PROJECT NARRATIVE

October 25, 2021

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

Re: Request of DISH Wireless LLC for an Order to Approve the Shared Use of an Existing Tower
56 Ruops Road Tolland, CT 06084
Latitude: 41'52'24.0" / Longitude: -72'20'17.88"

Dear Ms. Bachman:

Pursuant to Connecticut General Statutes ("C.G.S.") §16-50aa, as amended, DISH Wireless LLC ("DISH") hereby requests an order from the Connecticut Siting Council ("Council") to approve the shared use by DISH of an existing telecommunication tower at 56 Ruops Road in Tolland (the "Property"). The existing 165-foot monopole tower is owned by American Tower Corporation ("ATC"). The underlying property is owned by The Town of Tolland. DISH requests that the Council find that the proposed shared use of the ATC tower satisfies the criteria of C.G.S. §16-50aa and issue an order approving the proposed shared use. A copy of this filing is being sent to Tammy Nuccio, Chair for the Town of Tolland Town Council, James Paquin, Town of Tolland Building Official & The Town of Tolland as the property owner.

Background

The existing ATC facility consists of a 165-foot monopole tower located within an existing leased area. T-Mobile currently maintains antennas at the 162-foot level, 105-foot level and 81-foot level. AT&T Mobility currently maintains antennas at the 149-foot level. Verizon Wireless currently maintains antennas at the 140-foot level. Sprint/Nextel currently maintains antennas at the 133-foot level,121-foot level and 50-foot level. Equipment associated with these antennas are located at various positions within the tower and compound.

DISH is licensed by the Federal Communications Commission ("FCC") to provide wireless services throughout the State of Connecticut. DISH and Crown Castle have agreed to the proposed shared use of the 56 Ruops Road tower pursuant to mutually acceptable terms and conditions. Likewise, DISH and ATC have agreed to the proposed installation of equipment cabinets on the ground on the south side of the tower within the existing compound. ATC has authorized DISH to apply for all necessary permits and approvals that may be required to share the existing tower.
(See attached Letter of Authorization)

DISH proposes to install three (3) antennas, (1) Tower platform mount, (6) Remote radio units at the 93-foot level along with, (1) over voltage protection device (OVP) and (1) Hybrid cable. DISH will install an equipment cabinet on a 5'x7' equipment platform. DISH's Construction Drawings provide project specifications for all proposed site improvement locations.
The construction drawings also include specifications for DISH's proposed antenna and groundwork.

C.G.S. § 16-50aa(c)(1) provides that, upon written request for approval of a proposed shared use, "if the Council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such a shared use." DISH respectfully submits that the shared use of the tower satisfies these criteria.

A. Technical Feasibility. The existing ATC tower is structurally capable of supporting DISH's proposed improvements. The proposed shared use of this tower is, therefore, technically feasible. A Feasibility Structural Analysis Report ("Structural Report") prepared for this project confirms that this tower can support DISH's proposed loading. A copy of the Structural Report has been included in this application.

B. Legal Feasibility. Under C.G.S. § 16-50aa, the Council has been authorized to issue order approving the shared use of an existing tower such as the ATC tower. This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. In addition, § 16-50x(a) directs the Council to "give such consideration to the other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower facilities. Under the statutory authority vested in the Council, an order by the Council approving the requested shared use would permit the Applicant to obtain a building permit for the proposed installations.

C. Environmental Feasibility. The proposed shared use of the ATC tower would have a minimal environmental effect for the following reasons:

1. The proposed installation will have no visual impact on the area of the tower. DISH's equipment cabinet would be installed within the existing facility compound. DISH's shared use of this tower therefore will not cause any significant change or alteration in the physical or environmental characteristics of the existing site.

2. Operation of DISH's antennas at this site would not exceed the RF emissions standard adopted by the Federal Communications Commission ("FCC"). Included in the EME report of this filing are the approximation tables that demonstrate that DISH's proposed facility will operate well within the FCC RF emissions safety standards.

3. Under ordinary operating conditions, the proposed installation would not require the use of any water or sanitary facilities and would not generate air emissions or discharges to water bodies or sanitary facilities. After construction is complete the proposed installations would not generate any increased traffic to the ATC facility other than periodic maintenance. The proposed shared use of the ATC tower, would, therefore, have a minimal environmental effect, and is environmentally feasible.

D. **Economic Feasibility**. As previously mentioned, DISH has entered into an agreement with ATC for the shared use of the existing facility subject to mutually agreeable terms. The proposed tower sharing is, therefore, economically feasible.

E. **Public Safety Concerns**. As discussed above, the tower is structurally capable of supporting DISH's full array of three (3) antennas, (1) Tower platform mount, (6) Remote radio units, (1) over voltage protection device (OVP) and (1) Hybrid cable and all related equipment. DISH is not aware of any public safety concerns relative to the proposed sharing of the existing ATC tower

Conclusion

For the reasons discussed above, the proposed shared use of the existing ATC tower at 56 Ruops Road satisfies the criteria stated in C.G.S. §16-50aa and advances the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. The Applicant, therefore, respectfully requests that the Council issue an order approving the prosed shared use.

Sincerely,

David Hoogasian

David Hoogasian
Project Manager

LETTER OF AUTHORIZATION

AMERICAN TOWER®
CORPORATION

LETTER OF AUTHORIZATION
LICENSEE: DISH WIRELESS L.L.C.

I, Margaret Robinson, Senior Counsel for American Tower*, owner/operator of the tower facility located at the address identified above (the "Tower Facility"), do hereby authorize DISH WIRELESS L.L.C., its successors and assigns, and/or its agent, (collectively, the "Licensee") to act as American Tower's non-exclusive agent for the sole purpose of filing and consummating any land-use or building permit application(s) as may be required by the applicable permitting authorities for Licensee's telecommunications' installation.

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

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

Project #	ATC Site #	ATC Site Name	ATC Site Address
13688133	208450	Enfield	1A Ecology Drive, Enfield CT
13700322	209115	Ridgefield 2	320 Old Stagecoach Road, Ridgefield, CT
13688136	209185	Burlington 2	87 Monce Road, Burlington CT
13700320	209271	Brookfield 2	100 Pocono Road, Brookfield CT
13693702	243036	WEST HAVEN & RT 162 CT	668 Jones Hill Road, West Haven CT
13693677	280501	ROXBURY CT	377 Southbury Road, Roxbury CT
13685406	281416	WILLINGTON CT	196 Tolland Turnpike, Willington CT
13709418	281862	BRIDGEWATER CT	111 SECOND HILL RD, Bridgewater CT
13693659	283418	NORTH HAVEN CT	50 Devine Street, North Haven CT
13694329	283419	PINE ORCHARD BRANFORD CT	123 Pine Orchard Road, Branford CT
13694332	283422	SHORT BEACH BRANFORD CT	171 Short Beach Road, Branford CT
13698427	283423	NAUGATUCK CT	880 Andrew Mountain Road, Naugatuck CT
13685464	283563	MANSFIELD CT	343 Daleville Road, Willington CT
13692735	284983	OLD LYME CT	61-1 Buttonball Road, Old Lyme CT
13693120	284984	PAWCATUCK CT	166 Pawcatuck Ave, Pawcatuck CT
13693144	284988	GUILFORD CT	Moose Hill Road, Guilford CT
13694582	302465	Colchester CT 6	355 Route 85, Colchester CT
13683501	302468	Petro Lock	99 Meadow St, Hartford CT
13685427	302469	Bridgeport CT 2	1069 Connecticut Avenue, Bridgeport CT
13683503	302472	Andover-bunker Hill Road	104 Bunker Hill Road, Andover CT
13683507	302473	E H F R - Prestige Park	310 Prestige Park Road, East Hartford CT

AMERICAN TOWER®
CORPORATION

Project #	ATC Site #	ATC Site Name	ATC Site Address
13683510	302474	South Windsor	391 Niederwerfer Road, South Windsor CT
13683513	302483	Brln - Berlin	286 Beckley Road, Berlin CT
13692185	302488	Cntn - Canton	4 Hoffmann Road, Canton CT
13692173	302495	Tolland CT	56 Ruops Road, Tolland CT
13694579	302496	Clch - Colchester	Chestnut Hill Road, Colchester CT
13701212	302501	Plymouth CT 3	297 North Street, Plymouth CT
13685414	302515	SMFR - North	5 High Ridge Park Road, Stamford CT
13702496	302516	Mlfd - Milford	438 Bridgeport Ave, Milford CT
13688395	302518	Newtown CT 3	25 Meridian Ridge Drive, Newton CT
13692174	302529	Vernon CT 6	777 Talcotville Road, Vernon Rockville CT
13693124	311014	NORWICH CT	202 N Wawecus Hill Rd, Norwich CT
13702522	311305	GLFD-GUILFORD REBUILD CT	10 Tanner Marsh Road, Guilford CT
13693127	370623	MONTVILLE CT	139 Sharp Hill Road, Uncasville CT
13681964	370625	Old Saybrook	77 Springbrook Road, Old Saybrook CT
13702535	383660	North Madison Volunteer FD	864 Opening Hill Road, Madison CT
13702538	411180	Good Hill CT	481 GOOD HILL ROAD, Woodbury CT
13693709	411182	Nepaug CT	20 Antolini Road, New Hartford CT
13693131	411183	WATERFORD CT	53 Dayton Rd., Waterford CT
13693135	411184	SALEM CT SQA	399 West Road, Salem CT
13692177	411186	West Granby, CT CT	207 West Granby Road, Granby CT
13692178	411187	Hartford North 2 CT	811 Blue Hills Avenue, Bloomfield CT
13693705	411188	Southbury CT	111 Upper Fishrock Road, Southbury CT
13692179	411256	CANTON CT	14 CANTON SPRINGS ROAD, Canton CT
13681988	411257	Middle Haddam Road-CROWN CT	191 Middle Haddam Rd, Portland CT
13692180	411258	Farmington North 2 CT	199 Town Farm Road, Farmington CT
13692182	411259	CT Collinsville CAC 802816 CT	650 Albany Turnpike, Collinsville CT
13692184	416862	SUFFIELD SW CT CT	106 South Grand St., West Suffield CT
13694578	6260	NORTH STONINGTON CT	118C Wintechog Hill Rd., off of Rt. 2, North Stonington CT
13681397	88013	Killingworth	131 Little City Road, Killingworth CT

Signature:

Print Name: Margaret Robinson
Senior Counsel
American Tower*

AMERICAN TOWER®
CORPORATION

LETTER OF AUTHORIZATION
LICENSEE: DISH WIRELESS L.L.C.

NOTARY BLOCK

Commonwealth of MASSACHUSETTS
County of Middlesex

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

WITNESS my hand and official seal, this 10th day of September 2021.

NOTARY SEAL

MELISSA ANN METZLER
Notary Public
Commonwealth of Massachusetts
My Commission Expires March 14, 2025

Notary Public _____
My Commission Expires: March 14, 2025

ENGINEERING DRAWINGS

DISH Wireless L.L.C. SITE ID:

BOBDL00015A

DISH Wireless L.L.C. SITE ADDRESS:

56 RUOPS ROAD
TOLLAND, CT 06084

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 FIBER NID (IF REQUIRED)
- INSTALL (1) PROPOSED METER CANISTER
- INSTALL (1) PROPOSED FIBER HAND HOLE

SITE INFORMATION

PROPERTY OWNER:	TOWN OF TOLLAND
TOWER TYPE:	MONOPOLE
TOWER CO SITE ID:	302495
TOWER APP NUMBER:	13692173
COUNTY:	TOLLAND
LATITUDE (NAD 83):	41° 52' 24" N 41.87333333 N
LONGITUDE (NAD 83):	72° 20' 17.88" W 72.3383 W
ZONING JURISDICTION:	TOLLAND COUNTY
ZONING DISTRICT:	300V
PARCEL NUMBER:	09013142-23/E/051
OCCUPANCY GROUP:	U
CONSTRUCTION TYPE:	II-B
POWER COMPANY:	T.B.D.
TELEPHONE COMPANY:	CROWN CASTLE

PROJECT DIRECTORY

APPLICANT:	DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER OWNER:	AMERICAN TOWER CORPORATION 10 PRESIDENTIAL WAY WOBURN, MA 01801 (781) 926-4500
SITE DESIGNER:	B+T GROUP 1717 S. BOULDER AVE, SUITE 300 TULSA, OK 74119 (918) 587-4630
SITE ACQUISITION:	KENNETH R. BRADBURY II (781) 926-4770
CONSTRUCTION MANAGER:	JAVIER SOTO javier.soto@dish.com
RF ENGINEER:	BOSSENER CHARLES bossener.charles@dish.com

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

SITE PHOTO

DIRECTIONS

DIRECTIONS FROM BRADLEY INTERNATIONAL AIRPORT:

CONTINUE TO BRADLEY INTERNATIONAL AIRPORT CON, HEAD NORTH TOWARD BRADLEY INTERNATIONAL AIRPORT, SLIGHT LEFT ONTO BRADLEY INTERNATIONAL AIRPORT, SLIGHT LEFT, TAKE I-91 S, I-291 E AND I-84 E TO CT-195 S IN TOLLAND. TAKE EXIT 68 FROM I-84 E, CONTINUE ONTO BRADLEY INTERNATIONAL AIRPORT CON, CONTINUE ONTO CT-20 E/BRADLEY INTERNATIONAL AIRPORT CON, USE THE RIGHT 2 LANES TO MERGE WITH I-91 S TOWARD HARTFORD, TAKE EXIT 35A FOR I-291 TOWARD MANCHESTER, CONTINUE ONTO I-291 E, USE THE LEFT LANE TO MERGE WITH I-84 E TOWARD BOSTON, TAKE EXIT 68 FOR CT-195 TOWARD TOLLAND/MANSFIELD, FOLLOW CT-195 S, ANTHONY RD AND KATE LN TO RUOPS RD, USE THE RIGHT 2 LANES TO TURN RIGHT ONTO CT-195 S, TURN LEFT ONTO ANTHONY RD, TURN RIGHT TO STAY ON ANTHONY RD, TURN LEFT ONTO KATE LN, TURN LEFT ONTO RUOPS RD, ARRIVING AT BOBDL00015A.

SHEET INDEX

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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
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RF-1	RF CABLE COLOR CODE
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES

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

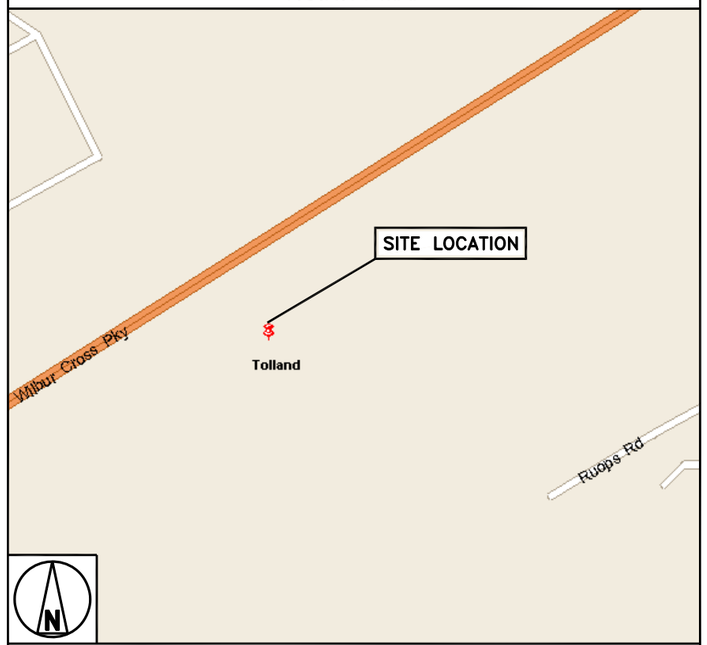
GENERAL NOTES

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.

VICINITY MAP



NO SCALE

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

AMERICAN TOWER®
10 PRESIDENTIAL WAY
WOBURN, MA 01801

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
9/8/21

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
DAS	DAS	RCM

RFDS REV #: 2

CONSTRUCTION DOCUMENTS

SUBMITTALS

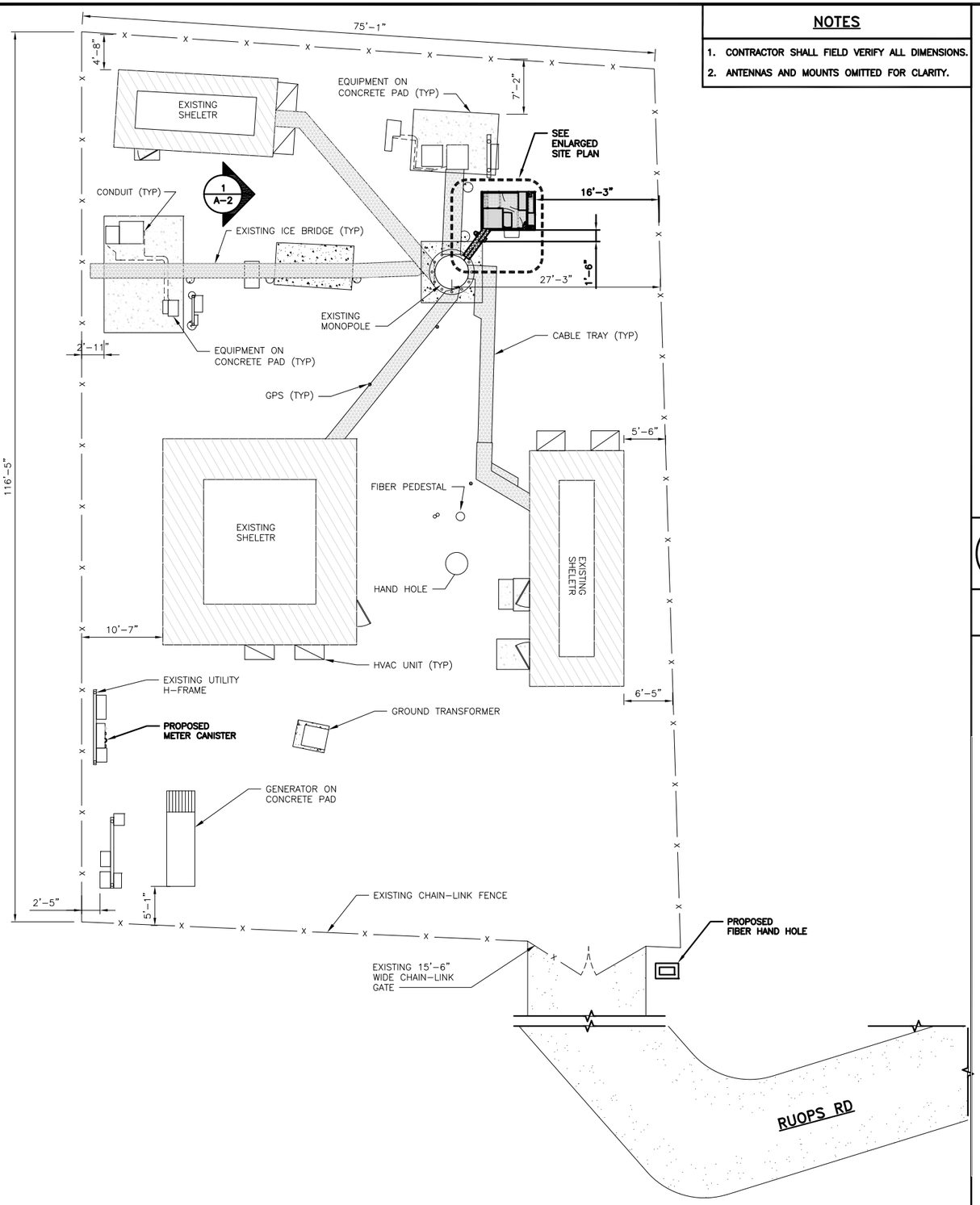
REV	DATE	DESCRIPTION
A	7/26/21	ISSUED FOR REVIEW
0	9/8/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
153473.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00015A
56 RUOPS ROAD
TOLLAND, CT 06084

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



NOTES

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

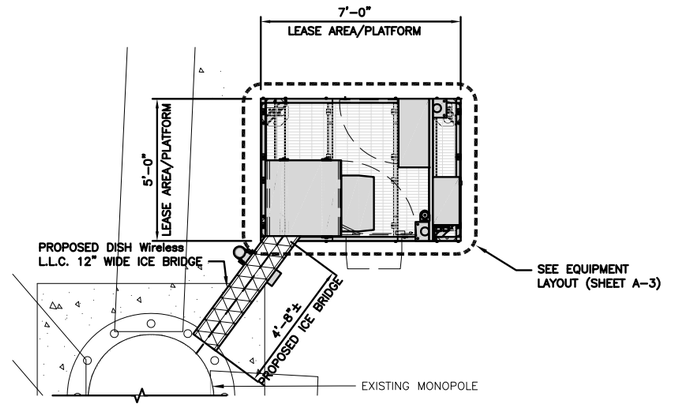
OVERALL SITE PLAN

16' 12' 8' 4' 0 16' 32'
1/16"=1'-0"

1

NOTES

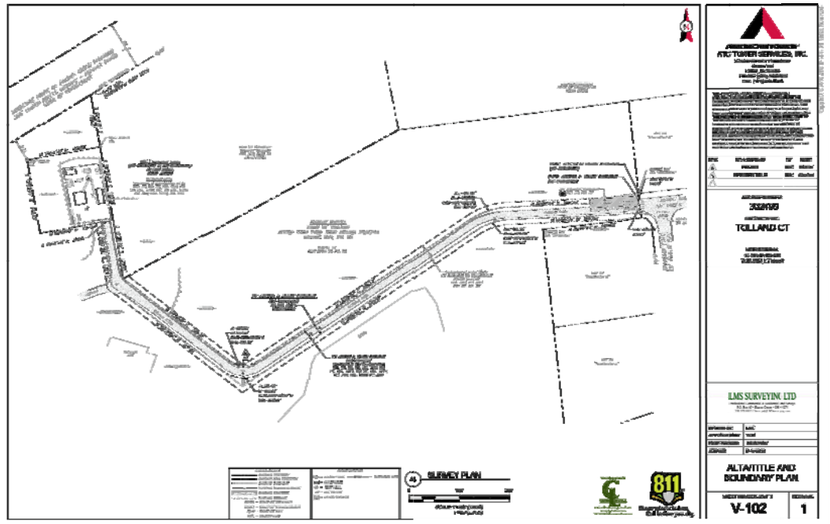
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



ENLARGED SITE PLAN

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

2



NOTE: THE SURVEY PROVIDED ON THIS SHEET IS PROVIDED FOR REFERENCE ONLY, THE UTILITY ROUTE AND EXISTING EASEMENTS MUST BE VERIFIED PRIOR TO CONSTRUCTION

SURVEY

NO SCALE

3

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

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
DAS	DAS	RCM

RFDS REV #: 2

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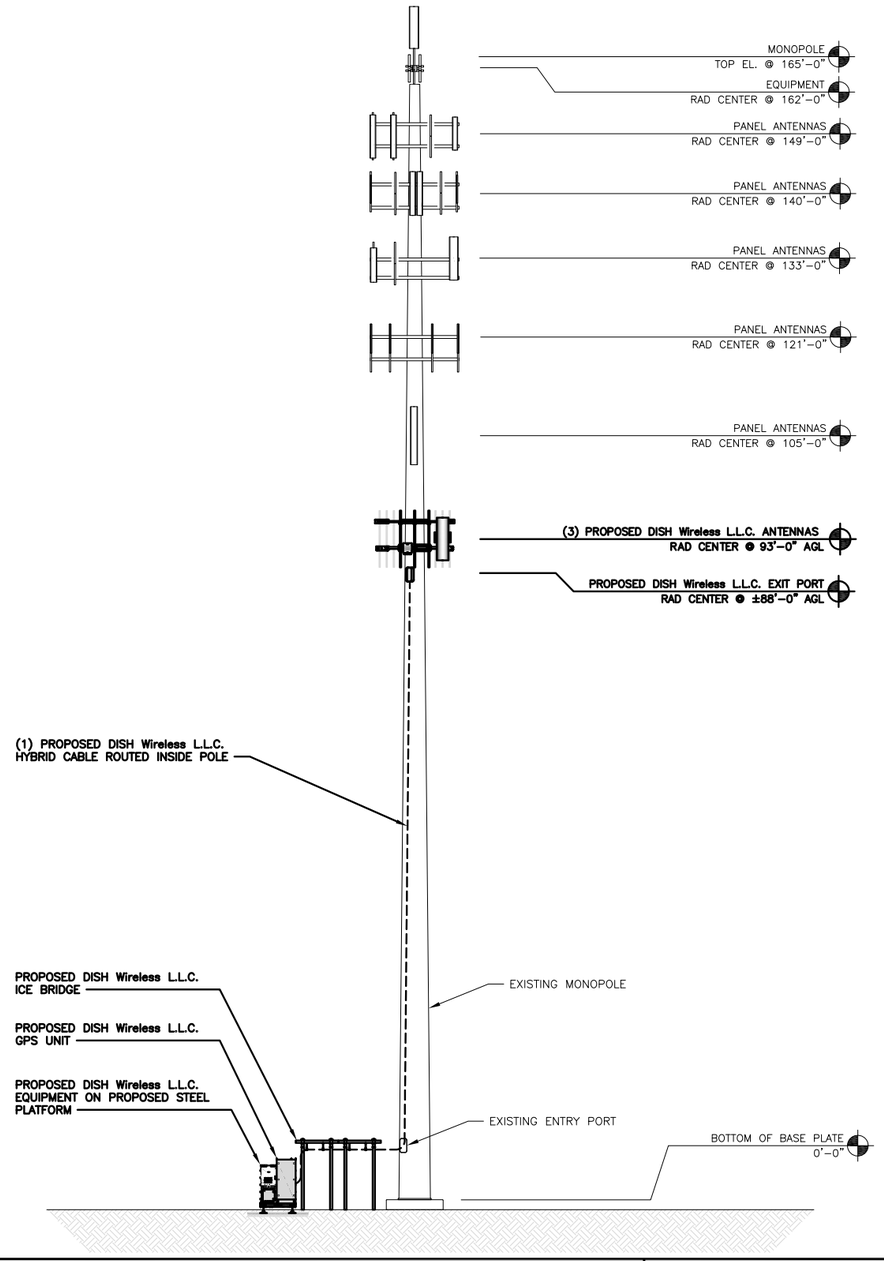
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00015A
56 RUOPS ROAD
TOLLAND, CT 06084

SHEET TITLE
OVERALL AND ENLARGED SITE PLAN

SHEET NUMBER
A-1

NOTES

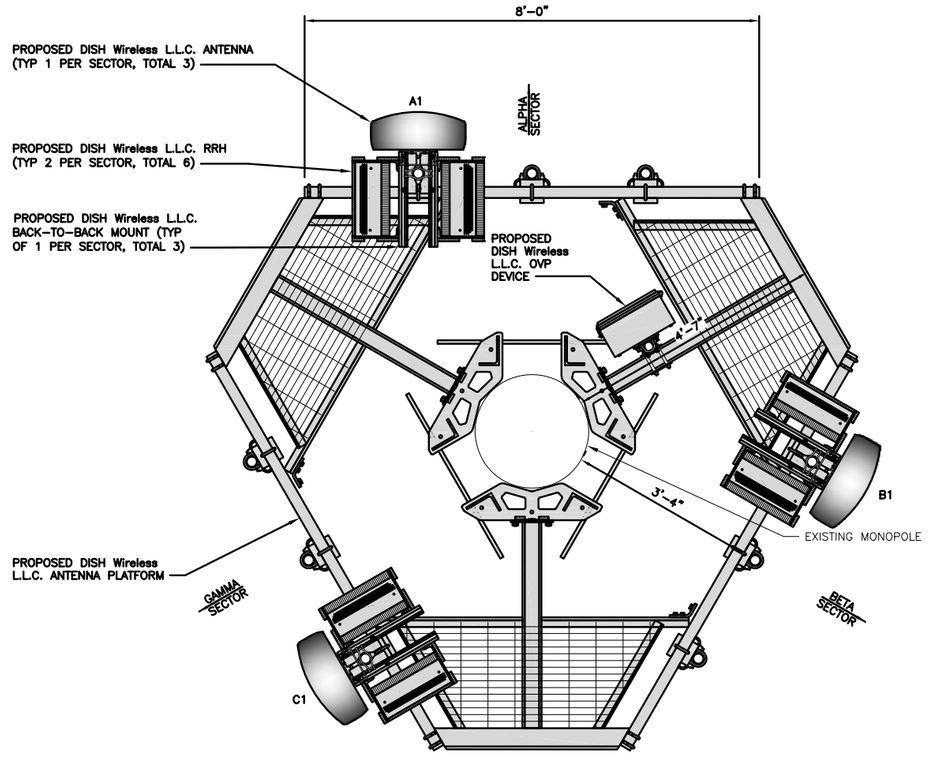
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



PROPOSED WEST ELEVATION

12' 8' 4' 0 10' 20'
3/32"=1'-0"

1



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 – MX08FRO665-21	5G	72.0" x 20.0"	0°	93'-0"	(1) HIGH-CAPACITY HYBRID CABLE (125' LONG)
BETA	B1	PROPOSED	JMA – MX08FRO665-21	5G	72.0" x 20.0"	120°	93'-0"	
GAMMA	C1	PROPOSED	JMA – MX08FRO665-21	5G	72.0" x 20.0"	240°	93'-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.

OVP		
EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	SIZE (HxWxD)
PROPOSED	RAYCAP-RDIDC-9181-PF-48	16"x14"x8"

ANTENNA SCHEDULE

NO SCALE

3

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

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DISH Wireless L.L.C.
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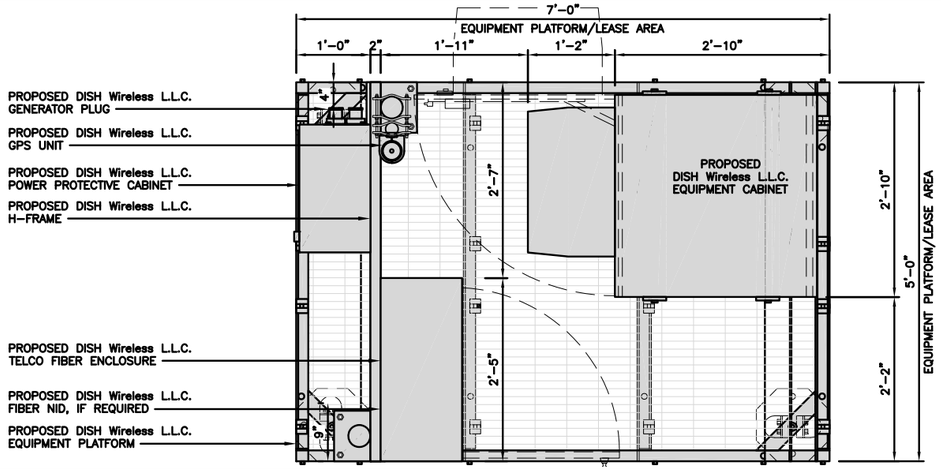
56 RUOPS ROAD
TOLLAND, CT 06084

SHEET TITLE

ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER

A-2



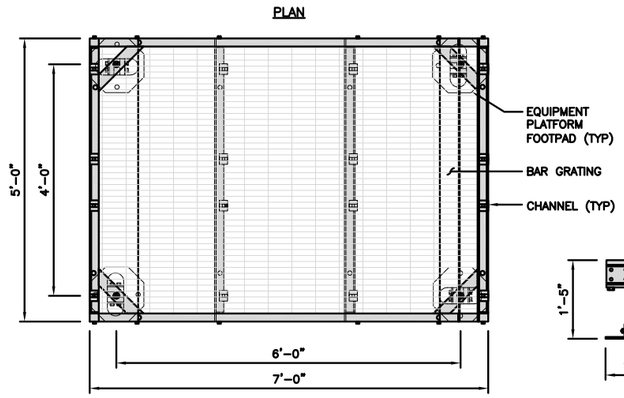
PLATFORM EQUIPMENT PLAN

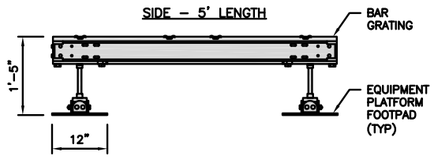
12" 9" 6" 3" 0 1' 2'
1"=1'-0"

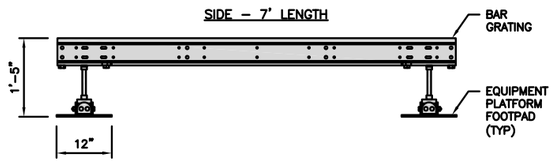
1

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"





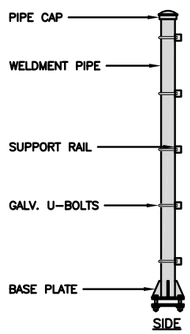


PLATFORM DETAIL

NO SCALE

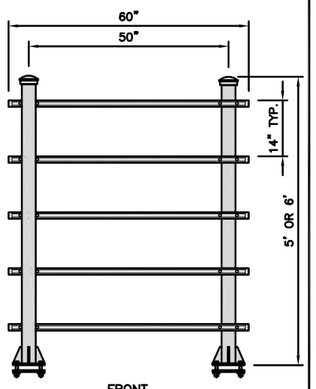
2

COMMSCOPE MTC4045HFLD H-FRAME	
UNISTRUT/SUPPORT RAILS QTY	5
WEIGHT	59.74 lbs



SIDE

NOTE:
OR DISH Wireless L.L.C. APPROVED EQUIVALENT



FRONT

H-FRAME DETAIL

NO SCALE

3

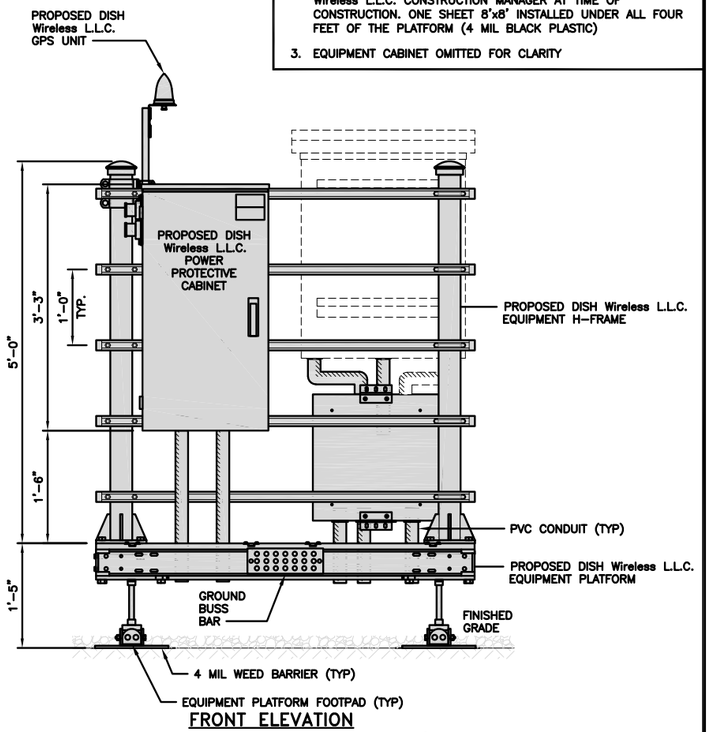
NOT USED

NO SCALE

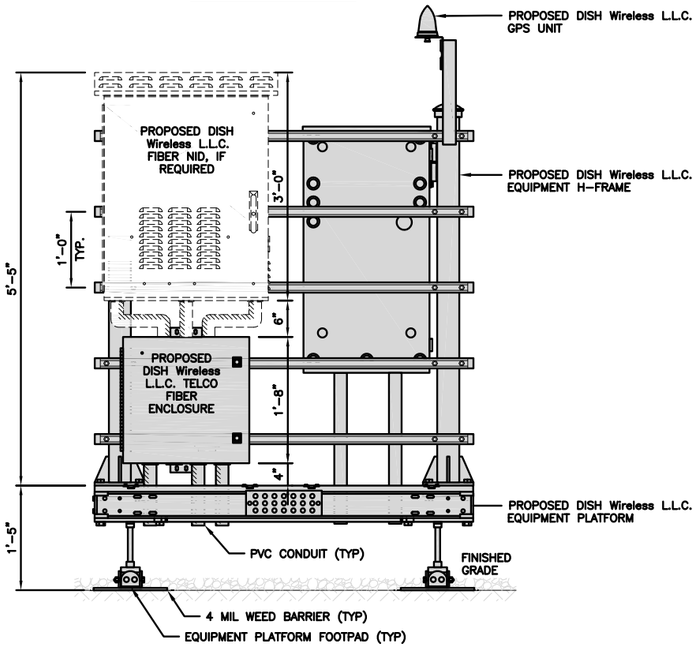
4

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



FRONT ELEVATION



BACK ELEVATION

H-FRAME EQUIPMENT ELEVATION

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

5

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STATE OF CONNECTICUT — No. 23924 — LICENSED PROFESSIONAL ENGINEER — 9/8/21

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
DAS	DAS	RCM

RFDS REV #: 2

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	7/26/21	ISSUED FOR REVIEW
0	9/8/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

153473.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00015A
56 RUOPS ROAD
TOLLAND, CT 06084

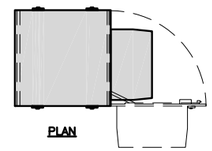
SHEET TITLE

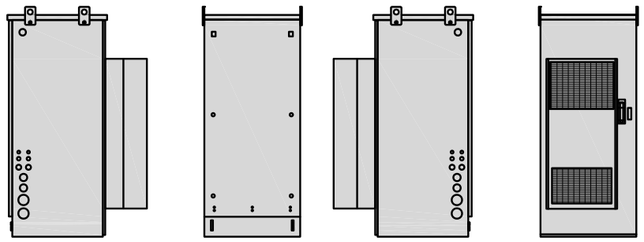
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER

A-3

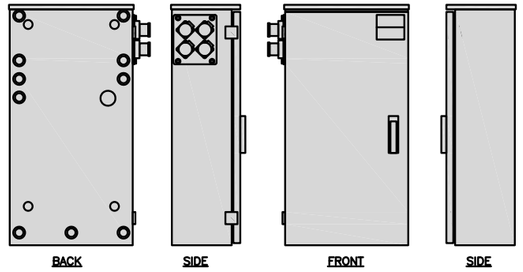
CHARLES INDUSTRY HEX CUBE–PM639155N4	
DIMENSIONS (HxWxD):	74"x32"x32"
POWER PLANT:	–48VDC ABB/600W
TOTAL WEIGHT (EMPTY)	408 LBS





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

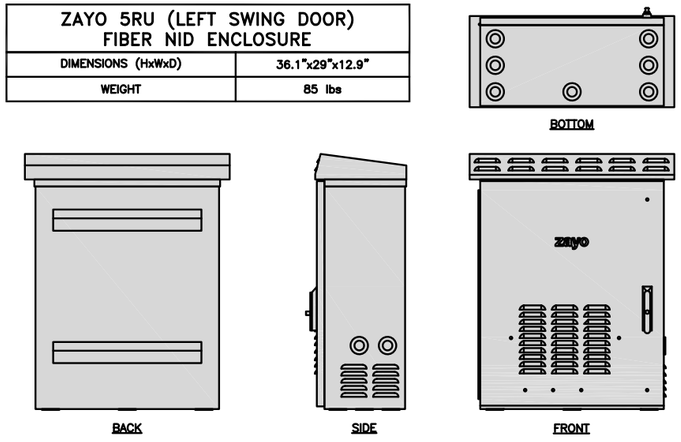


POWER PROTECTION CABINET (PPC) DETAIL | NO SCALE | 2

NOT USED | NO SCALE | 3

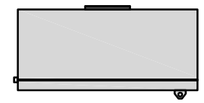
NOT USED | NO SCALE | 4

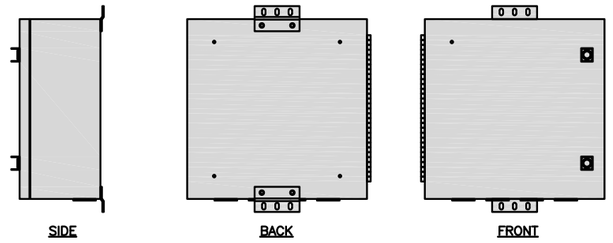
ZAYO 5RU (LEFT SWING DOOR) FIBER NID ENCLOSURE	
DIMENSIONS (HxWxD)	36.1"x29"x12.9"
WEIGHT	85 lbs



FIBER NID ENCLOSURE 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

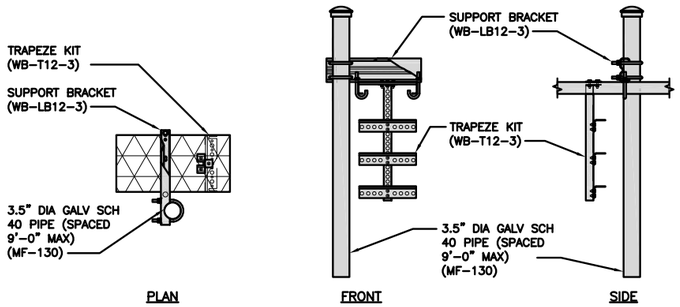




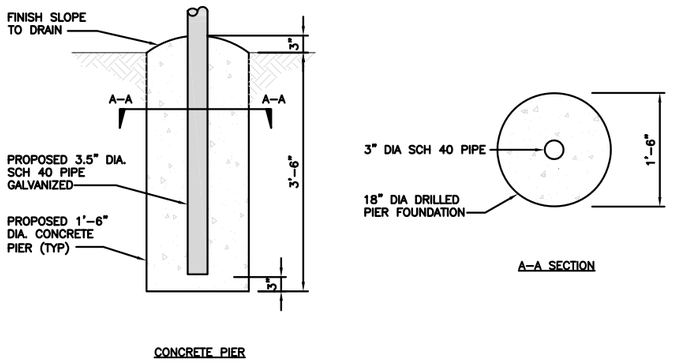
FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 6

COMMSCOPE WB–K110–B WAVEGUIDE BRIDGE KIT	
DIMENSIONS (HxL)	160"x10'
WEIGHT/ VOLUME	325.0 LBS
CABLE RUN (QTY)	12

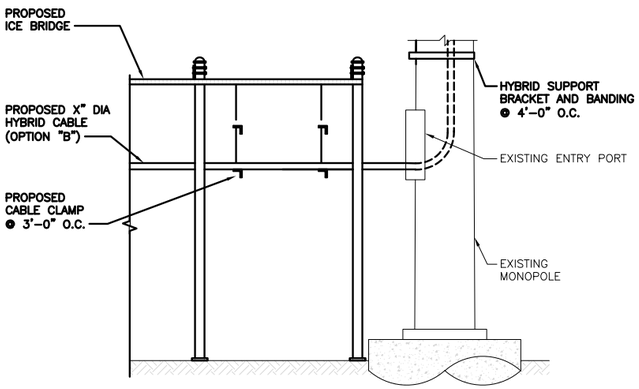
INCLUDED PRODUCTS:
- WB–T12–3 TRAPEZE KIT, 3 RUNGS
- WB–LB12–3 SUPPORT BRACKET
- MF–130 DIRECT BURIAL PIPE COLUMN, 13'–4"



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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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00015A
56 RUOPS ROAD
TOLLAND, CT 06084

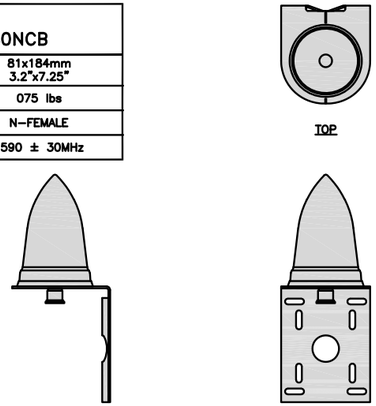
SHEET TITLE

EQUIPMENT DETAILS

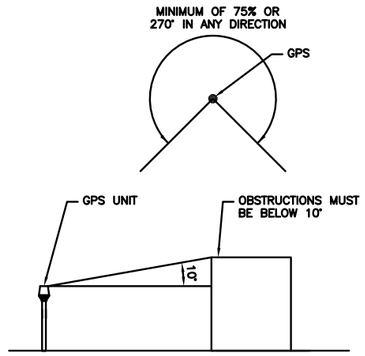
SHEET NUMBER

A-4

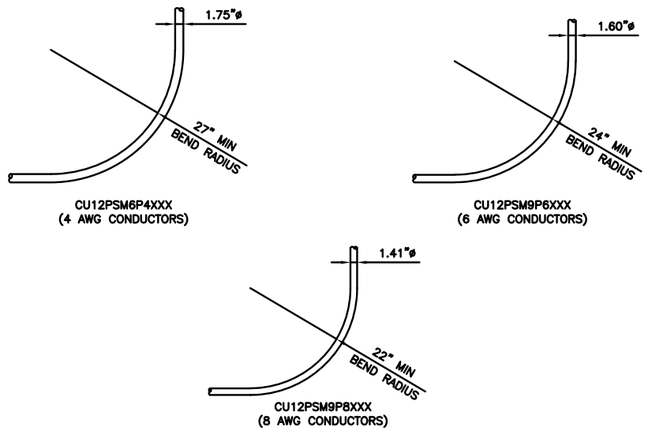
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



GPS 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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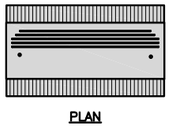
56 RUOPS ROAD
TOLLAND, CT 06084

SHEET TITLE
EQUIPMENT DETAILS

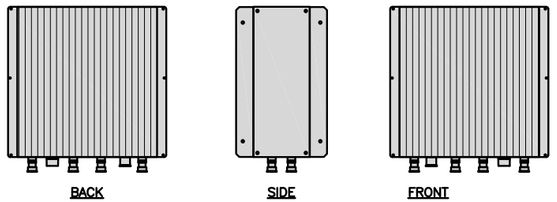
SHEET NUMBER
A-5

FUJITSU TRIPLE BAND TA08025-B605

DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



PLAN

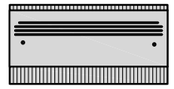


BACK SIDE FRONT

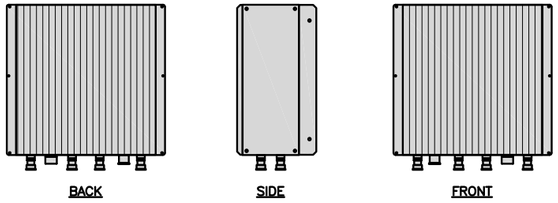
RRH DETAIL | NO SCALE | 1

FUJITSU DUAL BAND TA08025-B604

DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



PLAN



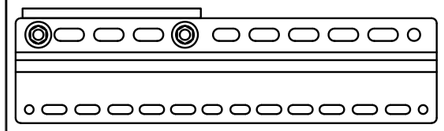
BACK SIDE FRONT

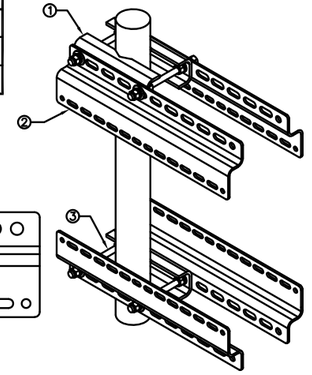
RRH DETAIL | NO SCALE | 2

SABRE DOUBLE Z-BRACKET C10123155

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

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



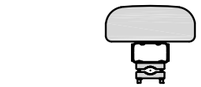


NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

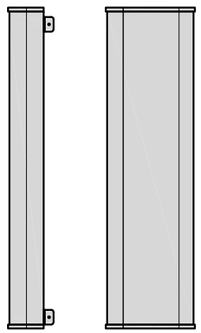
RRH MOUNT DETAIL | NO SCALE | 3

JMA MX08FRO665-21

DIMENSIONS (HxWxD)	72"x20.0"x8.0"
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE
WEIGHT	64.5 lbs
WEIGHT WITH BRACKETS	82.5 lbs



PLAN



SIDE FRONT

ANTENNA DETAIL | NO SCALE | 4

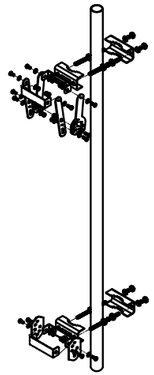
NOT USED | NO SCALE | 5

JMA ANTENNA MOUNT BRACKET #91900318

TOTAL WEIGHT (WITH BRACKETS)	18 lbs (8.18 Kg)
POLE DIAMETER RANGE	2.5" TO 4.5"

NOTE:
KIT #91900318: TOP AND BOTTOM BRACKETS FOR 4-,6-, AND 8-FOOT ANTENNAS

ANTENNA BRACKET NOT PART OF KIT

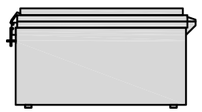


NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT

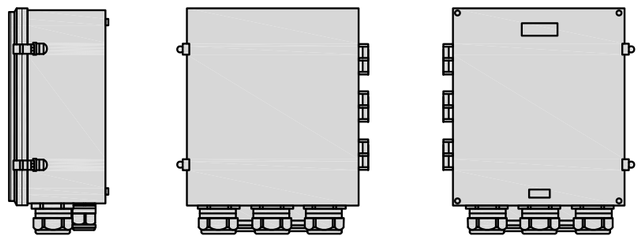
ANTENNA BRACKET DETAIL | NO SCALE | 6

RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)

DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS



PLAN



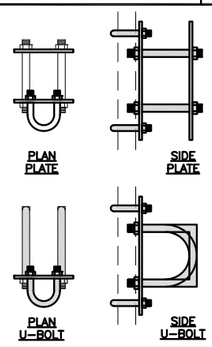
SIDE BACK FRONT

SURGE SUPPRESSION DETAIL (OVP) | NO SCALE | 7

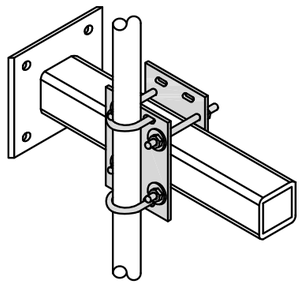
COMMSCOPE XP-2040 CROSSOVER PLATE

DIMENSIONS (HxW)	10"x12"
WEIGHT	11 lbs

NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT



PLAN PLATE SIDE PLATE PLAN U-BOLT SIDE U-BOLT

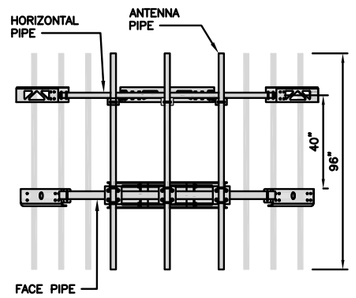


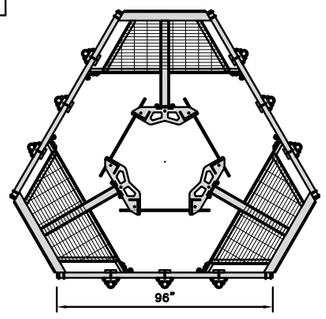
RRH/OVP MOUNT DETAIL | NO SCALE | 8

COMMSCOPE MC-PK8-DSH

FACE WIDTH	96"
WEIGHT	1373.08 lbs
NOTE: 15" TO 38" O.D.	

NOTE:
OR DISH Wireless L.L.C.
APPROVED EQUIVALENT





ANTENNA PLATFORM DETAIL | NO SCALE | 9

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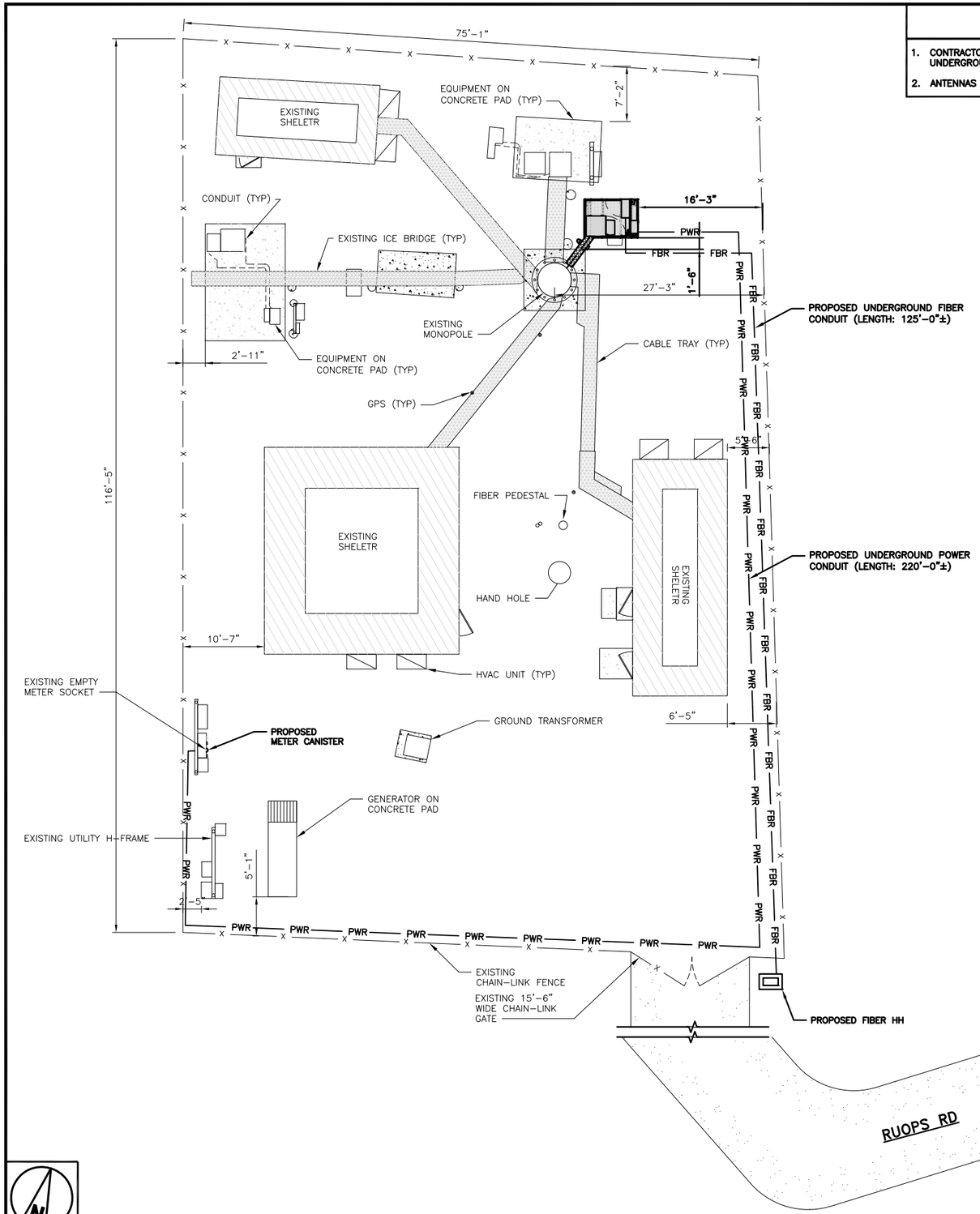
TOLLAND, CT 06084

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-6

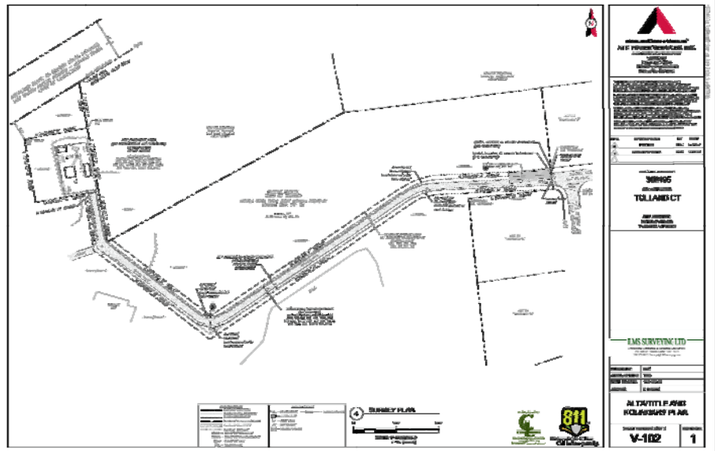


NOTES

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

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
14. THE SURVEY PROVIDED ON THIS SHEET IS PROVIDED FOR REFERENCE ONLY, THE UTILITY ROUTE AND EXISTING EASEMENTS MUST BE VERIFIED PRIOR TO CONSTRUCTION



UTILITY ROUTE PLAN

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

1

ELECTRICAL NOTES

NO SCALE

2

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9/8/21

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Expires 2/10/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
DAS	DAS	RCM

RFDS REV #: 2

CONSTRUCTION DOCUMENTS

SUBMITTALS

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A	7/26/21	ISSUED FOR REVIEW
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A&E PROJECT NUMBER

153473.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00015A
56 RUOPS ROAD
TOLLAND, CT 06084

SHEET TITLE

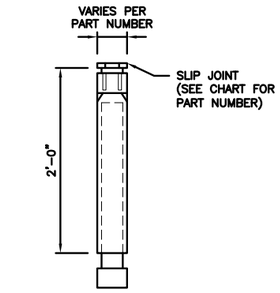
ELECTRICAL/FIBER ROUTE PLAN AND NOTES

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"

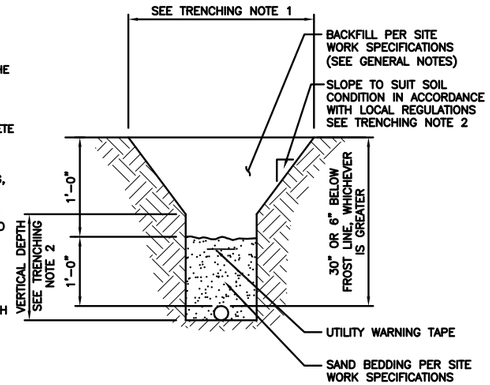


NOTE:
CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

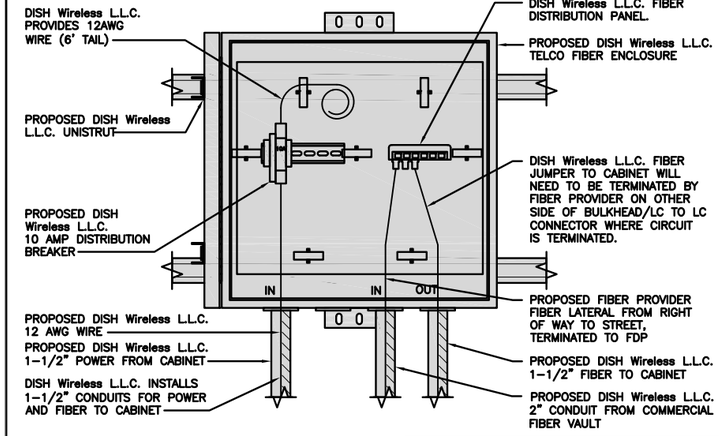
EXPANSION JOINT DETAIL | NO SCALE | 1

TRENCHING NOTES

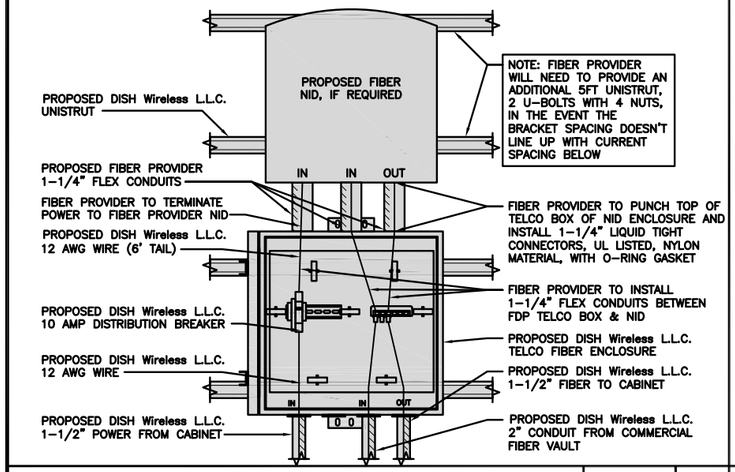
1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT 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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DISH Wireless L.L.C.
PROJECT INFORMATION

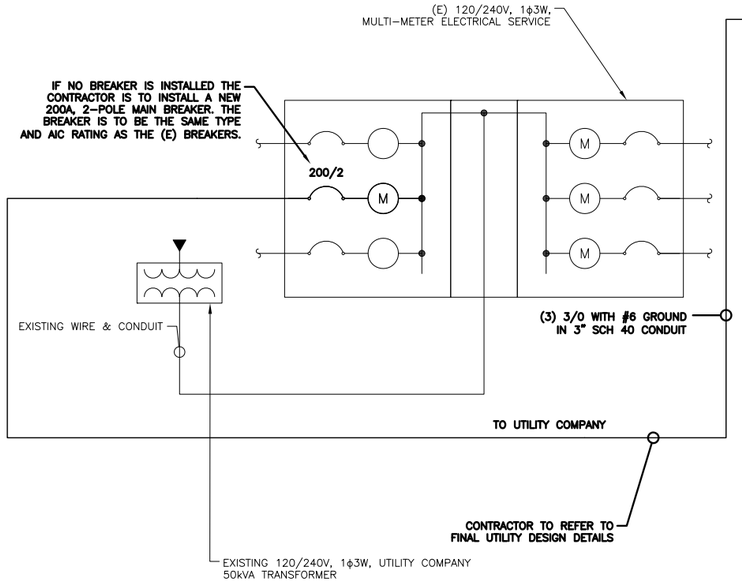
BOBDL00015A
56 RUOPS ROAD
TOLLAND, CT 06084

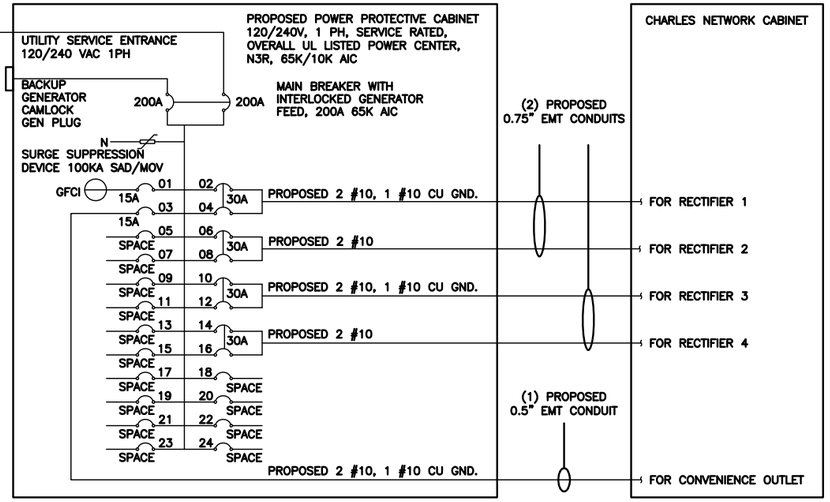
SHEET TITLE

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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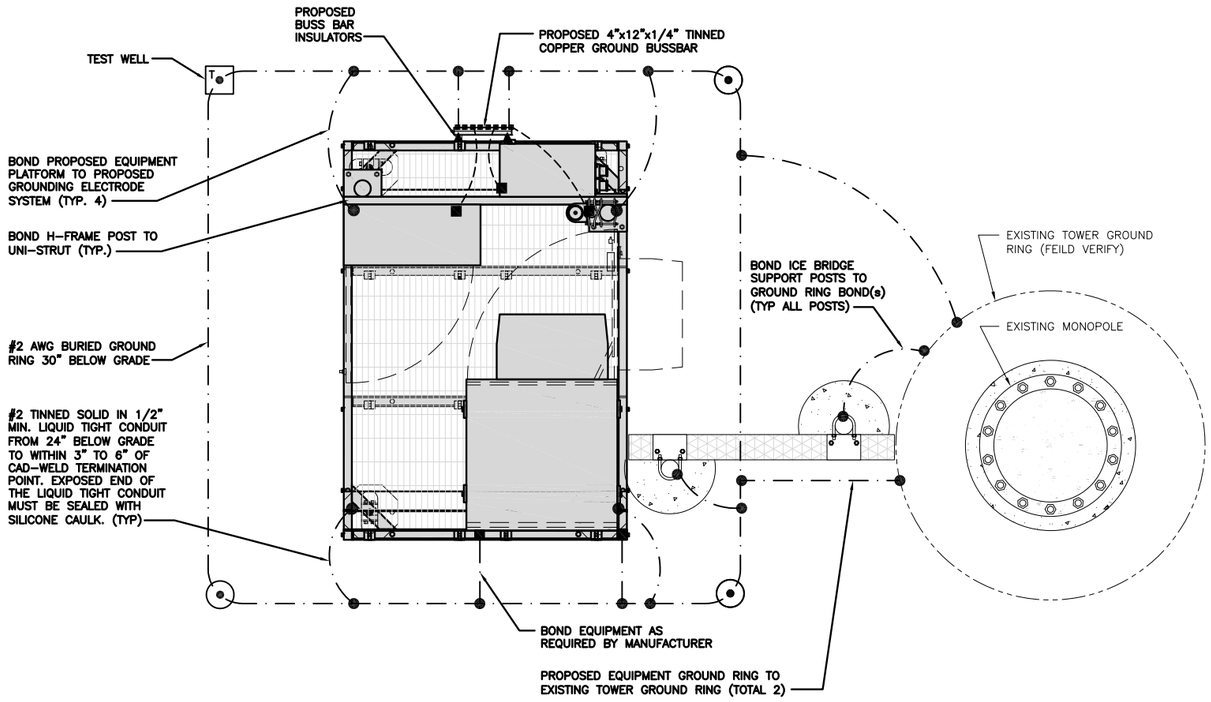
DISH Wireless L.L.C.
PROJECT INFORMATION
BOBDL00015A
56 RUOPS ROAD
TOLLAND, CT 06084

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

SHEET NUMBER
E-3

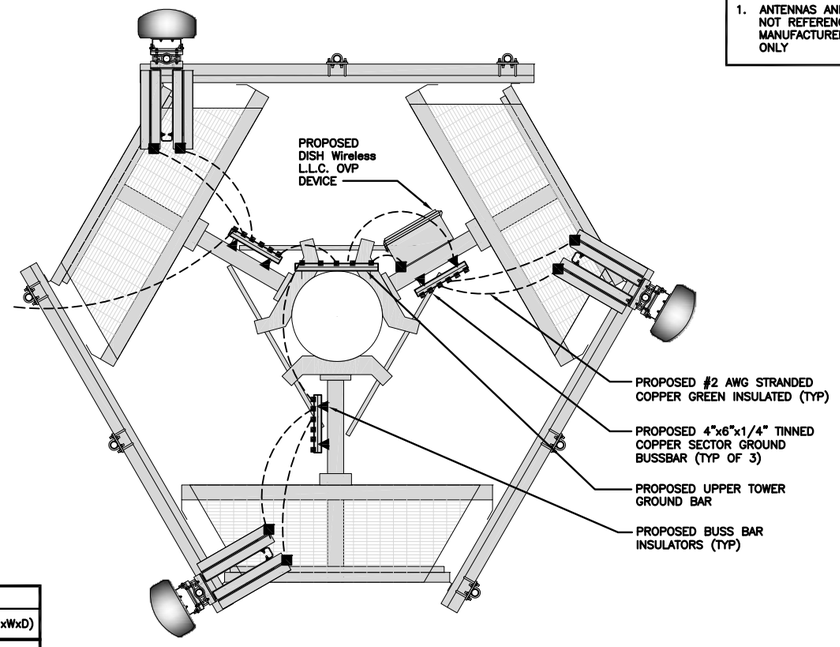


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE | 1

NOTES

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



OVP		
EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	SIZE (HxWxD)
PROPOSED	RAYCAP-RDIDC-9181-PF-48	16"x14"x8"

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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PROJECT INFORMATION
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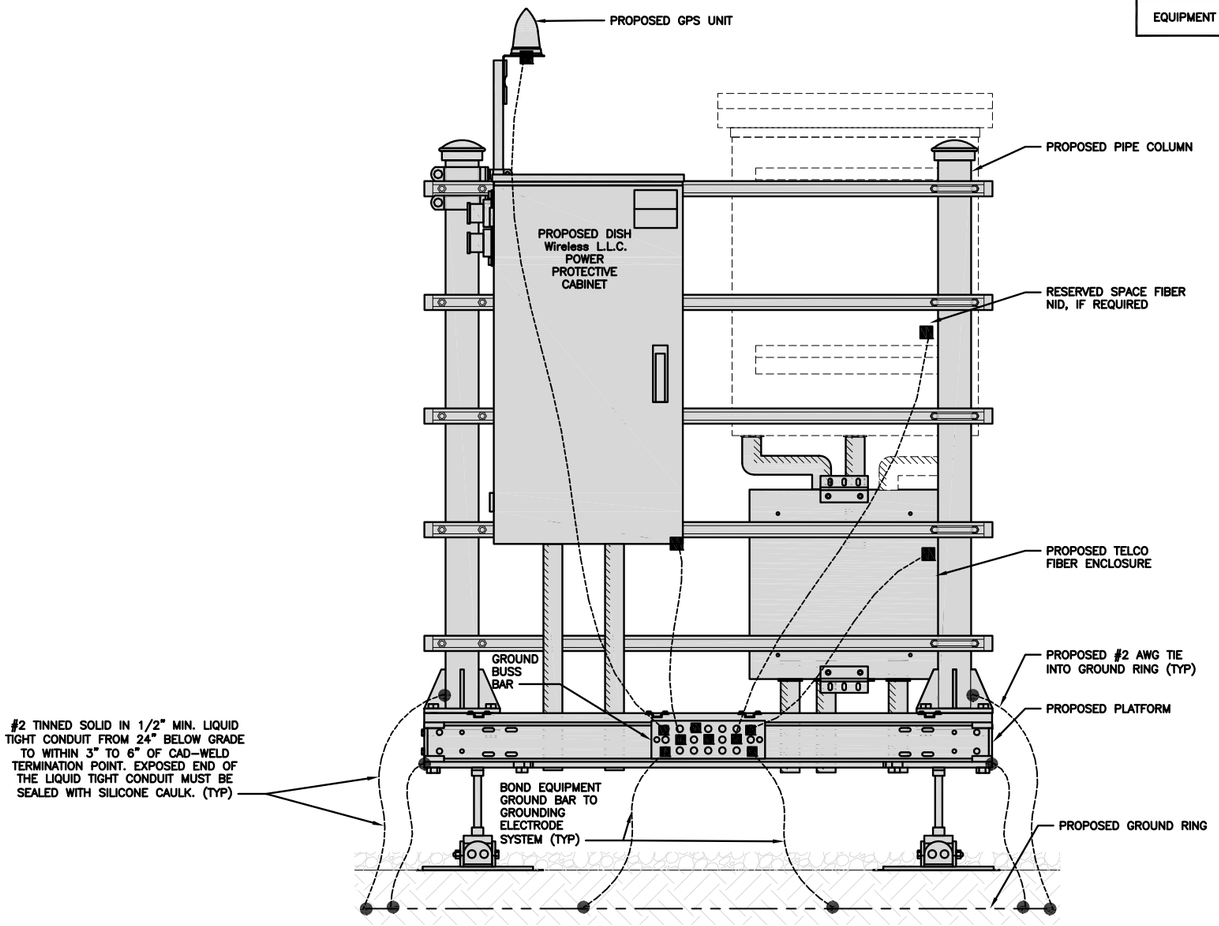
56 RUOPS ROAD
TOLLAND, CT 06084

SHEET TITLE
GROUNDING PLANS AND NOTES

SHEET NUMBER
G-1

NOTES

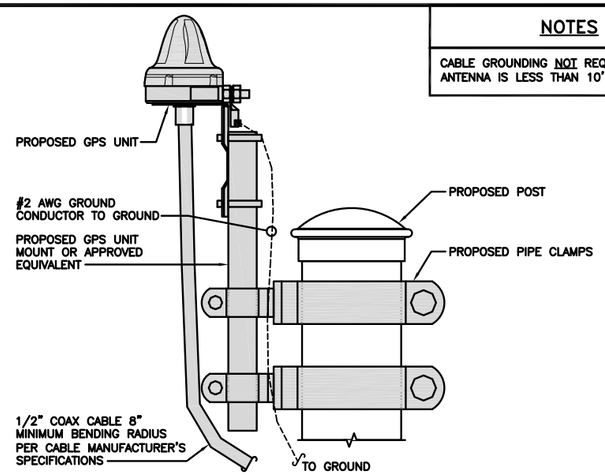
EQUIPMENT CABINET OMITTED FOR CLARITY



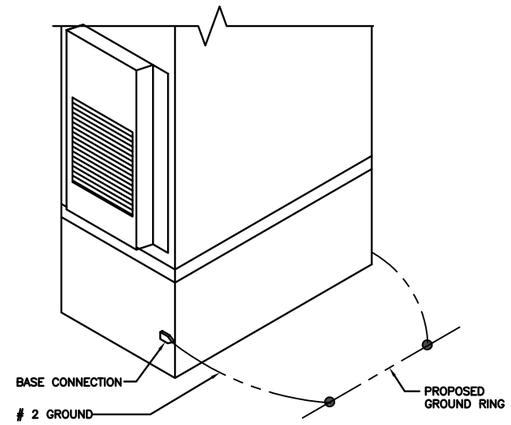
H-FRAME GROUNDING DETAIL | NO SCALE | 1

NOTES

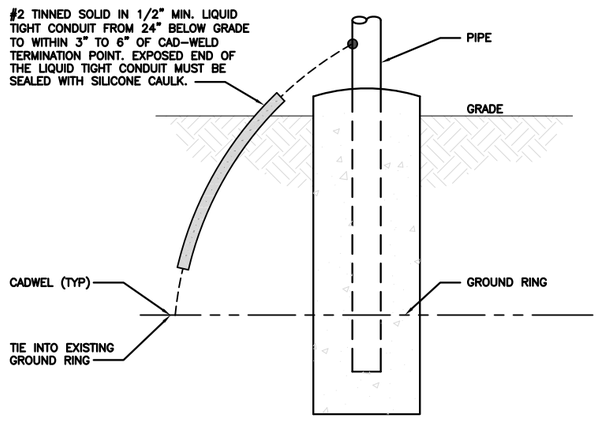
CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET



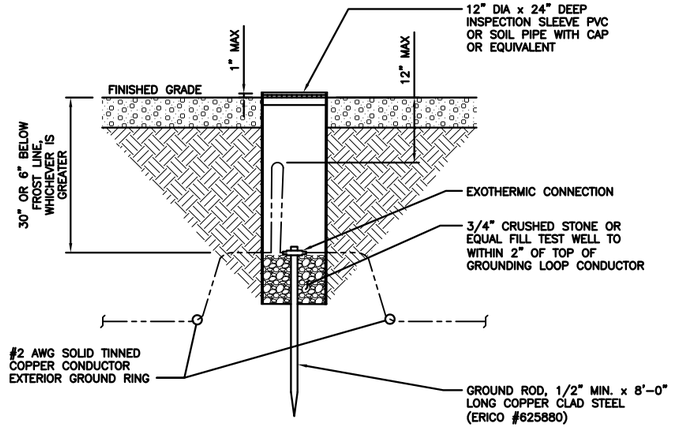
TYPICAL GPS UNIT GROUNDING | NO SCALE | 2



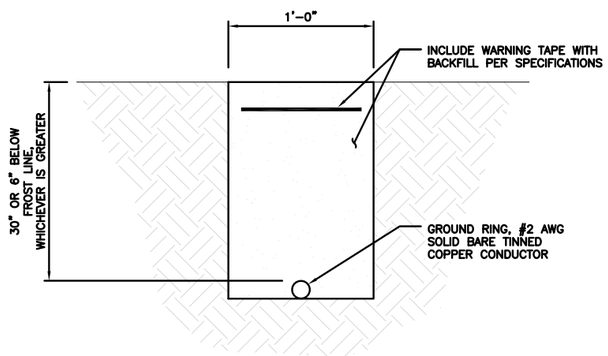
OUTDOOR CABINET GROUNDING | NO SCALE | 3



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

DRAWN BY:	CHECKED BY:	APPROVED BY:
DAS	DAS	RCM

RFDS REV #: 2

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	7/26/21	ISSUED FOR REVIEW
0	9/8/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER

153473.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00015A
56 RUOPS ROAD
TOLLAND, CT 06084

SHEET TITLE

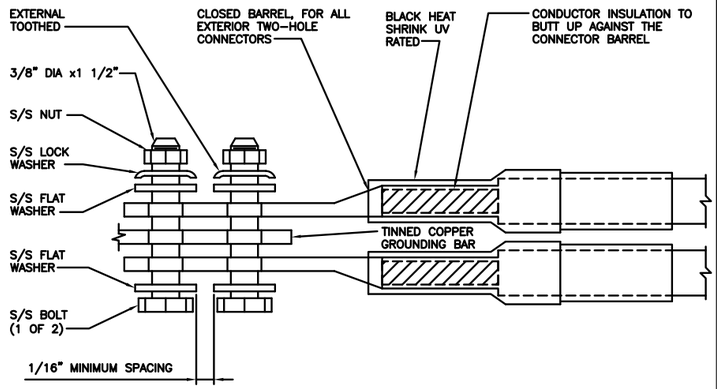
GROUNDING DETAILS

SHEET NUMBER

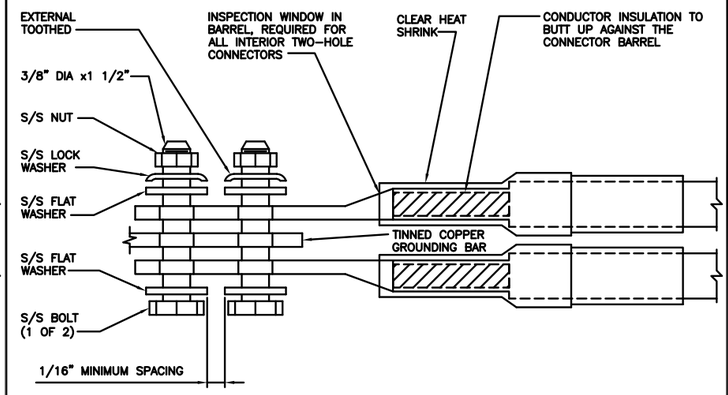
G-2

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).

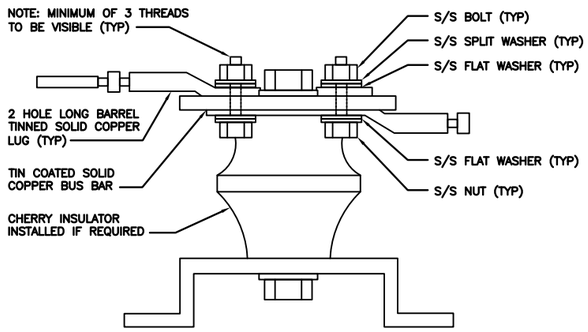
TYPICAL GROUNDING NOTES | NO SCALE | 1



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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TOLLAND, CT 06084

SHEET TITLE
GROUNDING DETAILS

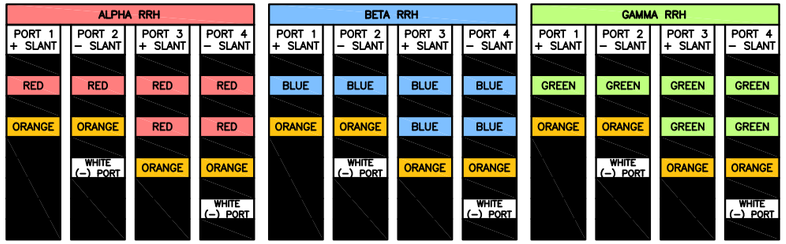
SHEET NUMBER
G-3

RF JUMPER COLOR CODING

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

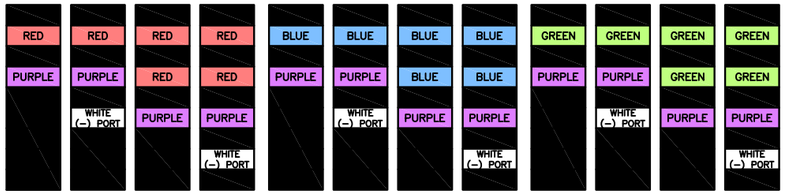
LOW-BAND RRH –
(600MHz N71 BASEBAND) +
(850MHz N26 BAND) +
(700MHz N29 BAND) – OPTIONAL PER MARKET

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)

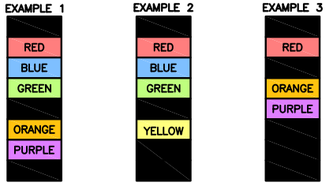


HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED
ALONG WITH FREQUENCY BANDS

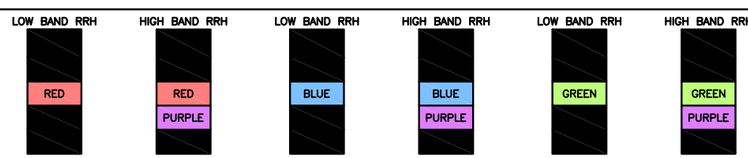
EXAMPLE 1 – HYBRID, OR DISCREET, SUPPORTS
ALL SECTORS, BOTH LOW-BANDS AND MID-BANDS

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



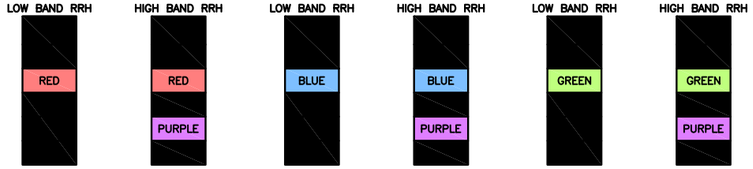
FIBER JUMPERS TO RRHs

LOW-BAND RRH FIBER CABLES HAVE SECTOR
STRIPE ONLY

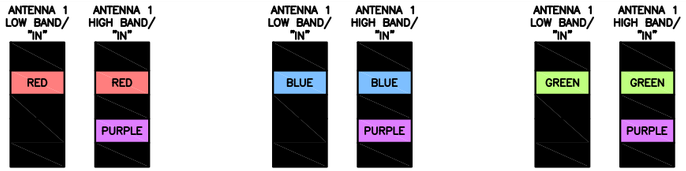


POWER CABLES TO RRHs

LOW-BAND RRH POWER CABLES HAVE SECTOR
STRIPE ONLY



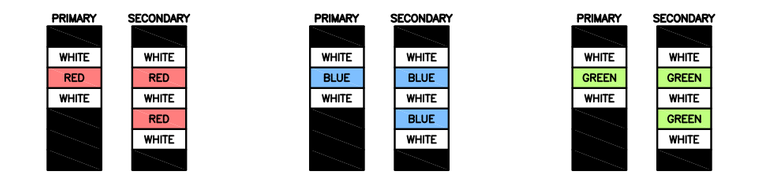
RET MOTORS AT ANTENNAS



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

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TOLLAND, CT 06084

SHEET TITLE
RF
CABLE COLOR CODES

SHEET NUMBER
RF-1

LEGEND

EXOTHERMIC CONNECTION

MECHANICAL CONNECTION

BUSS BAR INSULATOR

CHEMICAL ELECTROLYTIC GROUNDING SYSTEM

TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM — T

EXOTHERMIC WITH INSPECTION SLEEVE

GROUNDING BAR

GROUND ROD

TEST GROUND ROD WITH INSPECTION SLEEVE — T

SINGLE POLE SWITCH — $

DUPLEX RECEPTACLE

DUPLEX GFCI RECEPTACLE — GFCI

FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48–T8 — F

SMOKE DETECTION (DC) — SD

EMERGENCY LIGHTING (DC)

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

CHAIN LINK FENCE — X — X — X — X

WOOD/WROUGHT IRON FENCE

WALL STRUCTURE

LEASE AREA

PROPERTY LINE (PL)

SETBACKS

ICE BRIDGE

CABLE TRAY

WATER LINE — W — W — W — W — W

UNDERGROUND POWER — UGP — UGP — UGP — UGP — UGP

UNDERGROUND TELCO — UGT — UGT — UGT — UGT — UGT

OVERHEAD POWER — OHP — OHP — OHP — OHP

OVERHEAD TELCO — OHT — OHT — OHT — OHT

UNDERGROUND TELCO/POWER — UGT/P — UGT/P — UGT/P — UGT/P

ABOVE GROUND POWER — AGP — AGP — AGP — AGP — AGP

ABOVE GROUND TELCO — AGT — AGT — AGT — AGT — AGT

ABOVE GROUND TELCO/POWER — AGT/P — AGT/P — AGT/P — AGT/P

WORKPOINT — W.P.

SECTION REFERENCE — XX / X–X

DETAIL REFERENCE — XX / X–X

ABBREVIATIONS

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

dish wireless.

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STATE OF CONNECTICUT — No. 23924 — LICENSED PROFESSIONAL ENGINEER — 9/8/21

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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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9/8/21

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Expires 2/10/22

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DAS	DAS	RCM

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CONSTRUCTION DOCUMENTS

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153473.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00015A
56 RUOPS ROAD
TOLLAND, CT 06084

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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9/8/21

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DAS	DAS	RCM

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00015A
56 RUOPS ROAD
TOLLAND, CT 06084

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.

dish wireless.

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DISH Wireless L.L.C.
PROJECT INFORMATION

BOBDL00015A
56 RUOPS ROAD
TOLLAND, CT 06084

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-4

ENGINEERING:

STRUCTURAL ANALYSIS

MOUNT ANALYSIS

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**165 ft Monopole**
ATC Site Name	:	**Tolland CT, CT**
ATC Asset Number	:	**302495**
Engineering Number	:	**13692173_C3_03**
Proposed Carrier	:	**DISH WIRELESS L.L.C.**
Carrier Site Name	:	**BOBDL00015A**
Carrier Site Number	:	**BOBDL00015A**
Site Location	:	**56 Ruops Road** **Tolland, CT 06084-3116** **41.873300,-72.338300**
County	:	**Tolland**
Date	:	**July 8, 2021**
Max Usage	:	**101%**
Result	:	**Pass**

Prepared By:
Brian Davies, E.I.
Structural Engineer II

Reviewed By:

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 165 ft monopole to reflect the change in loading by DISH WIRELESS L.L.C..

Supporting Documents

Tower Drawings	EEI Drawing #GS50842 Rev 1, dated June 24, 1998 Mapping by Delta Oaks Group Project #AGI19-04721-03, dated August 1, 2019
Foundation Drawing	EEI Drawing #F3503-150.N, dated March 2, 1998
Geotechnical Report	ASR Project #12-06077, dated December 1, 2006
Modifications	Spectrasite Drawing #CT-0031-M1, dated November 15, 2004

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	118 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1"1/2 radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Spectral Response:	$Ss = 0.18$, $S_1 = 0.05$
Site Class:	D - Stiff Soil

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

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

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
162.0	3	EMS RR90-17-02DP	Flush	(6) 1 5/8" Coax	T-MOBILE
	6	Ericsson KRY 112 71/x (12.8"x5.9")			
149.0	6	Kathrein Scala 782-10250	Triangular Platform with Handrails	(1) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (24) 1 1/4" Coax (1) 3" conduit (1) 3/8" (0.38"-9.5mm) RET Control Cable	AT&T MOBILITY
	3	Powerwave Allgon 7020.00 Dual Band RET			
	3	Ericsson RRUS-12 800 MHz			
	3	Powerwave Allgon 7770.00			
	6	KMW AM-X-CD-16-65-00T-RET			
	6	CCI DTMABP7819VG12A			
	1	Raycap DC6-48-60-18-8F ("Squid")			
	3	Ericsson RRUS 11 (Band 12)			
	1	Andrew ABT-DMDF-ADBH			
140.0	6	Decibel DB844G90A-XY	Triangular Platform with Handrails	(14) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	6	Commscope JAHH-65B-R3B			
	2	RFS DB-T1-6Z-8AB-0Z			
	3	Samsung MT6407-77A			
	6	Swedcom SC 9012			
	3	Samsung B2/B66A RRH-BR049			
	3	Samsung B5/B13 RRH-BR04C			
	3	Samsung Outdoor CBRS 20W RRH			
	6	RFS FDJ85020D7-S			
	3	Samsung CBRS 64T64R MMU			
133.0	3	Alcatel-Lucent 1900 MHz 4X45 RRH	Triangular Platform with Handrails	(4) 1 1/4" Hybriflex Cable (6) 1 5/8" Coax	SPRINT NEXTEL
	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield			
	3	RFS APXVTM14-ALU-I20			
	3	Commscope NNVV-65B-R4			
	6	Alcatel-Lucent 800 MHz 2X50W RRH w/ Filter			
121.0	2	Andrew DB844H90E-A	Platform with Handrails	-	SPRINT NEXTEL
	1	Andrew DB844H90E-A			
	1	Andrew DB844H90E-A			
	6	Andrew DB844H90E-A			
	2	Andrew DB844H90E-A			
105.0	3	Commscope LNX-6515DS-VTM	Flush	-	T-MOBILE
	3	Kathrein Scala Smart Bias Tee			
81.0	1	Generic GPS	Flush	(1) 1/2" Coax	
50.0	1	Generic 2" x 4" GPS	Flush	-	SPRINT NEXTEL

Equipment to be Removed

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

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
93.0	1	Commscope RDIDC-9181-PF-48	Triangular Platform with Handrails	(1) 1.60" (40.6mm) Hybrid	DISH WIRELESS L.L.C.
	3	Fujitsu TA08025-B605			
	3	Fujitsu TA08025-B604			
	3	JMA Wireless MX08FRO665-21			

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

Install proposed coax inside the pole shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	101%	Pass
Shaft	98%	Pass
Base Plate	56%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	4,530.5	95%
Axial (Kips)	94.1	4%
Shear (Kips)	43.6	54%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
93.0	Commscope RDIDC-9181-PF-48	DISH WIRELESS L.L.C.	1.093	1.395
	Fujitsu TA08025-B605			
	Fujitsu TA08025-B604			
	JMA Wireless MX08FRO665-21			

***Deflection and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H**

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

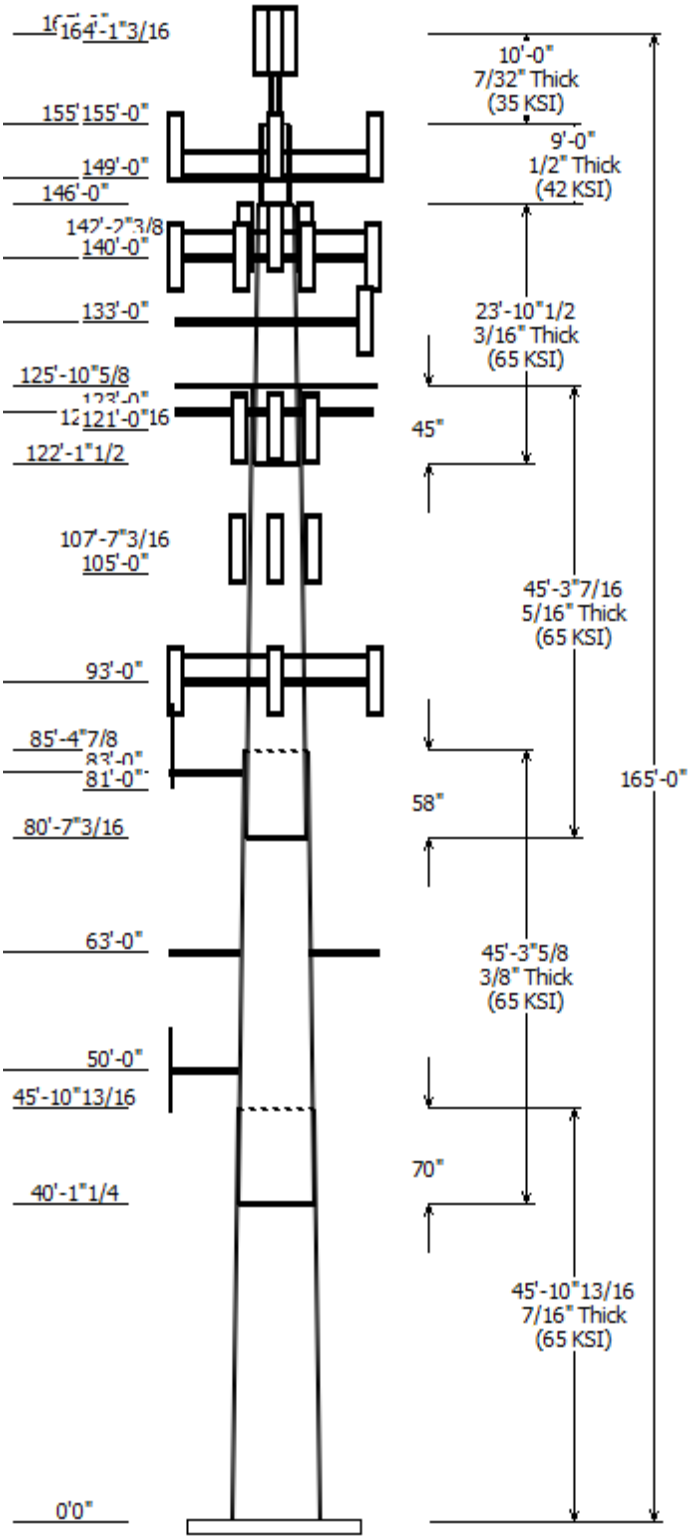
All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

Job Information

Client : DISH WIRELESS L.L.C.
Pole : 302495 Code: ANSI/TIA-222-H
Location : Tolland CT, CT
Description : EEI 155' Monopole - Model verified 4/25/12 Risk Category : II
Shape : 12 Sides Exposure : B
Height : 165.00 (ft) Topo Method : Method 1
Base Elev (ft): 0.00 Topographic Category : 1
Taper: 0.210616 (in/ft)

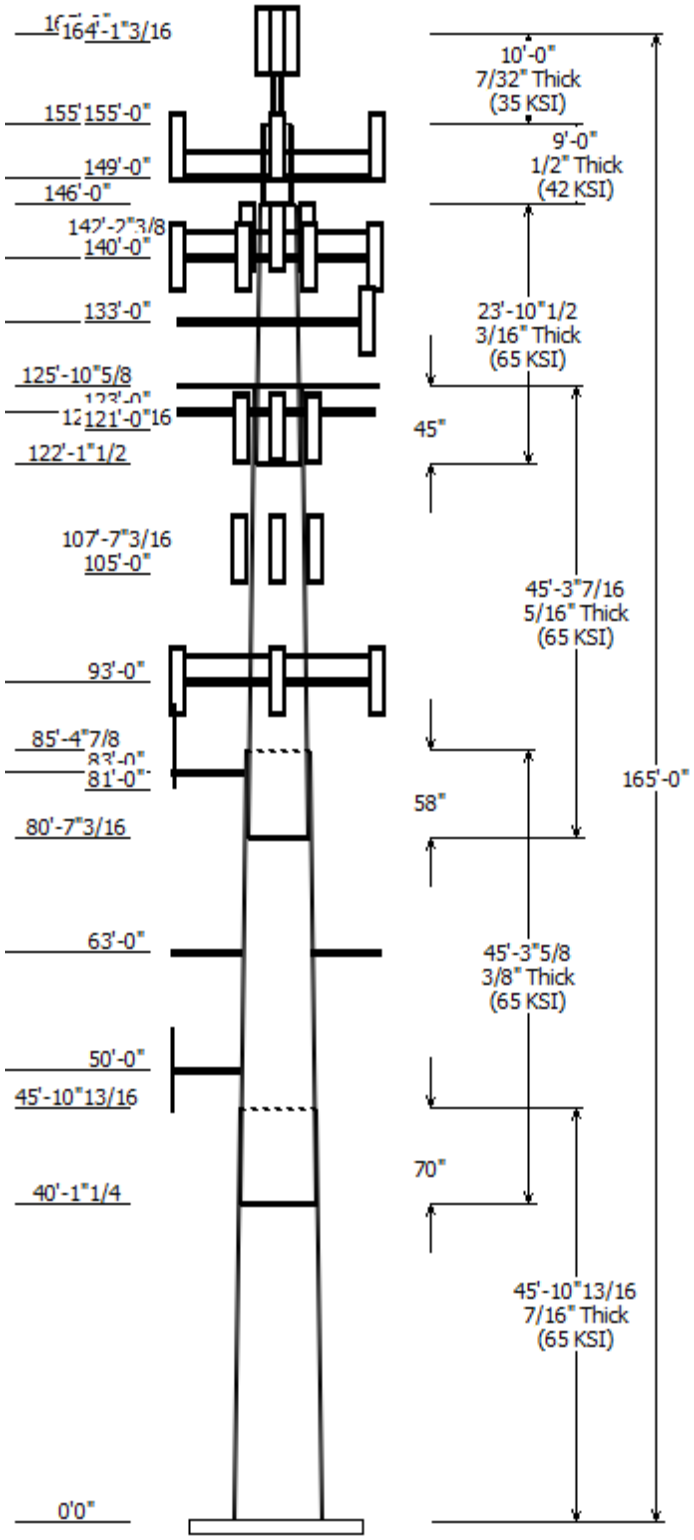


Sections Properties

Shaft Section	Length (ft)	Diameter (in) Accross Flats Top	Bottom	Thick (in)	Joint Type	Overlap Length (in)	Steel Grade Shape	(ksi)
1	45.898	40.33	50.00	0.438		0.000	12 Sides	65
2	45.302	32.76	42.30	0.375	Slip Joint	69.531	12 Sides	65
3	45.286	24.86	34.40	0.313	Slip Joint	57.688	12 Sides	65
4	23.878	21.00	26.02	0.188	Slip Joint	45.156	12 Sides	65
5	9.000	16.00	16.00	0.500	Butt Joint	0.000	Round	42
6	10.000	3.500	3.500	0.218	Butt Joint	0.000	Round	35

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
164.100	164.100	3	EMS RR90-17-02DP
155.000	155.000	1	Canister
155.000	157.000	6	Ericsson KRY 112 71/x (12.8"x5
149.000	149.000	1	Generic Flat Platform with Han
149.000	151.000	6	KMW AM-X-CD-16-65-00T-RET
149.000	151.000	3	Powerwave Allgon 7770.00
149.000	151.000	3	Ericsson RRUS-12 800 MHz
149.000	151.000	1	Raycap DC6-48-60-18-8F
149.000	151.000	6	CCI DTMABP7819VG12A
149.000	151.000	6	Kathrein Scala 782-10250
149.000	151.000	3	Ericsson RRUS 11 (Band 12)
149.000	151.000	3	Powerwave Allgon 7020.00
149.000	149.000	1	Andrew ABT-DMDF-ADBH
142.200	142.200	6	Decibel DB844G90A-XY
140.000	140.000	1	Generic Flat Platform with Han
140.000	140.000	6	Commscope JAHH-65B-R3B
140.000	140.000	2	RFS DB-T1-6Z-8AB-0Z
140.000	140.000	3	Samsung MT6407-77A
140.000	140.000	3	Samsung CBRS 64T64R MMU
140.000	140.000	6	Swedcom SC 9012
140.000	140.000	3	Samsung B2/B66A RRH-BR049
140.000	140.000	3	Samsung B5/B13 RRH-BR04C
140.000	140.000	3	Samsung Outdoor CBRS 20W
140.000	140.000	6	RFS FDJ85020D7-S
133.000	133.000	1	Modified Platform w/ Handrails
133.000	133.000	3	Commscope NNVV-65B-R4
133.000	133.000	3	RFS APXVTM14-ALU-I20
133.000	133.000	3	Alcatel-Lucent 1900 MHz 4X45
133.000	133.000	3	Alcatel-Lucent TD-RRH8x20-25
133.000	133.000	6	Alcatel-Lucent 800 MHz 2X50W
123.000	123.000	1	Generic Flat Platform with Han
121.300	121.300	2	Andrew DB844H90E-A
121.200	121.200	1	Andrew DB844H90E-A
121.200	121.200	1	Andrew DB844H90E-A
121.100	121.100	6	Andrew DB844H90E-A
121.000	121.000	2	Andrew DB844H90E-A
107.600	107.600	3	Commscope LNX-6515DS-VTM
105.000	105.000	3	Kathrein Scala Smart Bias Tee
93.000	93.000	3	JMA Wireless MX08FRO665-21
93.000	93.000	3	Fujitsu TA08025-B604
93.000	93.000	3	Fujitsu TA08025-B605



93.000	93.000	1	Commscope RDIDC-9181-PF-48
93.000	93.000	1	Generic Flat Platform with Han
83.000	83.000	1	Stand-Off
81.000	83.000	1	Generic GPS
63.000	63.000	2	Stand-Off
50.000	50.000	1	Stand-Off
50.000	50.000	1	Generic 2" x 4" GPS

Linear Appurtenance

Elev (ft) From	To	Description	Exposed To Wind
120.0	149.0	Climbing Ladder	Yes
0.000	162.0	1 5/8" Coax	No
0.000	81.000	1/2" Coax	No
0.000	93.000	1.60" (40.6mm)	No
0.000	133.0	1 1/4" Hybriflex	No
0.000	133.0	1 5/8" Coax	No
0.000	140.0	1 5/8" Coax	Yes
0.000	140.0	1 5/8" Hybriflex	Yes
0.000	149.0	0.39" (10mm)	No
0.000	149.0	0.78" (19.7mm) 8	No
0.000	149.0	1 1/4" Coax	No
0.000	149.0	1 1/4" Coax	No
0.000	149.0	1 1/4" Coax	Yes
0.000	149.0	3" conduit	No
0.000	149.0	3/8" (0.38"-	No

Load Cases

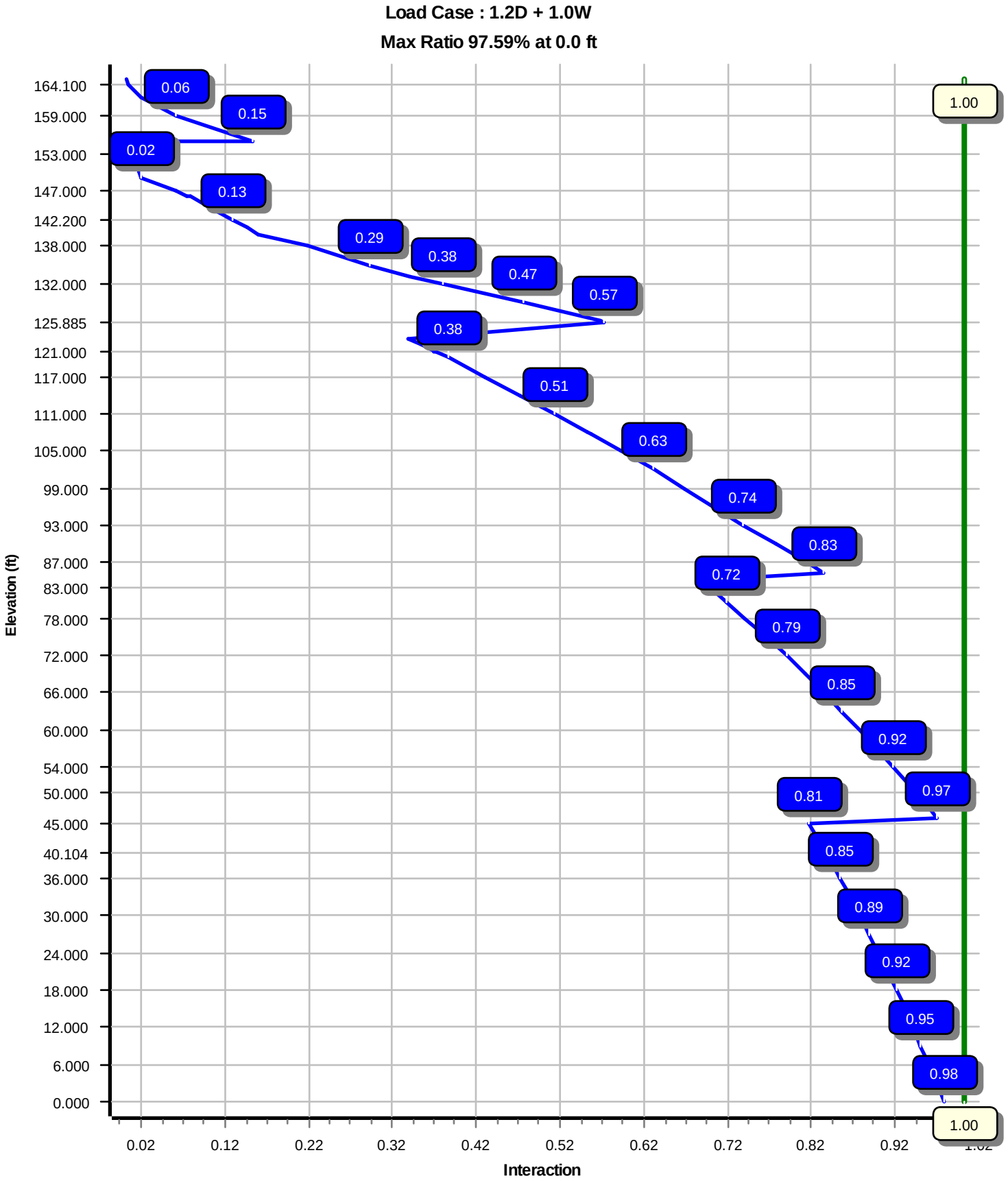
1.2D + 1.0W	118 mph with No Ice
0.9D + 1.0W	118 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.50 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

Reactions

Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.0W	4530.52	43.60	59.16
0.9D + 1.0W	4442.87	43.58	44.35
1.2D + 1.0Di + 1.0Wi	1030.64	8.46	94.14
1.2D + 1.0Ev + 1.0Eh	199.58	1.48	60.05
0.9D - 1.0Ev + 1.0Eh	194.28	1.48	41.76
1.0D + 1.0W	1037.37	10.08	49.35

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
	0.00	0.000	0.000


Load Case : 1.2D + 1.0W
Max Ratio 97.59% at 0.0 ft
Elevation (ft)
164.100
159.000
153.000
147.000
142.200
138.000
132.000
125.885
121.000
117.000
111.000
105.000
99.000
93.000
87.000
83.000
78.000
72.000
66.000
60.000
54.000
50.000
45.000
40.104
36.000
30.000
24.000
18.000
12.000
6.000
0.000
0.06
0.15
0.02
0.13
0.29
0.38
0.47
0.57
0.38
0.51
0.63
0.74
0.83
0.72
0.79
0.85
0.92
0.97
0.81
0.85
0.89
0.92
0.95
0.98
1.00
1.00
0.02
0.12
0.22
0.32
0.42
0.52
0.62
0.72
0.82
0.92
Interaction

Site Number: 302495 Code: ANSI/TIA-222-H

Site Name: Tolland CT, CT Engineering Number:13692173_C3_03 7/8/2021 6:22:46 PM

Customer: DISH WIRELESS L.L.C.

Analysis Parameters

Location :	Tolland County, CT	Height (ft) :	165
Code :	ANSI/TIA-222-H	Base Diameter (in) :	50.00
Shape :	12 Sides. Sect 5: Round. Sect 6: Round	Top Diameter (in) :	3.50
Pole Type :	Custom	Taper (in/ft) :	0.211
Pole Manfacturer :	EEI	Rotation (deg) :	0.00
Kd (non-service) :	0.95	Ke :	0.98

Ice & Wind Parameters

Exposure Category:	B	Design Wind Speed Without Ice:	118 mph
Risk Category:	II	Design Wind Speed With Ice:	50 mph
Topographic Factor Procedure:	Method 1	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.50 in
Crest Height:	0 ft	HMSL:	695.00 ft

Seismic Parameters

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	3.15				
T_L (sec):	6	p:	1	C_s:	0.030
S_s:	0.181	S_1:	0.055	C_s Max:	0.030
F_a:	1.600	F_v:	2.400	C_s Min:	0.030
S_{ds}:	0.193	S_{d1}:	0.088		

Load Cases

1.2D + 1.0W	118 mph with No Ice
0.9D + 1.0W	118 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	50 mph with 1.50 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

Site Number: 302495 Code: ANSI/TIA-222-H

Site Name: Tolland CT, CT Engineering Number:13692173_C3_03 7/8/2021 6:22:46 PM

Customer: DISH WIRELESS L.L.C.

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom Dia (in)	Bottom Elev (ft)	Bottom Area (in²)	Bottom Ix (in⁴)	Bottom W/t Ratio	Bottom D/t Ratio	Top Dia (in)	Top Elev (ft)	Top Area (in²)	Top Ix (in⁴)	Top W/t Ratio	Top D/t Ratio	Taper (in/ft)
1-12	45.898	0.4375	65		0.00	9,841	50.00	0.00	69.82	21891.7	27.94	114.29	40.33	45.90	56.20	11418.1	22.02	92.19	0.210616
2-12	45.302	0.3750	65	Slip	69.53	6,917	42.30	40.10	50.63	11360.5	27.55	112.81	32.76	85.41	39.11	5235.8	20.73	87.37	0.210616
3-12	45.286	0.3125	65	Slip	57.69	4,546	34.40	80.60	34.30	5087.0	26.82	110.08	24.86	125.89	24.70	1900.2	18.64	79.56	0.210616
4-12	23.878	0.1875	65	Slip	45.16	1,144	26.02	122.12	15.60	1329.8	34.52	138.82	21.00	146.00	12.57	694.7	27.33	112.00	0.210616
5-R	9.000	0.5000	42	Butt	0.00	746	16.00	146.00	24.35	731.7	0.00	32.00	16.00	155.00	24.35	731.7	0.00	32.00	0.000000
6-R	10.000	0.2180	35	Butt	0.00	76	3.500	155.00	2.25	3.0	0.00	16.06	3.500	165.00	2.25	3.0	0.00	16.06	0.000000
				Shaft Weight		23,270													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice Weight (lb)	No Ice EPAa (sf)	No Ice Orientation Factor	Ice Weight (lb)	Ice EPAa (sf)	Ice Orientation Factor
164.10	EMS RR90-17-02DP	3	1.00	0.000	13.50	4.356	0.01	113.27	5.355	0.01
155.00	Ericsson KRY 112 71/x	6	1.00	2.000	13.20	0.629	0.01	31.85	1.203	0.01
155.00	Canister	1	1.00	0.000	500.00	9.800	1.00	798.17	12.331	1.00
149.00	Andrew ABT-DMDF-ADBH	1	0.75	0.000	1.10	0.045	1.00	3.33	0.218	1.00
149.00	Powerwave Allgon 7020.00 Dual	3	0.75	2.000	2.20	0.339	0.50	12.42	0.749	0.50
149.00	Kathrein Scala 782-10250	6	0.75	2.000	6.40	0.449	0.50	19.17	0.940	0.50
149.00	CCI DTMABP7819VG12A	6	0.75	2.000	19.20	0.972	0.50	44.69	1.627	0.50
149.00	Raycap DC6-48-60-18-8F	1	0.75	2.000	31.80	1.470	1.00	93.54	2.169	1.00
149.00	Ericsson RRUS 11 (Band 12)	3	0.75	2.000	50.00	2.566	0.67	118.22	3.614	0.67
149.00	Ericsson RRUS-12 800 MHz	3	0.75	2.000	60.00	2.700	0.67	134.20	3.775	0.67
149.00	Powerwave Allgon 7770.00	3	0.75	2.000	35.00	5.508	0.65	169.95	6.564	0.65
149.00	KMW AM-X-CD-16-65-00T-RET	6	0.75	2.000	48.50	8.024	0.67	210.56	10.815	0.67
149.00	Generic Flat Platform with	1	1.00	0.000	2,500.00	42.400	1.00	4,277.73	63.387	1.00
142.20	Decibel DB844G90A-XY	6	0.75	0.000	14.00	3.615	0.73	123.87	3.917	0.73
140.00	RFS FDJ85020D7-S	6	0.75	0.000	11.70	0.425	0.50	29.79	0.867	0.50
140.00	Samsung Outdoor CBRS 20W	3	0.75	0.000	18.60	0.857	0.50	42.46	1.480	0.50
140.00	Samsung B5/B13 RRH-BR04C	3	0.75	0.000	70.30	1.875	0.50	127.19	2.773	0.50
140.00	Samsung B2/B66A RRH-BR049	3	0.75	0.000	84.40	1.875	0.50	147.84	2.773	0.50
140.00	Swedcom SC 9012	6	0.75	0.000	10.00	3.172	0.73	109.54	3.469	0.73
140.00	Samsung CBRS 64T64R MMU	3	0.75	0.000	75.00	4.496	0.58	167.59	5.895	0.58
140.00	Samsung MT6407-77A	3	0.75	0.000	81.60	4.709	0.61	182.96	6.219	0.61
140.00	RFS DB-T1-6Z-8AB-0Z	2	0.75	0.000	44.00	4.800	0.72	169.16	6.213	0.72
140.00	Commscope JAHH-65B-R3B	6	0.75	0.000	60.60	9.113	0.69	261.78	11.872	0.69
140.00	Generic Flat Platform with	1	1.00	0.000	2,500.00	42.400	1.00	4,266.61	63.256	1.00
133.00	Alcatel-Lucent 800 MHz 2X50W	6	0.75	0.000	64.00	2.058	0.67	140.25	3.006	0.67
133.00	Alcatel-Lucent 1900 MHz 4X45	3	0.75	0.000	60.00	2.322	0.67	139.76	3.391	0.67
133.00	Alcatel-Lucent TD-RRH8x20-25	3	0.75	0.000	70.00	4.046	0.61	163.53	5.360	0.61
133.00	RFS APXVTM14-ALU-I20	3	0.75	0.000	56.20	6.342	0.66	192.48	8.498	0.66
133.00	Commscope NNVV-65B-R4	3	0.75	0.000	77.40	12.271	0.64	326.08	15.046	0.64
133.00	Modified Platform w/ Handrails	1	1.00	0.000	2,500.00	47.400	1.00	4,258.17	70.604	1.00
123.00	Generic Flat Platform with	1	1.00	0.000	2,500.00	42.400	1.00	4,244.52	62.995	1.00
121.30	Andrew DB844H90E-A	2	0.75	0.000	10.00	3.796	0.78	117.66	3.706	0.78
121.20	Andrew DB844H90E-A	1	0.75	0.000	10.00	3.796	1.00	117.65	3.706	1.00
121.20	Andrew DB844H90E-A	1	0.75	0.000	10.00	3.796	1.00	117.65	3.706	1.00
121.10	Andrew DB844H90E-A	6	0.75	0.000	10.00	3.796	0.70	117.64	3.706	0.70
121.00	Andrew DB844H90E-A	2	0.75	0.000	10.00	3.796	0.78	117.58	3.706	0.78
107.60	Commscope LNX-6515DS-VTM	3	1.00	0.000	50.30	11.440	0.70	272.41	14.573	0.70
105.00	Kathrein Scala Smart Bias Tee	3	1.00	0.000	3.30	0.080	0.50	6.48	0.281	0.50
93.00	Commscope RDIDC-9181-PF-48	1	0.75	0.000	21.90	1.867	1.00	76.17	2.725	1.00
93.00	Fujitsu TA08025-B605	3	0.75	0.000	75.00	1.962	0.50	134.75	2.839	0.50
93.00	Fujitsu TA08025-B604	3	0.75	0.000	63.90	1.962	0.50	119.52	2.839	0.50
93.00	JMA Wireless MX08FRO665-21	3	0.75	0.000	64.50	12.489	0.64	309.63	15.169	0.64
93.00	Generic Flat Platform with	1	1.00	0.000	2,500.00	42.400	1.00	4,194.27	62.402	1.00
83.00	Stand-Off	1	1.00	0.000	75.00	2.500	1.00	124.29	4.143	1.00
81.00	Generic GPS	1	1.00	2.000	10.00	0.900	1.00	37.56	1.502	1.00

63.00	Stand-Off	2	0.90	0.000	75.00	2.500	0.90	122.89	4.096	0.90
50.00	Generic 2" x 4" GPS	1	1.00	0.000	5.00	0.040	1.00	7.30	0.149	1.00
50.00	Stand-Off	1	1.00	0.000	75.00	2.500	1.00	121.81	4.060	1.00
Totals	Num Loadings:48	140			18,097.00			38,970.43		

Linear Appurtenance Properties

Load Case Azimuth (deg) :

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Flat	Max Coax / Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	162.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	T-MOBILE
0.00	149.00	1	0.39" (10mm) Fiber	0.39	0.06	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	149.00	2	0.78" (19.7mm) 8 AWG	0.78	0.59	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	149.00	12	1 1/4" Coax	1.55	0.63	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	149.00	9	1 1/4" Coax	1.55	0.63	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	149.00	3	1 1/4" Coax	1.55	0.63	N	3	0.00	0.00	180	0.50	Y	AT&T MOBILITY
0.00	149.00	1	3" conduit	3.50	7.58	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	149.00	1	3/8" (0.38"- 9.5mm)	0.38	0.23	N	0	0.00	0.00	0	0.00	N	AT&T MOBILITY
120.00	149.00	1	Climbing Ladder	2.00	6.90	Y	1	0.00	0.00	90	0.50	Y	
0.00	140.00	14	1 5/8" Coax	1.98	0.82	N	3	0.00	0.00	270	0.50	Y	VERIZON WIRELESS
0.00	140.00	2	1 5/8" Hybriflex	1.98	1.30	N	2	0.00	0.00	285	0.50	Y	VERIZON WIRELESS
0.00	133.00	4	1 1/4" Hybriflex Cable	1.54	1.00	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	133.00	6	1 5/8" Coax	1.98	0.82	N	0	0.00	0.00	0	0.00	N	SPRINT NEXTEL
0.00	93.00	1	1.60" (40.6mm) Hybrid	1.60	2.34	N	0	0.00	0.00	0	0.00	N	DISH WIRELESS
0.00	81.00	1	1/2" Coax	0.63	0.15	N	0	0.00	0.00	0	0.00	N	T-MOBILE

Segment Properties (Max Len : 3. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in^3)	Z (in^3)	Weight (lb)
0.00		0.4375	50.000	69.821	21,891.7	27.94	114.29	74.2	845.8	0.0	0.0
3.00		0.4375	49.368	68.931	21,065.1	27.56	112.84	74.7	824.3	0.0	708.2
6.00		0.4375	48.736	68.041	20,259.5	27.17	111.40	75.1	803.1	0.0	699.1
9.00		0.4375	48.104	67.151	19,474.8	26.78	109.95	75.5	782.1	0.0	690.0
12.00		0.4375	47.473	66.261	18,710.5	26.40	108.51	75.9	761.4	0.0	681.0
15.00		0.4375	46.841	65.371	17,966.6	26.01	107.06	76.3	741.0	0.0	671.9
18.00		0.4375	46.209	64.480	17,242.6	25.62	105.62	76.8	720.9	0.0	662.8
21.00		0.4375	45.577	63.590	16,538.3	25.23	104.18	77.2	701.0	0.0	653.7
24.00		0.4375	44.945	62.700	15,853.5	24.85	102.73	77.6	681.4	0.0	644.6
27.00		0.4375	44.313	61.810	15,187.9	24.46	101.29	78.0	662.1	0.0	635.5
30.00		0.4375	43.682	60.920	14,541.1	24.07	99.84	78.5	643.1	0.0	626.4
33.00		0.4375	43.050	60.030	13,913.0	23.69	98.40	78.9	624.3	0.0	617.3
36.00		0.4375	42.418	59.140	13,303.2	23.30	96.95	79.3	605.9	0.0	608.3
39.00		0.4375	41.786	58.250	12,711.5	22.91	95.51	79.7	587.7	0.0	599.2
40.10	Bot - Section 2	0.4375	41.553	57.922	12,498.3	22.77	94.98	79.9	581.1	0.0	218.2
42.00		0.4375	41.154	57.360	12,137.7	22.53	94.07	80.1	569.8	0.0	696.9
45.00		0.4375	40.522	56.469	11,581.3	22.14	92.62	80.6	552.1	0.0	1,089.0
45.90	Top - Section 1	0.3750	41.083	49.155	10,397.1	26.68	109.55	75.6	488.9	0.0	322.9
48.00		0.3750	40.640	48.620	10,061.7	26.36	108.37	76.0	478.3	0.0	349.6
50.00		0.3750	40.219	48.112	9,749.2	26.06	107.25	76.3	468.3	0.0	329.2
51.00		0.3750	40.009	47.858	9,595.4	25.91	106.69	76.5	463.3	0.0	163.3
54.00		0.3750	39.377	47.095	9,143.7	25.46	105.00	77.0	448.6	0.0	484.7
57.00		0.3750	38.745	46.332	8,706.5	25.00	103.32	77.4	434.1	0.0	476.9
60.00		0.3750	38.113	45.569	8,283.4	24.55	101.63	77.9	419.9	0.0	469.1
63.00		0.3750	37.481	44.806	7,874.3	24.10	99.95	78.4	405.9	0.0	461.3
66.00		0.3750	36.849	44.043	7,478.8	23.65	98.26	78.9	392.1	0.0	453.5
69.00		0.3750	36.217	43.280	7,096.9	23.20	96.58	79.4	378.5	0.0	445.7
72.00		0.3750	35.586	42.517	6,728.1	22.75	94.89	79.9	365.3	0.0	437.9
75.00		0.3750	34.954	41.754	6,372.4	22.30	93.21	80.4	352.2	0.0	430.1
78.00		0.3750	34.322	40.991	6,029.4	21.84	91.53	80.9	339.4	0.0	422.3
80.60	Bot - Section 3	0.3750	33.775	40.330	5,742.4	21.45	90.07	81.3	328.5	0.0	359.6
81.00		0.3750	33.690	40.228	5,699.0	21.39	89.84	81.4	326.8	0.0	101.7
83.00		0.3750	33.269	39.719	5,485.5	21.09	88.72	81.7	318.5	0.0	503.5
84.00		0.3750	33.058	39.465	5,380.8	20.94	88.16	81.9	314.4	0.0	249.3
85.41	Top - Section 2	0.3125	33.387	33.281	4,647.0	25.95	106.84	76.4	268.9	0.0	348.0
87.00		0.3125	33.051	32.943	4,507.0	25.66	105.76	76.7	263.4	0.0	179.6
90.00		0.3125	32.420	32.308	4,251.0	25.12	103.74	77.3	253.3	0.0	333.1
93.00		0.3125	31.788	31.672	4,004.9	24.58	101.72	77.9	243.4	0.0	326.6
96.00		0.3125	31.156	31.036	3,768.6	24.03	99.70	78.5	233.7	0.0	320.1
99.00		0.3125	30.524	30.400	3,541.7	23.49	97.68	79.1	224.2	0.0	313.6
102.0		0.3125	29.892	29.765	3,324.1	22.95	95.65	79.7	214.8	0.0	307.1
105.0		0.3125	29.260	29.129	3,115.6	22.41	93.63	80.3	205.7	0.0	300.6
107.6		0.3125	28.713	28.578	2,942.1	21.94	91.88	80.8	197.9	0.0	255.3
108.0		0.3125	28.628	28.493	2,916.0	21.87	91.61	80.9	196.8	0.0	38.8
111.0		0.3125	27.997	27.857	2,725.1	21.33	89.59	81.5	188.0	0.0	287.6
114.0		0.3125	27.365	27.221	2,542.7	20.78	87.57	81.9	179.5	0.0	281.1
117.0		0.3125	26.733	26.586	2,368.7	20.24	85.55	81.9	171.2	0.0	274.6
120.0		0.3125	26.101	25.950	2,202.8	19.70	83.52	81.9	163.0	0.0	268.1
121.0		0.3125	25.890	25.738	2,149.3	19.52	82.85	81.9	160.4	0.0	87.9
121.1		0.3125	25.869	25.717	2,143.9	19.50	82.78	81.9	160.1	0.0	8.8
121.2		0.3125	25.848	25.695	2,138.7	19.48	82.71	81.9	159.8	0.0	8.7
121.3		0.3125	25.827	25.674	2,133.4	19.47	82.65	81.9	159.6	0.0	8.7
122.1	Bot - Section 4	0.3125	25.654	25.500	2,090.2	19.32	82.09	81.9	157.4	0.0	71.6
123.0		0.3125	25.469	25.314	2,044.8	19.16	81.50	81.9	155.1	0.0	122.3
125.8	Top - Section 3	0.1875	25.236	15.123	1,211.2	33.38	134.59	68.3	92.7	0.0	395.8
126.0		0.1875	25.212	15.109	1,207.7	33.35	134.47	68.3	92.5	0.0	5.9
129.0		0.1875	24.580	14.727	1,118.5	32.45	131.10	69.3	87.9	0.0	152.3
132.0		0.1875	23.949	14.346	1,033.8	31.54	127.73	70.3	83.4	0.0	148.4

133.0		0.1875	23.738	14.219	1,006.6	31.24	126.60	70.6	81.9	0.0	48.6
135.0		0.1875	23.317	13.964	953.5	30.64	124.36	71.3	79.0	0.0	95.9
138.0		0.1875	22.685	13.583	877.5	29.74	120.99	72.3	74.7	0.0	140.6
140.0		0.1875	22.264	13.329	829.1	29.14	118.74	72.9	71.9	0.0	91.6
141.0		0.1875	22.053	13.201	805.6	28.84	117.62	73.3	70.6	0.0	45.1
142.2		0.1875	21.800	13.049	778.0	28.47	116.27	73.7	68.9	0.0	53.6
144.0		0.1875	21.421	12.820	737.8	27.93	114.25	74.2	66.5	0.0	79.2
146.0	Top - Section 4	0.1875	21.000	12.566	694.7	27.33	112.00	74.9	63.9	0.0	86.4
146.0	Bot - Section 5	0.5000	16.000	24.347	731.7	0.00	32.00	42.0	91.5	120.2	
147.0		0.5000	16.000	24.347	731.7	0.00	32.00	42.0	91.5	120.2	82.8
149.0		0.5000	16.000	24.347	731.7	0.00	32.00	42.0	91.5	120.2	165.7
150.0		0.5000	16.000	24.347	731.7	0.00	32.00	42.0	91.5	120.2	82.8
153.0		0.5000	16.000	24.347	731.7	0.00	32.00	42.0	91.5	120.2	248.5
155.0	Top - Section 5	0.5000	16.000	24.347	731.7	0.00	32.00	42.0	91.5	120.2	165.7
155.0	Bot - Section 6	0.2180	3.500	2.248	3.0	0.00	16.06	35.0	1.7	2.4	
156.0		0.2180	3.500	2.248	3.0	0.00	16.06	35.0	1.7	2.4	7.6
159.0		0.2180	3.500	2.248	3.0	0.00	16.06	35.0	1.7	2.4	22.9
162.0		0.2180	3.500	2.248	3.0	0.00	16.06	35.0	1.7	2.4	22.9
164.1		0.2180	3.500	2.248	3.0	0.00	16.06	35.0	1.7	2.4	16.1
165.0		0.2180	3.500	2.248	3.0	0.00	16.06	35.0	1.7	2.4	6.9
											23,270.4

Site Number: 302495 Code: ANSI/TIA-222-H

Site Name: Tolland CT, CT Engineering Number: 13692173_C3_03 7/8/2021 6:22:46 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 1.2D + 1.0W 118 mph with No Ice 32 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		255.0	0.0					0.0	0.0	255.0	0.0	0.0	0.0
3.00		506.8	849.9					0.2	196.5	506.9	1,046.3	0.0	0.0
6.00		500.3	839.0					0.3	196.5	500.7	1,035.4	0.0	0.0
9.00		493.8	828.0					0.5	196.5	494.4	1,024.5	0.0	0.0
12.00		487.4	817.1					0.7	196.5	488.1	1,013.6	0.0	0.0
15.00		480.9	806.2					0.9	196.5	481.7	1,002.7	0.0	0.0
18.00		474.4	795.3					1.0	196.5	475.4	991.8	0.0	0.0
21.00		467.9	784.4					1.2	196.5	469.1	980.9	0.0	0.0
24.00		461.4	773.5					137.3	196.5	598.8	970.0	0.0	0.0
27.00		454.9	762.6					1.5	196.5	456.5	959.1	0.0	0.0
30.00		451.8	751.7					1.7	196.5	453.5	948.2	0.0	0.0
33.00		454.4	740.8					1.9	196.5	456.3	937.3	0.0	0.0
36.00		459.0	729.9					2.1	196.5	461.1	926.4	0.0	0.0
39.00		315.8	719.0					2.3	196.5	318.1	915.5	0.0	0.0
40.10	Bot - Section 2	234.7	261.9					0.9	72.3	235.6	334.2	0.0	0.0
42.00		387.0	836.3					1.6	124.2	388.6	960.4	0.0	0.0
45.00		308.8	1,306.8					2.8	196.5	311.6	1,503.3	0.0	0.0
45.90	Top - Section 1	238.4	387.4					36.7	58.8	275.1	446.3	0.0	0.0
48.00		326.4	419.5					2.0	137.6	328.3	557.2	0.0	0.0
50.00	Appurtenance(s)	239.0	395.0	74.8	0.0	0.0	96.0	83.4	131.0	397.2	622.0	0.0	0.0
51.00		319.0	195.9					42.1	65.5	361.0	261.4	0.0	0.0
54.00		478.5	581.6					127.6	196.5	606.1	778.1	0.0	0.0
57.00		478.2	572.2					129.6	196.5	607.7	768.7	0.0	0.0
60.00		477.3	562.9					131.5	196.5	608.8	759.4	0.0	0.0
63.00	Appurtenance(s)	476.0	553.5	127.4	0.0	0.0	180.0	133.4	196.5	736.8	930.0	0.0	0.0
66.00		474.2	544.2					135.2	196.5	609.4	740.7	0.0	0.0
69.00		472.1	534.9					136.9	196.5	609.0	731.3	0.0	0.0
72.00		469.5	525.5					138.6	196.5	608.1	722.0	0.0	0.0
75.00		466.6	516.2					140.3	196.5	606.8	712.6	0.0	0.0
78.00		432.6	506.8					141.8	196.5	574.4	703.3	0.0	0.0
80.60	Bot - Section 3	231.4	431.5					124.1	170.2	355.5	601.7	0.0	0.0
81.00	Appurtenance(s)	187.0	122.1	30.6	0.0	61.3	12.0	19.3	26.3	236.9	160.3	0.0	0.0
83.00	Appurtenance(s)	233.2	604.1	85.1	0.0	0.0	90.0	96.4	130.6	414.7	824.8	0.0	0.0
84.00		186.2	299.2					48.5	65.3	234.6	364.5	0.0	0.0
85.41	Top - Section 2	231.2	417.6					68.4	91.9	299.6	509.4	0.0	0.0
87.00		351.7	215.5					77.9	104.1	429.6	319.6	0.0	0.0
90.00		455.9	399.7					147.8	195.9	603.7	595.6	0.0	0.0
93.00	Appurtenance(s)	451.2	391.9	2,327.5	0.0	0.0	3,758.5	149.1	195.9	2,927.9	4,346.3	0.0	0.0
96.00		446.3	384.1					150.5	187.5	596.8	571.6	0.0	0.0
99.00		441.1	376.3					109.8	187.5	550.9	563.8	0.0	0.0
102.00		435.7	368.5					110.7	187.5	546.4	556.0	0.0	0.0
105.00	Appurtenance(s)	401.7	360.7	4.4	0.0	0.0	11.9	111.6	187.5	517.7	560.1	0.0	0.0
107.60		213.6	306.3					97.4	162.5	311.0	468.8	0.0	0.0
108.00		238.9	46.6					15.0	25.0	253.9	71.6	0.0	0.0
111.00		418.0	345.1					113.3	187.5	531.4	532.7	0.0	0.0
114.00		411.7	337.4					114.2	187.5	525.9	524.9	0.0	0.0
117.00		405.2	329.6					115.0	187.5	520.2	517.1	0.0	0.0
120.00		251.9	321.8					115.8	187.5	367.7	509.3	0.0	0.0

Load Case: 1.2D + 1.0W 118 mph with No Ice 32 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

121.00	Appurtenance(s)	56.0	105.5	168.4	0.0	0.0	24.0	44.4	70.8	268.8	200.3	0.0	0.0
121.10		10.2	10.5					4.4	7.1	14.6	17.6	0.0	0.0
121.20		10.1	10.5					4.4	7.1	14.6	17.6	0.0	0.0
121.30		46.7	10.5					4.4	7.1	51.1	17.6	0.0	0.0
122.12	Bot - Section 4	86.4	85.9					36.6	58.2	123.0	144.1	0.0	0.0
123.00	Appurtenance(s)	190.6	146.8	1,614.8	0.0	0.0	3,000.0	39.1	62.1	1,844.5	3,208.9	0.0	0.0
125.89	Top - Section 3	151.5	475.0					129.3	204.3	280.8	679.2	0.0	0.0
126.00		154.5	7.1					5.2	8.1	159.6	15.2	0.0	0.0
129.00		294.7	182.7					135.3	212.4	430.0	395.1	0.0	0.0
132.00		194.0	178.1					136.2	212.4	330.2	390.4	0.0	0.0
133.00	Appurtenance(s)	143.1	58.3	3,495.1	0.0	0.0	4,409.8	52.8	70.8	3,690.9	4,538.9	0.0	0.0
135.00		235.2	115.1					105.8	120.2	341.0	235.2	0.0	0.0
138.00		231.9	168.7					159.5	180.3	391.4	349.0	0.0	0.0
140.00	Appurtenance(s)	127.7	109.9	4,140.4	0.0	0.0	4,885.8	106.9	120.2	4,374.9	5,115.9	0.0	0.0
141.00		78.7	54.2					0.0	43.2	78.7	97.4	0.0	0.0
142.20		106.1	64.3					0.0	51.8	106.1	116.1	0.0	0.0
144.00		132.8	95.1					0.0	77.7	132.8	172.8	0.0	0.0
146.00	Top - Section 4	87.9	103.7					0.0	86.4	87.9	190.0	0.0	0.0
147.00		55.6	99.4					0.0	43.2	55.6	142.6	0.0	0.0
149.00	Appurtenance(s)	53.2	198.8	3,518.9	0.0	3,623.7	4,102.9	0.0	86.4	3,572.1	4,388.1	0.0	0.0
150.00		64.6	99.4					0.0	5.9	64.6	105.3	0.0	0.0
153.00		81.0	298.3					0.0	17.7	81.0	316.0	0.0	0.0
155.00	Top - Section 5	39.6	198.8	400.3	0.0	3.1	695.0	0.0	11.8	439.9	905.7	0.0	0.0
156.00		28.6	9.2					0.0	5.9	28.6	15.1	0.0	0.0
159.00		43.0	27.5					0.0	17.7	43.0	45.2	0.0	0.0
162.00		35.5	27.5					0.0	17.7	35.5	45.2	0.0	0.0
164.10		19.9	19.3					0.0	0.0	19.9	19.3	0.0	0.0
165.00		6.0	8.3					0.0	0.0	6.0	8.3	0.0	0.0
								Totals:		41,571.5	58,773.4	0.00	0.00

Site Number: 302495 Code: ANSI/TIA-222-H

Site Name: Tolland CT, CT Engineering Number: 13692173_C3_03 7/8/2021 6:22:52 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 1.2D + 1.0W 118 mph with No Ice 32 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-59.16	-43.60	0.00	-4,530.52	0.00	4,530.52	4,665.07	1,225.36	5,729.16	4,709.48	0.00	0.00	0.976
3.00	-57.98	-43.27	0.00	-4,399.71	0.00	4,399.71	4,631.78	1,209.74	5,584.06	4,615.74	0.06	-0.17	0.967
6.00	-56.81	-42.94	0.00	-4,269.89	0.00	4,269.89	4,597.82	1,194.12	5,440.82	4,522.21	0.22	-0.35	0.958
9.00	-55.66	-42.61	0.00	-4,141.07	0.00	4,141.07	4,563.18	1,178.50	5,299.44	4,428.89	0.50	-0.53	0.949
12.00	-54.52	-42.28	0.00	-4,013.24	0.00	4,013.24	4,527.86	1,162.88	5,159.92	4,335.83	0.89	-0.71	0.939
15.00	-53.39	-41.96	0.00	-3,886.38	0.00	3,886.38	4,491.86	1,147.25	5,022.26	4,243.05	1.39	-0.89	0.929
18.00	-52.28	-41.63	0.00	-3,760.51	0.00	3,760.51	4,455.19	1,131.63	4,886.46	4,150.57	2.01	-1.07	0.919
21.00	-51.17	-41.31	0.00	-3,635.62	0.00	3,635.62	4,417.85	1,116.01	4,752.53	4,058.43	2.74	-1.25	0.909
24.00	-50.08	-40.85	0.00	-3,511.70	0.00	3,511.70	4,379.82	1,100.39	4,620.45	3,966.64	3.58	-1.43	0.898
27.00	-49.01	-40.53	0.00	-3,389.16	0.00	3,389.16	4,341.13	1,084.77	4,490.24	3,875.23	4.54	-1.62	0.887
30.00	-47.94	-40.20	0.00	-3,267.58	0.00	3,267.58	4,301.75	1,069.15	4,361.89	3,784.23	5.62	-1.81	0.876
33.00	-46.89	-39.87	0.00	-3,146.98	0.00	3,146.98	4,261.70	1,053.52	4,235.40	3,693.68	6.82	-2.00	0.864
36.00	-45.85	-39.53	0.00	-3,027.37	0.00	3,027.37	4,220.97	1,037.90	4,110.77	3,603.58	8.13	-2.19	0.852
39.00	-44.86	-39.27	0.00	-2,908.80	0.00	2,908.80	4,179.57	1,022.28	3,988.00	3,513.97	9.57	-2.38	0.840
40.10	-44.47	-39.10	0.00	-2,865.43	0.00	2,865.43	4,164.16	1,016.53	3,943.28	3,481.12	10.13	-2.45	0.835
42.00	-43.42	-38.79	0.00	-2,791.31	0.00	2,791.31	4,137.49	1,006.66	3,867.09	3,424.88	11.12	-2.57	0.827
45.00	-41.85	-38.50	0.00	-2,674.94	0.00	2,674.94	4,094.73	991.04	3,748.05	3,336.33	12.80	-2.76	0.813
45.90	-41.35	-38.27	0.00	-2,640.35	0.00	2,640.35	3,345.43	862.67	3,312.91	2,772.86	13.33	-2.82	0.967
48.00	-40.72	-38.02	0.00	-2,559.92	0.00	2,559.92	3,324.15	853.29	3,241.28	2,724.99	14.60	-2.96	0.954
50.00	-40.05	-37.66	0.00	-2,483.88	0.00	2,483.88	3,303.59	844.36	3,173.84	2,679.55	15.87	-3.10	0.941
51.00	-39.71	-37.39	0.00	-2,446.22	0.00	2,446.22	3,293.20	839.90	3,140.39	2,656.86	16.52	-3.17	0.935
54.00	-38.83	-36.88	0.00	-2,334.07	0.00	2,334.07	3,261.57	826.51	3,041.08	2,589.00	18.58	-3.38	0.915
57.00	-37.97	-36.37	0.00	-2,223.42	0.00	2,223.42	3,229.26	813.12	2,943.38	2,521.44	20.78	-3.60	0.896
60.00	-37.12	-35.85	0.00	-2,114.32	0.00	2,114.32	3,196.28	799.73	2,847.27	2,454.19	23.10	-3.81	0.875
63.00	-36.11	-35.19	0.00	-2,006.77	0.00	2,006.77	3,162.62	786.34	2,752.76	2,387.28	25.56	-4.02	0.854
66.00	-35.29	-34.66	0.00	-1,901.21	0.00	1,901.21	3,128.28	772.95	2,659.84	2,320.75	28.16	-4.23	0.833
69.00	-34.48	-34.12	0.00	-1,797.25	0.00	1,797.25	3,093.27	759.56	2,568.51	2,254.62	30.88	-4.44	0.810
72.00	-33.69	-33.58	0.00	-1,694.89	0.00	1,694.89	3,057.58	746.17	2,478.79	2,188.92	33.74	-4.65	0.787
75.00	-32.91	-33.04	0.00	-1,594.15	0.00	1,594.15	3,021.22	732.78	2,390.65	2,123.66	36.73	-4.86	0.764
78.00	-32.15	-32.51	0.00	-1,495.05	0.00	1,495.05	2,984.18	719.39	2,304.12	2,058.89	39.85	-5.07	0.739
80.60	-31.52	-32.16	0.00	-1,410.56	0.00	1,410.56	2,951.54	707.79	2,230.44	2,003.18	42.65	-5.25	0.717
81.00	-31.34	-31.95	0.00	-1,397.60	0.00	1,397.60	2,946.46	706.00	2,219.17	1,994.61	43.10	-5.28	0.713
83.00	-30.50	-31.52	0.00	-1,333.70	0.00	1,333.70	2,920.94	697.07	2,163.43	1,952.06	45.33	-5.41	0.696
84.00	-30.11	-31.29	0.00	-1,302.18	0.00	1,302.18	2,908.96	692.61	2,135.83	1,931.47	46.47	-5.48	0.687
85.41	-29.58	-31.00	0.00	-1,258.18	0.00	1,258.18	2,288.86	584.09	1,822.48	1,541.02	48.10	-5.58	0.832
87.00	-29.22	-30.62	0.00	-1,208.78	0.00	1,208.78	2,274.94	578.16	1,785.69	1,515.96	49.98	-5.68	0.813
90.00	-28.57	-30.07	0.00	-1,116.91	0.00	1,116.91	2,248.22	567.00	1,717.45	1,468.96	53.61	-5.90	0.776
93.00	-24.46	-26.79	0.00	-1,026.70	0.00	1,026.70	2,220.81	555.84	1,650.54	1,422.23	57.38	-6.12	0.735
96.00	-23.86	-26.23	0.00	-946.32	0.00	946.32	2,192.74	544.68	1,584.96	1,375.78	61.29	-6.33	0.701
99.00	-23.27	-25.70	0.00	-867.65	0.00	867.65	2,163.98	533.53	1,520.71	1,329.64	65.32	-6.53	0.666
102.00	-22.69	-25.17	0.00	-790.55	0.00	790.55	2,134.56	522.37	1,457.78	1,283.85	69.49	-6.73	0.629
105.00	-22.12	-24.66	0.00	-715.05	0.00	715.05	2,104.45	511.21	1,396.19	1,238.42	73.77	-6.93	0.590
107.60	-21.59	-23.43	0.00	-650.94	0.00	650.94	2,077.81	501.54	1,343.89	1,199.37	77.58	-7.09	0.555

Load Case: 1.2D + 1.0W 118 mph with No Ice 32 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.20
Wind Load Factor : 1.00

108.00	-21.50	-23.21	0.00	-641.57	0.00	641.57	2,073.67	500.05	1,335.93	1,193.39	78.17	-7.11	0.550
111.00	-20.97	-22.68	0.00	-571.95	0.00	571.95	2,042.21	488.89	1,277.00	1,148.77	82.69	-7.29	0.510
114.00	-20.46	-22.15	0.00	-503.92	0.00	503.92	2,006.48	477.73	1,219.39	1,102.63	87.31	-7.46	0.469
117.00	-19.96	-21.62	0.00	-437.49	0.00	437.49	1,959.62	466.58	1,163.12	1,051.43	92.04	-7.62	0.428
120.00	-19.47	-21.22	0.00	-372.64	0.00	372.64	1,912.75	455.42	1,108.17	1,001.46	96.86	-7.76	0.384
121.00	-19.29	-20.93	0.00	-351.43	0.00	351.43	1,897.13	451.70	1,090.15	985.07	98.48	-7.81	0.369
121.10	-19.27	-20.46	0.00	-349.33	0.00	349.33	1,895.57	451.33	1,088.36	983.44	98.65	-7.81	0.367
121.20	-19.26	-20.22	0.00	-347.29	0.00	347.29	1,894.01	450.95	1,086.57	981.81	98.81	-7.82	0.366
121.30	-19.24	-20.01	0.00	-345.26	0.00	345.26	1,892.45	450.58	1,084.78	980.18	98.97	-7.82	0.364
122.12	-19.10	-19.88	0.00	-328.81	0.00	328.81	1,879.60	447.52	1,070.10	966.84	100.32	-7.86	0.352
123.00	-16.15	-17.63	0.00	-311.37	0.00	311.37	1,865.89	444.26	1,054.56	952.70	101.77	-7.90	0.337
125.89	-15.50	-17.28	0.00	-260.49	0.00	260.49	929.68	265.41	627.12	474.96	106.56	-8.01	0.569
126.00	-15.48	-17.14	0.00	-258.51	0.00	258.51	929.29	265.16	625.91	474.31	106.75	-8.02	0.566
129.00	-15.10	-16.70	0.00	-207.09	0.00	207.09	918.88	258.46	594.71	457.06	111.83	-8.18	0.474
132.00	-14.74	-16.34	0.00	-156.99	0.00	156.99	907.79	251.77	564.31	439.76	117.00	-8.32	0.377
133.00	-10.77	-12.04	0.00	-140.65	0.00	140.65	903.95	249.54	554.35	433.99	118.74	-8.36	0.338
135.00	-10.57	-11.68	0.00	-116.57	0.00	116.57	896.03	245.07	534.70	422.43	122.25	-8.44	0.290
138.00	-10.27	-11.26	0.00	-81.53	0.00	81.53	883.59	238.38	505.89	405.10	127.56	-8.52	0.215
140.00	-5.86	-6.17	0.00	-59.02	0.00	59.02	874.92	233.92	487.13	393.55	131.13	-8.57	0.157
141.00	-5.77	-6.08	0.00	-52.84	0.00	52.84	870.48	231.68	477.88	387.78	132.92	-8.59	0.144
142.20	-5.64	-5.48	0.00	-45.55	0.00	45.55	865.04	229.01	466.90	380.87	135.08	-8.61	0.127
144.00	-5.49	-5.33	0.00	-35.68	0.00	35.68	856.69	224.99	450.67	370.52	138.32	-8.64	0.103
146.00	-5.31	-5.21	0.00	-25.03	0.00	25.03	847.12	220.53	432.97	359.05	141.93	-8.66	0.077
146.00	-5.31	-5.21	0.00	-25.03	0.00	25.03	920.33	276.10	376.25	378.52	141.93	-8.66	0.072
147.00	-5.18	-5.14	0.00	-19.82	0.00	19.82	920.33	276.10	376.25	378.52	143.73	-8.67	0.058
149.00	-1.38	-0.94	0.00	-5.92	0.00	5.92	920.33	276.10	376.25	378.52	147.36	-8.68	0.017
150.00	-1.29	-0.86	0.00	-4.98	0.00	4.98	920.33	276.10	376.25	378.52	149.17	-8.68	0.015
153.00	-0.99	-0.74	0.00	-2.39	0.00	2.39	920.33	276.10	376.25	378.52	154.60	-8.69	0.007
155.00	-0.16	-0.16	0.00	-0.92	0.00	0.92	920.33	276.10	376.25	378.52	158.23	-8.69	0.003
155.00	-0.16	-0.16	0.00	-0.92	0.00	0.92	70.80	21.24	6.13	6.17	158.23	-8.69	0.151
156.00	-0.15	-0.13	0.00	-0.75	0.00	0.75	70.80	21.24	6.13	6.17	160.04	-8.69	0.124
159.00	-0.11	-0.08	0.00	-0.35	0.00	0.35	70.80	21.24	6.13	6.17	165.53	-8.84	0.058
162.00	-0.07	-0.04	0.00	-0.10	0.00	0.10	70.80	21.24	6.13	6.17	171.09	-8.91	0.017
164.10	-0.01	-0.01	0.00	-0.01	0.00	0.01	70.80	21.24	6.13	6.17	175.00	-8.92	0.001
165.00	0.00	-0.01	0.00	0.00	0.00	0.00	70.80	21.24	6.13	6.17	176.67	-8.92	0.000

Site Number: 302495 Code: ANSI/TIA-222-H

Site Name: Tolland CT, CT Engineering Number: 13692173_C3_03 7/8/2021 6:22:53 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 0.9D + 1.0W 118 mph with No Ice (Reduced DL) 32 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		255.0	0.0					0.0	0.0	255.0	0.0	0.0	0.0
3.00		506.8	637.4					0.2	147.4	506.9	784.8	0.0	0.0
6.00		500.3	629.2					0.3	147.4	500.7	776.6	0.0	0.0
9.00		493.8	621.0					0.5	147.4	494.4	768.4	0.0	0.0
12.00		487.4	612.9					0.7	147.4	488.1	760.2	0.0	0.0
15.00		480.9	604.7					0.9	147.4	481.7	752.0	0.0	0.0
18.00		474.4	596.5					1.0	147.4	475.4	743.9	0.0	0.0
21.00		467.9	588.3					1.2	147.4	469.1	735.7	0.0	0.0
24.00		461.4	580.1					137.3	147.4	598.8	727.5	0.0	0.0
27.00		454.9	572.0					1.5	147.4	456.5	719.3	0.0	0.0
30.00		451.8	563.8					1.7	147.4	453.5	711.2	0.0	0.0
33.00		454.4	555.6					1.9	147.4	456.3	703.0	0.0	0.0
36.00		459.0	547.4					2.1	147.4	461.1	694.8	0.0	0.0
39.00		315.8	539.3					2.3	147.4	318.1	686.6	0.0	0.0
40.10	Bot - Section 2	234.7	196.4					0.9	54.2	235.6	250.7	0.0	0.0
42.00		387.0	627.2					1.6	93.1	388.6	720.3	0.0	0.0
45.00		308.8	980.1					2.8	147.4	311.6	1,127.5	0.0	0.0
45.90	Top - Section 1	238.4	290.6					36.7	44.1	275.1	334.7	0.0	0.0
48.00		326.4	314.6					2.0	103.2	328.3	417.9	0.0	0.0
50.00	Appurtenance(s)	239.0	296.2	74.8	0.0	0.0	72.0	83.4	98.2	397.2	466.5	0.0	0.0
51.00		319.0	147.0					42.1	49.1	361.0	196.1	0.0	0.0
54.00		478.5	436.2					127.6	147.4	606.1	583.6	0.0	0.0
57.00		478.2	429.2					129.6	147.4	607.7	576.5	0.0	0.0
60.00		477.3	422.2					131.5	147.4	608.8	569.5	0.0	0.0
63.00	Appurtenance(s)	476.0	415.2	127.4	0.0	0.0	135.0	133.4	147.4	736.8	697.5	0.0	0.0
66.00		474.2	408.1					135.2	147.4	609.4	555.5	0.0	0.0
69.00		472.1	401.1					136.9	147.4	609.0	548.5	0.0	0.0
72.00		469.5	394.1					138.6	147.4	608.1	541.5	0.0	0.0
75.00		466.6	387.1					140.3	147.4	606.8	534.5	0.0	0.0
78.00		432.6	380.1					141.8	147.4	574.4	527.5	0.0	0.0
80.60	Bot - Section 3	231.4	323.6					124.1	127.7	355.5	451.3	0.0	0.0
81.00	Appurtenance(s)	187.0	91.5	30.6	0.0	61.3	9.0	19.3	19.7	236.9	120.2	0.0	0.0
83.00	Appurtenance(s)	233.2	453.1	85.1	0.0	0.0	67.5	96.4	98.0	414.7	618.6	0.0	0.0
84.00		186.2	224.4					48.5	49.0	234.6	273.4	0.0	0.0
85.41	Top - Section 2	231.2	313.2					68.4	68.9	299.6	382.1	0.0	0.0
87.00		351.7	161.6					77.9	78.1	429.6	239.7	0.0	0.0
90.00		455.9	299.7					147.8	147.0	603.7	446.7	0.0	0.0
93.00	Appurtenance(s)	451.2	293.9	2,327.5	0.0	0.0	2,818.9	149.1	147.0	2,927.9	3,259.8	0.0	0.0
96.00		446.3	288.1					150.5	140.6	596.8	428.7	0.0	0.0
99.00		441.1	282.2					109.8	140.6	550.9	422.9	0.0	0.0
102.00		435.7	276.4					110.7	140.6	546.4	417.0	0.0	0.0
105.00	Appurtenance(s)	401.7	270.5	4.4	0.0	0.0	8.9	111.6	140.6	517.7	420.1	0.0	0.0
107.60		213.6	229.7					97.4	121.9	311.0	351.6	0.0	0.0
108.00		238.9	35.0					15.0	18.8	253.9	53.7	0.0	0.0
111.00		418.0	258.9					113.3	140.6	531.4	399.5	0.0	0.0
114.00		411.7	253.0					114.2	140.6	525.9	393.7	0.0	0.0
117.00		405.2	247.2					115.0	140.6	520.2	387.8	0.0	0.0
120.00		251.9	241.3					115.8	140.6	367.7	382.0	0.0	0.0

Load Case: 0.9D + 1.0W 118 mph with No Ice (Reduced DL) 32 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.00

121.00	Appurtenance(s)	56.0	79.1	168.4	0.0	0.0	18.0	44.4	53.1	268.8	150.2	0.0	0.0
121.10		10.2	7.9					4.4	5.3	14.6	13.2	0.0	0.0
121.20		10.1	7.9					4.4	5.3	14.6	13.2	0.0	0.0
121.30		46.7	7.9					4.4	5.3	51.1	13.2	0.0	0.0
122.12	Bot - Section 4	86.4	64.4					36.6	43.7	123.0	108.1	0.0	0.0
123.00	Appurtenance(s)	190.6	110.1	1,614.8	0.0	0.0	2,250.0	39.1	46.6	1,844.5	2,406.7	0.0	0.0
125.89	Top - Section 3	151.5	356.2					129.3	153.2	280.8	509.4	0.0	0.0
126.00		154.5	5.3					5.2	6.1	159.6	11.4	0.0	0.0
129.00		294.7	137.1					135.3	159.3	430.0	296.3	0.0	0.0
132.00		194.0	133.6					136.2	159.3	330.2	292.8	0.0	0.0
133.00	Appurtenance(s)	143.1	43.7	3,495.1	0.0	0.0	3,307.3	52.8	53.1	3,690.9	3,404.2	0.0	0.0
135.00		235.2	86.3					105.8	90.1	341.0	176.4	0.0	0.0
138.00		231.9	126.5					159.5	135.2	391.4	261.7	0.0	0.0
140.00	Appurtenance(s)	127.7	82.4	4,140.4	0.0	0.0	3,664.3	106.9	90.1	4,374.9	3,836.9	0.0	0.0
141.00		78.7	40.6					0.0	32.4	78.7	73.0	0.0	0.0
142.20		106.1	48.2					0.0	38.9	106.1	87.1	0.0	0.0
144.00		132.8	71.3					0.0	58.3	132.8	129.6	0.0	0.0
146.00	Top - Section 4	87.9	77.7					0.0	64.8	87.9	142.5	0.0	0.0
147.00		55.6	74.6					0.0	32.4	55.6	107.0	0.0	0.0
149.00	Appurtenance(s)	53.2	149.1	3,518.9	0.0	3,623.7	3,077.2	0.0	64.8	3,572.1	3,291.1	0.0	0.0
150.00		64.6	74.6					0.0	4.4	64.6	79.0	0.0	0.0
153.00		81.0	223.7					0.0	13.3	81.0	237.0	0.0	0.0
155.00	Top - Section 5	39.6	149.1	400.3	0.0	3.1	521.3	0.0	8.9	439.9	679.3	0.0	0.0
156.00		28.6	6.9					0.0	4.4	28.6	11.3	0.0	0.0
159.00		43.0	20.7					0.0	13.3	43.0	33.9	0.0	0.0
162.00		35.5	20.7					0.0	13.3	35.5	33.9	0.0	0.0
164.10		19.9	14.5					0.0	0.0	19.9	14.5	0.0	0.0
165.00		6.0	6.2					0.0	0.0	6.0	6.2	0.0	0.0
								Totals:		41,571.5	44,080.0	0.00	0.00

Site Number: 302495 Code: ANSI/TIA-222-H

Site Name: Tolland CT, CT Engineering Number: 13692173_C3_03 7/8/2021 6:22:59 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 0.9D + 1.0W 118 mph with No Ice (Reduced DL) 32 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-44.35	-43.58	0.00	-4,442.87	0.00	4,442.87	4,665.07	1,225.36	5,729.16	4,709.48	0.00	0.00	0.954
3.00	-43.44	-43.20	0.00	-4,312.14	0.00	4,312.14	4,631.78	1,209.74	5,584.06	4,615.74	0.06	-0.17	0.945
6.00	-42.53	-42.83	0.00	-4,182.54	0.00	4,182.54	4,597.82	1,194.12	5,440.82	4,522.21	0.22	-0.34	0.935
9.00	-41.64	-42.45	0.00	-4,054.06	0.00	4,054.06	4,563.18	1,178.50	5,299.44	4,428.89	0.49	-0.52	0.926
12.00	-40.76	-42.08	0.00	-3,926.71	0.00	3,926.71	4,527.86	1,162.88	5,159.92	4,335.83	0.87	-0.69	0.916
15.00	-39.88	-41.71	0.00	-3,800.47	0.00	3,800.47	4,491.86	1,147.25	5,022.26	4,243.05	1.36	-0.87	0.906
18.00	-39.02	-41.35	0.00	-3,675.33	0.00	3,675.33	4,455.19	1,131.63	4,886.46	4,150.57	1.97	-1.04	0.896
21.00	-38.16	-40.98	0.00	-3,551.29	0.00	3,551.29	4,417.85	1,116.01	4,752.53	4,058.43	2.68	-1.22	0.885
24.00	-37.32	-40.49	0.00	-3,428.35	0.00	3,428.35	4,379.82	1,100.39	4,620.45	3,966.64	3.51	-1.40	0.874
27.00	-36.49	-40.13	0.00	-3,306.89	0.00	3,306.89	4,341.13	1,084.77	4,490.24	3,875.23	4.45	-1.59	0.863
30.00	-35.66	-39.77	0.00	-3,186.52	0.00	3,186.52	4,301.75	1,069.15	4,361.89	3,784.23	5.50	-1.77	0.852
33.00	-34.85	-39.40	0.00	-3,067.22	0.00	3,067.22	4,261.70	1,053.52	4,235.40	3,693.68	6.67	-1.95	0.840
36.00	-34.05	-39.02	0.00	-2,949.02	0.00	2,949.02	4,220.97	1,037.90	4,110.77	3,603.58	7.96	-2.14	0.828
39.00	-33.29	-38.75	0.00	-2,831.95	0.00	2,831.95	4,179.57	1,022.28	3,988.00	3,513.97	9.36	-2.32	0.815
40.10	-32.98	-38.56	0.00	-2,789.16	0.00	2,789.16	4,164.16	1,016.53	3,943.28	3,481.12	9.91	-2.39	0.811
42.00	-32.18	-38.23	0.00	-2,716.06	0.00	2,716.06	4,137.49	1,006.66	3,867.09	3,424.88	10.88	-2.51	0.802
45.00	-30.99	-37.93	0.00	-2,601.37	0.00	2,601.37	4,094.73	991.04	3,748.05	3,336.33	12.52	-2.70	0.789
45.90	-30.60	-37.69	0.00	-2,567.29	0.00	2,567.29	3,345.43	862.67	3,312.91	2,772.86	13.03	-2.75	0.937
48.00	-30.11	-37.42	0.00	-2,488.08	0.00	2,488.08	3,324.15	853.29	3,241.28	2,724.99	14.27	-2.89	0.924
50.00	-29.60	-37.05	0.00	-2,413.25	0.00	2,413.25	3,303.59	844.36	3,173.84	2,679.55	15.51	-3.02	0.912
51.00	-29.33	-36.75	0.00	-2,376.21	0.00	2,376.21	3,293.20	839.90	3,140.39	2,656.86	16.15	-3.09	0.905
54.00	-28.65	-36.21	0.00	-2,265.96	0.00	2,265.96	3,261.57	826.51	3,041.08	2,589.00	18.16	-3.30	0.886
57.00	-27.99	-35.67	0.00	-2,157.32	0.00	2,157.32	3,229.26	813.12	2,943.38	2,521.44	20.30	-3.51	0.866
60.00	-27.33	-35.13	0.00	-2,050.30	0.00	2,050.30	3,196.28	799.73	2,847.27	2,454.19	22.57	-3.71	0.846
63.00	-26.56	-34.44	0.00	-1,944.91	0.00	1,944.91	3,162.62	786.34	2,752.76	2,387.28	24.97	-3.92	0.825
66.00	-25.93	-33.89	0.00	-1,841.58	0.00	1,841.58	3,128.28	772.95	2,659.84	2,320.75	27.50	-4.12	0.804
69.00	-25.31	-33.33	0.00	-1,739.92	0.00	1,739.92	3,093.27	759.56	2,568.51	2,254.62	30.15	-4.33	0.782
72.00	-24.70	-32.77	0.00	-1,639.92	0.00	1,639.92	3,057.58	746.17	2,478.79	2,188.92	32.94	-4.53	0.759
75.00	-24.10	-32.21	0.00	-1,541.61	0.00	1,541.61	3,021.22	732.78	2,390.65	2,123.66	35.85	-4.73	0.736
78.00	-23.52	-31.67	0.00	-1,444.99	0.00	1,444.99	2,984.18	719.39	2,304.12	2,058.89	38.88	-4.93	0.712
80.60	-23.05	-31.31	0.00	-1,362.69	0.00	1,362.69	2,951.54	707.79	2,230.44	2,003.18	41.61	-5.11	0.690
81.00	-22.91	-31.10	0.00	-1,350.07	0.00	1,350.07	2,946.46	706.00	2,219.17	1,994.61	42.04	-5.13	0.687
83.00	-22.28	-30.67	0.00	-1,287.87	0.00	1,287.87	2,920.94	697.07	2,163.43	1,952.06	44.22	-5.26	0.669
84.00	-21.99	-30.44	0.00	-1,257.21	0.00	1,257.21	2,908.96	692.61	2,135.83	1,931.47	45.33	-5.33	0.660
85.41	-21.58	-30.14	0.00	-1,214.40	0.00	1,214.40	2,288.86	584.09	1,822.48	1,541.02	46.91	-5.42	0.800
87.00	-21.30	-29.75	0.00	-1,166.36	0.00	1,166.36	2,274.94	578.16	1,785.69	1,515.96	48.74	-5.53	0.781
90.00	-20.81	-29.18	0.00	-1,077.11	0.00	1,077.11	2,248.22	567.00	1,717.45	1,468.96	52.27	-5.74	0.745
93.00	-17.77	-26.00	0.00	-989.56	0.00	989.56	2,220.81	555.84	1,650.54	1,422.23	55.94	-5.95	0.706
96.00	-17.32	-25.42	0.00	-911.56	0.00	911.56	2,192.74	544.68	1,584.96	1,375.78	59.73	-6.15	0.673
99.00	-16.87	-24.89	0.00	-835.29	0.00	835.29	2,163.98	533.53	1,520.71	1,329.64	63.65	-6.35	0.638
102.00	-16.44	-24.35	0.00	-760.63	0.00	760.63	2,134.56	522.37	1,457.78	1,283.85	67.70	-6.54	0.602
105.00	-16.01	-23.84	0.00	-687.57	0.00	687.57	2,104.45	511.21	1,396.19	1,238.42	71.86	-6.72	0.565
107.60	-15.64	-22.62	0.00	-625.59	0.00	625.59	2,077.81	501.54	1,343.89	1,199.37	75.55	-6.88	0.531

Load Case: 0.9D + 1.0W 118 mph with No Ice (Reduced DL) 32 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 0.90
Wind Load Factor : 1.00

108.00	-15.57	-22.39	0.00	-616.54	0.00	616.54	2,073.67	500.05	1,335.93	1,193.39	76.13	-6.90	0.526
111.00	-15.18	-21.86	0.00	-549.38	0.00	549.38	2,042.21	488.89	1,277.00	1,148.77	80.51	-7.07	0.488
114.00	-14.80	-21.33	0.00	-483.81	0.00	483.81	2,006.48	477.73	1,219.39	1,102.63	85.00	-7.24	0.448
117.00	-14.42	-20.80	0.00	-419.83	0.00	419.83	1,959.62	466.58	1,163.12	1,051.43	89.59	-7.39	0.409
120.00	-14.06	-20.41	0.00	-357.43	0.00	357.43	1,912.75	455.42	1,108.17	1,001.46	94.26	-7.53	0.366
121.00	-13.94	-20.13	0.00	-337.02	0.00	337.02	1,897.13	451.70	1,090.15	985.07	95.84	-7.57	0.351
121.10	-13.93	-19.65	0.00	-335.01	0.00	335.01	1,895.57	451.33	1,088.36	983.44	96.00	-7.58	0.350
121.20	-13.93	-19.42	0.00	-333.05	0.00	333.05	1,894.01	450.95	1,086.57	981.81	96.16	-7.58	0.348
121.30	-13.92	-19.21	0.00	-331.10	0.00	331.10	1,892.45	450.58	1,084.78	980.18	96.31	-7.59	0.347
122.12	-13.82	-19.08	0.00	-315.31	0.00	315.31	1,879.60	447.52	1,070.10	966.84	97.62	-7.62	0.335
123.00	-11.66	-16.95	0.00	-298.57	0.00	298.57	1,865.89	444.26	1,054.56	952.70	99.02	-7.66	0.321
125.89	-11.17	-16.61	0.00	-249.67	0.00	249.67	929.68	265.41	627.12	474.96	103.67	-7.77	0.542
126.00	-11.16	-16.47	0.00	-247.77	0.00	247.77	929.29	265.16	625.91	474.31	103.86	-7.77	0.538
129.00	-10.88	-16.03	0.00	-198.37	0.00	198.37	918.88	258.46	594.71	457.06	108.78	-7.93	0.450
132.00	-10.62	-15.68	0.00	-150.28	0.00	150.28	907.79	251.77	564.31	439.76	113.79	-8.06	0.357
133.00	-7.75	-11.55	0.00	-134.61	0.00	134.61	903.95	249.54	554.35	433.99	115.48	-8.10	0.321
135.00	-7.61	-11.20	0.00	-111.51	0.00	111.51	896.03	245.07	534.70	422.43	118.88	-8.17	0.275
138.00	-7.40	-10.78	0.00	-77.91	0.00	77.91	883.59	238.38	505.89	405.10	124.03	-8.26	0.203
140.00	-4.23	-5.90	0.00	-56.35	0.00	56.35	874.92	233.92	487.13	393.55	127.48	-8.30	0.149
141.00	-4.17	-5.81	0.00	-50.45	0.00	50.45	870.48	231.68	477.88	387.78	129.22	-8.32	0.136
142.20	-4.09	-5.22	0.00	-43.47	0.00	43.47	865.04	229.01	466.90	380.87	131.31	-8.34	0.119
144.00	-3.98	-5.07	0.00	-34.08	0.00	34.08	856.69	224.99	450.67	370.52	134.44	-8.36	0.097
146.00	-3.85	-4.97	0.00	-23.93	0.00	23.93	847.12	220.53	432.97	359.05	137.94	-8.39	0.072
146.00	-3.85	-4.97	0.00	-23.93	0.00	23.93	920.33	276.10	376.25	378.52	137.94	-8.39	0.068
147.00	-3.75	-4.90	0.00	-18.97	0.00	18.97	920.33	276.10	376.25	378.52	139.69	-8.40	0.054
149.00	-1.01	-0.88	0.00	-5.55	0.00	5.55	920.33	276.10	376.25	378.52	143.20	-8.41	0.016
150.00	-0.94	-0.81	0.00	-4.67	0.00	4.67	920.33	276.10	376.25	378.52	144.95	-8.41	0.013
153.00	-0.72	-0.69	0.00	-2.25	0.00	2.25	920.33	276.10	376.25	378.52	150.22	-8.41	0.007
155.00	-0.11	-0.16	0.00	-0.87	0.00	0.87	920.33	276.10	376.25	378.52	153.73	-8.41	0.002
155.00	-0.11	-0.16	0.00	-0.87	0.00	0.87	70.80	21.24	6.13	6.17	153.73	-8.41	0.142
156.00	-0.11	-0.13	0.00	-0.71	0.00	0.71	70.80	21.24	6.13	6.17	155.49	-8.41	0.116
159.00	-0.08	-0.08	0.00	-0.33	0.00	0.33	70.80	21.24	6.13	6.17	160.80	-8.56	0.054
162.00	-0.05	-0.04	0.00	-0.09	0.00	0.09	70.80	21.24	6.13	6.17	166.18	-8.62	0.015
164.10	-0.01	-0.01	0.00	-0.01	0.00	0.01	70.80	21.24	6.13	6.17	169.96	-8.63	0.001
165.00	0.00	-0.01	0.00	0.00	0.00	0.00	70.80	21.24	6.13	6.17	171.58	-8.63	0.000

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.50 in Radial Ice 31 Iterations

Gust Response Factor : 1.10 Ice Dead Load Factor : 1.00
Dead Load Factor : 1.20 Ice Importance Factor : 1.00
Wind Load Factor : 1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		36.7	0.0					0.0	0.0	36.7	0.0	0.0	0.0
3.00		73.2	1,065.8					2.1	275.7	75.3	1,341.5	0.0	0.0
6.00		72.6	1,077.6					2.5	283.9	75.1	1,361.5	0.0	0.0
9.00		71.8	1,076.3					2.9	288.2	74.7	1,364.5	0.0	0.0
12.00		71.0	1,070.8					3.2	291.1	74.2	1,362.0	0.0	0.0
15.00		70.2	1,063.2					3.4	293.4	73.6	1,356.6	0.0	0.0
18.00		69.4	1,054.2					3.7	295.3	73.1	1,349.5	0.0	0.0
21.00		68.5	1,044.3					4.0	296.9	72.5	1,341.2	0.0	0.0
24.00		67.7	1,033.7					4.2	298.3	71.9	1,332.0	0.0	0.0
27.00		66.9	1,022.6					4.5	299.6	71.3	1,322.2	0.0	0.0
30.00		66.5	1,011.0					4.7	300.7	71.2	1,311.8	0.0	0.0
33.00		67.0	999.2					5.1	301.7	72.0	1,300.9	0.0	0.0
36.00		67.8	987.0					5.5	302.7	73.2	1,289.7	0.0	0.0
39.00		46.7	974.6					5.8	303.6	52.5	1,278.1	0.0	0.0
40.10	Bot - Section 2	34.7	356.0					2.3	111.9	37.0	467.9	0.0	0.0
42.00		57.3	999.8					4.0	192.4	61.3	1,192.2	0.0	0.0
45.00		45.7	1,563.3					6.6	305.1	52.4	1,868.4	0.0	0.0
45.90	Top - Section 1	35.3	464.2					2.1	91.5	37.4	555.8	0.0	0.0
48.00		48.4	597.9					4.8	214.3	53.2	812.3	0.0	0.0
50.00	Appurtenance(s)	35.5	563.8	22.3	0.0	0.0	137.2	4.7	204.3	62.5	905.4	0.0	0.0
51.00		47.4	280.2					2.4	102.3	49.8	382.4	0.0	0.0
54.00		71.2	831.5					7.5	307.2	78.7	1,138.7	0.0	0.0
57.00		71.3	819.7					8.0	307.8	79.2	1,127.5	0.0	0.0
60.00		71.2	807.8					8.4	308.4	79.6	1,116.2	0.0	0.0
63.00	Appurtenance(s)	71.2	795.8	37.5	0.0	0.0	260.8	8.8	309.0	117.4	1,365.6	0.0	0.0
66.00		71.0	783.7					9.2	309.5	80.2	1,093.2	0.0	0.0
69.00		70.8	771.6					9.6	310.0	80.4	1,081.6	0.0	0.0
72.00		70.6	759.3					10.0	310.5	80.6	1,069.8	0.0	0.0
75.00		70.2	747.0					10.5	311.0	80.7	1,058.0	0.0	0.0
78.00		65.2	734.6					10.9	311.5	76.1	1,046.1	0.0	0.0
80.60	Bot - Section 3	34.9	626.6					9.8	270.2	44.7	896.7	0.0	0.0
81.00	Appurtenance(s)	28.2	152.7	9.2	0.0	18.4	35.4	1.5	41.7	38.9	229.8	0.0	0.0
83.00	Appurtenance(s)	35.2	755.3	25.3	0.0	0.0	131.8	7.8	207.8	68.3	1,094.9	0.0	0.0
84.00		28.1	374.5					4.0	104.0	32.1	478.5	0.0	0.0
85.41	Top - Section 2	35.0	522.7					5.7	146.3	40.6	669.0	0.0	0.0
87.00		53.3	333.7					6.4	165.9	59.7	499.6	0.0	0.0
90.00		69.2	618.7					12.3	312.6	81.5	931.3	0.0	0.0
93.00	Appurtenance(s)	68.6	607.6	585.1	0.0	0.0	6,162.6	12.8	313.0	666.4	7,083.2	0.0	0.0
96.00		68.0	596.4					13.2	305.0	81.2	901.4	0.0	0.0
99.00		67.4	585.2					13.6	305.4	81.0	890.6	0.0	0.0
102.00		66.7	574.0					14.1	305.7	80.8	879.7	0.0	0.0
105.00	Appurtenance(s)	61.6	562.7	2.8	0.0	0.0	20.0	14.5	306.1	78.9	888.8	0.0	0.0
107.60		32.8	478.8					13.0	265.5	45.8	744.3	0.0	0.0
108.00		36.8	73.1					2.0	40.9	38.8	114.0	0.0	0.0
111.00		64.5	540.0					15.5	306.8	79.9	846.8	0.0	0.0
114.00		63.7	528.6					15.9	307.1	79.6	835.7	0.0	0.0
117.00		62.8	517.2					16.4	307.4	79.2	824.6	0.0	0.0
120.00		42.3	505.7					16.8	307.7	59.1	813.4	0.0	0.0

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.50 in Radial Ice 31 Iterations

Gust Response Factor : 1.10 Ice Dead Load Factor : 1.00
Dead Load Factor : 1.20 Ice Importance Factor : 1.00
Wind Load Factor : 1.00

121.00	Appurtenance(s)	12.2	166.5	29.5	0.0	0.0	239.2	5.7	113.9	47.4	519.5	0.0	0.0
121.10		2.2	16.6					0.6	11.4	2.8	28.0	0.0	0.0
121.20		2.2	16.6					0.6	11.4	2.8	28.0	0.0	0.0
121.30		10.2	16.6					0.6	11.4	10.7	28.0	0.0	0.0
122.12	Bot - Section 4	18.8	135.7					4.8	93.7	23.6	229.4	0.0	0.0
123.00	Appurtenance(s)	41.6	200.3	430.7	0.0	0.0	4,489.5	5.1	100.0	477.4	4,789.8	0.0	0.0
125.89	Top - Section 3	33.1	647.3					17.1	329.1	50.2	976.4	0.0	0.0
126.00		33.9	13.9					0.7	13.1	34.6	27.0	0.0	0.0
129.00		64.8	358.0					18.0	342.5	82.8	700.4	0.0	0.0
132.00		42.8	349.5					18.5	342.8	61.3	692.3	0.0	0.0
133.00	Appurtenance(s)	31.7	115.1	884.0	0.0	0.0	7,736.0	6.3	114.3	921.9	7,965.4	0.0	0.0
135.00		52.3	226.9					12.7	207.4	65.0	434.2	0.0	0.0
138.00		51.8	332.5					19.5	311.3	71.2	643.8	0.0	0.0
140.00	Appurtenance(s)	29.9	217.4	1,023.9	0.0	0.0	9,202.6	13.2	207.7	1,067.1	9,627.6	0.0	0.0
141.00		20.6	107.5					0.0	54.4	20.6	161.9	0.0	0.0
142.20		27.8	127.7					0.0	65.3	27.8	193.0	0.0	0.0
144.00		34.8	188.7					0.0	97.9	34.8	286.6	0.0	0.0
146.00	Top - Section 4	25.2	205.9					0.0	108.9	25.2	314.8	0.0	0.0
147.00		21.0	137.1					7.3	54.4	28.4	191.6	0.0	0.0
149.00	Appurtenance(s)	21.1	274.4	905.6	0.0	893.1	7,507.0	14.7	108.9	941.3	7,890.3	0.0	0.0
150.00		28.3	137.2					0.0	5.9	28.3	143.1	0.0	0.0
153.00		35.4	411.8					0.0	17.7	35.4	429.5	0.0	0.0
155.00	Top - Section 5	16.8	274.7	90.6	0.0	1.1	1,046.5	0.0	11.8	107.4	1,333.0	0.0	0.0
156.00		10.3	20.4					0.0	5.9	10.3	26.3	0.0	0.0
159.00		15.5	61.3					0.0	17.7	15.5	79.0	0.0	0.0
162.00		12.8	61.4					0.0	17.7	12.8	79.1	0.0	0.0
164.10		7.2	43.0					0.0	0.0	7.2	43.0	0.0	0.0
165.00		2.2	18.4					0.0	0.0	2.2	18.4	0.0	0.0
								Totals:		8,026.58	91,094.3	0.00	0.00

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.50 in Radial Ice 31 Iterations

Gust Response Factor : 1.10 Ice Dead Load Factor : 1.00
Dead Load Factor : 1.20 Ice Importance Factor : 1.00
Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-94.14	-8.46	0.00	-1,030.64	0.00	1,030.64	4,665.07	1,225.36	5,729.16	4,709.48	0.00	0.00	0.239
3.00	-92.80	-8.45	0.00	-1,005.25	0.00	1,005.25	4,631.78	1,209.74	5,584.06	4,615.74	0.01	-0.04	0.238
6.00	-91.43	-8.44	0.00	-979.89	0.00	979.89	4,597.82	1,194.12	5,440.82	4,522.21	0.05	-0.08	0.237
9.00	-90.06	-8.43	0.00	-954.57	0.00	954.57	4,563.18	1,178.50	5,299.44	4,428.89	0.11	-0.12	0.235
12.00	-88.69	-8.42	0.00	-929.29	0.00	929.29	4,527.86	1,162.88	5,159.92	4,335.83	0.20	-0.16	0.234
15.00	-87.33	-8.40	0.00	-904.04	0.00	904.04	4,491.86	1,147.25	5,022.26	4,243.05	0.32	-0.20	0.233
18.00	-85.97	-8.39	0.00	-878.84	0.00	878.84	4,455.19	1,131.63	4,886.46	4,150.57	0.46	-0.25	0.231
21.00	-84.63	-8.37	0.00	-853.68	0.00	853.68	4,417.85	1,116.01	4,752.53	4,058.43	0.63	-0.29	0.230
24.00	-83.29	-8.36	0.00	-828.57	0.00	828.57	4,379.82	1,100.39	4,620.45	3,966.64	0.82	-0.33	0.228
27.00	-81.96	-8.34	0.00	-803.50	0.00	803.50	4,341.13	1,084.77	4,490.24	3,875.23	1.05	-0.38	0.226
30.00	-80.64	-8.32	0.00	-778.48	0.00	778.48	4,301.75	1,069.15	4,361.89	3,784.23	1.30	-0.42	0.225
33.00	-79.34	-8.30	0.00	-753.52	0.00	753.52	4,261.70	1,053.52	4,235.40	3,693.68	1.58	-0.47	0.223
36.00	-78.04	-8.28	0.00	-728.61	0.00	728.61	4,220.97	1,037.90	4,110.77	3,603.58	1.88	-0.51	0.221
39.00	-76.76	-8.26	0.00	-703.77	0.00	703.77	4,179.57	1,022.28	3,988.00	3,513.97	2.22	-0.56	0.219
40.10	-76.29	-8.25	0.00	-694.65	0.00	694.65	4,164.16	1,016.53	3,943.28	3,481.12	2.35	-0.57	0.218
42.00	-75.09	-8.23	0.00	-679.01	0.00	679.01	4,137.49	1,006.66	3,867.09	3,424.88	2.59	-0.60	0.216
45.00	-73.22	-8.19	0.00	-654.34	0.00	654.34	4,094.73	991.04	3,748.05	3,336.33	2.98	-0.65	0.214
45.90	-72.66	-8.18	0.00	-646.98	0.00	646.98	3,345.43	862.67	3,312.91	2,772.86	3.10	-0.67	0.255
48.00	-71.84	-8.16	0.00	-629.80	0.00	629.80	3,324.15	853.29	3,241.28	2,724.99	3.40	-0.70	0.253
50.00	-70.93	-8.12	0.00	-613.48	0.00	613.48	3,303.59	844.36	3,173.84	2,679.55	3.70	-0.73	0.251
51.00	-70.55	-8.11	0.00	-605.37	0.00	605.37	3,293.20	839.90	3,140.39	2,656.86	3.86	-0.75	0.249
54.00	-69.40	-8.08	0.00	-581.05	0.00	581.05	3,261.57	826.51	3,041.08	2,589.00	4.35	-0.80	0.246
57.00	-68.27	-8.04	0.00	-556.82	0.00	556.82	3,229.26	813.12	2,943.38	2,521.44	4.87	-0.86	0.242
60.00	-67.15	-8.01	0.00	-532.69	0.00	532.69	3,196.28	799.73	2,847.27	2,454.19	5.43	-0.91	0.238
63.00	-65.78	-7.93	0.00	-508.67	0.00	508.67	3,162.62	786.34	2,752.76	2,387.28	6.02	-0.96	0.234
66.00	-64.68	-7.89	0.00	-484.87	0.00	484.87	3,128.28	772.95	2,659.84	2,320.75	6.64	-1.02	0.230
69.00	-63.59	-7.85	0.00	-461.20	0.00	461.20	3,093.27	759.56	2,568.51	2,254.62	7.30	-1.07	0.225
72.00	-62.51	-7.81	0.00	-437.64	0.00	437.64	3,057.58	746.17	2,478.79	2,188.92	7.99	-1.13	0.220
75.00	-61.45	-7.77	0.00	-414.21	0.00	414.21	3,021.22	732.78	2,390.65	2,123.66	8.72	-1.18	0.215
78.00	-60.40	-7.72	0.00	-390.91	0.00	390.91	2,984.18	719.39	2,304.12	2,058.89	9.48	-1.23	0.210
80.60	-59.50	-7.69	0.00	-370.84	0.00	370.84	2,951.54	707.79	2,230.44	2,003.18	10.16	-1.28	0.205
81.00	-59.27	-7.66	0.00	-367.74	0.00	367.74	2,946.46	706.00	2,219.17	1,994.61	10.27	-1.29	0.205
83.00	-58.17	-7.60	0.00	-352.41	0.00	352.41	2,920.94	697.07	2,163.43	1,952.06	10.82	-1.32	0.201
84.00	-57.69	-7.58	0.00	-344.82	0.00	344.82	2,908.96	692.61	2,135.83	1,931.47	11.10	-1.34	0.198
85.41	-57.02	-7.55	0.00	-334.16	0.00	334.16	2,288.86	584.09	1,822.48	1,541.02	11.49	-1.37	0.242
87.00	-56.52	-7.52	0.00	-322.13	0.00	322.13	2,274.94	578.16	1,785.69	1,515.96	11.96	-1.40	0.238
90.00	-55.58	-7.47	0.00	-299.58	0.00	299.58	2,248.22	567.00	1,717.45	1,468.96	12.85	-1.46	0.229
93.00	-48.51	-6.67	0.00	-277.17	0.00	277.17	2,220.81	555.84	1,650.54	1,422.23	13.79	-1.51	0.217
96.00	-47.60	-6.61	0.00	-257.17	0.00	257.17	2,192.74	544.68	1,584.96	1,375.78	14.75	-1.57	0.209
99.00	-46.71	-6.55	0.00	-237.33	0.00	237.33	2,163.98	533.53	1,520.71	1,329.64	15.76	-1.63	0.200
102.00	-45.83	-6.49	0.00	-217.69	0.00	217.69	2,134.56	522.37	1,457.78	1,283.85	16.80	-1.68	0.191
105.00	-44.94	-6.42	0.00	-198.23	0.00	198.23	2,104.45	511.21	1,396.19	1,238.42	17.87	-1.73	0.182
107.60	-43.45	-6.15	0.00	-181.53	0.00	181.53	2,077.81	501.54	1,343.89	1,199.37	18.83	-1.78	0.172

Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph with 1.50 in Radial Ice 31 Iterations

Gust Response Factor : 1.10 Ice Dead Load Factor : 1.00
Dead Load Factor : 1.20 Ice Importance Factor : 1.00
Wind Load Factor : 1.00

108.00	-43.33	-6.13	0.00	-179.07	0.00	179.07	2,073.67	500.05	1,335.93	1,193.39	18.98	-1.79	0.171
111.00	-42.48	-6.06	0.00	-160.70	0.00	160.70	2,042.21	488.89	1,277.00	1,148.77	20.12	-1.84	0.161
114.00	-41.65	-5.98	0.00	-142.53	0.00	142.53	2,006.48	477.73	1,219.39	1,102.63	21.29	-1.88	0.150
117.00	-40.82	-5.91	0.00	-124.58	0.00	124.58	1,959.62	466.58	1,163.12	1,051.43	22.48	-1.93	0.139
120.00	-40.01	-5.84	0.00	-106.86	0.00	106.86	1,912.75	455.42	1,108.17	1,001.46	23.71	-1.97	0.128
121.00	-39.49	-5.78	0.00	-101.02	0.00	101.02	1,897.13	451.70	1,090.15	985.07	24.12	-1.98	0.124
121.10	-38.75	-5.67	0.00	-100.45	0.00	100.45	1,895.57	451.33	1,088.36	983.44	24.16	-1.98	0.123
121.20	-38.48	-5.62	0.00	-99.88	0.00	99.88	1,894.01	450.95	1,086.57	981.81	24.21	-1.99	0.122
121.30	-38.21	-5.58	0.00	-99.32	0.00	99.32	1,892.45	450.58	1,084.78	980.18	24.25	-1.99	0.122
122.12	-37.98	-5.55	0.00	-94.73	0.00	94.73	1,879.60	447.52	1,070.10	966.84	24.59	-2.00	0.118
123.00	-33.21	-4.92	0.00	-89.86	0.00	89.86	1,865.89	444.26	1,054.56	952.70	24.96	-2.01	0.112
125.89	-32.24	-4.85	0.00	-75.66	0.00	75.66	929.68	265.41	627.12	474.96	26.18	-2.04	0.194
126.00	-32.21	-4.83	0.00	-75.10	0.00	75.10	929.29	265.16	625.91	474.31	26.23	-2.04	0.193
129.00	-31.51	-4.74	0.00	-60.63	0.00	60.63	918.88	258.46	594.71	457.06	27.53	-2.09	0.167
132.00	-30.82	-4.67	0.00	-46.41	0.00	46.41	907.79	251.77	564.31	439.76	28.86	-2.13	0.140
133.00	-22.89	-3.46	0.00	-41.74	0.00	41.74	903.95	249.54	554.35	433.99	29.31	-2.14	0.122
135.00	-22.46	-3.39	0.00	-34.82	0.00	34.82	896.03	245.07	534.70	422.43	30.21	-2.17	0.108
138.00	-21.81	-3.30	0.00	-24.67	0.00	24.67	883.59	238.38	505.89	405.10	31.58	-2.19	0.086
140.00	-12.23	-1.86	0.00	-18.08	0.00	18.08	874.92	233.92	487.13	393.55	32.50	-2.21	0.060
141.00	-12.07	-1.84	0.00	-16.21	0.00	16.21	870.48	231.68	477.88	387.78	32.97	-2.21	0.056
142.20	-11.13	-1.68	0.00	-14.01	0.00	14.01	865.04	229.01	466.90	380.87	33.52	-2.22	0.050
144.00	-10.84	-1.64	0.00	-10.98	0.00	10.98	856.69	224.99	450.67	370.52	34.36	-2.23	0.042
146.00	-10.53	-1.60	0.00	-7.70	0.00	7.70	847.12	220.53	432.97	359.05	35.30	-2.23	0.034
146.00	-10.53	-1.60	0.00	-7.70	0.00	7.70	920.33	276.10	376.25	378.52	35.30	-2.23	0.032
147.00	-10.34	-1.57	0.00	-6.10	0.00	6.10	920.33	276.10	376.25	378.52	35.76	-2.24	0.027
149.00	-2.49	-0.32	0.00	-2.08	0.00	2.08	920.33	276.10	376.25	378.52	36.70	-2.24	0.008
150.00	-2.35	-0.28	0.00	-1.76	0.00	1.76	920.33	276.10	376.25	378.52	37.17	-2.24	0.007
153.00	-1.92	-0.23	0.00	-0.91	0.00	0.91	920.33	276.10	376.25	378.52	38.58	-2.24	0.004
155.00	-0.59	-0.07	0.00	-0.45	0.00	0.45	920.33	276.10	376.25	378.52	39.52	-2.24	0.002
155.00	-0.59	-0.07	0.00	-0.45	0.00	0.45	70.80	21.24	6.13	6.17	39.52	-2.24	0.080
156.00	-0.57	-0.06	0.00	-0.37	0.00	0.37	70.80	21.24	6.13	6.17	39.99	-2.24	0.068
159.00	-0.49	-0.04	0.00	-0.19	0.00	0.19	70.80	21.24	6.13	6.17	41.43	-2.32	0.038
162.00	-0.41	-0.03	0.00	-0.06	0.00	0.06	70.80	21.24	6.13	6.17	42.90	-2.36	0.015
164.10	-0.02	0.00	0.00	0.00	0.00	0.00	70.80	21.24	6.13	6.17	43.94	-2.36	0.001
165.00	0.00	0.00	0.00	0.00	0.00	0.00	70.80	21.24	6.13	6.17	44.38	-2.36	0.000

Load Case: 1.0D + 1.0W Serviceability 60 mph 30 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces				Linear Forces		Sum of Forces			
Seg Elev (ft)	Description	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		59.0	0.0					0.0	0.0	59.0	0.0	0.0	0.0
3.00		117.2	708.2					0.0	163.7	117.3	872.0	0.0	0.0
6.00		115.7	699.1					0.1	163.7	115.8	862.9	0.0	0.0
9.00		114.2	690.0					0.1	163.7	114.4	853.8	0.0	0.0
12.00		112.7	681.0					0.2	163.7	112.9	844.7	0.0	0.0
15.00		111.2	671.9					0.2	163.7	111.4	835.6	0.0	0.0
18.00		109.7	662.8					0.2	163.7	110.0	826.5	0.0	0.0
21.00		108.2	653.7					0.3	163.7	108.5	817.4	0.0	0.0
24.00		106.7	644.6					31.8	163.7	138.5	808.3	0.0	0.0
27.00		105.2	635.5					0.4	163.7	105.6	799.3	0.0	0.0
30.00		104.5	626.4					0.4	163.7	104.9	790.2	0.0	0.0
33.00		105.1	617.3					0.4	163.7	105.6	781.1	0.0	0.0
36.00		106.2	608.3					0.5	163.7	106.7	772.0	0.0	0.0
39.00		73.0	599.2					0.5	163.7	73.6	762.9	0.0	0.0
40.10	Bot - Section 2	54.3	218.2					0.2	60.3	54.5	278.5	0.0	0.0
42.00		89.5	696.9					0.4	103.5	89.9	800.4	0.0	0.0
45.00		71.4	1,089.0					0.6	163.7	72.1	1,252.8	0.0	0.0
45.90	Top - Section 1	55.1	322.9					8.5	49.0	63.6	371.9	0.0	0.0
48.00		75.5	349.6					0.5	114.7	76.0	464.3	0.0	0.0
50.00	Appurtenance(s)	55.3	329.2	17.3	0.0	0.0	80.0	19.3	109.2	91.9	518.3	0.0	0.0
51.00		73.8	163.3					9.7	54.6	83.5	217.9	0.0	0.0
54.00		110.7	484.7					29.5	163.7	140.2	648.4	0.0	0.0
57.00		110.6	476.9					30.0	163.7	140.6	640.6	0.0	0.0
60.00		110.4	469.1					30.4	163.7	140.8	632.8	0.0	0.0
63.00	Appurtenance(s)	110.1	461.3	29.5	0.0	0.0	150.0	30.9	163.7	170.4	775.0	0.0	0.0
66.00		109.7	453.5					31.3	163.7	141.0	617.2	0.0	0.0
69.00		109.2	445.7					31.7	163.7	140.9	609.4	0.0	0.0
72.00		108.6	437.9					32.1	163.7	140.7	601.7	0.0	0.0
75.00		107.9	430.1					32.4	163.7	140.4	593.9	0.0	0.0
78.00		100.1	422.3					32.8	163.7	132.9	586.1	0.0	0.0
80.60	Bot - Section 3	53.5	359.6					28.7	141.9	82.2	501.4	0.0	0.0
81.00	Appurtenance(s)	43.3	101.7	7.1	0.0	14.2	10.0	4.5	21.9	54.8	133.6	0.0	0.0
83.00	Appurtenance(s)	53.9	503.5	19.7	0.0	0.0	75.0	22.3	108.9	95.9	687.3	0.0	0.0
84.00		43.1	249.3					11.2	54.4	54.3	303.8	0.0	0.0
85.41	Top - Section 2	53.5	348.0					15.8	76.5	69.3	424.5	0.0	0.0
87.00		81.4	179.6					18.0	86.7	99.4	266.3	0.0	0.0
90.00		105.5	333.1					34.2	163.3	139.6	496.3	0.0	0.0
93.00	Appurtenance(s)	104.4	326.6	538.4	0.0	0.0	3,132.1	34.5	163.3	677.3	3,622.0	0.0	0.0
96.00		103.2	320.1					34.8	156.3	138.1	476.3	0.0	0.0
99.00		102.0	313.6					25.4	156.3	127.4	469.9	0.0	0.0
102.00		100.8	307.1					25.6	156.3	126.4	463.4	0.0	0.0
105.00	Appurtenance(s)	92.9	300.6	1.0	0.0	0.0	9.9	25.8	156.3	119.8	466.8	0.0	0.0
107.60		49.4	255.3					22.5	135.4	71.9	390.7	0.0	0.0
108.00		55.3	38.8					3.5	20.8	58.7	59.7	0.0	0.0
111.00		96.7	287.6					26.2	156.3	122.9	443.9	0.0	0.0
114.00		95.2	281.1					26.4	156.3	121.7	437.4	0.0	0.0
117.00		93.7	274.6					26.6	156.3	120.3	430.9	0.0	0.0
120.00		58.3	268.1					26.8	156.3	85.1	424.4	0.0	0.0

Load Case: 1.0D + 1.0W Serviceability 60 mph 30 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

121.00	Appurtenance(s)	13.0	87.9	38.9	0.0	0.0	20.0	10.3	59.0	62.2	166.9	0.0	0.0
121.10		2.3	8.8					1.0	5.9	3.4	14.7	0.0	0.0
121.20		2.3	8.7					1.0	5.9	3.4	14.6	0.0	0.0
121.30		10.8	8.7					1.0	5.9	11.8	14.6	0.0	0.0
122.12	Bot - Section 4	20.0	71.6					8.5	48.5	28.5	120.1	0.0	0.0
123.00	Appurtenance(s)	44.1	122.3	373.5	0.0	0.0	2,500.0	9.1	51.8	426.7	2,674.1	0.0	0.0
125.89	Top - Section 3	35.0	395.8					29.9	170.2	65.0	566.0	0.0	0.0
126.00		35.7	5.9					1.2	6.8	36.9	12.7	0.0	0.0
129.00		68.2	152.3					31.3	177.0	99.5	329.3	0.0	0.0
132.00		44.9	148.4					31.5	177.0	76.4	325.4	0.0	0.0
133.00	Appurtenance(s)	33.1	48.6	808.5	0.0	0.0	3,674.8	12.2	59.0	853.8	3,782.4	0.0	0.0
135.00		54.4	95.9					24.5	100.1	78.9	196.0	0.0	0.0
138.00		53.6	140.6					36.9	150.2	90.6	290.8	0.0	0.0
140.00	Appurtenance(s)	29.5	91.6	957.8	0.0	0.0	4,071.5	24.7	100.1	1,012.1	4,263.2	0.0	0.0
141.00		18.2	45.1					0.0	36.0	18.2	81.1	0.0	0.0
142.20		24.6	53.6					0.0	43.2	24.6	96.8	0.0	0.0
144.00		30.7	79.2					0.0	64.8	30.7	144.0	0.0	0.0
146.00	Top - Section 4	20.3	86.4					0.0	72.0	20.3	158.4	0.0	0.0
147.00		12.9	82.8					0.0	36.0	12.9	118.8	0.0	0.0
149.00	Appurtenance(s)	12.3	165.7	814.0	0.0	838.3	3,419.1	0.0	72.0	826.3	3,656.8	0.0	0.0
150.00		14.9	82.8					0.0	4.9	14.9	87.8	0.0	0.0
153.00		18.7	248.5					0.0	14.8	18.7	263.3	0.0	0.0
155.00	Top - Section 5	9.2	165.7	92.6	0.0	0.7	579.2	0.0	9.8	101.8	754.7	0.0	0.0
156.00		6.6	7.6					0.0	4.9	6.6	12.6	0.0	0.0
159.00		10.0	22.9					0.0	14.8	10.0	37.7	0.0	0.0
162.00		8.2	22.9					0.0	14.8	8.2	37.7	0.0	0.0
164.10		4.6	16.1					0.0	0.0	4.6	16.1	0.0	0.0
165.00		1.4	6.9					0.0	0.0	1.4	6.9	0.0	0.0
								Totals:		9,616.79	48,977.8	0.00	0.00

Site Number: 302495 Code: ANSI/TIA-222-H

Site Name: Tolland CT, CT Engineering Number: 13692173_C3_03 7/8/2021 6:23:11 PM

Customer: DISH WIRELESS L.L.C.

Load Case: 1.0D + 1.0W Serviceability 60 mph 30 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-49.35	-10.08	0.00	-1,037.37	0.00	1,037.37	4,665.07	1,225.36	5,729.16	4,709.48	0.00	0.00	0.231
3.00	-48.47	-10.00	0.00	-1,007.12	0.00	1,007.12	4,631.78	1,209.74	5,584.06	4,615.74	0.01	-0.04	0.229
6.00	-47.60	-9.92	0.00	-977.13	0.00	977.13	4,597.82	1,194.12	5,440.82	4,522.21	0.05	-0.08	0.226
9.00	-46.74	-9.83	0.00	-947.38	0.00	947.38	4,563.18	1,178.50	5,299.44	4,428.89	0.11	-0.12	0.224
12.00	-45.89	-9.75	0.00	-917.88	0.00	917.88	4,527.86	1,162.88	5,159.92	4,335.83	0.20	-0.16	0.222
15.00	-45.05	-9.67	0.00	-888.63	0.00	888.63	4,491.86	1,147.25	5,022.26	4,243.05	0.32	-0.20	0.220
18.00	-44.21	-9.59	0.00	-859.63	0.00	859.63	4,455.19	1,131.63	4,886.46	4,150.57	0.46	-0.24	0.217
21.00	-43.39	-9.51	0.00	-830.86	0.00	830.86	4,417.85	1,116.01	4,752.53	4,058.43	0.63	-0.29	0.215
24.00	-42.58	-9.40	0.00	-802.34	0.00	802.34	4,379.82	1,100.39	4,620.45	3,966.64	0.82	-0.33	0.212
27.00	-41.77	-9.32	0.00	-774.15	0.00	774.15	4,341.13	1,084.77	4,490.24	3,875.23	1.04	-0.37	0.209
30.00	-40.97	-9.24	0.00	-746.20	0.00	746.20	4,301.75	1,069.15	4,361.89	3,784.23	1.29	-0.41	0.207
33.00	-40.19	-9.16	0.00	-718.49	0.00	718.49	4,261.70	1,053.52	4,235.40	3,693.68	1.56	-0.46	0.204
36.00	-39.41	-9.07	0.00	-691.03	0.00	691.03	4,220.97	1,037.90	4,110.77	3,603.58	1.86	-0.50	0.201
39.00	-38.64	-9.01	0.00	-663.81	0.00	663.81	4,179.57	1,022.28	3,988.00	3,513.97	2.19	-0.54	0.198
40.10	-38.36	-8.97	0.00	-653.86	0.00	653.86	4,164.16	1,016.53	3,943.28	3,481.12	2.32	-0.56	0.197
42.00	-37.56	-8.90	0.00	-636.86	0.00	636.86	4,137.49	1,006.66	3,867.09	3,424.88	2.54	-0.59	0.195
45.00	-36.30	-8.83	0.00	-610.17	0.00	610.17	4,094.73	991.04	3,748.05	3,336.33	2.93	-0.63	0.192
45.90	-35.92	-8.77	0.00	-602.24	0.00	602.24	3,345.43	862.67	3,312.91	2,772.86	3.05	-0.64	0.228
48.00	-35.46	-8.71	0.00	-583.80	0.00	583.80	3,324.15	853.29	3,241.28	2,724.99	3.34	-0.68	0.225
50.00	-34.94	-8.63	0.00	-566.38	0.00	566.38	3,303.59	844.36	3,173.84	2,679.55	3.63	-0.71	0.222
51.00	-34.71	-8.56	0.00	-557.75	0.00	557.75	3,293.20	839.90	3,140.39	2,656.86	3.78	-0.72	0.221
54.00	-34.06	-8.44	0.00	-532.06	0.00	532.06	3,261.57	826.51	3,041.08	2,589.00	4.25	-0.77	0.216
57.00	-33.41	-8.32	0.00	-506.73	0.00	506.73	3,229.26	813.12	2,943.38	2,521.44	4.75	-0.82	0.211
60.00	-32.78	-8.20	0.00	-481.77	0.00	481.77	3,196.28	799.73	2,847.27	2,454.19	5.28	-0.87	0.207
63.00	-32.00	-8.04	0.00	-457.17	0.00	457.17	3,162.62	786.34	2,752.76	2,387.28	5.84	-0.92	0.202
66.00	-31.38	-7.92	0.00	-433.04	0.00	433.04	3,128.28	772.95	2,659.84	2,320.75	6.44	-0.97	0.197
69.00	-30.76	-7.79	0.00	-409.28	0.00	409.28	3,093.27	759.56	2,568.51	2,254.62	7.06	-1.01	0.192
72.00	-30.16	-7.67	0.00	-385.90	0.00	385.90	3,057.58	746.17	2,478.79	2,188.92	7.71	-1.06	0.186
75.00	-29.56	-7.54	0.00	-362.90	0.00	362.90	3,021.22	732.78	2,390.65	2,123.66	8.40	-1.11	0.181
78.00	-28.97	-7.42	0.00	-340.28	0.00	340.28	2,984.18	719.39	2,304.12	2,058.89	9.11	-1.16	0.175
80.60	-28.47	-7.34	0.00	-321.01	0.00	321.01	2,951.54	707.79	2,230.44	2,003.18	9.75	-1.20	0.170
81.00	-28.33	-7.29	0.00	-318.05	0.00	318.05	2,946.46	706.00	2,219.17	1,994.61	9.85	-1.20	0.169
83.00	-27.65	-7.19	0.00	-303.47	0.00	303.47	2,920.94	697.07	2,163.43	1,952.06	10.36	-1.23	0.165
84.00	-27.34	-7.14	0.00	-296.29	0.00	296.29	2,908.96	692.61	2,135.83	1,931.47	10.62	-1.25	0.163
85.41	-26.92	-7.07	0.00	-286.25	0.00	286.25	2,288.86	584.09	1,822.48	1,541.02	10.99	-1.27	0.198
87.00	-26.65	-6.98	0.00	-274.98	0.00	274.98	2,274.94	578.16	1,785.69	1,515.96	11.42	-1.30	0.193
90.00	-26.15	-6.85	0.00	-254.04	0.00	254.04	2,248.22	567.00	1,717.45	1,468.96	12.25	-1.35	0.185
93.00	-22.54	-6.11	0.00	-233.48	0.00	233.48	2,220.81	555.84	1,650.54	1,422.23	13.12	-1.40	0.174
96.00	-22.06	-5.98	0.00	-215.16	0.00	215.16	2,192.74	544.68	1,584.96	1,375.78	14.01	-1.44	0.167
99.00	-21.59	-5.85	0.00	-197.23	0.00	197.23	2,163.98	533.53	1,520.71	1,329.64	14.93	-1.49	0.158
102.00	-21.12	-5.73	0.00	-179.67	0.00	179.67	2,134.56	522.37	1,457.78	1,283.85	15.88	-1.54	0.150
105.00	-20.66	-5.61	0.00	-162.47	0.00	162.47	2,104.45	511.21	1,396.19	1,238.42	16.86	-1.58	0.141
107.60	-20.12	-5.33	0.00	-147.88	0.00	147.88	2,077.81	501.54	1,343.89	1,199.37	17.73	-1.62	0.133

Load Case: 1.0D + 1.0W Serviceability 60 mph 30 Iterations

Gust Response Factor : 1.10
Dead Load Factor : 1.00
Wind Load Factor : 1.00

108.00	-20.06	-5.28	0.00	-145.75	0.00	145.75	2,073.67	500.05	1,335.93	1,193.39	17.87	-1.62	0.132
111.00	-19.62	-5.16	0.00	-129.91	0.00	129.91	2,042.21	488.89	1,277.00	1,148.77	18.90	-1.66	0.123
114.00	-19.18	-5.03	0.00	-114.44	0.00	114.44	2,006.48	477.73	1,219.39	1,102.63	19.95	-1.70	0.113
117.00	-18.75	-4.91	0.00	-99.34	0.00	99.34	1,959.62	466.58	1,163.12	1,051.43	21.03	-1.74	0.104
120.00	-18.33	-4.82	0.00	-84.60	0.00	84.60	1,912.75	455.42	1,108.17	1,001.46	22.14	-1.77	0.094
121.00	-18.16	-4.76	0.00	-79.78	0.00	79.78	1,897.13	451.70	1,090.15	985.07	22.51	-1.78	0.091
121.10	-18.09	-4.65	0.00	-79.30	0.00	79.30	1,895.57	451.33	1,088.36	983.44	22.55	-1.78	0.090
121.20	-18.06	-4.59	0.00	-78.84	0.00	78.84	1,894.01	450.95	1,086.57	981.81	22.58	-1.78	0.090
121.30	-18.02	-4.54	0.00	-78.38	0.00	78.38	1,892.45	450.58	1,084.78	980.18	22.62	-1.78	0.090
122.12	-17.90	-4.51	0.00	-74.64	0.00	74.64	1,879.60	447.52	1,070.10	966.84	22.93	-1.79	0.087
123.00	-15.24	-4.01	0.00	-70.68	0.00	70.68	1,865.89	444.26	1,054.56	952.70	23.26	-1.80	0.082
125.89	-14.68	-3.93	0.00	-59.12	0.00	59.12	929.68	265.41	627.12	474.96	24.35	-1.83	0.140
126.00	-14.67	-3.89	0.00	-58.67	0.00	58.67	929.29	265.16	625.91	474.31	24.40	-1.83	0.140
129.00	-14.34	-3.79	0.00	-46.99	0.00	46.99	918.88	258.46	594.71	457.06	25.56	-1.86	0.119
132.00	-14.01	-3.71	0.00	-35.61	0.00	35.61	907.79	251.77	564.31	439.76	26.74	-1.90	0.097
133.00	-10.26	-2.73	0.00	-31.90	0.00	31.90	903.95	249.54	554.35	433.99	27.14	-1.91	0.085
135.00	-10.07	-2.65	0.00	-26.43	0.00	26.43	896.03	245.07	534.70	422.43	27.94	-1.92	0.074
138.00	-9.78	-2.56	0.00	-18.47	0.00	18.47	883.59	238.38	505.89	405.10	29.16	-1.94	0.057
140.00	-5.55	-1.40	0.00	-13.36	0.00	13.36	874.92	233.92	487.13	393.55	29.97	-1.95	0.040
141.00	-5.47	-1.38	0.00	-11.96	0.00	11.96	870.48	231.68	477.88	387.78	30.38	-1.96	0.037
142.20	-5.30	-1.24	0.00	-10.31	0.00	10.31	865.04	229.01	466.90	380.87	30.87	-1.96	0.033
144.00	-5.15	-1.20	0.00	-8.07	0.00	8.07	856.69	224.99	450.67	370.52	31.61	-1.97	0.028
146.00	-5.00	-1.18	0.00	-5.67	0.00	5.67	847.12	220.53	432.97	359.05	32.44	-1.97	0.022
146.00	-5.00	-1.18	0.00	-5.67	0.00	5.67	920.33	276.10	376.25	378.52	32.44	-1.97	0.020
147.00	-4.88	-1.16	0.00	-4.49	0.00	4.49	920.33	276.10	376.25	378.52	32.85	-1.97	0.017
149.00	-1.25	-0.21	0.00	-1.32	0.00	1.32	920.33	276.10	376.25	378.52	33.68	-1.98	0.005
150.00	-1.16	-0.19	0.00	-1.11	0.00	1.11	920.33	276.10	376.25	378.52	34.09	-1.98	0.004
153.00	-0.90	-0.16	0.00	-0.54	0.00	0.54	920.33	276.10	376.25	378.52	35.34	-1.98	0.002
155.00	-0.15	-0.04	0.00	-0.21	0.00	0.21	920.33	276.10	376.25	378.52	36.17	-1.98	0.001
155.00	-0.15	-0.04	0.00	-0.21	0.00	0.21	70.80	21.24	6.13	6.17	36.17	-1.98	0.035
156.00	-0.14	-0.03	0.00	-0.17	0.00	0.17	70.80	21.24	6.13	6.17	36.58	-1.98	0.029
159.00	-0.10	-0.02	0.00	-0.08	0.00	0.08	70.80	21.24	6.13	6.17	37.84	-2.01	0.014
162.00	-0.06	-0.01	0.00	-0.02	0.00	0.02	70.80	21.24	6.13	6.17	39.11	-2.03	0.004
164.10	-0.01	0.00	0.00	0.00	0.00	0.00	70.80	21.24	6.13	6.17	40.00	-2.03	0.000
165.00	0.00	0.00	0.00	0.00	0.00	0.00	70.80	21.24	6.13	6.17	40.38	-2.03	0.000

Equivalent Lateral Forces Method Analysis

Spectral Response Acceleration for Short Period (S_s):	0.18	
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05	
Long-Period Transition Period (T_L):	6	
Importance Factor (I_E):	1.00	
Site Coefficient F_a:	1.60	
Site Coeffiecient F_v:	2.40	
Response Modification Coefficient (R):	1.50	
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19	
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09	
Seismic Response Coefficient (C_s):	0.03	
Upper Limit C_s	0.03	
Lower Limit C_s	0.03	
Period based on Rayleigh Method (sec):	3.15	
Redundancy Factor (p):	1.00	
Seismic Force Distribution Exponent (k):	2.00	
Total Unfactored Dead Load:	49.35	k
Seismic Base Shear (E):	1.48	k

Load Case 1.2D + 1.0Ev + 1.0Eh Seismic

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
75	164.55	7	186	0.000	1	9
74	163.05	16	427	0.001	1	20
73	160.50	38	971	0.002	3	47
72	157.50	38	935	0.002	3	47
71	155.50	13	304	0.001	1	16
70	154.00	176	4,163	0.009	13	217
69	151.50	263	6,043	0.012	18	326
68	149.50	88	1,962	0.004	6	109
67	148.00	238	5,206	0.011	16	294
66	146.50	119	2,551	0.005	8	147
65	145.00	158	3,330	0.007	10	196
64	143.10	144	2,949	0.006	9	178
63	141.60	97	1,941	0.004	6	120
62	140.50	81	1,601	0.003	5	100
61	139.00	192	3,704	0.008	11	237
60	136.50	291	5,419	0.011	16	360
59	134.00	196	3,520	0.007	11	243
58	132.50	108	1,889	0.004	6	133
57	130.50	325	5,541	0.011	17	403
56	127.50	329	5,353	0.011	16	408
55	125.94	13	201	0.000	1	16
54	124.44	566	8,766	0.018	27	701
53	122.56	174	2,615	0.005	8	216
52	121.71	120	1,779	0.004	5	149
51	121.25	15	215	0.000	1	18

50	121.15	15	215	0.000	1	18
49	121.05	15	215	0.000	1	18
48	120.50	147	2,133	0.004	6	182
47	118.50	424	5,960	0.012	18	526
46	115.50	431	5,748	0.012	17	534
45	112.50	437	5,536	0.011	17	542
44	109.50	444	5,322	0.011	16	550
43	107.80	60	693	0.001	2	74
42	106.30	391	4,415	0.009	13	484
41	103.50	457	4,894	0.010	15	566
40	100.50	463	4,680	0.010	14	574
39	97.50	470	4,467	0.009	14	582
38	94.50	476	4,254	0.009	13	590
37	91.50	490	4,101	0.008	12	607
36	88.50	496	3,887	0.008	12	615
35	86.20	266	1,979	0.004	6	330
34	84.70	425	3,046	0.006	9	526
33	83.50	304	2,118	0.004	6	376
32	82.00	612	4,117	0.008	13	758
31	80.80	124	807	0.002	2	153
30	79.30	501	3,153	0.006	10	621
29	76.50	586	3,430	0.007	10	726
28	73.50	594	3,208	0.007	10	736
27	70.50	602	2,990	0.006	9	745
26	67.50	609	2,777	0.006	8	755
25	64.50	617	2,568	0.005	8	765
24	61.50	625	2,364	0.005	7	774
23	58.50	633	2,166	0.004	7	784
22	55.50	641	1,973	0.004	6	793
21	52.50	648	1,787	0.004	5	803
20	50.50	218	556	0.001	2	270
19	49.00	438	1,052	0.002	3	543
18	46.95	464	1,023	0.002	3	575
17	45.45	372	768	0.002	2	461
16	43.50	1,253	2,371	0.005	7	1,552
15	41.05	800	1,349	0.003	4	991
14	39.55	279	436	0.001	1	345
13	37.50	763	1,073	0.002	3	945
12	34.50	772	919	0.002	3	956
11	31.50	781	775	0.002	2	967
10	28.50	790	642	0.001	2	979
9	25.50	799	520	0.001	2	990
8	22.50	808	409	0.001	1	1,001
7	19.50	817	311	0.001	1	1,012
6	16.50	827	225	0.000	1	1,024
5	13.50	836	152	0.000	0	1,035
4	10.50	845	93	0.000	0	1,046
3	7.50	854	48	0.000	0	1,058
2	4.50	863	17	0.000	0	1,069
1	1.50	872	2	0.000	0	1,080
EMS RR90-17-02DP	164.10	41	1,091	0.002	3	50
Ericsson KRY 112 71/	155.00	79	1,903	0.004	6	98
Canister	155.00	500	12,013	0.025	37	619
Andrew ABT-DMDF-ADBH	149.00	1	24	0.000	0	1
Powerwave Allgon 702	149.00	7	147	0.000	0	8
Kathrein Scala 782-1	149.00	38	853	0.002	3	48
CCI DTMABP7819VG12A	149.00	115	2,558	0.005	8	143
Raycap DC6-48-60-18-	149.00	32	706	0.001	2	39
Ericsson RRUS 11 (Ba	149.00	150	3,330	0.007	10	186
Ericsson RRUS-12 800	149.00	180	3,996	0.008	12	223
Powerwave Allgon 777	149.00	105	2,331	0.005	7	130
KMW AM-X-CD-16-65-00	149.00	291	6,460	0.013	20	360
Generic Flat Platfor	149.00	2,500	55,503	0.114	169	3,097
Decibel DB844G90A-XY	142.20	84	1,699	0.003	5	104

RFS FDJ85020D7-S	140.00	70	1,376	0.003	4	87
Samsung Outdoor CBRS	140.00	56	1,094	0.002	3	69
Samsung B5/B13 RRH-B	140.00	211	4,134	0.008	13	261
Samsung B2/B66A RRH-	140.00	253	4,963	0.010	15	314
Swedcom SC 9012	140.00	60	1,176	0.002	4	74
Samsung CBRS 64T64R	140.00	225	4,410	0.009	13	279
Samsung MT6407-77A	140.00	245	4,798	0.010	15	303
RFS DB-T1-6Z-8AB-0Z	140.00	88	1,725	0.004	5	109
Commscope JAHH-65B-R	140.00	364	7,127	0.015	22	450
Generic Flat Platfor	140.00	2,500	49,000	0.101	149	3,097
Alcatel-Lucent 800 M	133.00	384	6,793	0.014	21	476
Alcatel-Lucent 1900	133.00	180	3,184	0.007	10	223
Alcatel-Lucent TD-RR	133.00	210	3,715	0.008	11	260
RFS APXVTM14-ALU-I20	133.00	169	2,982	0.006	9	209
Commscope NNVV-65B-R	133.00	232	4,107	0.008	12	288
Modified Platform w/	133.00	2,500	44,223	0.091	135	3,097
Generic Flat Platfor	123.00	2,500	37,823	0.078	115	3,097
Andrew DB844H90E-A	121.30	20	294	0.001	1	25
Andrew DB844H90E-A	121.20	10	147	0.000	0	12
Andrew DB844H90E-A	121.20	10	147	0.000	0	12
Andrew DB844H90E-A	121.10	60	880	0.002	3	74
Andrew DB844H90E-A	121.00	20	293	0.001	1	25
Commscope LNX-6515DS	107.60	151	1,747	0.004	5	187
Kathrein Scala Smart	105.00	10	109	0.000	0	12
Commscope RDIDC-9181	93.00	22	189	0.000	1	27
Fujitsu TA08025-B605	93.00	225	1,946	0.004	6	279
Fujitsu TA08025-B604	93.00	192	1,658	0.003	5	237
JMA Wireless MX08FRO	93.00	193	1,674	0.003	5	240
Generic Flat Platfor	93.00	2,500	21,623	0.044	66	3,097
Stand-Off	83.00	75	517	0.001	2	93
Generic GPS	81.00	10	66	0.000	0	12
Stand-Off	63.00	150	595	0.001	2	186
Generic 2" x 4" GPS	50.00	5	13	0.000	0	6
Stand-Off	50.00	75	188	0.000	1	93
		49,353	486,639	1.000	1,481	61,130

Load Case 0.9D - 1.0Ev + 1.0Eh Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
75	164.55	7	186	0.000	1	6
74	163.05	16	427	0.001	1	14
73	160.50	38	971	0.002	3	32
72	157.50	38	935	0.002	3	32
71	155.50	13	304	0.001	1	11
70	154.00	176	4,163	0.009	13	151
69	151.50	263	6,043	0.012	18	227
68	149.50	88	1,962	0.004	6	76
67	148.00	238	5,206	0.011	16	205
66	146.50	119	2,551	0.005	8	102
65	145.00	158	3,330	0.007	10	136
64	143.10	144	2,949	0.006	9	124
63	141.60	97	1,941	0.004	6	83
62	140.50	81	1,601	0.003	5	70
61	139.00	192	3,704	0.008	11	165
60	136.50	291	5,419	0.011	16	251
59	134.00	196	3,520	0.007	11	169
58	132.50	108	1,889	0.004	6	93
57	130.50	325	5,541	0.011	17	280
56	127.50	329	5,353	0.011	16	284
55	125.94	13	201	0.000	1	11

54	124.44	566	8,766	0.018	27	488
53	122.56	174	2,615	0.005	8	150
52	121.71	120	1,779	0.004	5	103
51	121.25	15	215	0.000	1	13
50	121.15	15	215	0.000	1	13
49	121.05	15	215	0.000	1	13
48	120.50	147	2,133	0.004	6	127
47	118.50	424	5,960	0.012	18	366
46	115.50	431	5,748	0.012	17	371
45	112.50	437	5,536	0.011	17	377
44	109.50	444	5,322	0.011	16	382
43	107.80	60	693	0.001	2	51
42	106.30	391	4,415	0.009	13	337
41	103.50	457	4,894	0.010	15	394
40	100.50	463	4,680	0.010	14	399
39	97.50	470	4,467	0.009	14	405
38	94.50	476	4,254	0.009	13	410
37	91.50	490	4,101	0.008	12	422
36	88.50	496	3,887	0.008	12	428
35	86.20	266	1,979	0.004	6	229
34	84.70	425	3,046	0.006	9	366
33	83.50	304	2,118	0.004	6	262
32	82.00	612	4,117	0.008	13	527
31	80.80	124	807	0.002	2	106
30	79.30	501	3,153	0.006	10	432
29	76.50	586	3,430	0.007	10	505
28	73.50	594	3,208	0.007	10	512
27	70.50	602	2,990	0.006	9	518
26	67.50	609	2,777	0.006	8	525
25	64.50	617	2,568	0.005	8	532
24	61.50	625	2,364	0.005	7	538
23	58.50	633	2,166	0.004	7	545
22	55.50	641	1,973	0.004	6	552
21	52.50	648	1,787	0.004	5	559
20	50.50	218	556	0.001	2	188
19	49.00	438	1,052	0.002	3	378
18	46.95	464	1,023	0.002	3	400
17	45.45	372	768	0.002	2	320
16	43.50	1,253	2,371	0.005	7	1,079
15	41.05	800	1,349	0.003	4	689
14	39.55	279	436	0.001	1	240
13	37.50	763	1,073	0.002	3	657
12	34.50	772	919	0.002	3	665
11	31.50	781	775	0.002	2	673
10	28.50	790	642	0.001	2	681
9	25.50	799	520	0.001	2	688
8	22.50	808	409	0.001	1	696
7	19.50	817	311	0.001	1	704
6	16.50	827	225	0.000	1	712
5	13.50	836	152	0.000	0	720
4	10.50	845	93	0.000	0	728
3	7.50	854	48	0.000	0	735
2	4.50	863	17	0.000	0	743
1	1.50	872	2	0.000	0	751
EMS RR90-17-02DP	164.10	41	1,091	0.002	3	35
Ericsson KRY 112 71/	155.00	79	1,903	0.004	6	68
Canister	155.00	500	12,013	0.025	37	431
Andrew ABT-DMDF-ADBH	149.00	1	24	0.000	0	1
Powerwave Allgon 702	149.00	7	147	0.000	0	6
Kathrein Scala 782-1	149.00	38	853	0.002	3	33
CCI DTMABP7819VG12A	149.00	115	2,558	0.005	8	99
Raycap DC6-48-60-18-	149.00	32	706	0.001	2	27
Ericsson RRUS 11 (Ba	149.00	150	3,330	0.007	10	129
Ericsson RRUS-12 800	149.00	180	3,996	0.008	12	155

Powerwave Allgon 777	149.00	105	2,331	0.005	7	90
KMW AM-X-CD-16-65-00	149.00	291	6,460	0.013	20	251
Generic Flat Platfor	149.00	2,500	55,503	0.114	169	2,153
Decibel DB844G90A-XY	142.20	84	1,699	0.003	5	72
RFS FDJ85020D7-S	140.00	70	1,376	0.003	4	60
Samsung Outdoor CBRS	140.00	56	1,094	0.002	3	48
Samsung B5/B13 RRH-B	140.00	211	4,134	0.008	13	182
Samsung B2/B66A RRH-	140.00	253	4,963	0.010	15	218
Swedcom SC 9012	140.00	60	1,176	0.002	4	52
Samsung CBRS 64T64R	140.00	225	4,410	0.009	13	194
Samsung MT6407-77A	140.00	245	4,798	0.010	15	211
RFS DB-T1-6Z-8AB-0Z	140.00	88	1,725	0.004	5	76
Commscope JAHH-65B-R	140.00	364	7,127	0.015	22	313
Generic Flat Platfor	140.00	2,500	49,000	0.101	149	2,153
Alcatel-Lucent 800 M	133.00	384	6,793	0.014	21	331
Alcatel-Lucent 1900	133.00	180	3,184	0.007	10	155
Alcatel-Lucent TD-RR	133.00	210	3,715	0.008	11	181
RFS APXVTM14-ALU-I20	133.00	169	2,982	0.006	9	145
Commscope NNVV-65B-R	133.00	232	4,107	0.008	12	200
Modified Platform w/	133.00	2,500	44,223	0.091	135	2,153
Generic Flat Platfor	123.00	2,500	37,823	0.078	115	2,153
Andrew DB844H90E-A	121.30	20	294	0.001	1	17
Andrew DB844H90E-A	121.20	10	147	0.000	0	9
Andrew DB844H90E-A	121.20	10	147	0.000	0	9
Andrew DB844H90E-A	121.10	60	880	0.002	3	52
Andrew DB844H90E-A	121.00	20	293	0.001	1	17
Commscope LNX-6515DS	107.60	151	1,747	0.004	5	130
Kathrein Scala Smart	105.00	10	109	0.000	0	9
Commscope RDIDC-9181	93.00	22	189	0.000	1	19
Fujitsu TA08025-B605	93.00	225	1,946	0.004	6	194
Fujitsu TA08025-B604	93.00	192	1,658	0.003	5	165
JMA Wireless MX08FRO	93.00	193	1,674	0.003	5	167
Generic Flat Platfor	93.00	2,500	21,623	0.044	66	2,153
Stand-Off	83.00	75	517	0.001	2	65
Generic GPS	81.00	10	66	0.000	0	9
Stand-Off	63.00	150	595	0.001	2	129
Generic 2" x 4" GPS	50.00	5	13	0.000	0	4
Stand-Off	50.00	75	188	0.000	1	65
		49,353	486,639	1.000	1,481	42,512

Load Case 1.2D + 1.0Ev + 1.0Eh Seismic

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-60.05	-1.48	0.00	-199.58	0.00	199.58	4,665.07	1,225.36	5,729.16	4,709.48	0.00	0.00	0.055
3.00	-58.98	-1.49	0.00	-195.13	0.00	195.13	4,631.78	1,209.74	5,584.06	4,615.74	0.00	-0.01	0.055
6.00	-57.92	-1.50	0.00	-190.66	0.00	190.66	4,597.82	1,194.12	5,440.82	4,522.21	0.01	-0.02	0.055
9.00	-56.88	-1.51	0.00	-186.16	0.00	186.16	4,563.18	1,178.50	5,299.44	4,428.89	0.02	-0.02	0.054
12.00	-55.84	-1.51	0.00	-181.64	0.00	181.64	4,527.86	1,162.88	5,159.92	4,335.83	0.04	-0.03	0.054
15.00	-54.82	-1.52	0.00	-177.10	0.00	177.10	4,491.86	1,147.25	5,022.26	4,243.05	0.06	-0.04	0.054
18.00	-53.80	-1.53	0.00	-172.55	0.00	172.55	4,455.19	1,131.63	4,886.46	4,150.57	0.09	-0.05	0.054
21.00	-52.80	-1.53	0.00	-167.97	0.00	167.97	4,417.85	1,116.01	4,752.53	4,058.43	0.12	-0.06	0.053
24.00	-51.81	-1.54	0.00	-163.38	0.00	163.38	4,379.82	1,100.39	4,620.45	3,966.64	0.16	-0.06	0.053
27.00	-50.83	-1.54	0.00	-158.77	0.00	158.77	4,341.13	1,084.77	4,490.24	3,875.23	0.20	-0.07	0.053
30.00	-49.87	-1.55	0.00	-154.14	0.00	154.14	4,301.75	1,069.15	4,361.89	3,784.23	0.25	-0.08	0.052
33.00	-48.91	-1.55	0.00	-149.51	0.00	149.51	4,261.70	1,053.52	4,235.40	3,693.68	0.31	-0.09	0.052
36.00	-47.96	-1.55	0.00	-144.86	0.00	144.86	4,220.97	1,037.90	4,110.77	3,603.58	0.37	-0.10	0.052
39.00	-47.62	-1.55	0.00	-140.21	0.00	140.21	4,179.57	1,022.28	3,988.00	3,513.97	0.43	-0.11	0.051
40.10	-46.63	-1.55	0.00	-138.49	0.00	138.49	4,164.16	1,016.53	3,943.28	3,481.12	0.46	-0.11	0.051
42.00	-45.08	-1.55	0.00	-135.55	0.00	135.55	4,137.49	1,006.66	3,867.09	3,424.88	0.51	-0.12	0.050
45.00	-44.62	-1.55	0.00	-130.90	0.00	130.90	4,094.73	991.04	3,748.05	3,336.33	0.58	-0.13	0.050
45.90	-44.04	-1.55	0.00	-129.51	0.00	129.51	3,345.43	862.67	3,312.91	2,772.86	0.61	-0.13	0.060
48.00	-43.50	-1.55	0.00	-126.26	0.00	126.26	3,324.15	853.29	3,241.28	2,724.99	0.67	-0.14	0.059
50.00	-43.13	-1.55	0.00	-123.16	0.00	123.16	3,303.59	844.36	3,173.84	2,679.55	0.73	-0.14	0.059
51.00	-42.32	-1.55	0.00	-121.61	0.00	121.61	3,293.20	839.90	3,140.39	2,656.86	0.76	-0.15	0.059
54.00	-41.53	-1.55	0.00	-116.97	0.00	116.97	3,261.57	826.51	3,041.08	2,589.00	0.85	-0.16	0.058
57.00	-40.75	-1.55	0.00	-112.32	0.00	112.32	3,229.26	813.12	2,943.38	2,521.44	0.96	-0.17	0.057
60.00	-39.97	-1.54	0.00	-107.68	0.00	107.68	3,196.28	799.73	2,847.27	2,454.19	1.07	-0.18	0.056
63.00	-39.02	-1.54	0.00	-103.05	0.00	103.05	3,162.62	786.34	2,752.76	2,387.28	1.18	-0.19	0.056
66.00	-38.27	-1.54	0.00	-98.43	0.00	98.43	3,128.28	772.95	2,659.84	2,320.75	1.31	-0.20	0.055
69.00	-37.52	-1.53	0.00	-93.83	0.00	93.83	3,093.27	759.56	2,568.51	2,254.62	1.44	-0.21	0.054
72.00	-36.79	-1.53	0.00	-89.23	0.00	89.23	3,057.58	746.17	2,478.79	2,188.92	1.58	-0.22	0.053
75.00	-36.06	-1.52	0.00	-84.66	0.00	84.66	3,021.22	732.78	2,390.65	2,123.66	1.72	-0.24	0.052
78.00	-35.44	-1.51	0.00	-80.10	0.00	80.10	2,984.18	719.39	2,304.12	2,058.89	1.87	-0.25	0.051
80.60	-35.28	-1.51	0.00	-76.17	0.00	76.17	2,951.54	707.79	2,230.44	2,003.18	2.01	-0.26	0.050
81.00	-34.51	-1.50	0.00	-75.56	0.00	75.56	2,946.46	706.00	2,219.17	1,994.61	2.03	-0.26	0.050
83.00	-34.04	-1.49	0.00	-72.56	0.00	72.56	2,920.94	697.07	2,163.43	1,952.06	2.14	-0.26	0.049
84.00	-33.52	-1.48	0.00	-71.07	0.00	71.07	2,908.96	692.61	2,135.83	1,931.47	2.20	-0.27	0.048
85.41	-33.19	-1.48	0.00	-68.98	0.00	68.98	2,288.86	584.09	1,822.48	1,541.02	2.28	-0.27	0.059
87.00	-32.57	-1.47	0.00	-66.62	0.00	66.62	2,274.94	578.16	1,785.69	1,515.96	2.37	-0.28	0.058
90.00	-31.97	-1.46	0.00	-62.21	0.00	62.21	2,248.22	567.00	1,717.45	1,468.96	2.55	-0.29	0.057
93.00	-27.50	-1.35	0.00	-57.83	0.00	57.83	2,220.81	555.84	1,650.54	1,422.23	2.74	-0.30	0.053
96.00	-26.92	-1.34	0.00	-53.79	0.00	53.79	2,192.74	544.68	1,584.96	1,375.78	2.93	-0.32	0.051
99.00	-26.34	-1.33	0.00	-49.77	0.00	49.77	2,163.98	533.53	1,520.71	1,329.64	3.13	-0.33	0.050
102.00	-25.78	-1.31	0.00	-45.80	0.00	45.80	2,134.56	522.37	1,457.78	1,283.85	3.34	-0.34	0.048
105.00	-25.28	-1.30	0.00	-41.86	0.00	41.86	2,104.45	511.21	1,396.19	1,238.42	3.56	-0.35	0.046
107.60	-25.02	-1.29	0.00	-38.48	0.00	38.48	2,077.81	501.54	1,343.89	1,199.37	3.75	-0.36	0.044
108.00	-24.47	-1.28	0.00	-37.97	0.00	37.97	2,073.67	500.05	1,335.93	1,193.39	3.78	-0.36	0.044
111.00	-23.93	-1.26	0.00	-34.14	0.00	34.14	2,042.21	488.89	1,277.00	1,148.77	4.01	-0.37	0.041
114.00	-23.39	-1.24	0.00	-30.36	0.00	30.36	2,006.48	477.73	1,219.39	1,102.63	4.25	-0.38	0.039
117.00	-22.87	-1.23	0.00	-26.63	0.00	26.63	1,959.62	466.58	1,163.12	1,051.43	4.49	-0.39	0.037

120.00	-22.68	-1.22	0.00	-22.95	0.00	22.95	1,912.75	455.42	1,108.17	1,001.46	4.74	-0.40	0.035
121.00	-22.52	-1.21	0.00	-21.73	0.00	21.73	1,897.13	451.70	1,090.15	985.07	4.83	-0.40	0.034
121.10	-22.50	-1.21	0.00	-21.61	0.00	21.61	1,895.57	451.33	1,088.36	983.44	4.84	-0.40	0.034
121.20	-22.48	-1.21	0.00	-21.49	0.00	21.49	1,894.01	450.95	1,086.57	981.81	4.84	-0.40	0.034
121.30	-22.33	-1.21	0.00	-21.37	0.00	21.37	1,892.45	450.58	1,084.78	980.18	4.85	-0.40	0.034
122.12	-22.12	-1.20	0.00	-20.37	0.00	20.37	1,879.60	447.52	1,070.10	966.84	4.92	-0.41	0.033
123.00	-18.32	-1.03	0.00	-19.32	0.00	19.32	1,865.89	444.26	1,054.56	952.70	5.00	-0.41	0.030
125.89	-18.30	-1.03	0.00	-16.35	0.00	16.35	929.68	265.41	627.12	474.96	5.25	-0.42	0.054
126.00	-17.90	-1.01	0.00	-16.23	0.00	16.23	929.29	265.16	625.91	474.31	5.26	-0.42	0.053
129.00	-17.49	-1.00	0.00	-13.19	0.00	13.19	918.88	258.46	594.71	457.06	5.52	-0.43	0.048
132.00	-17.36	-0.99	0.00	-10.20	0.00	10.20	907.79	251.77	564.31	439.76	5.79	-0.44	0.042
133.00	-12.57	-0.75	0.00	-9.21	0.00	9.21	903.95	249.54	554.35	433.99	5.88	-0.44	0.035
135.00	-12.21	-0.73	0.00	-7.71	0.00	7.71	896.03	245.07	534.70	422.43	6.07	-0.44	0.032
138.00	-11.97	-0.72	0.00	-5.53	0.00	5.53	883.59	238.38	505.89	405.10	6.35	-0.45	0.027
140.00	-6.83	-0.43	0.00	-4.09	0.00	4.09	874.92	233.92	487.13	393.55	6.54	-0.45	0.018
141.00	-6.71	-0.42	0.00	-3.66	0.00	3.66	870.48	231.68	477.88	387.78	6.63	-0.45	0.017
142.20	-6.43	-0.41	0.00	-3.16	0.00	3.16	865.04	229.01	466.90	380.87	6.75	-0.45	0.016
144.00	-6.23	-0.40	0.00	-2.42	0.00	2.42	856.69	224.99	450.67	370.52	6.92	-0.46	0.014
146.00	-6.08	-0.39	0.00	-1.63	0.00	1.63	847.12	220.53	432.97	359.05	7.11	-0.46	0.012
146.00	-6.08	-0.39	0.00	-1.63	0.00	1.63	920.33	276.10	376.25	378.52	7.11	-0.46	0.011
147.00	-5.79	-0.37	0.00	-1.25	0.00	1.25	920.33	276.10	376.25	378.52	7.21	-0.46	0.010
149.00	-1.45	-0.10	0.00	-0.51	0.00	0.51	920.33	276.10	376.25	378.52	7.40	-0.46	0.003
150.00	-1.12	-0.08	0.00	-0.41	0.00	0.41	920.33	276.10	376.25	378.52	7.50	-0.46	0.002
153.00	-0.90	-0.06	0.00	-0.19	0.00	0.19	920.33	276.10	376.25	378.52	7.78	-0.46	0.001
155.00	-0.17	-0.01	0.00	-0.06	0.00	0.06	920.33	276.10	376.25	378.52	7.98	-0.46	0.000
155.00	-0.17	-0.01	0.00	-0.06	0.00	0.06	70.80	21.24	6.13	6.17	7.98	-0.46	0.013
156.00	-0.13	-0.01	0.00	-0.05	0.00	0.05	70.80	21.24	6.13	6.17	8.07	-0.46	0.010
159.00	-0.08	-0.01	0.00	-0.03	0.00	0.03	70.80	21.24	6.13	6.17	8.37	-0.47	0.005
162.00	-0.06	0.00	0.00	-0.01	0.00	0.01	70.80	21.24	6.13	6.17	8.66	-0.48	0.002
164.10	0.00	0.00	0.00	0.00	0.00	0.00	70.80	21.24	6.13	6.17	8.87	-0.48	0.000
165.00	0.00	0.00	0.00	0.00	0.00	0.00	70.80	21.24	6.13	6.17	8.96	-0.48	0.000

Load Case 0.9D - 1.0Ev + 1.0Eh Seismic (Reduced DL)

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-41.76	-1.48	0.00	-194.28	0.00	194.28	4,665.07	1,225.36	5,729.16	4,709.48	0.00	0.00	0.050
3.00	-41.02	-1.49	0.00	-189.83	0.00	189.83	4,631.78	1,209.74	5,584.06	4,615.74	0.00	-0.01	0.050
6.00	-40.28	-1.49	0.00	-185.37	0.00	185.37	4,597.82	1,194.12	5,440.82	4,522.21	0.01	-0.02	0.050
9.00	-39.55	-1.50	0.00	-180.89	0.00	180.89	4,563.18	1,178.50	5,299.44	4,428.89	0.02	-0.02	0.050
12.00	-38.83	-1.50	0.00	-176.40	0.00	176.40	4,527.86	1,162.88	5,159.92	4,335.83	0.04	-0.03	0.049
15.00	-38.12	-1.51	0.00	-171.90	0.00	171.90	4,491.86	1,147.25	5,022.26	4,243.05	0.06	-0.04	0.049
18.00	-37.42	-1.51	0.00	-167.38	0.00	167.38	4,455.19	1,131.63	4,886.46	4,150.57	0.09	-0.05	0.049
21.00	-36.72	-1.51	0.00	-162.85	0.00	162.85	4,417.85	1,116.01	4,752.53	4,058.43	0.12	-0.05	0.048
24.00	-36.03	-1.52	0.00	-158.31	0.00	158.31	4,379.82	1,100.39	4,620.45	3,966.64	0.16	-0.06	0.048
27.00	-35.35	-1.52	0.00	-153.76	0.00	153.76	4,341.13	1,084.77	4,490.24	3,875.23	0.20	-0.07	0.048
30.00	-34.68	-1.52	0.00	-149.20	0.00	149.20	4,301.75	1,069.15	4,361.89	3,784.23	0.25	-0.08	0.047
33.00	-34.01	-1.52	0.00	-144.64	0.00	144.64	4,261.70	1,053.52	4,235.40	3,693.68	0.30	-0.09	0.047
36.00	-33.36	-1.52	0.00	-140.07	0.00	140.07	4,220.97	1,037.90	4,110.77	3,603.58	0.36	-0.10	0.047
39.00	-33.12	-1.52	0.00	-135.51	0.00	135.51	4,179.57	1,022.28	3,988.00	3,513.97	0.42	-0.11	0.046
40.10	-32.43	-1.52	0.00	-133.82	0.00	133.82	4,164.16	1,016.53	3,943.28	3,481.12	0.45	-0.11	0.046
42.00	-31.35	-1.52	0.00	-130.94	0.00	130.94	4,137.49	1,006.66	3,867.09	3,424.88	0.49	-0.12	0.046
45.00	-31.03	-1.52	0.00	-126.39	0.00	126.39	4,094.73	991.04	3,748.05	3,336.33	0.57	-0.12	0.045
45.90	-30.63	-1.52	0.00	-125.02	0.00	125.02	3,345.43	862.67	3,312.91	2,772.86	0.59	-0.13	0.054
48.00	-30.25	-1.51	0.00	-121.84	0.00	121.84	3,324.15	853.29	3,241.28	2,724.99	0.65	-0.13	0.054
50.00	-29.99	-1.51	0.00	-118.81	0.00	118.81	3,303.59	844.36	3,173.84	2,679.55	0.71	-0.14	0.053
51.00	-29.43	-1.51	0.00	-117.30	0.00	117.30	3,293.20	839.90	3,140.39	2,656.86	0.73	-0.14	0.053
54.00	-28.88	-1.51	0.00	-112.76	0.00	112.76	3,261.57	826.51	3,041.08	2,589.00	0.83	-0.15	0.052
57.00	-28.34	-1.51	0.00	-108.24	0.00	108.24	3,229.26	813.12	2,943.38	2,521.44	0.93	-0.16	0.052
60.00	-27.80	-1.50	0.00	-103.72	0.00	103.72	3,196.28	799.73	2,847.27	2,454.19	1.04	-0.17	0.051
63.00	-27.14	-1.50	0.00	-99.21	0.00	99.21	3,162.62	786.34	2,752.76	2,387.28	1.15	-0.19	0.050
66.00	-26.61	-1.49	0.00	-94.73	0.00	94.73	3,128.28	772.95	2,659.84	2,320.75	1.27	-0.20	0.049
69.00	-26.09	-1.48	0.00	-90.25	0.00	90.25	3,093.27	759.56	2,568.51	2,254.62	1.39	-0.21	0.048
72.00	-25.58	-1.48	0.00	-85.80	0.00	85.80	3,057.58	746.17	2,478.79	2,188.92	1.53	-0.22	0.048
75.00	-25.08	-1.47	0.00	-81.37	0.00	81.37	3,021.22	732.78	2,390.65	2,123.66	1.67	-0.23	0.047
78.00	-24.64	-1.46	0.00	-76.96	0.00	76.96	2,984.18	719.39	2,304.12	2,058.89	1.81	-0.24	0.046
80.60	-24.54	-1.46	0.00	-73.16	0.00	73.16	2,951.54	707.79	2,230.44	2,003.18	1.95	-0.25	0.045
81.00	-24.00	-1.45	0.00	-72.58	0.00	72.58	2,946.46	706.00	2,219.17	1,994.61	1.97	-0.25	0.045
83.00	-23.67	-1.44	0.00	-69.68	0.00	69.68	2,920.94	697.07	2,163.43	1,952.06	2.07	-0.26	0.044
84.00	-23.31	-1.43	0.00	-68.24	0.00	68.24	2,908.96	692.61	2,135.83	1,931.47	2.13	-0.26	0.043
85.41	-23.08	-1.43	0.00	-66.22	0.00	66.22	2,288.86	584.09	1,822.48	1,541.02	2.20	-0.26	0.053
87.00	-22.65	-1.42	0.00	-63.95	0.00	63.95	2,274.94	578.16	1,785.69	1,515.96	2.29	-0.27	0.052
90.00	-22.23	-1.41	0.00	-59.70	0.00	59.70	2,248.22	567.00	1,717.45	1,468.96	2.47	-0.28	0.051
93.00	-19.12	-1.30	0.00	-55.48	0.00	55.48	2,220.81	555.84	1,650.54	1,422.23	2.65	-0.29	0.048
96.00	-18.72	-1.29	0.00	-51.58	0.00	51.58	2,192.74	544.68	1,584.96	1,375.78	2.84	-0.30	0.046
99.00	-18.32	-1.27	0.00	-47.72	0.00	47.72	2,163.98	533.53	1,520.71	1,329.64	3.03	-0.32	0.044
102.00	-17.92	-1.26	0.00	-43.89	0.00	43.89	2,134.56	522.37	1,457.78	1,283.85	3.23	-0.33	0.043
105.00	-17.58	-1.25	0.00	-40.11	0.00	40.11	2,104.45	511.21	1,396.19	1,238.42	3.44	-0.34	0.041
107.60	-17.40	-1.24	0.00	-36.86	0.00	36.86	2,077.81	501.54	1,343.89	1,199.37	3.63	-0.35	0.039
108.00	-17.01	-1.22	0.00	-36.37	0.00	36.37	2,073.67	500.05	1,335.93	1,193.39	3.66	-0.35	0.039
111.00	-16.64	-1.21	0.00	-32.69	0.00	32.69	2,042.21	488.89	1,277.00	1,148.77	3.88	-0.36	0.037
114.00	-16.27	-1.19	0.00	-29.07	0.00	29.07	2,006.48	477.73	1,219.39	1,102.63	4.11	-0.37	0.034
117.00	-15.90	-1.17	0.00	-25.49	0.00	25.49	1,959.62	466.58	1,163.12	1,051.43	4.34	-0.38	0.032

120.00	-15.77	-1.17	0.00	-21.97	0.00	21.97	1,912.75	455.42	1,108.17	1,001.46	4.58	-0.39	0.030
121.00	-15.66	-1.16	0.00	-20.80	0.00	20.80	1,897.13	451.70	1,090.15	985.07	4.66	-0.39	0.029
121.10	-15.65	-1.16	0.00	-20.69	0.00	20.69	1,895.57	451.33	1,088.36	983.44	4.67	-0.39	0.029
121.20	-15.63	-1.16	0.00	-20.57	0.00	20.57	1,894.01	450.95	1,086.57	981.81	4.68	-0.39	0.029
121.30	-15.53	-1.15	0.00	-20.46	0.00	20.46	1,892.45	450.58	1,084.78	980.18	4.69	-0.39	0.029
122.12	-15.38	-1.15	0.00	-19.51	0.00	19.51	1,879.60	447.52	1,070.10	966.84	4.75	-0.39	0.028
123.00	-12.74	-0.99	0.00	-18.50	0.00	18.50	1,865.89	444.26	1,054.56	952.70	4.83	-0.39	0.026
125.89	-12.73	-0.99	0.00	-15.65	0.00	15.65	929.68	265.41	627.12	474.96	5.07	-0.40	0.047
126.00	-12.44	-0.97	0.00	-15.54	0.00	15.54	929.29	265.16	625.91	474.31	5.08	-0.40	0.046
129.00	-12.16	-0.95	0.00	-12.63	0.00	12.63	918.88	258.46	594.71	457.06	5.33	-0.41	0.041
132.00	-12.07	-0.95	0.00	-9.77	0.00	9.77	907.79	251.77	564.31	439.76	5.59	-0.42	0.036
133.00	-8.74	-0.72	0.00	-8.82	0.00	8.82	903.95	249.54	554.35	433.99	5.68	-0.42	0.030
135.00	-8.49	-0.70	0.00	-7.39	0.00	7.39	896.03	245.07	534.70	422.43	5.86	-0.43	0.027
138.00	-8.32	-0.69	0.00	-5.30	0.00	5.30	883.59	238.38	505.89	405.10	6.13	-0.43	0.023
140.00	-4.75	-0.41	0.00	-3.92	0.00	3.92	874.92	233.92	487.13	393.55	6.31	-0.44	0.015
141.00	-4.67	-0.41	0.00	-3.51	0.00	3.51	870.48	231.68	477.88	387.78	6.40	-0.44	0.014
142.20	-4.47	-0.39	0.00	-3.03	0.00	3.03	865.04	229.01	466.90	380.87	6.51	-0.44	0.013
144.00	-4.33	-0.38	0.00	-2.32	0.00	2.32	856.69	224.99	450.67	370.52	6.68	-0.44	0.011
146.00	-4.23	-0.37	0.00	-1.57	0.00	1.57	847.12	220.53	432.97	359.05	6.86	-0.44	0.009
146.00	-4.23	-0.37	0.00	-1.57	0.00	1.57	920.33	276.10	376.25	378.52	6.86	-0.44	0.009
147.00	-4.03	-0.35	0.00	-1.20	0.00	1.20	920.33	276.10	376.25	378.52	6.95	-0.44	0.008
149.00	-1.01	-0.09	0.00	-0.49	0.00	0.49	920.33	276.10	376.25	378.52	7.14	-0.44	0.002
150.00	-0.78	-0.07	0.00	-0.40	0.00	0.40	920.33	276.10	376.25	378.52	7.23	-0.44	0.002
153.00	-0.63	-0.06	0.00	-0.18	0.00	0.18	920.33	276.10	376.25	378.52	7.51	-0.44	0.001
155.00	-0.12	-0.01	0.00	-0.06	0.00	0.06	920.33	276.10	376.25	378.52	7.70	-0.44	0.000
155.00	-0.12	-0.01	0.00	-0.06	0.00	0.06	70.80	21.24	6.13	6.17	7.70	-0.44	0.012
156.00	-0.09	-0.01	0.00	-0.05	0.00	0.05	70.80	21.24	6.13	6.17	7.79	-0.44	0.009
159.00	-0.05	-0.01	0.00	-0.03	0.00	0.03	70.80	21.24	6.13	6.17	8.07	-0.45	0.005
162.00	-0.04	0.00	0.00	-0.01	0.00	0.01	70.80	21.24	6.13	6.17	8.36	-0.46	0.002
164.10	0.00	0.00	0.00	0.00	0.00	0.00	70.80	21.24	6.13	6.17	8.56	-0.46	0.000
165.00	0.00	0.00	0.00	0.00	0.00	0.00	70.80	21.24	6.13	6.17	8.65	-0.46	0.000

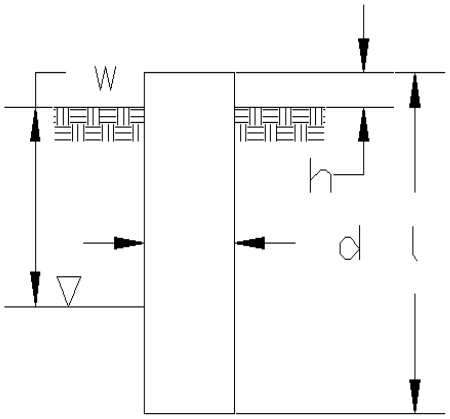
Analysis Summary

	Reactions						Max Usage	
Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	43.60	0.00	59.16	0.00	0.00	4530.52	0.00	0.98
0.9D + 1.0W	43.58	0.00	44.35	0.00	0.00	4442.87	0.00	0.95
1.2D + 1.0Di + 1.0Wi	8.46	0.00	94.14	0.00	0.00	1030.64	45.90	0.26
1.2D + 1.0Ev + 1.0Eh	1.48	0.00	60.05	0.00	0.00	199.58	45.90	0.06
0.9D - 1.0Ev + 1.0Eh	1.48	0.00	41.76	0.00	0.00	194.28	45.90	0.05
1.0D + 1.0W	10.08	0.00	49.35	0.00	0.00	1037.37	0.00	0.23

Site Name: Tolland, CT
Site Number: 302495
Tower Type: MP
Design Base Loads (Factored) - Analysis per TIA-222-H Standards

Pier Foundation Analysis

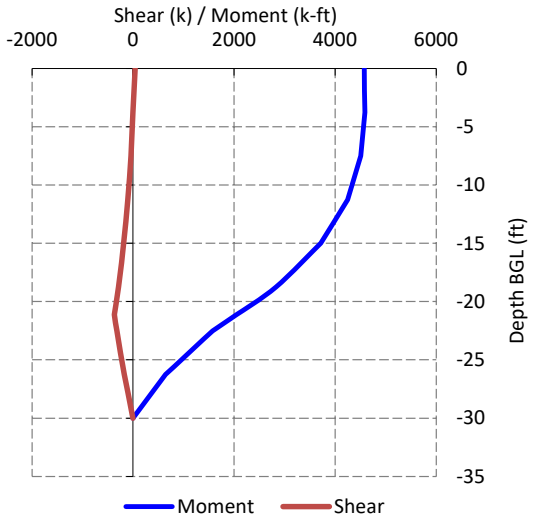
Foundation Analysis Parameters		
Analyze or Design a Foundation?	Analyze	-
Foundation Mapped:	N	-
Moment (M):	4,530.5	k-ft
Shear/Leg (V):	43.6	k
Axial Load (P):	59.2	k
Uplift/Leg (U):		k
Diameter of Caisson (d):	7	ft
Caisson Embedment (L-h):	30	ft
Caisson Height Above Ground (h):	1	ft
Depth Below Ground Surface to Water Table (w):	3	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Water:	62.4	pcf
Tension/Compression Skin Friction Factor:	1	-
Pullout Angle:	30	°



LPile

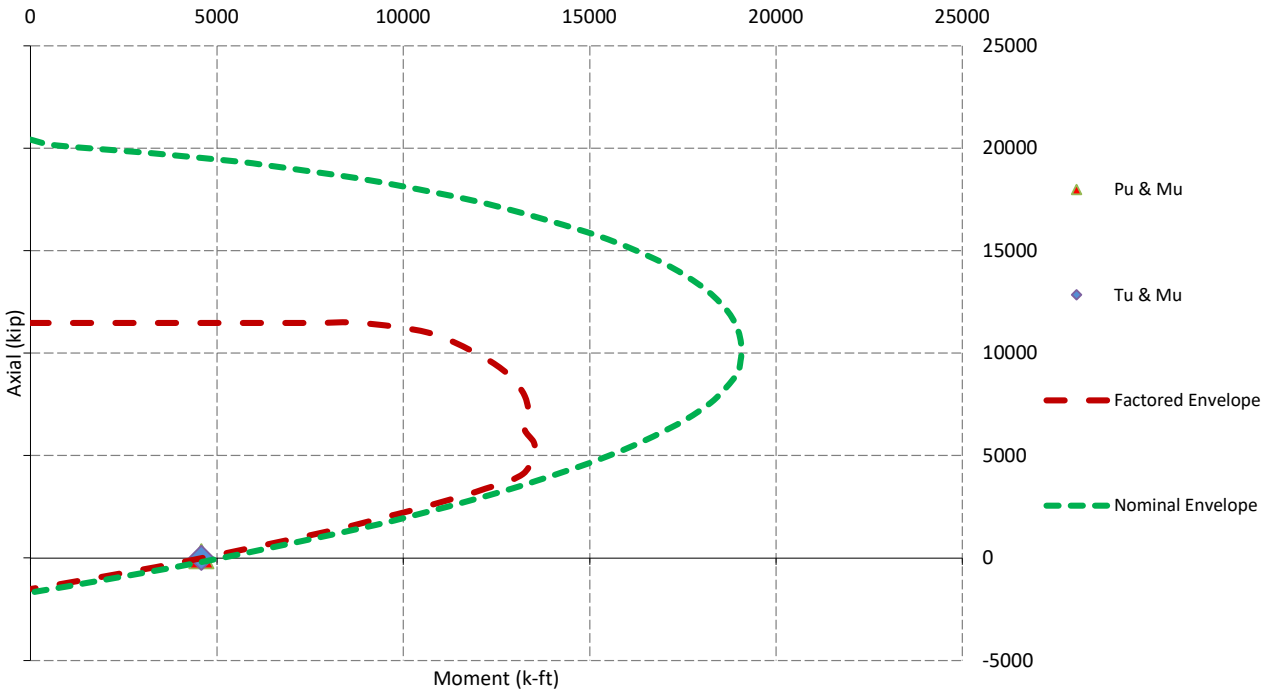
Depth (ft) Top	Depth (ft) Bottom	g_{Soil} (pcf)	Cu (psf)	ϕ (degree)	Ultimate Skin Friction (psf)	Ultimate Bearing Pressure (psf)
0	3	105	0	0	0	0
3	5	127	0	37	0	0
5	10	133	0	40	832	0
10	31	137	0	40	1,668	57,156

Soil Strength Capacities		
Required Embedment:	23.0	ft
Volume of Concrete:	1193.0	ft^3
Buoyant Weight of Concrete:	114.1	k
Average Soil Unit Weight:	76.3	pcf
Skin Friction Resistance:	825.1	k
Compressive Bearing Resistance:	2199.6	k
Pullout Weight (Minus Concrete Weight):	1155.1	k
Nominal Uplift Capacity per Leg (f_sT_n):	618.8	k
Nominal Compressive Capacity per Leg (f_sP_n):	2268.5	k
T_u:	0.00	k
T_u/f_sT_n:	0%	Pass
P_u:	83.5	k
P_u/f_sP_n:	4%	Pass
Total Lateral Resistance:	2862.3	k
Inflection Point (Below Ground Surface):	21.1	ft
Moment At Inflection Point (M_D):	5494.7	k-ft
Nominal Moment Capacity (f_sM_n):	12424.5	k-ft
f_s:	0.75	-
M_D/f_sM_n:	44%	Pass



Caisson Strength Capacities			
Concrete Compressive Strength (f'_c):	4,000	psi	
Vertical Steel Rebar Size #:	11	-	
Vertical Steel Rebar Area:	1.56	in^2	
# of Vertical Steel Rebars:	18	-	
Vertical Steel Rebar Yield Strength (F_y):	60	ksi	
Horizontal Tie / Stirrup Size #:	5	-	
Horizontal Tie / Stirrup Area:	0.31	in^2	
Vertical Rebar Clear Cover:	3	in	
Design Horizontal Tie / Stirrup Spacing:	12	in	
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	60	ksi	
Rebar Cage Diameter:	78.0	in	
Strength Bending/Tension Reduction Factor (f_B):	0.9	-	*ACI 318-14 - 21.2.1 [Table 21.2.1 (a)]*
Strength Shear Reduction Factor (f_V):	0.75	-	*ACI 318-14 - 21.2.1 [Table 21.2.1 (b)]*
Strength Compression Reduction Factor (f_C):	0.65	-	*ACI 318-14 - 21.2.1 [Table 21.2.1 (a)]*
Steel Elastic Modulus:	29000	ksi	
Design Moment (M_u):	4588.8	k-ft	
Nominal Moment Capacity ($f_B M_n$):	4824.4	k-ft	*ACI 318-14 - 9.5.2/22.3*
$M_u/f_B M_n$:	95%	Pass	
Design Shear (V_u):	369.1	k	
Nominal Shear Capacity ($f_V V_n$):	684.79	k	*ACI 318-14 - 22.5*
$V_u/f_V V_n$:	54%	Pass	
Design Tension (T_u):	0.0	k	
Nominal Tension Capacity ($f_T T_n$):	1516.3	k	
$T_u/f_T T_n$:	0%	Pass	
Design Compression (P_u):	83.5	k	
Nominal Compression Capacity ($f_P P_n$):	10624.3	k	*ACI 318-14 - 22.4*
$P_u/f_P P_n$:	1%	Pass	
Bending Reinforcement Ratio:	0.005	-	
$M_u/f_B M_n + T_u/f_T T_n$:	95%	Pass	*ACI 318-14 - 10.6.1 & TIA-222-H - 9.4.1*

Nominal and Factored Moment Capacity and Factored Design Loads



AMERICAN TOWER CORPORATION

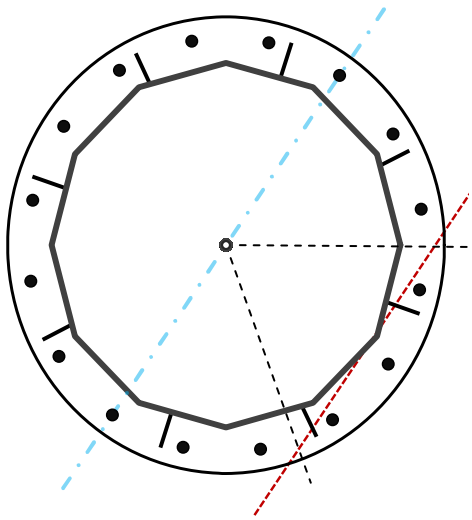
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	12	-
Diameter	50	in
Thickness	0.4375	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	4530.5	k-ft
Axial, Pu	59.2	k
Shear, Vu	43.6	k
Neutral Axis	235	°

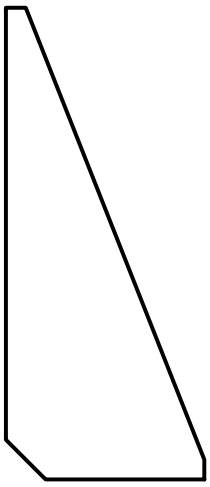
Report Capacities		
Component	Capacity	Result
Base Plate	56%	Pass
Anchor Rods	101%	Pass
Dwyidag	-	-

Base Plate		
Shape	Round	-
Diameter, ø	65	in
Thickness	2	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	N/A	in
Orientation Offset	0	°
Anchor Rod Detail	c	η=0.55
Clear Distance	N/A	in
Applied Moment, Mu	1285.0	k
Bending Stress, ϕMn	2304.2	k



Original Anchor Rods		
Arrangement	Radial	-
Quantity	16	-
Diameter, ø	2 1/4	in
Bolt Circle	59	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	11.6	in
Orientation Offset	10	°
Applied Force, Pu	243.6	k
Anchor Rods, ϕPn	243.6	k

Stiffeners		
Arrangement	Radial	-
Quantity	8	-
Height	12	in
Width	5	in
Effective Width	5.000	in
Thickness	3/4	in
Effective Thickness	0.360	in
Notch	1	in
Flat Edge	0.5	in
Grade	A36	-
Yield Strength, Fy	36	ksi
Tensile Strength, Fu	58	ksi
Horizontal Weld	Fillet	
Horizontal Fillet Size	5/16	in
Bevel Depth	0	in
Vertical Weld	Fillet	
Vertical Fillet Size	1/4	in
Weld Strength	70	ksi
Electrode Coefficient	1	-
Orientation Offset	3.75	°
Vertical Weld, ϕRn	133.9	k
Horz. Weld, ϕRn	73.9	k
Ten. Capacity, ϕTn	97.2	k
Comp. Capacity, ϕPn	141.2	k



Flange Plate Analysis

Flange Plate

Plate Type	***Flange***	***@ 146 ft***
Pole Diameter	16	in
Pole Thickness	0.5	in
Plate Diameter	28.5	in
Plate Thickness	1.5	in
Plate Fy	60	ksi
Weld Length	0.3125	in
f_s Resistance	127.23	k-in
Applied	13.77	k-in

Code Rev.	***H***
Moment	25.0 k-ft
Axial	5.3 k

Required Flange Thickness:
0.49 in OK

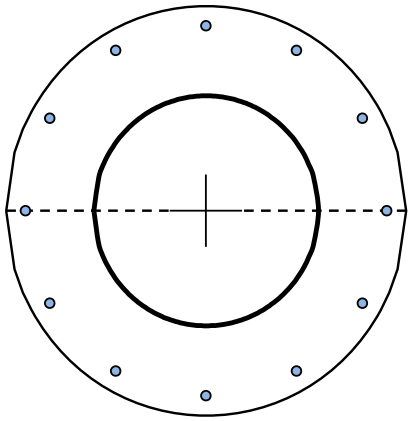
Date	7/8/2021
Engineer	DAVI
Site #	302495
Carrier	Verizon Wireless

Stiffeners

#	

Bolts

#	***12***	
Bolt Circle	25.75	in
(R)adial / (S)quare	R	
Bolt Gap	6	in
Diameter	1	in
Hole Diameter	1.125	in
Type	A325	
Fy	92	ksi
Fu	120	ksi
f_s Resistance	54.52	k
Applied	3.44	k



Reinforcement

#	

Plate Stress Ratio:

11%	Pass

Bolt Stress Ratio:

6%	Pass

Extra Bolts O

#	

Flange Plate Analysis

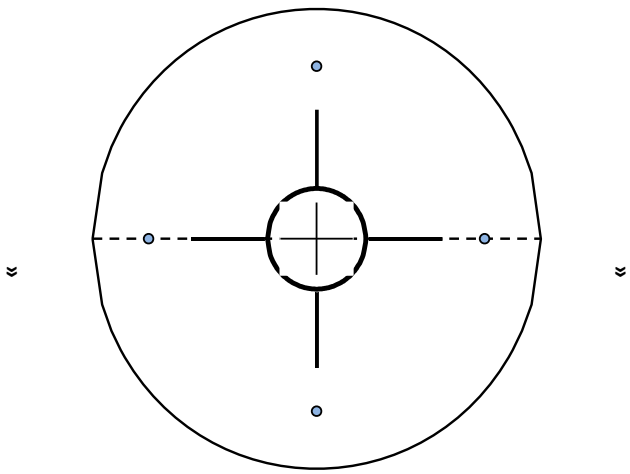
Flange Plate			
	Plate Type	***Flange***	***@ 155 ft***
	Pole Diameter	3.5	in
	Pole Thickness	0.218	in
	Plate Diameter	16	in
	Plate Thickness	0.75	in
	Plate Fy	36	ksi
	Weld Length	0.1875	in
	f_s Resistance	174.52	k-in
	Applied	3.24	k-in

Code Rev.	***H***		
Moment	0.9 k-ft		
Axial	0.2 k		

Date	7/8/2021
Engineer	DAVI
Site #	302495
Carrier	Verizon Wireless

Stiffeners			
	#	***4***	***Show***
	Thickness	0.5	in
	Length	3	in
	Height	6	in
	Chamfer	0.5	in
	Offset Angle	45	°
	Fy	36	ksi

Bolts			
	#	***4***	
	Bolt Circle	12	in
	(R)adial / (S)quare	R	
	Bolt Gap	6	in
•	Diameter	0.625	in
	Hole Diameter	0.75	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	f_s Resistance	20.34	k
	Applied	0.88	k



Reinforcement		
•	#	

Plate Stress Ratio:

2%	Pass

Bolt Stress Ratio:

4%	Pass

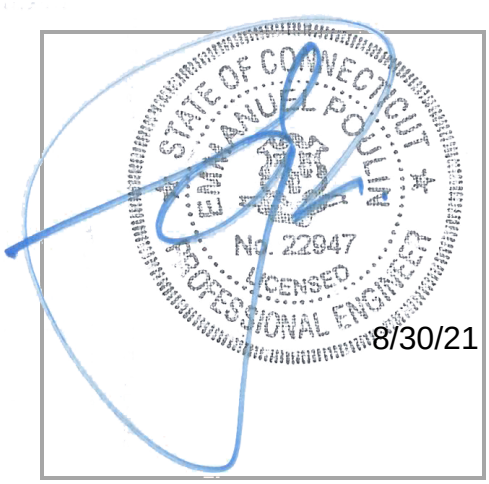
Extra Bolts O		
	#	

MOUNT ANALYSIS REPORT

August 30, 2021

Dish Wireless Site Name	BOBDL00015A
Dish Wireless Site Number	BOBDL00015A
ATC Site Name	Tolland CT, CT
ATC Site Number	302495
Infinigy Job Number	1197-F0001-B
Client	ATC
Carrier	Dish Wireless
Site Location	56 Ruops Road Tolland, CT 06084 Tolland County 41.873333 N NAD83 72.3383 W NAD83
Mount Type	8.0 ft Platform
Mount Elevation	93.0 ft AGL
Structural Usage Ratio	**41.4%**
Overall Result	**Pass**

The enclosed mount structural analysis has been performed in accordance with the 2018 Connecticut State Building Code (2015 IBC) based on an ultimate 3-second gust wind speed of 125 mph. The evaluation criteria and applicable codes are presented in the next section of this report.



CONTENTS

1. INTRODUCTION

Infinigy performed a structural analysis on the Dish Wireless proposed telecommunication equipment supporting Platform mounted to the existing structure located at the aforementioned address. All referenced supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using Risa-3D version 17.0.4 analysis software.

2. DESIGN/ANALYSIS PARAMETERS

Wind Speed	125 mph (3-Second Gust)
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 2" ice
Code / Standard	TIA-222-H
Adopted Code	2018 Connecticut State Building Code (2015 IBC)
Risk Category	II
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft.
Seismic Spectral Response	S_s = 0.175 g / S_1 = 0.064 g
Live Load Wind Speed	60 mph
Man Live Load at Mid/End Points	250 lbs
Man Live Load at Mount Pipes	500 lbs

3. PROPOSED LOADING CONFIGURATION - 93.0 ft. AGL Platform

Antenna Centerline (ft)	Qty.	Appurtenance Manufacturers	Appurtenance Models
93.0	3	JMA WIRELESS	MX08FRO665-21
	3	FUJITSU	TA08025-B605
	3	FUJITSU	TA08025-B604
	1	RAYCAP	RDIDC-9181-PF-48

4. SUPPORTING DOCUMENTATION

Proposed Loading	Dish Wireless Asset ID CT-ATC-T-302495 Rev 2, Site #BOBDL00015A, dated July 09, 2021
Mount Manufacturer Drawings	Commscope Document # MC-PK8-DSH, dated March 08, 2021
Structural Analysis Report	ATC, Asset #302495, dated July 8, 2021

5. RESULTS

Components	Capacity	Pass/Fail
Mount Pipes	17.8%	Pass
Horizontals	10.7%	Pass
Standoffs	31.8%	Pass
Handrails	21.3%	Pass
Connections	41.4%	Pass
MOUNT RATING =	**41.4%**	**Pass**

Notes:

1. See additional documentation in Appendix for calculations supporting the capacity consumed and detailed mount connection calculations.

6. RECOMMENDATIONS

Infinigy recommends installing Dish Wireless's proposed equipment loading configuration on the mount at 93.0 ft. The installation shall be performed in accordance with the construction documents issued for this site.

Binita Yadav
Project Engineer I | **INFINIGY**

7. ASSUMPTIONS

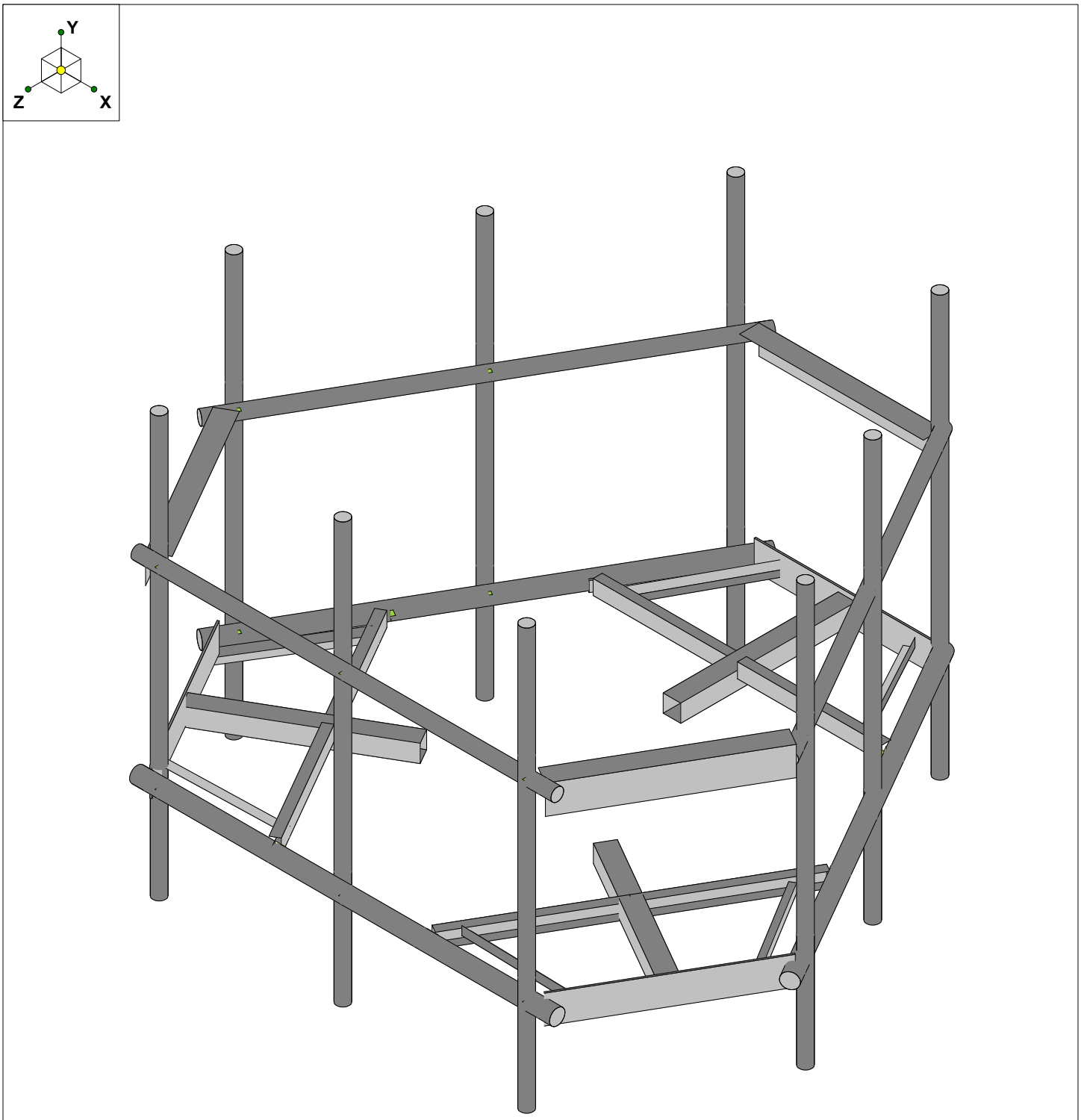
The antenna mounting system was properly fabricated, installed and maintained in accordance with its original design and manufacturer's specifications.
The configuration of antennas, mounts, and other appurtenances are as specified in the proposed loading configuration table.
All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
The analysis will require revisions 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.
Steel grades have been assumed as follows, unless noted otherwise: Channel, Solid Round, Plate, Built-up Angle — ASTM A1011 36 KSI Structural Angle — ASTM A529 Gr. 50 HSS (Rectangular) — ASTM A500-B GR 46 HSS (Circular) — ASTM A500-B GR 42 Pipe — ASTM A500 Gr C Connection Bolts — ASTM A325 U-Bolts — ASTM A307
All bolted connections are pretensioned in accordance with Table 8.2 of the RCSC 2014 Standard

8. LIABILITY WAIVER AND LIMITATIONS

Our structural calculations are completed assuming all information provided to Infinigy is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition as erected and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report, Infinigy should be notified immediately to assess the impact on the results of this report.

Our evaluation is completed using industry standard methods and procedures. The structural results, conclusions and recommendations contained in this report are proprietary and should not be used by others as their own. Infinigy is not responsible for decisions made by others that are or are not based on the stated assumptions and conclusions in this report.

This report is an evaluation of the mount structure only and does not determine the adequacy of the supporting structure, other carrier mounts or cable mounting attachments. The analysis of these elements is outside the scope of this analysis, are assumed to be adequate for the purpose of this report and to have been installed per their manufacturer requirements. This document is not for construction purposes.



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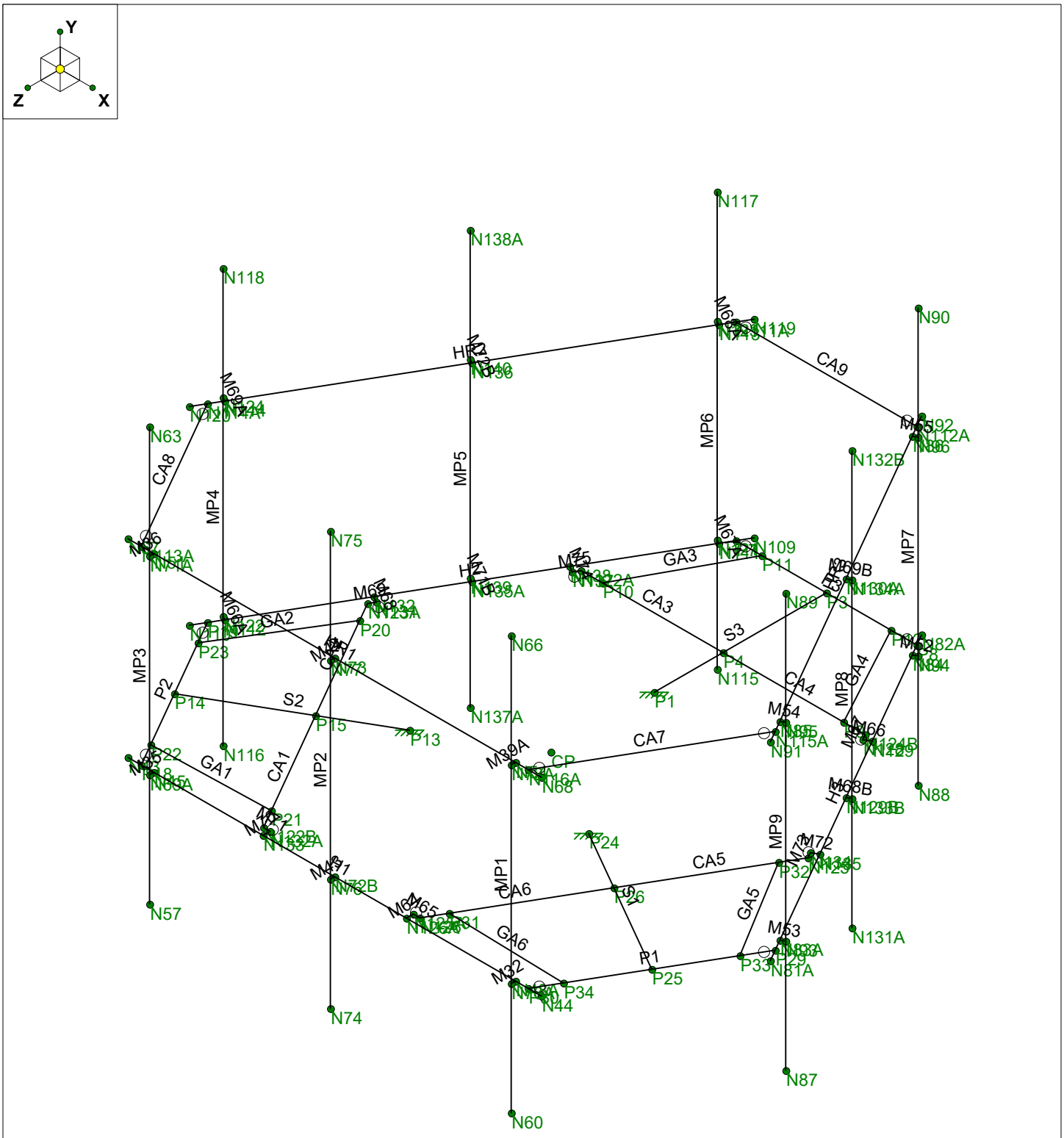

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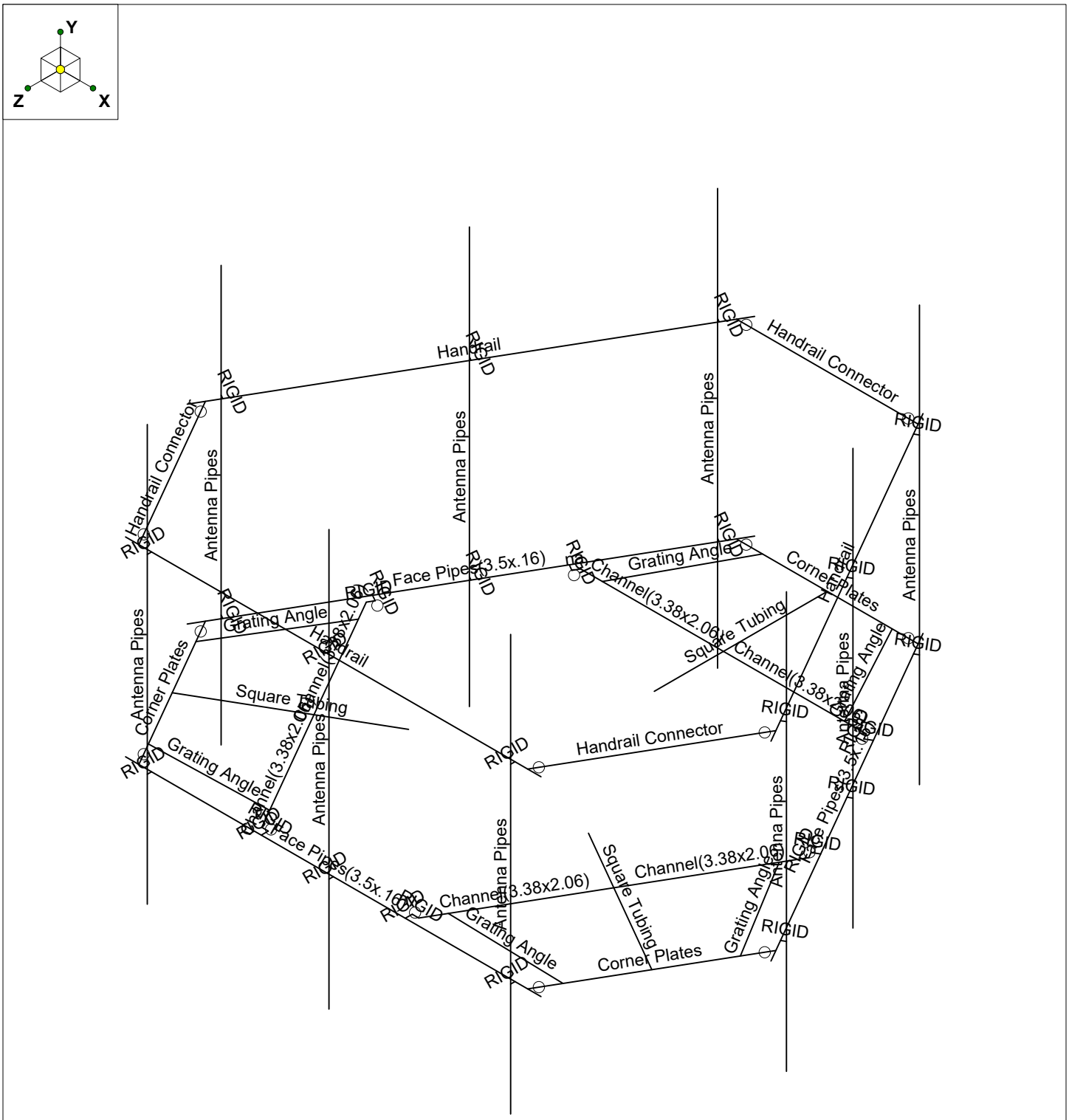

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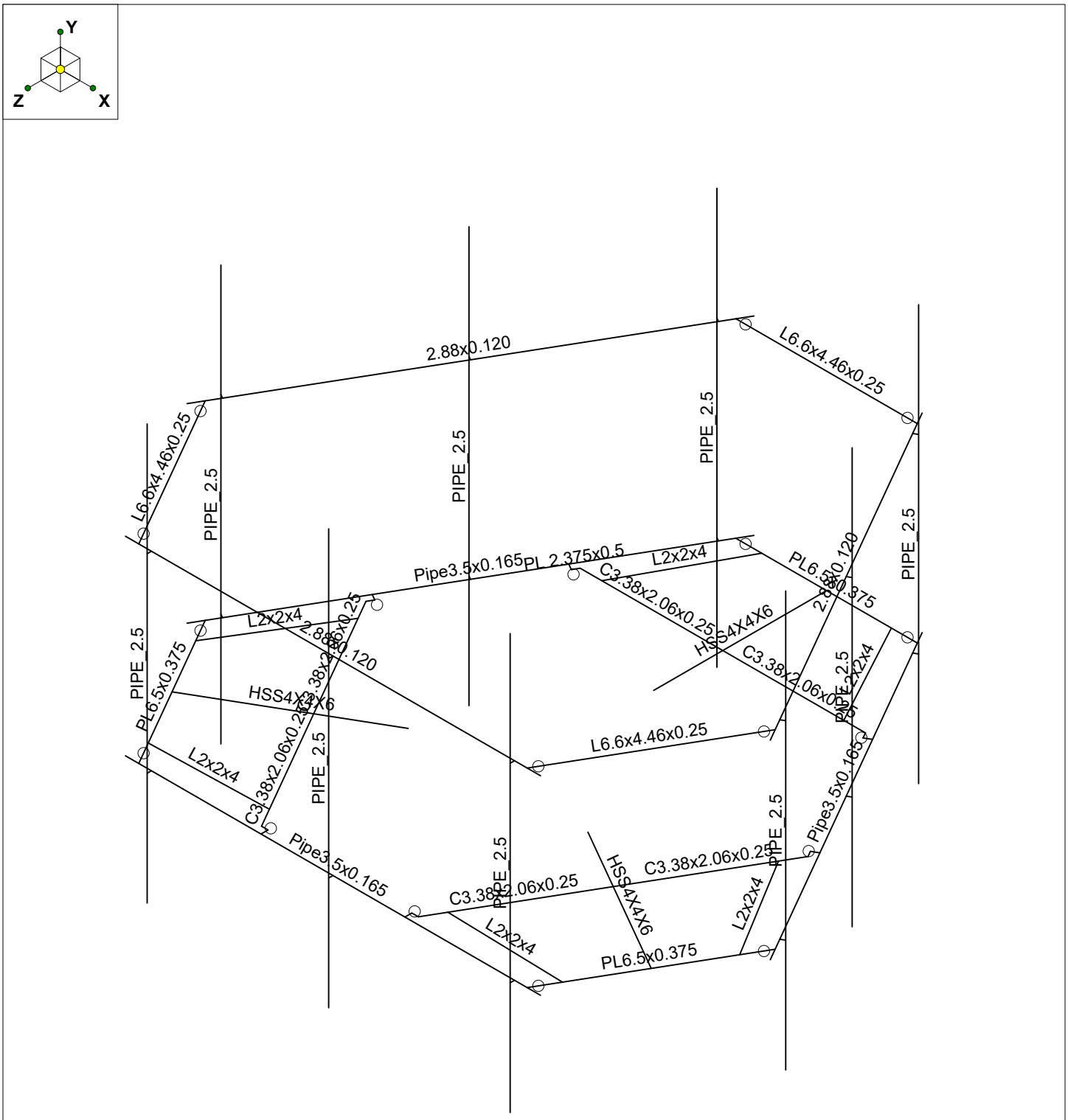

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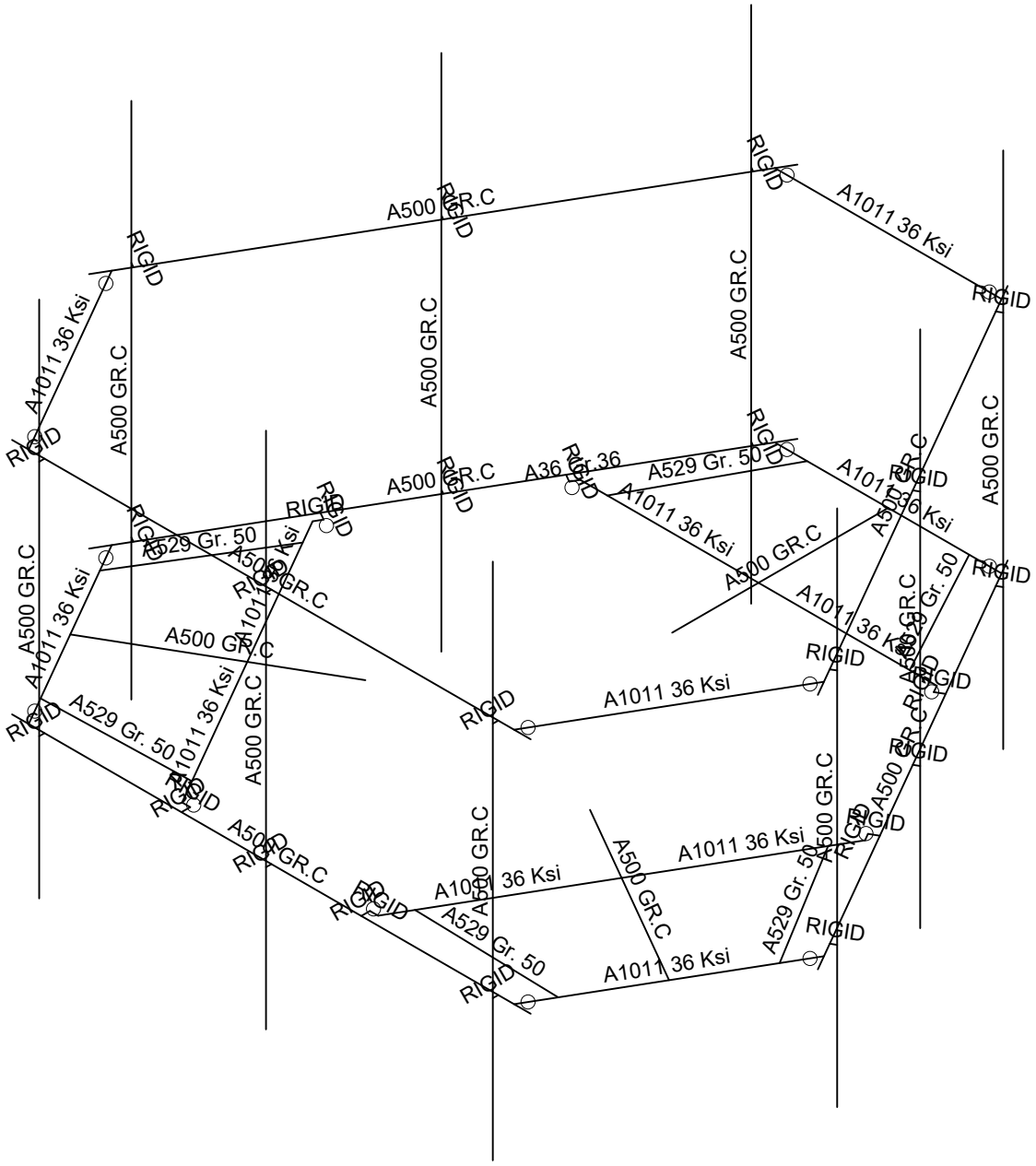

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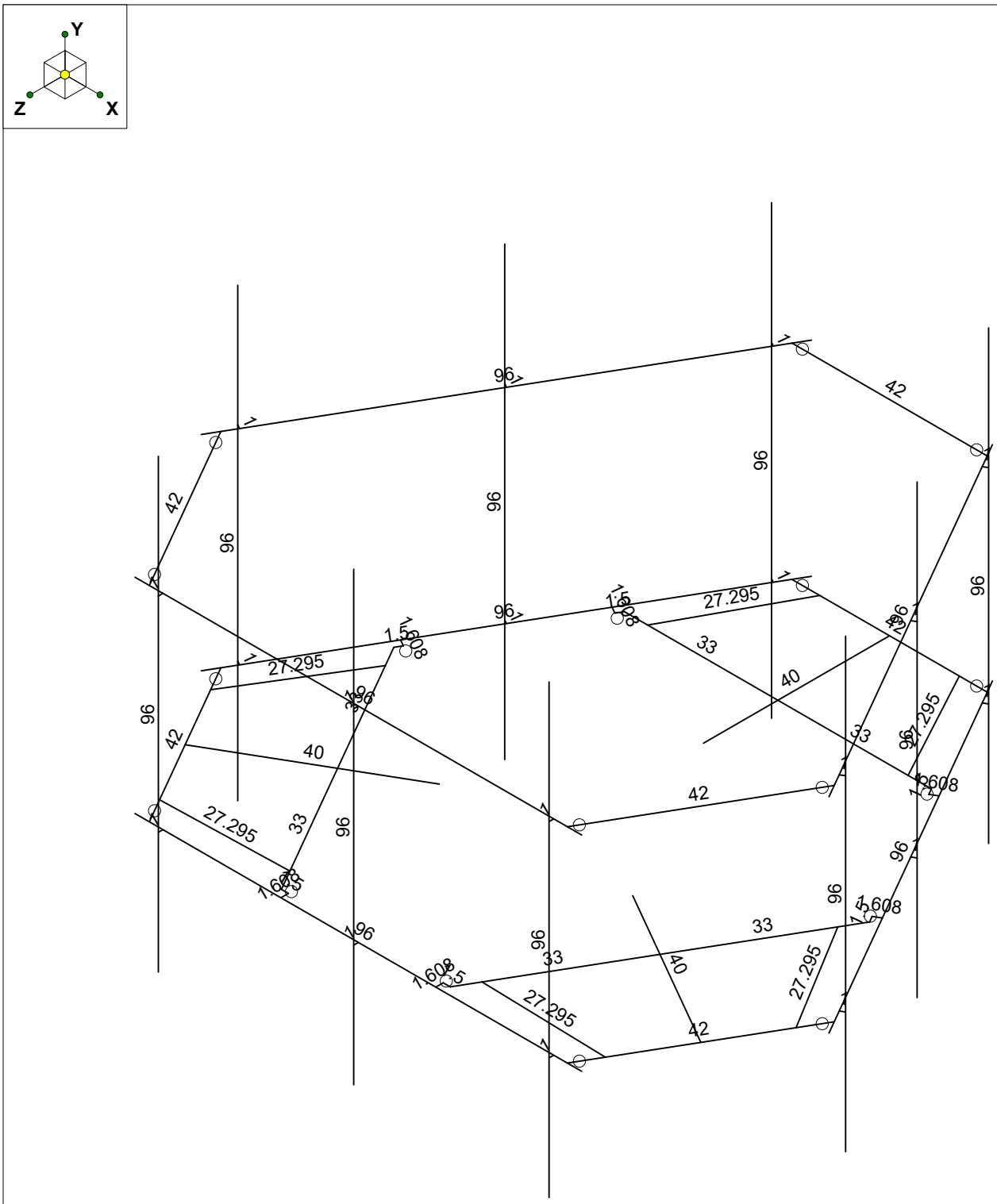
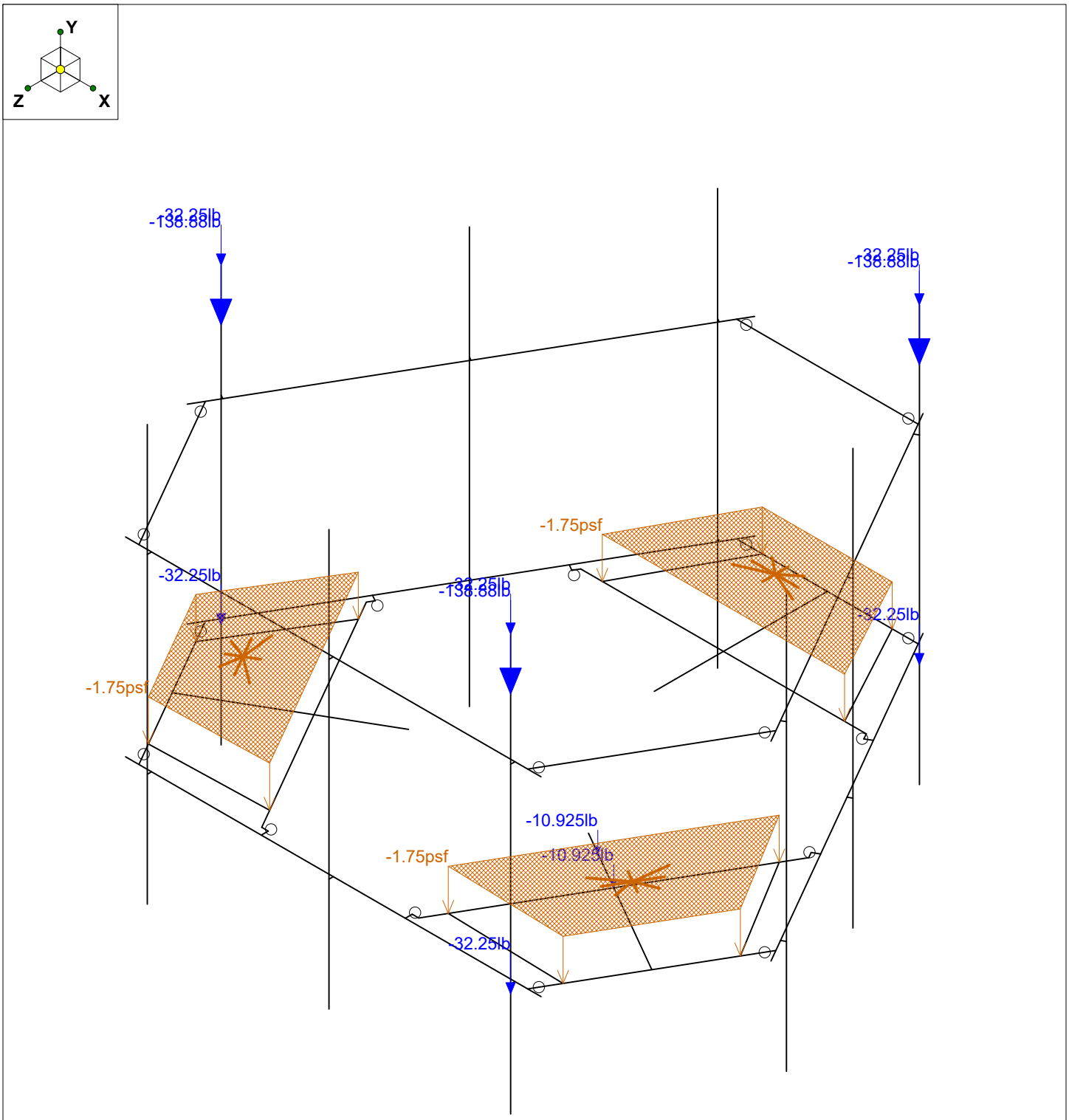


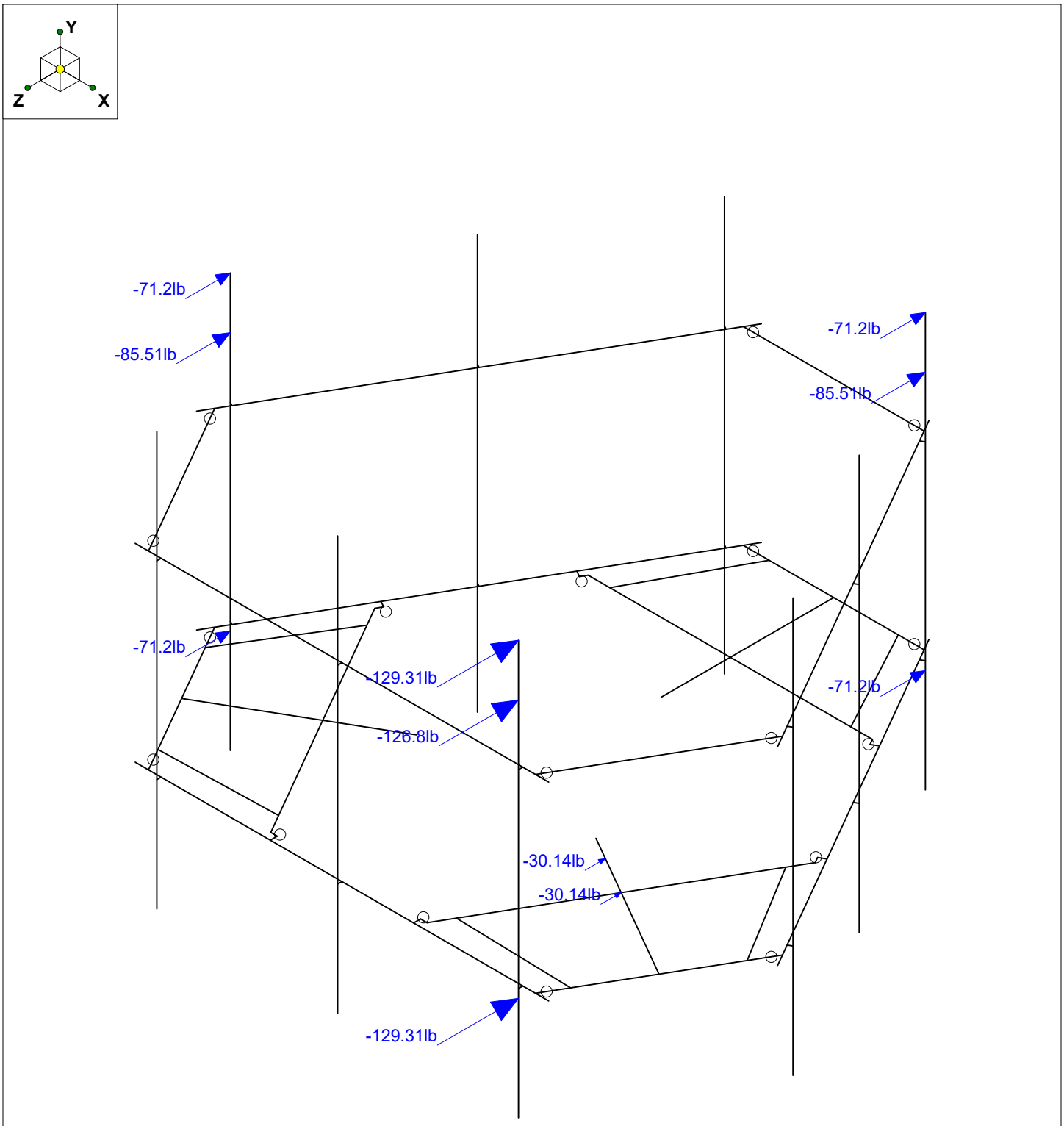
Member Length (in) Displayed
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Member Length
BY		Aug 30, 2021 at 11:14 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



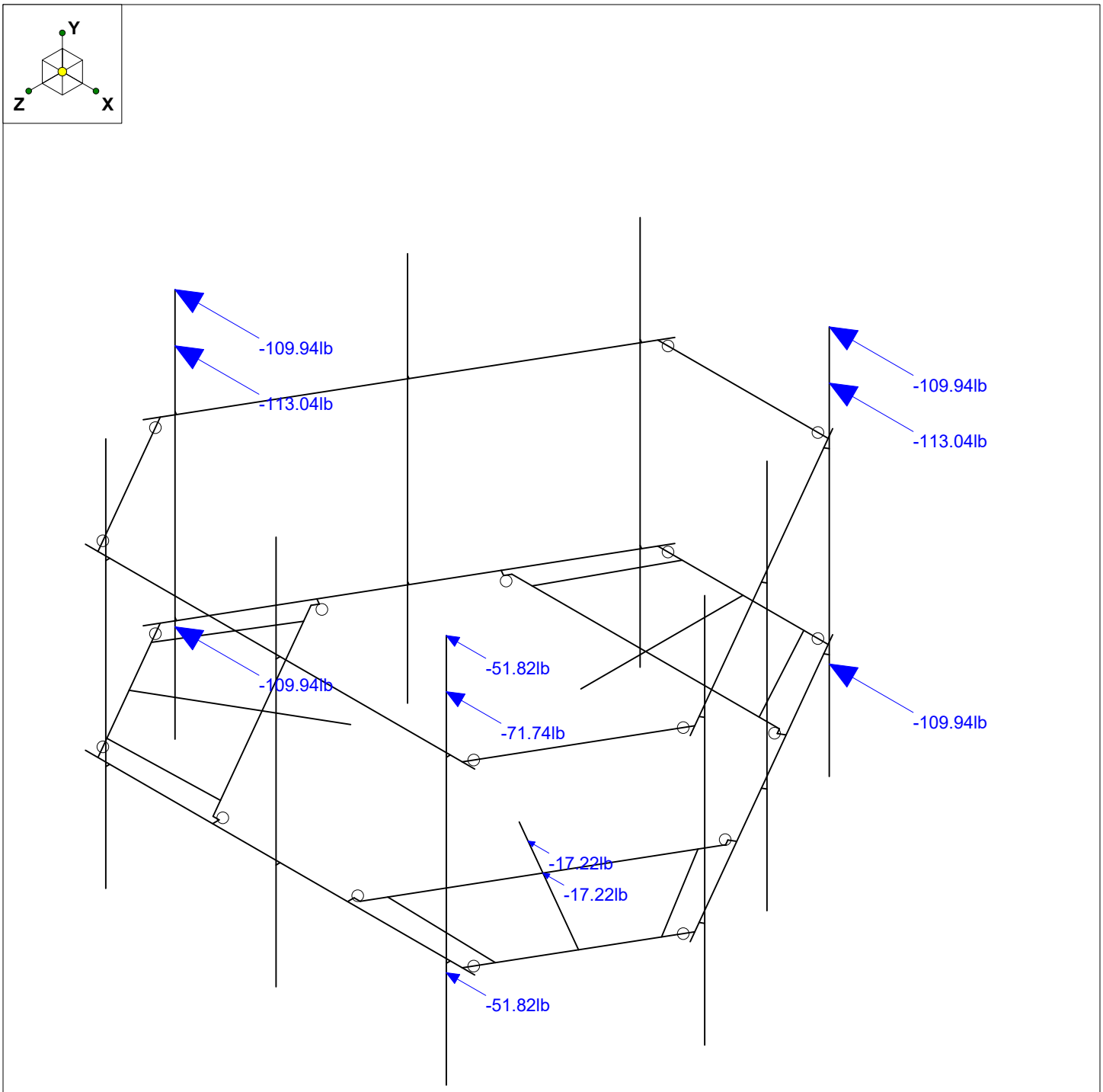
Loads: BLC 1, Self Weight
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Self-Weight
BY		Aug 30, 2021 at 11:24 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



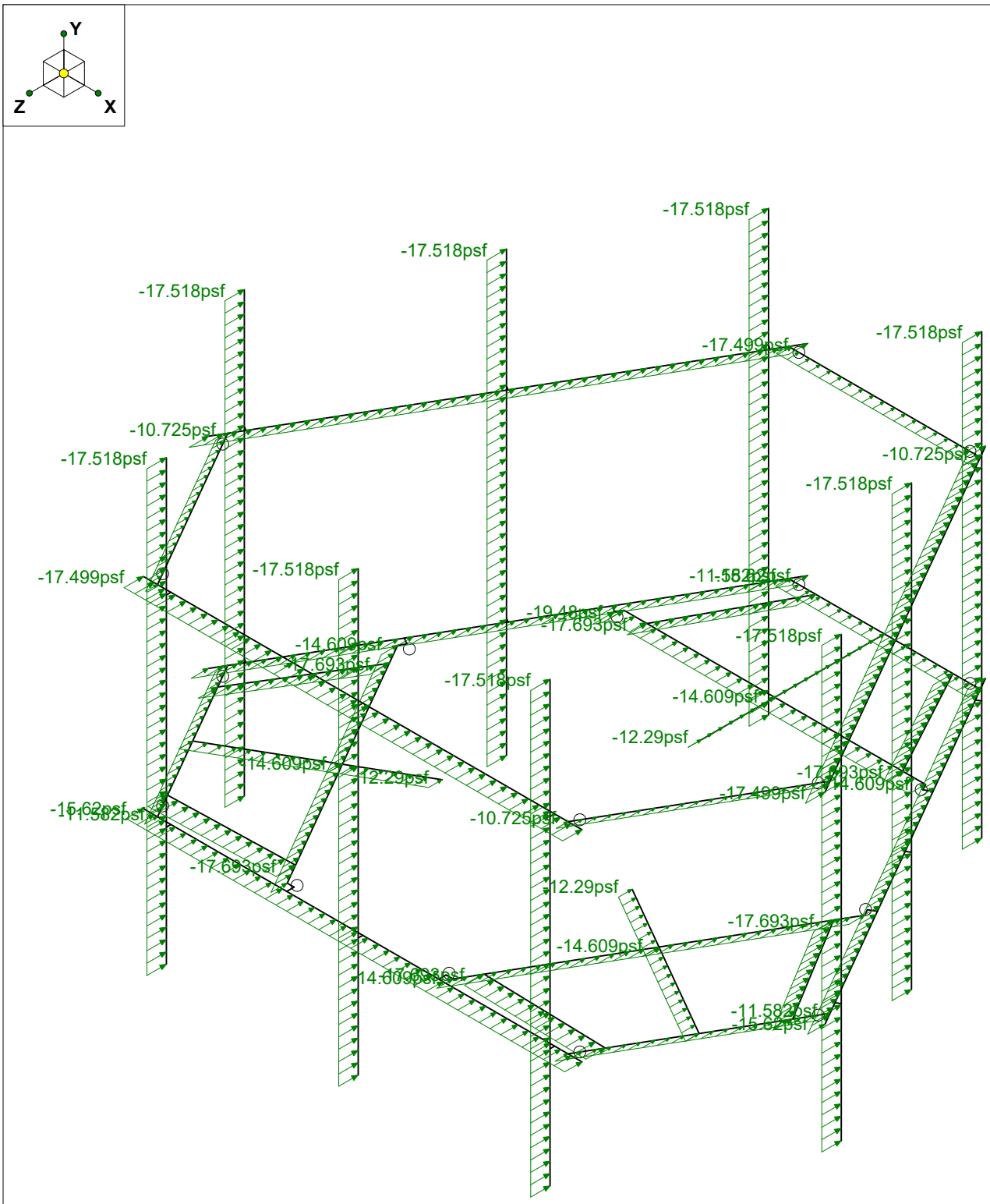
Loads: BLC 2, Wind Load AZI 0
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Wind Load AZI 000
BY		Aug 30, 2021 at 11:25 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



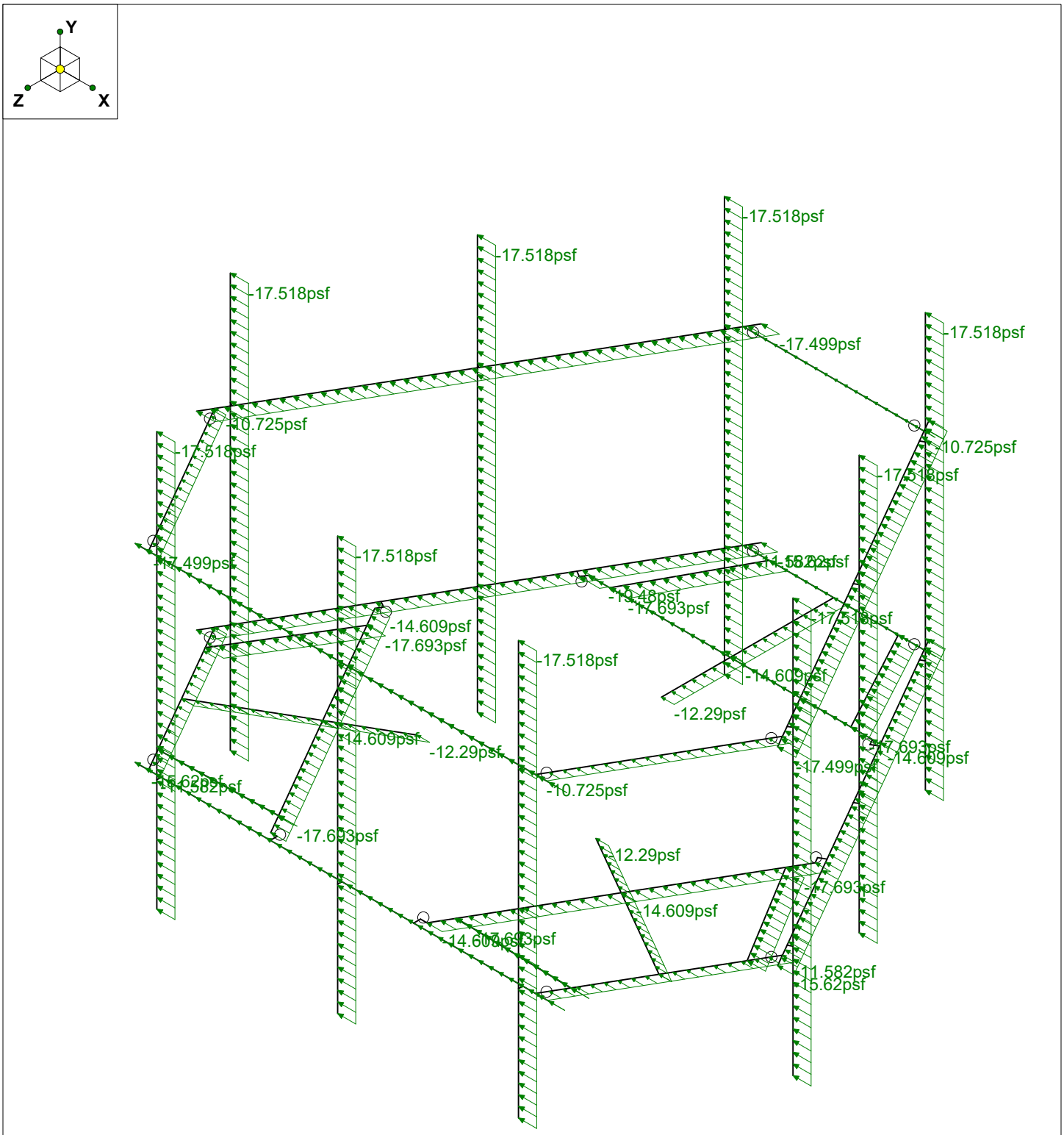
Loads: BLC 5, Wind Load AZI 90
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Wind Load AZI 090
BY		Aug 30, 2021 at 11:28 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



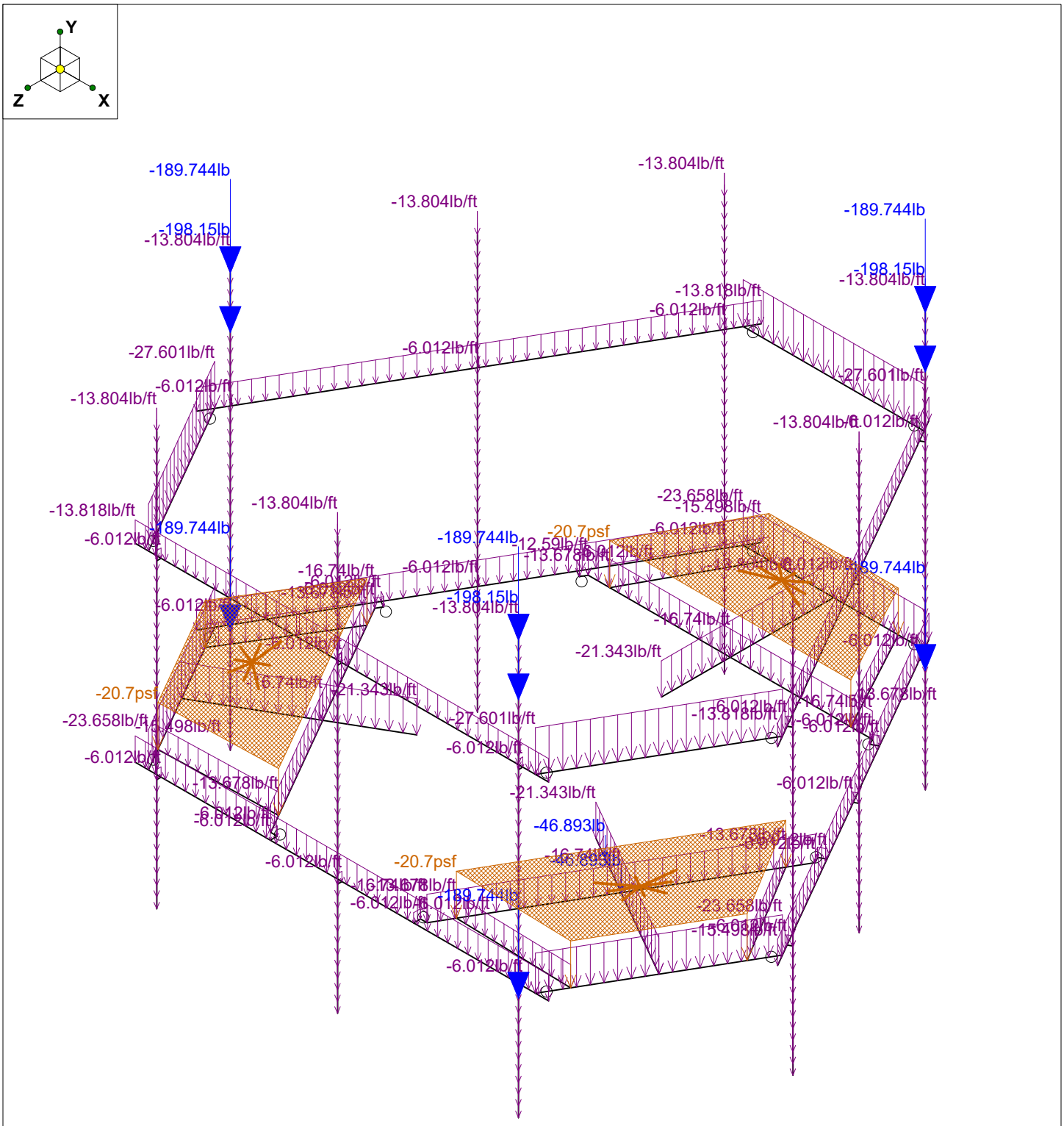
Loads: BLC 29, Distr. Ice Wind Load Z
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Distr.Wind Load AZI 000
BY		Aug 30, 2021 at 11:34 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



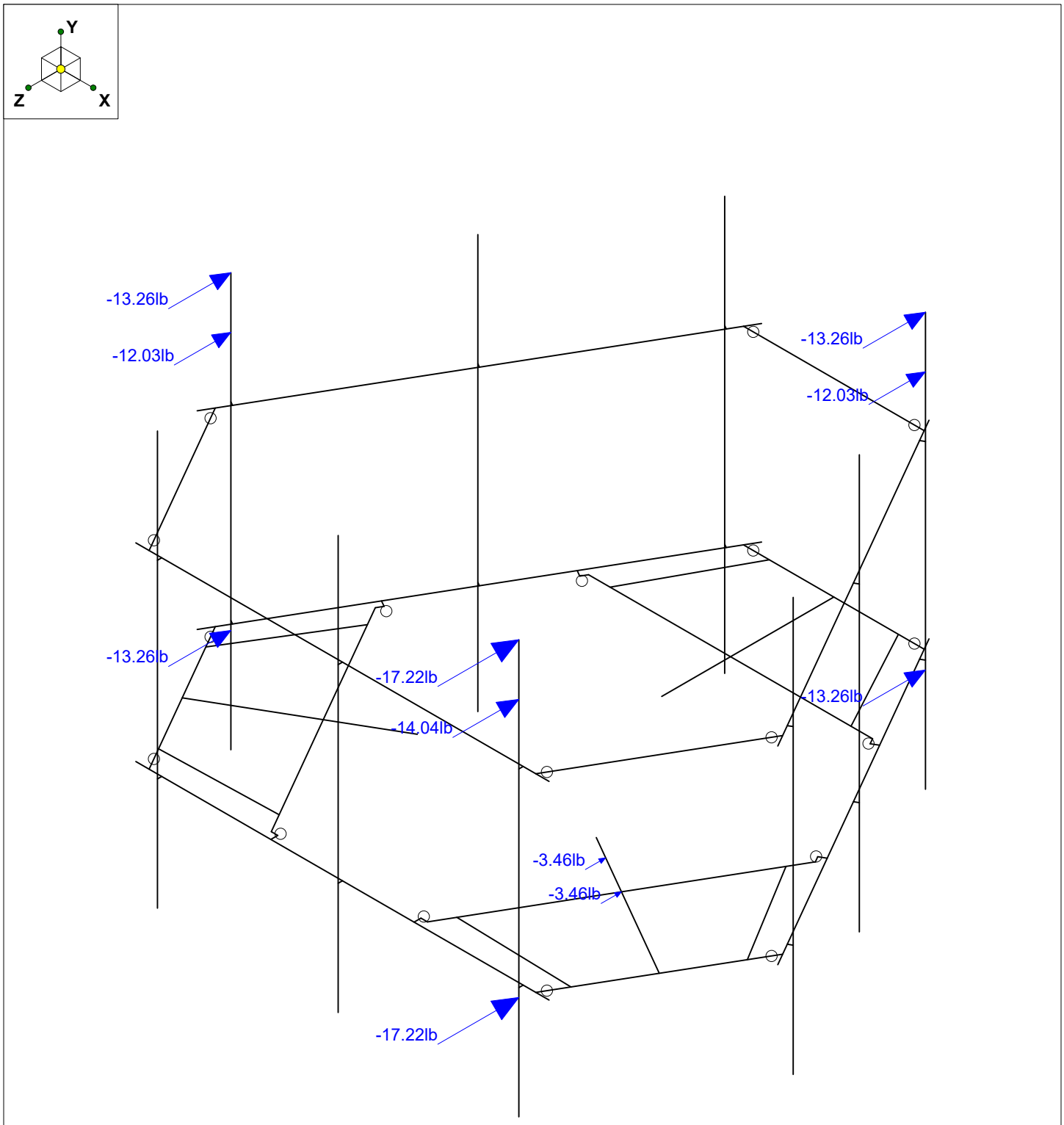
Loads: BLC 30, Distr. Ice Wind Load X
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Distr.Wind Load AZI 090
BY		Aug 30, 2021 at 11:34 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



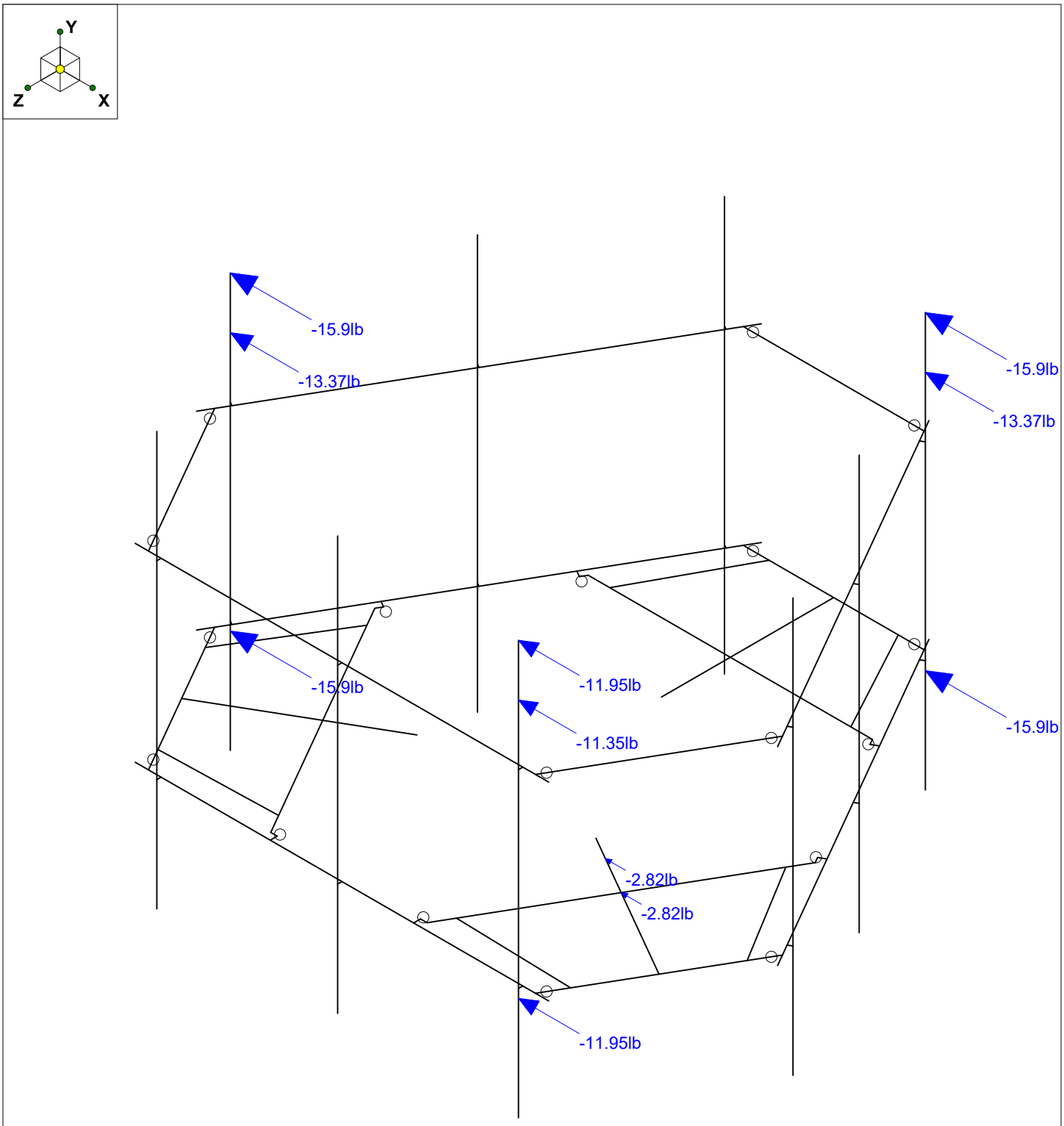
Loads: BLC 16, Ice Weight
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Ice Weight
BY		Aug 30, 2021 at 11:40 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



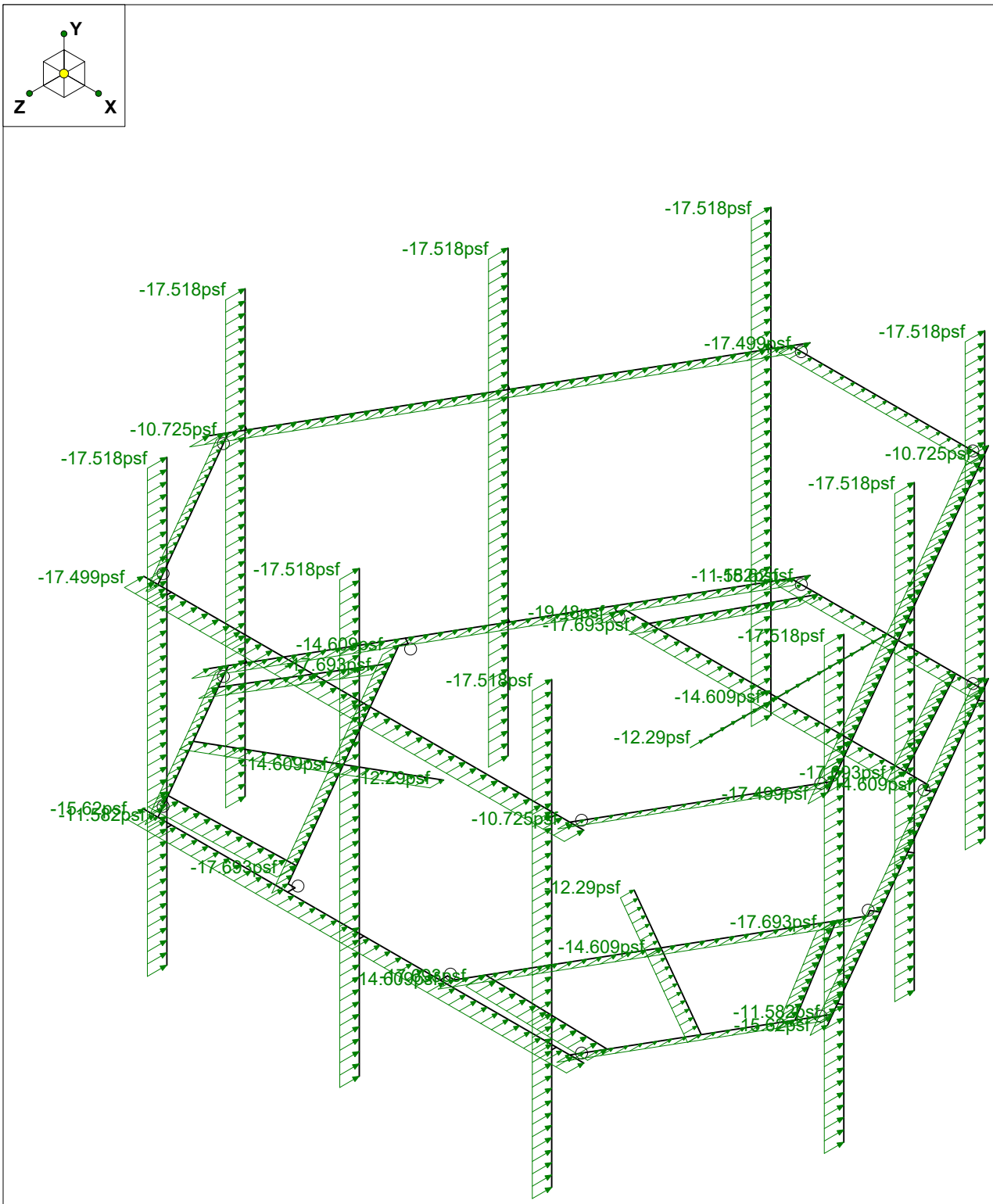
Loads: BLC 17, Ice Wind Load AZI 0
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Ice Wind Load AZI 000
BY		Aug 30, 2021 at 11:41 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



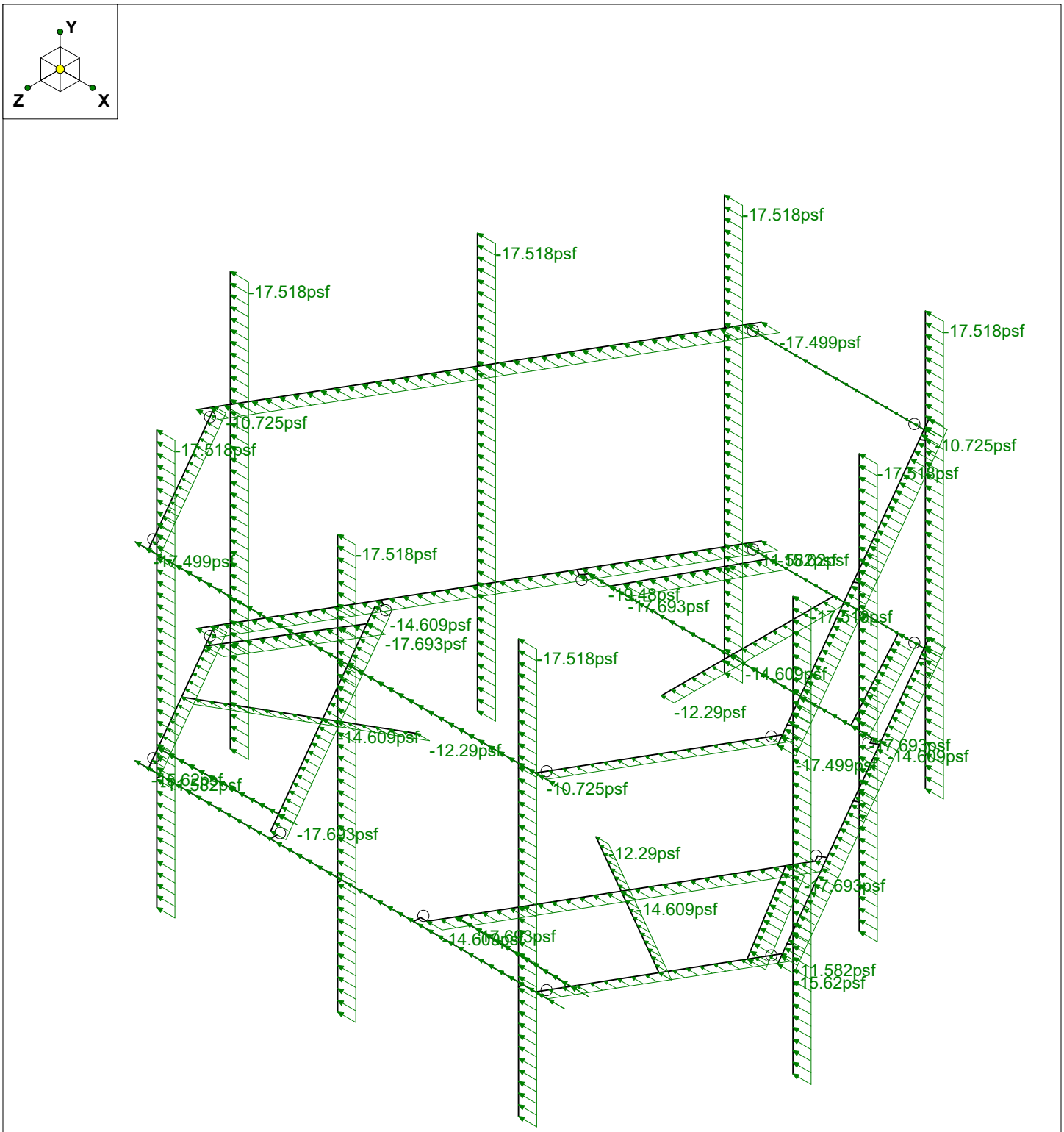
Loads: BLC 20, Ice Wind Load AZI 90
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Ice Wind Load AZI 090
BY		Aug 30, 2021 at 11:41 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



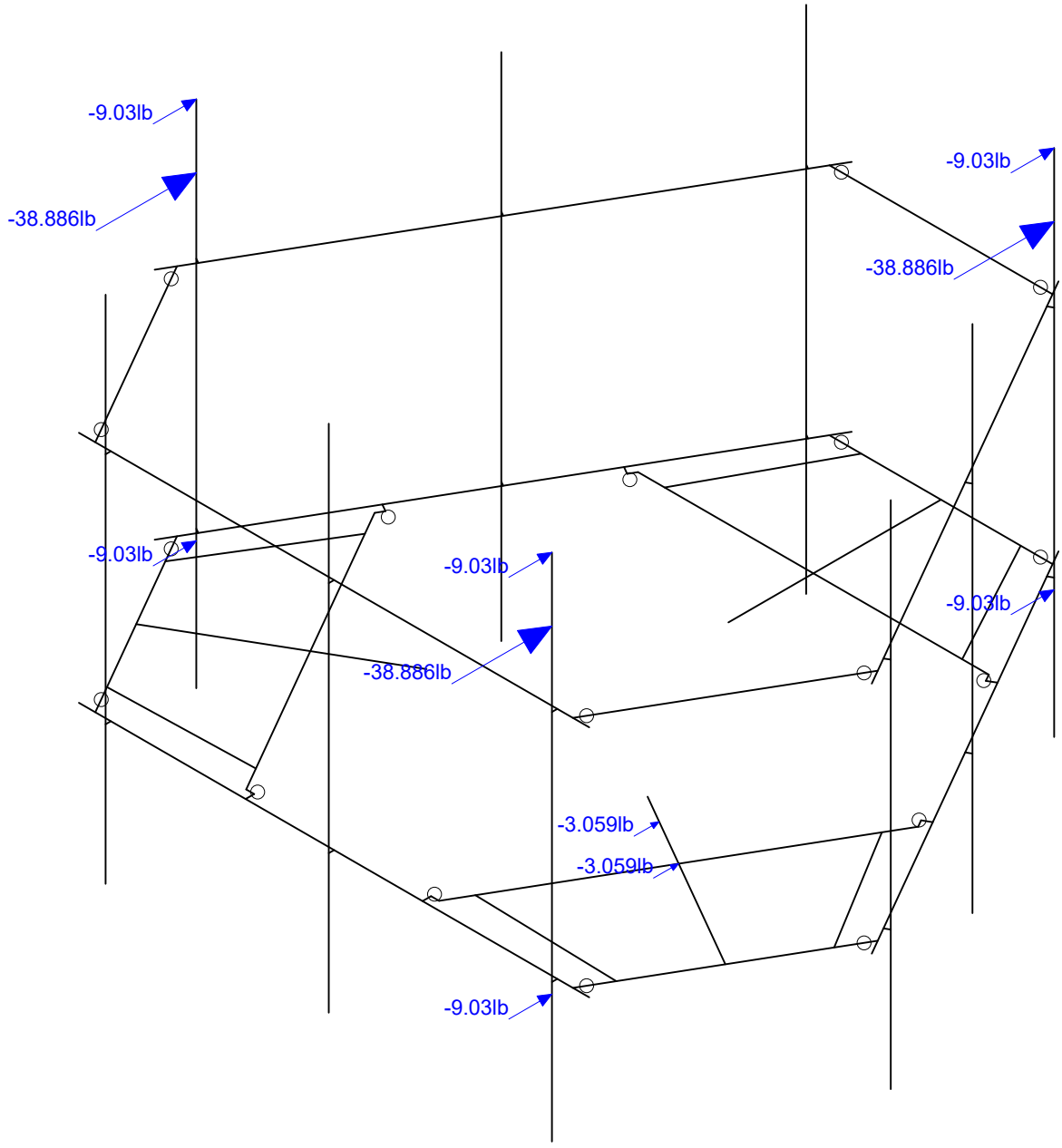
Loads: BLC 29, Distr. Ice Wind Load Z
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Distr.Ice Wind Load AZI000
BY		Aug 30, 2021 at 11:43 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



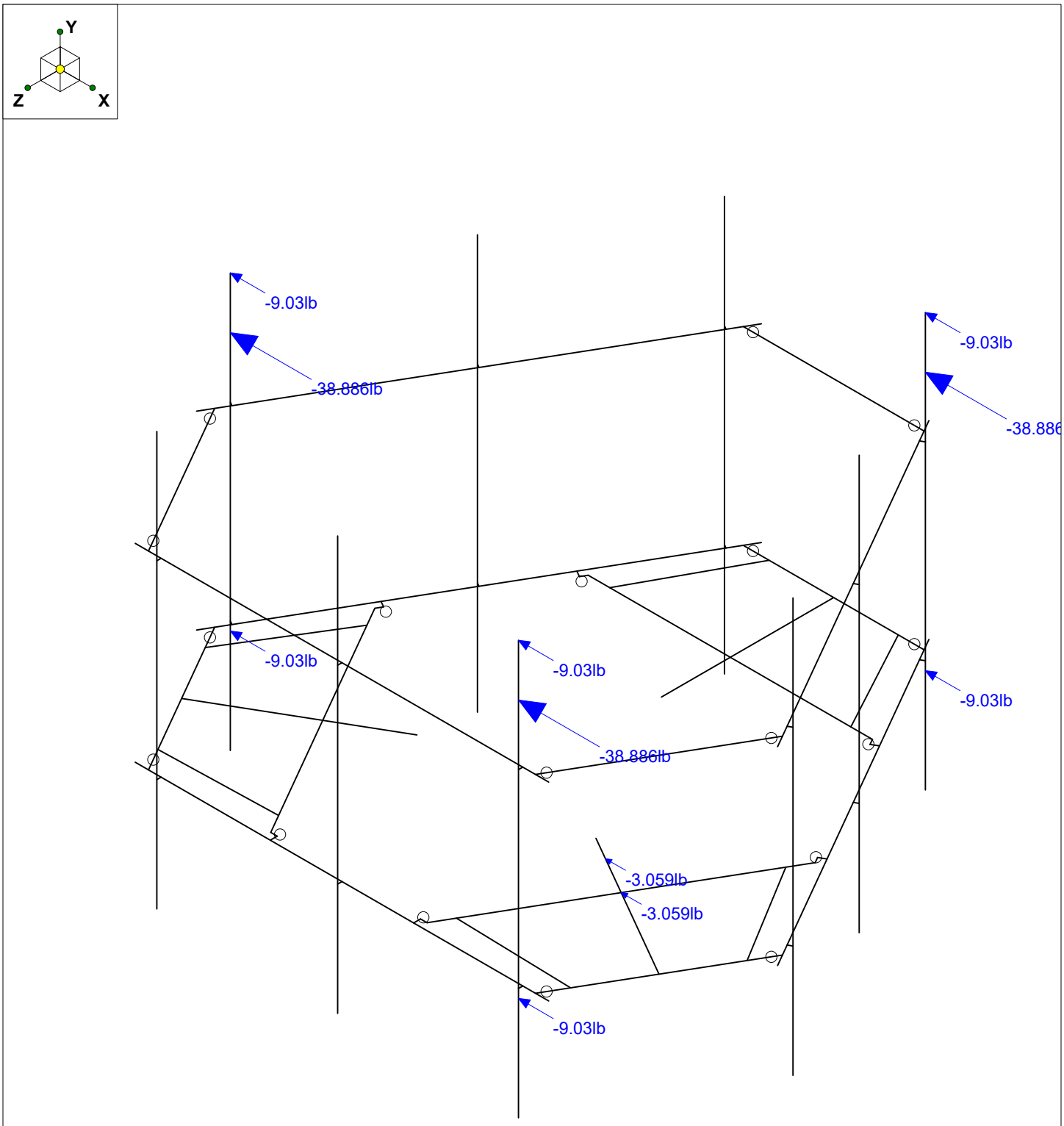
Loads: BLC 30, Distr. Ice Wind Load X
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Distr.Ice Wind Load AZI090
BY		Aug 30, 2021 at 11:44 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



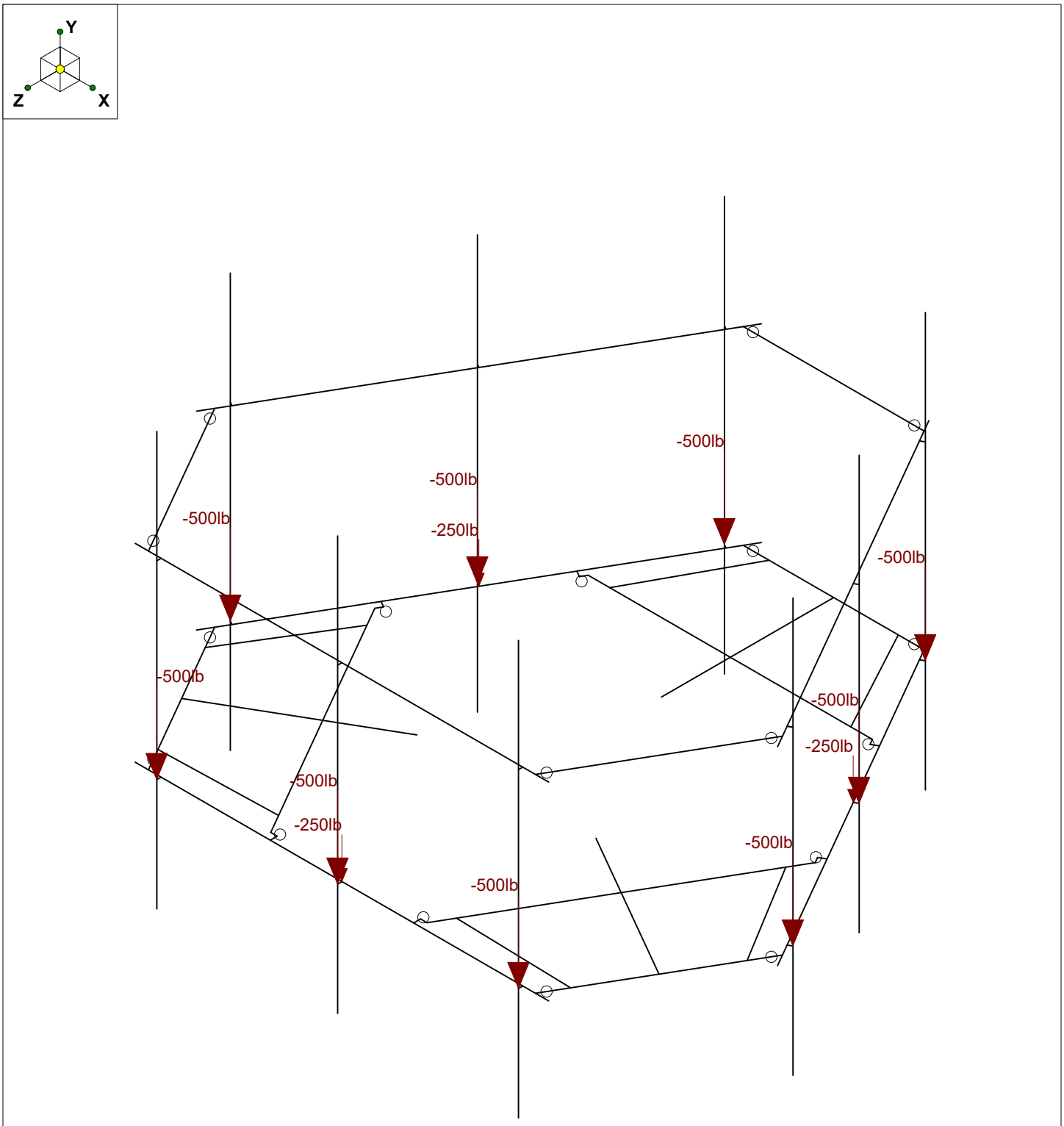
Loads: BLC 31, Seismic Load Z
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Seismic Load AZI 000
BY		Aug 30, 2021 at 11:45 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



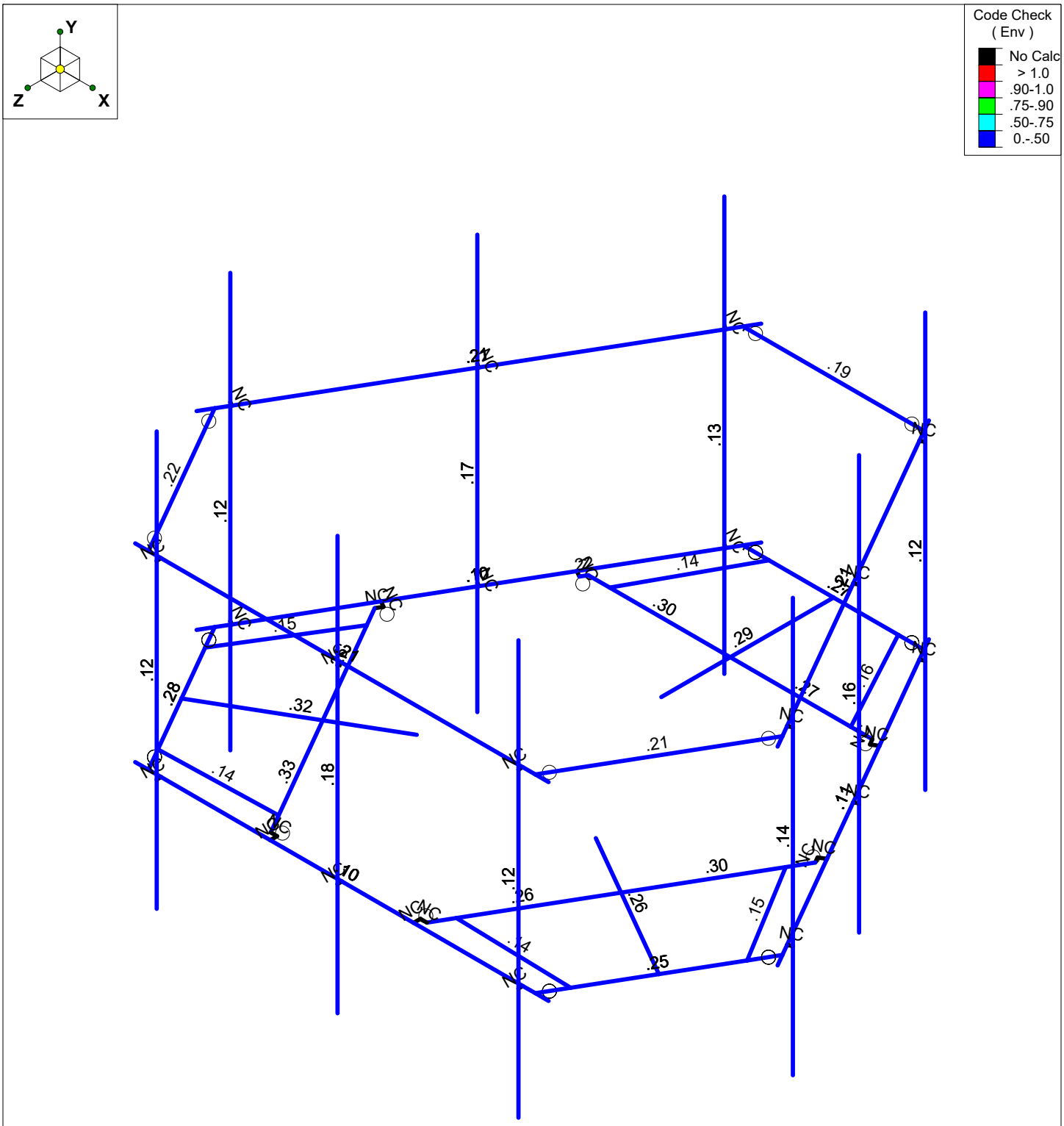
Loads: BLC 32, Seismic Load X
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Seismic Load AZI 090
BY		Aug 30, 2021 at 11:45 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



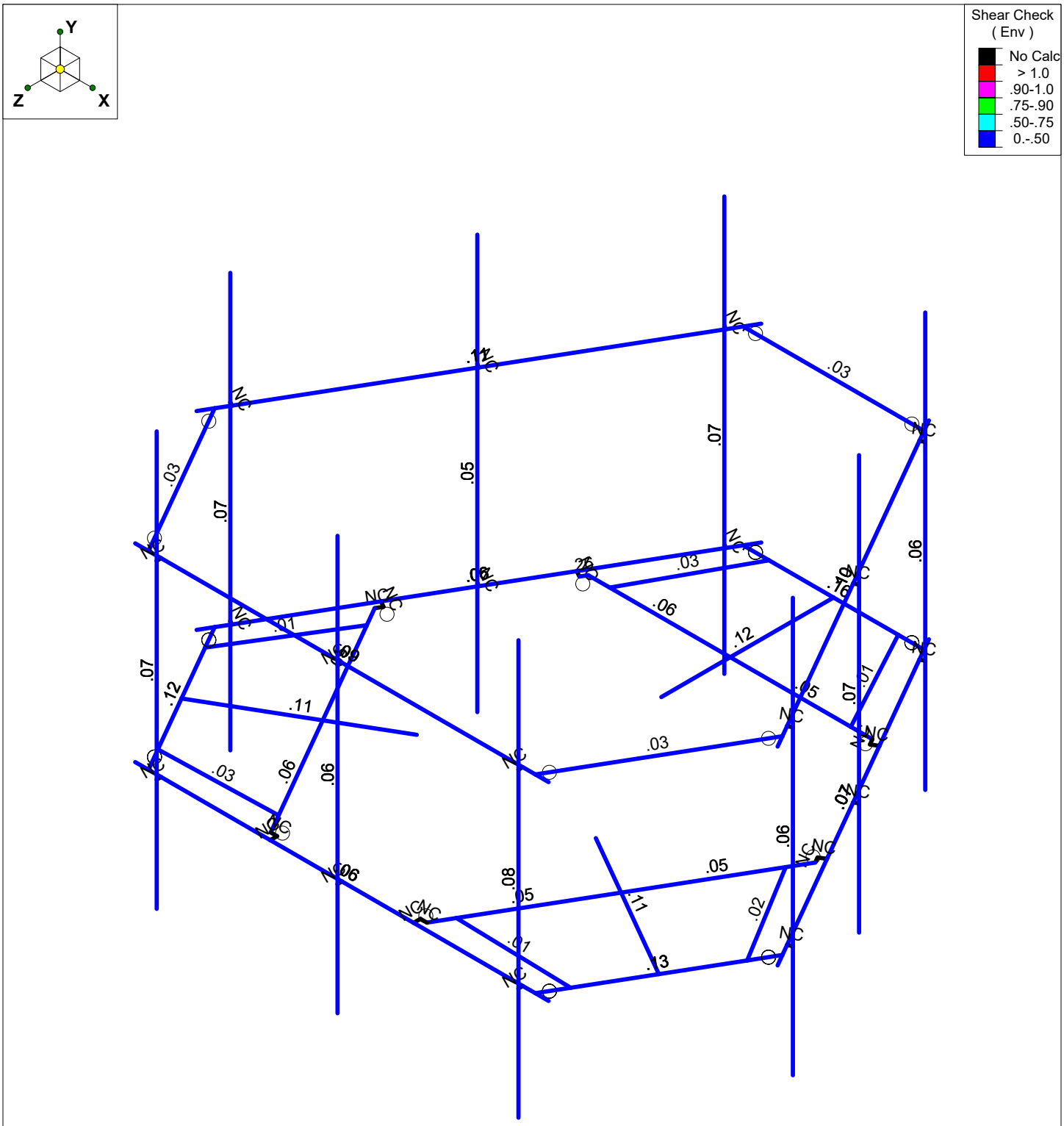
Loads: LL - Live Load
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Non-concurrent Live Loads
BY		Aug 30, 2021 at 11:46 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Bending Check
BY		Aug 30, 2021 at 11:47 AM
1197-F0001-B		BOBDL00015A_loaded.r3d



Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

Infinigy Engineering, PLLC	BOBDL00015A	Shear Check
BY		Aug 30, 2021 at 11:47 AM
1197-F0001-B		BOBDL00015A_loaded.r3d

Program Inputs

PROJECT INFORMATION	
Client:	ATC
Carrier:	Dish Wireless
Engineer:	Binita Yadav

SITE INFORMATION		
Risk Category:	II	
Exposure Category:	B	
Topo Factor Procedure:	Method 1, Category 1	
Site Class:	D - Stiff Soil (Assumed)	
Ground Elevation:	689.31	ft *Rev H

MOUNT INFORMATION		
Mount Type:	Platform	
Num Sectors:	3	
Centerline AGL:	93.00	ft
Tower Height AGL:	165.00	ft

TOPOGRAPHIC DATA		
Topo Feature:	N/A	
Slope Distance:	N/A	ft
Crest Distance:	N/A	ft
Crest Height:	N/A	ft

FACTORS		
Directionality Fact. (K_d):	0.950	
Ground Ele. Factor (K_e):	0.975	*Rev H Only
Rooftop Speed-Up (K_s):	1.000	*Rev H Only
Topographic Factor (K_{zt}):	1.000	
Gust Effect Factor (G_h):	1.000	

CODE STANDARDS		
Building Code:	2015 IBC	
TIA Standard:	TIA-222-H	
ASCE Standard:	ASCE 7-10	

WIND AND ICE DATA		
Ultimate Wind (V_{ult}):	125	mph
Design Wind (V):	N/A	mph
Ice Wind (V_{ice}):	50	mph
Base Ice Thickness (t_i):	2	in
Flat Pressure:	71.751	psf
Round Pressure:	43.051	psf
Ice Wind Pressure:	6.888	psf

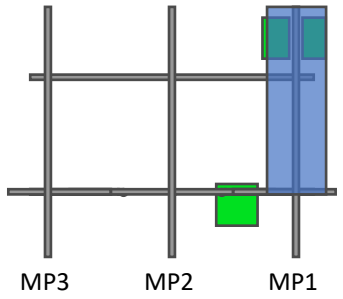
SEISMIC DATA		
Short-Period Accel. (S_s):	0.175	g
1-Second Accel. (S_1):	0.064	g
Short-Period Design (S_{DS}):	0.187	
1-Second Design (S_{D1}):	0.102	
Short-Period Coeff. (F_a):	1.600	
1-Second Coeff. (F_v):	2.400	
Amplification Factor (A_s):	3.000	
Response Mod. Coeff. (R):	2.000	

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

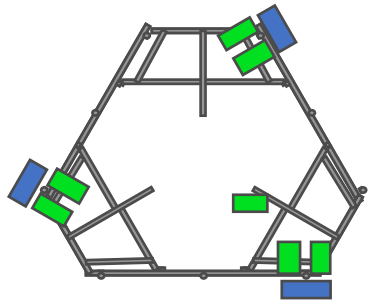
Infinigy Load Calculator V2.1.7

Program Inputs

ELEVATION VIEW



PLAN VIEW



INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

Infinigy Load Calculator V2.1.7

APPURTENANCE INFORMATION

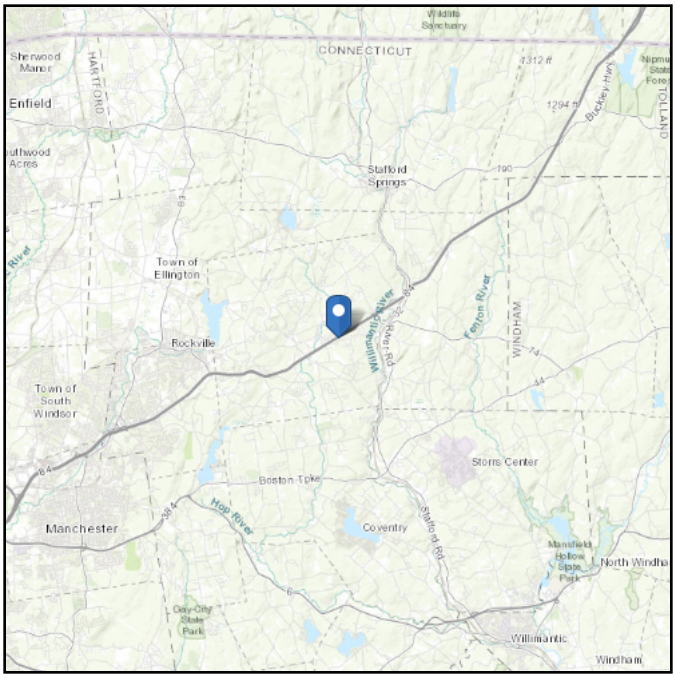
Appurtenance Name	Elevation	Qty.	K_a	q_z (psf)	EPA_N (ft^2)	EPA_T (ft^2)	Wind F_z (lbs)	Wind F_x (lbs)	Weight (lbs)	Seismic F (lbs)	Member (α sector)
JMA WIRELESS MX08FRO665-21	93.0	3	0.90	35.88	8.01	3.21	258.63	103.64	64.50	18.06	MP1
FUJITSU TA08025-B605	93.0	3	0.90	35.88	1.96	1.19	63.40	38.39	74.95	20.99	MP1
FUJITSU TA08025-B604	93.0	3	0.90	35.88	1.96	1.03	63.40	33.35	63.93	17.90	MP1
RAYCAP RDIDC-9181-PF-48	93.0	1	0.90	35.88	1.87	1.07	60.27	34.44	21.85	6.12	S1

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 689.31 ft (NAVD 88)
Latitude: 41.873333
Longitude: -72.3383



Wind

Results:

Wind Speed:	125 mph per Tolland City Requirements in WSEL
10-year MRI	77 Vmph
25-year MRI	87 Vmph
50-year MRI	94 Vmph
100-year MRI	101 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, and Section 26.5.2, incorporating errata of March 12, 2014

Date Accessed: Fri Aug 27 2021

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.

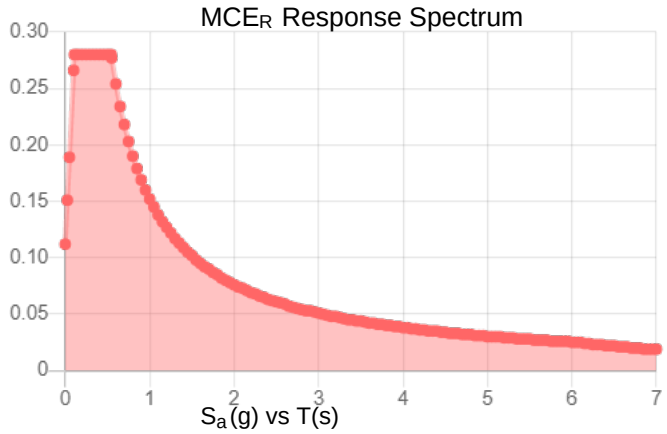
Seismic

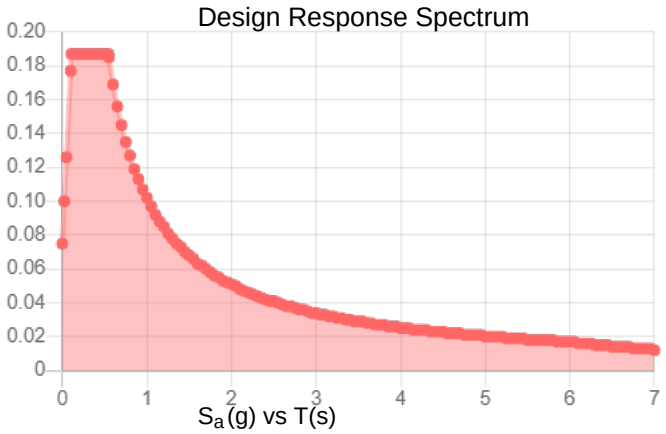
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.175	S_{DS} :	0.187
S_1 :	0.064	S_{D1} :	0.102
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.087
S_{MS} :	0.28	PGA_M :	0.139
S_{M1} :	0.152	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Fri Aug 27 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.

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	S3	P1	P3			Square Tubing	Beam	None	A500 GR.C	Typical
2	GA4	P9	P12		270	Grating Angle	Beam	None	A529 Gr. 50	Typical
3	GA3	P10	P11			Grating Angle	Beam	None	A529 Gr. 50	Typical
4	P3	P7	P8			Corner Plates	Beam	None	A1011 36 ...	Typical
5	S2	P13	P14			Square Tubing	Beam	None	A500 GR.C	Typical
6	GA2	P20	P23		270	Grating Angle	Beam	None	A529 Gr. 50	Typical
7	GA1	P21	P22			Grating Angle	Beam	None	A529 Gr. 50	Typical
8	P2	P18	P19			Corner Plates	Beam	None	A1011 36 ...	Typical
9	S1	P24	P25			Square Tubing	Beam	None	A500 GR.C	Typical
10	GA6	P31	P34		270	Grating Angle	Beam	None	A529 Gr. 50	Typical
11	GA5	P32	P33			Grating Angle	Beam	None	A529 Gr. 50	Typical
12	P1	P29	P30			Corner Plates	Beam	None	A1011 36 ...	Typical
13	H1	N43	N44			Face Pipes(3.5...	Beam	None	A500 GR.C	Typical
14	MP1	N66	N60			Antenna Pipes	Beam	None	A500 GR.C	Typical
15	MP3	N63	N57			Antenna Pipes	Beam	None	A500 GR.C	Typical
16	HR1	N67	N68			Handrail	Beam	None	A500 GR.C	Typical
17	CA8	N114A	N113A		180	Handrail Conn...	Beam	None	A1011 36 ...	Typical
18	CA9	N112A	N111A		180	Handrail Conn...	Beam	None	A1011 36 ...	Typical
19	CA7	N116A	N115A		180	Handrail Conn...	Beam	None	A1011 36 ...	Typical
20	M32	N48A	N70A			RIGID	None	None	RIGID	Typical
21	M35	N45	N69A			RIGID	None	None	RIGID	Typical
22	M36	N51	N71A			RIGID	None	None	RIGID	Typical
23	M39A	N54	N72A			RIGID	None	None	RIGID	Typical
24	CA3	P4	N122A			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
25	CA4	N124B	P4			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
26	CA1	P15	N122B			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
27	CA2	N123A	P15			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
28	CA5	P26	N125			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
29	CA6	N126	P26			Channel(3.38x...	Beam	None	A1011 36 ...	Typical
30	M64	N126A	N125A			RIGID	None	None	RIGID	Typical
31	M65	N126	N125A			RIGID	None	None	RIGID	Typical
32	M66	N129	N128			RIGID	None	None	RIGID	Typical
33	M67	N124B	N128			RIGID	None	None	RIGID	Typical
34	M68	N132	N131			RIGID	None	None	RIGID	Typical
35	M69	N123A	N131			RIGID	None	None	RIGID	Typical
36	M70	N133	N132A			RIGID	None	None	RIGID	Typical
37	M71	N122B	N132A			RIGID	None	None	RIGID	Typical
38	M72	N135	N134			RIGID	None	None	RIGID	Typical
39	M73	N125	N134			RIGID	None	None	RIGID	Typical
40	M74	N138	N137			RIGID	None	None	RIGID	Typical
41	M75	N122A	N137			PL 2.375x0.5	None	None	A36 Gr.36	Typical
42	MP2	N75	N74			Antenna Pipes	Beam	None	A500 GR.C	Typical
43	M43	N72B	N76			RIGID	None	None	RIGID	Typical
44	M44	N73	N77			RIGID	None	None	RIGID	Typical
45	H3	N81A	N82A			Face Pipes(3.5...	Beam	None	A500 GR.C	Typical
46	MP7	N90	N88			Antenna Pipes	Beam	None	A500 GR.C	Typical
47	MP9	N89	N87			Antenna Pipes	Beam	None	A500 GR.C	Typical
48	HR3	N91	N92			Handrail	Beam	None	A500 GR.C	Typical
49	M52	N84	N94			RIGID	None	None	RIGID	Typical
50	M53	N83A	N93			RIGID	None	None	RIGID	Typical
51	M54	N85	N95			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
52	M55	N86	N96			RIGID	None	None	RIGID	Typical
53	H2	N109	N110			Face Pipes(3.5...	Beam	None	A500 GR.C	Typical
54	MP4	N118	N116			Antenna Pipes	Beam	None	A500 GR.C	Typical
55	MP6	N117	N115			Antenna Pipes	Beam	None	A500 GR.C	Typical
56	HR2	N119	N120			Handrail	Beam	None	A500 GR.C	Typical
57	M66A	N112	N122			RIGID	None	None	RIGID	Typical
58	M67A	N111	N121			RIGID	None	None	RIGID	Typical
59	M68A	N113	N123			RIGID	None	None	RIGID	Typical
60	M69A	N114	N124			RIGID	None	None	RIGID	Typical
61	MP8	N132B	N131A			Antenna Pipes	Beam	None	A500 GR.C	Typical
62	M68B	N129B	N133B			RIGID	None	None	RIGID	Typical
63	M69B	N130A	N134A			RIGID	None	None	RIGID	Typical
64	MP5	N138A	N137A			Antenna Pipes	Beam	None	A500 GR.C	Typical
65	M71B	N135A	N139			RIGID	None	None	RIGID	Typical
66	M72B	N136	N140			RIGID	None	None	RIGID	Typical

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	S3	Square Tubi...	40			Lbyy						Lateral
2	GA4	Grating Angle	27.295			Lbyy						Lateral
3	GA3	Grating Angle	27.295			Lbyy						Lateral
4	P3	Corner Plates	42			Lbyy						Lateral
5	S2	Square Tubi...	40			Lbyy						Lateral
6	GA2	Grating Angle	27.295			Lbyy						Lateral
7	GA1	Grating Angle	27.295			Lbyy						Lateral
8	P2	Corner Plates	42			Lbyy						Lateral
9	S1	Square Tubi...	40			Lbyy						Lateral
10	GA6	Grating Angle	27.295			Lbyy						Lateral
11	GA5	Grating Angle	27.295			Lbyy						Lateral
12	P1	Corner Plates	42			Lbyy						Lateral
13	H1	Face Pipes(...	96			Lbyy						Lateral
14	MP1	Antenna Pip...	96			Lbyy						Lateral
15	MP3	Antenna Pip...	96			Lbyy						Lateral
16	HR1	Handrail	96			Lbyy						Lateral
17	CA8	Handrail Co...	42			Lbyy						Lateral
18	CA9	Handrail Co...	42			Lbyy						Lateral
19	CA7	Handrail Co...	42			Lbyy						Lateral
20	CA3	Channel(3.3...	33			Lbyy						Lateral
21	CA4	Channel(3.3...	33			Lbyy						Lateral
22	CA1	Channel(3.3...	33			Lbyy						Lateral
23	CA2	Channel(3.3...	33			Lbyy						Lateral
24	CA5	Channel(3.3...	33			Lbyy						Lateral
25	CA6	Channel(3.3...	33			Lbyy						Lateral
26	M75	PL 2.375x0.5	1.5			Lbyy						Lateral
27	MP2	Antenna Pip...	96			Lbyy						Lateral
28	H3	Face Pipes(...	96			Lbyy						Lateral
29	MP7	Antenna Pip...	96			Lbyy						Lateral
30	MP9	Antenna Pip...	96			Lbyy						Lateral
31	HR3	Handrail	96			Lbyy						Lateral
32	H2	Face Pipes(...	96			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[in]	Lbyy[in]	Lbzz[in]	Lcomp top[in]	Lcomp bot[in]	L-torqu...	Kyy	Kzz	Cb	Function
33	MP4	Antenna Pip...	96			Lbyy						Lateral
34	MP6	Antenna Pip...	96			Lbyy						Lateral
35	HR2	Handrail	96			Lbyy						Lateral
36	MP8	Antenna Pip...	96			Lbyy						Lateral
37	MP5	Antenna Pip...	96			Lbyy						Lateral

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
1	S3						Yes				None
2	GA4						Yes				None
3	GA3						Yes				None
4	P3	BenPIN	BenPIN				Yes	Default			None
5	S2						Yes				None
6	GA2						Yes				None
7	GA1						Yes				None
8	P2	BenPIN	BenPIN				Yes	Default			None
9	S1						Yes	Default			None
10	GA6						Yes				None
11	GA5						Yes				None
12	P1	BenPIN	BenPIN				Yes	Default			None
13	H1						Yes				None
14	MP1						Yes		+y+3		None
15	MP3						Yes		+y+3		None
16	HR1						Yes				None
17	CA8	OOOOOX	OOOOOX				Yes				None
18	CA9	OOOOOX	OOOOOX				Yes				None
19	CA7	OOOOOX	OOOOOX				Yes	Default			None
20	M32						Yes	** NA **			None
21	M35						Yes	** NA **			None
22	M36						Yes	** NA **			None
23	M39A						Yes	** NA **			None
24	CA3						Yes	Default			None
25	CA4						Yes	Default			None
26	CA1						Yes	Default			None
27	CA2						Yes	Default			None
28	CA5						Yes	Default			None
29	CA6						Yes	Default			None
30	M64	BenPIN					Yes	** NA **			None
31	M65						Yes	** NA **			None
32	M66	BenPIN					Yes	** NA **			None
33	M67						Yes	** NA **			None
34	M68	BenPIN					Yes	** NA **			None
35	M69						Yes	** NA **			None
36	M70	BenPIN					Yes	** NA **			None
37	M71						Yes	** NA **			None
38	M72	BenPIN					Yes	** NA **			None
39	M73						Yes	** NA **			None
40	M74	BenPIN					Yes	** NA **			None
41	M75						Yes	** NA **			None
42	MP2						Yes		+y+3		None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Rat...	Analysis ...	Inactive	Seismic...
43	M43						Yes	** NA **			None
44	M44						Yes	** NA **			None
45	H3						Yes				None
46	MP7						Yes		+y+3		None
47	MP9						Yes		+y+3		None
48	HR3						Yes				None
49	M52						Yes	** NA **			None
50	M53						Yes	** NA **			None
51	M54						Yes	** NA **			None
52	M55						Yes	** NA **			None
53	H2						Yes				None
54	MP4						Yes		+y+3		None
55	MP6						Yes		+y+3		None
56	HR2						Yes				None
57	M66A						Yes	** NA **			None
58	M67A						Yes	** NA **			None
59	M68A						Yes	** NA **			None
60	M69A						Yes	** NA **			None
61	MP8						Yes		+y+3		None
62	M68B						Yes	** NA **			None
63	M69B						Yes	** NA **			None
64	MP5						Yes		+y+3		None
65	M71B						Yes	** NA **			None
66	M72B						Yes	** NA **			None

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[LB]
1	General				
2	RIGID		29	35.1	0
3	Total General		29	35.1	0
4					
5	Hot Rolled Steel				
6	A1011 36 Ksi	C3.38x2.06x0.25	6	198	98.255
7	A1011 36 Ksi	PL6.5x0.375	3	126	87.09
8	A1011 36 Ksi	L6.6x4.46x0.25	3	126	96.558
9	A36 Gr.36	PL 2.375x0.5	1	1.5	.505
10	A500 GR.C	2.88x0.120	3	288	84.974
11	A500 GR.C	HSS4X4X6	3	120	162.653
12	A500 GR.C	Pipe3.5x0.165	3	288	141.202
13	A500 GR.C	PIPE_2.5	9	864	394.45
14	A529 Gr. 50	L2x2x4	6	163.8	43.838
15	Total HR Steel		37	2175.3	1109.525

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Corner Plates	PL6.5x0.375	Beam	None	A1011 36 Ksi	Typical	2.438	.029	8.582	.11
2	6"x0.37" Plate	Plate 6x.37	Beam	None	A1011 36 Ksi	Typical	2.22	.025	6.66	.097
3	Grating Angle	L2x2x4	Beam	None	A529 Gr. 50	Typical	.944	.346	.346	.021
4	Face Pipes(...	Pipe3.5x0.165	Beam	None	A500 GR.C	Typical	1.729	2.409	2.409	4.819

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
5	Antenna Pipes	PIPE 2.5	Beam	None	A500 GR.C	Typical	1.61	1.45	1.45	2.89
6	Channel(3.3...	C3.38x2.06x...	Beam	None	A1011 36 Ksi	Typical	1.75	.715	3.026	.034
7	Square Tubing	HSS4X4X6	Beam	None	A500 GR.C	Typical	4.78	10.3	10.3	17.5
8	Handrail Con...	L6.6x4.46x0...	Beam	None	A1011 36 Ksi	Typical	2.703	4.759	12.473	.055
9	Handrail	2.88x0.120	Beam	None	A500 GR.C	Typical	1.04	.993	.993	1.985

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Self Weight	DL		-1			14		3	
2	Wind Load AZI 0	WLZ					28			
3	Wind Load AZI 30	None					28			
4	Wind Load AZI 60	None					28			
5	Wind Load AZI 90	WLX					28			
6	Wind Load AZI 120	None					28			
7	Wind Load AZI 150	None					28			
8	Wind Load AZI 180	None					28			
9	Wind Load AZI 210	None					28			
10	Wind Load AZI 240	None					28			
11	Wind Load AZI 270	None					28			
12	Wind Load AZI 300	None					28			
13	Wind Load AZI 330	None					28			
14	Distr. Wind Load Z	WLZ						66		
15	Distr. Wind Load X	WLX						66		
16	Ice Weight	OL1					14	66	3	
17	Ice Wind Load AZI 0	OL2					28			
18	Ice Wind Load AZI 30	None					28			
19	Ice Wind Load AZI 60	None					28			
20	Ice Wind Load AZI 90	OL3					28			
21	Ice Wind Load AZI 120	None					28			
22	Ice Wind Load AZI 150	None					28			
23	Ice Wind Load AZI 180	None					28			
24	Ice Wind Load AZI 210	None					28			
25	Ice Wind Load AZI 240	None					28			
26	Ice Wind Load AZI 270	None					28			
27	Ice Wind Load AZI 300	None					28			
28	Ice Wind Load AZI 330	None					28			
29	Distr. Ice Wind Load Z	OL2						66		
30	Distr. Ice Wind Load X	OL3						66		
31	Seismic Load Z	ELZ			-.28		14			
32	Seismic Load X	ELX	-.28				14			
33	Service Live Loads	LL				3	1			
34	Maintenance Load 1	LL				1				
35	Maintenance Load 2	LL				1				
36	Maintenance Load 3	LL				1				
37	Maintenance Load 4	LL				1				
38	Maintenance Load 5	LL				1				
39	Maintenance Load 6	LL				1				
40	Maintenance Load 7	LL				1				
41	Maintenance Load 8	LL				1				
42	Maintenance Load 9	LL				1				

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
43	BLC 1 Transient Area Loads	None						9		
44	BLC 16 Transient Area Loads	None						9		

Load Combinations

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
1	1.4DL	Yes	Y		1	1.4																				
2	1.2DL + 1WL AZI 0	Yes	Y		1	1.2	2	1	14	1	15															
3	1.2DL + 1WL AZI 30	Yes	Y		1	1.2	3	1	14	.866	15	.5														
4	1.2DL + 1WL AZI 60	Yes	Y		1	1.2	4	1	14	.5	15	.866														
5	1.2DL + 1WL AZI 90	Yes	Y		1	1.2	5	1	14		15	1														
6	1.2DL + 1WL AZI 120	Yes	Y		1	1.2	6	1	14	-.5	15	.866														
7	1.2DL + 1WL AZI 150	Yes	Y		1	1.2	7	1	14	-.866	15	.5														
8	1.2DL + 1WL AZI 180	Yes	Y		1	1.2	8	1	14	-1	15															
9	1.2DL + 1WL AZI 210	Yes	Y		1	1.2	9	1	14	-.866	15	-.5														
10	1.2DL + 1WL AZI 240	Yes	Y		1	1.2	10	1	14	-.5	15	-.866														
11	1.2DL + 1WL AZI 270	Yes	Y		1	1.2	11	1	14		15	-1														
12	1.2DL + 1WL AZI 300	Yes	Y		1	1.2	12	1	14	.5	15	-.866														
13	1.2DL + 1WL AZI 330	Yes	Y		1	1.2	13	1	14	.866	15	-.5														
14	0.9DL + 1WL AZI 0	Yes	Y		1	.9	2	1	14	1	15															
15	0.9DL + 1WL AZI 30	Yes	Y		1	.9	3	1	14	.866	15	.5														
16	0.9DL + 1WL AZI 60	Yes	Y		1	.9	4	1	14	.5	15	.866														
17	0.9DL + 1WL AZI 90	Yes	Y		1	.9	5	1	14		15	1														
18	0.9DL + 1WL AZI 120	Yes	Y		1	.9	6	1	14	-.5	15	.866														
19	0.9DL + 1WL AZI 150	Yes	Y		1	.9	7	1	14	-.866	15	.5														
20	0.9DL + 1WL AZI 180	Yes	Y		1	.9	8	1	14	-1	15															
21	0.9DL + 1WL AZI 210	Yes	Y		1	.9	9	1	14	-.866	15	-.5														
22	0.9DL + 1WL AZI 240	Yes	Y		1	.9	10	1	14	-.5	15	-.866														
23	0.9DL + 1WL AZI 270	Yes	Y		1	.9	11	1	14		15	-1														
24	0.9DL + 1WL AZI 300	Yes	Y		1	.9	12	1	14	.5	15	-.866														
25	0.9DL + 1WL AZI 330	Yes	Y		1	.9	13	1	14	.866	15	-.5														
26	1.2D + 1.0Di	Yes	Y		1	1.2	16	1																		
27	1.2D + 1.0Di +1.0Wi AZI 0	Yes	Y		1	1.2	16	1	17	1	29	1	30													
28	1.2D + 1.0Di +1.0Wi AZI 30	Yes	Y		1	1.2	16	1	18	1	29	.866	30	.5												
29	1.2D + 1.0Di +1.0Wi AZI 60	Yes	Y		1	1.2	16	1	19	1	29	.5	30	.866												
30	1.2D + 1.0Di +1.0Wi AZI 90	Yes	Y		1	1.2	16	1	20	1	29		30	1												
31	1.2D + 1.0Di +1.0Wi AZI 120	Yes	Y		1	1.2	16	1	21	1	29	-.5	30	.866												
32	1.2D + 1.0Di +1.0Wi AZI 150	Yes	Y		1	1.2	16	1	22	1	29	-.866	30	.5												
33	1.2D + 1.0Di +1.0Wi AZI 180	Yes	Y		1	1.2	16	1	23	1	29	-1	30													
34	1.2D + 1.0Di +1.0Wi AZI 210	Yes	Y		1	1.2	16	1	24	1	29	-.866	30	-.5												
35	1.2D + 1.0Di +1.0Wi AZI 240	Yes	Y		1	1.2	16	1	25	1	29	-.5	30	-.866												
36	1.2D + 1.0Di +1.0Wi AZI 270	Yes	Y		1	1.2	16	1	26	1	29		30	-1												
37	1.2D + 1.0Di +1.0Wi AZI 300	Yes	Y		1	1.2	16	1	27	1	29	.5	30	-.866												
38	1.2D + 1.0Di +1.0Wi AZI 330	Yes	Y		1	1.2	16	1	28	1	29	.866	30	-.5												
39	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	1	32																	
40	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	.866	32	.5																
41	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	.5	32	.866																
42	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31		32	1																
43	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	-.5	32	.866																
44	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	-.866	32	.5																
45	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	-1	32																	

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
46	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	-.866	32	-.5														
47	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	-.5	32	-.866														
48	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31		32	-1														
49	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	.5	32	-.866														
50	(1.2 + 0.2Sds)DL + 1.0E A...	Yes	Y		1	1.2...	31	.866	32	-.5														
51	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.863	31	1	32															
52	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.863	31	.866	32	.5														
53	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.863	31	.5	32	.866														
54	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.863	31		32	1														
55	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.863	31	-.5	32	.866														
56	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.863	31	-.866	32	.5														
57	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.863	31	-1	32															
58	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.863	31	-.866	32	-.5														
59	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.863	31	-.5	32	-.866														
60	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.863	31		32	-1														
61	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.863	31	.5	32	-.866														
62	(0.9 - 0.2Sds)DL + 1.0E AZ...	Yes	Y		1	.863	31	.866	32	-.5														
63	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	2	.23	14	.23	15		33	1.5										
64	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	3	.23	14	.2	15	.115	33	1.5										
65	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	4	.23	14	.115	15	.2	33	1.5										
66	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	5	.23	14		15	.23	33	1.5										
67	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	6	.23	14	-.115	15	.2	33	1.5										
68	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	7	.23	14	-.2	15	.115	33	1.5										
69	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	8	.23	14	-.23	15		33	1.5										
70	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	9	.23	14	-.2	15	-.115	33	1.5										
71	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	10	.23	14	-.115	15	-.2	33	1.5										
72	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	11	.23	14		15	-.23	33	1.5										
73	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	12	.23	14	.115	15	-.2	33	1.5										
74	1.0DL + 1.5LL + 1.0SWL (6...	Yes	Y		1	1	13	.23	14	.2	15	-.115	33	1.5										
75	1.2DL + 1.5LL	Yes	Y		1	1.2	33	1.5																
76	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	2	.058	14	.058	15											
77	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	3	.058	14	.05	15	.029										
78	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	4	.058	14	.029	15	.05										
79	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	5	.058	14		15	.058										
80	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	6	.058	14	-.029	15	.05										
81	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	7	.058	14	-.05	15	.029										
82	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	8	.058	14	-.058	15											
83	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	9	.058	14	-.05	15	-.029										
84	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	10	.058	14	-.029	15	-.05										
85	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	11	.058	14		15	-.058										
86	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	12	.058	14	.029	15	-.05										
87	1.2DL + 1.5LM-MP1 + 1S...	Yes	Y		1	1.2	34	1.5	13	.058	14	.05	15	-.029										
88	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	2	.058	14	.058	15											
89	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	3	.058	14	.05	15	.029										
90	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	4	.058	14	.029	15	.05										
91	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	5	.058	14		15	.058										
92	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	6	.058	14	-.029	15	.05										
93	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	7	.058	14	-.05	15	.029										
94	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	8	.058	14	-.058	15											
95	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	9	.058	14	-.05	15	-.029										
96	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	10	.058	14	-.029	15	-.05										
97	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	11	.058	14		15	-.058										

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
98	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	12	.058	14	.029	15	-.05												
99	1.2DL + 1.5LM-MP2 + 1S...	Yes	Y		1	1.2	35	1.5	13	.058	14	.05	15	-.029												
100	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	2	.058	14	.058	15													
101	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	3	.058	14	.05	15	.029												
102	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	4	.058	14	.029	15	.05												
103	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	5	.058	14		15	.058												
104	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	6	.058	14	-.029	15	.05												
105	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	7	.058	14	-.05	15	.029												
106	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	8	.058	14	-.058	15													
107	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	9	.058	14	-.05	15	-.029												
108	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	10	.058	14	-.029	15	-.05												
109	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	11	.058	14		15	-.058												
110	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	12	.058	14	.029	15	-.05												
111	1.2DL + 1.5LM-MP3 + 1S...	Yes	Y		1	1.2	36	1.5	13	.058	14	.05	15	-.029												
112	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	2	.058	14	.058	15													
113	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	3	.058	14	.05	15	.029												
114	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	4	.058	14	.029	15	.05												
115	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	5	.058	14		15	.058												
116	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	6	.058	14	-.029	15	.05												
117	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	7	.058	14	-.05	15	.029												
118	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	8	.058	14	-.058	15													
119	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	9	.058	14	-.05	15	-.029												
120	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	10	.058	14	-.029	15	-.05												
121	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	11	.058	14		15	-.058												
122	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	12	.058	14	.029	15	-.05												
123	1.2DL + 1.5LM-MP4 + 1S...	Yes	Y		1	1.2	37	1.5	13	.058	14	.05	15	-.029												
124	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	2	.058	14	.058	15													
125	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	3	.058	14	.05	15	.029												
126	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	4	.058	14	.029	15	.05												
127	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	5	.058	14		15	.058												
128	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	6	.058	14	-.029	15	.05												
129	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	7	.058	14	-.05	15	.029												
130	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	8	.058	14	-.058	15													
131	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	9	.058	14	-.05	15	-.029												
132	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	10	.058	14	-.029	15	-.05												
133	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	11	.058	14		15	-.058												
134	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	12	.058	14	.029	15	-.05												
135	1.2DL + 1.5LM-MP5 + 1S...	Yes	Y		1	1.2	38	1.5	13	.058	14	.05	15	-.029												
136	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	2	.058	14	.058	15													
137	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	3	.058	14	.05	15	.029												
138	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	4	.058	14	.029	15	.05												
139	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	5	.058	14		15	.058												
140	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	6	.058	14	-.029	15	.05												
141	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	7	.058	14	-.05	15	.029												
142	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	8	.058	14	-.058	15													
143	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	9	.058	14	-.05	15	-.029												
144	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	10	.058	14	-.029	15	-.05												
145	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	11	.058	14		15	-.058												
146	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	12	.058	14	.029	15	-.05												
147	1.2DL + 1.5LM-MP6 + 1S...	Yes	Y		1	1.2	39	1.5	13	.058	14	.05	15	-.029												
148	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	2	.058	14	.058	15													
149	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	3	.058	14	.05	15	.029												

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...	B...	Fac...
150	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	4	.058	14	.029	15	.05										
151	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	5	.058	14		15	.058										
152	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	6	.058	14	-.029	15	.05										
153	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	7	.058	14	-.05	15	.029										
154	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	8	.058	14	-.058	15											
155	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	9	.058	14	-.05	15	-.029										
156	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	10	.058	14	-.029	15	-.05										
157	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	11	.058	14		15	-.058										
158	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	12	.058	14	.029	15	-.05										
159	1.2DL + 1.5LM-MP7 + 1S...	Yes	Y		1	1.2	40	1.5	13	.058	14	.05	15	-.029										
160	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	2	.058	14	.058	15											
161	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	3	.058	14	.05	15	.029										
162	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	4	.058	14	.029	15	.05										
163	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	5	.058	14		15	.058										
164	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	6	.058	14	-.029	15	.05										
165	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	7	.058	14	-.05	15	.029										
166	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	8	.058	14	-.058	15											
167	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	9	.058	14	-.05	15	-.029										
168	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	10	.058	14	-.029	15	-.05										
169	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	11	.058	14		15	-.058										
170	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	12	.058	14	.029	15	-.05										
171	1.2DL + 1.5LM-MP8 + 1S...	Yes	Y		1	1.2	41	1.5	13	.058	14	.05	15	-.029										
172	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	2	.058	14	.058	15											
173	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	3	.058	14	.05	15	.029										
174	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	4	.058	14	.029	15	.05										
175	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	5	.058	14		15	.058										
176	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	6	.058	14	-.029	15	.05										
177	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	7	.058	14	-.05	15	.029										
178	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	8	.058	14	-.058	15											
179	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	9	.058	14	-.05	15	-.029										
180	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	10	.058	14	-.029	15	-.05										
181	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	11	.058	14		15	-.058										
182	1.2DL + 1.5LM-MP9 + 1S...	Yes	Y		1	1.2	42	1.5	12	.058	14	.029	15	-.05										

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	P24	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	P13	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	P1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

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	P24	max	828.082	6	2546.751	35	1266.665	2	660.227	16	1564.837	19	4411.196	35
2		min	-812.325	24	-328.721	16	-1256.587	20	-3780.87	35	-1582.774	13	-1248.807	16
3	P13	max	932.264	4	2787.275	31	1229.086	15	681.76	24	1665.303	15	1036.947	24
4		min	-929.785	22	-273.151	24	-1237.173	9	-2790.267	92	-1712.533	9	-6404.164	31
5	P1	max	1243.074	17	2598.695	27	643.503	2	6216.947	27	1419.386	11	1577.278	115
6		min	-1261.378	11	-334.997	20	-646.903	20	-1395.763	20	-1368.244	17	-855.177	157
7	Totals:	max	2859.535	5	7337.685	34	3028.741	14						

Envelope Joint Reactions (Continued)

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
8		min	-2859.527	23	1534.761	53	-3028.75	8						

Joint Loads and Enforced Displacements (BLC 33 : Service Live Loads)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N72B	L	Y	-250
2	N135A	L	Y	-250
3	N129B	L	Y	-250

Joint Loads and Enforced Displacements (BLC 34 : Maintenance Load 1)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N70A	L	Y	-500

Joint Loads and Enforced Displacements (BLC 35 : Maintenance Load 2)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N69A	L	Y	-500

Joint Loads and Enforced Displacements (BLC 36 : Maintenance Load 3)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N76	L	Y	-500

Joint Loads and Enforced Displacements (BLC 37 : Maintenance Load 4)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N94	L	Y	-500

Joint Loads and Enforced Displacements (BLC 38 : Maintenance Load 5)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N93	L	Y	-500

Joint Loads and Enforced Displacements (BLC 39 : Maintenance Load 6)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N122	L	Y	-500

Joint Loads and Enforced Displacements (BLC 40 : Maintenance Load 7)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N121	L	Y	-500

Joint Loads and Enforced Displacements (BLC 41 : Maintenance Load 8)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N133B	L	Y	-500

Joint Loads and Enforced Displacements (BLC 42 : Maintenance Load 9)

	Joint Label	L,D,M	Direction	Magnitude[(lb,lb-ft), (in,rad), (lb*s^...
1	N139	L	Y	-500

Member Point Loads (BLC 1 : Self Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-32.25	0
2	MP1	Y	-32.25	72
3	MP1	Y	-74.95	12
4	MP1	Y	-63.93	12
5	S1	Y	-10.925	6
6	S1	Y	-10.925	16
7	MP4	Y	-32.25	0
8	MP4	Y	-32.25	72
9	MP4	Y	-74.95	12
10	MP4	Y	-63.93	12
11	MP7	Y	-32.25	0
12	MP7	Y	-32.25	72
13	MP7	Y	-74.95	12
14	MP7	Y	-63.93	12

Member Point Loads (BLC 2 : Wind Load AZI 0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-129.31	0
3	MP1	X	0	72
4	MP1	Z	-129.31	72
5	MP1	X	0	12
6	MP1	Z	-63.4	12
7	MP1	X	0	12
8	MP1	Z	-63.4	12
9	S1	X	0	6
10	S1	Z	-30.14	6
11	S1	X	0	16
12	S1	Z	-30.14	16
13	MP4	X	0	0
14	MP4	Z	-71.2	0
15	MP4	X	0	72
16	MP4	Z	-71.2	72
17	MP4	X	0	12
18	MP4	Z	-44.65	12
19	MP4	X	0	12
20	MP4	Z	-40.86	12
21	MP7	X	0	0
22	MP7	Z	-71.2	0
23	MP7	X	0	72
24	MP7	Z	-71.2	72
25	MP7	X	0	12
26	MP7	Z	-44.65	12
27	MP7	X	0	12
28	MP7	Z	-40.86	12

Member Point Loads (BLC 3 : Wind Load AZI 30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-54.97	0
2	MP1	Z	-95.21	0

Member Point Loads (BLC 3 : Wind Load AZI 30) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	-54.97	72
4	MP1	Z	-95.21	72
5	MP1	X	-28.57	12
6	MP1	Z	-49.49	12
7	MP1	X	-27.94	12
8	MP1	Z	-48.4	12
9	S1	X	-13.45	6
10	S1	Z	-23.3	6
11	S1	X	-13.45	16
12	S1	Z	-23.3	16
13	MP4	X	-54.97	0
14	MP4	Z	-95.21	0
15	MP4	X	-54.97	72
16	MP4	Z	-95.21	72
17	MP4	X	-28.57	12
18	MP4	Z	-49.49	12
19	MP4	X	-27.94	12
20	MP4	Z	-48.4	12
21	MP7	X	-25.91	0
22	MP7	Z	-44.88	0
23	MP7	X	-25.91	72
24	MP7	Z	-44.88	72
25	MP7	X	-19.2	12
26	MP7	Z	-33.25	12
27	MP7	X	-16.68	12
28	MP7	Z	-28.88	12

Member Point Loads (BLC 4 : Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-61.66	0
2	MP1	Z	-35.6	0
3	MP1	X	-61.66	72
4	MP1	Z	-35.6	72
5	MP1	X	-38.66	12
6	MP1	Z	-22.32	12
7	MP1	X	-35.39	12
8	MP1	Z	-20.43	12
9	S1	X	-17.71	6
10	S1	Z	-10.22	6
11	S1	X	-17.71	16
12	S1	Z	-10.22	16
13	MP4	X	-111.99	0
14	MP4	Z	-64.66	0
15	MP4	X	-111.99	72
16	MP4	Z	-64.66	72
17	MP4	X	-54.9	12
18	MP4	Z	-31.7	12
19	MP4	X	-54.9	12
20	MP4	Z	-31.7	12
21	MP7	X	-61.66	0
22	MP7	Z	-35.6	0

Member Point Loads (BLC 4 : Wind Load AZI 60) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
23	MP7	X	-61.66	72
24	MP7	Z	-35.6	72
25	MP7	X	-38.66	12
26	MP7	Z	-22.32	12
27	MP7	X	-35.39	12
28	MP7	Z	-20.43	12

Member Point Loads (BLC 5 : Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-51.82	0
2	MP1	Z	0	0
3	MP1	X	-51.82	72
4	MP1	Z	0	72
5	MP1	X	-38.39	12
6	MP1	Z	0	12
7	MP1	X	-33.35	12
8	MP1	Z	0	12
9	S1	X	-17.22	6
10	S1	Z	0	6
11	S1	X	-17.22	16
12	S1	Z	0	16
13	MP4	X	-109.94	0
14	MP4	Z	0	0
15	MP4	X	-109.94	72
16	MP4	Z	0	72
17	MP4	X	-57.15	12
18	MP4	Z	0	12
19	MP4	X	-55.89	12
20	MP4	Z	0	12
21	MP7	X	-109.94	0
22	MP7	Z	0	0
23	MP7	X	-109.94	72
24	MP7	Z	0	72
25	MP7	X	-57.15	12
26	MP7	Z	0	12
27	MP7	X	-55.89	12
28	MP7	Z	0	12

Member Point Loads (BLC 6 : Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-61.66	0
2	MP1	Z	35.6	0
3	MP1	X	-61.66	72
4	MP1	Z	35.6	72
5	MP1	X	-38.66	12
6	MP1	Z	22.32	12
7	MP1	X	-35.39	12
8	MP1	Z	20.43	12
9	S1	X	-17.71	6
10	S1	Z	10.22	6
11	S1	X	-17.71	16

Member Point Loads (BLC 6 : Wind Load AZI 120) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
12	S1	Z	10.22	16
13	MP4	X	-61.66	0
14	MP4	Z	35.6	0
15	MP4	X	-61.66	72
16	MP4	Z	35.6	72
17	MP4	X	-38.66	12
18	MP4	Z	22.32	12
19	MP4	X	-35.39	12
20	MP4	Z	20.43	12
21	MP7	X	-111.99	0
22	MP7	Z	64.66	0
23	MP7	X	-111.99	72
24	MP7	Z	64.66	72
25	MP7	X	-54.9	12
26	MP7	Z	31.7	12
27	MP7	X	-54.9	12
28	MP7	Z	31.7	12

Member Point Loads (BLC 7 : Wind Load AZI 150)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-54.97	0
2	MP1	Z	95.21	0
3	MP1	X	-54.97	72
4	MP1	Z	95.21	72
5	MP1	X	-28.57	12
6	MP1	Z	49.49	12
7	MP1	X	-27.94	12
8	MP1	Z	48.4	12
9	S1	X	-13.45	6
10	S1	Z	23.3	6
11	S1	X	-13.45	16
12	S1	Z	23.3	16
13	MP4	X	-25.91	0
14	MP4	Z	44.88	0
15	MP4	X	-25.91	72
16	MP4	Z	44.88	72
17	MP4	X	-19.2	12
18	MP4	Z	33.25	12
19	MP4	X	-16.68	12
20	MP4	Z	28.88	12
21	MP7	X	-54.97	0
22	MP7	Z	95.21	0
23	MP7	X	-54.97	72
24	MP7	Z	95.21	72
25	MP7	X	-28.57	12
26	MP7	Z	49.49	12
27	MP7	X	-27.94	12
28	MP7	Z	48.4	12

Member Point Loads (BLC 8 : Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]

Member Point Loads (BLC 8 : Wind Load AZI 180) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	129.31	0
3	MP1	X	0	72
4	MP1	Z	129.31	72
5	MP1	X	0	12
6	MP1	Z	63.4	12
7	MP1	X	0	12
8	MP1	Z	63.4	12
9	S1	X	0	6
10	S1	Z	30.14	6
11	S1	X	0	16
12	S1	Z	30.14	16
13	MP4	X	0	0
14	MP4	Z	71.2	0
15	MP4	X	0	72
16	MP4	Z	71.2	72
17	MP4	X	0	12
18	MP4	Z	44.65	12
19	MP4	X	0	12
20	MP4	Z	40.86	12
21	MP7	X	0	0
22	MP7	Z	71.2	0
23	MP7	X	0	72
24	MP7	Z	71.2	72
25	MP7	X	0	12
26	MP7	Z	44.65	12
27	MP7	X	0	12
28	MP7	Z	40.86	12

Member Point Loads (BLC 9 : Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	54.97	0
2	MP1	Z	95.21	0
3	MP1	X	54.97	72
4	MP1	Z	95.21	72
5	MP1	X	28.57	12
6	MP1	Z	49.49	12
7	MP1	X	27.94	12
8	MP1	Z	48.4	12
9	S1	X	13.45	6
10	S1	Z	23.3	6
11	S1	X	13.45	16
12	S1	Z	23.3	16
13	MP4	X	54.97	0
14	MP4	Z	95.21	0
15	MP4	X	54.97	72
16	MP4	Z	95.21	72
17	MP4	X	28.57	12
18	MP4	Z	49.49	12
19	MP4	X	27.94	12
20	MP4	Z	48.4	12

Member Point Loads (BLC 9 : Wind Load AZI 210) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
21	MP7	X	25.91	0
22	MP7	Z	44.88	0
23	MP7	X	25.91	72
24	MP7	Z	44.88	72
25	MP7	X	19.2	12
26	MP7	Z	33.25	12
27	MP7	X	16.68	12
28	MP7	Z	28.88	12

Member Point Loads (BLC 10 : Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	61.66	0
2	MP1	Z	35.6	0
3	MP1	X	61.66	72
4	MP1	Z	35.6	72
5	MP1	X	38.66	12
6	MP1	Z	22.32	12
7	MP1	X	35.39	12
8	MP1	Z	20.43	12
9	S1	X	17.71	6
10	S1	Z	10.22	6
11	S1	X	17.71	16
12	S1	Z	10.22	16
13	MP4	X	111.99	0
14	MP4	Z	64.66	0
15	MP4	X	111.99	72
16	MP4	Z	64.66	72
17	MP4	X	54.9	12
18	MP4	Z	31.7	12
19	MP4	X	54.9	12
20	MP4	Z	31.7	12
21	MP7	X	61.66	0
22	MP7	Z	35.6	0
23	MP7	X	61.66	72
24	MP7	Z	35.6	72
25	MP7	X	38.66	12
26	MP7	Z	22.32	12
27	MP7	X	35.39	12
28	MP7	Z	20.43	12

Member Point Loads (BLC 11 : Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	51.82	0
2	MP1	Z	0	0
3	MP1	X	51.82	72
4	MP1	Z	0	72
5	MP1	X	38.39	12
6	MP1	Z	0	12
7	MP1	X	33.35	12
8	MP1	Z	0	12
9	S1	X	17.22	6

Member Point Loads (BLC 11 : Wind Load AZI 270) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
10	S1	Z	0	6
11	S1	X	17.22	16
12	S1	Z	0	16
13	MP4	X	109.94	0
14	MP4	Z	0	0
15	MP4	X	109.94	72
16	MP4	Z	0	72
17	MP4	X	57.15	12
18	MP4	Z	0	12
19	MP4	X	55.89	12
20	MP4	Z	0	12
21	MP7	X	109.94	0
22	MP7	Z	0	0
23	MP7	X	109.94	72
24	MP7	Z	0	72
25	MP7	X	57.15	12
26	MP7	Z	0	12
27	MP7	X	55.89	12
28	MP7	Z	0	12

Member Point Loads (BLC 12 : Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	61.66	0
2	MP1	Z	-35.6	0
3	MP1	X	61.66	72
4	MP1	Z	-35.6	72
5	MP1	X	38.66	12
6	MP1	Z	-22.32	12
7	MP1	X	35.39	12
8	MP1	Z	-20.43	12
9	S1	X	17.71	6
10	S1	Z	-10.22	6
11	S1	X	17.71	16
12	S1	Z	-10.22	16
13	MP4	X	61.66	0
14	MP4	Z	-35.6	0
15	MP4	X	61.66	72
16	MP4	Z	-35.6	72
17	MP4	X	38.66	12
18	MP4	Z	-22.32	12
19	MP4	X	35.39	12
20	MP4	Z	-20.43	12
21	MP7	X	111.99	0
22	MP7	Z	-64.66	0
23	MP7	X	111.99	72
24	MP7	Z	-64.66	72
25	MP7	X	54.9	12
26	MP7	Z	-31.7	12
27	MP7	X	54.9	12
28	MP7	Z	-31.7	12

Member Point Loads (BLC 13 : Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	54.97	0
2	MP1	Z	-95.21	0
3	MP1	X	54.97	72
4	MP1	Z	-95.21	72
5	MP1	X	28.57	12
6	MP1	Z	-49.49	12
7	MP1	X	27.94	12
8	MP1	Z	-48.4	12
9	S1	X	13.45	6
10	S1	Z	-23.3	6
11	S1	X	13.45	16
12	S1	Z	-23.3	16
13	MP4	X	25.91	0
14	MP4	Z	-44.88	0
15	MP4	X	25.91	72
16	MP4	Z	-44.88	72
17	MP4	X	19.2	12
18	MP4	Z	-33.25	12
19	MP4	X	16.68	12
20	MP4	Z	-28.88	12
21	MP7	X	54.97	0
22	MP7	Z	-95.21	0
23	MP7	X	54.97	72
24	MP7	Z	-95.21	72
25	MP7	X	28.57	12
26	MP7	Z	-49.49	12
27	MP7	X	27.94	12
28	MP7	Z	-48.4	12

Member Point Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-189.744	0
2	MP1	Y	-189.744	72
3	MP1	Y	-102.082	12
4	MP1	Y	-96.068	12
5	S1	Y	-46.893	6
6	S1	Y	-46.893	16
7	MP4	Y	-189.744	0
8	MP4	Y	-189.744	72
9	MP4	Y	-102.082	12
10	MP4	Y	-96.068	12
11	MP7	Y	-189.744	0
12	MP7	Y	-189.744	72
13	MP7	Y	-102.082	12
14	MP7	Y	-96.068	12

Member Point Loads (BLC 17 : Ice Wind Load AZI 0)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	-17.22	0
3	MP1	X	0	72

Member Point Loads (BLC 17 : Ice Wind Load AZI 0) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP1	Z	-17.22	72
5	MP1	X	0	12
6	MP1	Z	-7.02	12
7	MP1	X	0	12
8	MP1	Z	-7.02	12
9	S1	X	0	6
10	S1	Z	-3.46	6
11	S1	X	0	16
12	S1	Z	-3.46	16
13	MP4	X	0	0
14	MP4	Z	-13.26	0
15	MP4	X	0	72
16	MP4	Z	-13.26	72
17	MP4	X	0	12
18	MP4	Z	-6.12	12
19	MP4	X	0	12
20	MP4	Z	-5.91	12
21	MP7	X	0	0
22	MP7	Z	-13.26	0
23	MP7	X	0	72
24	MP7	Z	-13.26	72
25	MP7	X	0	12
26	MP7	Z	-6.12	12
27	MP7	X	0	12
28	MP7	Z	-5.91	12

Member Point Loads (BLC 18 : Ice Wind Load AZI 30)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-7.95	0
2	MP1	Z	-13.77	0
3	MP1	X	-7.95	72
4	MP1	Z	-13.77	72
5	MP1	X	-3.36	12
6	MP1	Z	-5.82	12
7	MP1	X	-3.33	12
8	MP1	Z	-5.76	12
9	S1	X	-1.65	6
10	S1	Z	-2.85	6
11	S1	X	-1.65	16
12	S1	Z	-2.85	16
13	MP4	X	-7.95	0
14	MP4	Z	-13.77	0
15	MP4	X	-7.95	72
16	MP4	Z	-13.77	72
17	MP4	X	-3.36	12
18	MP4	Z	-5.82	12
19	MP4	X	-3.33	12
20	MP4	Z	-5.76	12
21	MP7	X	-5.97	0
22	MP7	Z	-10.35	0
23	MP7	X	-5.97	72

Member Point Loads (BLC 18 : Ice Wind Load AZI 30) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
24	MP7	Z	-10.35	72
25	MP7	X	-2.91	12
26	MP7	Z	-5.03	12
27	MP7	X	-2.77	12
28	MP7	Z	-4.8	12

Member Point Loads (BLC 19 : Ice Wind Load AZI 60)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-11.49	0
2	MP1	Z	-6.63	0
3	MP1	X	-11.49	72
4	MP1	Z	-6.63	72
5	MP1	X	-5.3	12
6	MP1	Z	-3.06	12
7	MP1	X	-5.12	12
8	MP1	Z	-2.96	12
9	S1	X	-2.58	6
10	S1	Z	-1.49	6
11	S1	X	-2.58	16
12	S1	Z	-1.49	16
13	MP4	X	-14.91	0
14	MP4	Z	-8.61	0
15	MP4	X	-14.91	72
16	MP4	Z	-8.61	72
17	MP4	X	-6.08	12
18	MP4	Z	-3.51	12
19	MP4	X	-6.08	12
20	MP4	Z	-3.51	12
21	MP7	X	-11.49	0
22	MP7	Z	-6.63	0
23	MP7	X	-11.49	72
24	MP7	Z	-6.63	72
25	MP7	X	-5.3	12
26	MP7	Z	-3.06	12
27	MP7	X	-5.12	12
28	MP7	Z	-2.96	12

Member Point Loads (BLC 20 : Ice Wind Load AZI 90)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-11.95	0
2	MP1	Z	0	0
3	MP1	X	-11.95	72
4	MP1	Z	0	72
5	MP1	X	-5.81	12
6	MP1	Z	0	12
7	MP1	X	-5.54	12
8	MP1	Z	0	12
9	S1	X	-2.82	6
10	S1	Z	0	6
11	S1	X	-2.82	16
12	S1	Z	0	16

Member Point Loads (BLC 20 : Ice Wind Load AZI 90) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
13	MP4	X	-15.9	0
14	MP4	Z	0	0
15	MP4	X	-15.9	72
16	MP4	Z	0	72
17	MP4	X	-6.72	12
18	MP4	Z	0	12
19	MP4	X	-6.65	12
20	MP4	Z	0	12
21	MP7	X	-15.9	0
22	MP7	Z	0	0
23	MP7	X	-15.9	72
24	MP7	Z	0	72
25	MP7	X	-6.72	12
26	MP7	Z	0	12
27	MP7	X	-6.65	12
28	MP7	Z	0	12

Member Point Loads (BLC 21 : Ice Wind Load AZI 120)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-11.49	0
2	MP1	Z	6.63	0
3	MP1	X	-11.49	72
4	MP1	Z	6.63	72
5	MP1	X	-5.3	12
6	MP1	Z	3.06	12
7	MP1	X	-5.12	12
8	MP1	Z	2.96	12
9	S1	X	-2.58	6
10	S1	Z	1.49	6
11	S1	X	-2.58	16
12	S1	Z	1.49	16
13	MP4	X	-11.49	0
14	MP4	Z	6.63	0
15	MP4	X	-11.49	72
16	MP4	Z	6.63	72
17	MP4	X	-5.3	12
18	MP4	Z	3.06	12
19	MP4	X	-5.12	12
20	MP4	Z	2.96	12
21	MP7	X	-14.91	0
22	MP7	Z	8.61	0
23	MP7	X	-14.91	72
24	MP7	Z	8.61	72
25	MP7	X	-6.08	12
26	MP7	Z	3.51	12
27	MP7	X	-6.08	12
28	MP7	Z	3.51	12

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-7.95	0

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP1	Z	13.77	0
3	MP1	X	-7.95	72
4	MP1	Z	13.77	72
5	MP1	X	-3.36	12
6	MP1	Z	5.82	12
7	MP1	X	-3.33	12
8	MP1	Z	5.76	12
9	S1	X	-1.65	6
10	S1	Z	2.85	6
11	S1	X	-1.65	16
12	S1	Z	2.85	16
13	MP4	X	-5.97	0
14	MP4	Z	10.35	0
15	MP4	X	-5.97	72
16	MP4	Z	10.35	72
17	MP4	X	-2.91	12
18	MP4	Z	5.03	12
19	MP4	X	-2.77	12
20	MP4	Z	4.8	12
21	MP7	X	-7.95	0
22	MP7	Z	13.77	0
23	MP7	X	-7.95	72
24	MP7	Z	13.77	72
25	MP7	X	-3.36	12
26	MP7	Z	5.82	12
27	MP7	X	-3.33	12
28	MP7	Z	5.76	12

Member Point Loads (BLC 23 : Ice Wind Load AZI 180)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	Z	17.22	0
3	MP1	X	0	72
4	MP1	Z	17.22	72
5	MP1	X	0	12
6	MP1	Z	7.02	12
7	MP1	X	0	12
8	MP1	Z	7.02	12
9	S1	X	0	6
10	S1	Z	3.46	6
11	S1	X	0	16
12	S1	Z	3.46	16
13	MP4	X	0	0
14	MP4	Z	13.26	0
15	MP4	X	0	72
16	MP4	Z	13.26	72
17	MP4	X	0	12
18	MP4	Z	6.12	12
19	MP4	X	0	12
20	MP4	Z	5.91	12
21	MP7	X	0	0

Member Point Loads (BLC 23 : Ice Wind Load AZI 180) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
22	MP7	Z	13.26	0
23	MP7	X	0	72
24	MP7	Z	13.26	72
25	MP7	X	0	12
26	MP7	Z	6.12	12
27	MP7	X	0	12
28	MP7	Z	5.91	12

Member Point Loads (BLC 24 : Ice Wind Load AZI 210)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	7.95	0
2	MP1	Z	13.77	0
3	MP1	X	7.95	72
4	MP1	Z	13.77	72
5	MP1	X	3.36	12
6	MP1	Z	5.82	12
7	MP1	X	3.33	12
8	MP1	Z	5.76	12
9	S1	X	1.65	6
10	S1	Z	2.85	6
11	S1	X	1.65	16
12	S1	Z	2.85	16
13	MP4	X	7.95	0
14	MP4	Z	13.77	0
15	MP4	X	7.95	72
16	MP4	Z	13.77	72
17	MP4	X	3.36	12
18	MP4	Z	5.82	12
19	MP4	X	3.33	12
20	MP4	Z	5.76	12
21	MP7	X	5.97	0
22	MP7	Z	10.35	0
23	MP7	X	5.97	72
24	MP7	Z	10.35	72
25	MP7	X	2.91	12
26	MP7	Z	5.03	12
27	MP7	X	2.77	12
28	MP7	Z	4.8	12

Member Point Loads (BLC 25 : Ice Wind Load AZI 240)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	11.49	0
2	MP1	Z	6.63	0
3	MP1	X	11.49	72
4	MP1	Z	6.63	72
5	MP1	X	5.3	12
6	MP1	Z	3.06	12
7	MP1	X	5.12	12
8	MP1	Z	2.96	12
9	S1	X	2.58	6
10	S1	Z	1.49	6

Member Point Loads (BLC 25 : Ice Wind Load AZI 240) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
11	S1	X	2.58	16
12	S1	Z	1.49	16
13	MP4	X	14.91	0
14	MP4	Z	8.61	0
15	MP4	X	14.91	72
16	MP4	Z	8.61	72
17	MP4	X	6.08	12
18	MP4	Z	3.51	12
19	MP4	X	6.08	12
20	MP4	Z	3.51	12
21	MP7	X	11.49	0
22	MP7	Z	6.63	0
23	MP7	X	11.49	72
24	MP7	Z	6.63	72
25	MP7	X	5.3	12
26	MP7	Z	3.06	12
27	MP7	X	5.12	12
28	MP7	Z	2.96	12

Member Point Loads (BLC 26 : Ice Wind Load AZI 270)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	11.95	0
2	MP1	Z	0	0
3	MP1	X	11.95	72
4	MP1	Z	0	72
5	MP1	X	5.81	12
6	MP1	Z	0	12
7	MP1	X	5.54	12
8	MP1	Z	0	12
9	S1	X	2.82	6
10	S1	Z	0	6
11	S1	X	2.82	16
12	S1	Z	0	16
13	MP4	X	15.9	0
14	MP4	Z	0	0
15	MP4	X	15.9	72
16	MP4	Z	0	72
17	MP4	X	6.72	12
18	MP4	Z	0	12
19	MP4	X	6.65	12
20	MP4	Z	0	12
21	MP7	X	15.9	0
22	MP7	Z	0	0
23	MP7	X	15.9	72
24	MP7	Z	0	72
25	MP7	X	6.72	12
26	MP7	Z	0	12
27	MP7	X	6.65	12
28	MP7	Z	0	12

Member Point Loads (BLC 27 : Ice Wind Load AZI 300)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	11.49	0
2	MP1	Z	-6.63	0
3	MP1	X	11.49	72
4	MP1	Z	-6.63	72
5	MP1	X	5.3	12
6	MP1	Z	-3.06	12
7	MP1	X	5.12	12
8	MP1	Z	-2.96	12
9	S1	X	2.58	6
10	S1	Z	-1.49	6
11	S1	X	2.58	16
12	S1	Z	-1.49	16
13	MP4	X	11.49	0
14	MP4	Z	-6.63	0
15	MP4	X	11.49	72
16	MP4	Z	-6.63	72
17	MP4	X	5.3	12
18	MP4	Z	-3.06	12
19	MP4	X	5.12	12
20	MP4	Z	-2.96	12
21	MP7	X	14.91	0
22	MP7	Z	-8.61	0
23	MP7	X	14.91	72
24	MP7	Z	-8.61	72
25	MP7	X	6.08	12
26	MP7	Z	-3.51	12
27	MP7	X	6.08	12
28	MP7	Z	-3.51	12

Member Point Loads (BLC 28 : Ice Wind Load AZI 330)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	7.95	0
2	MP1	Z	-13.77	0
3	MP1	X	7.95	72
4	MP1	Z	-13.77	72
5	MP1	X	3.36	12
6	MP1	Z	-5.82	12
7	MP1	X	3.33	12
8	MP1	Z	-5.76	12
9	S1	X	1.65	6
10	S1	Z	-2.85	6
11	S1	X	1.65	16
12	S1	Z	-2.85	16
13	MP4	X	5.97	0
14	MP4	Z	-10.35	0
15	MP4	X	5.97	72
16	MP4	Z	-10.35	72
17	MP4	X	2.91	12
18	MP4	Z	-5.03	12
19	MP4	X	2.77	12
20	MP4	Z	-4.8	12

Member Point Loads (BLC 28 : Ice Wind Load AZI 330) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
21	MP7	X	7.95	0
22	MP7	Z	-13.77	0
23	MP7	X	7.95	72
24	MP7	Z	-13.77	72
25	MP7	X	3.36	12
26	MP7	Z	-5.82	12
27	MP7	X	3.33	12
28	MP7	Z	-5.76	12

Member Point Loads (BLC 31 : Seismic Load Z)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Z	-9.03	0
2	MP1	Z	-9.03	72
3	MP1	Z	-20.986	12
4	MP1	Z	-17.9	12
5	S1	Z	-3.059	6
6	S1	Z	-3.059	16
7	MP4	Z	-9.03	0
8	MP4	Z	-9.03	72
9	MP4	Z	-20.986	12
10	MP4	Z	-17.9	12
11	MP7	Z	-9.03	0
12	MP7	Z	-9.03	72
13	MP7	Z	-20.986	12
14	MP7	Z	-17.9	12

Member Point Loads (BLC 32 : Seismic Load X)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.03	0
2	MP1	X	-9.03	72
3	MP1	X	-20.986	12
4	MP1	X	-17.9	12
5	S1	X	-3.059	6
6	S1	X	-3.059	16
7	MP4	X	-9.03	0
8	MP4	X	-9.03	72
9	MP4	X	-20.986	12
10	MP4	X	-17.9	12
11	MP7	X	-9.03	0
12	MP7	X	-9.03	72
13	MP7	X	-20.986	12
14	MP7	X	-17.9	12

Member Point Loads (BLC 33 : Service Live Loads)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	S3	Y	0	0

Member Distributed Loads (BLC 14 : Distr. Wind Load Z)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	SZ	-71.751	-71.751	0	%100
2	GA4	SZ	-71.751	-71.751	0	%100
3	GA3	SZ	-71.751	-71.751	0	%100
4	P3	SZ	-71.751	-71.751	0	%100
5	S2	SZ	-71.751	-71.751	0	%100
6	GA2	SZ	-71.751	-71.751	0	%100
7	GA1	SZ	-71.751	-71.751	0	%100
8	P2	SZ	-71.751	-71.751	0	%100
9	S1	SZ	-71.751	-71.751	0	%100
10	GA6	SZ	-71.751	-71.751	0	%100
11	GA5	SZ	-71.751	-71.751	0	%100
12	P1	SZ	-71.751	-71.751	0	%100
13	H1	SZ	-43.051	-43.051	0	%100
14	MP1	SZ	-43.051	-43.051	0	%100
15	MP3	SZ	-43.051	-43.051	0	%100
16	HR1	SZ	-43.051	-43.051	0	%100
17	CA8	SZ	-71.751	-71.751	0	%100
18	CA9	SZ	-71.751	-71.751	0	%100
19	CA7	SZ	-71.751	-71.751	0	%100
20	M32	SZ	0	0	0	%100
21	M35	SZ	0	0	0	%100
22	M36	SZ	0	0	0	%100
23	M39A	SZ	0	0	0	%100
24	CA3	SZ	-71.751	-71.751	0	%100
25	CA4	SZ	-71.751	-71.751	0	%100
26	CA1	SZ	-71.751	-71.751	0	%100
27	CA2	SZ	-71.751	-71.751	0	%100
28	CA5	SZ	-71.751	-71.751	0	%100
29	CA6	SZ	-71.751	-71.751	0	%100
30	M64	SZ	0	0	0	%100
31	M65	SZ	0	0	0	%100
32	M66	SZ	0	0	0	%100
33	M67	SZ	0	0	0	%100
34	M68	SZ	0	0	0	%100
35	M69	SZ	0	0	0	%100
36	M70	SZ	0	0	0	%100
37	M71	SZ	0	0	0	%100
38	M72	SZ	0	0	0	%100
39	M73	SZ	0	0	0	%100
40	M74	SZ	0	0	0	%100
41	M75	SZ	-71.751	-71.751	0	%100
42	MP2	SZ	-43.051	-43.051	0	%100
43	M43	SZ	0	0	0	%100
44	M44	SZ	0	0	0	%100
45	H3	SZ	-43.051	-43.051	0	%100
46	MP7	SZ	-43.051	-43.051	0	%100
47	MP9	SZ	-43.051	-43.051	0	%100
48	HR3	SZ	-43.051	-43.051	0	%100
49	M52	SZ	0	0	0	%100
50	M53	SZ	0	0	0	%100
51	M54	SZ	0	0	0	%100

Member Distributed Loads (BLC 14 : Distr. Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
52	M55	SZ	0	0	0	%100
53	H2	SZ	-43.051	-43.051	0	%100
54	MP4	SZ	-43.051	-43.051	0	%100
55	MP6	SZ	-43.051	-43.051	0	%100
56	HR2	SZ	-43.051	-43.051	0	%100
57	M66A	SZ	0	0	0	%100
58	M67A	SZ	0	0	0	%100
59	M68A	SZ	0	0	0	%100
60	M69A	SZ	0	0	0	%100
61	MP8	SZ	-43.051	-43.051	0	%100
62	M68B	SZ	0	0	0	%100
63	M69B	SZ	0	0	0	%100
64	MP5	SZ	-43.051	-43.051	0	%100
65	M71B	SZ	0	0	0	%100
66	M72B	SZ	0	0	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	SX	-71.751	-71.751	0	%100
2	GA4	SX	-71.751	-71.751	0	%100
3	GA3	SX	-71.751	-71.751	0	%100
4	P3	SX	-71.751	-71.751	0	%100
5	S2	SX	-71.751	-71.751	0	%100
6	GA2	SX	-71.751	-71.751	0	%100
7	GA1	SX	-71.751	-71.751	0	%100
8	P2	SX	-71.751	-71.751	0	%100
9	S1	SX	-71.751	-71.751	0	%100
10	GA6	SX	-71.751	-71.751	0	%100
11	GA5	SX	-71.751	-71.751	0	%100
12	P1	SX	-71.751	-71.751	0	%100
13	H1	SX	-43.051	-43.051	0	%100
14	MP1	SX	-43.051	-43.051	0	%100
15	MP3	SX	-43.051	-43.051	0	%100
16	HR1	SX	-43.051	-43.051	0	%100
17	CA8	SX	-71.751	-71.751	0	%100
18	CA9	SX	-71.751	-71.751	0	%100
19	CA7	SX	-71.751	-71.751	0	%100
20	M32	SX	0	0	0	%100
21	M35	SX	0	0	0	%100
22	M36	SX	0	0	0	%100
23	M39A	SX	0	0	0	%100
24	CA3	SX	-71.751	-71.751	0	%100
25	CA4	SX	-71.751	-71.751	0	%100
26	CA1	SX	-71.751	-71.751	0	%100
27	CA2	SX	-71.751	-71.751	0	%100
28	CA5	SX	-71.751	-71.751	0	%100
29	CA6	SX	-71.751	-71.751	0	%100
30	M64	SX	0	0	0	%100
31	M65	SX	0	0	0	%100
32	M66	SX	0	0	0	%100
33	M67	SX	0	0	0	%100

Member Distributed Loads (BLC 15 : Distr. Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
34	M68	SX	0	0	0	%100
35	M69	SX	0	0	0	%100
36	M70	SX	0	0	0	%100
37	M71	SX	0	0	0	%100
38	M72	SX	0	0	0	%100
39	M73	SX	0	0	0	%100
40	M74	SX	0	0	0	%100
41	M75	SX	-71.751	-71.751	0	%100
42	MP2	SX	-43.051	-43.051	0	%100
43	M43	SX	0	0	0	%100
44	M44	SX	0	0	0	%100
45	H3	SX	-43.051	-43.051	0	%100
46	MP7	SX	-43.051	-43.051	0	%100
47	MP9	SX	-43.051	-43.051	0	%100
48	HR3	SX	-43.051	-43.051	0	%100
49	M52	SX	0	0	0	%100
50	M53	SX	0	0	0	%100
51	M54	SX	0	0	0	%100
52	M55	SX	0	0	0	%100
53	H2	SX	-43.051	-43.051	0	%100
54	MP4	SX	-43.051	-43.051	0	%100
55	MP6	SX	-43.051	-43.051	0	%100
56	HR2	SX	-43.051	-43.051	0	%100
57	M66A	SX	0	0	0	%100
58	M67A	SX	0	0	0	%100
59	M68A	SX	0	0	0	%100
60	M69A	SX	0	0	0	%100
61	MP8	SX	-43.051	-43.051	0	%100
62	M68B	SX	0	0	0	%100
63	M69B	SX	0	0	0	%100
64	MP5	SX	-43.051	-43.051	0	%100
65	M71B	SX	0	0	0	%100
66	M72B	SX	0	0	0	%100

Member Distributed Loads (BLC 16 : Ice Weight)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	Y	-21.343	-21.343	0	%100
2	GA4	Y	-13.678	-13.678	0	%100
3	GA3	Y	-13.678	-13.678	0	%100
4	P3	Y	-23.658	-23.658	0	%100
5	S2	Y	-21.343	-21.343	0	%100
6	GA2	Y	-13.678	-13.678	0	%100
7	GA1	Y	-13.678	-13.678	0	%100
8	P2	Y	-23.658	-23.658	0	%100
9	S1	Y	-21.343	-21.343	0	%100
10	GA6	Y	-13.678	-13.678	0	%100
11	GA5	Y	-13.678	-13.678	0	%100
12	P1	Y	-23.658	-23.658	0	%100
13	H1	Y	-15.498	-15.498	0	%100
14	MP1	Y	-13.804	-13.804	0	%100
15	MP3	Y	-13.804	-13.804	0	%100

Member Distributed Loads (BLC 16 : Ice Weight) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
16	HR1	Y	-13.818	-13.818	0	%100
17	CA8	Y	-27.601	-27.601	0	%100
18	CA9	Y	-27.601	-27.601	0	%100
19	CA7	Y	-27.601	-27.601	0	%100
20	M32	Y	-6.012	-6.012	0	%100
21	M35	Y	-6.012	-6.012	0	%100
22	M36	Y	-6.012	-6.012	0	%100
23	M39A	Y	-6.012	-6.012	0	%100
24	CA3	Y	-16.74	-16.74	0	%100
25	CA4	Y	-16.74	-16.74	0	%100
26	CA1	Y	-16.74	-16.74	0	%100
27	CA2	Y	-16.74	-16.74	0	%100
28	CA5	Y	-16.74	-16.74	0	%100
29	CA6	Y	-16.74	-16.74	0	%100
30	M64	Y	-6.012	-6.012	0	%100
31	M65	Y	-6.012	-6.012	0	%100
32	M66	Y	-6.012	-6.012	0	%100
33	M67	Y	-6.012	-6.012	0	%100
34	M68	Y	-6.012	-6.012	0	%100
35	M69	Y	-6.012	-6.012	0	%100
36	M70	Y	-6.012	-6.012	0	%100
37	M71	Y	-6.012	-6.012	0	%100
38	M72	Y	-6.012	-6.012	0	%100
39	M73	Y	-6.012	-6.012	0	%100
40	M74	Y	-6.012	-6.012	0	%100
41	M75	Y	-12.59	-12.59	0	%100
42	MP2	Y	-13.804	-13.804	0	%100
43	M43	Y	-6.012	-6.012	0	%100
44	M44	Y	-6.012	-6.012	0	%100
45	H3	Y	-15.498	-15.498	0	%100
46	MP7	Y	-13.804	-13.804	0	%100
47	MP9	Y	-13.804	-13.804	0	%100
48	HR3	Y	-13.818	-13.818	0	%100
49	M52	Y	-6.012	-6.012	0	%100
50	M53	Y	-6.012	-6.012	0	%100
51	M54	Y	-6.012	-6.012	0	%100
52	M55	Y	-6.012	-6.012	0	%100
53	H2	Y	-15.498	-15.498	0	%100
54	MP4	Y	-13.804	-13.804	0	%100
55	MP6	Y	-13.804	-13.804	0	%100
56	HR2	Y	-13.818	-13.818	0	%100
57	M66A	Y	-6.012	-6.012	0	%100
58	M67A	Y	-6.012	-6.012	0	%100
59	M68A	Y	-6.012	-6.012	0	%100
60	M69A	Y	-6.012	-6.012	0	%100
61	MP8	Y	-13.804	-13.804	0	%100
62	M68B	Y	-6.012	-6.012	0	%100
63	M69B	Y	-6.012	-6.012	0	%100
64	MP5	Y	-13.804	-13.804	0	%100
65	M71B	Y	-6.012	-6.012	0	%100
66	M72B	Y	-6.012	-6.012	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	SZ	-12.29	-12.29	0	%100
2	GA4	SZ	-17.693	-17.693	0	%100
3	GA3	SZ	-17.693	-17.693	0	%100
4	P3	SZ	-11.582	-11.582	0	%100
5	S2	SZ	-12.29	-12.29	0	%100
6	GA2	SZ	-17.693	-17.693	0	%100
7	GA1	SZ	-17.693	-17.693	0	%100
8	P2	SZ	-11.582	-11.582	0	%100
9	S1	SZ	-12.29	-12.29	0	%100
10	GA6	SZ	-17.693	-17.693	0	%100
11	GA5	SZ	-17.693	-17.693	0	%100
12	P1	SZ	-11.582	-11.582	0	%100
13	H1	SZ	-15.62	-15.62	0	%100
14	MP1	SZ	-17.518	-17.518	0	%100
15	MP3	SZ	-17.518	-17.518	0	%100
16	HR1	SZ	-17.499	-17.499	0	%100
17	CA8	SZ	-10.725	-10.725	0	%100
18	CA9	SZ	-10.725	-10.725	0	%100
19	CA7	SZ	-10.725	-10.725	0	%100
20	M32	SZ	0	0	0	%100
21	M35	SZ	0	0	0	%100
22	M36	SZ	0	0	0	%100
23	M39A	SZ	0	0	0	%100
24	CA3	SZ	-14.609	-14.609	0	%100
25	CA4	SZ	-14.609	-14.609	0	%100
26	CA1	SZ	-14.609	-14.609	0	%100
27	CA2	SZ	-14.609	-14.609	0	%100
28	CA5	SZ	-14.609	-14.609	0	%100
29	CA6	SZ	-14.609	-14.609	0	%100
30	M64	SZ	0	0	0	%100
31	M65	SZ	0	0	0	%100
32	M66	SZ	0	0	0	%100
33	M67	SZ	0	0	0	%100
34	M68	SZ	0	0	0	%100
35	M69	SZ	0	0	0	%100
36	M70	SZ	0	0	0	%100
37	M71	SZ	0	0	0	%100
38	M72	SZ	0	0	0	%100
39	M73	SZ	0	0	0	%100
40	M74	SZ	0	0	0	%100
41	M75	SZ	-19.48	-19.48	0	%100
42	MP2	SZ	-17.518	-17.518	0	%100
43	M43	SZ	0	0	0	%100
44	M44	SZ	0	0	0	%100
45	H3	SZ	-15.62	-15.62	0	%100
46	MP7	SZ	-17.518	-17.518	0	%100
47	MP9	SZ	-17.518	-17.518	0	%100
48	HR3	SZ	-17.499	-17.499	0	%100
49	M52	SZ	0	0	0	%100
50	M53	SZ	0	0	0	%100
51	M54	SZ	0	0	0	%100
52	M55	SZ	0	0	0	%100

Member Distributed Loads (BLC 29 : Distr. Ice Wind Load Z) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
53	H2	SZ	-15.62	-15.62	0	%100
54	MP4	SZ	-17.518	-17.518	0	%100
55	MP6	SZ	-17.518	-17.518	0	%100
56	HR2	SZ	-17.499	-17.499	0	%100
57	M66A	SZ	0	0	0	%100
58	M67A	SZ	0	0	0	%100
59	M68A	SZ	0	0	0	%100
60	M69A	SZ	0	0	0	%100
61	MP8	SZ	-17.518	-17.518	0	%100
62	M68B	SZ	0	0	0	%100
63	M69B	SZ	0	0	0	%100
64	MP5	SZ	-17.518	-17.518	0	%100
65	M71B	SZ	0	0	0	%100
66	M72B	SZ	0	0	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S3	SX	-12.29	-12.29	0	%100
2	GA4	SX	-17.693	-17.693	0	%100
3	GA3	SX	-17.693	-17.693	0	%100
4	P3	SX	-11.582	-11.582	0	%100
5	S2	SX	-12.29	-12.29	0	%100
6	GA2	SX	-17.693	-17.693	0	%100
7	GA1	SX	-17.693	-17.693	0	%100
8	P2	SX	-11.582	-11.582	0	%100
9	S1	SX	-12.29	-12.29	0	%100
10	GA6	SX	-17.693	-17.693	0	%100
11	GA5	SX	-17.693	-17.693	0	%100
12	P1	SX	-11.582	-11.582	0	%100
13	H1	SX	-15.62	-15.62	0	%100
14	MP1	SX	-17.518	-17.518	0	%100
15	MP3	SX	-17.518	-17.518	0	%100
16	HR1	SX	-17.499	-17.499	0	%100
17	CA8	SX	-10.725	-10.725	0	%100
18	CA9	SX	-10.725	-10.725	0	%100
19	CA7	SX	-10.725	-10.725	0	%100
20	M32	SX	0	0	0	%100
21	M35	SX	0	0	0	%100
22	M36	SX	0	0	0	%100
23	M39A	SX	0	0	0	%100
24	CA3	SX	-14.609	-14.609	0	%100
25	CA4	SX	-14.609	-14.609	0	%100
26	CA1	SX	-14.609	-14.609	0	%100
27	CA2	SX	-14.609	-14.609	0	%100
28	CA5	SX	-14.609	-14.609	0	%100
29	CA6	SX	-14.609	-14.609	0	%100
30	M64	SX	0	0	0	%100
31	M65	SX	0	0	0	%100
32	M66	SX	0	0	0	%100
33	M67	SX	0	0	0	%100
34	M68	SX	0	0	0	%100

Member Distributed Loads (BLC 30 : Distr. Ice Wind Load X) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
35	M69	SX	0	0	0	%100
36	M70	SX	0	0	0	%100
37	M71	SX	0	0	0	%100
38	M72	SX	0	0	0	%100
39	M73	SX	0	0	0	%100
40	M74	SX	0	0	0	%100
41	M75	SX	-19.48	-19.48	0	%100
42	MP2	SX	-17.518	-17.518	0	%100
43	M43	SX	0	0	0	%100
44	M44	SX	0	0	0	%100
45	H3	SX	-15.62	-15.62	0	%100
46	MP7	SX	-17.518	-17.518	0	%100
47	MP9	SX	-17.518	-17.518	0	%100
48	HR3	SX	-17.499	-17.499	0	%100
49	M52	SX	0	0	0	%100
50	M53	SX	0	0	0	%100
51	M54	SX	0	0	0	%100
52	M55	SX	0	0	0	%100
53	H2	SX	-15.62	-15.62	0	%100
54	MP4	SX	-17.518	-17.518	0	%100
55	MP6	SX	-17.518	-17.518	0	%100
56	HR2	SX	-17.499	-17.499	0	%100
57	M66A	SX	0	0	0	%100
58	M67A	SX	0	0	0	%100
59	M68A	SX	0	0	0	%100
60	M69A	SX	0	0	0	%100
61	MP8	SX	-17.518	-17.518	0	%100
62	M68B	SX	0	0	0	%100
63	M69B	SX	0	0	0	%100
64	MP5	SX	-17.518	-17.518	0	%100
65	M71B	SX	0	0	0	%100
66	M72B	SX	0	0	0	%100

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

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S2	Y	-3.185	-3.185	16.404	40
2	GA2	Y	-1.605	-1.605	3.828	27.295
3	GA1	Y	-1.605	-1.605	3.828	27.295
4	S3	Y	-3.185	-3.185	16.404	40
5	GA4	Y	-1.605	-1.605	3.828	27.295
6	GA3	Y	-1.605	-1.605	3.828	27.295
7	S1	Y	-3.185	-3.185	16.404	40
8	GA6	Y	-1.605	-1.605	3.828	27.295
9	GA5	Y	-1.605	-1.605	3.828	27.295

Member Distributed Loads (BLC 44 : BLC 16 Transient Area Loads)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
1	S2	Y	-37.677	-37.677	16.404	40
2	GA2	Y	-18.987	-18.987	3.828	27.295
3	GA1	Y	-18.987	-18.987	3.828	27.295
4	S3	Y	-37.677	-37.677	16.404	40

Member Distributed Loads (BLC 44 : BLC 16 Transient Area Loads) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft,F,psf]	End Magnitude[lb/ft,F,psf]	Start Location[in,..	End Location[in,...
5	GA4	Y	-18.987	-18.987	3.828	27.295
6	GA3	Y	-18.987	-18.987	3.828	27.295
7	S1	Y	-37.677	-37.677	16.404	40
8	GA6	Y	-18.987	-18.987	3.828	27.295
9	GA5	Y	-18.987	-18.987	3.828	27.295

Member Area Loads (BLC 1 : Self Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	P22	P21	P20	P23	Y	Two Way	-1.75
2	P10	P11	P12	P9	Y	Two Way	-1.75
3	P31	P34	P33	P32	Y	Two Way	-1.75

Member Area Loads (BLC 16 : Ice Weight)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[psf]
1	P22	P21	P20	P23	Y	Two Way	-20.7
2	P10	P11	P12	P9	Y	Two Way	-20.7
3	P31	P34	P33	P32	Y	Two Way	-20.7

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

	Member	Shape	Code Check	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pnc ...	phi*Pnt [lb]	phi*Mn y-y ..	phi*Mn z-z [l...	Cb	Eqn
1	CA1	C3.38x..	.327	0	31	.057	28.188	y	36	47760.0...	56700	2202.821	5751.945	1.65	H1-1b
2	S2	HSS4X..	.318	0	32	.113	0	y	32	188250....	197892	22045.5	22045.5	1.921	H1-1b
3	CA3	C3.38x..	.297	0	27	.055	28.188	y	32	47760.0...	56700	2202.821	5751.945	1.648	H1-1b
4	CA5	C3.38x..	.296	0	35	.054	28.187	y	28	47760.0...	56700	2202.821	5751.945	1.654	H1-1b
5	S3	HSS4X..	.293	0	38	.115	0	y	29	188250....	197892	22045.5	22045.5	1.937	H1-1b
6	P2	PL6.5x...	.284	21	31	.115	36.312	y	10	3658.14	78975	616.993	8391.794	1.493	H1-1b
7	P3	PL6.5x...	.272	21	2	.164	36.312	y	30	3658.14	78975	616.993	7998.829	1.423	H1-1b
8	CA4	C3.38x..	.266	33	27	.046	33	y	31	47760.0...	56700	2202.821	5751.945	1.678	H1-1b
9	CA6	C3.38x..	.265	33	30	.046	33	y	38	47760.0...	56700	2202.821	5751.945	1.676	H1-1b
10	S1	HSS4X..	.265	0	36	.108	0	y	86	188250....	197892	22045.5	22045.5	1.998	H1-1b
11	CA2	C3.38x..	.261	33	38	.047	33	y	34	47760.0...	56700	2202.821	5751.945	1.672	H1-1b
12	P1	PL6.5x...	.248	21	10	.129	36.312	y	27	3658.14	78975	616.993	7998.731	1.423	H1-1b
13	CA8	L6.6x4...	.217	41.562	22	.031	42	z	4	51170.9...	87561	2464.809	7125.374	1.136	H2-1
14	M75	PL 2.3...	.216	1.5	12	.265	0	y	28	38256.8...	38475	400.783	1903.711	2.204	H1-1b
15	HR2	2.88x0...	.213	90	3	.106	92		4	22491.6...	43076.493	3155.674	3155.674	1.668	H1-1b
16	CA7	L6.6x4...	.213	41.562	3	.029	42	z	8	51170.9...	87561	2464.809	7125.374	1.136	H2-1
17	HR3	2.88x0...	.210	6	2	.099	92		6	22491.6...	43076.493	3155.674	3155.674	1.777	H1-1b
18	HR1	2.88x0...	.205	6	4	.094	6		4	22491.6...	43076.493	3155.674	3155.674	1.916	H1-1b
19	CA9	L6.6x4...	.194	41.562	18	.027	42	z	12	51170.9...	87561	2464.809	7125.374	1.136	H2-1
20	MP2	PIPE_...	.178	70	5	.064	70		5	33487.3...	66654	4726.5	4726.5	4.425	H1-1b
21	MP5	PIPE_...	.174	70	7	.054	70		7	33487.3...	66654	4726.5	4726.5	4.48	H1-1b
22	GA4	L2x2x4	.165	0	2	.012	27.295	y	9	29527.5...	42480	959.63	2190.068	2.196	H2-1
23	MP8	PIPE_...	.155	70	9	.067	70		3	33487.3...	66654	4726.5	4726.5	4.048	H1-1b
24	GA5	L2x2x4	.155	0	9	.025	27.295	y	38	29527.5...	42480	959.63	2190.068	2.19	H2-1
25	GA2	L2x2x4	.150	0	12	.012	0	y	12	29527.5...	42480	959.63	2190.068	2.34	H2-1
26	GA1	L2x2x4	.141	0	6	.025	27.295	y	34	29527.5...	42480	959.63	2190.068	2.287	H2-1
27	MP9	PIPE_...	.140	70	2	.063	70		7	33487.3...	66654	4726.5	4726.5	3.331	H1-1b
28	GA3	L2x2x4	.140	0	7	.026	27.295	y	30	29527.5...	42480	959.63	2190.068	2.197	H2-1

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

	Member	Shape	Code Check	Loc[in]	LC	Shear ...	Loc[in]	Dir	LC	phi*Pnc ...	phi*Pnt [lb]	phi*Mn y-y ..	phi*Mn z-z [l...	Cb	Eqn
29	GA6	L2x2x4	.139	0	4	.012	0	y	4	29527.5...	42480	959.63	2190.068	2.291	H2-1
30	MP6	PIPE_...	.127	70	7	.068	70		6	33487.3...	66654	4726.5	4726.5	4.619	H1-1b
31	MP1	PIPE_...	.124	70	11	.076	26		8	33487.3...	66654	4726.5	4726.5	2.628	H1-1b
32	MP3	PIPE_...	.121	70	5	.069	70		3	33487.3...	66654	4726.5	4726.5	4.419	H1-1b
33	MP4	PIPE_...	.120	70	7	.070	26		4	33487.3...	66654	4726.5	4726.5	1.728	H1-1b
34	MP7	PIPE_...	.118	70	9	.062	26		6	33487.3...	66654	4726.5	4726.5	3.378	H1-1b
35	H3	Pipe3.5...	.107	31	2	.068	90		2	45873.0...	71580.6	6337.65	6337.65	1.939	H1-1b
36	H1	Pipe3.5...	.102	31	10	.060	48		4	45873.0...	71580.6	6337.65	6337.65	2.096	H1-1b
37	H2	Pipe3.5...	.102	31	6	.056	90		34	45873.0...	71580.6	6337.65	6337.65	1.779	H1-1b

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:	Fri Aug 27 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.

INFINIGY

FROM ZERO TO INFINIGY

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Bolt Calculation Tool, V1.5.1

PROJECT DATA	
Site Name:	BOBDL00015A
Site Number:	BOBDL00015A
Connection Description:	Platform to Monopole

MAXIMUM BOLT LOADS		
Bolt Tension:	8428.05	lbs
Bolt Shear:	1627.54	lbs

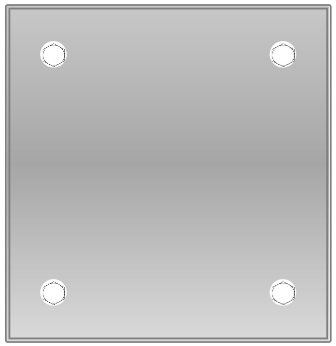
WORST CASE BOLT LOADS[1]		
Bolt Tension:	8428.05	lbs
Bolt Shear:	1505.57	lbs

BOLT PROPERTIES		
Bolt Type:	Bolt	-
Bolt Diameter:	0.625	in
Bolt Grade:	A325	-
# of Bolts:	4	-
Threads Excluded?	No	-

[1] *Worst case bolt loads correspond to Load combination #32 on member S2 in RISA-3D, which causes the maximum demand on the bolts.*

Member Information
I nodes of S3, S2, S1

BOLT CHECK		
Tensile Strength	20340.15	
Shear Strength	13805.83	
Max Tensile Usage	41.4%	
Max Shear Usage	11.8%	
Interaction Check (Worst Case)	0.18	***≤1.05***
Result	Pass	



POWER DENSITY STUDY

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: BOBDL00015A

BOBDL00015A
56 Ruops Road
Tolland, Connecticut 06084

October 4, 2021

EBI Project Number: 6221003974

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**16.90%**

October 4, 2021

Dish Wireless

Emissions Analysis for Site: BOBDL00015A - BOBDL00015A

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **56 Ruops Road** in **Tolland, 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 56 Ruops Road in Tolland, 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 20 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 n71 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 n70 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) 4 n66 channels (AWS Band - 2190 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

4) 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.

5) 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 20 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.

6) The antennas used in this modeling are the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector A, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 MHz channel(s) in Sector B, the JMA MX08FRO665-21 for the 600 MHz / 1900 MHz / 2190 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 20 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.

7) The antenna mounting height centerline of the proposed antennas is 93 feet above ground level (AGL).

8) 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.

9) 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 / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz	Frequency Bands:	600 MHz / 1900 MHz / 2190 MHz
Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd	Gain:	17.45 dBd / 22.65 dBd / 22.65 dBd
Height (AGL):	93 feet	Height (AGL):	93 feet	Height (AGL):	93 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts	Total TX Power (W):	440 Watts
ERP (W):	5,236.31	ERP (W):	5,236.31	ERP (W):	5,236.31
Antenna A1 MPE %:	**3.12%**	Antenna B1 MPE %:	**3.12%**	Antenna C1 MPE %:	**3.12%**

Site Composite MPE %	
Carrier	**MPE %**
Dish Wireless (Max at Sector A):	3.12%
T-Mobile	1.75%
AT&T	2.98%
Verizon	5.19%
Sprint	3.42%
Nextel	0.44%
Site Total MPE % :	16.90%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	3.12%
Dish Wireless Sector B Total:	3.12%
Dish Wireless Sector C Total:	3.12%
Site Total MPE % :	16.90%

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 n71	4	223.68	93.0	4.25	600 MHz n71	400	1.06%
Dish Wireless 1900 MHz n70	4	542.70	93.0	10.31	1900 MHz n70	1000	1.03%
Dish Wireless 2190 MHz n66	4	542.70	93.0	10.31	2190 MHz n66	1000	1.03%
						Total:	**3.12%**

• 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:	3.12%
Sector B:	3.12%
Sector C:	3.12%
Dish Wireless Maximum MPE % (Sector A):	3.12%
Site Total:	16.90%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **16.90%** 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.

November 09, 2021

Dear Customer,

The following is the proof-of-delivery for tracking number: 775109597048

Delivery Information:

Status:	Delivered	**Delivered To:**	Receptionist/Front Desk
Signed for by:	B.ARRI	**Delivery Location:**	21 TOLLAND GRN
Service type:	FedEx 2Day		
Special Handling:	Deliver Weekday		TOLLAND, CT, 06084
		Delivery date:	Nov 9, 2021 11:06

Shipping Information:

Tracking number:	775109597048	**Ship Date:**	Nov 5, 2021
		Weight:	1.0 LB/0.45 KG

Recipient:
Town of Tolland,
21 Tolland Green
TOLLAND, CT, US, 06084

Shipper:
Corey Milan, NB+C
100 Apollo Dr.
Suite 303
CHELMSFORD, MA, US, 01824

Reference 100814

Thank you for choosing FedEx

November 09, 2021

Dear Customer,

The following is the proof-of-delivery for tracking number: 775109570100

Delivery Information:

Status:	Delivered	**Delivered To:**	Receptionist/Front Desk
Signed for by:	B.ARRI	**Delivery Location:**	21 TOLLAND GRN
Service type:	FedEx 2Day		
Special Handling:	Deliver Weekday		TOLLAND, CT, 06084
		Delivery date:	Nov 9, 2021 11:06

Shipping Information:

Tracking number:	775109570100	**Ship Date:**	Nov 5, 2021
		Weight:	1.0 LB/0.45 KG

Recipient:
James Paquin,
21 Tolland Green
3rd Level
TOLLAND, CT, US, 06084

Shipper:
Corey Milan, NB+C
100 Apollo Dr.
Suite 303
CHELMSFORD, MA, US, 01824

Reference 100814

Thank you for choosing FedEx

November 09, 2021

Dear Customer,

The following is the proof-of-delivery for tracking number: 775109541571

Delivery Information:

Status:	Delivered	**Delivered To:**	Receptionist/Front Desk
Signed for by:	B.ARRI	**Delivery Location:**	21 TOLLAND GRN
Service type:	FedEx 2Day		
Special Handling:	Deliver Weekday		TOLLAND, CT, 06084
		Delivery date:	Nov 9, 2021 11:06

Shipping Information:

Tracking number:	775109541571	**Ship Date:**	Nov 5, 2021
		Weight:	1.0 LB/0.45 KG

Recipient:
Tammy Nuccio,
21 Tolland Green
TOLLAND, CT, US, 06084

Shipper:
Corey Milan, NB+C
100 Apollo Dr.
Suite 303
CHELMSFORD, MA, US, 01824

Reference 100814

Thank you for choosing FedEx