.116	0.000	0.0496
		C		0.000	0.000	2.225	0.000	0.0450
L49	11.5000-11.2500	A	1.528	0.000	0.000	0.973	0.000	0.0147
		B		0.000	0.000	0.819	0.000	0.0130
		C		0.000	0.000	0.584	0.000	0.0118
L50	11.2500-10.5000	A	1.521	0.000	0.000	2.916	0.000	0.0439
		B		0.000	0.000	2.452	0.000	0.0387
		C		0.000	0.000	1.746	0.000	0.0352
L51	10.5000-10.2500	A	1.514	0.000	0.000	0.971	0.000	0.0146
		B		0.000	0.000	0.816	0.000	0.0129
		C		0.000	0.000	0.580	0.000	0.0117
L52	10.2500-7.5000	A	1.491	0.000	0.000	10.637	0.000	0.1581
		B		0.000	0.000	8.931	0.000	0.1392
		C		0.000	0.000	6.327	0.000	0.1269
L53	7.5000-7.2500	A	1.463	0.000	0.000	0.963	0.000	0.0141
		B		0.000	0.000	0.807	0.000	0.0124
		C		0.000	0.000	0.569	0.000	0.0114
L54	7.2500-6.2500	A	1.451	0.000	0.000	3.842	0.000	0.0561
		B		0.000	0.000	3.219	0.000	0.0493
		C		0.000	0.000	2.265	0.000	0.0451
L55	6.2500-6.0000	A	1.437	0.000	0.000	0.958	0.000	0.0139
		B		0.000	0.000	0.802	0.000	0.0122
		C		0.000	0.000	0.563	0.000	0.0112
L56	6.0000-3.7300	A	1.404	0.000	0.000	8.652	0.000	0.1237
		B		0.000	0.000	6.942	0.000	0.1053
		C		0.000	0.000	5.045	0.000	0.0996
L57	3.7300-3.4800	A	1.362	0.000	0.000	0.946	0.000	0.0133
		B		0.000	0.000	0.521	0.000	0.0089
		C		0.000	0.000	0.546	0.000	0.0107
L58	3.4800-2.7500	A	1.343	0.000	0.000	2.753	0.000	0.0383
		B		0.000	0.000	1.513	0.000	0.0255
		C		0.000	0.000	1.582	0.000	0.0309
L59	2.7500-2.5000	A	1.320	0.000	0.000	0.939	0.000	0.0129
		B		0.000	0.000	0.515	0.000	0.0086
		C		0.000	0.000	0.537	0.000	0.0104
L60	2.5000-2.0000	A	1.300	0.000	0.000	1.872	0.000	0.0255
		B		0.000	0.000	1.023	0.000	0.0170
		C		0.000	0.000	1.064	0.000	0.0206
L61	2.0000-1.7500	A	1.276	0.000	0.000	0.932	0.000	0.0125
		B		0.000	0.000	0.508	0.000	0.0084
		C		0.000	0.000	0.527	0.000	0.0102
L62	1.7500-0.0000	A	1.182	0.000	0.000	5.599	0.000	0.0747
		B		0.000	0.000	2.638	0.000	0.0474
		C		0.000	0.000	3.339	0.000	0.0637

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L1	118.0000-113.0000	0.0000	0.0000	0.0000	0.0000
L2	113.0000-108.0000	0.0000	0.0000	0.0000	0.0000
L3	108.0000-103.0000	0.0000	0.0000	0.0000	0.0000
L4	103.0000-98.0000	0.0000	0.0000	0.0000	0.0000
L5	98.0000-93.0000	0.0000	0.0000	0.0000	0.0000
L6	93.0000-90.0000	0.0000	0.0000	0.0000	0.0000
L7	90.0000-85.0000	0.0000	0.0000	0.0000	0.0000
L8	85.0000-80.0000	-1.5578	-7.3290	-1.1241	-5.2884
L9	80.0000-76.5000	-0.8071	-5.0209	-0.1736	-3.6525
L10	76.5000-76.2500	-0.5968	-3.7131	-0.1422	-2.9752
L11	76.2500-74.0000	-0.5968	-3.7131	-0.1427	-2.9757
L12	74.0000-73.7500	-0.5968	-3.7131	-0.1433	-2.9761
L13	73.7500-68.8800	-0.8798	-2.2212	-0.9860	-1.6803
L14	68.8800-68.6300	-0.9012	-1.5982	-1.1612	-1.0463
L15	68.6300-64.5000	-1.0555	-1.8720	-1.2985	-1.1721
L16	64.5000-64.2500	-1.1355	-2.0138	-1.3237	-1.1971
L17	64.2500-63.0000	-1.1355	-2.0138	-1.3236	-1.1978
L18	63.0000-62.7500	-1.1355	-2.0138	-1.3236	-1.1986
L19	62.7500-60.0000	-1.3458	-1.9525	-1.6512	-1.0029
L20	60.0000-59.7500	-3.3012	-4.3901	-2.7985	-1.4105
L21	59.7500-54.7500	-3.3012	-4.3901	-2.7974	-1.4158
L22	54.7500-49.7500	-3.2873	-3.6005	-2.7974	-1.0339
L23	49.7500-49.2500	-2.4491	1.2301	-2.8079	1.8883
L24	49.2500-49.0000	-2.4491	1.2301	-2.8078	1.8876
L25	49.0000-44.0000	-2.4491	1.2301	-2.8067	1.8826
L26	44.0000-42.0000	-2.1052	1.0574	-2.5078	1.6768
L27	42.0000-41.7500	-1.8460	0.9272	-2.2669	1.5141
L28	41.7500-36.7500	-1.8460	0.9272	-2.2653	1.5091
L29	36.7500-34.5000	-1.7969	0.9026	-2.1811	1.4472
L30	34.5000-34.2500	-1.7392	0.8736	-2.0860	1.3821
L31	34.2500-34.0000	-1.7392	0.8736	-2.0859	1.3816
L32	34.0000-33.7500	-1.7392	0.8736	-2.0857	1.3811
L33	33.7500-30.0000	-2.1509	0.8783	-2.4576	1.4604
L34	30.0000-29.7500	-2.3013	-3.0271	-2.4422	-1.2770
L35	29.7500-28.5000	-2.5872	-1.4323	-3.0478	-0.6277
L36	28.5000-28.2500	-2.7498	-1.2381	-3.1736	-0.4881
L37	28.2500-23.2500	-2.1150	-0.4585	-2.6003	0.1115
L38	23.2500-23.0000	-1.4801	0.3212	-2.0085	0.7315
L39	23.0000-21.5000	-1.4801	0.3212	-2.0076	0.7293
L40	21.5000-21.2500	-1.4801	0.3212	-2.0068	0.7270
L41	21.2500-19.0000	-1.5550	0.3375	-2.0222	0.7297
L42	19.0000-18.7500	-1.7221	0.3737	-2.1499	0.7724
L43	18.7500-18.5000	-1.7221	0.3737	-2.1498	0.7717
L44	18.5000-18.2500	-1.7221	0.3737	-2.1496	0.7709
L45	18.2500-13.2500	-0.9396	-0.1647	-1.5702	0.3767
L46	13.2500-12.7000	-1.6138	-1.4149	-2.0118	-0.5421
L47	12.7000-12.4500	-2.3539	-2.1921	-2.5293	-1.1304
L48	12.4500-11.5000	-2.3539	-2.1921	-2.5290	-1.1349
L49	11.5000-11.2500	-2.3539	-2.1921	-2.5287	-1.1396
L50	11.2500-10.5000	-2.3539	-2.1921	-2.5284	-1.1437
L51	10.5000-10.2500	-2.3539	-2.1921	-2.5282	-1.1481
L52	10.2500-7.5000	-2.3539	-2.1921	-2.5273	-1.1623
L53	7.5000-7.2500	-2.3539	-2.1921	-2.5263	-1.1791
L54	7.2500-6.2500	-2.3539	-2.1921	-2.5258	-1.1871
L55	6.2500-6.0000	-2.3539	-2.1921	-2.5253	-1.1958
L56	6.0000-3.7300	-2.1668	-1.9956	-2.3895	-1.0652
L57	3.7300-3.4800	-0.6278	-0.3793	-1.3074	0.1216
L58	3.4800-2.7500	-0.6278	-0.3793	-1.3034	0.1113
L59	2.7500-2.5000	-0.6278	-0.3793	-1.2988	0.0993
L60	2.5000-2.0000	-0.6278	-0.3793	-1.2946	0.0885
L61	2.0000-1.7500	-0.6278	-0.3793	-1.2898	0.0759
L62	1.7500-0.0000	-1.0351	-1.0080	-1.6600	-0.4345

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
L8	57	LDF7-50A(1-5/8)	80.00 - 85.00	1.0000	1.0000
L9	34	CCI-65FP-045100	76.50 - 78.00	1.0000	1.0000
L9	35	CCI-65FP-045100	76.50 - 78.00	1.0000	1.0000
L9	36	CCI-65FP-045100	76.50 - 78.00	1.0000	1.0000
L9	57	LDF7-50A(1-5/8)	76.50 - 80.00	1.0000	1.0000
L9	62	1" Rigid Conduit	76.50 - 80.00	1.0000	1.0000
L10	34	CCI-65FP-045100	76.25 - 76.50	1.0000	1.0000
L10	35	CCI-65FP-045100	76.25 - 76.50	1.0000	1.0000
L10	36	CCI-65FP-045100	76.25 - 76.50	1.0000	1.0000
L10	57	LDF7-50A(1-5/8)	76.25 - 76.50	1.0000	1.0000
L10	62	1" Rigid Conduit	76.25 - 76.50	1.0000	1.0000
L11	34	CCI-65FP-045100	74.00 - 76.25	1.0000	1.0000
L11	35	CCI-65FP-045100	74.00 - 76.25	1.0000	1.0000
L11	36	CCI-65FP-045100	74.00 - 76.25	1.0000	1.0000
L11	57	LDF7-50A(1-5/8)	74.00 - 76.25	1.0000	1.0000
L11	62	1" Rigid Conduit	74.00 - 76.25	1.0000	1.0000
L12	34	CCI-65FP-045100	73.75 - 74.00	1.0000	1.0000
L12	35	CCI-65FP-045100	73.75 - 74.00	1.0000	1.0000
L12	36	CCI-65FP-045100	73.75 - 74.00	1.0000	1.0000
L12	57	LDF7-50A(1-5/8)	73.75 - 74.00	1.0000	1.0000
L12	62	1" Rigid Conduit	73.75 - 74.00	1.0000	1.0000
L13	19	CCI-65FP-045100	68.88 - 70.25	1.0000	1.0000
L13	20	CCI-65FP-045100	68.88 - 70.25	1.0000	1.0000
L13	21	CCI-65FP-045100	68.88 - 70.25	1.0000	1.0000
L13	34	CCI-65FP-045100	68.88 - 73.75	1.0000	1.0000
L13	35	CCI-65FP-045100	68.88 - 73.75	1.0000	1.0000
L13	36	CCI-65FP-045100	68.88 - 73.75	1.0000	1.0000
L13	57	LDF7-50A(1-5/8)	68.88 - 73.75	1.0000	1.0000
L13	62	1" Rigid Conduit	68.88 - 73.75	1.0000	1.0000
L13	65	FSJ4P-50B-1(1/2)	68.88 - 72.00	1.0000	1.0000
L13	67	2" Rigid Conduit	68.88 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			72.00		
L14	19	CCI-65FP-045100	68.63 - 68.88	1.0000	1.0000
L14	20	CCI-65FP-045100	68.63 - 68.88	1.0000	1.0000
L14	21	CCI-65FP-045100	68.63 - 68.88	1.0000	1.0000
L14	34	CCI-65FP-045100	68.63 - 68.88	1.0000	1.0000
L14	35	CCI-65FP-045100	68.63 - 68.88	1.0000	1.0000
L14	36	CCI-65FP-045100	68.63 - 68.88	1.0000	1.0000
L14	57	LDF7-50A(1-5/8)	68.63 - 68.88	1.0000	1.0000
L14	62	1" Rigid Conduit	68.63 - 68.88	1.0000	1.0000
L14	65	FSJ4P-50B-1(1/2)	68.63 - 68.88	1.0000	1.0000
L14	67	2" Rigid Conduit	68.63 - 68.88	1.0000	1.0000
L15	9	MS-400	64.50 - 65.50	1.0000	1.0000
L15	10	MS-400	64.50 - 65.50	1.0000	1.0000
L15	11	MS-400	64.50 - 65.50	1.0000	1.0000
L15	19	CCI-65FP-045100	64.50 - 68.63	1.0000	1.0000
L15	20	CCI-65FP-045100	64.50 - 68.63	1.0000	1.0000
L15	21	CCI-65FP-045100	64.50 - 68.63	1.0000	1.0000
L15	34	CCI-65FP-045100	67.00 - 68.63	1.0000	1.0000
L15	35	CCI-65FP-045100	67.00 - 68.63	1.0000	1.0000
L15	36	CCI-65FP-045100	67.00 - 68.63	1.0000	1.0000
L15	57	LDF7-50A(1-5/8)	64.50 - 68.63	1.0000	1.0000
L15	62	1" Rigid Conduit	64.50 - 68.63	1.0000	1.0000
L15	65	FSJ4P-50B-1(1/2)	64.50 - 68.63	1.0000	1.0000
L15	67	2" Rigid Conduit	64.50 - 68.63	1.0000	1.0000
L16	9	MS-400	64.25 - 64.50	1.0000	1.0000
L16	10	MS-400	64.25 - 64.50	1.0000	1.0000
L16	11	MS-400	64.25 - 64.50	1.0000	1.0000
L16	19	CCI-65FP-045100	64.25 - 64.50	1.0000	1.0000
L16	20	CCI-65FP-045100	64.25 - 64.50	1.0000	1.0000
L16	21	CCI-65FP-045100	64.25 - 64.50	1.0000	1.0000
L16	57	LDF7-50A(1-5/8)	64.25 - 64.50	1.0000	1.0000
L16	62	1" Rigid Conduit	64.25 - 64.50	1.0000	1.0000
L16	65	FSJ4P-50B-1(1/2)	64.25 - 64.50	1.0000	1.0000
L16	67	2" Rigid Conduit	64.25 - 64.50	1.0000	1.0000
L17	9	MS-400	63.00 - 64.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L17	10	MS-400	63.00 - 64.25	1.0000	1.0000
L17	11	MS-400	63.00 - 64.25	1.0000	1.0000
L17	19	CCI-65FP-045100	63.00 - 64.25	1.0000	1.0000
L17	20	CCI-65FP-045100	63.00 - 64.25	1.0000	1.0000
L17	21	CCI-65FP-045100	63.00 - 64.25	1.0000	1.0000
L17	57	LDF7-50A(1-5/8)	63.00 - 64.25	1.0000	1.0000
L17	62	1" Rigid Conduit	63.00 - 64.25	1.0000	1.0000
L17	65	FSJ4P-50B-1(1/2)	63.00 - 64.25	1.0000	1.0000
L17	67	2" Rigid Conduit	63.00 - 64.25	1.0000	1.0000
L18	9	MS-400	62.75 - 63.00	1.0000	1.0000
L18	10	MS-400	62.75 - 63.00	1.0000	1.0000
L18	11	MS-400	62.75 - 63.00	1.0000	1.0000
L18	19	CCI-65FP-045100	62.75 - 63.00	1.0000	1.0000
L18	20	CCI-65FP-045100	62.75 - 63.00	1.0000	1.0000
L18	21	CCI-65FP-045100	62.75 - 63.00	1.0000	1.0000
L18	57	LDF7-50A(1-5/8)	62.75 - 63.00	1.0000	1.0000
L18	62	1" Rigid Conduit	62.75 - 63.00	1.0000	1.0000
L18	65	FSJ4P-50B-1(1/2)	62.75 - 63.00	1.0000	1.0000
L18	67	2" Rigid Conduit	62.75 - 63.00	1.0000	1.0000
L19	9	MS-400	60.50 - 62.75	1.0000	1.0000
L19	10	MS-400	60.50 - 62.75	1.0000	1.0000
L19	11	MS-400	60.50 - 62.75	1.0000	1.0000
L19	19	CCI-65FP-045100	60.25 - 62.75	1.0000	1.0000
L19	20	CCI-65FP-045100	60.25 - 62.75	1.0000	1.0000
L19	21	CCI-65FP-045100	60.25 - 62.75	1.0000	1.0000
L19	57	LDF7-50A(1-5/8)	60.00 - 62.75	1.0000	1.0000
L19	62	1" Rigid Conduit	60.00 - 62.75	1.0000	1.0000
L19	65	FSJ4P-50B-1(1/2)	60.00 - 62.75	1.0000	1.0000
L19	67	2" Rigid Conduit	60.00 - 62.75	1.0000	1.0000
L19	69	CU12PSM9P6XXX(1-1/2)	60.00 - 62.00	1.0000	1.0000
L20	57	LDF7-50A(1-5/8)	59.75 - 60.00	1.0000	1.0000
L20	62	1" Rigid Conduit	59.75 - 60.00	1.0000	1.0000
L20	65	FSJ4P-50B-1(1/2)	59.75 - 60.00	1.0000	1.0000
L20	67	2" Rigid Conduit	59.75 - 60.00	1.0000	1.0000
L20	69	CU12PSM9P6XXX(1-1/2)	59.75 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			60.00		
L21	57	LDF7-50A(1-5/8)	54.75 - 59.75	1.0000	1.0000
L21	62	1" Rigid Conduit	54.75 - 59.75	1.0000	1.0000
L21	65	FSJ4P-50B-1(1/2)	54.75 - 59.75	1.0000	1.0000
L21	67	2" Rigid Conduit	54.75 - 59.75	1.0000	1.0000
L21	69	CU12PSM9P6XXX(1-1/2)	54.75 - 59.75	1.0000	1.0000
L22	28	CCI-65FP-040075	49.75 - 50.25	1.0000	1.0000
L22	29	CCI-65FP-040075	49.75 - 50.25	1.0000	1.0000
L22	57	LDF7-50A(1-5/8)	49.75 - 54.75	1.0000	1.0000
L22	62	1" Rigid Conduit	49.75 - 54.75	1.0000	1.0000
L22	65	FSJ4P-50B-1(1/2)	49.75 - 54.75	1.0000	1.0000
L22	67	2" Rigid Conduit	49.75 - 54.75	1.0000	1.0000
L22	69	CU12PSM9P6XXX(1-1/2)	49.75 - 54.75	1.0000	1.0000
L23	28	CCI-65FP-040075	49.25 - 49.75	1.0000	1.0000
L23	29	CCI-65FP-040075	49.25 - 49.75	1.0000	1.0000
L23	57	LDF7-50A(1-5/8)	49.25 - 49.75	1.0000	1.0000
L23	62	1" Rigid Conduit	49.25 - 49.75	1.0000	1.0000
L23	65	FSJ4P-50B-1(1/2)	49.25 - 49.75	1.0000	1.0000
L23	67	2" Rigid Conduit	49.25 - 49.75	1.0000	1.0000
L23	69	CU12PSM9P6XXX(1-1/2)	49.25 - 49.75	1.0000	1.0000
L24	28	CCI-65FP-040075	49.00 - 49.25	1.0000	1.0000
L24	29	CCI-65FP-040075	49.00 - 49.25	1.0000	1.0000
L24	57	LDF7-50A(1-5/8)	49.00 - 49.25	1.0000	1.0000
L24	62	1" Rigid Conduit	49.00 - 49.25	1.0000	1.0000
L24	65	FSJ4P-50B-1(1/2)	49.00 - 49.25	1.0000	1.0000
L24	67	2" Rigid Conduit	49.00 - 49.25	1.0000	1.0000
L24	69	CU12PSM9P6XXX(1-1/2)	49.00 - 49.25	1.0000	1.0000
L25	28	CCI-65FP-040075	44.00 - 49.00	1.0000	1.0000
L25	29	CCI-65FP-040075	44.00 - 49.00	1.0000	1.0000
L25	57	LDF7-50A(1-5/8)	44.00 - 49.00	1.0000	1.0000
L25	62	1" Rigid Conduit	44.00 - 49.00	1.0000	1.0000
L25	65	FSJ4P-50B-1(1/2)	44.00 - 49.00	1.0000	1.0000
L25	67	2" Rigid Conduit	44.00 - 49.00	1.0000	1.0000
L25	69	CU12PSM9P6XXX(1-1/2)	44.00 - 49.00	1.0000	1.0000
L26	22	CCI-65FP-040075	42.00 - 43.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L26	23	CCI-65FP-040075	42.00 - 43.00	1.0000	1.0000
L26	24	CCI-65FP-040075	42.00 - 43.00	1.0000	1.0000
L26	28	CCI-65FP-040075	42.00 - 44.00	1.0000	1.0000
L26	29	CCI-65FP-040075	42.00 - 44.00	1.0000	1.0000
L26	57	LDF7-50A(1-5/8)	42.00 - 44.00	1.0000	1.0000
L26	62	1" Rigid Conduit	42.00 - 44.00	1.0000	1.0000
L26	65	FSJ4P-50B-1(1/2)	42.00 - 44.00	1.0000	1.0000
L26	67	2" Rigid Conduit	42.00 - 44.00	1.0000	1.0000
L26	69	CU12PSM9P6XXX(1-1/2)	42.00 - 44.00	1.0000	1.0000
L27	22	CCI-65FP-040075	41.75 - 42.00	1.0000	1.0000
L27	23	CCI-65FP-040075	41.75 - 42.00	1.0000	1.0000
L27	24	CCI-65FP-040075	41.75 - 42.00	1.0000	1.0000
L27	28	CCI-65FP-040075	41.75 - 42.00	1.0000	1.0000
L27	29	CCI-65FP-040075	41.75 - 42.00	1.0000	1.0000
L27	57	LDF7-50A(1-5/8)	41.75 - 42.00	1.0000	1.0000
L27	62	1" Rigid Conduit	41.75 - 42.00	1.0000	1.0000
L27	65	FSJ4P-50B-1(1/2)	41.75 - 42.00	1.0000	1.0000
L27	67	2" Rigid Conduit	41.75 - 42.00	1.0000	1.0000
L27	69	CU12PSM9P6XXX(1-1/2)	41.75 - 42.00	1.0000	1.0000
L28	22	CCI-65FP-040075	36.75 - 41.75	1.0000	1.0000
L28	23	CCI-65FP-040075	36.75 - 41.75	1.0000	1.0000
L28	24	CCI-65FP-040075	36.75 - 41.75	1.0000	1.0000
L28	28	CCI-65FP-040075	36.75 - 41.75	1.0000	1.0000
L28	29	CCI-65FP-040075	36.75 - 41.75	1.0000	1.0000
L28	57	LDF7-50A(1-5/8)	36.75 - 41.75	1.0000	1.0000
L28	62	1" Rigid Conduit	36.75 - 41.75	1.0000	1.0000
L28	65	FSJ4P-50B-1(1/2)	36.75 - 41.75	1.0000	1.0000
L28	67	2" Rigid Conduit	36.75 - 41.75	1.0000	1.0000
L28	69	CU12PSM9P6XXX(1-1/2)	36.75 - 41.75	1.0000	1.0000
L29	12	MS-400	34.50 - 35.50	1.0000	1.0000
L29	13	MS-400	34.50 - 35.50	1.0000	1.0000
L29	14	MS-400	34.50 - 35.50	1.0000	1.0000
L29	22	CCI-65FP-040075	34.50 - 36.75	1.0000	1.0000
L29	23	CCI-65FP-040075	34.50 - 36.75	1.0000	1.0000
L29	24	CCI-65FP-040075	34.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L29	28	CCI-65FP-040075	34.50 - 36.75	1.0000	1.0000
L29	29	CCI-65FP-040075	34.50 - 36.75	1.0000	1.0000
L29	57	LDF7-50A(1-5/8)	34.50 - 36.75	1.0000	1.0000
L29	62	1" Rigid Conduit	34.50 - 36.75	1.0000	1.0000
L29	65	FSJ4P-50B-1(1/2)	34.50 - 36.75	1.0000	1.0000
L29	67	2" Rigid Conduit	34.50 - 36.75	1.0000	1.0000
L29	69	CU12PSM9P6XXX(1-1/2)	34.50 - 36.75	1.0000	1.0000
L30	12	MS-400	34.25 - 34.50	1.0000	1.0000
L30	13	MS-400	34.25 - 34.50	1.0000	1.0000
L30	14	MS-400	34.25 - 34.50	1.0000	1.0000
L30	22	CCI-65FP-040075	34.25 - 34.50	1.0000	1.0000
L30	23	CCI-65FP-040075	34.25 - 34.50	1.0000	1.0000
L30	24	CCI-65FP-040075	34.25 - 34.50	1.0000	1.0000
L30	28	CCI-65FP-040075	34.25 - 34.50	1.0000	1.0000
L30	29	CCI-65FP-040075	34.25 - 34.50	1.0000	1.0000
L30	57	LDF7-50A(1-5/8)	34.25 - 34.50	1.0000	1.0000
L30	62	1" Rigid Conduit	34.25 - 34.50	1.0000	1.0000
L30	65	FSJ4P-50B-1(1/2)	34.25 - 34.50	1.0000	1.0000
L30	67	2" Rigid Conduit	34.25 - 34.50	1.0000	1.0000
L30	69	CU12PSM9P6XXX(1-1/2)	34.25 - 34.50	1.0000	1.0000
L31	12	MS-400	34.00 - 34.25	1.0000	1.0000
L31	13	MS-400	34.00 - 34.25	1.0000	1.0000
L31	14	MS-400	34.00 - 34.25	1.0000	1.0000
L31	22	CCI-65FP-040075	34.00 - 34.25	1.0000	1.0000
L31	23	CCI-65FP-040075	34.00 - 34.25	1.0000	1.0000
L31	24	CCI-65FP-040075	34.00 - 34.25	1.0000	1.0000
L31	28	CCI-65FP-040075	34.00 - 34.25	1.0000	1.0000
L31	29	CCI-65FP-040075	34.00 - 34.25	1.0000	1.0000
L31	57	LDF7-50A(1-5/8)	34.00 - 34.25	1.0000	1.0000
L31	62	1" Rigid Conduit	34.00 - 34.25	1.0000	1.0000
L31	65	FSJ4P-50B-1(1/2)	34.00 - 34.25	1.0000	1.0000
L31	67	2" Rigid Conduit	34.00 - 34.25	1.0000	1.0000
L31	69	CU12PSM9P6XXX(1-1/2)	34.00 - 34.25	1.0000	1.0000
L32	12	MS-400	33.75 - 34.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L32	13	MS-400	33.75 - 34.00	1.0000	1.0000
L32	14	MS-400	33.75 - 34.00	1.0000	1.0000
L32	22	CCI-65FP-040075	33.75 - 34.00	1.0000	1.0000
L32	23	CCI-65FP-040075	33.75 - 34.00	1.0000	1.0000
L32	24	CCI-65FP-040075	33.75 - 34.00	1.0000	1.0000
L32	28	CCI-65FP-040075	33.75 - 34.00	1.0000	1.0000
L32	29	CCI-65FP-040075	33.75 - 34.00	1.0000	1.0000
L32	57	LDF7-50A(1-5/8)	33.75 - 34.00	1.0000	1.0000
L32	62	1" Rigid Conduit	33.75 - 34.00	1.0000	1.0000
L32	65	FSJ4P-50B-1(1/2)	33.75 - 34.00	1.0000	1.0000
L32	67	2" Rigid Conduit	33.75 - 34.00	1.0000	1.0000
L32	69	CU12PSM9P6XXX(1-1/2)	33.75 - 34.00	1.0000	1.0000
L33	12	MS-400	30.50 - 33.75	1.0000	1.0000
L33	13	MS-400	30.50 - 33.75	1.0000	1.0000
L33	14	MS-400	30.50 - 33.75	1.0000	1.0000
L33	22	CCI-65FP-040075	33.00 - 33.75	1.0000	1.0000
L33	23	CCI-65FP-040075	33.00 - 33.75	1.0000	1.0000
L33	24	CCI-65FP-040075	33.00 - 33.75	1.0000	1.0000
L33	28	CCI-65FP-040075	30.25 - 33.75	1.0000	1.0000
L33	29	CCI-65FP-040075	30.25 - 33.75	1.0000	1.0000
L33	57	LDF7-50A(1-5/8)	30.00 - 33.75	1.0000	1.0000
L33	62	1" Rigid Conduit	30.00 - 33.75	1.0000	1.0000
L33	65	FSJ4P-50B-1(1/2)	30.00 - 33.75	1.0000	1.0000
L33	67	2" Rigid Conduit	30.00 - 33.75	1.0000	1.0000
L33	69	CU12PSM9P6XXX(1-1/2)	30.00 - 33.75	1.0000	1.0000
L34	30	CCI-65FP-045100	29.75 - 30.00	1.0000	1.0000
L34	31	CCI-65FP-045100	29.75 - 30.00	1.0000	1.0000
L34	32	CCI-65FP-045100	29.75 - 30.00	1.0000	1.0000
L34	57	LDF7-50A(1-5/8)	29.75 - 30.00	1.0000	1.0000
L34	62	1" Rigid Conduit	29.75 - 30.00	1.0000	1.0000
L34	65	FSJ4P-50B-1(1/2)	29.75 - 30.00	1.0000	1.0000
L34	67	2" Rigid Conduit	29.75 - 30.00	1.0000	1.0000
L34	69	CU12PSM9P6XXX(1-1/2)	29.75 - 30.00	1.0000	1.0000
L35	30	CCI-65FP-045100	28.50 - 29.75	1.0000	1.0000
L35	31	CCI-65FP-045100	28.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L35	32	CCI-65FP-045100	29.75 28.50 -	1.0000	1.0000
L35	37	CCI-65FP-045100	29.75 28.50 -	1.0000	1.0000
L35	38	CCI-65FP-045100	29.50 28.50 -	1.0000	1.0000
L35	57	LDF7-50A(1-5/8)	29.50 28.50 -	1.0000	1.0000
L35	62	1" Rigid Conduit	29.75 28.50 -	1.0000	1.0000
L35	65	FSJ4P-50B-1(1/2)	29.75 28.50 -	1.0000	1.0000
L35	67	2" Rigid Conduit	29.75 28.50 -	1.0000	1.0000
L35	69	CU12PSM9P6XXX(1-1/2)	29.75 28.50 -	1.0000	1.0000
L36	30	CCI-65FP-045100	29.75 28.25 -	1.0000	1.0000
L36	31	CCI-65FP-045100	28.50 28.25 -	1.0000	1.0000
L36	32	CCI-65FP-045100	28.50 28.25 -	1.0000	1.0000
L36	37	CCI-65FP-045100	28.50 28.25 -	1.0000	1.0000
L36	38	CCI-65FP-045100	28.50 28.25 -	1.0000	1.0000
L36	57	LDF7-50A(1-5/8)	28.50 28.25 -	1.0000	1.0000
L36	62	1" Rigid Conduit	28.50 28.25 -	1.0000	1.0000
L36	65	FSJ4P-50B-1(1/2)	28.50 28.25 -	1.0000	1.0000
L36	67	2" Rigid Conduit	28.50 28.25 -	1.0000	1.0000
L36	69	CU12PSM9P6XXX(1-1/2)	28.50 28.25 -	1.0000	1.0000
L37	25	CCI-65FP-060100	28.50 23.25 -	1.0000	1.0000
L37	26	CCI-65FP-060100	25.50 23.25 -	1.0000	1.0000
L37	30	CCI-65FP-045100	25.50 23.25 -	1.0000	1.0000
L37	31	CCI-65FP-045100	28.25 23.25 -	1.0000	1.0000
L37	32	CCI-65FP-045100	28.25 23.25 -	1.0000	1.0000
L37	37	CCI-65FP-045100	28.25 23.25 -	1.0000	1.0000
L37	38	CCI-65FP-045100	28.25 23.25 -	1.0000	1.0000
L37	57	LDF7-50A(1-5/8)	28.25 23.25 -	1.0000	1.0000
L37	62	1" Rigid Conduit	28.25 23.25 -	1.0000	1.0000
L37	65	FSJ4P-50B-1(1/2)	28.25 23.25 -	1.0000	1.0000
L37	67	2" Rigid Conduit	28.25 23.25 -	1.0000	1.0000
L37	69	CU12PSM9P6XXX(1-1/2)	28.25 23.25 -	1.0000	1.0000
L38	25	CCI-65FP-060100	28.25 23.00 -	1.0000	1.0000
L38	26	CCI-65FP-060100	23.25 23.00 -	1.0000	1.0000
L38	30	CCI-65FP-045100	23.25 23.00 -	1.0000	1.0000
L38	31	CCI-65FP-045100	23.25 23.00 -	1.0000	1.0000
			23.25		

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L38	32	CCI-65FP-045100	23.00 - 23.25	1.0000	1.0000
L38	37	CCI-65FP-045100	23.00 - 23.25	1.0000	1.0000
L38	38	CCI-65FP-045100	23.00 - 23.25	1.0000	1.0000
L38	57	LDF7-50A(1-5/8)	23.00 - 23.25	1.0000	1.0000
L38	62	1" Rigid Conduit	23.00 - 23.25	1.0000	1.0000
L38	65	FSJ4P-50B-1(1/2)	23.00 - 23.25	1.0000	1.0000
L38	67	2" Rigid Conduit	23.00 - 23.25	1.0000	1.0000
L38	69	CU12PSM9P6XXX(1-1/2)	23.00 - 23.25	1.0000	1.0000
L39	25	CCI-65FP-060100	21.50 - 23.00	1.0000	1.0000
L39	26	CCI-65FP-060100	21.50 - 23.00	1.0000	1.0000
L39	30	CCI-65FP-045100	21.50 - 23.00	1.0000	1.0000
L39	31	CCI-65FP-045100	21.50 - 23.00	1.0000	1.0000
L39	32	CCI-65FP-045100	21.50 - 23.00	1.0000	1.0000
L39	37	CCI-65FP-045100	21.50 - 23.00	1.0000	1.0000
L39	38	CCI-65FP-045100	21.50 - 23.00	1.0000	1.0000
L39	57	LDF7-50A(1-5/8)	21.50 - 23.00	1.0000	1.0000
L39	62	1" Rigid Conduit	21.50 - 23.00	1.0000	1.0000
L39	65	FSJ4P-50B-1(1/2)	21.50 - 23.00	1.0000	1.0000
L39	67	2" Rigid Conduit	21.50 - 23.00	1.0000	1.0000
L39	69	CU12PSM9P6XXX(1-1/2)	21.50 - 23.00	1.0000	1.0000
L40	25	CCI-65FP-060100	21.25 - 21.50	1.0000	1.0000
L40	26	CCI-65FP-060100	21.25 - 21.50	1.0000	1.0000
L40	30	CCI-65FP-045100	21.25 - 21.50	1.0000	1.0000
L40	31	CCI-65FP-045100	21.25 - 21.50	1.0000	1.0000
L40	32	CCI-65FP-045100	21.25 - 21.50	1.0000	1.0000
L40	37	CCI-65FP-045100	21.25 - 21.50	1.0000	1.0000
L40	38	CCI-65FP-045100	21.25 - 21.50	1.0000	1.0000
L40	57	LDF7-50A(1-5/8)	21.25 - 21.50	1.0000	1.0000
L40	62	1" Rigid Conduit	21.25 - 21.50	1.0000	1.0000
L40	65	FSJ4P-50B-1(1/2)	21.25 - 21.50	1.0000	1.0000
L40	67	2" Rigid Conduit	21.25 - 21.50	1.0000	1.0000
L40	69	CU12PSM9P6XXX(1-1/2)	21.25 - 21.50	1.0000	1.0000
L41	15	MS-450	19.00 - 20.50	1.0000	1.0000
L41	16	MS-450	19.00 - 20.50	1.0000	1.0000
L41	17	MS-450	19.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L41	25	CCI-65FP-060100	20.50 19.00 - 21.25	1.0000	1.0000
L41	26	CCI-65FP-060100	19.00 - 21.25	1.0000	1.0000
L41	30	CCI-65FP-045100	20.00 - 21.25	1.0000	1.0000
L41	31	CCI-65FP-045100	20.00 - 21.25	1.0000	1.0000
L41	32	CCI-65FP-045100	20.00 - 21.25	1.0000	1.0000
L41	37	CCI-65FP-045100	19.00 - 21.25	1.0000	1.0000
L41	38	CCI-65FP-045100	19.00 - 21.25	1.0000	1.0000
L41	57	LDF7-50A(1-5/8)	19.00 - 21.25	1.0000	1.0000
L41	62	1" Rigid Conduit	19.00 - 21.25	1.0000	1.0000
L41	65	FSJ4P-50B-1(1/2)	19.00 - 21.25	1.0000	1.0000
L41	67	2" Rigid Conduit	19.00 - 21.25	1.0000	1.0000
L41	69	CU12PSM9P6XXX(1-1/2)	19.00 - 21.25	1.0000	1.0000
L42	15	MS-450	18.75 - 19.00	1.0000	1.0000
L42	16	MS-450	18.75 - 19.00	1.0000	1.0000
L42	17	MS-450	18.75 - 19.00	1.0000	1.0000
L42	25	CCI-65FP-060100	18.75 - 19.00	1.0000	1.0000
L42	26	CCI-65FP-060100	18.75 - 19.00	1.0000	1.0000
L42	37	CCI-65FP-045100	18.75 - 19.00	1.0000	1.0000
L42	38	CCI-65FP-045100	18.75 - 19.00	1.0000	1.0000
L42	57	LDF7-50A(1-5/8)	18.75 - 19.00	1.0000	1.0000
L42	62	1" Rigid Conduit	18.75 - 19.00	1.0000	1.0000
L42	65	FSJ4P-50B-1(1/2)	18.75 - 19.00	1.0000	1.0000
L42	67	2" Rigid Conduit	18.75 - 19.00	1.0000	1.0000
L42	69	CU12PSM9P6XXX(1-1/2)	18.75 - 19.00	1.0000	1.0000
L43	15	MS-450	18.50 - 18.75	1.0000	1.0000
L43	16	MS-450	18.50 - 18.75	1.0000	1.0000
L43	17	MS-450	18.50 - 18.75	1.0000	1.0000
L43	25	CCI-65FP-060100	18.50 - 18.75	1.0000	1.0000
L43	26	CCI-65FP-060100	18.50 - 18.75	1.0000	1.0000
L43	37	CCI-65FP-045100	18.50 - 18.75	1.0000	1.0000
L43	38	CCI-65FP-045100	18.50 - 18.75	1.0000	1.0000
L43	57	LDF7-50A(1-5/8)	18.50 - 18.75	1.0000	1.0000
L43	62	1" Rigid Conduit	18.50 - 18.75	1.0000	1.0000
L43	65	FSJ4P-50B-1(1/2)	18.50 - 18.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L43	67	2" Rigid Conduit	18.50 - 18.75	1.0000	1.0000
L43	69	CU12PSM9P6XXX(1-1/2)	18.50 - 18.75	1.0000	1.0000
L44	15	MS-450	18.25 - 18.50	1.0000	1.0000
L44	16	MS-450	18.25 - 18.50	1.0000	1.0000
L44	17	MS-450	18.25 - 18.50	1.0000	1.0000
L44	25	CCI-65FP-060100	18.25 - 18.50	1.0000	1.0000
L44	26	CCI-65FP-060100	18.25 - 18.50	1.0000	1.0000
L44	37	CCI-65FP-045100	18.25 - 18.50	1.0000	1.0000
L44	38	CCI-65FP-045100	18.25 - 18.50	1.0000	1.0000
L44	57	LDF7-50A(1-5/8)	18.25 - 18.50	1.0000	1.0000
L44	62	1" Rigid Conduit	18.25 - 18.50	1.0000	1.0000
L44	65	FSJ4P-50B-1(1/2)	18.25 - 18.50	1.0000	1.0000
L44	67	2" Rigid Conduit	18.25 - 18.50	1.0000	1.0000
L44	69	CU12PSM9P6XXX(1-1/2)	18.25 - 18.50	1.0000	1.0000
L45	15	MS-450	13.25 - 18.25	1.0000	1.0000
L45	16	MS-450	13.25 - 18.25	1.0000	1.0000
L45	17	MS-450	13.25 - 18.25	1.0000	1.0000
L45	25	CCI-65FP-060100	13.25 - 18.25	1.0000	1.0000
L45	26	CCI-65FP-060100	13.25 - 18.25	1.0000	1.0000
L45	37	CCI-65FP-045100	17.00 - 18.25	1.0000	1.0000
L45	38	CCI-65FP-045100	17.00 - 18.25	1.0000	1.0000
L45	57	LDF7-50A(1-5/8)	13.25 - 18.25	1.0000	1.0000
L45	62	1" Rigid Conduit	13.25 - 18.25	1.0000	1.0000
L45	65	FSJ4P-50B-1(1/2)	13.25 - 18.25	1.0000	1.0000
L45	67	2" Rigid Conduit	13.25 - 18.25	1.0000	1.0000
L45	69	CU12PSM9P6XXX(1-1/2)	13.25 - 18.25	1.0000	1.0000
L46	15	MS-450	12.70 - 13.25	1.0000	1.0000
L46	16	MS-450	12.70 - 13.25	1.0000	1.0000
L46	17	MS-450	12.70 - 13.25	1.0000	1.0000
L46	25	CCI-65FP-060100	12.70 - 13.25	1.0000	1.0000
L46	26	CCI-65FP-060100	12.70 - 13.25	1.0000	1.0000
L46	39	CCI-65FP-065125	12.70 - 13.00	1.0000	1.0000
L46	57	LDF7-50A(1-5/8)	12.70 - 13.25	1.0000	1.0000
L46	62	1" Rigid Conduit	12.70 - 13.25	1.0000	1.0000
L46	65	FSJ4P-50B-1(1/2)	12.70 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L46	67	2" Rigid Conduit	13.25 - 12.70	1.0000	1.0000
L46	69	CU12PSM9P6XXX(1-1/2)	13.25 - 12.70	1.0000	1.0000
L47	15	MS-450	13.25 - 12.45	1.0000	1.0000
L47	16	MS-450	12.70 - 12.45	1.0000	1.0000
L47	17	MS-450	12.70 - 12.45	1.0000	1.0000
L47	25	CCI-65FP-060100	12.70 - 12.45	1.0000	1.0000
L47	26	CCI-65FP-060100	12.70 - 12.45	1.0000	1.0000
L47	39	CCI-65FP-065125	12.70 - 12.45	1.0000	1.0000
L47	57	LDF7-50A(1-5/8)	12.70 - 12.45	1.0000	1.0000
L47	62	1" Rigid Conduit	12.70 - 12.45	1.0000	1.0000
L47	65	FSJ4P-50B-1(1/2)	12.70 - 12.45	1.0000	1.0000
L47	67	2" Rigid Conduit	12.70 - 12.45	1.0000	1.0000
L47	69	CU12PSM9P6XXX(1-1/2)	12.70 - 12.45	1.0000	1.0000
L48	15	MS-450	12.45 - 11.50	1.0000	1.0000
L48	16	MS-450	12.45 - 11.50	1.0000	1.0000
L48	17	MS-450	12.45 - 11.50	1.0000	1.0000
L48	25	CCI-65FP-060100	12.45 - 11.50	1.0000	1.0000
L48	26	CCI-65FP-060100	12.45 - 11.50	1.0000	1.0000
L48	39	CCI-65FP-065125	12.45 - 11.50	1.0000	1.0000
L48	57	LDF7-50A(1-5/8)	12.45 - 11.50	1.0000	1.0000
L48	62	1" Rigid Conduit	12.45 - 11.50	1.0000	1.0000
L48	65	FSJ4P-50B-1(1/2)	12.45 - 11.50	1.0000	1.0000
L48	67	2" Rigid Conduit	12.45 - 11.50	1.0000	1.0000
L48	69	CU12PSM9P6XXX(1-1/2)	12.45 - 11.50	1.0000	1.0000
L49	15	MS-450	11.25 - 11.50	1.0000	1.0000
L49	16	MS-450	11.25 - 11.50	1.0000	1.0000
L49	17	MS-450	11.25 - 11.50	1.0000	1.0000
L49	25	CCI-65FP-060100	11.25 - 11.50	1.0000	1.0000
L49	26	CCI-65FP-060100	11.25 - 11.50	1.0000	1.0000
L49	39	CCI-65FP-065125	11.25 - 11.50	1.0000	1.0000
L49	57	LDF7-50A(1-5/8)	11.25 - 11.50	1.0000	1.0000
L49	62	1" Rigid Conduit	11.25 - 11.50	1.0000	1.0000
L49	65	FSJ4P-50B-1(1/2)	11.25 - 11.50	1.0000	1.0000
L49	67	2" Rigid Conduit	11.25 - 11.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L49	69	CU12PSM9P6XXX(1-1/2)	11.25 - 11.50	1.0000	1.0000
L50	15	MS-450	10.50 - 11.25	1.0000	1.0000
L50	16	MS-450	10.50 - 11.25	1.0000	1.0000
L50	17	MS-450	10.50 - 11.25	1.0000	1.0000
L50	25	CCI-65FP-060100	10.50 - 11.25	1.0000	1.0000
L50	26	CCI-65FP-060100	10.50 - 11.25	1.0000	1.0000
L50	39	CCI-65FP-065125	10.50 - 11.25	1.0000	1.0000
L50	57	LDF7-50A(1-5/8)	10.50 - 11.25	1.0000	1.0000
L50	62	1" Rigid Conduit	10.50 - 11.25	1.0000	1.0000
L50	65	FSJ4P-50B-1(1/2)	10.50 - 11.25	1.0000	1.0000
L50	67	2" Rigid Conduit	10.50 - 11.25	1.0000	1.0000
L50	69	CU12PSM9P6XXX(1-1/2)	10.50 - 11.25	1.0000	1.0000
L51	15	MS-450	10.25 - 10.50	1.0000	1.0000
L51	16	MS-450	10.25 - 10.50	1.0000	1.0000
L51	17	MS-450	10.25 - 10.50	1.0000	1.0000
L51	25	CCI-65FP-060100	10.25 - 10.50	1.0000	1.0000
L51	26	CCI-65FP-060100	10.25 - 10.50	1.0000	1.0000
L51	39	CCI-65FP-065125	10.25 - 10.50	1.0000	1.0000
L51	57	LDF7-50A(1-5/8)	10.25 - 10.50	1.0000	1.0000
L51	62	1" Rigid Conduit	10.25 - 10.50	1.0000	1.0000
L51	65	FSJ4P-50B-1(1/2)	10.25 - 10.50	1.0000	1.0000
L51	67	2" Rigid Conduit	10.25 - 10.50	1.0000	1.0000
L51	69	CU12PSM9P6XXX(1-1/2)	10.25 - 10.50	1.0000	1.0000
L52	15	MS-450	7.50 - 10.25	1.0000	1.0000
L52	16	MS-450	7.50 - 10.25	1.0000	1.0000
L52	17	MS-450	7.50 - 10.25	1.0000	1.0000
L52	25	CCI-65FP-060100	7.50 - 10.25	1.0000	1.0000
L52	26	CCI-65FP-060100	7.50 - 10.25	1.0000	1.0000
L52	39	CCI-65FP-065125	7.50 - 10.25	1.0000	1.0000
L52	57	LDF7-50A(1-5/8)	7.50 - 10.25	1.0000	1.0000
L52	62	1" Rigid Conduit	7.50 - 10.25	1.0000	1.0000
L52	65	FSJ4P-50B-1(1/2)	7.50 - 10.25	1.0000	1.0000
L52	67	2" Rigid Conduit	7.50 - 10.25	1.0000	1.0000
L52	69	CU12PSM9P6XXX(1-1/2)	7.50 - 10.25	1.0000	1.0000
L53	15	MS-450	7.25 - 7.50	1.0000	1.0000
L53	16	MS-450	7.25 - 7.50	1.0000	1.0000
L53	17	MS-450	7.25 - 7.50	1.0000	1.0000
L53	25	CCI-65FP-060100	7.25 - 7.50	1.0000	1.0000
L53	26	CCI-65FP-060100	7.25 - 7.50	1.0000	1.0000
L53	39	CCI-65FP-065125	7.25 - 7.50	1.0000	1.0000
L53	57	LDF7-50A(1-5/8)	7.25 - 7.50	1.0000	1.0000
L53	62	1" Rigid Conduit	7.25 - 7.50	1.0000	1.0000
L53	65	FSJ4P-50B-1(1/2)	7.25 - 7.50	1.0000	1.0000
L53	67	2" Rigid Conduit	7.25 - 7.50	1.0000	1.0000
L53	69	CU12PSM9P6XXX(1-1/2)	7.25 - 7.50	1.0000	1.0000
L54	15	MS-450	6.25 - 7.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L54	16	MS-450	6.25 - 7.25	1.0000	1.0000
L54	17	MS-450	6.25 - 7.25	1.0000	1.0000
L54	25	CCI-65FP-060100	6.25 - 7.25	1.0000	1.0000
L54	26	CCI-65FP-060100	6.25 - 7.25	1.0000	1.0000
L54	39	CCI-65FP-065125	6.25 - 7.25	1.0000	1.0000
L54	57	LDF7-50A(1-5/8)	6.25 - 7.25	1.0000	1.0000
L54	62	1" Rigid Conduit	6.25 - 7.25	1.0000	1.0000
L54	65	FSJ4P-50B-1(1/2)	6.25 - 7.25	1.0000	1.0000
L54	67	2" Rigid Conduit	6.25 - 7.25	1.0000	1.0000
L54	69	CU12PSM9P6XXX(1-1/2)	6.25 - 7.25	1.0000	1.0000
L55	15	MS-450	6.00 - 6.25	1.0000	1.0000
L55	16	MS-450	6.00 - 6.25	1.0000	1.0000
L55	17	MS-450	6.00 - 6.25	1.0000	1.0000
L55	25	CCI-65FP-060100	6.00 - 6.25	1.0000	1.0000
L55	26	CCI-65FP-060100	6.00 - 6.25	1.0000	1.0000
L55	39	CCI-65FP-065125	6.00 - 6.25	1.0000	1.0000
L55	57	LDF7-50A(1-5/8)	6.00 - 6.25	1.0000	1.0000
L55	62	1" Rigid Conduit	6.00 - 6.25	1.0000	1.0000
L55	65	FSJ4P-50B-1(1/2)	6.00 - 6.25	1.0000	1.0000
L55	67	2" Rigid Conduit	6.00 - 6.25	1.0000	1.0000
L55	69	CU12PSM9P6XXX(1-1/2)	6.00 - 6.25	1.0000	1.0000
L56	15	MS-450	3.73 - 6.00	1.0000	1.0000
L56	16	MS-450	3.73 - 6.00	1.0000	1.0000
L56	17	MS-450	3.73 - 6.00	1.0000	1.0000
L56	25	CCI-65FP-060100	3.73 - 6.00	1.0000	1.0000
L56	26	CCI-65FP-060100	3.73 - 6.00	1.0000	1.0000
L56	39	CCI-65FP-065125	4.00 - 6.00	1.0000	1.0000
L56	57	LDF7-50A(1-5/8)	3.73 - 6.00	1.0000	1.0000
L56	62	1" Rigid Conduit	3.73 - 6.00	1.0000	1.0000
L56	65	FSJ4P-50B-1(1/2)	3.73 - 6.00	1.0000	1.0000
L56	67	2" Rigid Conduit	3.73 - 6.00	1.0000	1.0000
L56	69	CU12PSM9P6XXX(1-1/2)	3.73 - 6.00	1.0000	1.0000
L57	15	MS-450	3.48 - 3.73	1.0000	1.0000
L57	16	MS-450	3.48 - 3.73	1.0000	1.0000
L57	17	MS-450	3.48 - 3.73	1.0000	1.0000
L57	25	CCI-65FP-060100	3.48 - 3.73	1.0000	1.0000
L57	26	CCI-65FP-060100	3.48 - 3.73	1.0000	1.0000
L57	57	LDF7-50A(1-5/8)	3.48 - 3.73	1.0000	1.0000
L57	62	1" Rigid Conduit	3.48 - 3.73	1.0000	1.0000
L57	65	FSJ4P-50B-1(1/2)	3.48 - 3.73	1.0000	1.0000
L57	67	2" Rigid Conduit	3.48 - 3.73	1.0000	1.0000
L57	69	CU12PSM9P6XXX(1-1/2)	3.48 - 3.73	1.0000	1.0000
L58	15	MS-450	2.75 - 3.48	1.0000	1.0000
L58	16	MS-450	2.75 - 3.48	1.0000	1.0000
L58	17	MS-450	2.75 - 3.48	1.0000	1.0000
L58	25	CCI-65FP-060100	2.75 - 3.48	1.0000	1.0000
L58	26	CCI-65FP-060100	2.75 - 3.48	1.0000	1.0000
L58	57	LDF7-50A(1-5/8)	2.75 - 3.48	1.0000	1.0000
L58	62	1" Rigid Conduit	2.75 - 3.48	1.0000	1.0000
L58	65	FSJ4P-50B-1(1/2)	2.75 - 3.48	1.0000	1.0000
L58	67	2" Rigid Conduit	2.75 - 3.48	1.0000	1.0000
L58	69	CU12PSM9P6XXX(1-1/2)	2.75 - 3.48	1.0000	1.0000
L59	15	MS-450	2.50 - 2.75	1.0000	1.0000
L59	16	MS-450	2.50 - 2.75	1.0000	1.0000
L59	17	MS-450	2.50 - 2.75	1.0000	1.0000
L59	25	CCI-65FP-060100	2.50 - 2.75	1.0000	1.0000
L59	26	CCI-65FP-060100	2.50 - 2.75	1.0000	1.0000
L59	57	LDF7-50A(1-5/8)	2.50 - 2.75	1.0000	1.0000
L59	62	1" Rigid Conduit	2.50 - 2.75	1.0000	1.0000
L59	65	FSJ4P-50B-1(1/2)	2.50 - 2.75	1.0000	1.0000
L59	67	2" Rigid Conduit	2.50 - 2.75	1.0000	1.0000
L59	69	CU12PSM9P6XXX(1-1/2)	2.50 - 2.75	1.0000	1.0000
L60	15	MS-450	2.00 - 2.50	1.0000	1.0000
L60	16	MS-450	2.00 - 2.50	1.0000	1.0000
L60	17	MS-450	2.00 - 2.50	1.0000	1.0000
L60	25	CCI-65FP-060100	2.00 - 2.50	1.0000	1.0000
L60	26	CCI-65FP-060100	2.00 - 2.50	1.0000	1.0000
L60	57	LDF7-50A(1-5/8)	2.00 - 2.50	1.0000	1.0000
L60	62	1" Rigid Conduit	2.00 - 2.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L60	65	FSJ4P-50B-1(1/2)	2.00 - 2.50	1.0000	1.0000
L60	67	2" Rigid Conduit	2.00 - 2.50	1.0000	1.0000
L60	69	CU12PSM9P6XXX(1-1/2)	2.00 - 2.50	1.0000	1.0000
L61	15	MS-450	1.75 - 2.00	1.0000	1.0000
L61	16	MS-450	1.75 - 2.00	1.0000	1.0000
L61	17	MS-450	1.75 - 2.00	1.0000	1.0000
L61	25	CCI-65FP-060100	1.75 - 2.00	1.0000	1.0000
L61	26	CCI-65FP-060100	1.75 - 2.00	1.0000	1.0000
L61	57	LDF7-50A(1-5/8)	1.75 - 2.00	1.0000	1.0000
L61	62	1" Rigid Conduit	1.75 - 2.00	1.0000	1.0000
L61	65	FSJ4P-50B-1(1/2)	1.75 - 2.00	1.0000	1.0000
L61	67	2" Rigid Conduit	1.75 - 2.00	1.0000	1.0000
L61	69	CU12PSM9P6XXX(1-1/2)	1.75 - 2.00	1.0000	1.0000
L62	15	MS-450	0.50 - 1.75	1.0000	1.0000
L62	16	MS-450	0.50 - 1.75	1.0000	1.0000
L62	17	MS-450	0.50 - 1.75	1.0000	1.0000
L62	25	CCI-65FP-060100	0.50 - 1.75	1.0000	1.0000
L62	26	CCI-65FP-060100	0.50 - 1.75	1.0000	1.0000
L62	57	LDF7-50A(1-5/8)	0.00 - 1.75	1.0000	1.0000
L62	62	1" Rigid Conduit	0.00 - 1.75	1.0000	1.0000
L62	65	FSJ4P-50B-1(1/2)	0.00 - 1.75	1.0000	1.0000
L62	67	2" Rigid Conduit	0.00 - 1.75	1.0000	1.0000
L62	69	CU12PSM9P6XXX(1-1/2)	0.00 - 1.75	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L9	34	CCI-65FP-045100	76.50 - 78.00	Auto	1.0000
L9	35	CCI-65FP-045100	76.50 - 78.00	Auto	1.0000
L9	36	CCI-65FP-045100	76.50 - 78.00	Auto	1.0000
L10	34	CCI-65FP-045100	76.25 - 76.50	Auto	1.0000
L10	35	CCI-65FP-045100	76.25 - 76.50	Auto	1.0000
L10	36	CCI-65FP-045100	76.25 - 76.50	Auto	1.0000
L11	34	CCI-65FP-045100	74.00 - 76.25	Auto	1.0000
L11	35	CCI-65FP-045100	74.00 - 76.25	Auto	1.0000
L11	36	CCI-65FP-045100	74.00 - 76.25	Auto	1.0000
L12	34	CCI-65FP-045100	73.75 - 74.00	Auto	1.0000
L12	35	CCI-65FP-045100	73.75 - 74.00	Auto	1.0000
L12	36	CCI-65FP-045100	73.75 - 74.00	Auto	1.0000
L13	19	CCI-65FP-045100	68.88 - 70.25	Auto	1.0000
L13	20	CCI-65FP-045100	68.88 - 70.25	Auto	1.0000
L13	21	CCI-65FP-045100	68.88 - 70.25	Auto	1.0000
L13	34	CCI-65FP-045100	68.88 -	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L13	35	CCI-65FP-045100	73.75 - 68.88	Auto	1.0000
L13	36	CCI-65FP-045100	73.75 - 68.88	Auto	1.0000
L14	19	CCI-65FP-045100	73.75 - 68.63	Auto	1.0000
L14	20	CCI-65FP-045100	68.88 - 68.63	Auto	1.0000
L14	21	CCI-65FP-045100	68.88 - 68.63	Auto	1.0000
L14	34	CCI-65FP-045100	68.88 - 68.63	Auto	1.0000
L14	35	CCI-65FP-045100	68.88 - 68.63	Auto	1.0000
L14	36	CCI-65FP-045100	68.88 - 68.63	Auto	1.0000
L15	9	MS-400	65.50 - 64.50	Auto	1.0000
L15	10	MS-400	65.50 - 64.50	Auto	1.0000
L15	11	MS-400	65.50 - 64.50	Auto	1.0000
L15	19	CCI-65FP-045100	68.63 - 64.50	Auto	1.0000
L15	20	CCI-65FP-045100	68.63 - 64.50	Auto	1.0000
L15	21	CCI-65FP-045100	68.63 - 64.50	Auto	1.0000
L15	34	CCI-65FP-045100	68.63 - 67.00	Auto	1.0000
L15	35	CCI-65FP-045100	68.63 - 67.00	Auto	1.0000
L15	36	CCI-65FP-045100	68.63 - 67.00	Auto	1.0000
L16	9	MS-400	64.50 - 64.25	Auto	1.0000
L16	10	MS-400	64.50 - 64.25	Auto	1.0000
L16	11	MS-400	64.50 - 64.25	Auto	1.0000
L16	19	CCI-65FP-045100	64.50 - 64.25	Auto	1.0000
L16	20	CCI-65FP-045100	64.50 - 64.25	Auto	1.0000
L16	21	CCI-65FP-045100	64.50 - 64.25	Auto	1.0000
L17	9	MS-400	64.25 - 63.00	Auto	1.0000
L17	10	MS-400	64.25 - 63.00	Auto	1.0000
L17	11	MS-400	64.25 - 63.00	Auto	1.0000
L17	19	CCI-65FP-045100	64.25 - 63.00	Auto	1.0000
L17	20	CCI-65FP-045100	64.25 - 63.00	Auto	1.0000
L17	21	CCI-65FP-045100	64.25 - 63.00	Auto	1.0000
L18	9	MS-400	63.00 - 62.75	Auto	1.0000
L18	10	MS-400	63.00 - 62.75	Auto	1.0000
L18	11	MS-400	63.00 - 62.75	Auto	1.0000
L18	19	CCI-65FP-045100	63.00 - 62.75	Auto	1.0000
L18	20	CCI-65FP-045100	63.00 - 62.75	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L18	21	CCI-65FP-045100	63.00 62.75 - 63.00	Auto	1.0000
L19	9	MS-400	60.50 - 62.75	Auto	1.0000
L19	10	MS-400	60.50 - 62.75	Auto	1.0000
L19	11	MS-400	60.50 - 62.75	Auto	1.0000
L19	19	CCI-65FP-045100	60.25 - 62.75	Auto	1.0000
L19	20	CCI-65FP-045100	60.25 - 62.75	Auto	1.0000
L19	21	CCI-65FP-045100	60.25 - 62.75	Auto	1.0000
L22	28	CCI-65FP-040075	49.75 - 50.25	Auto	1.0000
L22	29	CCI-65FP-040075	49.75 - 50.25	Auto	1.0000
L23	28	CCI-65FP-040075	49.25 - 49.75	Auto	1.0000
L23	29	CCI-65FP-040075	49.25 - 49.75	Auto	1.0000
L24	28	CCI-65FP-040075	49.00 - 49.25	Auto	1.0000
L24	29	CCI-65FP-040075	49.00 - 49.25	Auto	1.0000
L25	28	CCI-65FP-040075	44.00 - 49.00	Auto	1.0000
L25	29	CCI-65FP-040075	44.00 - 49.00	Auto	1.0000
L26	22	CCI-65FP-040075	42.00 - 43.00	Auto	1.0000
L26	23	CCI-65FP-040075	42.00 - 43.00	Auto	1.0000
L26	24	CCI-65FP-040075	42.00 - 43.00	Auto	1.0000
L26	28	CCI-65FP-040075	42.00 - 44.00	Auto	1.0000
L26	29	CCI-65FP-040075	42.00 - 44.00	Auto	1.0000
L27	22	CCI-65FP-040075	41.75 - 42.00	Auto	1.0000
L27	23	CCI-65FP-040075	41.75 - 42.00	Auto	1.0000
L27	24	CCI-65FP-040075	41.75 - 42.00	Auto	1.0000
L27	28	CCI-65FP-040075	41.75 - 42.00	Auto	1.0000
L27	29	CCI-65FP-040075	41.75 - 42.00	Auto	1.0000
L28	22	CCI-65FP-040075	36.75 - 41.75	Auto	1.0000
L28	23	CCI-65FP-040075	36.75 - 41.75	Auto	1.0000
L28	24	CCI-65FP-040075	36.75 - 41.75	Auto	1.0000
L28	28	CCI-65FP-040075	36.75 - 41.75	Auto	1.0000
L28	29	CCI-65FP-040075	36.75 - 41.75	Auto	1.0000
L29	12	MS-400	34.50 - 35.50	Auto	1.0000
L29	13	MS-400	34.50 - 35.50	Auto	1.0000
L29	14	MS-400	34.50 - 35.50	Auto	1.0000
L29	22	CCI-65FP-040075	34.50 -	Auto	1.0000

Tower Section	*Attachment Record No.*	*Description*	*Attachment Segment Elev.*	*Ratio Calculation Method*	*Effective Width Ratio*
L29	23	CCI-65FP-040075	36.75 34.50 -	Auto	1.0000
L29	24	CCI-65FP-040075	36.75 34.50 -	Auto	1.0000
L29	28	CCI-65FP-040075	36.75 34.50 -	Auto	1.0000
L29	29	CCI-65FP-040075	36.75 34.50 -	Auto	1.0000
L30	12	MS-400	36.75 34.25 -	Auto	1.0000
L30	13	MS-400	34.50 34.25 -	Auto	1.0000
L30	14	MS-400	34.50 34.25 -	Auto	1.0000
L30	22	CCI-65FP-040075	34.50 34.25 -	Auto	1.0000
L30	23	CCI-65FP-040075	34.50 34.25 -	Auto	1.0000
L30	24	CCI-65FP-040075	34.50 34.25 -	Auto	1.0000
L30	28	CCI-65FP-040075	34.50 34.25 -	Auto	1.0000
L30	29	CCI-65FP-040075	34.50 34.25 -	Auto	1.0000
L31	12	MS-400	34.50 34.00 -	Auto	1.0000
L31	13	MS-400	34.25 34.00 -	Auto	1.0000
L31	14	MS-400	34.25 34.00 -	Auto	1.0000
L31	22	CCI-65FP-040075	34.25 34.00 -	Auto	1.0000
L31	23	CCI-65FP-040075	34.25 34.00 -	Auto	1.0000
L31	24	CCI-65FP-040075	34.25 34.00 -	Auto	1.0000
L31	28	CCI-65FP-040075	34.25 34.00 -	Auto	1.0000
L31	29	CCI-65FP-040075	34.25 34.00 -	Auto	1.0000
L32	12	MS-400	34.25 33.75 -	Auto	1.0000
L32	13	MS-400	34.00 33.75 -	Auto	1.0000
L32	14	MS-400	34.00 33.75 -	Auto	1.0000
L32	22	CCI-65FP-040075	34.00 33.75 -	Auto	1.0000
L32	23	CCI-65FP-040075	34.00 33.75 -	Auto	1.0000
L32	24	CCI-65FP-040075	34.00 33.75 -	Auto	1.0000
L32	28	CCI-65FP-040075	34.00 33.75 -	Auto	1.0000
L32	29	CCI-65FP-040075	34.00 33.75 -	Auto	1.0000
L33	12	MS-400	34.00 30.50 -	Auto	1.0000
L33	13	MS-400	33.75 30.50 -	Auto	1.0000
L33	14	MS-400	33.75 30.50 -	Auto	1.0000
L33	22	CCI-65FP-040075	33.75 33.00 -	Auto	1.0000
L33	23	CCI-65FP-040075	33.75 33.00 -	Auto	1.0000
L33	24	CCI-65FP-040075	33.75 33.00 -	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L33	28	CCI-65FP-040075	33.75 30.25 - 33.75	Auto	1.0000
L33	29	CCI-65FP-040075	30.25 - 33.75	Auto	1.0000
L34	30	CCI-65FP-045100	29.75 - 30.00	Auto	1.0000
L34	31	CCI-65FP-045100	29.75 - 30.00	Auto	1.0000
L34	32	CCI-65FP-045100	29.75 - 30.00	Auto	1.0000
L35	30	CCI-65FP-045100	28.50 - 29.75	Auto	1.0000
L35	31	CCI-65FP-045100	28.50 - 29.75	Auto	1.0000
L35	32	CCI-65FP-045100	28.50 - 29.75	Auto	1.0000
L35	37	CCI-65FP-045100	28.50 - 29.50	Auto	1.0000
L35	38	CCI-65FP-045100	28.50 - 29.50	Auto	1.0000
L36	30	CCI-65FP-045100	28.25 - 28.50	Auto	1.0000
L36	31	CCI-65FP-045100	28.25 - 28.50	Auto	1.0000
L36	32	CCI-65FP-045100	28.25 - 28.50	Auto	1.0000
L36	37	CCI-65FP-045100	28.25 - 28.50	Auto	1.0000
L36	38	CCI-65FP-045100	28.25 - 28.50	Auto	1.0000
L37	25	CCI-65FP-060100	23.25 - 25.50	Auto	1.0000
L37	26	CCI-65FP-060100	23.25 - 25.50	Auto	1.0000
L37	30	CCI-65FP-045100	23.25 - 28.25	Auto	1.0000
L37	31	CCI-65FP-045100	23.25 - 28.25	Auto	1.0000
L37	32	CCI-65FP-045100	23.25 - 28.25	Auto	1.0000
L37	37	CCI-65FP-045100	23.25 - 28.25	Auto	1.0000
L37	38	CCI-65FP-045100	23.25 - 28.25	Auto	1.0000
L38	25	CCI-65FP-060100	23.00 - 23.25	Auto	1.0000
L38	26	CCI-65FP-060100	23.00 - 23.25	Auto	1.0000
L38	30	CCI-65FP-045100	23.00 - 23.25	Auto	1.0000
L38	31	CCI-65FP-045100	23.00 - 23.25	Auto	1.0000
L38	32	CCI-65FP-045100	23.00 - 23.25	Auto	1.0000
L38	37	CCI-65FP-045100	23.00 - 23.25	Auto	1.0000
L38	38	CCI-65FP-045100	23.00 - 23.25	Auto	1.0000
L39	25	CCI-65FP-060100	21.50 - 23.00	Auto	1.0000
L39	26	CCI-65FP-060100	21.50 - 23.00	Auto	1.0000
L39	30	CCI-65FP-045100	21.50 - 23.00	Auto	1.0000
L39	31	CCI-65FP-045100	21.50 - 23.00	Auto	1.0000
L39	32	CCI-65FP-045100	21.50 -	Auto	1.0000

Tower Section	*Attachment Record No.*	*Description*	*Attachment Segment Elev.*	*Ratio Calculation Method*	*Effective Width Ratio*
L39	37	CCI-65FP-045100	23.00 - 21.50	Auto	1.0000
L39	38	CCI-65FP-045100	23.00 - 21.50	Auto	1.0000
L40	25	CCI-65FP-060100	23.00 - 21.25	Auto	1.0000
L40	26	CCI-65FP-060100	21.50 - 21.25	Auto	1.0000
L40	30	CCI-65FP-045100	21.50 - 21.25	Auto	1.0000
L40	31	CCI-65FP-045100	21.50 - 21.25	Auto	1.0000
L40	32	CCI-65FP-045100	21.50 - 21.25	Auto	1.0000
L40	37	CCI-65FP-045100	21.50 - 21.25	Auto	1.0000
L40	38	CCI-65FP-045100	21.50 - 21.25	Auto	1.0000
L41	15	MS-450	21.50 - 20.50	Auto	1.0000
L41	16	MS-450	19.00 - 20.50	Auto	1.0000
L41	17	MS-450	19.00 - 20.50	Auto	1.0000
L41	25	CCI-65FP-060100	19.00 - 21.25	Auto	1.0000
L41	26	CCI-65FP-060100	19.00 - 21.25	Auto	1.0000
L41	30	CCI-65FP-045100	20.00 - 21.25	Auto	1.0000
L41	31	CCI-65FP-045100	20.00 - 21.25	Auto	1.0000
L41	32	CCI-65FP-045100	20.00 - 21.25	Auto	1.0000
L41	37	CCI-65FP-045100	19.00 - 21.25	Auto	1.0000
L41	38	CCI-65FP-045100	19.00 - 21.25	Auto	1.0000
L42	15	MS-450	18.75 - 19.00	Auto	1.0000
L42	16	MS-450	18.75 - 19.00	Auto	1.0000
L42	17	MS-450	18.75 - 19.00	Auto	1.0000
L42	25	CCI-65FP-060100	18.75 - 19.00	Auto	1.0000
L42	26	CCI-65FP-060100	18.75 - 19.00	Auto	1.0000
L42	37	CCI-65FP-045100	18.75 - 19.00	Auto	1.0000
L42	38	CCI-65FP-045100	18.75 - 19.00	Auto	1.0000
L43	15	MS-450	18.50 - 18.75	Auto	1.0000
L43	16	MS-450	18.50 - 18.75	Auto	1.0000
L43	17	MS-450	18.50 - 18.75	Auto	1.0000
L43	25	CCI-65FP-060100	18.50 - 18.75	Auto	1.0000
L43	26	CCI-65FP-060100	18.50 - 18.75	Auto	1.0000
L43	37	CCI-65FP-045100	18.50 - 18.75	Auto	1.0000
L43	38	CCI-65FP-045100	18.50 - 18.75	Auto	1.0000
L44	15	MS-450	18.25 -	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L44	16	MS-450	18.50 18.25 - 18.50	Auto	1.0000
L44	17	MS-450	18.25 - 18.50	Auto	1.0000
L44	25	CCI-65FP-060100	18.25 - 18.50	Auto	1.0000
L44	26	CCI-65FP-060100	18.25 - 18.50	Auto	1.0000
L44	37	CCI-65FP-045100	18.25 - 18.50	Auto	1.0000
L44	38	CCI-65FP-045100	18.25 - 18.50	Auto	1.0000
L45	15	MS-450	13.25 - 18.25	Auto	1.0000
L45	16	MS-450	13.25 - 18.25	Auto	1.0000
L45	17	MS-450	13.25 - 18.25	Auto	1.0000
L45	25	CCI-65FP-060100	13.25 - 18.25	Auto	1.0000
L45	26	CCI-65FP-060100	13.25 - 18.25	Auto	1.0000
L45	37	CCI-65FP-045100	17.00 - 18.25	Auto	1.0000
L45	38	CCI-65FP-045100	17.00 - 18.25	Auto	1.0000
L46	15	MS-450	12.70 - 13.25	Auto	1.0000
L46	16	MS-450	12.70 - 13.25	Auto	1.0000
L46	17	MS-450	12.70 - 13.25	Auto	1.0000
L46	25	CCI-65FP-060100	12.70 - 13.25	Auto	1.0000
L46	26	CCI-65FP-060100	12.70 - 13.25	Auto	1.0000
L46	39	CCI-65FP-065125	12.70 - 13.00	Auto	1.0000
L47	15	MS-450	12.45 - 12.70	Auto	1.0000
L47	16	MS-450	12.45 - 12.70	Auto	1.0000
L47	17	MS-450	12.45 - 12.70	Auto	1.0000
L47	25	CCI-65FP-060100	12.45 - 12.70	Auto	1.0000
L47	26	CCI-65FP-060100	12.45 - 12.70	Auto	1.0000
L47	39	CCI-65FP-065125	12.45 - 12.70	Auto	1.0000
L48	15	MS-450	11.50 - 12.45	Auto	1.0000
L48	16	MS-450	11.50 - 12.45	Auto	1.0000
L48	17	MS-450	11.50 - 12.45	Auto	1.0000
L48	25	CCI-65FP-060100	11.50 - 12.45	Auto	1.0000
L48	26	CCI-65FP-060100	11.50 - 12.45	Auto	1.0000
L48	39	CCI-65FP-065125	11.50 - 12.45	Auto	1.0000
L49	15	MS-450	11.25 - 11.50	Auto	1.0000
L49	16	MS-450	11.25 - 11.50	Auto	1.0000
L49	17	MS-450	11.25 -	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L49	25	CCI-65FP-060100	11.50 11.25 - 11.50	Auto	1.0000
L49	26	CCI-65FP-060100	11.25 - 11.50	Auto	1.0000
L49	39	CCI-65FP-065125	11.25 - 11.50	Auto	1.0000
L50	15	MS-450	10.50 - 11.25	Auto	1.0000
L50	16	MS-450	10.50 - 11.25	Auto	1.0000
L50	17	MS-450	10.50 - 11.25	Auto	1.0000
L50	25	CCI-65FP-060100	10.50 - 11.25	Auto	1.0000
L50	26	CCI-65FP-060100	10.50 - 11.25	Auto	1.0000
L50	39	CCI-65FP-065125	10.50 - 11.25	Auto	1.0000
L51	15	MS-450	10.25 - 10.50	Auto	1.0000
L51	16	MS-450	10.25 - 10.50	Auto	1.0000
L51	17	MS-450	10.25 - 10.50	Auto	1.0000
L51	25	CCI-65FP-060100	10.25 - 10.50	Auto	1.0000
L51	26	CCI-65FP-060100	10.25 - 10.50	Auto	1.0000
L51	39	CCI-65FP-065125	10.25 - 10.50	Auto	1.0000
L52	15	MS-450	7.50 - 10.25	Auto	1.0000
L52	16	MS-450	7.50 - 10.25	Auto	1.0000
L52	17	MS-450	7.50 - 10.25	Auto	1.0000
L52	25	CCI-65FP-060100	7.50 - 10.25	Auto	1.0000
L52	26	CCI-65FP-060100	7.50 - 10.25	Auto	1.0000
L52	39	CCI-65FP-065125	7.50 - 10.25	Auto	1.0000
L53	15	MS-450	7.25 - 7.50	Auto	1.0000
L53	16	MS-450	7.25 - 7.50	Auto	1.0000
L53	17	MS-450	7.25 - 7.50	Auto	1.0000
L53	25	CCI-65FP-060100	7.25 - 7.50	Auto	1.0000
L53	26	CCI-65FP-060100	7.25 - 7.50	Auto	1.0000
L53	39	CCI-65FP-065125	7.25 - 7.50	Auto	1.0000
L54	15	MS-450	6.25 - 7.25	Auto	1.0000
L54	16	MS-450	6.25 - 7.25	Auto	1.0000
L54	17	MS-450	6.25 - 7.25	Auto	1.0000
L54	25	CCI-65FP-060100	6.25 - 7.25	Auto	1.0000
L54	26	CCI-65FP-060100	6.25 - 7.25	Auto	1.0000
L54	39	CCI-65FP-065125	6.25 - 7.25	Auto	1.0000
L55	15	MS-450	6.00 - 6.25	Auto	1.0000
L55	16	MS-450	6.00 - 6.25	Auto	1.0000
L55	17	MS-450	6.00 - 6.25	Auto	1.0000
L55	25	CCI-65FP-060100	6.00 - 6.25	Auto	1.0000
L55	26	CCI-65FP-060100	6.00 - 6.25	Auto	1.0000
L55	39	CCI-65FP-065125	6.00 - 6.25	Auto	1.0000
L56	15	MS-450	3.73 - 6.00	Auto	1.0000
L56	16	MS-450	3.73 - 6.00	Auto	1.0000
L56	17	MS-450	3.73 - 6.00	Auto	1.0000
L56	25	CCI-65FP-060100	3.73 - 6.00	Auto	1.0000
L56	26	CCI-65FP-060100	3.73 - 6.00	Auto	1.0000
L56	39	CCI-65FP-065125	4.00 - 6.00	Auto	1.0000
L57	15	MS-450	3.48 - 3.73	Auto	1.0000
L57	16	MS-450	3.48 - 3.73	Auto	1.0000
L57	17	MS-450	3.48 - 3.73	Auto	1.0000
L57	25	CCI-65FP-060100	3.48 - 3.73	Auto	1.0000
L57	26	CCI-65FP-060100	3.48 - 3.73	Auto	1.0000
L58	15	MS-450	2.75 - 3.48	Auto	1.0000
L58	16	MS-450	2.75 - 3.48	Auto	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L58	17	MS-450	2.75 - 3.48	Auto	1.0000
L58	25	CCI-65FP-060100	2.75 - 3.48	Auto	1.0000
L58	26	CCI-65FP-060100	2.75 - 3.48	Auto	1.0000
L59	15	MS-450	2.50 - 2.75	Auto	1.0000
L59	16	MS-450	2.50 - 2.75	Auto	1.0000
L59	17	MS-450	2.50 - 2.75	Auto	1.0000
L59	25	CCI-65FP-060100	2.50 - 2.75	Auto	1.0000
L59	26	CCI-65FP-060100	2.50 - 2.75	Auto	1.0000
L60	15	MS-450	2.00 - 2.50	Auto	1.0000
L60	16	MS-450	2.00 - 2.50	Auto	1.0000
L60	17	MS-450	2.00 - 2.50	Auto	1.0000
L60	25	CCI-65FP-060100	2.00 - 2.50	Auto	1.0000
L60	26	CCI-65FP-060100	2.00 - 2.50	Auto	1.0000
L61	15	MS-450	1.75 - 2.00	Auto	1.0000
L61	16	MS-450	1.75 - 2.00	Auto	1.0000
L61	17	MS-450	1.75 - 2.00	Auto	1.0000
L61	25	CCI-65FP-060100	1.75 - 2.00	Auto	1.0000
L61	26	CCI-65FP-060100	1.75 - 2.00	Auto	1.0000
L62	15	MS-450	0.50 - 1.75	Auto	1.0000
L62	16	MS-450	0.50 - 1.75	Auto	1.0000
L62	17	MS-450	0.50 - 1.75	Auto	1.0000
L62	25	CCI-65FP-060100	0.50 - 1.75	Auto	1.0000
L62	26	CCI-65FP-060100	0.50 - 1.75	Auto	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft
***					
***					
Bridge Stiffener (84" x 9" x 1.25")	A	None		0.0000	90.0000
Bridge Stiffener (84" x 9" x 1.25")	B	None		0.0000	90.0000
Bridge Stiffener (84" x 9" x 1.25")	C	None		0.0000	90.0000
Bridge Stiffener (84" x 14.5" x 1.25")	A	None		0.0000	60.0000
Bridge Stiffener (84" x 14.5" x 1.25")	B	None		0.0000	60.0000
Bridge Stiffener (84" x 14.5" x 1.25")	C	None		0.0000	60.0000
Bridge Stiffener (84" x 14.5" x 1.25")	A	None		0.0000	30.0000
Bridge Stiffener (84" x 14.5" x 1.25")	B	None		0.0000	30.0000
Bridge Stiffener (84" x 14.5" x 1.25")	C	None		0.0000	30.0000
***					
***					
PCS 1900MHz 4x45W-65MHz	A	From Leg	1.0000 0.0000 0.0000	0.0000	116.0000
PCS 1900MHz 4x45W-65MHz	B	From Leg	1.0000 0.0000 0.0000	0.0000	116.0000
PCS 1900MHz 4x45W-65MHz	C	From Leg	1.0000 0.0000 0.0000	0.0000	116.0000
800MHz 2X50W RRH W/FILTER	A	From Leg	1.0000 0.0000 0.0000	0.0000	116.0000
800MHz 2X50W RRH W/FILTER	B	From Leg	1.0000 0.0000 0.0000	0.0000	116.0000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
800MHz 2X50W RRH W/FILTER	C	From Leg	1.0000 0.0000 0.0000	0.0000	116.0000
Pipe Mount [PM 601-3]	C	None		0.0000	116.0000
***					
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000
APXV9ERR18-C-A20 w/ Mount Pipe	C	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000
APXVTM14-C-120 w/ Mount Pipe	A	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000
APXVTM14-C-120 w/ Mount Pipe	B	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000
APXVTM14-C-120 w/ Mount Pipe	C	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000
TD-RRH8x20-25	A	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000
TD-RRH8x20-25	B	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000
TD-RRH8x20-25	C	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000
WIMAX DAP HEAD	B	From Leg	4.0000 0.0000 2.0000	0.0000	114.0000
Platform Mount [LP 502-1]	C	None		0.0000	114.0000
(2) 4' x 2" Pipe Mount	A	From Leg	4.0000 0.0000 0.0000	0.0000	114.0000
(2) 4' x 2" Pipe Mount	B	From Leg	4.0000 0.0000 0.0000	0.0000	114.0000
(2) 4' x 2" Pipe Mount	C	From Leg	4.0000 0.0000 0.0000	0.0000	114.0000
***					
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
AIR 32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.0000	0.0000	108.0000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
			0.0000 0.0000		
AIR 32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
AIR 32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
KRY 112 144/1	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
KRY 112 144/1	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
KRY 112 144/1	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
SDX1926Q-43	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
SDX1926Q-43	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
SDX1926Q-43	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
RRUS 4415 B25	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
RRUS 4415 B25	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
RRUS 4415 B25	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
Platform Mount [LP 303-1_KCKR-HR-1]	C	None		0.0000	108.0000
6' x 2" Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
6' x 2" Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
6' x 2" Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	108.0000
***					
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000
HPA-65R-BUU-H8 w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000
SBNH-1D6565C w/ Mount Pipe	A	From Leg	4.0000	0.0000	98.0000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
			0.0000 0.0000		
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
7770.00 w/ Mount Pipe	A	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
7770.00 w/ Mount Pipe	B	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
7770.00 w/ Mount Pipe	C	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
RRUS 11 B12	A	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
RRUS 11 B12	B	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
RRUS 11 B12	C	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
DTMABP7819VG12A	A	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
DTMABP7819VG12A	B	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
DTMABP7819VG12A	C	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
RRUS 32 B2	A	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
RRUS 32 B2	B	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
RRUS 32 B2	C	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
TT19-08BP111-001	A	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
TT19-08BP111-001	B	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
TT19-08BP111-001	C	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
(2) 7020.00	A	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
(2) 7020.00	B	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
(2) 7020.00	C	From Leg	4.0000 0.0000	0.0000	98.0000
			0.0000		
DC6-48-60-18-8F	A	From Leg	4.0000 0.0000 0.0000	0.0000	98.0000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
Platform Mount [LP 712-1]	C	None		0.0000	98.0000
***					
(2) HBXX-6517DS-A2M w/ Mount Pipe	A	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
(2) HBXX-6517DS-A2M w/ Mount Pipe	B	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
(2) HBXX-6517DS-A2M w/ Mount Pipe	C	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
(2) BXA-70040-6CF-EDIN-2 w/ Mount Pipe	A	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
(2) BXA-70063-6CF-2 w/ Mount Pipe	B	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
(2) BXA-70063-6CF-2 w/ Mount Pipe	C	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
(2) CBC721-DF	B	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
(4) CBC721-DF	C	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
(2) RRH2X60-AWS	A	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
RRH2X60-AWS	B	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
RRH2X60-PCS	B	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
(2) RRH2X60-PCS	C	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
DB-B1-6C-12AB-0Z	B	From Leg	4.0000 0.0000 1.0000	0.0000	85.0000
Platform Mount [LP 303-1]	C	None		0.0000	85.0000
***					
KS24019-L112A	A	From Leg	3.0000 0.0000 1.0000	0.0000	80.0000
Side Arm Mount [SO 701-1]	A	From Leg	1.5000 0.0000 0.0000	0.0000	80.0000
***					
LLPX310R w/ Mount Pipe	A	From Leg	2.0000 0.0000 2.0000	0.0000	72.0000
LLPX310R w/ Mount Pipe	B	From Leg	2.0000 0.0000 0.0000	0.0000	72.0000
LLPX310R w/ Mount Pipe	C	From Leg	2.0000 0.0000 2.0000	0.0000	72.0000
WIMAX DAP HEAD	A	From Leg	2.0000 0.0000 2.0000	0.0000	72.0000
WIMAX DAP HEAD	B	From Leg	2.0000 0.0000 0.0000	0.0000	72.0000

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft
WIMAX DAP HEAD	B	From Leg	2.0000 0.0000 1.0000	0.0000	72.0000
HORIZON COMPACT	A	From Leg	2.0000 0.0000 0.0000	0.0000	72.0000
HORIZON COMPACT	C	From Leg	2.0000 0.0000 2.0000	0.0000	72.0000
Side Arm Mount [SO 101-3]	C	None		0.0000	72.0000
***					
MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
TA08025-B604	A	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
TA08025-B604	B	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
TA08025-B604	C	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
TA08025-B605	A	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
TA08025-B605	B	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
TA08025-B605	C	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
RDIDC-9181-PF-48	A	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
(2) 8' x 2" Mount Pipe	A	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
(2) 8' x 2" Mount Pipe	B	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
(2) 8' x 2" Mount Pipe	C	From Leg	4.0000 0.0000 0.0000	0.0000	62.0000
Sabre_C10801018-32788	C	None		0.0000	62.0000
***					
***					

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft
***								
***								
VHLP1-23	B	Paraboloid w/Shroud (HP)	From Leg	4.0000 0.0000 2.0000	0.0000		114.0000	1.2750
***								
A-ANT-18G-2-C	A	Paraboloid w/Shroud (HP)	From Leg	2.0000 0.0000 0.0000	0.0000		72.0000	2.1750
VHLP1-23	B	Paraboloid w/Shroud (HP)	From Leg	2.0000 0.0000 1.0000	0.0000		72.0000	1.2750
***								
***								

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

Comb. No.	Description
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	118 - 113	Pole	Max Tension	39	0.0000	0.0001	-0.0000
			Max. Compression	26	-9.4789	-0.6019	-0.3432
			Max. Mx	8	-3.0557	-8.3996	-0.2301
			Max. My	14	-3.0577	-0.3303	-8.2167
			Max. Vy	20	-3.6424	8.0019	0.0089
			Max. Vx	2	-3.6005	-0.0339	7.9701
			Max. Torque	4			-0.3715
L2	113 - 108	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-10.1911	-0.6090	-0.3327
			Max. Mx	8	-3.4424	-27.3581	-0.4170
			Max. My	14	-3.4444	-0.5460	-27.0281
			Max. Vy	20	-3.9741	27.0431	0.2245
			Max. Vx	2	-3.9322	0.2548	26.8020
			Max. Torque	4			-0.3715
L3	108 - 103	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-22.1112	-0.6235	-0.3089
			Max. Mx	8	-8.0985	-69.5118	-0.6086
			Max. My	14	-8.1002	-0.7732	-69.0359
			Max. Vy	20	-8.6109	69.2817	0.4503
			Max. Vx	2	-8.5695	0.5501	68.8333
			Max. Torque	4			-0.3715
L4	103 - 98	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-22.8649	-0.6371	-0.2835
			Max. Mx	8	-8.5440	-113.2663	-0.8001
			Max. My	14	-8.5455	-1.0005	-112.6450
			Max. Vy	20	-8.9264	113.1214	0.6768
			Max. Vx	2	-8.8851	0.8459	112.4662
			Max. Torque	4			-0.3715
L5	98 - 93	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-32.7510	-1.1903	0.6336
			Max. Mx	8	-11.6934	-180.0068	-1.0031
			Max. My	2	-11.6943	1.0893	178.8706
			Max. Vy	20	-13.4838	179.6246	1.0626
			Max. Vx	2	-13.4136	1.0893	178.8706
			Max. Torque	14			0.6563
L6	93 - 90	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-33.2302	-1.1989	0.6547
			Max. Mx	8	-12.0116	-220.6474	-1.1678
			Max. My	2	-12.0121	1.3180	219.3532
			Max. Vy	20	-13.6526	220.3178	1.2508
			Max. Vx	2	-13.5825	1.3180	219.3532
			Max. Torque	14			0.6562
L7	90 - 85	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-35.6385	-1.2115	0.6908
			Max. Mx	8	-13.6779	-291.3397	-1.4430
			Max. My	2	-13.6778	1.7010	289.7850
			Max. Vy	20	-14.3040	291.0987	1.5660
			Max. Vx	2	-14.2343	1.7010	289.7850
			Max. Torque	14			0.6560
L8	85 - 80	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-45.8482	-1.5392	2.0085
			Max. Mx	8	-17.2015	-389.8515	-1.6255
			Max. My	2	-17.1806	2.1991	390.4417
			Max. Vy	20	-19.1472	389.6471	2.2159
			Max. Vx	2	-19.4166	2.1991	390.4417
			Max. Torque	14			1.0042

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L9	80 - 76.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-46.9173	-1.4098	2.5108
			Max. Mx	8	-17.8662	-457.4000	-1.6533
			Max. My	2	-17.8506	2.5817	459.0793
			Max. Vy	20	-19.4399	457.3455	2.7420
			Max. Vx	2	-19.6297	2.5817	459.0793
			Max. Torque	14			1.0039
L10	76.5 - 76.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-47.0028	-1.4008	2.5216
			Max. Mx	8	-17.9318	-462.2514	-1.6700
			Max. My	2	-17.9166	2.6090	463.9874
			Max. Vy	20	-19.4578	462.2090	2.7649
			Max. Vx	14	19.6418	-2.6628	-462.9698
			Max. Torque	14			1.0036
L11	76.25 - 74	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-47.7716	-1.3167	2.6028
			Max. Mx	20	-18.4072	506.2909	2.9699
			Max. My	2	-18.4027	2.8548	508.3069
			Max. Vy	20	-19.7116	506.2909	2.9699
			Max. Vx	14	19.8945	-2.8208	-507.4193
			Max. Torque	14			1.0035
L12	74 - 73.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-47.8774	-1.3076	2.6140
			Max. Mx	20	-18.4884	511.2234	2.9928
			Max. My	2	-18.4847	2.8820	513.2476
			Max. Vy	20	-19.7340	511.2234	2.9928
			Max. Vx	14	19.9168	-2.8385	-512.3924
			Max. Torque	14			1.0034
L13	73.75 - 68.88	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-52.0815	-1.5946	3.0757
			Max. Mx	20	-20.6035	612.0729	3.5510
			Max. My	2	-20.5980	3.2638	614.6498
			Max. Vy	20	-21.2320	612.0729	3.5510
			Max. Vx	14	21.5069	-3.3568	-614.4359
			Max. Torque	14			1.1809
L14	68.88 - 68.63	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-52.1828	-1.5854	3.0793
			Max. Mx	20	-20.6672	617.3861	3.5788
			Max. My	2	-20.6621	3.2968	619.9768
			Max. Vy	20	-21.2606	617.3861	3.5788
			Max. Vx	14	21.5286	-3.3764	-619.8138
			Max. Torque	14			1.1808
L15	68.63 - 64.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-53.7921	-1.4292	3.1153
			Max. Mx	20	-21.6177	706.3616	4.0344
			Max. My	14	-21.6122	-3.6985	-709.5817
			Max. Vy	20	-21.8151	706.3616	4.0344
			Max. Vx	14	21.9558	-3.6985	-709.5817
			Max. Torque	14			1.1807
L16	64.5 - 64.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-53.9218	-1.4199	3.1196
			Max. Mx	20	-21.7147	711.8201	4.0619
			Max. My	14	-21.7098	-3.7180	-715.0708
			Max. Vy	20	-21.8432	711.8201	4.0619
			Max. Vx	14	21.9728	-3.7180	-715.0708
			Max. Torque	14			1.1803
L17	64.25 - 63	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-54.5696	-1.3721	3.1281
			Max. Mx	20	-22.1345	739.2581	4.1993
			Max. My	14	-22.1321	-3.8152	-742.6209
			Max. Vy	20	-22.0452	739.2581	4.1993
			Max. Vx	14	22.1200	-3.8152	-742.6209
			Max. Torque	14			1.1803
L18	63 - 62.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-54.6967	-1.3628	3.1307
			Max. Mx	20	-22.2260	744.7748	4.2268
			Max. My	14	-22.2241	-3.8347	-748.1518

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	20	-22.0760	744.7748	4.2268
			Max. Vx	14	22.1397	-3.8347	-748.1518
			Max. Torque	14			1.1802
L19	62.75 - 60	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-62.2550	-1.2578	3.6711
			Max. Mx	20	-25.9841	811.1061	4.6463
			Max. My	14	-25.9855	-4.0493	-814.4206
			Max. Vy	20	-25.0078	811.1061	4.6463
			Max. Vx	14	24.9981	-4.0493	-814.4206
			Max. Torque	24			-1.2925
L20	60 - 59.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-64.5253	-1.2467	3.6712
			Max. Mx	20	-27.6086	817.4768	4.6731
			Max. My	14	-27.6101	-4.0682	-820.7859
			Max. Vy	20	-25.4789	817.4768	4.6731
			Max. Vx	14	25.4675	-4.0682	-820.7859
			Max. Torque	24			-1.2909
L21	59.75 - 54.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-66.7438	-1.0167	3.6173
			Max. Mx	20	-29.2311	945.7611	5.2092
			Max. My	14	-29.2340	-4.4461	-948.8762
			Max. Vy	20	-25.8140	945.7611	5.2092
			Max. Vx	14	25.7704	-4.4461	-948.8762
			Max. Torque	24			-1.2909
L22	54.75 - 49.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-68.9667	-0.7786	3.5569
			Max. Mx	20	-30.8744	1075.6100	5.7433
			Max. My	14	-30.8786	-4.8220	-1078.3657
			Max. Vy	20	-26.1139	1075.6100	5.7433
			Max. Vx	14	26.0363	-4.8220	-1078.3657
			Max. Torque	24			-1.2906
L23	49.75 - 49.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-69.1986	-0.7462	3.5429
			Max. Mx	20	-31.0447	1088.6758	5.7966
			Max. My	14	-31.0491	-4.8594	-1091.3857
			Max. Vy	20	-26.1381	1088.6758	5.7966
			Max. Vx	14	26.0550	-4.8594	-1091.3857
			Max. Torque	24			-1.2903
L24	49.25 - 49	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-69.3206	-0.7302	3.5372
			Max. Mx	20	-31.1356	1095.2146	5.8233
			Max. My	14	-31.1400	-4.8782	-1097.9005
			Max. Vy	20	-26.1512	1095.2146	5.8233
			Max. Vx	14	26.0653	-4.8782	-1097.9005
			Max. Torque	24			-1.2903
L25	49 - 44	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-71.7567	-0.4071	3.3903
			Max. Mx	20	-32.8886	1226.8195	6.3550
			Max. My	14	-32.8944	-5.2518	-1228.8832
			Max. Vy	20	-26.4718	1226.8195	6.3550
			Max. Vx	2	-26.5082	6.5951	1225.3802
			Max. Torque	24			-1.2903
L26	44 - 42	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-72.7612	-0.2789	3.3330
			Max. Mx	20	-33.5959	1279.8856	6.5670
			Max. My	14	-33.6022	-5.4006	-1281.6245
			Max. Vy	20	-26.5881	1279.8856	6.5670
			Max. Vx	2	-26.7348	6.8642	1278.5925

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	24			-1.2900
L27	42 - 41.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-72.8999	-0.2631	3.3278
			Max. Mx	20	-33.7008	1286.5352	6.5935
			Max. My	14	-33.7071	-5.4192	-1288.2304
			Max. Vy	20	-26.5938	1286.5352	6.5935
			Max. Vx	2	-26.7549	6.8979	1285.2759
			Max. Torque	24			-1.2899
L28	41.75 - 36.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-75.6667	0.0555	3.1849
			Max. Mx	20	-35.6440	1420.2782	7.1219
			Max. My	14	-35.6511	-5.7897	-1420.9631
			Max. Vy	8	27.0375	-1415.0025	-3.8990
			Max. Vx	2	-27.3300	7.5693	1420.4400
			Max. Torque	24			-1.2899
L29	36.75 - 34.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-76.9390	0.1976	3.1223
			Max. Mx	20	-36.5215	1481.0397	7.3589
			Max. My	2	-36.5097	7.8709	1482.1761
			Max. Vy	8	27.2740	-1476.0385	-4.0415
			Max. Vx	2	-27.5814	7.8709	1482.1761
			Max. Torque	24			-1.2897
L30	34.5 - 34.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-77.0937	0.2132	3.1169
			Max. Mx	20	-36.6372	1487.8247	7.3852
			Max. My	2	-36.6258	7.9045	1489.0702
			Max. Vy	8	27.2975	-1482.8539	-4.0573
			Max. Vx	2	-27.5982	7.9045	1489.0702
			Max. Torque	24			-1.2718
L31	34.25 - 34	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-77.2484	0.2289	3.1100
			Max. Mx	20	-36.7439	1494.6188	7.4115
			Max. My	2	-36.7327	7.9380	1495.9715
			Max. Vy	8	27.3327	-1489.6780	-4.0731
			Max. Vx	2	-27.6269	7.9380	1495.9715
			Max. Torque	24			-1.2694
L32	34 - 33.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-77.3939	0.2447	3.1029
			Max. Mx	20	-36.8416	1501.4218	7.4378
			Max. My	2	-36.8307	7.9715	1502.8799
			Max. Vy	8	27.3673	-1496.5108	-4.0889
			Max. Vx	2	-27.6549	7.9715	1502.8799
			Max. Torque	24			-1.2670
L33	33.75 - 30	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-79.4547	0.4751	3.0037
			Max. Mx	20	-38.3049	1604.4443	7.8313
			Max. My	2	-38.2971	8.4728	1607.2729
			Max. Vy	8	27.8591	-1599.9635	-4.3254
			Max. Vx	2	-28.0505	8.4728	1607.2729
			Max. Torque	24			-1.2646
L34	30 - 29.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-81.7038	0.4879	3.0024
			Max. Mx	20	-39.9575	1611.4692	7.8572
			Max. My	2	-39.9499	8.5069	1614.3753
			Max. Vy	8	28.2328	-1607.0149	-4.3415
			Max. Vx	2	-28.4236	8.5069	1614.3753
			Max. Torque	24			-1.2198
L35	29.75 - 28.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-82.4062	0.5680	2.9783

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	20	-40.4394	1646.6443	7.9871
			Max. My	2	-40.4306	8.6770	1649.9872
			Max. Vy	8	28.3939	-1642.3719	-4.4212
			Max. Vx	2	-28.5847	8.6770	1649.9872
			Max. Torque	24			-1.2198
L36	28.5 - 28.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-82.5615	0.5845	2.9749
			Max. Mx	20	-40.5606	1653.6898	8.0130
			Max. My	2	-40.5518	8.7111	1657.1319
			Max. Vy	8	28.4111	-1649.4657	-4.4373
			Max. Vx	2	-28.6019	8.7111	1657.1319
			Max. Torque	24			-1.2198
L37	28.25 - 23.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-85.7144	0.9388	2.8829
			Max. Mx	20	-42.7824	1796.1137	8.5307
			Max. My	2	-42.7748	9.3900	1801.6100
			Max. Vy	8	29.0248	-1792.9362	-4.7557
			Max. Vx	2	-29.2108	9.3900	1801.6100
			Max. Torque	24			-1.2198
L38	23.25 - 23	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-85.8872	0.9575	2.8802
			Max. Mx	20	-42.9127	1803.3115	8.5565
			Max. My	2	-42.9053	9.4240	1808.9121
			Max. Vy	8	29.0456	-1800.1886	-4.7716
			Max. Vx	2	-29.2310	9.4240	1808.9121
			Max. Torque	24			-1.2197
L39	23 - 21.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-86.9225	1.0707	2.8549
			Max. Mx	20	-43.6435	1846.6534	8.7114
			Max. My	2	-43.6363	9.6271	1852.8812
			Max. Vy	8	29.2418	-1843.8622	-4.8668
			Max. Vx	2	-29.4242	9.6271	1852.8812
			Max. Torque	24			-1.2197
L40	21.5 - 21.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-87.0811	1.0893	2.8520
			Max. Mx	20	-43.7636	1853.9026	8.7371
			Max. My	2	-43.7567	9.6611	1860.2351
			Max. Vy	8	29.2562	-1851.1673	-4.8828
			Max. Vx	2	-29.4380	9.6611	1860.2351
			Max. Torque	24			-1.2196
L41	21.25 - 19	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-88.5205	1.2576	2.8156
			Max. Mx	20	-44.7503	1919.4591	8.9687
			Max. My	2	-44.7440	9.9654	1926.7385
			Max. Vy	8	29.5167	-1917.2251	-5.0255
			Max. Vx	2	-29.7049	9.9654	1926.7385
			Max. Torque	24			-1.2196
L42	19 - 18.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-88.6921	1.2760	2.8128
			Max. Mx	20	-44.8830	1926.7790	8.9944
			Max. My	2	-44.8770	9.9993	1934.1630
			Max. Vy	8	29.5392	-1924.6002	-5.0414
			Max. Vx	2	-29.7202	9.9993	1934.1630
			Max. Torque	24			-1.2044
L43	18.75 - 18.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-88.8635	1.2946	2.8089
			Max. Mx	20	-45.0068	1934.1080	9.0201
			Max. My	2	-45.0009	10.0330	1941.5947
			Max. Vy	8	29.5749	-1931.9842	-5.0572

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	2	-29.7487	10.0330	1941.5947
			Max. Torque	24			-1.2022
L44	18.5 - 18.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-89.0262	1.3131	2.8050
			Max. Mx	20	-45.1220	1941.4461	9.0458
			Max. My	2	-45.1163	10.0668	1949.0334
			Max. Vy	8	29.6101	-1939.3770	-5.0731
			Max. Vx	2	-29.7769	10.0668	1949.0334
			Max. Torque	24			-1.2000
L45	18.25 - 13.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-92.1829	1.6274	2.7588
			Max. Mx	20	-47.4285	2089.5936	9.5578
			Max. My	2	-47.4244	10.7407	2099.1547
			Max. Vy	8	30.1043	-2088.5379	-5.3891
			Max. Vx	2	-30.2956	10.7407	2099.1547
			Max. Torque	24			-1.1978
L46	13.25 - 12.7	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-92.5289	1.6574	2.7632
			Max. Mx	20	-47.6879	2106.0498	9.6139
			Max. My	2	-47.6843	10.8147	2115.8208
			Max. Vy	8	30.1647	-2105.0956	-5.4238
			Max. Vx	2	-30.3416	10.8147	2115.8208
			Max. Torque	14			1.1783
L47	12.7 - 12.45	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-92.6880	1.6700	2.7686
			Max. Mx	20	-47.8075	2113.5430	9.6393
			Max. My	2	-47.8040	10.8483	2123.4059
			Max. Vy	8	30.1911	-2112.6341	-5.4396
			Max. Vx	2	-30.3608	10.8483	2123.4059
			Max. Torque	14			1.1783
L48	12.45 - 11.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-93.2914	1.7183	2.7868
			Max. Mx	20	-48.2437	2142.0912	9.7361
			Max. My	2	-48.2406	10.9759	2152.2830
			Max. Vy	8	30.3193	-2141.3504	-5.4994
			Max. Vx	2	-30.4620	10.9759	2152.2830
			Max. Torque	14			1.1783
L49	11.5 - 11.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-93.4588	1.7309	2.7921
			Max. Mx	20	-48.3767	2149.6234	9.7615
			Max. My	2	-48.3739	11.0095	2159.8964
			Max. Vy	8	30.3383	-2148.9257	-5.5152
			Max. Vx	2	-30.4739	11.0095	2159.8964
			Max. Torque	14			1.1783
L50	11.25 - 10.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-93.9604	1.7688	2.8064
			Max. Mx	20	-48.7487	2172.2686	9.8378
			Max. My	2	-48.7462	11.1101	2182.7715
			Max. Vy	8	30.4381	-2171.6973	-5.5624
			Max. Vx	2	-30.5523	11.1101	2182.7715
			Max. Torque	14			1.1783
L51	10.5 - 10.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-94.1427	1.7813	2.8118
			Max. Mx	20	-48.8943	2179.8334	9.8631
			Max. My	2	-48.8921	11.1437	2190.4085
			Max. Vy	8	30.4613	-2179.3034	-5.5782
			Max. Vx	2	-30.5684	11.1437	2190.4085
			Max. Torque	14			1.1782
L52	10.25 - 7.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-96.1382	1.9186	2.8638

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	20	-50.4222	2263.6172	10.1423
			Max. My	2	-50.4208	11.5117	2274.8376
			Max. Vy	8	30.8342	-2263.5093	-5.7509
			Max. Vx	2	-30.8632	11.5117	2274.8376
			Max. Torque	14			1.1782
L53	7.5 - 7.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-96.3235	1.9309	2.8690
			Max. Mx	20	-50.5757	2271.2854	10.1675
			Max. My	2	-50.5745	11.5453	2282.5510
			Max. Vy	8	30.8521	-2271.2131	-5.7666
			Max. Vx	2	-30.8740	11.5453	2282.5510
			Max. Torque	14			1.1782
L54	7.25 - 6.25	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-97.0631	1.9801	2.8872
			Max. Mx	8	-51.1479	-2302.1094	-5.8293
			Max. My	2	-51.1475	11.6788	2313.4681
			Max. Vy	8	30.9913	-2302.1094	-5.8293
			Max. Vx	2	-30.9848	11.6788	2313.4681
			Max. Torque	14			1.1782
L55	6.25 - 6	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-97.2475	1.9923	2.8921
			Max. Mx	8	-51.2984	-2309.8537	-5.8450
			Max. My	2	-51.2981	11.7123	2321.2132
			Max. Vy	8	31.0141	-2309.8537	-5.8450
			Max. Vx	2	-31.0005	11.7123	2321.2132
			Max. Torque	14			1.1782
L56	6 - 3.73	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-98.9684	2.1038	2.9262
			Max. Mx	8	-52.6618	-2380.5489	-5.9870
			Max. My	2	-52.6616	12.0151	2391.8356
			Max. Vy	8	31.3228	-2380.5489	-5.9870
			Max. Vx	2	-31.2461	12.0151	2391.8356
			Max. Torque	14			1.1782
L57	3.73 - 3.48	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-99.1540	2.1173	2.9251
			Max. Mx	8	-52.8186	-2388.3737	-6.0026
			Max. My	2	-52.8185	12.0485	2399.6460
			Max. Vy	8	31.3263	-2388.3737	-6.0026
			Max. Vx	2	-31.2619	12.0485	2399.6460
			Max. Torque	14			1.1782
L58	3.48 - 2.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-99.6944	2.1564	2.9211
			Max. Mx	8	-53.2560	-2411.2412	-6.0482
			Max. My	2	-53.2558	12.1457	2422.4892
			Max. Vy	8	31.3708	-2411.2412	-6.0482
			Max. Vx	2	-31.3424	12.1457	2422.4892
			Max. Torque	14			1.1782
L59	2.75 - 2.5	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-99.8664	2.1696	2.9200
			Max. Mx	8	-53.3981	-2419.0791	-6.0638
			Max. My	2	-53.3979	12.1791	2430.3248
			Max. Vy	8	31.3785	-2419.0791	-6.0638
			Max. Vx	2	-31.3623	12.1791	2430.3248
			Max. Torque	14			1.1782
L60	2.5 - 2	Pole	Max Tension	1	0.0000	0.0000	0.0000

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-100.2093	2.1959	2.9175
			Max. Mx	8	-53.6739	-2434.7645	-6.0950
			Max. My	2	-53.6737	12.2456	2446.0148
			Max. Vy	8	31.4075	-2434.7645	-6.0950
			Max. Vx	2	-31.4159	12.2456	2446.0148
			Max. Torque	14			1.1782
L61	2 - 1.75	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-100.3662	2.2089	2.9164
			Max. Mx	8	-53.8010	-2442.6120	-6.1107
			Max. My	2	-53.8008	12.2789	2453.8692
			Max. Vy	8	31.4170	-2442.6120	-6.1107
			Max. Vx	2	-31.4377	12.2789	2453.8692
			Max. Torque	14			1.1782
L62	1.75 - 0	Pole	Max Tension	1	0.0000	0.0000	0.0000
			Max. Compression	26	-101.4248	2.2927	2.9080
			Max. Mx	8	-54.6681	-2497.6215	-6.2197
			Max. My	2	-54.6680	12.5116	2509.0138
			Max. Vy	20	-31.5578	2497.1761	10.8994
			Max. Vx	2	-31.6219	12.5116	2509.0138
			Max. Torque	14			1.1782

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	38	101.4248	4.0114	6.9833
	Max. H_x	20	54.6827	31.5324	0.1050
	Max. H_z	2	54.6827	0.1152	31.5964
	Max. M_x	2	2509.0138	0.1152	31.5964
	Max. M_z	8	2497.6215	-31.4889	-0.0578
	Max. Torsion	14	1.1782	-0.0855	-30.4018
	Min. Vert	17	41.0120	14.4096	-25.4651
	Min. H_x	8	54.6827	-31.4889	-0.0578
	Min. H_z	14	54.6827	-0.0855	-30.4018
	Min. M_x	14	-2475.6460	-0.0855	-30.4018
	Min. M_z	20	-2497.1761	31.5324	0.1050
	Min. Torsion	22	-1.1608	26.3488	15.4882

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	45.5689	0.0000	0.0000	-0.3699	0.5017	0.0000
1.2 Dead+1.0 Wind 0 deg - No Ice	54.6827	-0.1152	-31.5964	-2509.0138	12.5117	1.1191
0.9 Dead+1.0 Wind 0 deg - No Ice	41.0120	-0.1152	-31.5964	-2487.3302	12.2475	1.1120
1.2 Dead+1.0 Wind 30 deg - No Ice	54.6827	15.7326	-27.6756	-2188.8580	-1242.5074	0.7326
0.9 Dead+1.0 Wind 30 deg - No Ice	41.0120	15.7326	-27.6756	-2169.9791	-1231.9850	0.7283
1.2 Dead+1.0 Wind 60 deg - No Ice	54.6827	28.1484	-16.4286	-1278.2044	-2190.6515	-0.2518
0.9 Dead+1.0 Wind 60 deg -	41.0120	28.1484	-16.4286	-1267.2013	-2172.0920	-0.2523

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
No Ice						
1.2 Dead+1.0 Wind 90 deg - No Ice	54.6827	31.4889	0.0578	6.2198	-2497.6215	-0.9134
0.9 Dead+1.0 Wind 90 deg - No Ice	41.0120	31.4889	0.0578	6.2749	-2476.2928	-0.9099
1.2 Dead+1.0 Wind 120 deg - No Ice	54.6827	26.8136	15.8040	1258.8038	-2134.7052	-1.0654
0.9 Dead+1.0 Wind 120 deg - No Ice	41.0120	26.8136	15.8040	1248.0806	-2116.4125	-1.0589
1.2 Dead+1.0 Wind 150 deg - No Ice	54.6827	15.9578	27.9660	2185.6805	-1247.8768	-1.0914
0.9 Dead+1.0 Wind 150 deg - No Ice	41.0120	15.9578	27.9660	2167.0321	-1237.2724	-1.0835
1.2 Dead+1.0 Wind 180 deg - No Ice	54.6827	0.0855	30.4018	2475.6460	-8.3631	-1.1782
0.9 Dead+1.0 Wind 180 deg - No Ice	41.0120	0.0855	30.4018	2454.2856	-8.4232	-1.1711
1.2 Dead+1.0 Wind 210 deg - No Ice	54.6827	-14.4096	25.4651	2118.9467	1199.6437	-0.7625
0.9 Dead+1.0 Wind 210 deg - No Ice	41.0120	-14.4096	25.4651	2100.5609	1189.0016	-0.7580
1.2 Dead+1.0 Wind 240 deg - No Ice	54.6827	-27.3885	16.0028	1254.2079	2151.7677	0.2157
0.9 Dead+1.0 Wind 240 deg - No Ice	41.0120	-27.3885	16.0028	1243.5656	2133.0871	0.2163
1.2 Dead+1.0 Wind 270 deg - No Ice	54.6827	-31.5324	-0.1050	-10.8993	2497.1761	0.9088
0.9 Dead+1.0 Wind 270 deg - No Ice	41.0120	-31.5324	-0.1050	-10.6756	2475.5130	0.9052
1.2 Dead+1.0 Wind 300 deg - No Ice	54.6827	-26.3488	-15.4882	-1261.6774	2145.2989	1.1608
0.9 Dead+1.0 Wind 300 deg - No Ice	41.0120	-26.3488	-15.4882	-1250.6678	2126.6082	1.1541
1.2 Dead+1.0 Wind 330 deg - No Ice	54.6827	-15.9769	-27.9538	-2184.3745	1249.9823	1.1261
0.9 Dead+1.0 Wind 330 deg - No Ice	41.0120	-15.9769	-27.9538	-2165.5122	1239.0855	1.1181
1.2 Dead+1.0 Ice+1.0 Temp	101.4248	0.0000	-0.0000	-2.9080	2.2927	0.0001
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	101.4248	-0.0230	-7.6758	-677.8709	4.9011	0.2766
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	101.4248	3.8355	-6.7040	-590.0726	-333.5905	0.1615
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	101.4248	6.8344	-3.9693	-344.2159	-585.9293	-0.0653
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	101.4248	7.8305	0.0098	-1.7853	-676.4109	-0.2345
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	101.4248	6.6797	3.9080	338.7068	-582.1259	-0.2892
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	101.4248	4.0162	7.0015	590.4158	-338.5391	-0.2497
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	101.4248	0.0158	7.6567	671.5006	0.5223	-0.2894
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	101.4248	-3.8062	6.6718	583.8516	337.1848	-0.1646
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	101.4248	-6.8310	3.9688	337.7144	590.2088	0.0620
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	101.4248	-7.8514	-0.0199	-5.2055	681.6793	0.2325
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	101.4248	-6.6657	-3.8902	-344.5032	587.4713	0.3067
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	101.4248	-4.0114	-6.9833	-596.4528	343.6589	0.2560
Dead+Wind 0 deg - Service	45.5689	-0.0250	-6.8576	-542.0818	3.0657	0.2436
Dead+Wind 30 deg - Service	45.5689	3.4146	-6.0066	-472.9538	-267.9406	0.1577
Dead+Wind 60 deg - Service	45.5689	6.1092	-3.5656	-276.3157	-472.6938	-0.0592
Dead+Wind 90 deg - Service	45.5689	6.8343	0.0125	1.0499	-538.9611	-0.2054
Dead+Wind 120 deg - Service	45.5689	5.8196	3.4301	271.5219	-460.5776	-0.2382
Dead+Wind 150 deg -	45.5689	3.4634	6.0696	471.6833	-269.0969	-0.2411

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
Service						
Dead+Wind 180 deg - Service	45.5689	0.0185	6.5984	534.2614	-1.4380	-0.2554
Dead+Wind 210 deg - Service	45.5689	-3.1275	5.5270	457.2228	259.3871	-0.1612
Dead+Wind 240 deg - Service	45.5689	-5.9443	3.4732	270.5401	465.0083	0.0532
Dead+Wind 270 deg - Service	45.5689	-6.8437	-0.0228	-2.6433	539.5942	0.2032
Dead+Wind 300 deg - Service	45.5689	-5.7187	-3.3615	-272.7291	463.6056	0.2561
Dead+Wind 330 deg - Service	45.5689	-3.4676	-6.0670	-471.9850	270.2847	0.2468

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.0000	-45.5689	0.0000	0.0000	45.5689	0.0000	0.000%
2	-0.1152	-54.6827	-31.5964	0.1152	54.6827	31.5964	0.000%
3	-0.1152	-41.0120	-31.5964	0.1152	41.0120	31.5964	0.000%
4	15.7326	-54.6827	-27.6756	-15.7326	54.6827	27.6756	0.000%
5	15.7326	-41.0120	-27.6756	-15.7326	41.0120	27.6756	0.000%
6	28.1484	-54.6827	-16.4286	-28.1484	54.6827	16.4286	0.000%
7	28.1484	-41.0120	-16.4286	-28.1484	41.0120	16.4286	0.000%
8	31.4889	-54.6827	0.0578	-31.4889	54.6827	-0.0578	0.000%
9	31.4889	-41.0120	0.0578	-31.4889	41.0120	-0.0578	0.000%
10	26.8136	-54.6827	15.8040	-26.8136	54.6827	-15.8040	0.000%
11	26.8136	-41.0120	15.8040	-26.8136	41.0120	-15.8040	0.000%
12	15.9578	-54.6827	27.9660	-15.9578	54.6827	-27.9660	0.000%
13	15.9578	-41.0120	27.9660	-15.9578	41.0120	-27.9660	0.000%
14	0.0855	-54.6827	30.4018	-0.0855	54.6827	-30.4018	0.000%
15	0.0855	-41.0120	30.4018	-0.0855	41.0120	-30.4018	0.000%
16	-14.4096	-54.6827	25.4651	14.4096	54.6827	-25.4651	0.000%
17	-14.4096	-41.0120	25.4651	14.4096	41.0120	-25.4651	0.000%
18	-27.3885	-54.6827	16.0028	27.3885	54.6827	-16.0028	0.000%
19	-27.3885	-41.0120	16.0028	27.3885	41.0120	-16.0028	0.000%
20	-31.5324	-54.6827	-0.1050	31.5324	54.6827	0.1050	0.000%
21	-31.5324	-41.0120	-0.1050	31.5324	41.0120	0.1050	0.000%
22	-26.3488	-54.6827	-15.4882	26.3488	54.6827	15.4882	0.000%
23	-26.3488	-41.0120	-15.4882	26.3488	41.0120	15.4882	0.000%
24	-15.9769	-54.6827	-27.9538	15.9769	54.6827	27.9538	0.000%
25	-15.9769	-41.0120	-27.9538	15.9769	41.0120	27.9538	0.000%
26	0.0000	-101.4248	0.0000	-0.0000	101.4248	0.0000	0.000%
27	-0.0230	-101.4248	-7.6758	0.0230	101.4248	7.6758	0.000%
28	3.8355	-101.4248	-6.7039	-3.8355	101.4248	6.7040	0.000%
29	6.8344	-101.4248	-3.9693	-6.8344	101.4248	3.9693	0.000%
30	7.8305	-101.4248	0.0098	-7.8305	101.4248	-0.0098	0.000%
31	6.6797	-101.4248	3.9080	-6.6797	101.4248	-3.9080	0.000%
32	4.0162	-101.4248	7.0015	-4.0162	101.4248	-7.0015	0.000%
33	0.0158	-101.4248	7.6566	-0.0158	101.4248	-7.6567	0.000%
34	-3.8062	-101.4248	6.6718	3.8062	101.4248	-6.6718	0.000%
35	-6.8310	-101.4248	3.9688	6.8310	101.4248	-3.9688	0.000%
36	-7.8514	-101.4248	-0.0199	7.8514	101.4248	0.0199	0.000%
37	-6.6657	-101.4248	-3.8902	6.6657	101.4248	3.8902	0.000%
38	-4.0114	-101.4248	-6.9833	4.0114	101.4248	6.9833	0.000%
39	-0.0250	-45.5689	-6.8576	0.0250	45.5689	6.8576	0.000%
40	3.4146	-45.5689	-6.0066	-3.4146	45.5689	6.0066	0.000%
41	6.1092	-45.5689	-3.5656	-6.1092	45.5689	3.5656	0.000%
42	6.8343	-45.5689	0.0125	-6.8343	45.5689	-0.0125	0.000%
43	5.8196	-45.5689	3.4301	-5.8196	45.5689	-3.4301	0.000%
44	3.4634	-45.5689	6.0696	-3.4634	45.5689	-6.0696	0.000%
45	0.0185	-45.5689	6.5984	-0.0185	45.5689	-6.5984	0.000%
46	-3.1275	-45.5689	5.5270	3.1275	45.5689	-5.5270	0.000%
47	-5.9443	-45.5689	3.4732	5.9443	45.5689	-3.4732	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
48	-6.8437	-45.5689	-0.0228	6.8437	45.5689	0.0228	0.000%
49	-5.7187	-45.5689	-3.3615	5.7187	45.5689	3.3615	0.000%
50	-3.4676	-45.5689	-6.0670	3.4676	45.5689	6.0670	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00018663
3	Yes	5	0.00000001	0.00008759
4	Yes	6	0.00000001	0.00015401
5	Yes	6	0.00000001	0.00005300
6	Yes	6	0.00000001	0.00015256
7	Yes	6	0.00000001	0.00005230
8	Yes	5	0.00000001	0.00014620
9	Yes	5	0.00000001	0.00006649
10	Yes	6	0.00000001	0.00014602
11	Yes	6	0.00000001	0.00005018
12	Yes	6	0.00000001	0.00015745
13	Yes	6	0.00000001	0.00005422
14	Yes	5	0.00000001	0.00026553
15	Yes	5	0.00000001	0.00012689
16	Yes	6	0.00000001	0.00014377
17	Yes	6	0.00000001	0.00004967
18	Yes	6	0.00000001	0.00015001
19	Yes	6	0.00000001	0.00005166
20	Yes	5	0.00000001	0.00019797
21	Yes	5	0.00000001	0.00009251
22	Yes	6	0.00000001	0.00015739
23	Yes	6	0.00000001	0.00005428
24	Yes	6	0.00000001	0.00014610
25	Yes	6	0.00000001	0.00005002
26	Yes	4	0.00000001	0.00024456
27	Yes	6	0.00000001	0.00055471
28	Yes	6	0.00000001	0.00060688
29	Yes	6	0.00000001	0.00060691
30	Yes	6	0.00000001	0.00055128
31	Yes	6	0.00000001	0.00059804
32	Yes	6	0.00000001	0.00060064
33	Yes	6	0.00000001	0.00054387
34	Yes	6	0.00000001	0.00059291
35	Yes	6	0.00000001	0.00059501
36	Yes	6	0.00000001	0.00054889
37	Yes	6	0.00000001	0.00060666
38	Yes	6	0.00000001	0.00060842
39	Yes	4	0.00000001	0.00040954
40	Yes	5	0.00000001	0.00004532
41	Yes	5	0.00000001	0.00004335
42	Yes	4	0.00000001	0.00037870
43	Yes	4	0.00000001	0.00099213
44	Yes	5	0.00000001	0.00004746
45	Yes	4	0.00000001	0.00042333
46	Yes	4	0.00000001	0.00097325
47	Yes	5	0.00000001	0.00004189
48	Yes	4	0.00000001	0.00038418
49	Yes	5	0.00000001	0.00004712
50	Yes	4	0.00000001	0.00099784

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	118 - 113	12.0334	41	0.8946	0.0019
L2	113 - 108	11.0969	41	0.8942	0.0019
L3	108 - 103	10.1626	41	0.8899	0.0018
L4	103 - 98	9.2359	41	0.8786	0.0017
L5	98 - 93	8.3261	41	0.8574	0.0017
L6	93 - 90	7.4448	41	0.8234	0.0015
L7	90 - 85	6.9360	41	0.7956	0.0014
L8	85 - 80	6.1233	41	0.7554	0.0013
L9	80 - 76.5	5.3596	41	0.7014	0.0011
L10	76.5 - 76.25	4.8624	41	0.6543	0.0010
L11	76.25 - 74	4.8282	41	0.6519	0.0009
L12	74 - 73.75	4.5263	41	0.6293	0.0009
L13	73.75 - 68.88	4.4933	41	0.6275	0.0009
L14	68.88 - 68.63	3.8723	41	0.5891	0.0008
L15	68.63 - 64.5	3.8415	41	0.5858	0.0008
L16	64.5 - 64.25	3.3593	41	0.5281	0.0006
L17	64.25 - 63	3.3317	41	0.5259	0.0006
L18	63 - 62.75	3.1954	41	0.5147	0.0006
L19	62.75 - 60	3.1686	41	0.5124	0.0006
L20	60 - 59.75	2.8812	41	0.4850	0.0006
L21	59.75 - 54.75	2.8559	41	0.4831	0.0005
L22	54.75 - 49.75	2.3707	41	0.4426	0.0005
L23	49.75 - 49.25	1.9309	41	0.3963	0.0004
L24	49.25 - 49	1.8897	41	0.3913	0.0004
L25	49 - 44	1.8693	41	0.3894	0.0004
L26	44 - 42	1.4831	41	0.3474	0.0003
L27	42 - 41.75	1.3413	41	0.3293	0.0003
L28	41.75 - 36.75	1.3241	41	0.3273	0.0003
L29	36.75 - 34.5	1.0037	41	0.2839	0.0002
L30	34.5 - 34.25	0.8748	41	0.2630	0.0002
L31	34.25 - 34	0.8611	41	0.2607	0.0002
L32	34 - 33.75	0.8475	41	0.2584	0.0002
L33	33.75 - 30	0.8341	41	0.2559	0.0002
L34	30 - 29.75	0.6483	41	0.2167	0.0002
L35	29.75 - 28.5	0.6370	41	0.2146	0.0002
L36	28.5 - 28.25	0.5822	41	0.2042	0.0002
L37	28.25 - 23.25	0.5716	41	0.2024	0.0002
L38	23.25 - 23	0.3788	41	0.1652	0.0001
L39	23 - 21.5	0.3702	41	0.1635	0.0001
L40	21.5 - 21.25	0.3205	41	0.1532	0.0001
L41	21.25 - 19	0.3125	41	0.1512	0.0001
L42	19 - 18.75	0.2457	41	0.1325	0.0001
L43	18.75 - 18.5	0.2388	41	0.1307	0.0001
L44	18.5 - 18.25	0.2320	41	0.1289	0.0001
L45	18.25 - 13.25	0.2253	41	0.1270	0.0001
L46	13.25 - 12.7	0.1129	41	0.0871	0.0001
L47	12.7 - 12.45	0.1031	41	0.0825	0.0001
L48	12.45 - 11.5	0.0989	41	0.0804	0.0001
L49	11.5 - 11.25	0.0837	41	0.0722	0.0000
L50	11.25 - 10.5	0.0800	41	0.0700	0.0000
L51	10.5 - 10.25	0.0695	41	0.0634	0.0000
L52	10.25 - 7.5	0.0662	41	0.0619	0.0000
L53	7.5 - 7.25	0.0356	41	0.0444	0.0000
L54	7.25 - 6.25	0.0333	41	0.0428	0.0000
L55	6.25 - 6	0.0250	41	0.0366	0.0000
L56	6 - 3.73	0.0231	41	0.0350	0.0000
L57	3.73 - 3.48	0.0094	41	0.0229	0.0000
L58	3.48 - 2.75	0.0082	41	0.0215	0.0000
L59	2.75 - 2.5	0.0052	41	0.0175	0.0000
L60	2.5 - 2	0.0043	41	0.0161	0.0000
L61	2 - 1.75	0.0028	41	0.0133	0.0000
L62	1.75 - 0	0.0021	41	0.0116	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
116.0000	VHLP1-23	41	11.6588	0.8947	0.0020	130476
114.0000	APXVSPP18-C-A20 w/ Mount Pipe	41	11.2842	0.8945	0.0020	130476
108.0000	AIR6449 B41_T-MOBILE w/ Mount Pipe	41	10.1626	0.8899	0.0019	38482
98.0000	HPA-65R-BUU-H6 w/ Mount Pipe	41	8.3261	0.8574	0.0017	10432
90.0000	Bridge Stiffener (84" x 9" x 1.25")	41	6.9360	0.7956	0.0014	6757
85.0000	(2) HBXX-6517DS-A2M w/ Mount Pipe	41	6.1233	0.7554	0.0013	6091
80.0000	KS24019-L112A	41	5.3596	0.7014	0.0011	4725
73.0000	VHLP1-23	41	4.3952	0.6226	0.0009	6537
72.0000	A-ANT-18G-2-C	41	4.2657	0.6164	0.0009	6607
62.0000	MX08FRO665-21 w/ Mount Pipe	41	3.0886	0.5047	0.0006	5773
60.0000	Bridge Stiffener (84" x 14.5" x 1.25")	41	2.8812	0.4850	0.0006	6441
30.0000	Bridge Stiffener (84" x 14.5" x 1.25")	41	0.6483	0.2167	0.0002	6278

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	118 - 113	55.7488	12	4.1532	0.0089
L2	113 - 108	51.4066	12	4.1512	0.0088
L3	108 - 103	47.0743	12	4.1320	0.0086
L4	103 - 98	42.7772	12	4.0798	0.0083
L5	98 - 93	38.5636	6	3.9810	0.0081
L6	93 - 90	34.4851	6	3.8226	0.0072
L7	90 - 85	32.1302	6	3.6928	0.0066
L8	85 - 80	28.3681	6	3.5055	0.0060
L9	80 - 76.5	24.8324	6	3.2542	0.0051
L10	76.5 - 76.25	22.5301	6	3.0363	0.0045
L11	76.25 - 74	22.3717	6	3.0252	0.0044
L12	74 - 73.75	20.9733	6	2.9201	0.0041
L13	73.75 - 68.88	20.8209	6	2.9118	0.0041
L14	68.88 - 68.63	17.9444	6	2.7327	0.0037
L15	68.63 - 64.5	17.8020	6	2.7176	0.0036
L16	64.5 - 64.25	15.5677	6	2.4483	0.0030
L17	64.25 - 63	15.4398	6	2.4382	0.0030
L18	63 - 62.75	14.8087	6	2.3862	0.0028
L19	62.75 - 60	14.6841	6	2.3751	0.0028
L20	60 - 59.75	13.3529	6	2.2481	0.0025
L21	59.75 - 54.75	13.2354	6	2.2394	0.0025
L22	54.75 - 49.75	10.9870	6	2.0520	0.0022
L23	49.75 - 49.25	8.9490	6	1.8371	0.0018
L24	49.25 - 49	8.7579	6	1.8141	0.0018
L25	49 - 44	8.6632	6	1.8050	0.0018
L26	44 - 42	6.8733	6	1.6107	0.0015
L27	42 - 41.75	6.2162	6	1.5267	0.0014
L28	41.75 - 36.75	6.1365	6	1.5172	0.0014
L29	36.75 - 34.5	4.6516	6	1.3161	0.0011
L30	34.5 - 34.25	4.0542	6	1.2189	0.0010
L31	34.25 - 34	3.9907	6	1.2083	0.0010
L32	34 - 33.75	3.9277	6	1.1977	0.0010
L33	33.75 - 30	3.8653	6	1.1860	0.0010
L34	30 - 29.75	3.0045	6	1.0042	0.0008
L35	29.75 - 28.5	2.9522	6	0.9947	0.0008
L36	28.5 - 28.25	2.6981	6	0.9465	0.0007
L37	28.25 - 23.25	2.6487	6	0.9383	0.0007
L38	23.25 - 23	1.7554	6	0.7655	0.0005
L39	23 - 21.5	1.7156	6	0.7577	0.0005
L40	21.5 - 21.25	1.4850	6	0.7099	0.0005
L41	21.25 - 19	1.4481	6	0.7005	0.0005

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L42	19 - 18.75	1.1382	6	0.6141	0.0004
L43	18.75 - 18.5	1.1063	6	0.6057	0.0004
L44	18.5 - 18.25	1.0748	6	0.5973	0.0004
L45	18.25 - 13.25	1.0438	6	0.5884	0.0004
L46	13.25 - 12.7	0.5232	6	0.4036	0.0003
L47	12.7 - 12.45	0.4779	6	0.3824	0.0002
L48	12.45 - 11.5	0.4581	6	0.3725	0.0002
L49	11.5 - 11.25	0.3878	6	0.3344	0.0002
L50	11.25 - 10.5	0.3705	6	0.3243	0.0002
L51	10.5 - 10.25	0.3220	6	0.2938	0.0002
L52	10.25 - 7.5	0.3068	6	0.2866	0.0002
L53	7.5 - 7.25	0.1649	6	0.2055	0.0001
L54	7.25 - 6.25	0.1543	6	0.1983	0.0001
L55	6.25 - 6	0.1158	6	0.1694	0.0001
L56	6 - 3.73	0.1071	6	0.1621	0.0001
L57	3.73 - 3.48	0.0434	6	0.1060	0.0001
L58	3.48 - 2.75	0.0380	6	0.0997	0.0001
L59	2.75 - 2.5	0.0241	6	0.0812	0.0000
L60	2.5 - 2	0.0201	6	0.0746	0.0000
L61	2 - 1.75	0.0129	6	0.0615	0.0000
L62	1.75 - 0	0.0099	6	0.0539	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
116.0000	VHLP1-23	12	54.0115	4.1534	0.0090	30176
114.0000	APXVSPP18-C-A20 w/ Mount Pipe	12	52.2747	4.1524	0.0089	30176
108.0000	AIR6449 B41_T-MOBILE w/ Mount Pipe	12	47.0743	4.1320	0.0086	8573
98.0000	HPA-65R-BUU-H6 w/ Mount Pipe	6	38.5636	3.9810	0.0081	2284
90.0000	Bridge Stiffener (84" x 9" x 1.25")	6	32.1302	3.6928	0.0066	1474
85.0000	(2) HBXX-6517DS-A2M w/ Mount Pipe	6	28.3681	3.5055	0.0060	1325
80.0000	KS24019-L112A	6	24.8324	3.2542	0.0051	1024
73.0000	VHLP1-23	6	20.3664	2.8889	0.0041	1417
72.0000	A-ANT-18G-2-C	6	19.7665	2.8597	0.0040	1432
62.0000	MX08FRO665-21 w/ Mount Pipe	6	14.3139	2.3394	0.0027	1248
60.0000	Bridge Stiffener (84" x 14.5" x 1.25")	6	13.3529	2.2481	0.0025	1392
30.0000	Bridge Stiffener (84" x 14.5" x 1.25")	6	3.0045	1.0042	0.0008	1355

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	118 - 113 (1)	P24x0.25	5.0000	0.0000	0.0	18.6532	-3.0550	662.2650	0.005
L2	113 - 108 (2)	P24x0.25	5.0000	0.0000	0.0	18.6532	-3.4417	662.2650	0.005
L3	108 - 103 (3)	P24x0.25	5.0000	0.0000	0.0	18.653	-8.0984	662.2650	0.012

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
L4	103 - 98 (4)	P24x0.25	5.0000	0.0000	0.0	18.6532	-8.5439	662.2650	0.013
L5	98 - 93 (5)	P24x0.25	5.0000	0.0000	0.0	18.6532	-11.6936	662.2650	0.018
L6	93 - 90 (6)	P24x0.25	3.0000	0.0000	0.0	18.6532	-12.0119	662.2650	0.018
L7	90 - 85 (7)	P24x0.375	5.0000	0.0000	0.0	27.8325	-13.6784	1052.0700	0.013
L8	85 - 80 (8)	P24x0.375	5.0000	0.0000	0.0	27.8325	-17.1794	1052.0700	0.016
L9	80 - 76.5 (9)	P24x0.375	3.5000	0.0000	0.0	27.8325	-17.8491	1052.0700	0.017
L10	76.5 - 76.25 (10)	P24x0.5875	0.2500	0.0000	0.0	43.2121	-17.9151	1633.4200	0.011
L11	76.25 - 74 (11)	P24x0.5875	2.2500	0.0000	0.0	43.2121	-18.4013	1633.4200	0.011
L12	74 - 73.75 (12)	P24x0.9	0.2500	0.0000	0.0	65.3137	-18.4832	2468.8600	0.007
L13	73.75 - 68.88 (13)	P24x0.9	4.8700	0.0000	0.0	65.3137	-20.5970	2468.8600	0.008
L14	68.88 - 68.63 (14)	P24x0.575	0.2500	0.0000	0.0	42.3153	-20.6611	1599.5200	0.013
L15	68.63 - 64.5 (15)	P24x0.575	4.1300	0.0000	0.0	42.3153	-21.6090	1599.5200	0.014
L16	64.5 - 64.25 (16)	P24x1.05	0.2500	0.0000	0.0	75.7045	-21.7062	2861.6300	0.008
L17	64.25 - 63 (17)	P24x1.05	1.2500	0.0000	0.0	75.7045	-22.1266	2861.6300	0.008
L18	63 - 62.75 (18)	P24x1	0.2500	0.0000	0.0	72.2566	-22.2182	2731.3000	0.008
L19	62.75 - 60 (19)	P24x1	2.7500	0.0000	0.0	72.2566	-25.9752	2731.3000	0.010
L20	60 - 59.75 (20)	P30x0.675	0.2500	0.0000	0.0	62.1859	-27.5997	2350.6300	0.012
L21	59.75 - 54.75 (21)	P30x0.675	5.0000	0.0000	0.0	62.1859	-29.2228	2350.6300	0.012
L22	54.75 - 49.75 (22)	P30x0.675	5.0000	0.0000	0.0	62.1859	-30.8668	2350.6300	0.013
L23	49.75 - 49.25 (23)	P30x0.675	0.5000	0.0000	0.0	62.1859	-31.0372	2350.6300	0.013
L24	49.25 - 49 (24)	P30x0.875	0.2500	0.0000	0.0	80.0615	-31.1281	3026.3300	0.010
L25	49 - 44 (25)	P30x0.875	5.0000	0.0000	0.0	80.0615	-32.8817	3026.3300	0.011
L26	44 - 42 (26)	P30x0.875	2.0000	0.0000	0.0	80.0615	-33.5893	3026.3300	0.011
L27	42 - 41.75 (27)	P30x1	0.2500	0.0000	0.0	91.1062	-33.6942	3443.8100	0.010
L28	41.75 - 36.75 (28)	P30x1	5.0000	0.0000	0.0	91.1062	-35.6381	3443.8100	0.010
L29	36.75 - 34.5 (29)	P30x1	2.2500	0.0000	0.0	91.1062	-36.5145	3443.8100	0.011
L30	34.5 - 34.25 (30)	P30x1.05	0.2500	0.0000	0.0	95.4966	-36.6304	3609.7700	0.010
L31	34.25 - 34 (31)	P30x1.05	0.2500	0.0000	0.0	95.4966	-36.7371	3609.7700	0.010
L32	34 - 33.75 (32)	P30x0.95	0.2500	0.0000	0.0	86.7001	-36.8349	3277.2600	0.011
L33	33.75 - 30 (33)	P30x0.95	3.7500	0.0000	0.0	86.7001	-38.2848	3277.2600	0.012
L34	30 - 29.75 (34)	P36x0.7	0.2500	0.0000	0.0	77.6288	-39.9379	2934.3700	0.014
L35	29.75 - 28.5 (35)	P36x0.7	1.2500	0.0000	0.0	77.6288	-40.4189	2934.3700	0.014
L36	28.5 - 28.25 (36)	P36x0.8375	0.2500	0.0000	0.0	92.5155	-40.5403	3497.0900	0.012
L37	28.25 - 23.25 (37)	P36x0.8375	5.0000	0.0000	0.0	92.5155	-42.7647	3497.0900	0.012

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L38	23.25 - 23 (38)	P36x0.975	0.2500	0.0000	0.0	107.2830	-42.8955	4055.3100	0.011
L39	23 - 21.5 (39)	P36x0.975	1.5000	0.0000	0.0	107.2830	-43.6267	4055.3100	0.011
L40	21.5 - 21.25 (40)	P36x0.825	0.2500	0.0000	0.0	91.1671	-43.7474	3446.1100	0.013
L41	21.25 - 19 (41)	P36x0.825	2.2500	0.0000	0.0	91.1671	-44.7354	3446.1100	0.013
L42	19 - 18.75 (42)	P36x0.975	0.2500	0.0000	0.0	107.2830	-44.8687	4055.3100	0.011
L43	18.75 - 18.5 (43)	P36x0.975	0.2500	0.0000	0.0	107.2830	-44.9926	4055.3100	0.011
L44	18.5 - 18.25 (44)	P36x0.925	0.2500	0.0000	0.0	101.9270	-45.1080	3852.8400	0.012
L45	18.25 - 13.25 (45)	P36x0.925	5.0000	0.0000	0.0	101.9270	-47.4172	3852.8400	0.012
L46	13.25 - 12.7 (46)	P36x0.925	0.5500	0.0000	0.0	101.9270	-47.6774	3852.8400	0.012
L47	12.7 - 12.45 (47)	P36x0.9	0.2500	0.0000	0.0	99.2429	-47.7974	3751.3800	0.013
L48	12.45 - 11.5 (48)	P36x0.9	0.9500	0.0000	0.0	99.2429	-48.2342	3751.3800	0.013
L49	11.5 - 11.25 (49)	P36x0.9	0.2500	0.0000	0.0	99.2429	-48.3678	3751.3800	0.013
L50	11.25 - 10.5 (50)	P36x0.9	0.7500	0.0000	0.0	99.2429	-48.7404	3751.3800	0.013
L51	10.5 - 10.25 (51)	P36x1.325	0.2500	0.0000	0.0	144.3390	-48.8865	5456.0000	0.009
L52	10.25 - 7.5 (52)	P36x1.325	2.7500	0.0000	0.0	144.3390	-50.4161	5456.0000	0.009
L53	7.5 - 7.25 (53)	P36x1.4	0.2500	0.0000	0.0	152.1790	-50.5703	5752.3600	0.009
L54	7.25 - 6.25 (54)	P36x1.4	1.0000	0.0000	0.0	152.1790	-51.1435	5752.3600	0.009
L55	6.25 - 6 (55)	P36x1.4	0.2500	0.0000	0.0	152.1790	-51.2945	5752.3600	0.009
L56	6 - 3.73 (56)	P36x1.725	2.2700	0.0000	0.0	185.7450	-52.6588	7021.1500	0.008
L57	3.73 - 3.48 (57)	P36x1.725	0.2500	0.0000	0.0	185.7450	-52.8161	7021.1500	0.008
L58	3.48 - 2.75 (58)	P36x1.725	0.7300	0.0000	0.0	185.7450	-53.2537	7021.1500	0.008
L59	2.75 - 2.5 (59)	P36x1.675	0.2500	0.0000	0.0	180.6240	-53.3960	6827.5800	0.008
L60	2.5 - 2 (60)	P36x1.675	0.5000	0.0000	0.0	180.6240	-53.6721	6827.5800	0.008
L61	2 - 1.75 (61)	P36x1.425	0.2500	0.0000	0.0	154.7840	-53.7994	5850.8500	0.009
L62	1.75 - 0 (62)	P36x1.425	1.7500	0.0000	0.0	154.7840	-54.6673	5850.8500	0.009

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	118 - 113 (1)	P24x0.25	8.4796	396.6833	0.021	0.0000	396.6833	0.000
L2	113 - 108 (2)	P24x0.25	27.5128	396.6833	0.069	0.0000	396.6833	0.000
L3	108 - 103 (3)	P24x0.25	69.7385	396.6833	0.176	0.0000	396.6833	0.000
L4	103 - 98 (4)	P24x0.25	113.5650	396.6833	0.286	0.0000	396.6833	0.000
L5	98 - 93 (5)	P24x0.25	180.3408	396.6833	0.455	0.0000	396.6833	0.000
L6	93 - 90 (6)	P24x0.25	221.0433	396.6833	0.557	0.0000	396.6833	0.000
L7	90 - 85 (7)	P24x0.375	291.8375	623.7167	0.468	0.0000	623.7167	0.000
L8	85 - 80 (8)	P24x0.375	391.6800	623.7167	0.628	0.0000	623.7167	0.000
L9	80 - 76.5 (9)	P24x0.375	460.2833	623.7167	0.738	0.0000	623.7167	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L10	76.5 - 76.25 (10)	P24x0.5875	465.1908	1014.6250	0.458	0.0000	1014.6250	0.000
L11	76.25 - 74 (11)	P24x0.5875	509.5075	1014.6250	0.502	0.0000	1014.6250	0.000
L12	74 - 73.75 (12)	P24x0.9	514.4475	1513.5500	0.340	0.0000	1513.5500	0.000
L13	73.75 - 68.88 (13)	P24x0.9	615.6608	1513.5500	0.407	0.0000	1513.5500	0.000
L14	68.88 - 68.63 (14)	P24x0.575	620.9850	994.0917	0.625	0.0000	994.0917	0.000
L15	68.63 - 64.5 (15)	P24x0.575	710.4625	994.0917	0.715	0.0000	994.0917	0.000
L16	64.5 - 64.25 (16)	P24x1.05	715.9392	1743.2833	0.411	0.0000	1743.2833	0.000
L17	64.25 - 63 (17)	P24x1.05	743.4592	1743.2833	0.426	0.0000	1743.2833	0.000
L18	63 - 62.75 (18)	P24x1	748.9908	1667.4000	0.449	0.0000	1667.4000	0.000
L19	62.75 - 60 (19)	P24x1	815.4233	1667.4000	0.489	0.0000	1667.4000	0.000
L20	60 - 59.75 (20)	P30x0.675	821.8142	1828.8000	0.449	0.0000	1828.8000	0.000
L21	59.75 - 54.75 (21)	P30x0.675	950.5083	1828.8000	0.520	0.0000	1828.8000	0.000
L22	54.75 - 49.75 (22)	P30x0.675	1080.7833	1828.8000	0.591	0.0000	1828.8000	0.000
L23	49.75 - 49.25 (23)	P30x0.675	1093.8917	1828.8000	0.598	0.0000	1828.8000	0.000
L24	49.25 - 49 (24)	P30x0.875	1100.4500	2338.7333	0.471	0.0000	2338.7333	0.000
L25	49 - 44 (25)	P30x0.875	1232.4917	2338.7333	0.527	0.0000	2338.7333	0.000
L26	44 - 42 (26)	P30x0.875	1285.7333	2338.7333	0.550	0.0000	2338.7333	0.000
L27	42 - 41.75 (27)	P30x1	1292.4083	2650.2000	0.488	0.0000	2650.2000	0.000
L28	41.75 - 36.75 (28)	P30x1	1426.6000	2650.2000	0.538	0.0000	2650.2000	0.000
L29	36.75 - 34.5 (29)	P30x1	1487.6500	2650.2000	0.561	0.0000	2650.2000	0.000
L30	34.5 - 34.25 (30)	P30x1.05	1494.4750	2773.2417	0.539	0.0000	2773.2417	0.000
L31	34.25 - 34 (31)	P30x1.05	1501.3083	2773.2417	0.541	0.0000	2773.2417	0.000
L32	34 - 33.75 (32)	P30x0.95	1508.1500	2526.2750	0.597	0.0000	2526.2750	0.000
L33	33.75 - 30 (33)	P30x0.95	1613.5167	2526.2750	0.639	0.0000	2526.2750	0.000
L34	30 - 29.75 (34)	P36x0.7	1620.7333	2705.1667	0.599	0.0000	2705.1667	0.000
L35	29.75 - 28.5 (35)	P36x0.7	1656.9500	2705.1667	0.613	0.0000	2705.1667	0.000
L36	28.5 - 28.25 (36)	P36x0.8375	1664.2167	3262.4000	0.510	0.0000	3262.4000	0.000
L37	28.25 - 23.25 (37)	P36x0.8375	1811.1833	3262.4000	0.555	0.0000	3262.4000	0.000
L38	23.25 - 23 (38)	P36x0.975	1818.6167	3768.6333	0.483	0.0000	3768.6333	0.000
L39	23 - 21.5 (39)	P36x0.975	1863.3583	3768.6333	0.494	0.0000	3768.6333	0.000
L40	21.5 - 21.25 (40)	P36x0.825	1870.8417	3215.9750	0.582	0.0000	3215.9750	0.000
L41	21.25 - 19 (41)	P36x0.825	1938.5167	3215.9750	0.603	0.0000	3215.9750	0.000
L42	19 - 18.75 (42)	P36x0.975	1946.0750	3768.6333	0.516	0.0000	3768.6333	0.000
L43	18.75 - 18.5 (43)	P36x0.975	1953.6417	3768.6333	0.518	0.0000	3768.6333	0.000
L44	18.5 - 18.25 (44)	P36x0.925	1961.2167	3585.4917	0.547	0.0000	3585.4917	0.000
L45	18.25 - 13.25 (45)	P36x0.925	2114.4750	3585.4917	0.590	0.0000	3585.4917	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L46	13.25 - 12.7 (46)	P36x0.925	2131.5333	3585.4917	0.594	0.0000	3585.4917	0.000
L47	12.7 - 12.45 (47)	P36x0.9	2139.3000	3493.5167	0.612	0.0000	3493.5167	0.000
L48	12.45 - 11.5 (48)	P36x0.9	2168.8917	3493.5167	0.621	0.0000	3493.5167	0.000
L49	11.5 - 11.25 (49)	P36x0.9	2176.6917	3493.5167	0.623	0.0000	3493.5167	0.000
L50	11.25 - 10.5 (50)	P36x0.9	2200.1583	3493.5167	0.630	0.0000	3493.5167	0.000
L51	10.5 - 10.25 (51)	P36x1.325	2207.9917	5020.7750	0.440	0.0000	5020.7750	0.000
L52	10.25 - 7.5 (52)	P36x1.325	2294.7333	5020.7750	0.457	0.0000	5020.7750	0.000
L53	7.5 - 7.25 (53)	P36x1.4	2302.6667	5282.3583	0.436	0.0000	5282.3583	0.000
L54	7.25 - 6.25 (54)	P36x1.4	2334.4917	5282.3583	0.442	0.0000	5282.3583	0.000
L55	6.25 - 6 (55)	P36x1.4	2342.4667	5282.3583	0.443	0.0000	5282.3583	0.000
L56	6 - 3.73 (56)	P36x1.725	2415.2833	6388.8247	0.378	0.0000	6388.8247	0.000
L57	3.73 - 3.48 (57)	P36x1.725	2423.3417	6388.8247	0.379	0.0000	6388.8247	0.000
L58	3.48 - 2.75 (58)	P36x1.725	2446.9333	6388.8247	0.383	0.0000	6388.8247	0.000
L59	2.75 - 2.5 (59)	P36x1.675	2455.0250	6221.4413	0.395	0.0000	6221.4413	0.000
L60	2.5 - 2 (60)	P36x1.675	2471.2417	6221.4413	0.397	0.0000	6221.4413	0.000
L61	2 - 1.75 (61)	P36x1.425	2479.3583	5369.0250	0.462	0.0000	5369.0250	0.000
L62	1.75 - 0 (62)	P36x1.425	2536.2917	5369.0250	0.472	0.0000	5369.0250	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	118 - 113 (1)	P24x0.25	3.6409	201.8610	0.018	0.0011	324.2292	0.000
L2	113 - 108 (2)	P24x0.25	3.9725	201.8610	0.020	0.0011	324.2292	0.000
L3	108 - 103 (3)	P24x0.25	8.6083	201.8610	0.043	0.0011	324.2292	0.000
L4	103 - 98 (4)	P24x0.25	8.9237	201.8610	0.044	0.0011	324.2292	0.000
L5	98 - 93 (5)	P24x0.25	13.4870	201.8610	0.067	0.4239	324.2292	0.001
L6	93 - 90 (6)	P24x0.25	13.6556	201.8610	0.068	0.4238	324.2292	0.001
L7	90 - 85 (7)	P24x0.375	14.3065	315.6210	0.045	0.4237	655.5675	0.001
L8	85 - 80 (8)	P24x0.375	19.4009	315.6210	0.061	0.8284	655.5675	0.001
L9	80 - 76.5 (9)	P24x0.375	19.6234	315.6210	0.062	0.9424	655.5675	0.001
L10	76.5 - 76.25 (10)	P24x0.5875	19.6275	490.0250	0.040	0.9423	1008.6667	0.001
L11	76.25 - 74 (11)	P24x0.5875	19.7501	490.0250	0.040	0.9422	1008.6667	0.001
L12	74 - 73.75 (12)	P24x0.9	19.7590	740.6580	0.027	0.9421	1504.2083	0.001
L13	73.75 - 68.88 (13)	P24x0.9	21.2875	740.6580	0.029	1.1797	1504.2083	0.001
L14	68.88 - 68.63 (14)	P24x0.575	21.3083	479.8550	0.044	1.1797	988.2583	0.001
L15	68.63 - 64.5 (15)	P24x0.575	21.9074	479.8550	0.046	1.1444	988.2583	0.001
L16	64.5 - 64.25 (16)	P24x1.05	21.9339	858.4890	0.026	1.1444	1732.2000	0.001
L17	64.25 - 63 (17)	P24x1.05	22.1249	858.4890	0.026	1.1445	1732.2000	0.001
L18	63 - 62.75 (18)	P24x1	22.1539	819.3900	0.027	1.1445	1656.9083	0.001
L19	62.75 - 60 (19)	P24x1	25.1079	819.3900	0.031	1.2575	1656.9083	0.001
L20	60 - 59.75 (20)	P30x0.675	25.5798	705.1880	0.036	1.2561	1818.1167	0.001
L21	59.75 - 54.75	P30x0.675	25.9169	705.1880	0.037	1.2558	1818.1167	0.001

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 $\frac{T_u}{\phi T_n}$
	(21)							
L22	54.75 - 49.75	P30x0.675	26.2191	705.1880	0.037	1.2555	1818.1167	0.001
	(22)							
L23	49.75 - 49.25	P30x0.675	26.2435	705.1880	0.037	1.2555	1818.1167	0.001
	(23)							
L24	49.25 - 49	P30x0.875	26.2567	907.8980	0.029	1.2555	2324.7833	0.001
	(24)							
L25	49 - 44 (25)	P30x0.875	26.5796	907.8980	0.029	1.2552	2324.7833	0.001
L26	44 - 42 (26)	P30x0.875	26.6967	907.8980	0.029	1.2551	2324.7833	0.001
L27	42 - 41.75	P30x1	26.7024	1033.1400	0.026	1.2551	2634.1417	0.000
	(27)							
L28	41.75 - 36.75	P30x1	26.9965	1033.1400	0.026	1.2549	2634.1417	0.000
	(28)							
L29	36.75 - 34.5	P30x1	27.3005	1033.1400	0.026	1.2459	2634.1417	0.000
	(29)							
L30	34.5 - 34.25	P30x1.05	27.3250	1082.9300	0.025	1.2370	2756.3167	0.000
	(30)							
L31	34.25 - 34	P30x1.05	27.3614	1082.9300	0.025	1.2346	2756.3167	0.000
	(31)							
L32	34 - 33.75	P30x0.95	27.3972	983.1790	0.028	1.2323	2511.0667	0.000
	(32)							
L33	33.75 - 30	P30x0.95	28.5436	983.1790	0.029	0.0932	2511.0667	0.000
	(33)							
L34	30 - 29.75	P36x0.7	28.9180	880.3100	0.033	0.0932	2732.0583	0.000
	(34)							
L35	29.75 - 28.5	P36x0.7	29.0834	880.3100	0.033	0.0932	2732.0583	0.000
	(35)							
L36	28.5 - 28.25	P36x0.8375	29.1011	1049.1300	0.028	0.0932	3243.3000	0.000
	(36)							
L37	28.25 - 23.25	P36x0.8375	29.7332	1049.1300	0.028	0.0932	3243.3000	0.000
	(37)							
L38	23.25 - 23	P36x0.975	29.7545	1216.5900	0.024	0.0932	3746.3083	0.000
	(38)							
L39	23 - 21.5 (39)	P36x0.975	29.9566	1216.5900	0.025	0.0932	3746.3083	0.000
L40	21.5 - 21.25	P36x0.825	29.9715	1033.8300	0.029	0.0931	3197.1667	0.000
	(40)							
L41	21.25 - 19	P36x0.825	30.2411	1033.8300	0.029	0.0931	3197.1667	0.000
	(41)							
L42	19 - 18.75	P36x0.975	30.2646	1216.5900	0.025	0.0938	3746.3083	0.000
	(42)							
L43	18.75 - 18.5	P36x0.975	30.3017	1216.5900	0.025	0.0945	3746.3083	0.000
	(43)							
L44	18.5 - 18.25	P36x0.925	30.3384	1155.8500	0.026	0.0951	3564.3417	0.000
	(44)							
L45	18.25 - 13.25	P36x0.925	31.0153	1155.8500	0.027	0.1106	3564.3417	0.000
	(45)							
L46	13.25 - 12.7	P36x0.925	31.0782	1155.8500	0.027	0.1161	3564.3417	0.000
	(46)							
L47	12.7 - 12.45	P36x0.9	31.1049	1125.4100	0.028	0.1198	3472.9583	0.000
	(47)							
L48	12.45 - 11.5	P36x0.9	31.2356	1125.4100	0.028	0.1337	3472.9583	0.000
	(48)							
L49	11.5 - 11.25	P36x0.9	31.2550	1125.4100	0.028	0.1374	3472.9583	0.000
	(49)							
L50	11.25 - 10.5	P36x0.9	31.3567	1125.4100	0.028	0.1484	3472.9583	0.000
	(50)							
L51	10.5 - 10.25	P36x1.325	31.3803	1636.8000	0.019	0.1521	4989.8917	0.000
	(51)							
L52	10.25 - 7.5	P36x1.325	31.7601	1636.8000	0.019	0.1925	4989.8917	0.000
	(52)							
L53	7.5 - 7.25 (53)	P36x1.4	31.7784	1725.7100	0.018	0.1962	5249.5583	0.000
L54	7.25 - 6.25	P36x1.4	31.9202	1725.7100	0.018	0.2109	5249.5583	0.000
	(54)							
L55	6.25 - 6 (55)	P36x1.4	31.9434	1725.7100	0.019	0.2145	5249.5583	0.000
L56	6 - 3.73 (56)	P36x1.725	32.2592	2106.3500	0.015	0.2453	6347.2667	0.000
L57	3.73 - 3.48	P36x1.725	32.2825	2106.3500	0.015	0.2461	6347.2667	0.000
	(57)							
L58	3.48 - 2.75	P36x1.725	32.3855	2106.3500	0.015	0.2485	6347.2667	0.000
	(58)							

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 $\frac{T_u}{\phi T_n}$
L59	2.75 - 2.5 (59)	P36x1.675	32.4131	2048.2800	0.016	0.2493	6181.2833	0.000
L60	2.5 - 2 (60)	P36x1.675	32.4822	2048.2800	0.016	0.2510	6181.2833	0.000
L61	2 - 1.75 (61)	P36x1.425	32.5115	1755.2500	0.019	0.2518	5335.5833	0.000
L62	1.75 - 0 (62)	P36x1.425	32.6177	1755.2500	0.019	0.2518	5335.5833	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	118 - 113 (1)	0.005	0.021	0.000	0.018	0.000	0.026	1.050	4.8.2
L2	113 - 108 (2)	0.005	0.069	0.000	0.020	0.000	0.075	1.050	4.8.2
L3	108 - 103 (3)	0.012	0.176	0.000	0.043	0.000	0.190	1.050	4.8.2
L4	103 - 98 (4)	0.013	0.286	0.000	0.044	0.000	0.301	1.050	4.8.2
L5	98 - 93 (5)	0.018	0.455	0.000	0.067	0.001	0.477	1.050	4.8.2
L6	93 - 90 (6)	0.018	0.557	0.000	0.068	0.001	0.580	1.050	4.8.2
L7	90 - 85 (7)	0.013	0.468	0.000	0.045	0.001	0.483	1.050	4.8.2
L8	85 - 80 (8)	0.016	0.628	0.000	0.061	0.001	0.648	1.050	4.8.2
L9	80 - 76.5 (9)	0.017	0.738	0.000	0.062	0.001	0.759	1.050	4.8.2
L10	76.5 - 76.25 (10)	0.011	0.458	0.000	0.040	0.001	0.471	1.050	4.8.2
L11	76.25 - 74 (11)	0.011	0.502	0.000	0.040	0.001	0.515	1.050	4.8.2
L12	74 - 73.75 (12)	0.007	0.340	0.000	0.027	0.001	0.348	1.050	4.8.2
L13	73.75 - 68.88 (13)	0.008	0.407	0.000	0.029	0.001	0.416	1.050	4.8.2
L14	68.88 - 68.63 (14)	0.013	0.625	0.000	0.044	0.001	0.640	1.050	4.8.2
L15	68.63 - 64.5 (15)	0.014	0.715	0.000	0.046	0.001	0.730	1.050	4.8.2
L16	64.5 - 64.25 (16)	0.008	0.411	0.000	0.026	0.001	0.419	1.050	4.8.2
L17	64.25 - 63 (17)	0.008	0.426	0.000	0.026	0.001	0.435	1.050	4.8.2
L18	63 - 62.75 (18)	0.008	0.449	0.000	0.027	0.001	0.458	1.050	4.8.2
L19	62.75 - 60 (19)	0.010	0.489	0.000	0.031	0.001	0.500	1.050	4.8.2
L20	60 - 59.75 (20)	0.012	0.449	0.000	0.036	0.001	0.462	1.050	4.8.2
L21	59.75 - 54.75 (21)	0.012	0.520	0.000	0.037	0.001	0.534	1.050	4.8.2
L22	54.75 - 49.75 (22)	0.013	0.591	0.000	0.037	0.001	0.606	1.050	4.8.2
L23	49.75 - 49.25 (23)	0.013	0.598	0.000	0.037	0.001	0.613	1.050	4.8.2
L24	49.25 - 49 (24)	0.010	0.471	0.000	0.029	0.001	0.482	1.050	4.8.2
L25	49 - 44 (25)	0.011	0.527	0.000	0.029	0.001	0.539	1.050	4.8.2
L26	44 - 42 (26)	0.011	0.550	0.000	0.029	0.001	0.562	1.050	4.8.2
L27	42 - 41.75 (27)	0.010	0.488	0.000	0.026	0.000	0.498	1.050	4.8.2
L28	41.75 - 36.75 (28)	0.010	0.538	0.000	0.026	0.000	0.549	1.050	4.8.2
L29	36.75 - 34.5 (29)	0.011	0.561	0.000	0.026	0.000	0.573	1.050	4.8.2
L30	34.5 - 34.25 (30)	0.010	0.539	0.000	0.025	0.000	0.550	1.050	4.8.2
L31	34.25 - 34 (31)	0.010	0.541	0.000	0.025	0.000	0.552	1.050	4.8.2
L32	34 - 33.75 (32)	0.011	0.597	0.000	0.028	0.000	0.609	1.050	4.8.2

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L33	33.75 - 30 (33)	0.012	0.639	0.000	0.029	0.000	0.651	1.050	4.8.2
L34	30 - 29.75 (34)	0.014	0.599	0.000	0.033	0.000	0.614	1.050	4.8.2
L35	29.75 - 28.5 (35)	0.014	0.613	0.000	0.033	0.000	0.627	1.050	4.8.2
L36	28.5 - 28.25 (36)	0.012	0.510	0.000	0.028	0.000	0.522	1.050	4.8.2
L37	28.25 - 23.25 (37)	0.012	0.555	0.000	0.028	0.000	0.568	1.050	4.8.2
L38	23.25 - 23 (38)	0.011	0.483	0.000	0.024	0.000	0.494	1.050	4.8.2
L39	23 - 21.5 (39)	0.011	0.494	0.000	0.025	0.000	0.506	1.050	4.8.2
L40	21.5 - 21.25 (40)	0.013	0.582	0.000	0.029	0.000	0.595	1.050	4.8.2
L41	21.25 - 19 (41)	0.013	0.603	0.000	0.029	0.000	0.617	1.050	4.8.2
L42	19 - 18.75 (42)	0.011	0.516	0.000	0.025	0.000	0.528	1.050	4.8.2
L43	18.75 - 18.5 (43)	0.011	0.518	0.000	0.025	0.000	0.530	1.050	4.8.2
L44	18.5 - 18.25 (44)	0.012	0.547	0.000	0.026	0.000	0.559	1.050	4.8.2
L45	18.25 - 13.25 (45)	0.012	0.590	0.000	0.027	0.000	0.603	1.050	4.8.2
L46	13.25 - 12.7 (46)	0.012	0.594	0.000	0.027	0.000	0.608	1.050	4.8.2
L47	12.7 - 12.45 (47)	0.013	0.612	0.000	0.028	0.000	0.626	1.050	4.8.2
L48	12.45 - 11.5 (48)	0.013	0.621	0.000	0.028	0.000	0.634	1.050	4.8.2
L49	11.5 - 11.25 (49)	0.013	0.623	0.000	0.028	0.000	0.637	1.050	4.8.2
L50	11.25 - 10.5 (50)	0.013	0.630	0.000	0.028	0.000	0.644	1.050	4.8.2
L51	10.5 - 10.25 (51)	0.009	0.440	0.000	0.019	0.000	0.449	1.050	4.8.2
L52	10.25 - 7.5 (52)	0.009	0.457	0.000	0.019	0.000	0.467	1.050	4.8.2
L53	7.5 - 7.25 (53)	0.009	0.436	0.000	0.018	0.000	0.445	1.050	4.8.2
L54	7.25 - 6.25 (54)	0.009	0.442	0.000	0.018	0.000	0.451	1.050	4.8.2
L55	6.25 - 6 (55)	0.009	0.443	0.000	0.019	0.000	0.453	1.050	4.8.2
L56	6 - 3.73 (56)	0.008	0.378	0.000	0.015	0.000	0.386	1.050	4.8.2
L57	3.73 - 3.48 (57)	0.008	0.379	0.000	0.015	0.000	0.387	1.050	4.8.2
L58	3.48 - 2.75 (58)	0.008	0.383	0.000	0.015	0.000	0.391	1.050	4.8.2
L59	2.75 - 2.5 (59)	0.008	0.395	0.000	0.016	0.000	0.403	1.050	4.8.2
L60	2.5 - 2 (60)	0.008	0.397	0.000	0.016	0.000	0.405	1.050	4.8.2
L61	2 - 1.75 (61)	0.009	0.462	0.000	0.019	0.000	0.471	1.050	4.8.2
L62	1.75 - 0 (62)	0.009	0.472	0.000	0.019	0.000	0.482	1.050	4.8.2

Section Capacity Table

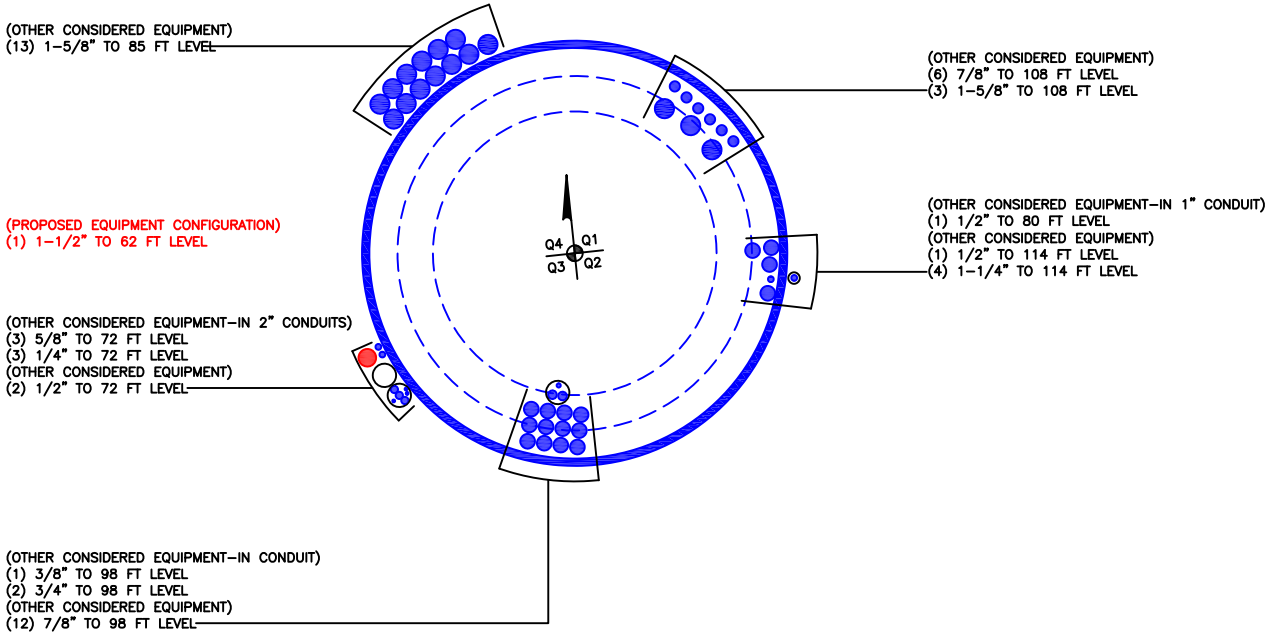
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	118 - 113	Pole	P24x0.25	1	-3.0550	695.3782	2.5	Pass
L2	113 - 108	Pole	P24x0.25	2	-3.4417	695.3782	7.1	Pass
L3	108 - 103	Pole	P24x0.25	3	-8.0984	695.3782	18.1	Pass
L4	103 - 98	Pole	P24x0.25	4	-8.5439	695.3782	28.7	Pass
L5	98 - 93	Pole	P24x0.25	5	-11.6936	695.3782	45.4	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L6	93 - 90	Pole	P24x0.25	6	-12.0119	695.3782	55.2	Pass
L7	90 - 85	Pole	P24x0.375	7	-13.6784	1104.6734	46.0	Pass
L8	85 - 80	Pole	P24x0.375	8	-17.1794	1104.6734	61.7	Pass
L9	80 - 76.5	Pole	P24x0.375	9	-17.8491	1104.6734	72.3	Pass
L10	76.5 - 76.25	Pole	P24x0.5875	10	-17.9151	1715.0909	44.9	Pass
L11	76.25 - 74	Pole	P24x0.5875	11	-18.4013	1715.0909	49.1	Pass
L12	74 - 73.75	Pole	P24x0.9	12	-18.4832	2592.3029	33.2	Pass
L13	73.75 - 68.88	Pole	P24x0.9	13	-20.5970	2592.3029	39.6	Pass
L14	68.88 - 68.63	Pole	P24x0.575	14	-20.6611	1679.4959	60.9	Pass
L15	68.63 - 64.5	Pole	P24x0.575	15	-21.6090	1679.4959	69.6	Pass
L16	64.5 - 64.25	Pole	P24x1.05	16	-21.7062	3004.7114	39.9	Pass
L17	64.25 - 63	Pole	P24x1.05	17	-22.1266	3004.7114	41.4	Pass
L18	63 - 62.75	Pole	P24x1	18	-22.2182	2867.8649	43.6	Pass
L19	62.75 - 60	Pole	P24x1	19	-25.9752	2867.8649	47.6	Pass
L20	60 - 59.75	Pole	P30x0.675	20	-27.5997	2468.1614	44.0	Pass
L21	59.75 - 54.75	Pole	P30x0.675	21	-29.2228	2468.1614	50.8	Pass
L22	54.75 - 49.75	Pole	P30x0.675	22	-30.8668	2468.1614	57.7	Pass
L23	49.75 - 49.25	Pole	P30x0.675	23	-31.0372	2468.1614	58.4	Pass
L24	49.25 - 49	Pole	P30x0.875	24	-31.1281	3177.6464	45.9	Pass
L25	49 - 44	Pole	P30x0.875	25	-32.8817	3177.6464	51.3	Pass
L26	44 - 42	Pole	P30x0.875	26	-33.5893	3177.6464	53.5	Pass
L27	42 - 41.75	Pole	P30x1	27	-33.6942	3616.0003	47.4	Pass
L28	41.75 - 36.75	Pole	P30x1	28	-35.6381	3616.0003	52.3	Pass
L29	36.75 - 34.5	Pole	P30x1	29	-36.5145	3616.0003	54.5	Pass
L30	34.5 - 34.25	Pole	P30x1.05	30	-36.6304	3790.2583	52.4	Pass
L31	34.25 - 34	Pole	P30x1.05	31	-36.7371	3790.2583	52.6	Pass
L32	34 - 33.75	Pole	P30x0.95	32	-36.8349	3441.1228	58.0	Pass
L33	33.75 - 30	Pole	P30x0.95	33	-38.2848	3441.1228	62.0	Pass
L34	30 - 29.75	Pole	P36x0.7	34	-39.9379	3081.0884	58.5	Pass
L35	29.75 - 28.5	Pole	P36x0.7	35	-40.4189	3081.0884	59.8	Pass
L36	28.5 - 28.25	Pole	P36x0.8375	36	-40.5403	3671.9443	49.8	Pass
L37	28.25 - 23.25	Pole	P36x0.8375	37	-42.7647	3671.9443	54.1	Pass
L38	23.25 - 23	Pole	P36x0.975	38	-42.8955	4258.0753	47.0	Pass
L39	23 - 21.5	Pole	P36x0.975	39	-43.6267	4258.0753	48.2	Pass
L40	21.5 - 21.25	Pole	P36x0.825	40	-43.7474	3618.4153	56.7	Pass
L41	21.25 - 19	Pole	P36x0.825	41	-44.7354	3618.4153	58.7	Pass
L42	19 - 18.75	Pole	P36x0.975	42	-44.8687	4258.0753	50.3	Pass
L43	18.75 - 18.5	Pole	P36x0.975	43	-44.9926	4258.0753	50.5	Pass
L44	18.5 - 18.25	Pole	P36x0.925	44	-45.1080	4045.4818	53.3	Pass
L45	18.25 - 13.25	Pole	P36x0.925	45	-47.4172	4045.4818	57.4	Pass
L46	13.25 - 12.7	Pole	P36x0.925	46	-47.6774	4045.4818	57.9	Pass
L47	12.7 - 12.45	Pole	P36x0.9	47	-47.7974	3938.9488	59.6	Pass
L48	12.45 - 11.5	Pole	P36x0.9	48	-48.2342	3938.9488	60.4	Pass
L49	11.5 - 11.25	Pole	P36x0.9	49	-48.3678	3938.9488	60.6	Pass
L50	11.25 - 10.5	Pole	P36x0.9	50	-48.7404	3938.9488	61.3	Pass
L51	10.5 - 10.25	Pole	P36x1.325	51	-48.8865	5728.7997	42.8	Pass
L52	10.25 - 7.5	Pole	P36x1.325	52	-50.4161	5728.7997	44.4	Pass
L53	7.5 - 7.25	Pole	P36x1.4	53	-50.5703	6039.9777	42.4	Pass
L54	7.25 - 6.25	Pole	P36x1.4	54	-51.1435	6039.9777	43.0	Pass
L55	6.25 - 6	Pole	P36x1.4	55	-51.2945	6039.9777	43.1	Pass
L56	6 - 3.73	Pole	P36x1.725	56	-52.6588	7372.2072	36.7	Pass
L57	3.73 - 3.48	Pole	P36x1.725	57	-52.8161	7372.2072	36.9	Pass
L58	3.48 - 2.75	Pole	P36x1.725	58	-53.2537	7372.2072	37.2	Pass
L59	2.75 - 2.5	Pole	P36x1.675	59	-53.3960	7168.9587	38.4	Pass
L60	2.5 - 2	Pole	P36x1.675	60	-53.6721	7168.9587	38.6	Pass
L61	2 - 1.75	Pole	P36x1.425	61	-53.7994	6143.3922	44.9	Pass
L62	1.75 - 0	Pole	P36x1.425	62	-54.6673	6143.3922	45.9	Pass
							Summary	
						Pole (L9)	72.3	Pass
						RATING =	**72.3**	**Pass**

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

APPENDIX B

BASE LEVEL DRAWING


(OTHER CONSIDERED EQUIPMENT)
(13) 1-5/8" TO 85 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(6) 7/8" TO 108 FT LEVEL
(3) 1-5/8" TO 108 FT LEVEL
(PROPOSED EQUIPMENT CONFIGURATION)
(1) 1-1/2" TO 62 FT LEVEL
(OTHER CONSIDERED EQUIPMENT-IN 1" CONDUIT)
(1) 1/2" TO 80 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 1/2" TO 114 FT LEVEL
(4) 1-1/4" TO 114 FT LEVEL
Q4
Q1
Q3
Q2
(OTHER CONSIDERED EQUIPMENT-IN 2" CONDUITS)
(3) 5/8" TO 72 FT LEVEL
(3) 1/4" TO 72 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(2) 1/2" TO 72 FT LEVEL
(OTHER CONSIDERED EQUIPMENT-IN CONDUIT)
(1) 3/8" TO 98 FT LEVEL
(2) 3/4" TO 98 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(12) 7/8" TO 98 FT LEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 876331

Work Order: 1966745

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	118	28		0	24	24	0.25		A572-42
2	90	30		0	24.00	24	0.375		A572-42
3	60	30		0	30.00	30	0.375		A572-42
4	30	30		0	36.00	36	0.375		A572-42

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	3.83	30	plate	A	3	0	135	225															
2	30	60	plate	B	3				0	135	225												
3	60	74	plate	C	3							0	135	225									
4	2	19	plate	MS-450 (1.1875")	2										65	295							
5	2	7.5	plate	MS-450 (1.1875")	1												180						
6	7.5	12.7	plate	FP 1.25x4	1													200					
7	12.7	19	plate	MS-450 (1.1875")	1														180				
8	30	34.5	plate	MS-400 (1.1875")	3															45	180	295	
9	60	64.5	plate	MS-400 (1.1875")	3	65	180	295															
10	2.75	23.25	plate	CCI-AFP-060100	2				30	310													
11	34	42	plate	CCI-SFP-040075	3						75	205	320										
12	60	63	plate	FP 3.75x1 (1.1875)	3									90	195	320							
13	63	68.88	plate	CCI-SFP-045100	3												90	195	320				
14	0	3.75	plate	FP 1.25x7.25	3															34	214	304	
15	0	3.75	plate	FP 1.25x7	1																		124
16	21.5	28.5	plate	CCI-SFP-045100	3	90	200	330															
17	30	49.25	plate	CCI-SFP-040075	2				100	270													
18	68.88	76.5	plate	CCI-SFP-045100	3						40	160	275										
19	18.5	30	plate	FP 4x1 (1.1875)	1									50									
20	18.5	30	plate	CCI-SFP-045100	1										253								
21	0	10.5	plate	FP 1.25x5.5	2											106	350						
22	0	6.25	plate	FP 1.25x9.25	1													169					
23	6.25	11.5	plate	FP 1.25x7	1														160				
24	0	10.5	plate	FP 1.25x8	1															282			
25	0	7.5	solid round	1.75" Williams R71	2																106	350	
26																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in2)	Bolt Hole Size (in)	Reinforcement Material
1	9.67599	1.01526	9.82367	0.50763154	None	n/a	None	n/a	24.000	8.555	1.1875	A572-65
2	9.67599	1.01526	9.82367	0.50763154	None	n/a	None	n/a	24.000	8.555	1.1875	A572-65
3	8.734	0.76149	6.65082	0.380742644	None	n/a	None	n/a	24.000	5.699	1.1875	A572-65
4	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.625	3.250	1.1875	A572-65
5	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.625	3.250	1.1875	A572-65
6	1.25	4	5	2	None	n/a	None	n/a	20.625	5.000	0.0000	A572-65
7	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.625	3.250	1.1875	A572-65
8	4	0.75	3	0.375	PC 8.8 - M20 (100)	12	PC 8.8 - M20 (100)	12.000	16.875	2.063	1.1875	A572-65
9	4	0.75	3	0.375	PC 8.8 - M20 (100)	12	PC 8.8 - M20 (100)	12.000	16.875	2.063	1.1875	A572-65
10	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
11	4	0.75	3	0.375	PC 8.8 - M20 (100)	12	PC 8.8 - M20 (100)	12.000	16.000	2.063	1.1875	A572-65
12	3.75	1	3.75	0.5	None	n/a	None	n/a	16.000	2.500	1.1875	A572-65
13	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
14	1.25	7.25	9.0625	3.625	None	n/a	None	n/a	0.000	9.063	0.0000	A572-65
15	1.25	7	8.75	3.5	None	n/a	None	n/a	0.000	8.750	0.0000	A572-65
16	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
17	4	0.75	3	0.375	PC 8.8 - M20 (100)	12	PC 8.8 - M20 (100)	12.000	16.000	2.063	1.1875	A572-65
18	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
19	4	1	4	0.5	None	n/a	None	n/a	20.000	2.750	1.1875	A572-65
20	4.5	1	4.5	0.5	PC 8.8 - M20 (100)	18	PC 8.8 - M20 (100)	18.000	20.000	3.250	1.1875	A572-65
21	1.25	5.5	6.875	2.75	None	n/a	None	n/a	0.000	6.875	0.0000	A572-65
22	1.25	9.25	11.5625	4.625	None	n/a	None	n/a	0.000	11.563	0.0000	A572-65
23	1.25	7	8.75	3.5	None	n/a	None	n/a	0.000	8.750	0.0000	A572-65
24	1.25	8	10	4	None	n/a	None	n/a	27.000	10.000	0.0000	A572-65
25	0	0	2.663	9.625	None	n/a	None	n/a	6.000	2.663	0.0000	A722-07

Connection Details for Custom Reinforcements

Reinforcement	End	# Bolts	N or X	Bolt Spacing (in)	Edge Dist (in)	Weld Grade (ksi)	Transverse (Horiz.) Weld Type	Horiz. Weld Length (in)	Horiz. Groove Depth (in)	Horiz. Groove Angle (deg)	Horiz. Fillet Size (in)	Vertical Weld Length (in)	Vertical Fillet Size (in)	Rev H Connection Capacity (kip)
1.75" Williams R71	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	-
FP 1.25x4	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	-
FP 1.25x7.25	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	-
FP 1.25x7	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	-
FP 1.25x5.5	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	-
FP 1.25x9.25	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	-
FP 1.25x8	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	-
A	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	-
B	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	-
C	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	-
FP 3.75x1 (1.1875)	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	-
FP 4x1 (1.1875)	Top	-	-	-	-	0	0	0	-	-	0	-	-	-
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	-

TNX Geometry Input

Increment (ft): 5 Export to TNX

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	118 - 113	5		0	24.000	24.000	0.25	A572-42	1.000
2	113 - 108	5		0	24.000	24.000	0.25	A572-42	1.000
3	108 - 103	5		0	24.000	24.000	0.25	A572-42	1.000
4	103 - 98	5		0	24.000	24.000	0.25	A572-42	1.000
5	98 - 93	5		0	24.000	24.000	0.25	A572-42	1.000
6	93 - 90	3	0	0	24.000	24.000	0.25	A572-42	1.000
7	90 - 85	5		0	24.000	24.000	0.375	A572-42	1.000
8	85 - 80	5		0	24.000	24.000	0.375	A572-42	1.000
9	80 - 76.5	3.5		0	24.000	24.000	0.375	A572-42	1.000
10	76.5 - 76.25	0.25		0	24.000	24.000	0.5875	A572-42	0.957
11	76.25 - 74	2.25		0	24.000	24.000	0.5875	A572-42	0.957
12	74 - 73.75	0.25		0	24.000	24.000	0.9	A572-42	0.938
13	73.75 - 68.88	4.87		0	24.000	24.000	0.9	A572-42	0.938
14	68.88 - 68.63	0.25		0	24.000	24.000	0.575	A572-42	0.977
15	68.63 - 64.5	4.13		0	24.000	24.000	0.575	A572-42	0.977
16	64.5 - 64.25	0.25		0	24.000	24.000	1.05	A572-42	0.928
17	64.25 - 63	1.25		0	24.000	24.000	1.05	A572-42	0.928
18	63 - 62.75	0.25		0	24.000	24.000	1	A572-42	0.942
19	62.75 - 60	2.75	0	0	24.000	24.000	1	A572-42	0.942
20	60 - 59.75	0.25		0	30.000	30.000	0.675	A572-42	1.035
21	59.75 - 54.75	5		0	30.000	30.000	0.675	A572-42	1.035
22	54.75 - 49.75	5		0	30.000	30.000	0.675	A572-42	1.035
23	49.75 - 49.25	0.5		0	30.000	30.000	0.675	A572-42	1.035
24	49.25 - 49	0.25		0	30.000	30.000	0.875	A572-42	0.879
25	49 - 44	5		0	30.000	30.000	0.875	A572-42	0.879
26	44 - 42	2		0	30.000	30.000	0.875	A572-42	0.879
27	42 - 41.75	0.25		0	30.000	30.000	1	A572-42	0.871
28	41.75 - 36.75	5		0	30.000	30.000	1	A572-42	0.871
29	36.75 - 34.5	2.25		0	30.000	30.000	1	A572-42	0.871
30	34.5 - 34.25	0.25		0	30.000	30.000	1.05	A572-42	0.925
31	34.25 - 34	0.25		0	30.000	30.000	1.05	A572-42	0.925
32	34 - 33.75	0.25		0	30.000	30.000	0.95	A572-42	0.915
33	33.75 - 30	3.75	0	0	30.000	30.000	0.95	A572-42	0.915
34	30 - 29.75	0.25		0	36.000	36.000	0.7	A572-42	1.030
35	29.75 - 28.5	1.25		0	36.000	36.000	0.7	A572-42	1.030
36	28.5 - 28.25	0.25		0	36.000	36.000	0.8375	A572-42	1.010
37	28.25 - 23.25	5		0	36.000	36.000	0.8375	A572-42	1.010
38	23.25 - 23	0.25		0	36.000	36.000	0.975	A572-42	0.983
39	23 - 21.5	1.5		0	36.000	36.000	0.975	A572-42	0.983
40	21.5 - 21.25	0.25		0	36.000	36.000	0.825	A572-42	1.008
41	21.25 - 19	2.25		0	36.000	36.000	0.825	A572-42	1.008
42	19 - 18.75	0.25		0	36.000	36.000	0.975	A572-42	0.983
43	18.75 - 18.5	0.25		0	36.000	36.000	0.975	A572-42	0.983
44	18.5 - 18.25	0.25		0	36.000	36.000	0.925	A572-42	0.951
45	18.25 - 13.25	5		0	36.000	36.000	0.925	A572-42	0.951
46	13.25 - 12.7	0.55		0	36.000	36.000	0.925	A572-42	0.951
47	12.7 - 12.45	0.25		0	36.000	36.000	0.9	A572-42	0.982
48	12.45 - 11.5	0.95		0	36.000	36.000	0.9	A572-42	0.982
49	11.5 - 11.25	0.25		0	36.000	36.000	0.9	A572-42	1.070
50	11.25 - 10.5	0.75		0	36.000	36.000	0.9	A572-42	1.070
51	10.5 - 10.25	0.25		0	36.000	36.000	1.325	A572-42	0.840
52	10.25 - 7.5	2.75		0	36.000	36.000	1.325	A572-42	0.840
53	7.5 - 7.25	0.25		0	36.000	36.000	1.4	A572-42	0.828
54	7.25 - 6.25	1		0	36.000	36.000	1.4	A572-42	0.828
55	6.25 - 6	0.25		0	36.000	36.000	1.4	A572-42	0.828
56	6 - 3.73	2.27		0	36.000	36.000	1.725	A572-42	0.713
57	3.73 - 3.48	0.25		0	36.000	36.000	1.725	A572-42	0.713
58	3.48 - 2.75	0.73		0	36.000	36.000	1.725	A572-42	0.713
59	2.75 - 2.5	0.25		0	36.000	36.000	1.675	A572-42	0.667
60	2.5 - 2	0.5		0	36.000	36.000	1.675	A572-42	0.667
61	2 - 1.75	0.25		0	36.000	36.000	1.425	A572-42	0.691
62	1.75 - 0	1.75		0	36.000	36.000	1.425	A572-42	0.691

TNX Section Forces

Increment (ft):	5	TNX Output		
	Section Height (ft)	P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	118 - 113	3.05	8.48	3.64
2	113 - 108	3.44	27.51	3.97
3	108 - 103	8.10	69.74	8.61
4	103 - 98	8.54	113.56	8.92
5	98 - 93	11.69	180.34	13.49
6	93 - 90	12.01	221.04	13.66
7	90 - 85	13.68	291.84	14.31
8	85 - 80	17.18	391.68	19.40
9	80 - 76.5	17.85	460.28	19.62
10	76.5 - 76.25	17.92	465.19	19.63
11	76.25 - 74	18.40	509.51	19.75
12	74 - 73.75	18.48	514.45	19.76
13	73.75 - 68.88	20.60	615.66	21.29
14	68.88 - 68.63	20.66	620.99	21.31
15	68.63 - 64.5	21.61	710.46	21.91
16	64.5 - 64.25	21.71	715.94	21.93
17	64.25 - 63	22.13	743.46	22.12
18	63 - 62.75	22.22	748.99	22.15
19	62.75 - 60	25.98	815.42	25.11
20	60 - 59.75	27.60	821.81	25.58
21	59.75 - 54.75	29.22	950.51	25.92
22	54.75 - 49.75	30.87	1080.78	26.22
23	49.75 - 49.25	31.04	1093.89	26.24
24	49.25 - 49	31.13	1100.45	26.26
25	49 - 44	32.88	1232.49	26.58
26	44 - 42	33.59	1285.74	26.70
27	42 - 41.75	33.69	1292.41	26.70
28	41.75 - 36.75	35.64	1426.60	27.00
29	36.75 - 34.5	36.51	1487.65	27.30
30	34.5 - 34.25	36.63	1494.47	27.32
31	34.25 - 34	36.74	1501.31	27.36
32	34 - 33.75	36.83	1508.15	27.40
33	33.75 - 30	38.28	1613.51	28.54
34	30 - 29.75	39.94	1620.74	28.92
35	29.75 - 28.5	40.42	1656.95	29.08
36	28.5 - 28.25	40.54	1664.22	29.10
37	28.25 - 23.25	42.76	1811.19	29.73
38	23.25 - 23	42.90	1818.62	29.75
39	23 - 21.5	43.63	1863.36	29.96
40	21.5 - 21.25	43.75	1870.84	29.97
41	21.25 - 19	44.74	1938.52	30.24
42	19 - 18.75	44.87	1946.08	30.26
43	18.75 - 18.5	44.99	1953.64	30.30
44	18.5 - 18.25	45.11	1961.22	30.34
45	18.25 - 13.25	47.42	2114.48	31.02
46	13.25 - 12.7	47.68	2131.54	31.08
47	12.7 - 12.45	47.80	2139.30	31.10
48	12.45 - 11.5	48.23	2168.89	31.24
49	11.5 - 11.25	48.37	2176.69	31.26
50	11.25 - 10.5	48.74	2200.15	31.36
51	10.5 - 10.25	48.89	2207.99	31.38
52	10.25 - 7.5	50.42	2294.73	31.76
53	7.5 - 7.25	50.57	2302.67	31.78
54	7.25 - 6.25	51.14	2334.49	31.92
55	6.25 - 6	51.29	2342.47	31.94
56	6 - 3.73	52.66	2415.28	32.26
57	3.73 - 3.48	52.82	2423.34	32.28
58	3.48 - 2.75	53.25	2446.93	32.39
59	2.75 - 2.5	53.40	2455.02	32.41
60	2.5 - 2	53.67	2471.24	32.48
61	2 - 1.75	53.80	2479.36	32.51
62	1.75 - 0	54.67	2536.29	32.62

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
118 - 113	Pole	TP24x24x0.25	Pole	2.5%	Pass
113 - 108	Pole	TP24x24x0.25	Pole	7.1%	Pass
108 - 103	Pole	TP24x24x0.25	Pole	18.1%	Pass
103 - 98	Pole	TP24x24x0.25	Pole	28.7%	Pass
98 - 93	Pole	TP24x24x0.25	Pole	45.4%	Pass
93 - 90	Pole	TP24x24x0.25	Pole	55.2%	Pass
90 - 85	Pole	TP24x24x0.375	Pole	46.0%	Pass
85 - 80	Pole	TP24x24x0.375	Pole	61.7%	Pass
80 - 76.5	Pole	TP24x24x0.375	Pole	72.3%	Pass
76.5 - 76.25	Pole + Reinf.	TP24x24x0.5875	Reinf. 18 Tension Rupture	52.5%	Pass
76.25 - 74	Pole + Reinf.	TP24x24x0.5875	Reinf. 18 Tension Rupture	57.4%	Pass
74 - 73.75	Pole + Reinf.	TP24x24x0.9	Reinf. 3 Compression	56.9%	Pass
73.75 - 68.88	Pole + Reinf.	TP24x24x0.9	Reinf. 3 Compression	68.1%	Pass
68.88 - 68.63	Pole + Reinf.	TP24x24x0.575	Reinf. 13 Tension Rupture	70.2%	Pass
68.63 - 64.5	Pole + Reinf.	TP24x24x0.575	Reinf. 13 Tension Rupture	80.2%	Pass
64.5 - 64.25	Pole + Reinf.	TP24x24x1.05	Reinf. 3 Compression	69.5%	Pass
64.25 - 63	Pole + Reinf.	TP24x24x1.05	Reinf. 3 Compression	72.1%	Pass
63 - 62.75	Pole + Reinf.	TP24x24x1	Reinf. 3 Compression	74.9%	Pass
62.75 - 60	Pole + Reinf.	TP24x24x1	Reinf. 3 Compression	81.7%	Pass
60 - 59.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	51.8%	Pass
59.75 - 54.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	59.8%	Pass
54.75 - 49.75	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	67.9%	Pass
49.75 - 49.25	Pole + Reinf.	TP30x30x0.675	Reinf. 2 Compression	68.7%	Pass
49.25 - 49	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	63.3%	Pass
49 - 44	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	70.8%	Pass
44 - 42	Pole + Reinf.	TP30x30x0.875	Reinf. 2 Compression	73.8%	Pass
42 - 41.75	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	65.3%	Pass
41.75 - 36.75	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	72.0%	Pass
36.75 - 34.5	Pole + Reinf.	TP30x30x1	Reinf. 2 Compression	75.1%	Pass
34.5 - 34.25	Pole + Reinf.	TP30x30x1.05	Reinf. 8 Compression	67.0%	Pass
34.25 - 34	Pole + Reinf.	TP30x30x1.05	Reinf. 8 Compression	67.3%	Pass
34 - 33.75	Pole + Reinf.	TP30x30x0.95	Reinf. 8 Compression	75.8%	Pass
33.75 - 30	Pole + Reinf.	TP30x30x0.95	Reinf. 8 Compression	81.1%	Pass
30 - 29.75	Pole + Reinf.	TP36x36x0.7	Reinf. 1 Compression	73.4%	Pass
29.75 - 28.5	Pole + Reinf.	TP36x36x0.7	Reinf. 1 Compression	75.0%	Pass
28.5 - 28.25	Pole + Reinf.	TP36x36x0.8375	Reinf. 1 Compression	62.3%	Pass
28.25 - 23.25	Pole + Reinf.	TP36x36x0.8375	Reinf. 1 Compression	67.7%	Pass
23.25 - 23	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	63.6%	Pass
23 - 21.5	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	65.2%	Pass
21.5 - 21.25	Pole + Reinf.	TP36x36x0.825	Reinf. 1 Compression	78.2%	Pass
21.25 - 19	Pole + Reinf.	TP36x36x0.825	Reinf. 1 Compression	81.1%	Pass
19 - 18.75	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	68.7%	Pass
18.75 - 18.5	Pole + Reinf.	TP36x36x0.975	Reinf. 1 Compression	69.0%	Pass
18.5 - 18.25	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	70.8%	Pass
18.25 - 13.25	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	76.3%	Pass
13.25 - 12.7	Pole + Reinf.	TP36x36x0.925	Reinf. 1 Compression	76.9%	Pass
12.7 - 12.45	Pole + Reinf.	TP36x36x0.9	Reinf. 1 Compression	80.1%	Pass
12.45 - 11.5	Pole + Reinf.	TP36x36x0.9	Reinf. 1 Compression	81.2%	Pass
11.5 - 11.25	Pole + Reinf.	TP36x36x0.9	Reinf. 4 Compression	71.8%	Pass
11.25 - 10.5	Pole + Reinf.	TP36x36x0.9	Reinf. 4 Compression	72.6%	Pass
10.5 - 10.25	Pole + Reinf.	TP36x36x1.325	Reinf. 24 Compression	68.4%	Pass
10.25 - 7.5	Pole + Reinf.	TP36x36x1.325	Reinf. 24 Compression	71.1%	Pass
7.5 - 7.25	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	69.0%	Pass
7.25 - 6.25	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	69.9%	Pass
6.25 - 6	Pole + Reinf.	TP36x36x1.4	Reinf. 24 Compression	70.2%	Pass
6 - 3.73	Pole + Reinf.	TP36x36x1.725	Reinf. 24 Compression	60.4%	Pass
3.73 - 3.48	Pole + Reinf.	TP36x36x1.725	Reinf. 24 Compression	60.6%	Pass
3.48 - 2.75	Pole + Reinf.	TP36x36x1.725	Reinf. 24 Compression	61.2%	Pass
2.75 - 2.5	Pole + Reinf.	TP36x36x1.675	Reinf. 24 Compression	65.6%	Pass
2.5 - 2	Pole + Reinf.	TP36x36x1.675	Reinf. 24 Compression	66.1%	Pass
2 - 1.75	Pole + Reinf.	TP36x36x1.425	Reinf. 24 Compression	73.6%	Pass
1.75 - 0	Pole + Reinf.	TP36x36x1.425	Reinf. 24 Compression	75.3%	Pass
				Summary	
			Pole	75.0%	Pass
			Reinforcement	81.7%	Pass
			Overall	81.7%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*																								
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25
118 - 113	1315	n/a	1315	18.65	n/a	18.65	2.5%																									
113 - 108	1315	n/a	1315	18.65	n/a	18.65	7.1%																									
108 - 103	1315	n/a	1315	18.65	n/a	18.65	18.1%																									
103 - 98	1315	n/a	1315	18.65	n/a	18.65	28.7%																									
98 - 93	1315	n/a	1315	18.65	n/a	18.65	45.4%																									
93 - 90	1315	n/a	1315	18.65	n/a	18.65	55.2%																									
90 - 85	1942	n/a	1942	27.83	n/a	27.83	46.0%																									
85 - 80	1942	n/a	1942	27.83	n/a	27.83	61.7%																									
80 - 76.5	1942	n/a	1942	27.83	n/a	27.83	72.3%																									
76.5 - 76.25	1943	1016	2959	27.83	13.50	41.33	48.2%																		52.5%							
76.25 - 74	1943	1016	2959	27.83	13.50	41.33	52.7%																		57.4%							
74 - 73.75	1946	2432	4377	27.83	33.45	61.28	36.7%			56.9%															42.1%							
73.75 - 68.88	1946	2432	4377	27.83	33.45	61.28	43.9%			68.1%															50.3%							
68.88 - 68.63	1944	966	2909	27.83	13.50	41.33	65.7%													70.2%												
68.63 - 64.5	1944	966	2909	27.83	13.50	41.33	75.0%													80.2%												
64.5 - 64.25	1946	3035	4980	27.83	42.45	70.28	44.7%			69.5%						53.1%				49.4%												
64.25 - 63	1946	3035	4980	27.83	42.45	70.28	46.4%			72.1%						55.1%				51.3%												
63 - 62.75	1946	2881	4827	27.83	40.20	68.03	48.3%			74.9%						57.4%			58.0%													
62.75 - 60	1946	2881	4827	27.83	40.20	68.03	52.6%			81.7%						62.6%			63.2%													
60 - 59.75	3835	2908	6743	34.90	29.47	64.37	49.3%		51.8%																							
59.75 - 54.75	3835	2908	6743	34.90	29.47	64.37	56.9%		59.8%																							
54.75 - 49.75	3835	2908	6743	34.90	29.47	64.37	64.6%		67.9%																							
49.75 - 49.25	3835	2908	6743	34.90	29.47	64.37	65.4%		68.7%																							
49.25 - 49	3865	4725	8590	34.90	35.47	70.37	53.7%		63.3%															61.6%								
49 - 44	3865	4725	8590	34.90	35.47	70.37	60.1%		70.8%															68.9%								
44 - 42	3865	4725	8590	34.90	35.47	70.37	62.7%		73.8%															71.9%								
42 - 41.75	3853	5807	9660	34.90	44.47	79.37	55.4%		65.3%									64.2%						63.1%								
41.75 - 36.75	3853	5807	9660	34.90	44.47	79.37	61.1%		72.0%									70.9%						69.6%								
36.75 - 34.5	3853	5807	9660	34.90	44.47	79.37	63.7%		75.1%									73.9%						72.6%								
34.5 - 34.25	3830	6099	9929	34.90	53.47	88.37	59.5%		66.4%						67.0%			66.9%						66.4%								
34.25 - 34	3830	6099	9929	34.90	53.47	88.37	59.7%		66.7%						67.3%			67.2%						66.7%								
34 - 33.75	3843	5260	9103	34.90	44.47	79.37	67.6%		75.0%						75.8%									75.0%								
33.75 - 30	3843	5260	9103	34.90	44.47	79.37	72.2%		80.2%						81.1%									80.2%								
30 - 29.75	6661	5382	12043	41.97	37.97	79.94	65.8%	73.4%																		62.6%	61.6%					
29.75 - 28.5	6661	5382	12043	41.97	37.97	79.94	67.2%	75.0%																		64.0%	62.9%					
28.5 - 28.25	6662	7690	14352	41.97	51.47	93.44	56.9%	62.3%															57.6%			55.3%	54.7%					
28.25 - 23.25	6662	7690	14352	41.97	51.47	93.44	61.8%	67.7%															62.6%			60.1%	59.5%					
23.25 - 23	6697	9842	16539	41.97	63.47	105.44	55.8%	63.6%									48.0%						57.2%			52.5%	53.5%					
23 - 21.5	6697	9842	16539	41.97	63.47	105.44	57.2%	65.2%									49.1%						58.6%			53.8%	54.8%					
21.5 - 21.25	6724	7313	14037	41.97	49.97	91.94	68.7%	78.2%									57.1%									61.6%	62.4%					
21.25 - 19	6724	7313	14037	41.97	49.97	91.94	71.1%	81.1%									59.1%									63.8%	64.6%					
19 - 18.75	6701	9731	16433	41.97	63.47	105.44	60.3%	68.7%			57.5%			56.0%			51.2%									55.4%	55.3%					
18.75 - 18.5	6701	9731	16433	41.97	63.47	105.44	60.5%	69.0%			57.7%			56.2%			51.4%									55.6%	55.5%					
18.5 - 18.25	6681	8998	15679	41.97	54.97	96.94	62.8%	70.8%			66.5%			57.5%			54.9%															
18.25 - 13.25	6681	8998	15679	41.97	54.97	96.94	67.6%	76.3%			71.7%			62.0%			59.2%															
13.25 - 12.7	6681	8998	15679	41.97	54.97	96.94	68.2%	76.9%			72.3%			62.5%			59.7%															
12.7 - 12.45	6696	8570	15266	41.97	55.47	97.44	71.1%	80.1%			71.4%		65.6%				60.5%															
12.45 - 11.5	6696	8570	15266	41.97	55.47	97.44	72.0%	81.2%			72.4%		66.5%				61.3%															
11.5 - 11.25	6664	8760	15424	41.97	64.22	106.19	69.3%	70.2%			71.8%		58.6%				57.8%												43.0%			
11.25 - 10.5	6664	8760	15424	41.97	64.22	106.19	70.1%	71.0%			72.6%		59.2%				58.5%												43.5%			
10.5 - 10.25	6738	15243	21981	41.97	79.22	121.19	52.3%	62.3%			55.1%		62.6%				48.2%											44.0%			68.4%	
10.25 - 7.5	6738	15243	21981	41.97	79.22	121.19	54.4%	64.8%			57.3%		65.0%				50.1%											45.7%			71.1%	
7.5 - 7.25	6661	16114	22775	41.97	84.05	126.02	49.4%	67.3%			53.4%	58.2%					47.5%											40.0%			69.0%	28.0%
7.25 - 6.25	6661	16114	22775	41.97	84.05	126.02	50.1%	68.2%			54.1%	59.0%					48.2%											40.6%			69.9%	28.4%
6.25 - 6	6661	16114	22775	41.97	84.05	126.02	50.3%	68.4%			54.3%	59.2%					48.3%											40.7%			70.2%	28.5%
6 - 3.73	6660	20955	27615	41.97	90.51	132.48	43.1%				46.7%	58.9%					43.5%				50.4%	39.0%						36.1%			60.4%	26.6%
3.73 - 3.48	6660	20955	27615	41.97	90.51	132.48	43.3%				46.8%	59.1%					43.7%				50.6%	39.2%						36.3%			60.6%	26.7%
3.48 - 2.75	6660	20955	27615	41.97	90.51	132.48	43.7%				47.3%	59.7%					44.1%				51.1%	39.5%						36.6%			61.2%	26.9%
2.75 - 2.5	6662	19845	26507	41.97	78.51	120.48	46.3%				52.6%	61.6%									53.7%	40.6%						42.2%			65.6%	30.6%
2.5 - 2	6662	19845	26507	41.97	78.51	120.48	46.6%				52.9%	62.0%									54.0%	40.9%						42.5%			66.1%	30.8%
2 - 1.75	6660	16709	23368	41.97	65.01	106.98	52.8%														61.6%	45.7%						46.8%			73.6%	34.1%
1.75 - 0	6660	16709	23368	41.97	65.01	106.98	54.0%														63.0%	46.7%						47.8%			75.3%	34.9%

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

Welded-Plate Monopole Bridge Stiffeners
per TIA-222-H

Site Data	
BU#:	*876331*
Site Name:	*NEW BRITAIN GRAVEL PIT*
Order #:	*556610 Rev. 0*

Factored Loads at Splice Elevation		
Moment:	221.04	ft-kips
Axial:	12.01	kips
Shear:	13.66	kips

Elevation:	90	ft

Splice Bolt Data		
Quantity:	20	
Bolt Diameter:	1	in
Bolt Circle:	28	in

Pole Data		
Upper Diam:	24	in
Upper Thickness	0.25	in
Lower Diam:	24	in
Lower Thickness	0.375	in
Pipe Steel (Fy):	42	ksi

Bridge Stiffener Data		
Quantity:	3	
Total Length:	60.0	in
Plate Thickness:	1.250	in
Steel Grade (Fy):	65.0	ksi
Steel Ultimate (Fu):	80.0	ksi
Weld Type:	Fillet (both sides)	
Weld Size:	0.375	in
Weld Strength:	70	ksi
Upper Weld Length:	39	in
Upper Weld, C:	3.5962	Table 8-4
Upper Plate Width:	4.5	in
Lower Weld Length:	18.7	in
Lower Weld, C:	3.5962	Table 8-4
Lower Plate Width:	4.5	in
Gap PL Length:	2.3	in
Gap PL Width:	4.5	in

Stress Increase Factor		
ASIF:	1.000	

Stiffener Results	19.9%	
Maximum Compression:	65.4	kips
Allowable Compression:	327.8	kips
Compression Stress Ratio:	19.9%	
Maximum Tension:	65.4	kips
Allowable Tension:	329.1	kips
Tension Stress Ratio:	19.9%	
Maximum Flexure:	147.1	in.kips
Allowable Flexure:	4261.8	in.kips
Bending&Shear Stress Ratio:	2.9%	

Weld Results	21.6%	
Upper Weld Eccentric Load:	65.36	kip
Allowable Weld Strength:	631.13	kip
Upper Weld Strength Ratio:	10.4%	
Upper Weld Eccentric Load:	65.36	kip
Allowable Weld Strength:	302.62	kip
Lower Weld Strength Ratio:	21.6%	

Pole Results	8.9%	
Punching Shear Stress:	2.52	kip/in
Allowable Punching Stress:	28.35	kip/in
Punching Shear Stress Ratio:	8.9%	

Loads to Use to Check Flange and Bolts w / CCIPlate		
Moment:	105	ft.kips
Axial:	12.0	kips
Shear:	13.7	kips

Analysis Date: 6/2/2021

Monopole Flange Plate Connection

Elevation = 90 ft.

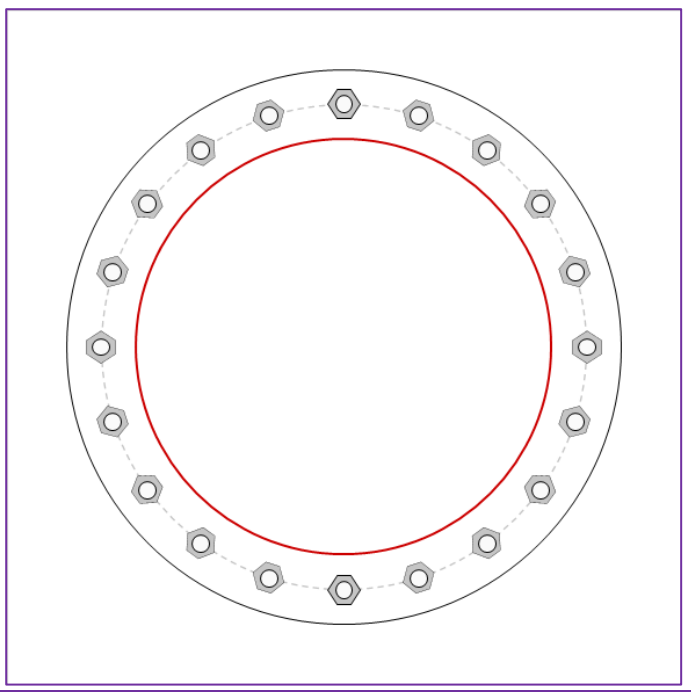
BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	556610 Rev. 0

TIA-222 Revision	H

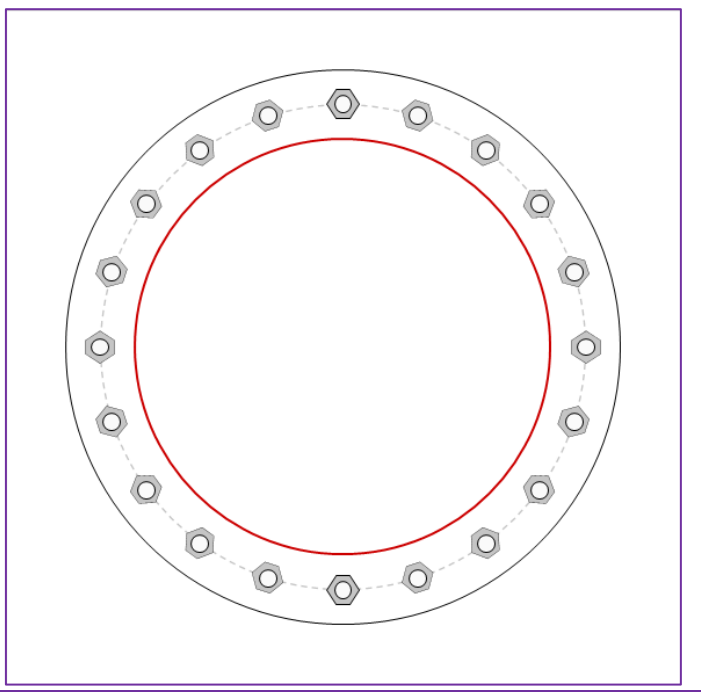
Applied Loads	
Moment (kip-ft)	105.00
Axial Force (kips)	12.01
Shear Force (kips)	13.66

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(20) 1" ø bolts (A325 N; Fy=92 ksi, Fu=120 ksi) on 28" BC

Top Plate Data

32" OD x 1.5" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

32" OD x 1.5" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

24" x 0.25" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Bottom Pole Data

24" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	8.39	
Allowable (kips)	54.53	
Stress Rating:	**14.7%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	5.33	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**15.7%**	**Pass**
Tension Side Stress Rating:	**6.3%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	5.33	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**15.7%**	**Pass**
Tension Side Stress Rating:	**6.3%**	**Pass**

Welded-Plate Monopole Bridge Stiffeners
per TIA-222-H

Site Data	
BU#:	*876331*
Site Name:	*NEW BRITAIN GRAVEL PIT*
Order #:	*556610 Rev. 0*

Factored Loads at Splice Elevation		
Moment:	815.42	ft-kips
Axial:	25.98	kips
Shear:	25.11	kips

Elevation:	60	ft

Splice Bolt Data		
Quantity:	12	
Bolt Diameter:	1.5	in
Bolt Circle:	35.5	in

Pole Data		
Upper Diam:	24	in
Upper Thickness	0.375	in
Lower Diam:	30	in
Lower Thickness	0.375	in
Pipe Steel (Fy):	42	ksi

Bridge Stiffener Data		
Quantity:	6	
Total Length:	60.0	in
Plate Thickness:	1.000	in
Steel Grade (Fy):	65.0	ksi
Steel Ultimate (Fu):	80.0	ksi
Weld Type:	Fillet (both sides)	
Weld Size:	0.375	in
Weld Strength:	70	ksi
Upper Weld Length:	23.25	in
Upper Weld, C:	2.469	Table 8-4
Upper Plate Width:	3	in
Lower Weld Length:	20	in
Lower Weld, C:	2.7675	Table 8-4
Lower Plate Width:	3	in
Gap PL Length:	16.8	in
Gap PL Width:	3	in

Stress Increase Factor		
ASIF:	1.000	

Stiffener Results	62.4%	
Maximum Compression:	79.6	kips
Allowable Compression:	127.4	kips
Compression Stress Ratio:	62.4%	
Maximum Tension:	79.6	kips
Allowable Tension:	175.5	kips
Tension Stress Ratio:	45.3%	
Maximum Flexure:	119.3	in.kips
Allowable Flexure:	5270.5	in.kips
Bending&Shear Stress Ratio:	2.4%	

Weld Results	31.9%	
Upper Weld Eccentric Load:	79.56	kip
Allowable Weld Strength:	258.32	kip
Upper Weld Strength Ratio:	30.8%	
Upper Weld Eccentric Load:	79.56	kip
Allowable Weld Strength:	249.08	kip
Lower Weld Strength Ratio:	31.9%	

Pole Results	4.7%	
Punching Shear Stress:	1.32	kip/in
Allowable Punching Stress:	28.35	kip/in
Punching Shear Stress Ratio:	4.7%	

Loads to Use to Check Flange and Bolts w / CCIPlate		
Moment:	547	ft.kips
Axial:	26.0	kips
Shear:	25.1	kips

Analysis Date: 6/2/2021

Monopole Flange Plate Connection

Elevation = 60 ft.

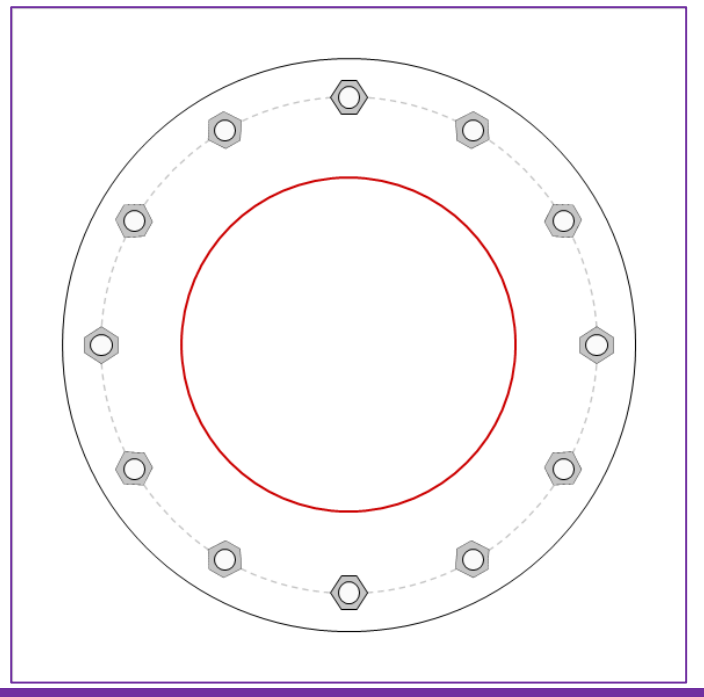
BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	556610 Rev. 0

TIA-222 Revision	H

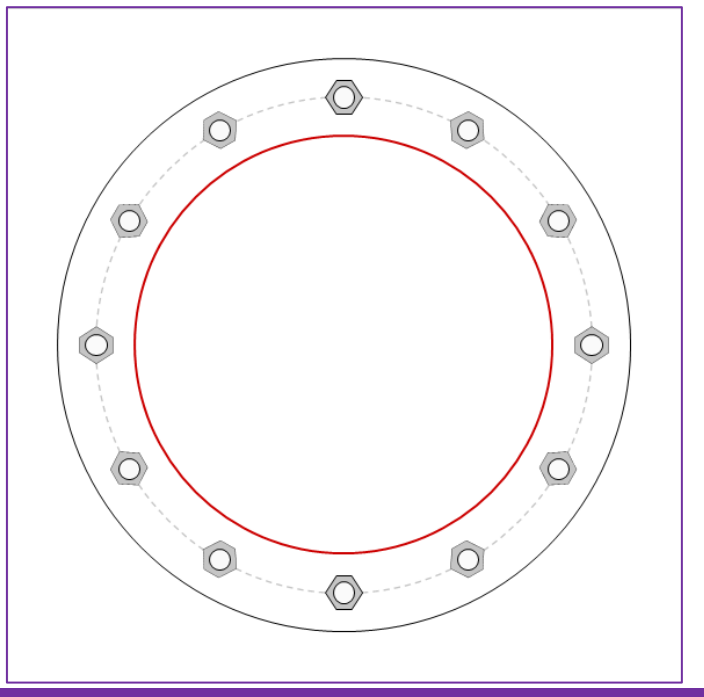
Applied Loads	
Moment (kip-ft)	547.00
Axial Force (kips)	25.98
Shear Force (kips)	25.11

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(12) 1-1/2" ø bolts (A325 N; Fy=81 ksi, Fu=120 ksi) on 35.5" BC

Top Plate Data

41" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

41" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

24" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Bottom Pole Data

30" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	59.43	
Allowable (kips)	126.86	
Stress Rating:	**44.6%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	28.32	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**83.3%**	**Pass**
Tension Side Stress Rating:	**49.2%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	13.94	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**41.0%**	**Pass**
Tension Side Stress Rating:	**15.3%**	**Pass**

Welded-Plate Monopole Bridge Stiffeners
per TIA-222-H

Site Data

BU#: *876331*
Site Name: *NEW BRITAIN GRAVEL PIT*
Order #: *556610 Rev. 0*

Factored Loads at Splice Elevation		
Moment:	1613.51	ft-kips
Axial:	38.28	kips
Shear:	28.54	kips

Elevation:	30	ft

Splice Bolt Data		
Quantity:	16	
Bolt Diameter:	1.5	in
Bolt Circle:	41.5	in

Pole Data		
Upper Diam:	30	in
Upper Thickness	0.375	in
Lower Diam:	36	in
Lower Thickness	0.375	in
Pipe Steel (Fy):	42	ksi

Bridge Stiffener Data		
Quantity:	6	
Total Length:	60.0	in
Plate Thickness:	1.000	in
Steel Grade (Fy):	65.0	ksi
Steel Ultimate (Fu):	80.0	ksi
Weld Type:	Fillet (both sides)	
Weld Size:	0.375	in
Weld Strength:	70	ksi
Upper Weld Length:	32.25	in
Upper Weld, C:	2.8133	Table 8-4
Upper Plate Width:	5.5	in
Lower Weld Length:	28.25	in
Lower Weld, C:	3.0481	Table 8-4
Lower Plate Width:	5.5	in
Gap PL Length:	-0.5	in
Gap PL Width:	5.5	in

Stress Increase Factor		
ASIF:	1.000	

Stiffener Results	52.1%	
Maximum Compression:	167.5	kips
Allowable Compression:	321.7	kips
Compression Stress Ratio:	52.1%	
Maximum Tension:	167.5	kips
Allowable Tension:	321.8	kips
Tension Stress Ratio:	52.1%	
Maximum Flexure:	460.6	in.kips
Allowable Flexure:	10140.6	in.kips
Bending&Shear Stress Ratio:	5.3%	

Weld Results	43.2%	
Upper Weld Eccentric Load:	167.49	kip
Allowable Weld Strength:	408.28	kip
Upper Weld Strength Ratio:	41.0%	
Upper Weld Eccentric Load:	167.49	kip
Allowable Weld Strength:	387.49	kip
Lower Weld Strength Ratio:	43.2%	

Pole Results	9.4%	
Punching Shear Stress:	2.66	kip/in
Allowable Punching Stress:	28.35	kip/in
Punching Shear Stress Ratio:	9.4%	

Loads to Use to Check Flange and Bolts w / CCIPlate		
Moment:	870	ft.kips
Axial:	38.3	kips
Shear:	28.5	kips

Analysis Date: 6/2/2021

Monopole Flange Plate Connection

Elevation = 30 ft.

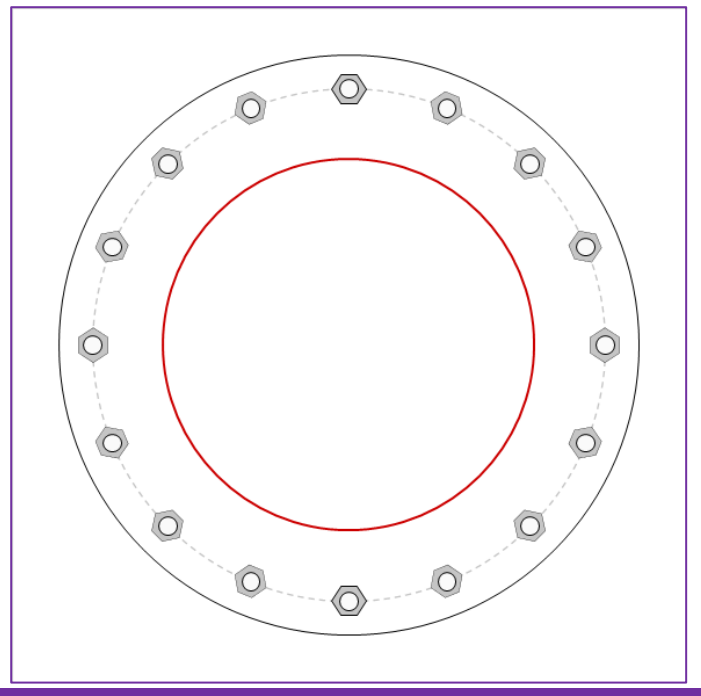
BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	556610 Rev. 0

TIA-222 Revision	H

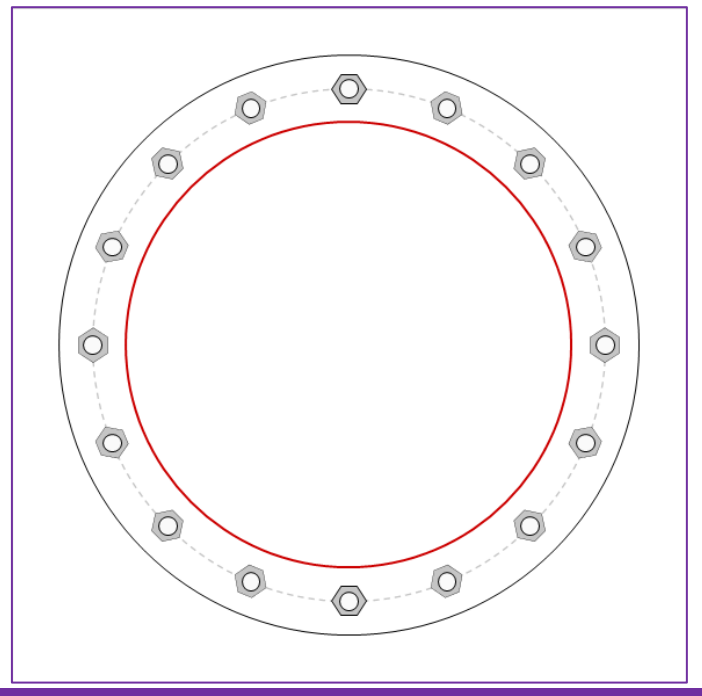
Applied Loads	
Moment (kip-ft)	870.00
Axial Force (kips)	38.28
Shear Force (kips)	28.54

**TIA-222-H Section 15.5 Applied*

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(16) 1-1/2" ø bolts (A325 N; Fy=81 ksi, Fu=120 ksi) on 41.5" BC

Top Plate Data

47" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Top Stiffener Data

N/A

Top Pole Data

30" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Bottom Plate Data

47" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Stiffener Data

N/A

Bottom Pole Data

36" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	60.47	
Allowable (kips)	126.87	
Stress Rating:	**45.4%**	**Pass**

Top Plate Capacity

Max Stress (ksi):	32.49	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**95.5%**	**Pass**
Tension Side Stress Rating:	**53.9%**	**Pass**

Bottom Plate Capacity

Max Stress (ksi):	15.55	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	**45.7%**	**Pass**
Tension Side Stress Rating:	**17.5%**	**Pass**

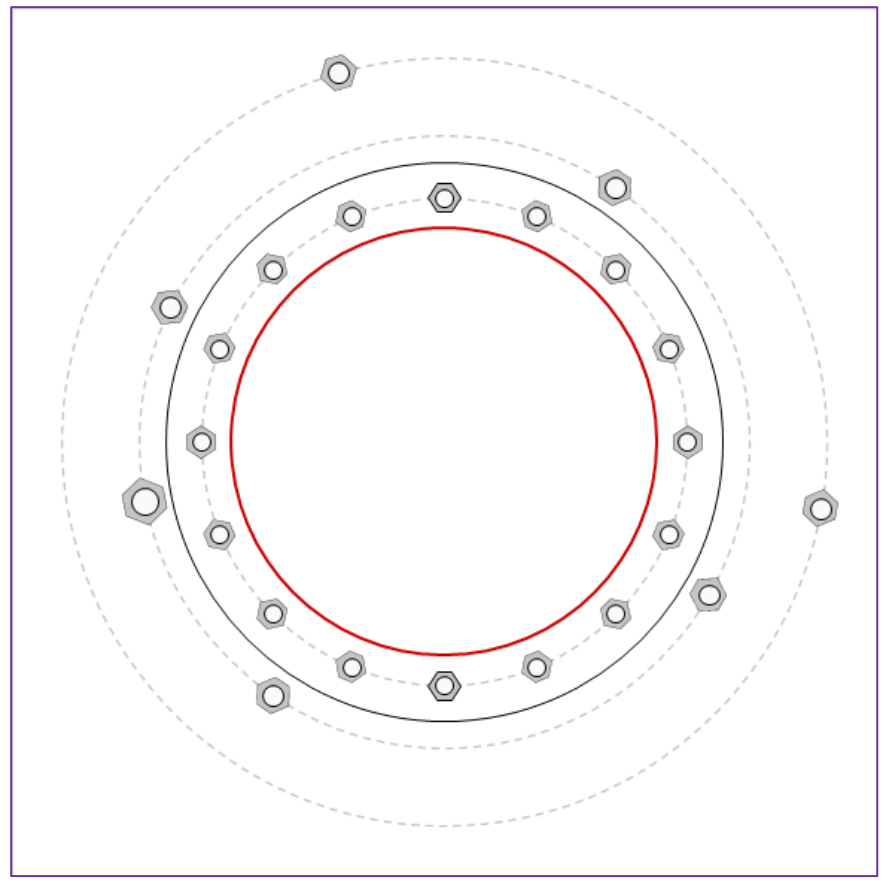
Monopole Base Plate Connection

Site Info	
BU #	876331
Site Name	EW BRITAIN GRAVEL P
Order #	556610 Rev. 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	See Custom Sheet
l_{ar} (in)	See Custom Sheet

Applied Loads	
Moment (kip-ft)	2536.29
Axial Force (kips)	54.67
Shear Force (kips)	32.62

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (16) 1-1/2" ø bolts (A354-BC N; Fy=109 ksi, Fu=125 ksi) on 41" BC

GROUP 2: (4) 1-3/4" ø bolts (Williams R71 N; Fy=127.7 ksi, Fu=125 ksi) on 51.5" BC
pos. (deg): 56, 154, 236, 330

GROUP 3: (1) 2-1/4" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 51.5" BC
pos. (deg): 191.3

GROUP 4: (2) 1-3/4" ø bolts (Williams R71 N; Fy=127.7 ksi, Fu=125 ksi) on 64.5" BC
pos. (deg): 106, 350

Base Plate Data

47" OD x 2" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Stiffener Data

N/A

Pole Data

36" x 0.375" round pole (A572-42; Fy=42 ksi, Fu=60 ksi)

Analysis Results

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

GROUP 1:		
Pu_t = 89.15	ϕPn_t = 132.19	**Stress Rating**
Vu = 2.04	ϕVn = 82.83	**64.2%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:		
Pu_t = 201.69	ϕPn_t = 254.06	**Stress Rating**
Vu = 0	ϕVn = 127.03	**75.6%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 3:		
Pu_t = 194.82	ϕPn_t = 304.69	**Stress Rating**
Vu = 0	ϕVn = 186.38	**60.9%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 4:		
Pu_t = 178.3	ϕPn_t = 178.13	**Stress Rating**
Vu = 0	ϕVn = 112.75	**95.4%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	20.19	(Flexural)
Allowable Stress (ksi):	32.4	
Stress Rating:	**59.3%**	**Pass**

CCIplate

Elevation (ft)	0	*(Base)*

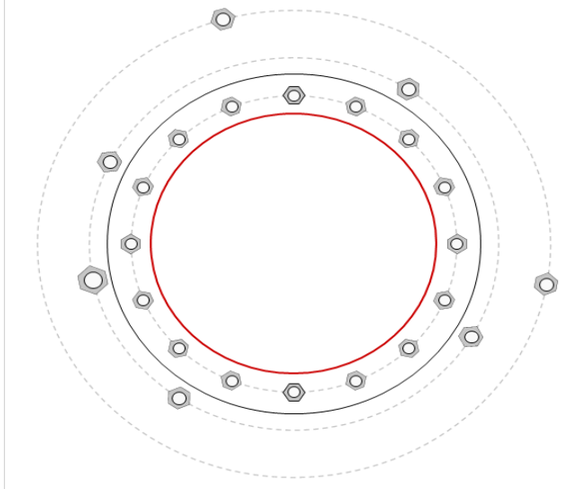
note: Bending interaction not considered when Grout Considered = "Yes"

Bolt Group	Resist Axial	Resist Shear	Induce Plate Bending	Grout Considered	Apply at BARB Elevation	BARB CL Elevation (ft)
1	Yes	Yes	Yes	No	No	
2	Yes	No	No	No	No	
3	Yes	No	No	No	No	
4	No	No	No	No	No	

Custom Bolt Connection

Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η:	l_{ar} (in):	Thread Type	Area Override, in^2	Tension Only
1	1	0	1.5	A354-BC	41	0.5	1.5	N-Included		No
2	1	22.5	1.5	A354-BC	41	0.5	1.5	N-Included		No
3	1	45	1.5	A354-BC	41	0.5	1.5	N-Included		No
4	1	67.5	1.5	A354-BC	41	0.5	1.5	N-Included		No
5	1	90	1.5	A354-BC	41	0.5	1.5	N-Included		No
6	1	112.5	1.5	A354-BC	41	0.5	1.5	N-Included		No
7	1	135	1.5	A354-BC	41	0.5	1.5	N-Included		No
8	1	157.5	1.5	A354-BC	41	0.5	1.5	N-Included		No
9	1	180	1.5	A354-BC	41	0.5	1.5	N-Included		No
10	1	202.5	1.5	A354-BC	41	0.5	1.5	N-Included		No
11	1	225	1.5	A354-BC	41	0.5	1.5	N-Included		No
12	1	247.5	1.5	A354-BC	41	0.5	1.5	N-Included		No
13	1	270	1.5	A354-BC	41	0.5	1.5	N-Included		No
14	1	292.5	1.5	A354-BC	41	0.5	1.5	N-Included		No
15	1	315	1.5	A354-BC	41	0.5	1.5	N-Included		No
16	1	337.5	1.5	A354-BC	41	0.5	1.5	N-Included		No
17	2	56	1.75	Williams R71	51.5	0.5	0	N-Included	2.71	No
18	2	154	1.75	Williams R71	51.5	0.5	0	N-Included	2.71	No
19	2	236	1.75	Williams R71	51.5	0.5	0	N-Included	2.71	No
20	2	330	1.75	Williams R71	51.5	0.5	0	N-Included	2.71	No
21	3	191.3	2.25	A193 Gr. B7	51.5	0.5	0	N-Included		No
22	4	106	1.75	Williams R71	64.5	0.5	0	N-Included		No
23	4	350	1.75	Williams R71	64.5	0.5	0	N-Included		No

Plot Graphic



Pier and Pad Foundation

BU # :	876331
Site Name:	NEW BRITAIN GR
App. Number:	556610 Rev. 0

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions		
Compression, P_{comp}:	54.68	kips
Base Shear, Vu_comp:	32.59	kips
Moment, M_u:	2536.29	ft-kips
Tower Height, **H**:	118	ft
BP Dist. Above Fdn, bp_{dist}:	1.5	in
Bolt Circle / Bearing Plate Width, **BC**:	41	in

Foundation Analysis Checks	Capacity	Demand	Rating*	Check
*Pad Flexure (kip*ft)*	4029.63	1741.53	**41.2%**	**Pass**
Pad Shear - 1-way (kips)	1064.77	319.64	**28.6%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.164	0.000	**0.0%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	8059.26	0.00	**0.0%**	**Pass**

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

Structural Rating*:	**41.2%**

Pad Properties		
Depth, **D**:	4	ft
Pad Width, W_1:	16	ft
Pad Thickness, **T**:	6	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	17	
Pad Clear Cover, cc_{pad}:	3	in

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

Soil Properties		
Total Soil Unit Weight, γ:	150	pcf
Ultimate Gross Bearing, Qult:	30.000	ksf
Cohesion, **Cu**:	10.000	ksf
Friction Angle, φ:	0	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.3	
Neglected Depth, **N**:	0.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Pile Foundation

Checks the capacity of pile foundation configurations for monopoles or self-support towers with individual foundations in Rev. F, G, and H.

BU #:	876331
Site Name:	NEW BRITAIN GRAVEL PIT
Order:	529723 Rev. 0

Tower Type:	Monopole
TIA Revision:	H

Top & Bot. Pad Rein. Different?: ☐

Factored Design Reactions At Base		
Moment, M:	2536.29	ft-kips
Axial, Pu:	0	kips
Shear, Sc:	0	kips
Load Eccentricity, Ecc:	0	in
Bolt Circle / Bearing Plate Width, BC:	41	in

Pile Properties		
Pile Shape:	Round	
Pile Material:	Steel	
Length of Pile, Lpile:	33	ft
Pile Diameter:	1.375	in
Pile (Soil) Capacity Given?	Yes	
Steel Grade, Fy:	150	ksi
Rebar Quantity, Pquan:		

Pile Group		
Group Configuration:	Asymmetric	
Orientation of Neutral Axis, θ:	0	deg
Group Efficiency Given in Geotech?	No	

Program Calculated Group Efficiency, Eg: 1.00

Pile Cap		
Cap Type:	Block	
Depth to Bottom of Block, D:	4.00	ft
Thickness of Block, T:	6.00	ft
Block Width, Wx:	16.00	ft
Block Length, Wy:	16.00	ft
Pad Rebar Size (Bot.), Spad:	8	
Pad Rebar Quantity (X-direction) (Bot.), Mpad:	17	
Pad Rebar Quantity (Y-direction) (Bot.), $Mpad_y$:	17	

Material Properties		
Rebar Grade, Fy:	60	ksi
Concrete Strength, Fc:	3	ksi
Clear Cover, cc:	3	in

Soil Properties		
Groundwater Depth, GW:	100.00	ft
Soil Unit Weight:	150	pcf
Cohesion, Co:	10	ksf
Friction Angle, ϕ:	0	deg
Neglected Depth, ND:	1	ft
Negative Friction Force (per pile), Sw:		kips
SPT Blow Count, N_{blows}:		

Design Checks				
	Capacity	***Demand***	***Rating****	***Check***
PILE CHECKS				
Pile Tensile Strength (kips):	178.19	187.13	**100.0%**	**Pass**
PAD CHECKS				

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

Structural Rating:	**100.0%**

Click here to enter group information and pile coordinates

Ultimate Pile Capacities		
Ultimate Compression, Cn:	170	kips
Ultimate Tension, Tn:	170	kips

Per CCIsites Doc. # 2268906

Version 2.1.3

Pier and Pad Foundation

BU # :	876331
Site Name:	NEW BRITAIN GR
App. Number:	556610 Rev. 0

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions

Compression, P_{comp}:	54.68	kips
Base Shear, Vu_comp:	32.59	kips
Moment, M_u:	0	ft-kips
Tower Height, **H**:	118	ft
BP Dist. Above Fdn, bp_{dist}:	1.5	in
Bolt Circle / Bearing Plate Width, **BC**:	41	in

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	1030.28	32.59	**3.0%**	**Pass**
Bearing Pressure (ksf)	22.50	1.45	**6.1%**	**Pass**
*Overturning (kip*ft)*	1949.93	199.61	**10.2%**	**Pass**

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

Soil Rating*:	**10.2%**

Pad Properties

Depth, **D**:	4	ft
Pad Width, W_1:	16	ft
Pad Thickness, **T**:	6	ft
Pad Rebar Size (Bottom dir. 2), Sp_2:	8	
Pad Rebar Quantity (Bottom dir. 2), mp_2:	17	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

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

Soil Properties

Total Soil Unit Weight, γ:	150	pcf
Ultimate Gross Bearing, Qult:	30.000	ksf
Cohesion, **Cu**:	10.000	ksf
Friction Angle, φ:	0	degrees
SPT Blow Count, N_{blows}:		
Base Friction, μ:	0.3	
Neglected Depth, **N**:	0.00	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

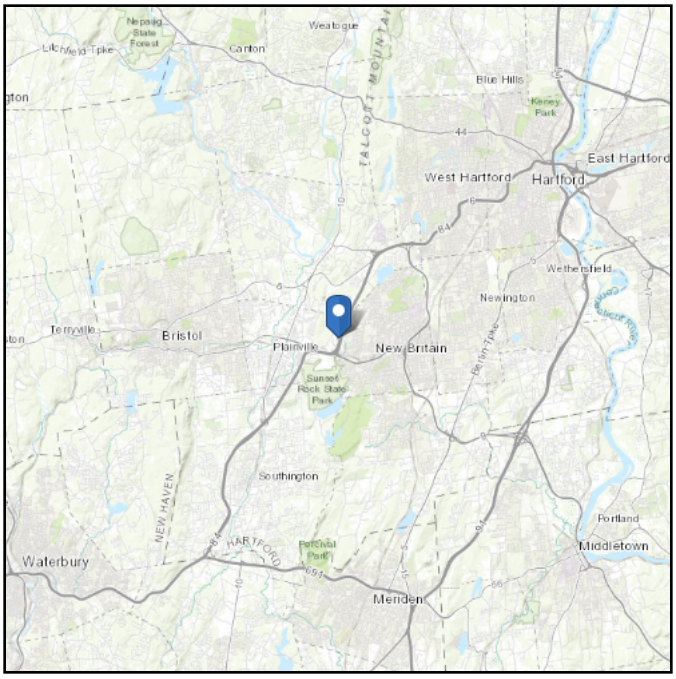
<--Toggle between Gross and Net

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 350.25 ft (NAVD 88)
Latitude: 41.676589
Longitude: -72.821414



Wind

Results:

Wind Speed:	*125* Vmph	**wind speed per Appendix N*
10-year MRI	76 Vmph	
25-year MRI	86 Vmph	
50-year MRI	92 Vmph	
100-year MRI	99 Vmph	

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014

Date Accessed: Thu Oct 29 2020

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.

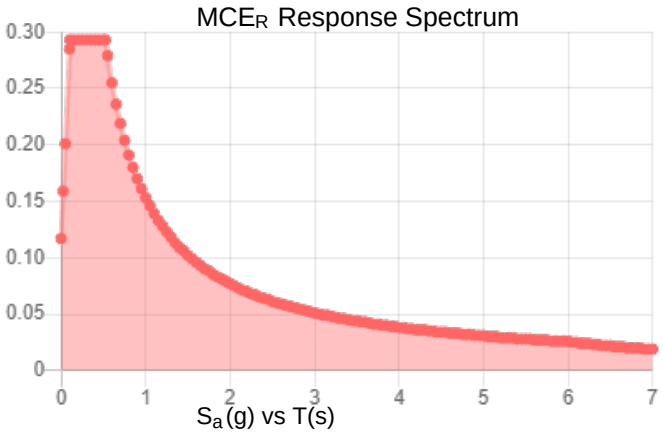
Seismic

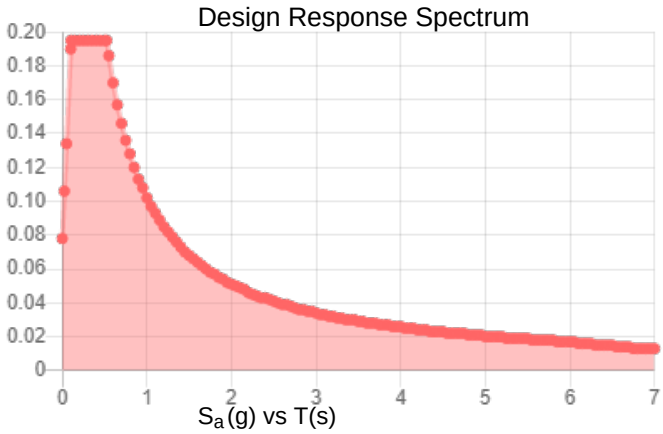
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.183	S_{DS} :	0.195
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.093
S_{MS} :	0.293	PGA_M :	0.149
S_{M1} :	0.153	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Thu Oct 29 2020

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

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Oct 29 2020

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

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

Exhibit E

Mount Analysis

Date: **August 2, 2021**

Darcy Tarr
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277
(704) 405-6589

Trylon
1825 W. Walnut Hill Lane,
Suite 302
Irving, TX 75038
214-930-1730

Subject:	**Mount Replacement Analysis Report**	
Carrier Designation:	**Dish Network Equipment Change Out**	
	Carrier Site Number:	BOBDL00083A
	Carrier Site Name:	CT-CCI-T-876331
Crown Castle Designation:	**Crown Castle BU Number:**	876331
	Crown Castle Site Name:	New Britain Gravel Pit
	Crown Castle JDE Job Number:	650073
	Crown Castle Order Number:	556610 Rev. 0
Engineering Firm Designation:	**Trylon Report Designation:**	189332
Site Data:	**115 North Mountain Rd, New Britain, Hartford County, CT, 06053 Latitude 41°40'35.72" Longitude -72°49'17.09"**	
Structure Information:	**Tower Height & Type:**	**118.9 ft Monopole**
	Mount Elevation:	**62.0 ft**
	Mount Type:	**8.0 ft Platform**

Dear Darcy Tarr,

Trylon is pleased to submit this **"Mount Replacement Analysis Report"** to determine the structural integrity of Dish Network'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 stress level. Based on our analysis we have determined the mount stress level to be:

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

This analysis utilizes an ultimate 3-second gust wind speed of 125 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Bryan P. Mawhinney

Respectfully Submitted by:
Cliff Abernathy, P.E.

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1) INTRODUCTION

This is a proposed 3 sector 8.0 ft Platform, designed by Commscope.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC **/** 2018 CTSBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	125 mph
Exposure Category:	C
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	2.0 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.183
Seismic S_1:	0.064
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
62.0	62.0	3	JMA WIRELESS	MX08FRO665-21	8.0 ft Platform [Commscope MC-PK8-DSH]
		3	FUJITSU	TA08025-B604	
		3	FUJITSU	TA08025-B605	
		1	RAYCAP	RDIDC-9181-PF-48	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Crown Application	Dish Network Application	556610 Rev. 0	CCI Sites
Tower Structural Analysis Reports	TEP	9789183	CCI Sites
Mount Manufacturer Drawings	Commscope	MC-PK8-DSH	TSA

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, using Microsoft Excel, by Trylon was used to calculate wind loading on all appurtenances, dishes, and mount members for various load cases. Selected output from the analysis is included in Appendix B.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision B).

3.2) Assumptions

1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specifications.
2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the referenced drawings.
3) 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.
4) 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.
5) Prior structural modifications to the tower mounting system are assumed to be installed as shown per available data.
6) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (GR 36)
HSS (Rectangular)	ASTM A500 (GR B-46)
Pipe	ASTM A53 (GR 35)
Connection Bolts	ASTM A325

This analysis may be affected if any assumptions are not valid or have been made in error. Trylon 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, All Sectors)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1, 2	Mount Pipe(s)	MP5	62.0	31.4	Pass
	Horizontal(s)	H1		11.2	Pass
	Standoff(s)	M7		58.6	Pass
	Handrail(s)	M19		12.2	Pass
	Mount Connection(s)	--		44.4	Pass

Structure Rating (max from all components) =	58.6%

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

4.1) Recommendations

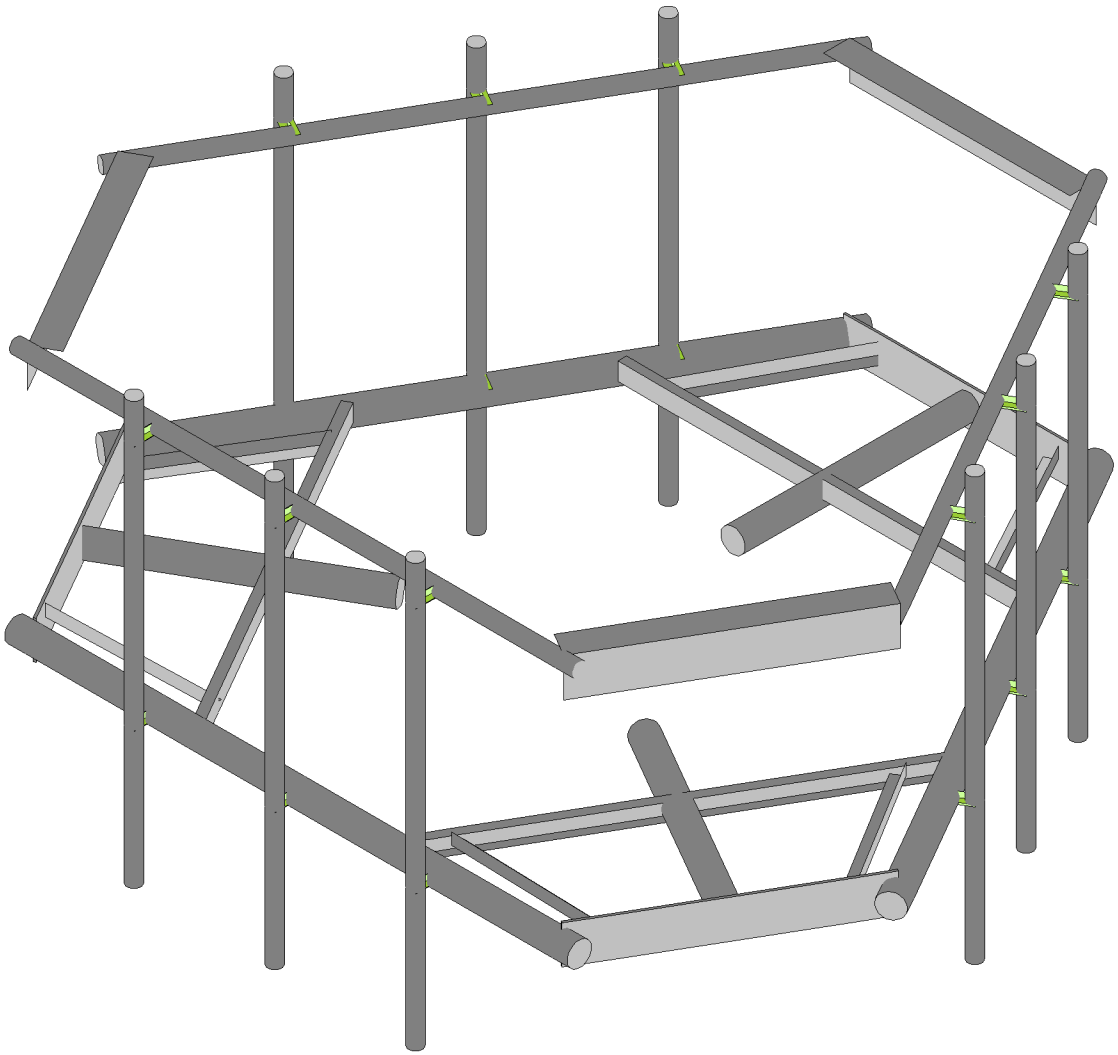
The mount has sufficient capacity to carry the proposed loading configuration. In order for the results of the analysis to be considered valid, the proposed mount listed below must be installed.

1. Commscope MC-PK8-DSH.

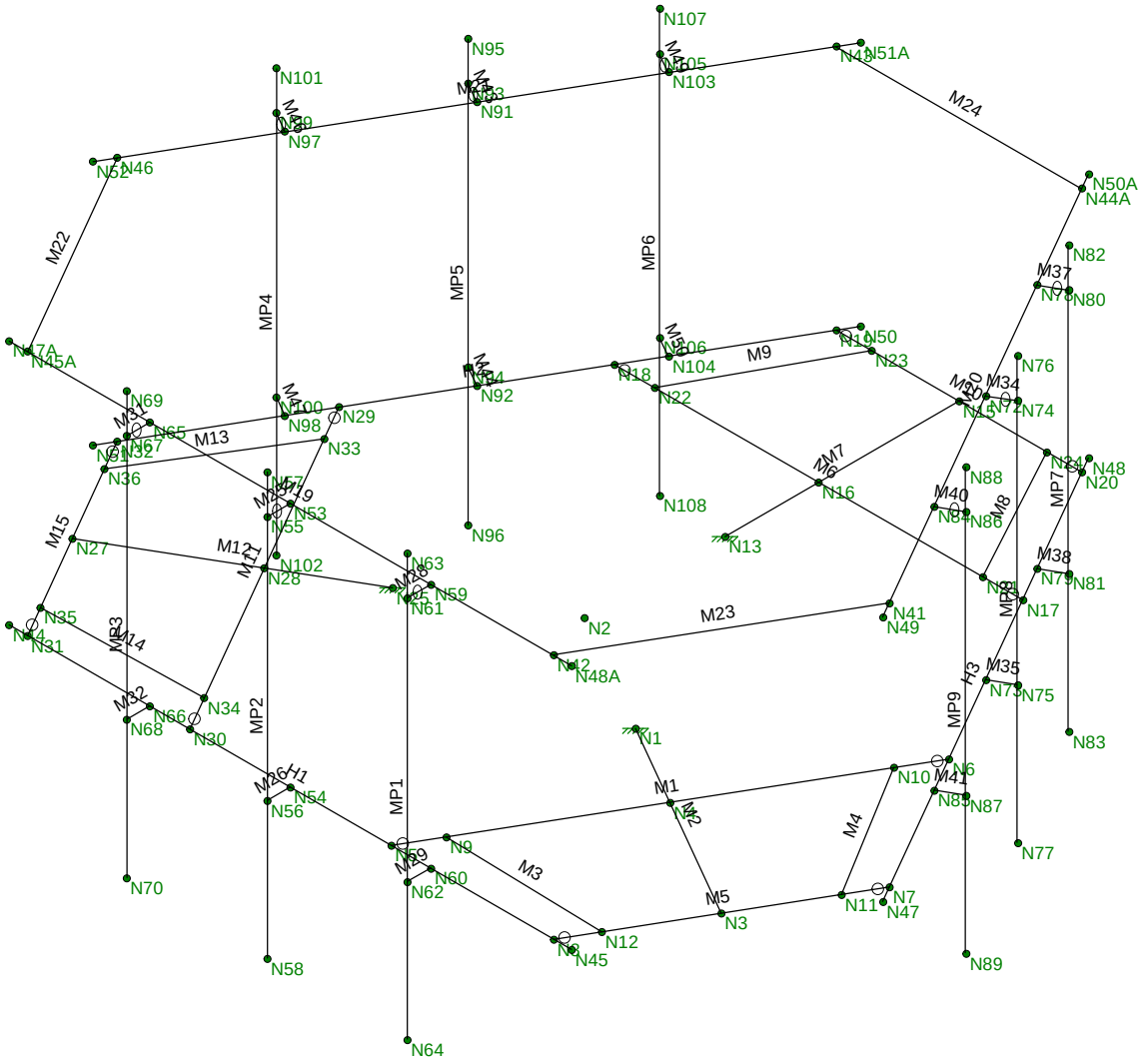
No structural modifications are required at this time, provided that the above-listed changes are implemented.

APPENDIX A

WIRE FRAME AND RENDERED MODELS



	MC-PK8-C	SK - 1
		Aug 2, 2021 at 11:16 AM
		MC-PK8-C_loaded.r3d



	MC-PK8-C	SK - 2
		Aug 2, 2021 at 11:17 AM
		MC-PK8-C_loaded.r3d

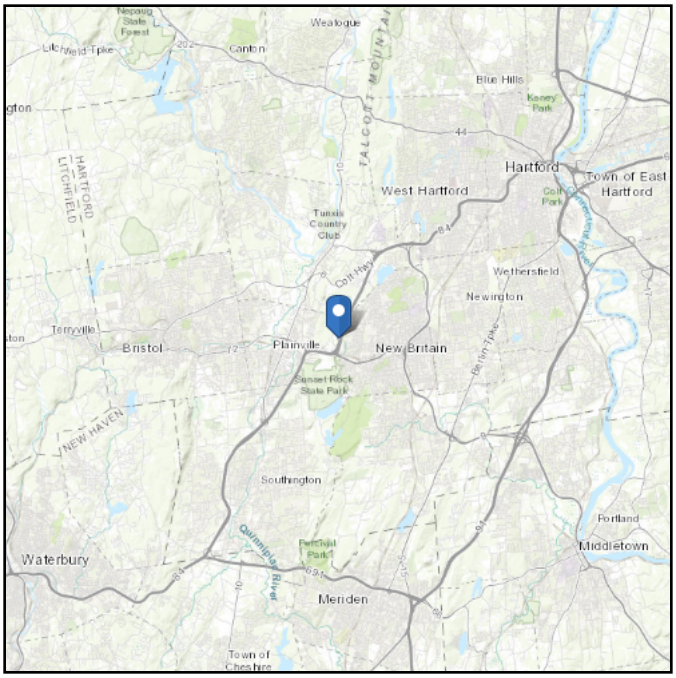
APPENDIX B

SOFTWARE INPUT CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-10	**Elevation:**	350.25 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.676589
Soil Class:	D - Stiff Soil	**Longitude:**	-72.821414



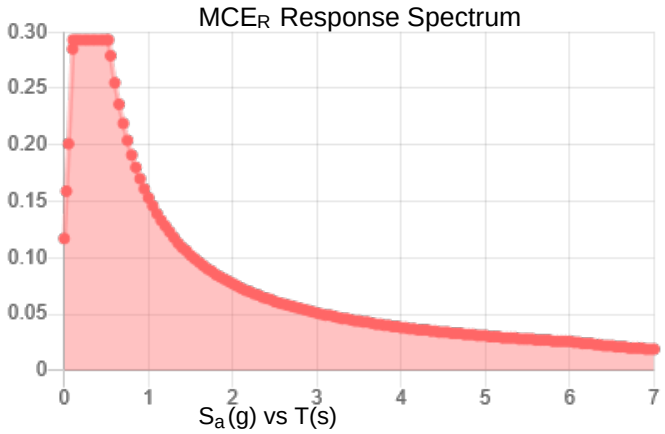
Seismic

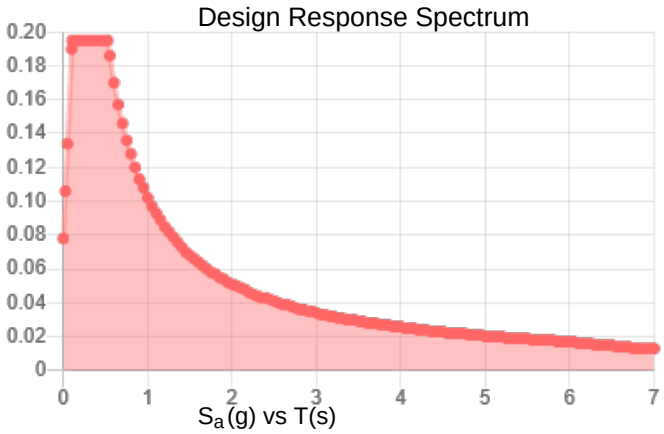
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.183	S_{DS} :	0.195
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.093
S_{MS} :	0.293	PGA_M :	0.149
S_{M1} :	0.153	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Mon Aug 02 2021

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

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Mon Aug 02 2021

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.

Trylon
1825 W. Walnut Hill Lane Suite 120
Irving, TX 75038

TIA LOAD CALCULATOR 2.0

PROJECT DATA	
Job Code:	876331
Carrier Site ID:	BOBDL00083A
Carrier Site Name:	CT-CCI-T-876331

CODES AND STANDARDS	
Building Code:	2015 IBC
Local Building Code:	2018 CTSBC
Design Standard:	TIA-222-H

STRUCTURE DETAILS		
Mount Type:	Platform	--
Mount Elevation:	62.0	ft.
Number of Sectors:	3	--
Structure Type:	Monopole	--
Structure Height:	118.9	ft.

ANALYSIS CRITERIA		
Structure Risk Category:	II	--
Exposure Category:	C	--
Site Class:	D - Default	--
Ground Elevation:	350	ft.

TOPOGRAPHIC DATA		
Topographic Category:	1.00	--
Topographic Feature:	N/A	--
Crest Point Elevation:	0.00	ft.
Base Point Elevation:	0.00	ft.
Crest to Mid-Height (L/2):	0.00	ft.
Distance from Crest (x):	0.00	ft.
Base Topo Factor (K_{zt}):	1.00	--
Mount Topo Factor (K_{zt}):	1.00	--

WIND PARAMETERS		
Design Wind Speed:	125	mph
Wind Escalation Factor (K_s):	1.00	--
Velocity Coefficient (K_z):	1.14	--
Directionality Factor (K_d):	0.95	--
Gust Effect Factor (Gh):	1.00	--
Shielding Factor (K_a):	0.90	--
Velocity Pressure (q_z):	42.94	psf

ICE PARAMETERS		
Design Ice Wind Speed:	50	mph
Design Ice Thickness (t_i):	2.00	in
Importance Factor (I_i):	1.00	--
Ice Velocity Pressure (q_{zi}):	42.94	psf
Mount Ice Thickness (t_{iz}):	2.13	in

WIND STRUCTURE CALCULATIONS		
Flat Member Pressure:	77.29	psf
Round Member Pressure:	46.38	psf
Ice Wind Pressure:	6.91	psf

SEISMIC PARAMETERS		
Importance Factor (I_e):	1.00	--
Short Period Accel .(S_s):	0.18	g
1 Second Accel (S_1):	0.06	g
Short Period Des. (S_{DS}):	0.20	g
1 Second Des. (S_{D1}):	0.10	g
Short Period Coeff. (F_a):	1.60	--
1 Second Coeff. (F_v):	2.40	--
Response Coefficient (Cs):	0.10	--
Amplification Factor (A_S):	1.20	--

LOAD COMBINATIONS [LRFD]

#	Description
1	1.4DL
2	1.2DL + 1WL 0 AZI
3	1.2DL + 1WL 30 AZI
4	1.2DL + 1WL 45 AZI
5	1.2DL + 1WL 60 AZI
6	1.2DL + 1WL 90 AZI
7	1.2DL + 1WL 120 AZI
8	1.2DL + 1WL 135 AZI
9	1.2DL + 1WL 150 AZI
10	1.2DL + 1WL 180 AZI
11	1.2DL + 1WL 210 AZI
12	1.2DL + 1WL 225 AZI
13	1.2DL + 1WL 240 AZI
14	1.2DL + 1WL 270 AZI
15	1.2DL + 1WL 300 AZI
16	1.2DL + 1WL 315 AZI
17	1.2DL + 1WL 330 AZI
18	0.9DL + 1WL 0 AZI
19	0.9DL + 1WL 30 AZI
20	0.9DL + 1WL 45 AZI
21	0.9DL + 1WL 60 AZI
22	0.9DL + 1WL 90 AZI
23	0.9DL + 1WL 120 AZI
24	0.9DL + 1WL 135 AZI
25	0.9DL + 1WL 150 AZI
26	0.9DL + 1WL 180 AZI
27	0.9DL + 1WL 210 AZI
28	0.9DL + 1WL 225 AZI
29	0.9DL + 1WL 240 AZI
30	0.9DL + 1WL 270 AZI
31	0.9DL + 1WL 300 AZI
32	0.9DL + 1WL 315 AZI
33	0.9DL + 1WL 330 AZI
34	1.2DL + 1DLi + 1WLi 0 AZI
35	1.2DL + 1DLi + 1WLi 30 AZI
36	1.2DL + 1DLi + 1WLi 45 AZI
37	1.2DL + 1DLi + 1WLi 60 AZI
38	1.2DL + 1DLi + 1WLi 90 AZI
39	1.2DL + 1DLi + 1WLi 120 AZI
40	1.2DL + 1DLi + 1WLi 135 AZI
41	1.2DL + 1DLi + 1WLi 150 AZI

#	Description
42	1.2DL + 1DLi + 1WLi 180 AZI
43	1.2DL + 1DLi + 1WLi 210 AZI
44	1.2DL + 1DLi + 1WLi 225 AZI
45	1.2DL + 1DLi + 1WLi 240 AZI
46	1.2DL + 1DLi + 1WLi 270 AZI
47	1.2DL + 1DLi + 1WLi 300 AZI
48	1.2DL + 1DLi + 1WLi 315 AZI
49	1.2DL + 1DLi + 1WLi 330 AZI
50	(1.2+0.2Sds) + 1.0E 0 AZI
51	(1.2+0.2Sds) + 1.0E 30 AZI
52	(1.2+0.2Sds) + 1.0E 45 AZI
53	(1.2+0.2Sds) + 1.0E 60 AZI
54	(1.2+0.2Sds) + 1.0E 90 AZI
55	(1.2+0.2Sds) + 1.0E 120 AZI
56	(1.2+0.2Sds) + 1.0E 135 AZI
57	(1.2+0.2Sds) + 1.0E 150 AZI
58	(1.2+0.2Sds) + 1.0E 180 AZI
59	(1.2+0.2Sds) + 1.0E 210 AZI
60	(1.2+0.2Sds) + 1.0E 225 AZI
61	(1.2+0.2Sds) + 1.0E 240 AZI
62	(1.2+0.2Sds) + 1.0E 270 AZI
63	(1.2+0.2Sds) + 1.0E 300 AZI
64	(1.2+0.2Sds) + 1.0E 315 AZI
65	(1.2+0.2Sds) + 1.0E 330 AZI
66	(0.9-0.2Sds) + 1.0E 0 AZI
67	(0.9-0.2Sds) + 1.0E 30 AZI
68	(0.9-0.2Sds) + 1.0E 45 AZI
69	(0.9-0.2Sds) + 1.0E 60 AZI
70	(0.9-0.2Sds) + 1.0E 90 AZI
71	(0.9-0.2Sds) + 1.0E 120 AZI
72	(0.9-0.2Sds) + 1.0E 135 AZI
73	(0.9-0.2Sds) + 1.0E 150 AZI
74	(0.9-0.2Sds) + 1.0E 180 AZI
75	(0.9-0.2Sds) + 1.0E 210 AZI
76	(0.9-0.2Sds) + 1.0E 225 AZI
77	(0.9-0.2Sds) + 1.0E 240 AZI
78	(0.9-0.2Sds) + 1.0E 270 AZI
79	(0.9-0.2Sds) + 1.0E 300 AZI
80	(0.9-0.2Sds) + 1.0E 315 AZI
81	(0.9-0.2Sds) + 1.0E 330 AZI
82-88	1.2D + 1.5 Lv1

#	Description
89	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP1
90	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP1
91	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP1
92	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP1
93	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP1
94	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP1
95	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP1
96	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP1
97	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP1
98	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP1
99	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP1
100	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP1
101	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP1
102	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP1
103	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP1
104	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP1
105	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP2
106	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP2
107	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP2
108	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP2
109	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP2
110	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP2
111	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP2
112	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP2
113	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP2
114	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP2
115	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP2
116	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP2
117	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP2
118	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP2
119	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP2
120	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP2

#	Description
121	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP3
122	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP3
123	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP3
124	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP3
125	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP3
126	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP3
127	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP3
128	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP3
129	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP3
130	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP3
131	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP3
132	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP3
133	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP3
134	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP3
135	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP3
136	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP3
137	1.2D + 1.5Lm + 1.0Wm 0 AZI - MP4
138	1.2D + 1.5Lm + 1.0Wm 30 AZI - MP4
139	1.2D + 1.5Lm + 1.0Wm 45 AZI - MP4
140	1.2D + 1.5Lm + 1.0Wm 60 AZI - MP4
141	1.2D + 1.5Lm + 1.0Wm 90 AZI - MP4
142	1.2D + 1.5Lm + 1.0Wm 120 AZI - MP4
143	1.2D + 1.5Lm + 1.0Wm 135 AZI - MP4
144	1.2D + 1.5Lm + 1.0Wm 150 AZI - MP4
145	1.2D + 1.5Lm + 1.0Wm 180 AZI - MP4
146	1.2D + 1.5Lm + 1.0Wm 210 AZI - MP4
147	1.2D + 1.5Lm + 1.0Wm 225 AZI - MP4
148	1.2D + 1.5Lm + 1.0Wm 240 AZI - MP4
149	1.2D + 1.5Lm + 1.0Wm 270 AZI - MP4
150	1.2D + 1.5Lm + 1.0Wm 300 AZI - MP4
151	1.2D + 1.5Lm + 1.0Wm 315 AZI - MP4
152	1.2D + 1.5Lm + 1.0Wm 330 AZI - MP4

*This page shows an example of maintenance loads for (4) pipes, the number of mount pipe LCs may vary per site

EQUIPMENT LOADING

Appurtenance Name/Location	Qty.	Elevation [ft]	--	EPA $_N$ (ft2)	EPA $_T$ (ft2)	Weight (lbs)
MX08FRO665-21	3	62	No Ice	12.49	5.87	82.50
MP2/MP5/MP8, 0/120/240	--	--	w/ Ice	14.01	7.26	361.76
TA08025-B604	3	62	No Ice	1.96	0.98	63.90
MP2/MP5/MP8, 0/120/240	--	--	w/ Ice	2.50	1.40	91.10
TA08025-B605	3	62	No Ice	1.96	1.13	75.00
MP2/MP5/MP8, 0/120/240	--	--	w/ Ice	2.50	1.56	96.85
RDIDC-9181-PF-48	1	62	No Ice	2.01	1.17	21.85
MP2, 0	--	--	w/ Ice	2.55	1.62	95.51
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
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--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			

EQUIPMENT LOADING [CONT.]

Appurtenance Name/Location	*Qty.*	*Elevation [ft]*	--	*EPA $_N$ (ft2)*	*EPA $_T$ (ft2)*	*Weight (lbs)*
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			
			No Ice			
--	--	--	w/ Ice			

EQUIPMENT WIND CALCULATIONS

Appurtenance Name	Qty.	Elevation [ft]	K_{zt}	K_z	K_d	t_d	q_z [psf]	q_{zi} [psf]
MX08FRO665-21	3	62	1.00	1.14	0.95	2.13	42.94	6.87
TA08025-B604	3	62	1.00	1.14	0.95	2.13	42.94	6.87
TA08025-B605	3	62	1.00	1.14	0.95	2.13	42.94	6.87
RDIDC-9181-PF-48	1	62	1.00	1.14	0.95	2.13	42.94	6.87

EQUIPMENT LATERAL WIND FORCE CALCULATIONS

Appurtenance Name	Qty.	--	0° 180°	30° 210°	60° 240°	90° 270°	120° 300°	150° 330°
MX08FRO665-21	3	No Ice	482.66	290.71	418.68	226.73	418.68	290.71
MP2/MP5/MP8, 0/120/240	--	w/ Ice	86.62	55.32	76.19	44.88	76.19	55.32
TA08025-B604	3	No Ice	75.88	47.41	66.39	37.92	66.39	47.41
MP2/MP5/MP8, 0/120/240	--	w/ Ice	15.44	10.35	13.75	8.65	13.75	10.35
TA08025-B605	3	No Ice	75.88	51.71	67.83	43.65	67.83	51.71
MP2/MP5/MP8, 0/120/240	--	w/ Ice	15.44	11.12	14.00	9.68	14.00	11.12
RDIDC-9181-PF-48	1	No Ice	77.75	53.30	69.60	45.15	69.60	53.30
MP2, 0	--	w/ Ice	15.79	11.46	14.35	10.02	14.35	11.46
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
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--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						

EQUIPMENT LATERAL WIND FORCE CALCULATIONS [CONT.]

Appurtenance Name	Qty.	--	0° 180°	30° 210°	60° 240°	90° 270°	120° 300°	150° 330°
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						
		No Ice						
--	--	w/ Ice						

EQUIPMENT SEISMIC FORCE CALCULATIONS

Appurtenance Name	*Qty.*	*Elevation [ft]*	*Weight [lbs]*	F_p [lbs]
MX08FRO665-21	3	62	82.5	9.66
TA08025-B604	3	62	63.9	7.48
TA08025-B605	3	62	75	8.78
RDIDC-9181-PF-48	1	62	21.85	2.56

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (in/sec^2)	386.4
Wall Mesh Size (in)	24
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	Yes(Iterative)
RISAConnection Code	AISC 15th(360-16): LRFD
Cold Formed Steel Code	AISI S100-12: LRFD
Wood Code	AWC NDS-15: ASD
Wood Temperature	< 100F
Concrete Code	ACI 318-14
Masonry Code	ACI 530-13: Strength
Aluminum Code	AA ADM1-10: LRFD - Building
Stainless Steel Code	AISC 14th(360-10): LRFD
Adjust Stiffness?	Yes(Iterative)

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	Yes
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

(Global) Model Settings, Continued

Seismic Code	ASCE 7-10
Seismic Base Elevation (in)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	1
Cd X	1
Rho Z	1
Rho X	1

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		18	72	0
3	Total General		18	72	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	C3X5	3	209.1	.087
7	A36 Gr.36	L6 5/8x4 7/16x3/16	3	126	.073
8	A36 Gr.36	L2x2x3	6	163.8	.034
9	A53 Gr.B	6.5"x0.37" Plate	3	126	.086
10	A53 Gr.B	PIPE_2.0	12	936	.271
11	A53 Gr.B	PIPE_3.5	6	408	.289
12	Total HR Steel		33	1968.9	.839

Joint Coordinates and Temperatures

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
1	N1	20.78461	0	-12	0	
2	N2	0	0	-24	0	
3	N3	55.425626	0	8	0	
4	N4	34.641016	0	-4	0	
5	N5	17.212813	0	26.186533	0	
6	N6	52.069219	0	-34.186533	0	
7	N7	65.925626	0	-10.186533	0	
8	N8	44.925626	0	26.186533	0	
9	N9	20.641016	0	20.248711	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
10	N10	48.641016	0	-28.248711	0	
11	N11	62.925626	0	-4.990381	0	
12	N12	47.925626	0	20.990381	0	
13	N13	-0.	0	-48	0	
14	N15	-0.	0	-88	0	
15	N16	-0.	0	-64	0	
16	N17	34.856406	0	-64	0	
17	N18	-34.856406	0	-64	0	
18	N19	-21	0	-88	0	
19	N20	21	0	-88	0	
20	N21	28	0	-64	0	
21	N22	-28	0	-64	0	
22	N23	-15	0	-88	0	
23	N24	15	0	-88	0	
24	N25	-20.78461	0	-12	0	
25	N27	-55.425626	0	8	0	
26	N28	-34.641016	0	-4	0	
27	N29	-52.069219	0	-34.186533	0	
28	N30	-17.212813	0	26.186533	0	
29	N31	-44.925626	0	26.186533	0	
30	N32	-65.925626	0	-10.186533	0	
31	N33	-48.641016	0	-28.248711	0	
32	N34	-20.641016	0	20.248711	0	
33	N35	-47.925626	0	20.990381	0	
34	N36	-62.925626	0	-4.990381	0	
35	N44	-48.000126	0	26.186533	0	
36	N45	48.000126	0	26.186533	0	
37	N47	67.462876	0	-7.523938	0	
38	N48	19.46275	0	-90.662595	0	
39	N50	-19.46275	0	-90.662595	0	
40	N51	-67.462876	0	-7.523938	0	
41	N41	65.925626	42	-10.186533	0	
42	N42	44.925626	42	26.186533	0	
43	N43	-21	42	-88	0	
44	N44A	21	42	-88	0	
45	N45A	-44.925626	42	26.186533	0	
46	N46	-65.925626	42	-10.186533	0	
47	N47A	-48.000126	42	26.186533	0	
48	N48A	48.000126	42	26.186533	0	
49	N49	67.462876	42	-7.523938	0	
50	N50A	19.46275	42	-90.662595	0	
51	N51A	-19.46275	42	-90.662595	0	
52	N52	-67.462876	42	-7.523938	0	
53	N53	0	42	26.186533	0	
54	N54	0	0	26.186533	0	
55	N55	0	42	30.186533	0	
56	N56	0	0	30.186533	0	
57	N57	0	48.625	30.186533	0	
58	N58	0	-23.375	30.186533	0	
59	N59	24	42	26.186533	0	
60	N60	24	0	26.186533	0	
61	N61	24	42	30.186533	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [in]	Y [in]	Z [in]	Temp [F]	Detach From Diap...
62	N62	24	0	30.186533	0	
63	N63	24	48.625	30.186533	0	
64	N64	24	-23.375	30.186533	0	
65	N65	-24	42	26.186533	0	
66	N66	-24	0	26.186533	0	
67	N67	-24	42	30.186533	0	
68	N68	-24	0	30.186533	0	
69	N69	-24	48.625	30.186533	0	
70	N70	-24	-23.375	30.186533	0	
71	N72	43.462813	42	-49.093267	0	
72	N73	43.462813	0	-49.093267	0	
73	N74	46.926915	42	-51.093267	0	
74	N75	46.926915	0	-51.093267	0	
75	N76	46.926915	48.625	-51.093267	0	
76	N77	46.926915	-23.375	-51.093267	0	
77	N78	31.462813	42	-69.877876	0	
78	N79	31.462813	0	-69.877876	0	
79	N80	34.926915	42	-71.877876	0	
80	N81	34.926915	0	-71.877876	0	
81	N82	34.926915	48.625	-71.877876	0	
82	N83	34.926915	-23.375	-71.877876	0	
83	N84	55.462813	42	-28.308657	0	
84	N85	55.462813	0	-28.308657	0	
85	N86	58.926915	42	-30.308657	0	
86	N87	58.926915	0	-30.308657	0	
87	N88	58.926915	48.625	-30.308657	0	
88	N89	58.926915	-23.375	-30.308657	0	
89	N91	-43.462813	42	-49.093267	0	
90	N92	-43.462813	0	-49.093267	0	
91	N93	-46.926915	42	-51.093267	0	
92	N94	-46.926915	0	-51.093267	0	
93	N95	-46.926915	48.625	-51.093267	0	
94	N96	-46.926915	-23.375	-51.093267	0	
95	N97	-55.462813	42	-28.308657	0	
96	N98	-55.462813	0	-28.308657	0	
97	N99	-58.926915	42	-30.308657	0	
98	N100	-58.926915	0	-30.308657	0	
99	N101	-58.926915	48.625	-30.308657	0	
100	N102	-58.926915	-23.375	-30.308657	0	
101	N103	-31.462813	42	-69.877876	0	
102	N104	-31.462813	0	-69.877876	0	
103	N105	-34.926915	42	-71.877876	0	
104	N106	-34.926915	0	-71.877876	0	
105	N107	-34.926915	48.625	-71.877876	0	
106	N108	-34.926915	-23.375	-71.877876	0	

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(de...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N5	N6			Standoff Bracing	Beam	Channel	A36 Gr.36	Typical
2	M2	N3	N1			Standoffs	Beam	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(de...	Section/Shape	Type	Design List	Material	Design Rul...
3	M3	N9	N12		270	Grating Bracing	Beam	Single Angle	A36 Gr.36	Typical
4	M4	N10	N11			Grating Bracing	Beam	Single Angle	A36 Gr.36	Typical
5	M5	N8	N7			Plates	Beam	RECT	A53 Gr.B	Typical
6	M6	N17	N18			Standoff Bracing	Beam	Channel	A36 Gr.36	Typical
7	M7	N15	N13			Standoffs	Beam	Pipe	A53 Gr.B	Typical
8	M8	N21	N24		270	Grating Bracing	Beam	Single Angle	A36 Gr.36	Typical
9	M9	N22	N23			Grating Bracing	Beam	Single Angle	A36 Gr.36	Typical
10	M10	N20	N19			Plates	Beam	RECT	A53 Gr.B	Typical
11	M11	N29	N30			Standoff Bracing	Beam	Channel	A36 Gr.36	Typical
12	M12	N27	N25			Standoffs	Beam	Pipe	A53 Gr.B	Typical
13	M13	N33	N36		270	Grating Bracing	Beam	Single Angle	A36 Gr.36	Typical
14	M14	N34	N35			Grating Bracing	Beam	Single Angle	A36 Gr.36	Typical
15	M15	N32	N31			Plates	Beam	RECT	A53 Gr.B	Typical
16	H1	N44	N45			Horizontals	Beam	Pipe	A53 Gr.B	Typical
17	H3	N47	N48			Horizontals	Beam	Pipe	A53 Gr.B	Typical
18	H2	N50	N51			Horizontals	Beam	Pipe	A53 Gr.B	Typical
19	M19	N47A	N48A			Handrails	Beam	Pipe	A53 Gr.B	Typical
20	M20	N49	N50A			Handrails	Beam	Pipe	A53 Gr.B	Typical
21	M21	N51A	N52			Handrails	Beam	Pipe	A53 Gr.B	Typical
22	M22	N46	N45A		180	Handrail Corners	Beam	Single Angle	A36 Gr.36	Typical
23	M23	N42	N41		180	Handrail Corners	Beam	Single Angle	A36 Gr.36	Typical
24	M24	N44A	N43		180	Handrail Corners	Beam	Single Angle	A36 Gr.36	Typical
25	M25	N55	N53			RIGID	None	None	RIGID	Typical
26	M26	N56	N54			RIGID	None	None	RIGID	Typical
27	MP2	N57	N58			Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
28	M28	N61	N59			RIGID	None	None	RIGID	Typical
29	M29	N62	N60			RIGID	None	None	RIGID	Typical
30	MP1	N63	N64			Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
31	M31	N67	N65			RIGID	None	None	RIGID	Typical
32	M32	N68	N66			RIGID	None	None	RIGID	Typical
33	MP3	N69	N70			Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
34	M34	N74	N72			RIGID	None	None	RIGID	Typical
35	M35	N75	N73			RIGID	None	None	RIGID	Typical
36	MP8	N76	N77			Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
37	M37	N80	N78			RIGID	None	None	RIGID	Typical
38	M38	N81	N79			RIGID	None	None	RIGID	Typical
39	MP7	N82	N83			Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
40	M40	N86	N84			RIGID	None	None	RIGID	Typical
41	M41	N87	N85			RIGID	None	None	RIGID	Typical
42	MP9	N88	N89			Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
43	M43	N93	N91			RIGID	None	None	RIGID	Typical
44	M44	N94	N92			RIGID	None	None	RIGID	Typical
45	MP5	N95	N96			Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
46	M46	N99	N97			RIGID	None	None	RIGID	Typical
47	M47	N100	N98			RIGID	None	None	RIGID	Typical
48	MP4	N101	N102			Mount Pipes	Beam	Pipe	A53 Gr.B	Typical
49	M49	N105	N103			RIGID	None	None	RIGID	Typical
50	M50	N106	N104			RIGID	None	None	RIGID	Typical
51	MP6	N107	N108			Mount Pipes	Beam	Pipe	A53 Gr.B	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	M1	BenPIN	BenPIN				Yes				None
2	M2						Yes				None
3	M3						Yes				None
4	M4						Yes				None
5	M5	OOOOXO	OOOOXO				Yes	Default			None
6	M6	BenPIN	BenPIN				Yes				None
7	M7						Yes				None
8	M8						Yes				None
9	M9						Yes				None
10	M10	OOOOXO	OOOOXO				Yes	Default			None
11	M11	BenPIN	BenPIN				Yes				None
12	M12						Yes				None
13	M13						Yes				None
14	M14						Yes				None
15	M15	OOOOXO	OOOOXO				Yes	Default			None
16	H1						Yes	Default			None
17	H3						Yes				None
18	H2						Yes				None
19	M19						Yes				None
20	M20						Yes				None
21	M21						Yes				None
22	M22						Yes				None
23	M23						Yes				None
24	M24						Yes				None
25	M25	OOOXOO					Yes	** NA **			None
26	M26						Yes	** NA **			None
27	MP2						Yes				None
28	M28	OOOXOO					Yes	** NA **			None
29	M29						Yes	** NA **			None
30	MP1						Yes				None
31	M31	OOOXOO					Yes	** NA **			None
32	M32						Yes	** NA **			None
33	MP3						Yes				None
34	M34	OOOXOO					Yes	** NA **			None
35	M35						Yes	** NA **			None
36	MP8						Yes				None
37	M37	OOOXOO					Yes	** NA **			None
38	M38						Yes	** NA **			None
39	MP7						Yes				None
40	M40	OOOXOO					Yes	** NA **			None
41	M41						Yes	** NA **			None
42	MP9						Yes				None
43	M43	OOOXOO					Yes	** NA **			None
44	M44						Yes	** NA **			None
45	MP5						Yes				None
46	M46	OOOXOO					Yes	** NA **			None
47	M47						Yes	** NA **			None
48	MP4						Yes				None
49	M49	OOOXOO					Yes	** NA **			None
50	M50						Yes	** NA **			None
51	MP6						Yes				None

Hot Rolled Steel Design Parameters

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	Standoff Br...	69.713			Lbyy						Lateral
2	M2	Standoffs	40			Lbyy						Lateral
3	M3	Grating Bra...	27.295			Lbyy						Lateral
4	M4	Grating Bra...	27.295			Lbyy						Lateral
5	M5	Plates	42			Lbyy						Lateral
6	M6	Standoff Br...	69.713	28	28	28	28	28				Lateral
7	M7	Standoffs	40			Lbyy						Lateral
8	M8	Grating Bra...	27.295			Lbyy						Lateral
9	M9	Grating Bra...	27.295			Lbyy						Lateral
10	M10	Plates	42			Lbyy						Lateral
11	M11	Standoff Br...	69.713			Lbyy						Lateral
12	M12	Standoffs	40			Lbyy						Lateral
13	M13	Grating Bra...	27.295			Lbyy						Lateral
14	M14	Grating Bra...	27.295			Lbyy						Lateral
15	M15	Plates	42			Lbyy						Lateral
16	H1	Horizontals	96			Lbyy						Lateral
17	H3	Horizontals	96			Lbyy						Lateral
18	H2	Horizontals	96			Lbyy						Lateral
19	M19	Handrails	96			Lbyy						Lateral
20	M20	Handrails	96			Lbyy						Lateral
21	M21	Handrails	96			Lbyy						Lateral
22	M22	Handrail Co...	42			Lbyy						Lateral
23	M23	Handrail Co...	42			Lbyy						Lateral
24	M24	Handrail Co...	42			Lbyy						Lateral
25	MP2	Mount Pipes	72			Lbyy						Lateral
26	MP1	Mount Pipes	72			Lbyy						Lateral
27	MP3	Mount Pipes	72			Lbyy						Lateral
28	MP8	Mount Pipes	72			Lbyy						Lateral
29	MP7	Mount Pipes	72			Lbyy						Lateral
30	MP9	Mount Pipes	72			Lbyy						Lateral
31	MP5	Mount Pipes	72			Lbyy						Lateral
32	MP4	Mount Pipes	72			Lbyy						Lateral
33	MP6	Mount Pipes	72			Lbyy						Lateral

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Plates	6.5"x0.37" Plate	Beam	RECT	A53 Gr.B	Typical	2.405	.027	8.468	.106
2	Grating Bracing	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	.722	.271	.271	.009
3	Standoffs	PIPE_3.5	Beam	Pipe	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
4	Standoff Bracing	C3X5	Beam	Channel	A36 Gr.36	Typical	1.47	.241	1.85	.043
5	Handrails	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
6	Handrail Corners	L6 5/8x4 7/16x3/16	Beam	Single Angle	A36 Gr.36	Typical	2.039	3.593	9.575	.023
7	Horizontals	PIPE_3.5	Beam	Pipe	A53 Gr.B	Typical	2.5	4.52	4.52	9.04
8	Mount Pipes	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (/1E..	Density[k/ft...	Yield[psi]	Ry	Fu[psi]	Rt
1	A992	29000	11154	.3	.65	.49	50000	1.1	65000	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36000	1.5	58000	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50000	1.1	65000	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42000	1.4	58000	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46000	1.4	58000	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35000	1.6	60000	1.2
7	A1085	29000	11154	.3	.65	.49	50000	1.4	65000	1.3

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Y	-41.25	0
2	MP2	Y	-41.25	72
3	MP2	Y	-63.9	%50
4	MP2	Y	-75	%50
5	MP2	Y	-21.85	%25
6	MP5	Y	-41.25	0
7	MP5	Y	-41.25	72
8	MP5	Y	-63.9	%50
9	MP5	Y	-75	%50
10	MP5	Y	-21.85	%25
11	MP8	Y	-41.25	0
12	MP8	Y	-41.25	72
13	MP8	Y	-63.9	%50
14	MP8	Y	-75	%50
15	MP8	Y	-21.85	%25

Member Point Loads (BLC 4 : Wind Load 0 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-241.331	0
2	MP2	Z	-241.331	72
3	MP2	Z	-75.884	%50
4	MP2	Z	-75.884	%50
5	MP2	Z	-77.754	%25
6	MP5	Z	-145.357	0
7	MP5	Z	-145.357	72
8	MP5	Z	-47.409	%50
9	MP5	Z	-51.71	%50
10	MP5	Z	-53.299	%25
11	MP8	Z	-145.357	0
12	MP8	Z	-145.357	72
13	MP8	Z	-47.409	%50
14	MP8	Z	-51.71	%50
15	MP8	Z	-53.299	%25
16	MP2	X	0	0
17	MP2	X	0	72
18	MP2	X	0	%50
19	MP2	X	0	%50
20	MP2	X	0	%25
21	MP5	X	0	0

Member Point Loads (BLC 4 : Wind Load 0 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
22	MP5	X	0	72
23	MP5	X	0	%50
24	MP5	X	0	%50
25	MP5	X	0	%25
26	MP8	X	0	0
27	MP8	X	0	72
28	MP8	X	0	%50
29	MP8	X	0	%50
30	MP8	X	0	%25

Member Point Loads (BLC 5 : Wind Load 30 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-181.293	0
2	MP2	Z	-181.293	72
3	MP2	Z	-57.498	%50
4	MP2	Z	-58.739	%50
5	MP2	Z	-60.277	%25
6	MP5	Z	-181.293	0
7	MP5	Z	-181.293	72
8	MP5	Z	-57.498	%50
9	MP5	Z	-58.739	%50
10	MP5	Z	-60.277	%25
11	MP8	Z	-98.177	0
12	MP8	Z	-98.177	72
13	MP8	Z	-32.838	%50
14	MP8	Z	-37.803	%50
15	MP8	Z	-39.099	%25
16	MP2	X	-104.67	0
17	MP2	X	-104.67	72
18	MP2	X	-33.196	%50
19	MP2	X	-33.913	%50
20	MP2	X	-34.801	%25
21	MP5	X	-104.67	0
22	MP5	X	-104.67	72
23	MP5	X	-33.196	%50
24	MP5	X	-33.913	%50
25	MP5	X	-34.801	%25
26	MP8	X	-56.683	0
27	MP8	X	-56.683	72
28	MP8	X	-18.959	%50
29	MP8	X	-21.826	%50
30	MP8	X	-22.574	%25

Member Point Loads (BLC 6 : Wind Load 45 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-125.404	0
2	MP2	Z	-125.404	72
3	MP2	Z	-40.235	%50
4	MP2	Z	-42.262	%50
5	MP2	Z	-43.452	%25
6	MP5	Z	-164.585	0

Member Point Loads (BLC 6 : Wind Load 45 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
7	MP5	Z	-164.585	72
8	MP5	Z	-51.86	%50
9	MP5	Z	-52.131	%50
10	MP5	Z	-53.436	%25
11	MP8	Z	-86.223	0
12	MP8	Z	-86.223	72
13	MP8	Z	-28.61	%50
14	MP8	Z	-32.393	%50
15	MP8	Z	-33.468	%25
16	MP2	X	-125.404	0
17	MP2	X	-125.404	72
18	MP2	X	-40.235	%50
19	MP2	X	-42.262	%50
20	MP2	X	-43.452	%25
21	MP5	X	-164.585	0
22	MP5	X	-164.585	72
23	MP5	X	-51.86	%50
24	MP5	X	-52.131	%50
25	MP5	X	-53.436	%25
26	MP8	X	-86.223	0
27	MP8	X	-86.223	72
28	MP8	X	-28.61	%50
29	MP8	X	-32.393	%50
30	MP8	X	-33.468	%25

Member Point Loads (BLC 7 : Wind Load 60 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-72.678	0
2	MP2	Z	-72.678	72
3	MP2	Z	-23.705	%50
4	MP2	Z	-25.855	%50
5	MP2	Z	-26.649	%25
6	MP5	Z	-120.666	0
7	MP5	Z	-120.666	72
8	MP5	Z	-37.942	%50
9	MP5	Z	-37.942	%50
10	MP5	Z	-38.877	%25
11	MP8	Z	-72.678	0
12	MP8	Z	-72.678	72
13	MP8	Z	-23.705	%50
14	MP8	Z	-25.855	%50
15	MP8	Z	-26.649	%25
16	MP2	X	-125.883	0
17	MP2	X	-125.883	72
18	MP2	X	-41.058	%50
19	MP2	X	-44.782	%50
20	MP2	X	-46.158	%25
21	MP5	X	-208.999	0
22	MP5	X	-208.999	72
23	MP5	X	-65.717	%50
24	MP5	X	-65.717	%50

Member Point Loads (BLC 7 : Wind Load 60 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
25	MP5	X	-67.337	%25
26	MP8	X	-125.883	0
27	MP8	X	-125.883	72
28	MP8	X	-41.058	%50
29	MP8	X	-44.782	%50
30	MP8	X	-46.158	%25

Member Point Loads (BLC 8 : Wind Load 90 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-6.942e-15	0
2	MP2	Z	-6.942e-15	72
3	MP2	Z	-2.322e-15	%50
4	MP2	Z	-2.673e-15	%50
5	MP2	Z	-2.764e-15	%25
6	MP5	Z	-1.282e-14	0
7	MP5	Z	-1.282e-14	72
8	MP5	Z	-4.065e-15	%50
9	MP5	Z	-4.153e-15	%50
10	MP5	Z	-4.262e-15	%25
11	MP8	Z	-1.282e-14	0
12	MP8	Z	-1.282e-14	72
13	MP8	Z	-4.065e-15	%50
14	MP8	Z	-4.153e-15	%50
15	MP8	Z	-4.262e-15	%25
16	MP2	X	-113.365	0
17	MP2	X	-113.365	72
18	MP2	X	-37.918	%50
19	MP2	X	-43.651	%50
20	MP2	X	-45.147	%25
21	MP5	X	-209.34	0
22	MP5	X	-209.34	72
23	MP5	X	-66.393	%50
24	MP5	X	-67.826	%50
25	MP5	X	-69.602	%25
26	MP8	X	-209.34	0
27	MP8	X	-209.34	72
28	MP8	X	-66.393	%50
29	MP8	X	-67.826	%50
30	MP8	X	-69.602	%25

Member Point Loads (BLC 9 : Wind Load 120 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	72.678	0
2	MP2	Z	72.678	72
3	MP2	Z	23.705	%50
4	MP2	Z	25.855	%50
5	MP2	Z	26.649	%25
6	MP5	Z	72.678	0
7	MP5	Z	72.678	72
8	MP5	Z	23.705	%50
9	MP5	Z	25.855	%50

Member Point Loads (BLC 9 : Wind Load 120 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
10	MP5	Z	26.649	%25
11	MP8	Z	120.666	0
12	MP8	Z	120.666	72
13	MP8	Z	37.942	%50
14	MP8	Z	37.942	%50
15	MP8	Z	38.877	%25
16	MP2	X	-125.883	0
17	MP2	X	-125.883	72
18	MP2	X	-41.058	%50
19	MP2	X	-44.782	%50
20	MP2	X	-46.158	%25
21	MP5	X	-125.883	0
22	MP5	X	-125.883	72
23	MP5	X	-41.058	%50
24	MP5	X	-44.782	%50
25	MP5	X	-46.158	%25
26	MP8	X	-208.999	0
27	MP8	X	-208.999	72
28	MP8	X	-65.717	%50
29	MP8	X	-65.717	%50
30	MP8	X	-67.337	%25

Member Point Loads (BLC 10 : Wind Load 135 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	125.404	0
2	MP2	Z	125.404	72
3	MP2	Z	40.235	%50
4	MP2	Z	42.262	%50
5	MP2	Z	43.452	%25
6	MP5	Z	86.223	0
7	MP5	Z	86.223	72
8	MP5	Z	28.61	%50
9	MP5	Z	32.393	%50
10	MP5	Z	33.468	%25
11	MP8	Z	164.585	0
12	MP8	Z	164.585	72
13	MP8	Z	51.86	%50
14	MP8	Z	52.131	%50
15	MP8	Z	53.436	%25
16	MP2	X	-125.404	0
17	MP2	X	-125.404	72
18	MP2	X	-40.235	%50
19	MP2	X	-42.262	%50
20	MP2	X	-43.452	%25
21	MP5	X	-86.223	0
22	MP5	X	-86.223	72
23	MP5	X	-28.61	%50
24	MP5	X	-32.393	%50
25	MP5	X	-33.468	%25
26	MP8	X	-164.585	0
27	MP8	X	-164.585	72

Member Point Loads (BLC 10 : Wind Load 135 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
28	MP8	X	-51.86	%50
29	MP8	X	-52.131	%50
30	MP8	X	-53.436	%25

Member Point Loads (BLC 11 : Wind Load 150 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	181.293	0
2	MP2	Z	181.293	72
3	MP2	Z	57.498	%50
4	MP2	Z	58.739	%50
5	MP2	Z	60.277	%25
6	MP5	Z	98.177	0
7	MP5	Z	98.177	72
8	MP5	Z	32.838	%50
9	MP5	Z	37.803	%50
10	MP5	Z	39.099	%25
11	MP8	Z	181.293	0
12	MP8	Z	181.293	72
13	MP8	Z	57.498	%50
14	MP8	Z	58.739	%50
15	MP8	Z	60.277	%25
16	MP2	X	-104.67	0
17	MP2	X	-104.67	72
18	MP2	X	-33.196	%50
19	MP2	X	-33.913	%50
20	MP2	X	-34.801	%25
21	MP5	X	-56.683	0
22	MP5	X	-56.683	72
23	MP5	X	-18.959	%50
24	MP5	X	-21.826	%50
25	MP5	X	-22.574	%25
26	MP8	X	-104.67	0
27	MP8	X	-104.67	72
28	MP8	X	-33.196	%50
29	MP8	X	-33.913	%50
30	MP8	X	-34.801	%25

Member Point Loads (BLC 12 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Y	-180.882	0
2	MP2	Y	-180.882	72
3	MP2	Y	-91.1	%50
4	MP2	Y	-96.846	%50
5	MP2	Y	-95.506	%25
6	MP5	Y	-180.882	0
7	MP5	Y	-180.882	72
8	MP5	Y	-91.1	%50
9	MP5	Y	-96.846	%50
10	MP5	Y	-95.506	%25
11	MP8	Y	-180.882	0
12	MP8	Y	-180.882	72

Member Point Loads (BLC 12 : Ice Weight) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
13	MP8	Y	-91.1	%50
14	MP8	Y	-96.846	%50
15	MP8	Y	-95.506	%25

Member Point Loads (BLC 15 : Ice Wind Load 0 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-43.312	0
2	MP2	Z	-43.312	72
3	MP2	Z	-15.445	%50
4	MP2	Z	-15.445	%50
5	MP2	Z	-15.792	%25
6	MP5	Z	-27.658	0
7	MP5	Z	-27.658	72
8	MP5	Z	-10.349	%50
9	MP5	Z	-11.118	%50
10	MP5	Z	-11.462	%25
11	MP8	Z	-27.658	0
12	MP8	Z	-27.658	72
13	MP8	Z	-10.349	%50
14	MP8	Z	-11.118	%50
15	MP8	Z	-11.462	%25
16	MP2	X	0	0
17	MP2	X	0	72
18	MP2	X	0	%50
19	MP2	X	0	%50
20	MP2	X	0	%25
21	MP5	X	0	0
22	MP5	X	0	72
23	MP5	X	0	%50
24	MP5	X	0	%50
25	MP5	X	0	%25
26	MP8	X	0	0
27	MP8	X	0	72
28	MP8	X	0	%50
29	MP8	X	0	%50
30	MP8	X	0	%25

Member Point Loads (BLC 16 : Ice Wind Load 30 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-32.99	0
2	MP2	Z	-32.99	72
3	MP2	Z	-11.905	%50
4	MP2	Z	-12.127	%50
5	MP2	Z	-12.427	%25
6	MP5	Z	-32.99	0
7	MP5	Z	-32.99	72
8	MP5	Z	-11.905	%50
9	MP5	Z	-12.127	%50
10	MP5	Z	-12.427	%25
11	MP8	Z	-19.434	0
12	MP8	Z	-19.434	72

Member Point Loads (BLC 16 : Ice Wind Load 30 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
13	MP8	Z	-7.492	%50
14	MP8	Z	-8.379	%50
15	MP8	Z	-8.677	%25
16	MP2	X	-19.047	0
17	MP2	X	-19.047	72
18	MP2	X	-6.873	%50
19	MP2	X	-7.001	%50
20	MP2	X	-7.174	%25
21	MP5	X	-19.047	0
22	MP5	X	-19.047	72
23	MP5	X	-6.873	%50
24	MP5	X	-7.001	%50
25	MP5	X	-7.174	%25
26	MP8	X	-11.22	0
27	MP8	X	-11.22	72
28	MP8	X	-4.325	%50
29	MP8	X	-4.838	%50
30	MP8	X	-5.01	%25

Member Point Loads (BLC 17 : Ice Wind Load 45 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-23.247	0
2	MP2	Z	-23.247	72
3	MP2	Z	-8.519	%50
4	MP2	Z	-8.881	%50
5	MP2	Z	-9.126	%25
6	MP5	Z	-29.638	0
7	MP5	Z	-29.638	72
8	MP5	Z	-10.599	%50
9	MP5	Z	-10.648	%50
10	MP5	Z	-10.893	%25
11	MP8	Z	-16.856	0
12	MP8	Z	-16.856	72
13	MP8	Z	-6.439	%50
14	MP8	Z	-7.115	%50
15	MP8	Z	-7.358	%25
16	MP2	X	-23.247	0
17	MP2	X	-23.247	72
18	MP2	X	-8.519	%50
19	MP2	X	-8.881	%50
20	MP2	X	-9.126	%25
21	MP5	X	-29.638	0
22	MP5	X	-29.638	72
23	MP5	X	-10.599	%50
24	MP5	X	-10.648	%50
25	MP5	X	-10.893	%25
26	MP8	X	-16.856	0
27	MP8	X	-16.856	72
28	MP8	X	-6.439	%50
29	MP8	X	-7.115	%50
30	MP8	X	-7.358	%25

Member Point Loads (BLC 18 : Ice Wind Load 60 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-13.829	0
2	MP2	Z	-13.829	72
3	MP2	Z	-5.175	%50
4	MP2	Z	-5.559	%50
5	MP2	Z	-5.731	%25
6	MP5	Z	-21.656	0
7	MP5	Z	-21.656	72
8	MP5	Z	-7.722	%50
9	MP5	Z	-7.722	%50
10	MP5	Z	-7.896	%25
11	MP8	Z	-13.829	0
12	MP8	Z	-13.829	72
13	MP8	Z	-5.175	%50
14	MP8	Z	-5.559	%50
15	MP8	Z	-5.731	%25
16	MP2	X	-23.953	0
17	MP2	X	-23.953	72
18	MP2	X	-8.963	%50
19	MP2	X	-9.628	%50
20	MP2	X	-9.927	%25
21	MP5	X	-37.509	0
22	MP5	X	-37.509	72
23	MP5	X	-13.376	%50
24	MP5	X	-13.376	%50
25	MP5	X	-13.676	%25
26	MP8	X	-23.953	0
27	MP8	X	-23.953	72
28	MP8	X	-8.963	%50
29	MP8	X	-9.628	%50
30	MP8	X	-9.927	%25

Member Point Loads (BLC 19 : Ice Wind Load 90 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-1.374e-15	0
2	MP2	Z	-1.374e-15	72
3	MP2	Z	-5.297e-16	%50
4	MP2	Z	-5.925e-16	%50
5	MP2	Z	-6.135e-16	%25
6	MP5	Z	-2.333e-15	0
7	MP5	Z	-2.333e-15	72
8	MP5	Z	-8.417e-16	%50
9	MP5	Z	-8.574e-16	%50
10	MP5	Z	-8.786e-16	%25
11	MP8	Z	-2.333e-15	0
12	MP8	Z	-2.333e-15	72
13	MP8	Z	-8.417e-16	%50
14	MP8	Z	-8.574e-16	%50
15	MP8	Z	-8.786e-16	%25
16	MP2	X	-22.44	0
17	MP2	X	-22.44	72
18	MP2	X	-8.651	%50

Member Point Loads (BLC 19 : Ice Wind Load 90 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
19	MP2	X	-9.676	%50
20	MP2	X	-10.019	%25
21	MP5	X	-38.094	0
22	MP5	X	-38.094	72
23	MP5	X	-13.746	%50
24	MP5	X	-14.003	%50
25	MP5	X	-14.349	%25
26	MP8	X	-38.094	0
27	MP8	X	-38.094	72
28	MP8	X	-13.746	%50
29	MP8	X	-14.003	%50
30	MP8	X	-14.349	%25

Member Point Loads (BLC 20 : Ice Wind Load 120 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	13.829	0
2	MP2	Z	13.829	72
3	MP2	Z	5.175	%50
4	MP2	Z	5.559	%50
5	MP2	Z	5.731	%25
6	MP5	Z	13.829	0
7	MP5	Z	13.829	72
8	MP5	Z	5.175	%50
9	MP5	Z	5.559	%50
10	MP5	Z	5.731	%25
11	MP8	Z	21.656	0
12	MP8	Z	21.656	72
13	MP8	Z	7.722	%50
14	MP8	Z	7.722	%50
15	MP8	Z	7.896	%25
16	MP2	X	-23.953	0
17	MP2	X	-23.953	72
18	MP2	X	-8.963	%50
19	MP2	X	-9.628	%50
20	MP2	X	-9.927	%25
21	MP5	X	-23.953	0
22	MP5	X	-23.953	72
23	MP5	X	-8.963	%50
24	MP5	X	-9.628	%50
25	MP5	X	-9.927	%25
26	MP8	X	-37.509	0
27	MP8	X	-37.509	72
28	MP8	X	-13.376	%50
29	MP8	X	-13.376	%50
30	MP8	X	-13.676	%25

Member Point Loads (BLC 21 : Ice Wind Load 135 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	23.247	0
2	MP2	Z	23.247	72
3	MP2	Z	8.519	%50

Member Point Loads (BLC 21 : Ice Wind Load 135 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP2	Z	8.881	%50
5	MP2	Z	9.126	%25
6	MP5	Z	16.856	0
7	MP5	Z	16.856	72
8	MP5	Z	6.439	%50
9	MP5	Z	7.115	%50
10	MP5	Z	7.358	%25
11	MP8	Z	29.638	0
12	MP8	Z	29.638	72
13	MP8	Z	10.599	%50
14	MP8	Z	10.648	%50
15	MP8	Z	10.893	%25
16	MP2	X	-23.247	0
17	MP2	X	-23.247	72
18	MP2	X	-8.519	%50
19	MP2	X	-8.881	%50
20	MP2	X	-9.126	%25
21	MP5	X	-16.856	0
22	MP5	X	-16.856	72
23	MP5	X	-6.439	%50
24	MP5	X	-7.115	%50
25	MP5	X	-7.358	%25
26	MP8	X	-29.638	0
27	MP8	X	-29.638	72
28	MP8	X	-10.599	%50
29	MP8	X	-10.648	%50
30	MP8	X	-10.893	%25

Member Point Loads (BLC 22 : Ice Wind Load 150 AZI)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	32.99	0
2	MP2	Z	32.99	72
3	MP2	Z	11.905	%50
4	MP2	Z	12.127	%50
5	MP2	Z	12.427	%25
6	MP5	Z	19.434	0
7	MP5	Z	19.434	72
8	MP5	Z	7.492	%50
9	MP5	Z	8.379	%50
10	MP5	Z	8.677	%25
11	MP8	Z	32.99	0
12	MP8	Z	32.99	72
13	MP8	Z	11.905	%50
14	MP8	Z	12.127	%50
15	MP8	Z	12.427	%25
16	MP2	X	-19.047	0
17	MP2	X	-19.047	72
18	MP2	X	-6.873	%50
19	MP2	X	-7.001	%50
20	MP2	X	-7.174	%25
21	MP5	X	-11.22	0

Member Point Loads (BLC 22 : Ice Wind Load 150 AZI) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
22	MP5	X	-11.22	72
23	MP5	X	-4.325	%50
24	MP5	X	-4.838	%50
25	MP5	X	-5.01	%25
26	MP8	X	-19.047	0
27	MP8	X	-19.047	72
28	MP8	X	-6.873	%50
29	MP8	X	-7.001	%50
30	MP8	X	-7.174	%25

Member Point Loads (BLC 23 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Z	-4.831	0
2	MP2	Z	-4.831	72
3	MP2	Z	-7.484	%50
4	MP2	Z	-8.784	%50
5	MP2	Z	-2.559	%25
6	MP5	Z	-4.831	0
7	MP5	Z	-4.831	72
8	MP5	Z	-7.484	%50
9	MP5	Z	-8.784	%50
10	MP5	Z	-2.559	%25
11	MP8	Z	-4.831	0
12	MP8	Z	-4.831	72
13	MP8	Z	-7.484	%50
14	MP8	Z	-8.784	%50
15	MP8	Z	-2.559	%25

Member Point Loads (BLC 24 : Seismic Load X)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	X	-4.831	0
2	MP2	X	-4.831	72
3	MP2	X	-7.484	%50
4	MP2	X	-8.784	%50
5	MP2	X	-2.559	%25
6	MP5	X	-4.831	0
7	MP5	X	-4.831	72
8	MP5	X	-7.484	%50
9	MP5	X	-8.784	%50
10	MP5	X	-2.559	%25
11	MP8	X	-4.831	0
12	MP8	X	-4.831	72
13	MP8	X	-7.484	%50
14	MP8	X	-8.784	%50
15	MP8	X	-2.559	%25

Member Point Loads (BLC 25 : Live Load 1 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H1	Y	-250	0

Member Point Loads (BLC 26 : Live Load 2 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H1	Y	-250	%50

Member Point Loads (BLC 27 : Live Load 3 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H1	Y	-250	%100

Member Point Loads (BLC 28 : Live Load 4 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H3	Y	-250	0

Member Point Loads (BLC 29 : Live Load 5 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H3	Y	-250	%50

Member Point Loads (BLC 30 : Live Load 6 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H3	Y	-250	%100

Member Point Loads (BLC 31 : Live Load 7 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H2	Y	-250	0

Member Point Loads (BLC 32 : Live Load 8 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H2	Y	-250	%50

Member Point Loads (BLC 33 : Live Load 9 (Lv))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	H2	Y	-250	%100

Member Point Loads (BLC 34 : Maintenance Load 1 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP2	Y	-500	%50

Member Point Loads (BLC 35 : Maintenance Load 2 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-500	%50

Member Point Loads (BLC 36 : Maintenance Load 3 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP3	Y	-500	%50

Member Point Loads (BLC 37 : Maintenance Load 4 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP8	Y	-500	%50

Member Point Loads (BLC 38 : Maintenance Load 5 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP7	Y	-500	%50

Member Point Loads (BLC 39 : Maintenance Load 6 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP9	Y	-500	%50

Member Point Loads (BLC 40 : Maintenance Load 7 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP5	Y	-500	%50

Member Point Loads (BLC 41 : Maintenance Load 8 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP4	Y	-500	%50

Member Point Loads (BLC 42 : Maintenance Load 9 (Lm))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP6	Y	-500	%50

Member Distributed Loads (BLC 2 : Structure Wind Z)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	M1	SZ	-77.295	-77.295	0	%100
2	M2	SZ	-46.377	-46.377	0	%100
3	M3	SZ	-77.295	-77.295	0	%100
4	M4	SZ	-77.295	-77.295	0	%100
5	M5	SZ	-77.295	-77.295	0	%100
6	M6	SZ	-77.295	-77.295	0	%100
7	M7	SZ	-46.377	-46.377	0	%100
8	M8	SZ	-77.295	-77.295	0	%100
9	M9	SZ	-77.295	-77.295	0	%100
10	M10	SZ	-77.295	-77.295	0	%100
11	M11	SZ	-77.295	-77.295	0	%100
12	M12	SZ	-46.377	-46.377	0	%100
13	M13	SZ	-77.295	-77.295	0	%100
14	M14	SZ	-77.295	-77.295	0	%100
15	M15	SZ	-77.295	-77.295	0	%100
16	H1	SZ	-46.377	-46.377	0	%100
17	H3	SZ	-46.377	-46.377	0	%100
18	H2	SZ	-46.377	-46.377	0	%100
19	M19	SZ	-46.377	-46.377	0	%100
20	M20	SZ	-46.377	-46.377	0	%100
21	M21	SZ	-46.377	-46.377	0	%100
22	M22	SZ	-77.295	-77.295	0	%100
23	M23	SZ	-77.295	-77.295	0	%100
24	M24	SZ	-77.295	-77.295	0	%100
25	M25	SZ	-77.295	-77.295	0	%100
26	M26	SZ	-77.295	-77.295	0	%100
27	MP2	SZ	-46.377	-46.377	0	%100
28	M28	SZ	-77.295	-77.295	0	%100

Member Distributed Loads (BLC 2 : Structure Wind Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
29	M29	SZ	-77.295	-77.295	0	%100
30	MP1	SZ	-46.377	-46.377	0	%100
31	M31	SZ	-77.295	-77.295	0	%100
32	M32	SZ	-77.295	-77.295	0	%100
33	MP3	SZ	-46.377	-46.377	0	%100
34	M34	SZ	-77.295	-77.295	0	%100
35	M35	SZ	-77.295	-77.295	0	%100
36	MP8	SZ	-46.377	-46.377	0	%100
37	M37	SZ	-77.295	-77.295	0	%100
38	M38	SZ	-77.295	-77.295	0	%100
39	MP7	SZ	-46.377	-46.377	0	%100
40	M40	SZ	-77.295	-77.295	0	%100
41	M41	SZ	-77.295	-77.295	0	%100
42	MP9	SZ	-46.377	-46.377	0	%100
43	M43	SZ	-77.295	-77.295	0	%100
44	M44	SZ	-77.295	-77.295	0	%100
45	MP5	SZ	-46.377	-46.377	0	%100
46	M46	SZ	-77.295	-77.295	0	%100
47	M47	SZ	-77.295	-77.295	0	%100
48	MP4	SZ	-46.377	-46.377	0	%100
49	M49	SZ	-77.295	-77.295	0	%100
50	M50	SZ	-77.295	-77.295	0	%100
51	MP6	SZ	-46.377	-46.377	0	%100

Member Distributed Loads (BLC 3 : Structure Wind X)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	M1	SX	-77.295	-77.295	0	%100
2	M2	SX	-46.377	-46.377	0	%100
3	M3	SX	-77.295	-77.295	0	%100
4	M4	SX	-77.295	-77.295	0	%100
5	M5	SX	-77.295	-77.295	0	%100
6	M6	SX	-77.295	-77.295	0	%100
7	M7	SX	-46.377	-46.377	0	%100
8	M8	SX	-77.295	-77.295	0	%100
9	M9	SX	-77.295	-77.295	0	%100
10	M10	SX	-77.295	-77.295	0	%100
11	M11	SX	-77.295	-77.295	0	%100
12	M12	SX	-46.377	-46.377	0	%100
13	M13	SX	-77.295	-77.295	0	%100
14	M14	SX	-77.295	-77.295	0	%100
15	M15	SX	-77.295	-77.295	0	%100
16	H1	SX	-46.377	-46.377	0	%100
17	H3	SX	-46.377	-46.377	0	%100
18	H2	SX	-46.377	-46.377	0	%100
19	M19	SX	-46.377	-46.377	0	%100
20	M20	SX	-46.377	-46.377	0	%100
21	M21	SX	-46.377	-46.377	0	%100
22	M22	SX	-77.295	-77.295	0	%100
23	M23	SX	-77.295	-77.295	0	%100
24	M24	SX	-77.295	-77.295	0	%100
25	M25	SX	-77.295	-77.295	0	%100

Member Distributed Loads (BLC 3 : Structure Wind X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
26	M26	SX	-77.295	-77.295	0	%100
27	MP2	SX	-46.377	-46.377	0	%100
28	M28	SX	-77.295	-77.295	0	%100
29	M29	SX	-77.295	-77.295	0	%100
30	MP1	SX	-46.377	-46.377	0	%100
31	M31	SX	-77.295	-77.295	0	%100
32	M32	SX	-77.295	-77.295	0	%100
33	MP3	SX	-46.377	-46.377	0	%100
34	M34	SX	-77.295	-77.295	0	%100
35	M35	SX	-77.295	-77.295	0	%100
36	MP8	SX	-46.377	-46.377	0	%100
37	M37	SX	-77.295	-77.295	0	%100
38	M38	SX	-77.295	-77.295	0	%100
39	MP7	SX	-46.377	-46.377	0	%100
40	M40	SX	-77.295	-77.295	0	%100
41	M41	SX	-77.295	-77.295	0	%100
42	MP9	SX	-46.377	-46.377	0	%100
43	M43	SX	-77.295	-77.295	0	%100
44	M44	SX	-77.295	-77.295	0	%100
45	MP5	SX	-46.377	-46.377	0	%100
46	M46	SX	-77.295	-77.295	0	%100
47	M47	SX	-77.295	-77.295	0	%100
48	MP4	SX	-46.377	-46.377	0	%100
49	M49	SX	-77.295	-77.295	0	%100
50	M50	SX	-77.295	-77.295	0	%100
51	MP6	SX	-46.377	-46.377	0	%100

Member Distributed Loads (BLC 12 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	M1	Y	-14.273	-14.273	0	%100
2	M2	Y	-15.954	-15.954	0	%100
3	M3	Y	-12.905	-12.905	0	%100
4	M4	Y	-12.905	-12.905	0	%100
5	M5	Y	-22.488	-22.488	0	%100
6	M6	Y	-14.273	-14.273	0	%100
7	M7	Y	-15.954	-15.954	0	%100
8	M8	Y	-12.905	-12.905	0	%100
9	M9	Y	-12.905	-12.905	0	%100
10	M10	Y	-22.488	-22.488	0	%100
11	M11	Y	-14.273	-14.273	0	%100
12	M12	Y	-15.954	-15.954	0	%100
13	M13	Y	-12.905	-12.905	0	%100
14	M14	Y	-12.905	-12.905	0	%100
15	M15	Y	-22.488	-22.488	0	%100
16	H1	Y	-15.954	-15.954	0	%100
17	H3	Y	-15.954	-15.954	0	%100
18	H2	Y	-15.954	-15.954	0	%100
19	M19	Y	-11.725	-11.725	0	%100
20	M20	Y	-11.725	-11.725	0	%100
21	M21	Y	-11.725	-11.725	0	%100
22	M22	Y	-26.296	-26.296	0	%100

Member Distributed Loads (BLC 12 : Ice Weight) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
23	M23	Y	-26.296	-26.296	0	%100
24	M24	Y	-26.296	-26.296	0	%100
25	M25	Y	0	0	0	%100
26	M26	Y	0	0	0	%100
27	MP2	Y	-11.725	-11.725	0	%100
28	M28	Y	0	0	0	%100
29	M29	Y	0	0	0	%100
30	MP1	Y	-11.725	-11.725	0	%100
31	M31	Y	0	0	0	%100
32	M32	Y	0	0	0	%100
33	MP3	Y	-11.725	-11.725	0	%100
34	M34	Y	0	0	0	%100
35	M35	Y	0	0	0	%100
36	MP8	Y	-11.725	-11.725	0	%100
37	M37	Y	0	0	0	%100
38	M38	Y	0	0	0	%100
39	MP7	Y	-11.725	-11.725	0	%100
40	M40	Y	0	0	0	%100
41	M41	Y	0	0	0	%100
42	MP9	Y	-11.725	-11.725	0	%100
43	M43	Y	0	0	0	%100
44	M44	Y	0	0	0	%100
45	MP5	Y	-11.725	-11.725	0	%100
46	M46	Y	0	0	0	%100
47	M47	Y	0	0	0	%100
48	MP4	Y	-11.725	-11.725	0	%100
49	M49	Y	0	0	0	%100
50	M50	Y	0	0	0	%100
51	MP6	Y	-11.725	-11.725	0	%100

Member Distributed Loads (BLC 13 : Ice Structure Wind Z)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	M1	SZ	-15.677	-15.677	0	%100
2	M2	SZ	-14.261	-14.261	0	%100
3	M3	SZ	-17.308	-17.308	0	%100
4	M4	SZ	-17.308	-17.308	0	%100
5	M5	SZ	-11.425	-11.425	0	%100
6	M6	SZ	-15.677	-15.677	0	%100
7	M7	SZ	-14.261	-14.261	0	%100
8	M8	SZ	-17.308	-17.308	0	%100
9	M9	SZ	-17.308	-17.308	0	%100
10	M10	SZ	-11.425	-11.425	0	%100
11	M11	SZ	-15.677	-15.677	0	%100
12	M12	SZ	-14.261	-14.261	0	%100
13	M13	SZ	-17.308	-17.308	0	%100
14	M14	SZ	-17.308	-17.308	0	%100
15	M15	SZ	-11.425	-11.425	0	%100
16	H1	SZ	-14.261	-14.261	0	%100
17	H3	SZ	-14.261	-14.261	0	%100
18	H2	SZ	-14.261	-14.261	0	%100
19	M19	SZ	-19.294	-19.294	0	%100

Member Distributed Loads (BLC 13 : Ice Structure Wind Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
20	M20	SZ	-19.294	-19.294	0	%100
21	M21	SZ	-19.294	-19.294	0	%100
22	M22	SZ	-10.595	-10.595	0	%100
23	M23	SZ	-10.595	-10.595	0	%100
24	M24	SZ	-10.595	-10.595	0	%100
25	M25	SZ	0	0	0	%100
26	M26	SZ	0	0	0	%100
27	MP2	SZ	-19.294	-19.294	0	%100
28	M28	SZ	0	0	0	%100
29	M29	SZ	0	0	0	%100
30	MP1	SZ	-19.294	-19.294	0	%100
31	M31	SZ	0	0	0	%100
32	M32	SZ	0	0	0	%100
33	MP3	SZ	-19.294	-19.294	0	%100
34	M34	SZ	0	0	0	%100
35	M35	SZ	0	0	0	%100
36	MP8	SZ	-19.294	-19.294	0	%100
37	M37	SZ	0	0	0	%100
38	M38	SZ	0	0	0	%100
39	MP7	SZ	-19.294	-19.294	0	%100
40	M40	SZ	0	0	0	%100
41	M41	SZ	0	0	0	%100
42	MP9	SZ	-19.294	-19.294	0	%100
43	M43	SZ	0	0	0	%100
44	M44	SZ	0	0	0	%100
45	MP5	SZ	-19.294	-19.294	0	%100
46	M46	SZ	0	0	0	%100
47	M47	SZ	0	0	0	%100
48	MP4	SZ	-19.294	-19.294	0	%100
49	M49	SZ	0	0	0	%100
50	M50	SZ	0	0	0	%100
51	MP6	SZ	-19.294	-19.294	0	%100

Member Distributed Loads (BLC 14 : Ice Structure Wind X)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	M1	SX	-15.677	-15.677	0	%100
2	M2	SX	-14.261	-14.261	0	%100
3	M3	SX	-17.308	-17.308	0	%100
4	M4	SX	-17.308	-17.308	0	%100
5	M5	SX	-11.425	-11.425	0	%100
6	M6	SX	-15.677	-15.677	0	%100
7	M7	SX	-14.261	-14.261	0	%100
8	M8	SX	-17.308	-17.308	0	%100
9	M9	SX	-17.308	-17.308	0	%100
10	M10	SX	-11.425	-11.425	0	%100
11	M11	SX	-15.677	-15.677	0	%100
12	M12	SX	-14.261	-14.261	0	%100
13	M13	SX	-17.308	-17.308	0	%100
14	M14	SX	-17.308	-17.308	0	%100
15	M15	SX	-11.425	-11.425	0	%100
16	H1	SX	-14.261	-14.261	0	%100

Member Distributed Loads (BLC 14 : Ice Structure Wind X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
17	H3	SX	-14.261	-14.261	0	%100
18	H2	SX	-14.261	-14.261	0	%100
19	M19	SX	-19.294	-19.294	0	%100
20	M20	SX	-19.294	-19.294	0	%100
21	M21	SX	-19.294	-19.294	0	%100
22	M22	SX	-10.595	-10.595	0	%100
23	M23	SX	-10.595	-10.595	0	%100
24	M24	SX	-10.595	-10.595	0	%100
25	M25	SX	0	0	0	%100
26	M26	SX	0	0	0	%100
27	MP2	SX	-19.294	-19.294	0	%100
28	M28	SX	0	0	0	%100
29	M29	SX	0	0	0	%100
30	MP1	SX	-19.294	-19.294	0	%100
31	M31	SX	0	0	0	%100
32	M32	SX	0	0	0	%100
33	MP3	SX	-19.294	-19.294	0	%100
34	M34	SX	0	0	0	%100
35	M35	SX	0	0	0	%100
36	MP8	SX	-19.294	-19.294	0	%100
37	M37	SX	0	0	0	%100
38	M38	SX	0	0	0	%100
39	MP7	SX	-19.294	-19.294	0	%100
40	M40	SX	0	0	0	%100
41	M41	SX	0	0	0	%100
42	MP9	SX	-19.294	-19.294	0	%100
43	M43	SX	0	0	0	%100
44	M44	SX	0	0	0	%100
45	MP5	SX	-19.294	-19.294	0	%100
46	M46	SX	0	0	0	%100
47	M47	SX	0	0	0	%100
48	MP4	SX	-19.294	-19.294	0	%100
49	M49	SX	0	0	0	%100
50	M50	SX	0	0	0	%100
51	MP6	SX	-19.294	-19.294	0	%100

Member Distributed Loads (BLC 43 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	M12	Y	-18.202	-18.202	0	23.596
2	M13	Y	-9.173	-9.173	3.828	27.295
3	M14	Y	-9.173	-9.173	3.828	27.295
4	M7	Y	-18.202	-18.202	0	23.596
5	M8	Y	-9.173	-9.173	3.828	27.295
6	M9	Y	-9.173	-9.173	3.828	27.295
7	M2	Y	-18.202	-18.202	0	23.596
8	M3	Y	-9.173	-9.173	3.828	27.295
9	M4	Y	-9.173	-9.173	3.828	27.295

Member Distributed Loads (BLC 44 : BLC 12 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
1	M12	Y	-36.221	-36.221	0	23.596

Member Distributed Loads (BLC 44 : BLC 12 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,...	End Magnitude[lb/ft,F...	Start Location[in,%]	End Location[in,%]
2	M13	Y	-18.254	-18.254	3.828	27.295
3	M14	Y	-18.254	-18.254	3.828	27.295
4	M7	Y	-36.221	-36.221	0	23.596
5	M8	Y	-18.254	-18.254	3.828	27.295
6	M9	Y	-18.254	-18.254	3.828	27.295
7	M2	Y	-36.221	-36.221	0	23.596
8	M3	Y	-18.254	-18.254	3.828	27.295
9	M4	Y	-18.254	-18.254	3.828	27.295

Member Area Loads (BLC 1 : Self Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N35	N36	N33	N34	Y	Two Way	-10
2	N23	N24	N21	N22	Y	Two Way	-10
3	N11	N12	N9	N10	Y	Two Way	-10

Member Area Loads (BLC 12 : Ice Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	N35	N36	N33	N34	Y	Two Way	-19.9
2	N23	N24	N21	N22	Y	Two Way	-19.9
3	N11	N12	N9	N10	Y	Two Way	-19.9

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Self Weight	DL		-1			15		3	
2	Structure Wind Z	WLZ						51		
3	Structure Wind X	WLX						51		
4	Wind Load 0 AZI	WLZ					30			
5	Wind Load 30 AZI	None					30			
6	Wind Load 45 AZI	None					30			
7	Wind Load 60 AZI	None					30			
8	Wind Load 90 AZI	WLX					30			
9	Wind Load 120 AZI	None					30			
10	Wind Load 135 AZI	None					30			
11	Wind Load 150 AZI	None					30			
12	Ice Weight	OL1					15	51	3	
13	Ice Structure Wind Z	OL2						51		
14	Ice Structure Wind X	OL3						51		
15	Ice Wind Load 0 AZI	OL2					30			
16	Ice Wind Load 30 AZI	None					30			
17	Ice Wind Load 45 AZI	None					30			
18	Ice Wind Load 60 AZI	None					30			
19	Ice Wind Load 90 AZI	OL3					30			
20	Ice Wind Load 120 AZI	None					30			
21	Ice Wind Load 135 AZI	None					30			
22	Ice Wind Load 150 AZI	None					30			
23	Seismic Load Z	ELZ			-.117		15			
24	Seismic Load X	ELX	-.117				15			
25	Live Load 1 (Lv)	None					1			

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
26	Live Load 2 (Lv)	None					1			
27	Live Load 3 (Lv)	None					1			
28	Live Load 4 (Lv)	None					1			
29	Live Load 5 (Lv)	None					1			
30	Live Load 6 (Lv)	None					1			
31	Live Load 7 (Lv)	None					1			
32	Live Load 8 (Lv)	None					1			
33	Live Load 9 (Lv)	None					1			
34	Maintenance Load 1 (Lm)	None					1			
35	Maintenance Load 2 (Lm)	None					1			
36	Maintenance Load 3 (Lm)	None					1			
37	Maintenance Load 4 (Lm)	None					1			
38	Maintenance Load 5 (Lm)	None					1			
39	Maintenance Load 6 (Lm)	None					1			
40	Maintenance Load 7 (Lm)	None					1			
41	Maintenance Load 8 (Lm)	None					1			
42	Maintenance Load 9 (Lm)	None					1			
43	BLC 1 Transient Area Loads	None						9		
44	BLC 12 Transient Area Loa...	None						9		

Load Combinations

	Description	Solve	PDelta	SRSS	BLC	Fa...	B...	Fa...	B...	Fact...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4DL	Yes	Y		DL	1.4																				
2	1.2DL + 1WL 0 AZI	Yes	Y		DL	1.2	2	1	3		4	1														
3	1.2DL + 1WL 30 AZI	Yes	Y		DL	1.2	2	.866	3	.5	5	1														
4	1.2DL + 1WL 45 AZI	Yes	Y		DL	1.2	2	.707	3	.707	6	1														
5	1.2DL + 1WL 60 AZI	Yes	Y		DL	1.2	2	.5	3	.866	7	1														
6	1.2DL + 1WL 90 AZI	Yes	Y		DL	1.2	2		3	1	8	1														
7	1.2DL + 1WL 120 AZI	Yes	Y		DL	1.2	2	-.5	3	.866	9	1														
8	1.2DL + 1WL 135 AZI	Yes	Y		DL	1.2	2	-.7...	3	.707	10	1														
9	1.2DL + 1WL 150 AZI	Yes	Y		DL	1.2	2	-.8...	3	.5	11	1														
10	1.2DL + 1WL 180 AZI	Yes	Y		DL	1.2	2	-1	3		4	-1														
11	1.2DL + 1WL 210 AZI	Yes	Y		DL	1.2	2	-.8...	3	-.5	5	-1														
12	1.2DL + 1WL 225 AZI	Yes	Y		DL	1.2	2	-.7...	3	-.707	6	-1														
13	1.2DL + 1WL 240 AZI	Yes	Y		DL	1.2	2	-.5	3	-.866	7	-1														
14	1.2DL + 1WL 270 AZI	Yes	Y		DL	1.2	2		3	-1	8	-1														
15	1.2DL + 1WL 300 AZI	Yes	Y		DL	1.2	2	.5	3	-.866	9	-1														
16	1.2DL + 1WL 315 AZI	Yes	Y		DL	1.2	2	.707	3	-.707	10	-1														
17	1.2DL + 1WL 330 AZI	Yes	Y		DL	1.2	2	.866	3	-.5	11	-1														
18	0.9DL + 1WL 0 AZI	Yes	Y		DL	.9	2	1	3		4	1														
19	0.9DL + 1WL 30 AZI	Yes	Y		DL	.9	2	.866	3	.5	5	1														
20	0.9DL + 1WL 45 AZI	Yes	Y		DL	.9	2	.707	3	.707	6	1														
21	0.9DL + 1WL 60 AZI	Yes	Y		DL	.9	2	.5	3	.866	7	1														
22	0.9DL + 1WL 90 AZI	Yes	Y		DL	.9	2		3	1	8	1														
23	0.9DL + 1WL 120 AZI	Yes	Y		DL	.9	2	-.5	3	.866	9	1														
24	0.9DL + 1WL 135 AZI	Yes	Y		DL	.9	2	-.7...	3	.707	10	1														
25	0.9DL + 1WL 150 AZI	Yes	Y		DL	.9	2	-.8...	3	.5	11	1														
26	0.9DL + 1WL 180 AZI	Yes	Y		DL	.9	2	-1	3		4	-1														
27	0.9DL + 1WL 210 AZI	Yes	Y		DL	.9	2	-.8...	3	-.5	5	-1														
28	0.9DL + 1WL 225 AZI	Yes	Y		DL	.9	2	-.7...	3	-.707	6	-1														

Load Combinations (Continued)

	Description	Solve	PDelta	SRSS	BLC	Fa..	B..	Fa..	B..	Fact..	B..	Fa..	B..	Fa..	B..	Fa..	B..	Fa..	B..	Fa..	B..	Fa..	B..	Fa..	B..	Fa..	B..	Fa..
29	0.9DL + 1WL 240 AZI	Yes	Y		DL	.9	2	-.5	3	-.866	7	-1																
30	0.9DL + 1WL 270 AZI	Yes	Y		DL	.9	2		3	-1	8	-1																
31	0.9DL + 1WL 300 AZI	Yes	Y		DL	.9	2	.5	3	-.866	9	-1																
32	0.9DL + 1WL 315 AZI	Yes	Y		DL	.9	2	.707	3	-.707	10	-1																
33	0.9DL + 1WL 330 AZI	Yes	Y		DL	.9	2	.866	3	-.5	11	-1																
34	1.2DL + 1DLi + 1WLi 0 ...	Yes	Y		DL	1.2	O...	1	13	1	14		15	1														
35	1.2DL + 1DLi + 1WLi 30 ...	Yes	Y		DL	1.2	O...	1	13	.866	14	.5	16	1														
36	1.2DL + 1DLi + 1WLi 45 ...	Yes	Y		DL	1.2	O...	1	13	.707	14	.707	17	1														
37	1.2DL + 1DLi + 1WLi 60 ...	Yes	Y		DL	1.2	O...	1	13	.5	14	.866	18	1														
38	1.2DL + 1DLi + 1WLi 90 ...	Yes	Y		DL	1.2	O...	1	13		14	1	19	1														
39	1.2DL + 1DLi + 1WLi 12...	Yes	Y		DL	1.2	O...	1	13	-.5	14	.866	20	1														
40	1.2DL + 1DLi + 1WLi 13...	Yes	Y		DL	1.2	O...	1	13	-.707	14	.707	21	1														
41	1.2DL + 1DLi + 1WLi 15...	Yes	Y		DL	1.2	O...	1	13	-.866	14	.5	22	1														
42	1.2DL + 1DLi + 1WLi 18...	Yes	Y		DL	1.2	O...	1	13	-1	14		15	-1														
43	1.2DL + 1DLi + 1WLi 21...	Yes	Y		DL	1.2	O...	1	13	-.866	14	-.5	16	-1														
44	1.2DL + 1DLi + 1WLi 22...	Yes	Y		DL	1.2	O...	1	13	-.707	14	-.7...	17	-1														
45	1.2DL + 1DLi + 1WLi 24...	Yes	Y		DL	1.2	O...	1	13	-.5	14	-.8...	18	-1														
46	1.2DL + 1DLi + 1WLi 27...	Yes	Y		DL	1.2	O...	1	13		14	-1	19	-1														
47	1.2DL + 1DLi + 1WLi 30...	Yes	Y		DL	1.2	O...	1	13	.5	14	-.8...	20	-1														
48	1.2DL + 1DLi + 1WLi 31...	Yes	Y		DL	1.2	O...	1	13	.707	14	-.7...	21	-1														
49	1.2DL + 1DLi + 1WLi 33...	Yes	Y		DL	1.2	O...	1	13	.866	14	-.5	22	-1														
50	(1.2+0.2Sds)DL + 1E 0 ...	Yes	Y		DL	1....	23	1	24																			
51	(1.2+0.2Sds)DL + 1E 30...	Yes	Y		DL	1....	23	.866	24	.5																		
52	(1.2+0.2Sds)DL + 1E 45...	Yes	Y		DL	1....	23	.707	24	.707																		
53	(1.2+0.2Sds)DL + 1E 60...	Yes	Y		DL	1....	23	.5	24	.866																		
54	(1.2+0.2Sds)DL + 1E 90...	Yes	Y		DL	1....	23		24	1																		
55	(1.2+0.2Sds)DL + 1E 12...	Yes	Y		DL	1....	23	-.5	24	.866																		
56	(1.2+0.2Sds)DL + 1E 13...	Yes	Y		DL	1....	23	-.7...	24	.707																		
57	(1.2+0.2Sds)DL + 1E 15...	Yes	Y		DL	1....	23	-.8...	24	.5																		
58	(1.2+0.2Sds)DL + 1E 18...	Yes	Y		DL	1....	23	-1	24																			
59	(1.2+0.2Sds)DL + 1E 21...	Yes	Y		DL	1....	23	-.8...	24	-.5																		
60	(1.2+0.2Sds)DL + 1E 22...	Yes	Y		DL	1....	23	-.7...	24	-.707																		
61	(1.2+0.2Sds)DL + 1E 24...	Yes	Y		DL	1....	23	-.5	24	-.866																		
62	(1.2+0.2Sds)DL + 1E 27...	Yes	Y		DL	1....	23		24	-1																		
63	(1.2+0.2Sds)DL + 1E 30...	Yes	Y		DL	1....	23	.5	24	-.866																		
64	(1.2+0.2Sds)DL + 1E 31...	Yes	Y		DL	1....	23	.707	24	-.707																		
65	(1.2+0.2Sds)DL + 1E 33...	Yes	Y		DL	1....	23	.866	24	-.5																		
66	(0.9-0.2Sds)DL + 1E 0 A...	Yes	Y		DL	.861	23	1	24																			
67	(0.9-0.2Sds)DL + 1E 30 ...	Yes	Y		DL	.861	23	.866	24	.5																		
68	(0.9-0.2Sds)DL + 1E 45 ...	Yes	Y		DL	.861	23	.707	24	.707																		
69	(0.9-0.2Sds)DL + 1E 60 ...	Yes	Y		DL	.861	23	.5	24	.866																		
70	(0.9-0.2Sds)DL + 1E 90 ...	Yes	Y		DL	.861	23		24	1																		
71	(0.9-0.2Sds)DL + 1E 12...	Yes	Y		DL	.861	23	-.5	24	.866																		
72	(0.9-0.2Sds)DL + 1E 13...	Yes	Y		DL	.861	23	-.7...	24	.707																		
73	(0.9-0.2Sds)DL + 1E 15...	Yes	Y		DL	.861	23	-.8...	24	.5																		
74	(0.9-0.2Sds)DL + 1E 18...	Yes	Y		DL	.861	23	-1	24																			
75	(0.9-0.2Sds)DL + 1E 21...	Yes	Y		DL	.861	23	-.8...	24	-.5																		
76	(0.9-0.2Sds)DL + 1E 22...	Yes	Y		DL	.861	23	-.7...	24	-.707																		
77	(0.9-0.2Sds)DL + 1E 24...	Yes	Y		DL	.861	23	-.5	24	-.866																		
78	(0.9-0.2Sds)DL + 1E 27...	Yes	Y		DL	.861	23		24	-1																		
79	(0.9-0.2Sds)DL + 1E 30...	Yes	Y		DL	.861	23	.5	24	-.866																		
80	(0.9-0.2Sds)DL + 1E 31...	Yes	Y		DL	.861	23	.707	24	-.707																		

Load Combinations (Continued)

	Description	Solve	PDelta	SRSS	BLC	Fa..B..Fa..B..Fact..B..Fa..B..Fa..B..Fa..B..Fa..B..Fa..B..Fa..B..Fa..B..Fa..B..Fa..																													
81	(0.9-0.2Sds)DL + 1E 33...	Yes	Y		DL	.861	23	.866	24	-.5																								
82	1.2DL + 1Lv1	Yes	Y		DL	1.2	25	1.5																										
83	1.2DL + 1Lv2	Yes	Y		DL	1.2	26	1.5																										
84	1.2DL + 1Lv3	Yes	Y		DL	1.2	27	1.5																										
85	1.2DL + 1Lv4	Yes	Y		DL	1.2	28	1.5																										
86	1.2DL + 1Lv5	Yes	Y		DL	1.2	29	1.5																										
87	1.2DL + 1Lv6	Yes	Y		DL	1.2	30	1.5																										
88	1.2DL + 1Lv7	Yes	Y		DL	1.2	31	1.5																										
89	1.2DL + 1Lv8	Yes	Y		DL	1.2	32	1.5																										
90	1.2DL + 1Lv9	Yes	Y		DL	1.2	33	1.5																										
91	1.2DL + 1.5Lm + 1Wm 0...	Yes	Y		DL	1.2	34	1.5	2	.058	3		4	.058																				
92	1.2DL + 1.5Lm + 1Wm 3...	Yes	Y		DL	1.2	34	1.5	2	.05	3	.029	5	.058																				
93	1.2DL + 1.5Lm + 1Wm 4...	Yes	Y		DL	1.2	34	1.5	2	.041	3	.041	6	.058																				
94	1.2DL + 1.5Lm + 1Wm 6...	Yes	Y		DL	1.2	34	1.5	2	.029	3	.05	7	.058																				
95	1.2DL + 1.5Lm + 1Wm 9...	Yes	Y		DL	1.2	34	1.5	2		3	.058	8	.058																				
96	1.2DL + 1.5Lm + 1Wm 1...	Yes	Y		DL	1.2	34	1.5	2	-.029	3	.05	9	.058																				
97	1.2DL + 1.5Lm + 1Wm 1...	Yes	Y		DL	1.2	34	1.5	2	-.041	3	.041	10	.058																				
98	1.2DL + 1.5Lm + 1Wm 1...	Yes	Y		DL	1.2	34	1.5	2	-.05	3	.029	11	.058																				
99	1.2DL + 1.5Lm + 1Wm 1...	Yes	Y		DL	1.2	34	1.5	2	-.058	3		4	-.0...																				
100	1.2DL + 1.5Lm + 1Wm 2...	Yes	Y		DL	1.2	34	1.5	2	-.05	3	-.0...	5	-.0...																				
101	1.2DL + 1.5Lm + 1Wm 2...	Yes	Y		DL	1.2	34	1.5	2	-.041	3	-.0...	6	-.0...																				
102	1.2DL + 1.5Lm + 1Wm 2...	Yes	Y		DL	1.2	34	1.5	2	-.029	3	-.05	7	-.0...																				
103	1.2DL + 1.5Lm + 1Wm 2...	Yes	Y		DL	1.2	34	1.5	2		3	-.0...	8	-.0...																				
104	1.2DL + 1.5Lm + 1Wm 3...	Yes	Y		DL	1.2	34	1.5	2	.029	3	-.05	9	-.0...																				
105	1.2DL + 1.5Lm + 1Wm 3...	Yes	Y		DL	1.2	34	1.5	2	.041	3	-.0...	10	-.0...																				
106	1.2DL + 1.5Lm + 1Wm 3...	Yes	Y		DL	1.2	34	1.5	2	.05	3	-.0...	11	-.0...																				
107	1.2DL + 1.5Lm + 1Wm 0...	Yes	Y		DL	1.2	35	1.5	2	.058	3		4	.058																				
108	1.2DL + 1.5Lm + 1Wm 3...	Yes	Y		DL	1.2	35	1.5	2	.05	3	.029	5	.058																				
109	1.2DL + 1.5Lm + 1Wm 4...	Yes	Y		DL	1.2	35	1.5	2	.041	3	.041	6	.058																				
110	1.2DL + 1.5Lm + 1Wm 6...	Yes	Y		DL	1.2	35	1.5	2	.029	3	.05	7	.058																				
111	1.2DL + 1.5Lm + 1Wm 9...	Yes	Y		DL	1.2	35	1.5	2		3	.058	8	.058																				
112	1.2DL + 1.5Lm + 1Wm 1...	Yes	Y		DL	1.2	35	1.5	2	-.029	3	.05	9	.058																				
113	1.2DL + 1.5Lm + 1Wm 1...	Yes	Y		DL	1.2	35	1.5	2	-.041	3	.041	10	.058																				
114	1.2DL + 1.5Lm + 1Wm 1...	Yes	Y		DL	1.2	35	1.5	2	-.05	3	.029	11	.058																				
115	1.2DL + 1.5Lm + 1Wm 1...	Yes	Y		DL	1.2	35	1.5	2	-.058	3		4	-.0...																				
116	1.2DL + 1.5Lm + 1Wm 2...	Yes	Y		DL	1.2	35	1.5	2	-.05	3	-.0...	5	-.0...																				
117	1.2DL + 1.5Lm + 1Wm 2...	Yes	Y		DL	1.2	35	1.5	2	-.041	3	-.0...	6	-.0...																				
118	1.2DL + 1.5Lm + 1Wm 2...	Yes	Y		DL	1.2	35	1.5	2	-.029	3	-.05	7	-.0...																				
119	1.2DL + 1.5Lm + 1Wm 2...	Yes	Y		DL	1.2	35	1.5	2		3	-.0...	8	-.0...																				
120	1.2DL + 1.5Lm + 1Wm 3...	Yes	Y		DL	1.2	35	1.5	2	.029	3	-.05	9	-.0...																				
121	1.2DL + 1.5Lm + 1Wm 3...	Yes	Y		DL	1.2	35	1.5	2	.041	3	-.0...	10	-.0...																				
122	1.2DL + 1.5Lm + 1Wm 3...	Yes	Y		DL	1.2	35	1.5	2	.05	3	-.0...	11	-.0...																				
123	1.2DL + 1.5Lm + 1Wm 0...	Yes	Y		DL	1.2	36	1.5	2	.058	3		4	.058																				
124	1.2DL + 1.5Lm + 1Wm 3...	Yes	Y		DL	1.2	36	1.5	2	.05	3	.029	5	.058																				
125	1.2DL + 1.5Lm + 1Wm 4...	Yes	Y		DL	1.2	36	1.5	2	.041	3	.041	6	.058																				
126	1.2DL + 1.5Lm + 1Wm 6...	Yes	Y		DL	1.2	36	1.5	2	.029	3	.05	7	.058																				
127	1.2DL + 1.5Lm + 1Wm 9...	Yes	Y		DL	1.2	36	1.5	2		3	.058	8	.058																				
128	1.2DL + 1.5Lm + 1Wm 1...	Yes	Y		DL	1.2	36	1.5	2	-.029	3	.05	9	.058																				
129	1.2DL + 1.5Lm + 1Wm 1...	Yes	Y		DL	1.2	36	1.5	2	-.041	3	.041	10	.058																				
130	1.2DL + 1.5Lm + 1Wm 1...	Yes	Y		DL	1.2	36	1.5	2	-.05	3	.029	11	.058																				
131	1.2DL + 1.5Lm + 1Wm 1...	Yes	Y		DL	1.2	36	1.5	2	-.058	3		4	-.0...																				
132	1.2DL + 1.5Lm + 1Wm 2...	Yes	Y		DL	1.2	36	1.5	2	-.05	3	-.0...	5	-.0...																				

Load Combinations (Continued)

	Description	Solve	PDelta	SRSS	BLC	Fa..	B...	Fa..	B...	Fact..	B...	Fa..	B...	Fa..	B...	Fa..	B...	Fa..	B...	Fa..	B...	Fa..	B...	Fa..	B...	Fa..
133	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	36	1.5	2	-.041	3	-.0..	6	-.0..												
134	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	36	1.5	2	-.029	3	-.05	7	-.0..												
135	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	36	1.5	2		3	-.0..	8	-.0..												
136	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	36	1.5	2	.029	3	-.05	9	-.0..												
137	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	36	1.5	2	.041	3	-.0..	10	-.0..												
138	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	36	1.5	2	.05	3	-.0..	11	-.0..												
139	1.2DL + 1.5Lm + 1Wm 0..	Yes	Y		DL	1.2	37	1.5	2	.058	3		4	.058												
140	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	37	1.5	2	.05	3	.029	5	.058												
141	1.2DL + 1.5Lm + 1Wm 4..	Yes	Y		DL	1.2	37	1.5	2	.041	3	.041	6	.058												
142	1.2DL + 1.5Lm + 1Wm 6..	Yes	Y		DL	1.2	37	1.5	2	.029	3	.05	7	.058												
143	1.2DL + 1.5Lm + 1Wm 9..	Yes	Y		DL	1.2	37	1.5	2		3	.058	8	.058												
144	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	37	1.5	2	-.029	3	.05	9	.058												
145	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	37	1.5	2	-.041	3	.041	10	.058												
146	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	37	1.5	2	-.05	3	.029	11	.058												
147	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	37	1.5	2	-.058	3		4	-.0..												
148	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	37	1.5	2	-.05	3	-.0..	5	-.0..												
149	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	37	1.5	2	-.041	3	-.0..	6	-.0..												
150	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	37	1.5	2	-.029	3	-.05	7	-.0..												
151	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	37	1.5	2		3	-.0..	8	-.0..												
152	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	37	1.5	2	.029	3	-.05	9	-.0..												
153	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	37	1.5	2	.041	3	-.0..	10	-.0..												
154	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	37	1.5	2	.05	3	-.0..	11	-.0..												
155	1.2DL + 1.5Lm + 1Wm 0..	Yes	Y		DL	1.2	38	1.5	2	.058	3		4	.058												
156	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	38	1.5	2	.05	3	.029	5	.058												
157	1.2DL + 1.5Lm + 1Wm 4..	Yes	Y		DL	1.2	38	1.5	2	.041	3	.041	6	.058												
158	1.2DL + 1.5Lm + 1Wm 6..	Yes	Y		DL	1.2	38	1.5	2	.029	3	.05	7	.058												
159	1.2DL + 1.5Lm + 1Wm 9..	Yes	Y		DL	1.2	38	1.5	2		3	.058	8	.058												
160	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	38	1.5	2	-.029	3	.05	9	.058												
161	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	38	1.5	2	-.041	3	.041	10	.058												
162	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	38	1.5	2	-.05	3	.029	11	.058												
163	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	38	1.5	2	-.058	3		4	-.0..												
164	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	38	1.5	2	-.05	3	-.0..	5	-.0..												
165	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	38	1.5	2	-.041	3	-.0..	6	-.0..												
166	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	38	1.5	2	-.029	3	-.05	7	-.0..												
167	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	38	1.5	2		3	-.0..	8	-.0..												
168	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	38	1.5	2	.029	3	-.05	9	-.0..												
169	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	38	1.5	2	.041	3	-.0..	10	-.0..												
170	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	38	1.5	2	.05	3	-.0..	11	-.0..												
171	1.2DL + 1.5Lm + 1Wm 0..	Yes	Y		DL	1.2	39	1.5	2	.058	3		4	.058												
172	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	39	1.5	2	.05	3	.029	5	.058												
173	1.2DL + 1.5Lm + 1Wm 4..	Yes	Y		DL	1.2	39	1.5	2	.041	3	.041	6	.058												
174	1.2DL + 1.5Lm + 1Wm 6..	Yes	Y		DL	1.2	39	1.5	2	.029	3	.05	7	.058												
175	1.2DL + 1.5Lm + 1Wm 9..	Yes	Y		DL	1.2	39	1.5	2		3	.058	8	.058												
176	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	39	1.5	2	-.029	3	.05	9	.058												
177	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	39	1.5	2	-.041	3	.041	10	.058												
178	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	39	1.5	2	-.05	3	.029	11	.058												
179	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	39	1.5	2	-.058	3		4	-.0..												
180	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	39	1.5	2	-.05	3	-.0..	5	-.0..												
181	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	39	1.5	2	-.041	3	-.0..	6	-.0..												
182	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	39	1.5	2	-.029	3	-.05	7	-.0..												
183	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	39	1.5	2		3	-.0..	8	-.0..												
184	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	39	1.5	2	.029	3	-.05	9	-.0..												

Load Combinations (Continued)

	Description	Solve	PDelta	SRSS	BLC	Fa..	B..	Fa..	B..	Fact..	B..	Fa..	B..	Fa..	B..	Fa..	B..	Fa..	B..	Fa..	B..	Fa..	B..	Fa..	B..	Fa..
185	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	39	1.5	2	.041	3	-.0..	10	-.0..												
186	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	39	1.5	2	.05	3	-.0..	11	-.0..												
187	1.2DL + 1.5Lm + 1Wm 0..	Yes	Y		DL	1.2	40	1.5	2	.058	3		4	.058												
188	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	40	1.5	2	.05	3	.029	5	.058												
189	1.2DL + 1.5Lm + 1Wm 4..	Yes	Y		DL	1.2	40	1.5	2	.041	3	.041	6	.058												
190	1.2DL + 1.5Lm + 1Wm 6..	Yes	Y		DL	1.2	40	1.5	2	.029	3	.05	7	.058												
191	1.2DL + 1.5Lm + 1Wm 9..	Yes	Y		DL	1.2	40	1.5	2		3	.058	8	.058												
192	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	40	1.5	2	-.029	3	.05	9	.058												
193	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	40	1.5	2	-.041	3	.041	10	.058												
194	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	40	1.5	2	-.05	3	.029	11	.058												
195	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	40	1.5	2	-.058	3		4	-.0..												
196	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	40	1.5	2	-.05	3	-.0..	5	-.0..												
197	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	40	1.5	2	-.041	3	-.0..	6	-.0..												
198	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	40	1.5	2	-.029	3	-.05	7	-.0..												
199	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	40	1.5	2		3	-.0..	8	-.0..												
200	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	40	1.5	2	.029	3	-.05	9	-.0..												
201	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	40	1.5	2	.041	3	-.0..	10	-.0..												
202	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	40	1.5	2	.05	3	-.0..	11	-.0..												
203	1.2DL + 1.5Lm + 1Wm 0..	Yes	Y		DL	1.2	41	1.5	2	.058	3		4	.058												
204	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	41	1.5	2	.05	3	.029	5	.058												
205	1.2DL + 1.5Lm + 1Wm 4..	Yes	Y		DL	1.2	41	1.5	2	.041	3	.041	6	.058												
206	1.2DL + 1.5Lm + 1Wm 6..	Yes	Y		DL	1.2	41	1.5	2	.029	3	.05	7	.058												
207	1.2DL + 1.5Lm + 1Wm 9..	Yes	Y		DL	1.2	41	1.5	2		3	.058	8	.058												
208	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	41	1.5	2	-.029	3	.05	9	.058												
209	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	41	1.5	2	-.041	3	.041	10	.058												
210	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	41	1.5	2	-.05	3	.029	11	.058												
211	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	41	1.5	2	-.058	3		4	-.0..												
212	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	41	1.5	2	-.05	3	-.0..	5	-.0..												
213	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	41	1.5	2	-.041	3	-.0..	6	-.0..												
214	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	41	1.5	2	-.029	3	-.05	7	-.0..												
215	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	41	1.5	2		3	-.0..	8	-.0..												
216	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	41	1.5	2	.029	3	-.05	9	-.0..												
217	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	41	1.5	2	.041	3	-.0..	10	-.0..												
218	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	41	1.5	2	.05	3	-.0..	11	-.0..												
219	1.2DL + 1.5Lm + 1Wm 0..	Yes	Y		DL	1.2	42	1.5	2	.058	3		4	.058												
220	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	42	1.5	2	.05	3	.029	5	.058												
221	1.2DL + 1.5Lm + 1Wm 4..	Yes	Y		DL	1.2	42	1.5	2	.041	3	.041	6	.058												
222	1.2DL + 1.5Lm + 1Wm 6..	Yes	Y		DL	1.2	42	1.5	2	.029	3	.05	7	.058												
223	1.2DL + 1.5Lm + 1Wm 9..	Yes	Y		DL	1.2	42	1.5	2		3	.058	8	.058												
224	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	42	1.5	2	-.029	3	.05	9	.058												
225	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	42	1.5	2	-.041	3	.041	10	.058												
226	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	42	1.5	2	-.05	3	.029	11	.058												
227	1.2DL + 1.5Lm + 1Wm 1..	Yes	Y		DL	1.2	42	1.5	2	-.058	3		4	-.0..												
228	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	42	1.5	2	-.05	3	-.0..	5	-.0..												
229	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	42	1.5	2	-.041	3	-.0..	6	-.0..												
230	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	42	1.5	2	-.029	3	-.05	7	-.0..												
231	1.2DL + 1.5Lm + 1Wm 2..	Yes	Y		DL	1.2	42	1.5	2		3	-.0..	8	-.0..												
232	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	42	1.5	2	.029	3	-.05	9	-.0..												
233	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	42	1.5	2	.041	3	-.0..	10	-.0..												
234	1.2DL + 1.5Lm + 1Wm 3..	Yes	Y		DL	1.2	42	1.5	2	.05	3	-.0..	11	-.0..												

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N25	max	1072.657	20	2401.399	39	1781.706	3	238.528	33	2005.676	3	67.581	30
2		min	-1079.122	12	103.058	31	-1777.934	27	-2483.107	41	-2005.657	11	-4220.032	38
3	N1	max	1079.123	8	2401.388	45	1781.708	17	238.525	19	2005.657	9	4220.01	46
4		min	-1072.659	32	103.06	21	-1777.936	25	-2483.098	43	-2005.677	17	-67.582	22
5	N13	max	1876.485	22	2405.698	34	427.519	18	4883.797	34	1774.619	14	688.883	167
6		min	-1876.485	30	85.071	26	-435.311	10	-129.262	26	-1774.619	6	-688.887	223
7	Totals:	max	3348.54	22	6898.632	42	3511.104	18						
8		min	-3348.54	30	1536.131	66	-3511.105	10						

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

	Member	Shape	Code Che...	Lo...	LC	She...	Lo...	...	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb...	phi*M.....	Eqn
1	M7	PIPE_3.5	.615	40	34	.166	40		6	75262.68	78750	7953.75	7953....	H1-1b
2	M12	PIPE_3.5	.613	40	39	.176	40		11	75262.68	78750	7953.75	7953....	H1-1b
3	M2	PIPE_3.5	.613	40	45	.176	40		9	75262.68	78750	7953.75	7953....	H1-1b
4	M6	C3X5	.499	34....	34	.174	63....	y	45	37027.882	47628	981.263	4020....1	H1-1b
5	M11	C3X5	.496	34....	38	.175	6.5...	y	45	11202.931	47628	981.263	4104 ...	H1-1b
6	M1	C3X5	.496	34....	46	.175	63....	y	39	11202.931	47628	981.263	4104 ...	H1-1b
7	MP5	PIPE_2.0	.330	48	10	.052	48		10	20866.733	32130	1871.625	1871....	H1-1b
8	MP8	PIPE_2.0	.330	48	10	.052	48		10	20866.733	32130	1871.625	1871....	H1-1b
9	MP2	PIPE_2.0	.329	48	15	.054	48		5	20866.733	32130	1871.625	1871....	H1-1b
10	MP1	PIPE_2.0	.322	48	15	.042	48		11	20866.733	32130	1871.625	1871....	H1-1b
11	MP3	PIPE_2.0	.322	48	5	.042	48		9	20866.733	32130	1871.625	1871....	H1-1b
12	MP4	PIPE_2.0	.320	48	10	.038	48		5	20866.733	32130	1871.625	1871....	H1-1b
13	MP9	PIPE_2.0	.320	48	10	.038	48		15	20866.733	32130	1871.625	1871....	H1-1b
14	MP6	PIPE_2.0	.298	48	15	.044	48		4	20866.733	32130	1871.625	1871....	H1-1b
15	MP7	PIPE_2.0	.298	48	5	.044	48		16	20866.733	32130	1871.625	1871....	H1-1b
16	M10	6.5"x0.3...	.247	21	2	.111	21	y	47	3513.807	75757.5	583.963	6179....	H1-1b
17	M15	6.5"x0.3...	.247	21	7	.111	21	y	42	3513.807	75757.5	583.963	6196....	H1-1b
18	M5	6.5"x0.3...	.247	21	13	.111	21	y	42	3513.807	75757.5	583.963	6196....	H1-1b
19	M4	L2x2x3	.172	0	13	.038	0	y	41	18051.765	23392.8	557.717	1239....	H2-1
20	M13	L2x2x3	.172	0	7	.038	0	z	43	18051.765	23392.8	557.717	1239....	H2-1
21	M8	L2x2x3	.157	0	2	.038	0	z	38	18051.765	23392.8	557.717	1239....	H2-1
22	M9	L2x2x3	.157	0	2	.038	0	y	46	18051.765	23392.8	557.717	1239....	H2-1
23	M14	L2x2x3	.149	0	8	.038	0	y	35	18051.765	23392.8	557.717	1239....	H2-1
24	M3	L2x2x3	.149	0	12	.038	0	z	49	18051.765	23392.8	557.717	1239....	H2-1
25	M19	PIPE_2.0	.128	72	10	.118	24		2	14916.036	32130	1871.625	1871....	H1-1b
26	M20	PIPE_2.0	.126	24	16	.115	72		8	14916.036	32130	1871.625	1871....	H1-1b
27	M21	PIPE_2.0	.126	72	4	.115	24		12	14916.036	32130	1871.625	1871....	H1-1b
28	H1	PIPE_3.5	.118	48	106	.084	24		10	60666.044	78750	7953.75	7953....	H1-1b
29	H2	PIPE_3.5	.118	48	196	.082	72		5	60666.044	78750	7953.75	7953....	H1-1b
30	H3	PIPE_3.5	.118	48	146	.082	24		15	60666.044	78750	7953.75	7953....	H1-1b
31	M24	L6 5/8x...	.107	21	18	.031	0	y	14	15453.054	66065.641	1040.591	3031....	H2-1
32	M23	L6 5/8x...	.101	40....	30	.033	0	y	9	15453.054	66065.641	1040.591	3031....	H2-1
33	M22	L6 5/8x...	.101	1.3...	22	.033	42	y	11	15453.054	66065.641	1040.591	3031....	H2-1

APPENDIX D

ADDITIONAL CALCUATIONS

Trylon

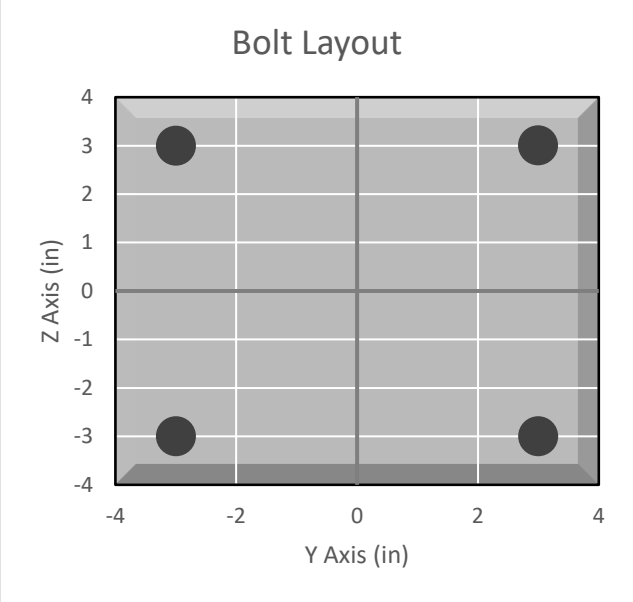
Analysis date: 8/2/2021

BOLT TOOL 1.5.2

Project Data	
Job Code:	876331
Carrier Site ID:	BOBDL00083A
Carrier Site Name:	CT-CCI-T-876331

Code	
Design Standard:	TIA-222-H
Slip Check:	No
Pretension Standard:	TIA-222-H

Bolt Properties		
Connection Type:	Bolt	
Diameter:	0.625	in
Grade:	A529	--
Yield Strength (Fy):	50	ksi
Ultimate Strength (Fu):	65	ksi
Number of Bolts:	4	--
Threads Included:	Yes	--
Double Shear:	No	--
Connection Pipe Size:	-	in



Connection Description
Mount Standoff to Collar

Bolt Check*		
Tensile Capacity (ϕT_n):	11017.6	lbs
Shear Capacity (ϕV_n):	7478.2	lbs
Tension Force (T_u):	5138.2	lbs
Shear Force (V_u):	670.9	lbs
Tension Usage:	44.4%	--
Shear Usage:	8.5%	--
Interaction:	44.4%	Pass
Controlling Member:	M12	--
Controlling LC:	42	--

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

1825 W. Walnut Hill Lane, Suite 120
Irving, Texas 75038

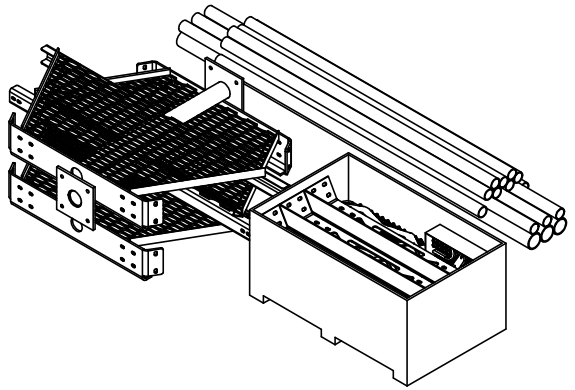
APPENDIX E

SUPPLEMENTAL DRAWINGS

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT	NOTE NO.
1	MTC3006SB	STEEL BUNDLE FOR SNUB NOSE PLATFORM	1	402.64 LBS	
2	MCPK8CSB	PIPE STEEL BUNDLE FOR MC-PK8-C	1	464.27 LBS	
3	MCPK8CHWK	HARDWARE KIT FOR MC-PK8-C	1	543.22 LBS	

REVISIONS				
REV.	ECN	DESCRIPTION	BY	DATE
A		INITIAL RELEASE	DRR	12/27/11
B	8000005979	CHANGE NOSE CORNER BRKT, ADD GUB-4240	MSM	11/25/14
C	8000007579	NEW RINGMOUNT WELDMENT DESIGN	RJC	04/07/15

FOR BOM ENTRY ONLY



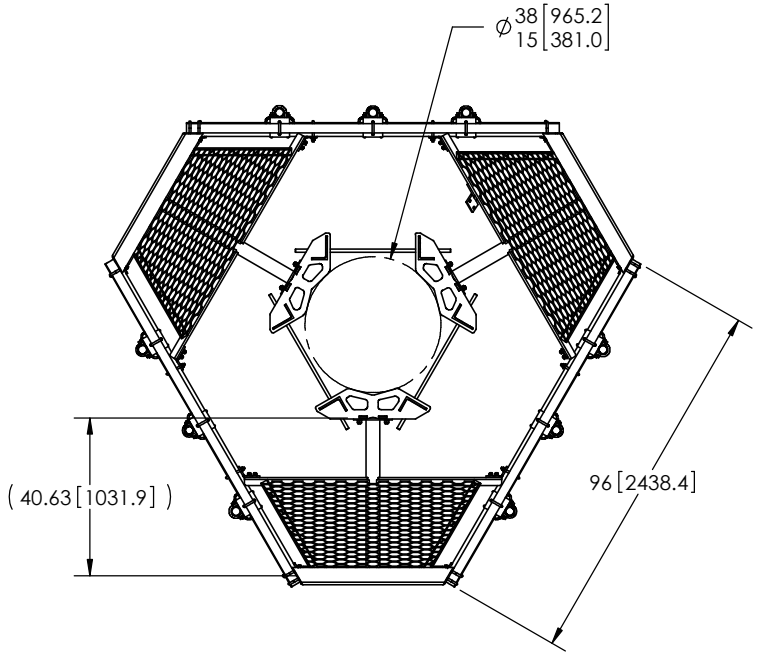
NOTES:
1. CUSTOMER ASSEMBLY SHEETS 2–3.

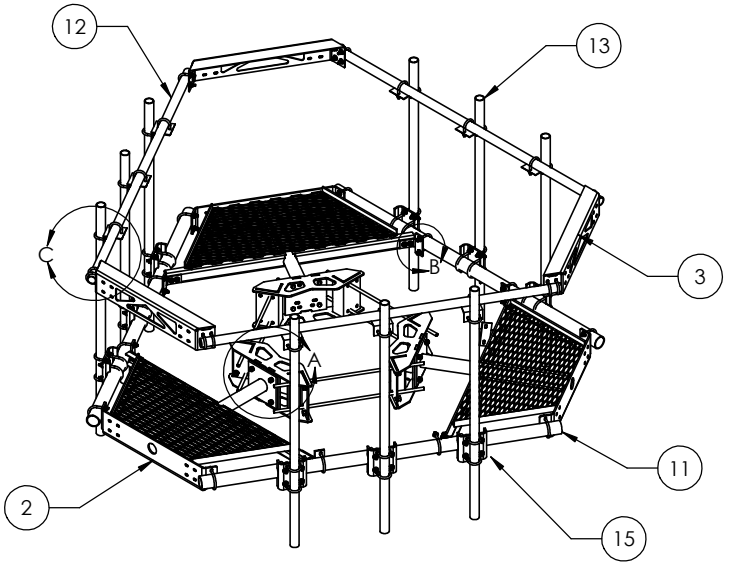
ALL DIMENSIONS ARE IN INCHES U.O.S.
TOLERANCES UNLESS OTHERWISE SPECIFIED:
.X = ± .12 ANGLES ±2°
.XX = ± .06 FRACTIONS ±1/32
.XXX= ± .03

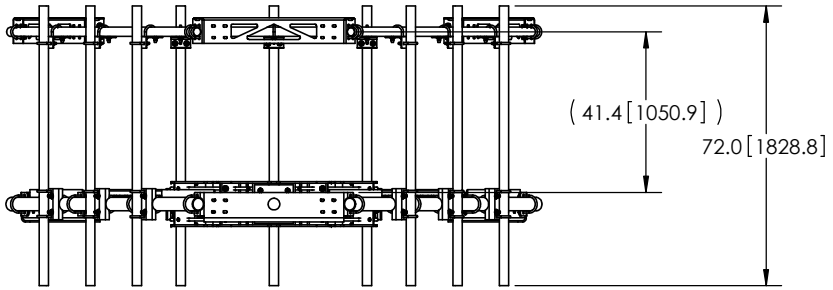
REMOVE BURRS AND BREAK EDGES .005

DO NOT SCALE THIS PRINT

DRAWN BY: MSM	SHEET: 1 of 3	PART NUMBER: MC-PK8-C	
CHECKED BY: TP	SCALE: NTS	DESCRIPTION: LOW PROFILE PLATFORM KIT 8' FACE	
DATE: 10/18/11	MATERIAL: A36, A500	DRAWING TYPE: ASSEMBLY DRAWING	
REVISION: C	FINISH: GALV A123	WEIGHT: 1410.14 LBS	ANDREW® WESTCHESTER, IL. 60154 U.S.A.





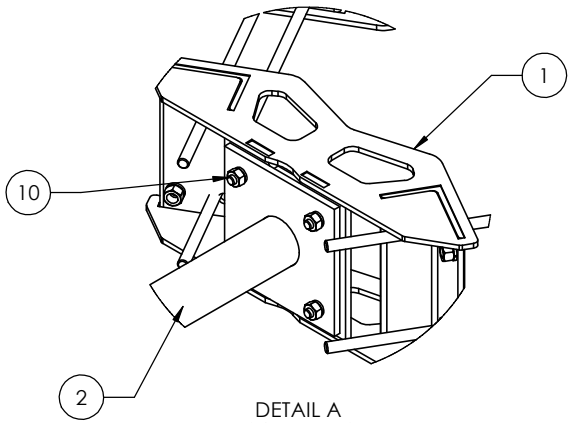


ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
C 1	MC-RM1550-3	12" - 50" OD RINGMOUNT	1	230.42 LBS
2	MTC300601	Low Profile Co-Location Platform Snub Nose	3	134.21 LBS
3	MT195801	Corner Weldment Snub Nose Handrail	3	27.10 LBS
4	XA2020.01	CROSS OVER ANGLE	9	2.65 LBS
5	GUB-4356	1/2" X 3-5/8" X 6" GALV U-BOLT	18	0.82 LBS
6	GUB-4355	1/2" X 3-5/8" X 5" GALV U-BOLT	12	0.71 LBS
7	GUB-4240	1/2" X 2-1/2" X 4" GALV U-BOLT	48	0.56 LBS
8	GB-04145	1/2" X 1-1/2" GALV BOLT KIT	12	0.13 LBS
9	GWF-04	1/2" GALV FLAT WASHER	24	0.03 LBS
10	GB-0520A	5/8" X 2" GALV BOLT KIT (A325)	12	0.27 LBS
11	MT54796	3.50" OD X 96" GALV PIPE	3	60.28 LBS
12	MT-651-96	Ø2.375" OD X 96" PIPE	3	29.07 LBS
13	MT-651	2.375" OD x 72" PIPE	9	21.80 LBS
14	MT19617	MT196 Pipe Mount Plate	6	2.49 LBS
15	MT21701	PIPE MOUNT PLATE	9	7.93 LBS

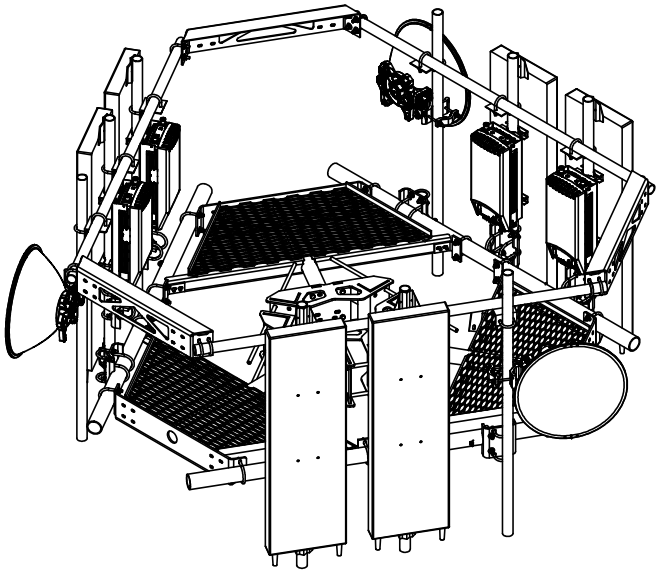
NOTES:
1. ALL METRIC DIMENSIONS ARE IN BRACKETS.
2. WILL FIT MONOPOLES 15"–38" OD.

ALL DIMENSIONS ARE IN INCHES U.O.S.
TOLERANCES UNLESS OTHERWISE SPECIFIED:
.X = ± .12 ANGLES ±2°
.XX = ± .06 FRACTIONS ±1/32
.XXX= ± .03
REMOVE BURRS AND BREAK EDGES .005
DO NOT SCALE THIS PRINT

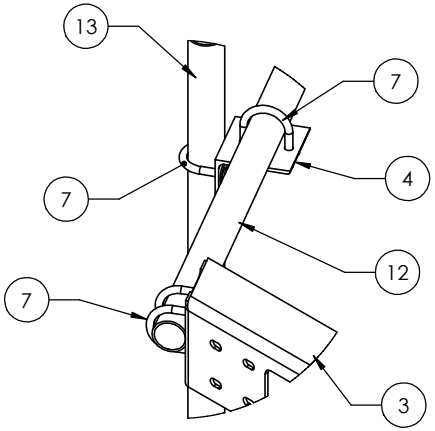
DRAWN BY: MSM	SHEET: 2 of 3	PART NUMBER: MC-PK8-C	
CHECKED BY: TP	SCALE: NTS	DESCRIPTION: 25" OD Snub Nose MT-196	
DATE: 10/18/11	MATERIAL: A36, A53	DRAWING TYPE: ASSEMBLY DRAWING	
REVISION: C	FINISH: GALV A123	ANDREW® WESTCHESTER, IL. 60154 U.S.A.	
	WEIGHT: 1361.27 LBS		



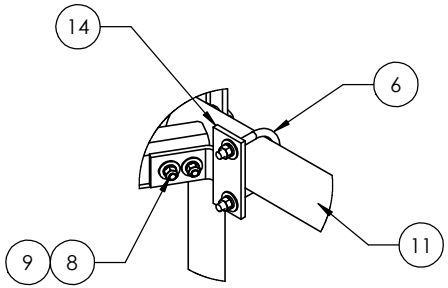
DETAIL A
SCALE 1 : 8



WITH ANTENNAS



DETAIL C
SCALE 1 : 8



DETAIL B
SCALE 1 : 8

NOTES:
1. ALL METRIC DIMENSIONS ARE IN BRACKETS.

ALL DIMENSIONS ARE IN INCHES U.O.S.
TOLERANCES UNLESS OTHERWISE SPECIFIED:
.X = ± .12 ANGLES ±2°
.XX = ± .06 FRACTIONS ±1/32
.XXX= ± .03
REMOVE BURRS AND BREAK EDGES .005
DO NOT SCALE THIS PRINT

DRAWN BY: MSM	SHEET: 3 of 3	PART NUMBER: MC-PK8-C	
CHECKED BY: TP	SCALE: NTS	DESCRIPTION: 25" OD Snub Nose MT-196	
DATE: 10/18/11	MATERIAL: A36, A53	DRAWING TYPE: ASSEMBLY DRAWING	
REVISION: C	FINISH: GALV A123	ANDREW® WESTCHESTER, IL. 60154 U.S.A.	
	WEIGHT: 1361.27 LBS		

Exhibit F

Power Density/RF Emissions Report

EBI Consulting

environmental | engineering | due diligence

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

Dish Wireless Existing Facility

Site ID: 876331

BOBDL00083A
115 North Mountain Road
New Britain, Connecticut 06053

June 24, 2021

EBI Project Number: 6221003211

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**98.88%**

21 B Street, Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

June 24, 2021

Dish Wireless

Emissions Analysis for Site: 876331 - BOBDL00083A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **115 North Mountain Road** in **New Britain, Connecticut** for the purpose of determining whether the emissions from the Proposed Dish Wireless Antenna Installation located on this property are within specified federal limits.

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

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

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

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

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed Dish Wireless Wireless antenna facility located at 115 North Mountain Road in New Britain, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since Dish Wireless is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 4 5G channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 4 5G channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

3) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

4) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

5) The antennas used in this modeling are the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz channel(s) in Sector A, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz channel(s) in Sector B, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

6) The antenna mounting height centerline of the proposed antennas is 62 feet above ground level (AGL).

7) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

8) All calculations were done with respect to uncontrolled / general population threshold limits.

Dish Wireless Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21	Make / Model:	JMA MX08FRO665-21
Frequency Bands:	600 MHz / 1900 MHz	Frequency Bands:	600 MHz / 1900 MHz	Frequency Bands:	600 MHz / 1900 MHz
Gain:	17.45 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd
Height (AGL):	62 feet	Height (AGL):	62 feet	Height (AGL):	62 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	280 Watts	Total TX Power (W):	280 Watts	Total TX Power (W):	280 Watts
ERP (W):	36,123.20	ERP (W):	36,123.20	ERP (W):	36,123.20
Antenna A1 MPE %:	**52.88%**	Antenna B1 MPE %:	**52.88%**	Antenna C1 MPE %:	**52.88%**

Site Composite MPE %	
Carrier	**MPE %**
Dish Wireless (Max at Sector A):	52.88%
AT&T	6.68%
Clearwire	0.25%
Sprint	6.8%
T-Mobile	23.51%
Verizon	8.76%
Site Total MPE % :	98.88%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	52.88%
Dish Wireless Sector B Total:	52.88%
Dish Wireless Sector C Total:	52.88%
Site Total MPE % :	98.88%

Dish Wireless Maximum MPE Power Values (Sector A)

Dish Wireless Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
Dish Wireless 600 MHz 5G	4	1667.71	62.0	76.48	600 MHz 5G	400	19.12%
Dish Wireless 1900 MHz 5G	4	7363.09	62.0	337.65	1900 MHz 5G	1000	33.76%
						Total:	**52.88%**

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

Summary

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

The anticipated maximum composite contributions from the Dish Wireless facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

Dish Wireless Sector	Power Density Value (%)
Sector A:	52.88%
Sector B:	52.88%
Sector C:	52.88%
Dish Wireless Maximum MPE % (Sector A):	52.88%
Site Total:	98.88%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **98.88%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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

Exhibit G

Letter of Authorization

3 Corporate Dr, Suite 101
Clifton Park, NY 12065

Phone: (201) 236-9224
Fax: (724) 416-6112
www.crowncastle.com

Crown Castle Letter of Authorization

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

Re: Tower Share Application
Crown Castle telecommunications site at:
115 NORTH MOUNTAIN RD, NEW BRITAIN, CT 06053

GLOBAL SIGNAL ACQUISITIONS II LLC ("Crown Castle") hereby authorizes DISH WIRELESS, LLC, including their Agent, to act as our Agent in the processing of all zoning applications and approvals through the CT - CONNECTICUT SITING COUNCIL for the existing wireless communications site described below:

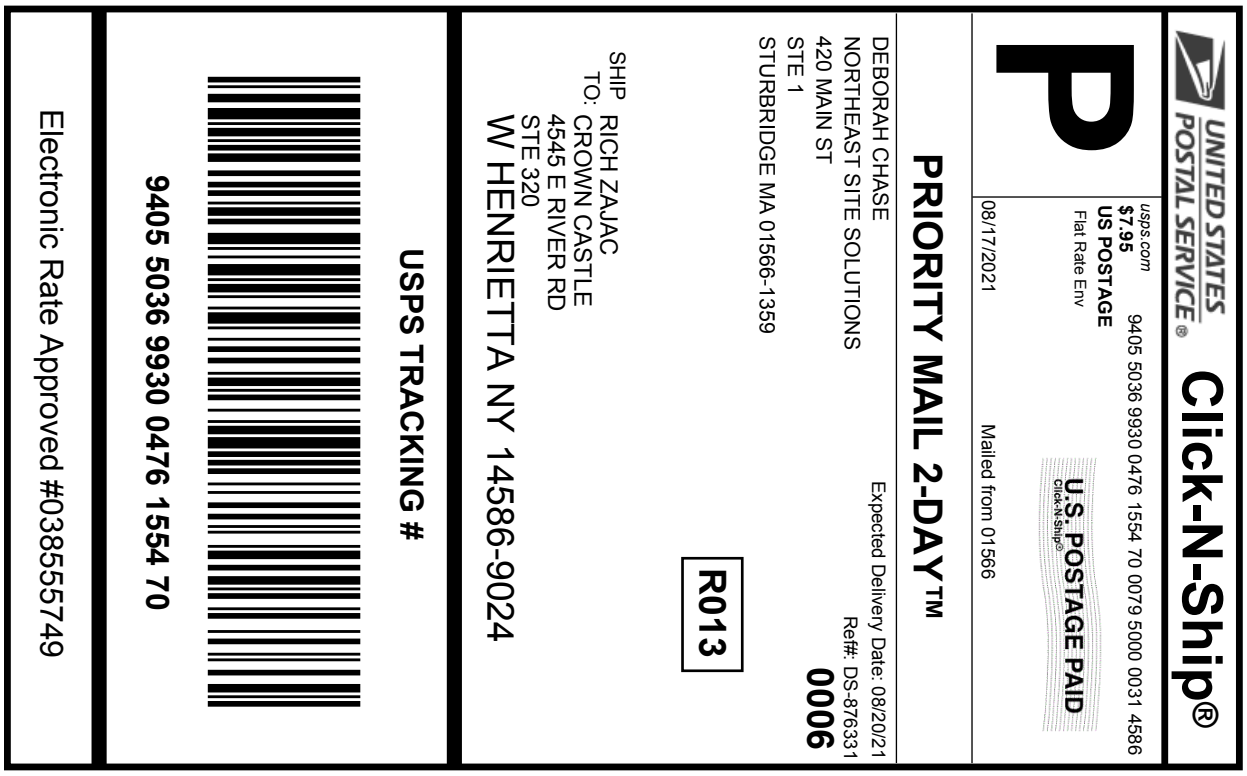
Crown Site ID/Name: 876331/NEW BRITAIN GRAVEL PIT
Customer Site ID: BOBDL00083A/CT-CCI-T-876331
Site Address: 115 North Mountain Rd, NEW BRITAIN, CT 06053

Crown Castle

By: Anne Marie Zsamba Date: 7/22/21
Anne Marie Zsamba
Project Manager – Site Acquisition

Exhibit H

Recipient Mailings



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0476 1554 70

Trans. #:	540988763
Print Date:	08/17/2021
Ship Date:	08/17/2021
Expected Delivery Date:	08/20/2021

Priority Mail® Postage:	**$7.95**
Total:	**$7.95**

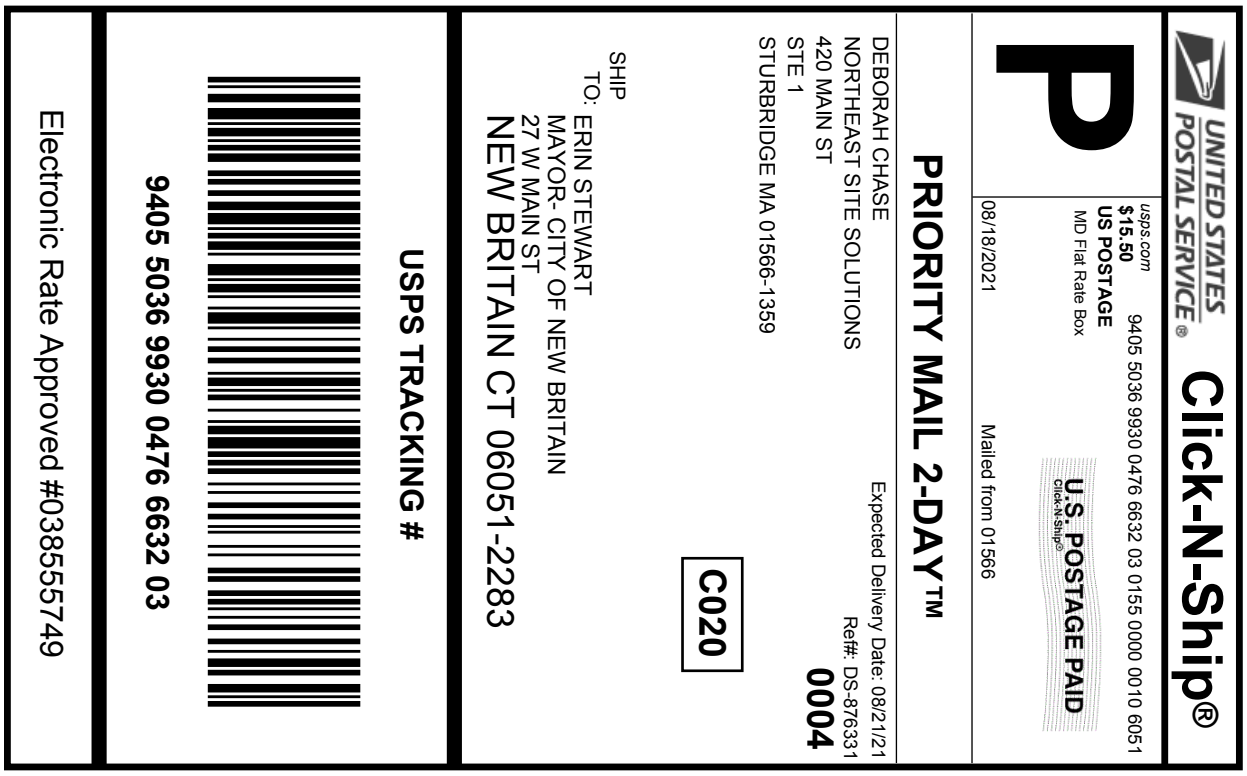
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: DS-876331

To: RICH ZAJAC
CROWN CASTLE
4545 E RIVER RD
STE 320
W HENRIETTA NY 14586-9024

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0476 6632 03

Trans. #:	541029883
Print Date:	08/17/2021
Ship Date:	08/18/2021
Expected Delivery Date:	08/21/2021

Priority Mail® Postage:	**$15.50**
Total:	**$15.50**

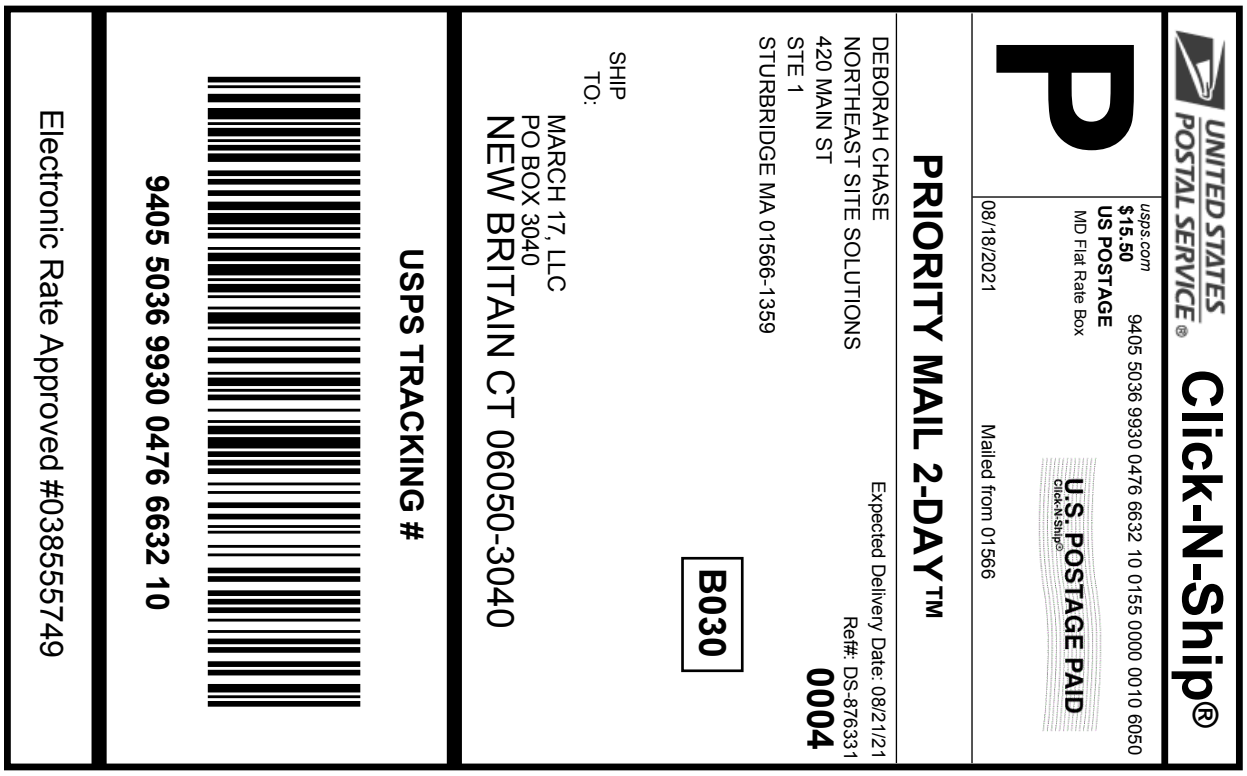
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: DS-876331

To: ERIN STEWART
MAYOR- CITY OF NEW BRITAIN
27 W MAIN ST
NEW BRITAIN CT 06051-2283

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



Cut on dotted line.

Instructions

1. **Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.**
2. **Place your label so it does not wrap around the edge of the package.**
3. **Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.**
4. **To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.**
5. **Mail your package on the "Ship Date" you selected when creating this label.**

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0476 6632 10

Trans. #:	541029883
Print Date:	08/17/2021
Ship Date:	08/18/2021
Expected Delivery Date:	08/21/2021

Priority Mail® Postage:	**$15.50**
Total:	**$15.50**

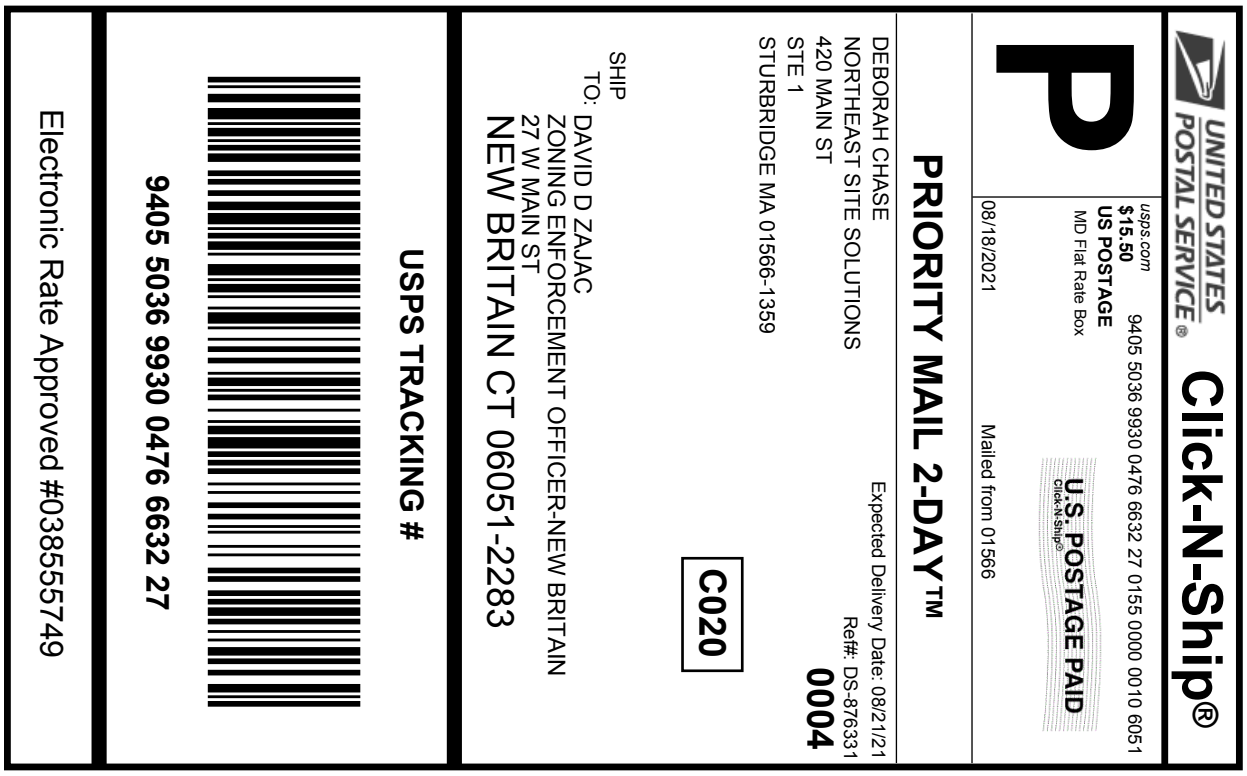
From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: DS-876331

To: MARCH 17, LLC
PO BOX 3040
NEW BRITAIN CT 06050-3040

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com



Cut on dotted line.

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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0476 6632 27

Trans. #:	541029883
Print Date:	08/17/2021
Ship Date:	08/18/2021
Expected Delivery Date:	08/21/2021

Priority Mail® Postage:	**$15.50**
Total:	**$15.50**

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Ref#: DS-876331

To: DAVID D ZAJAC
ZONING ENFORCEMENT OFFICER-NEW BRITAIN
27 W MAIN ST
NEW BRITAIN CT 06051-2283

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.

Thank you for shipping with the United States Postal Service!
Check the status of your shipment on the USPS Tracking® page at usps.com

8746331

UNITED STATES POSTAL SERVICE.

FISKDALE
458 MAIN ST
FISKDALE, MA 01518-9998
(800)275-8777

08/18/2021 12:40 PM

Product	Qty	Unit Price	Price
Prepaid Mail West Henrietta, NY 14586 Weight: 0 lb 2.00 oz Acceptance Date: Wed 08/18/2021 Tracking #: 9405 5036 9930 0476 1554 70	1		$0.00
Prepaid Mail New Britain, CT 06051 Weight: 2 lb 13.70 oz Acceptance Date: Wed 08/18/2021 Tracking #: 9405 5036 9930 0476 6632 03	1		$0.00
Prepaid Mail New Britain, CT 06051 Weight: 2 lb 13.80 oz Acceptance Date: Wed 08/18/2021 Tracking #: 9405 5036 9930 0476 6632 27	1		$0.00
Prepaid Mail New Britain, CT 06050 Weight: 3 lb 6.10 oz Acceptance Date: Wed 08/18/2021 Tracking #: 9405 5036 9930 0476 6632 10	1		$0.00