

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE: :
: :
A PETITION FOR A DECLARATORY : PETITION NO. _____
RULING ON THE NEED TO OBTAIN A :
SITING COUNCIL CERTIFICATE FOR THE :
PROPOSED MODIFICATION OF AN :
EXISTING WIRELESS :
TELECOMMUNICATIONS FACILITY AT :
1081 NORTH STREET, GREENWICH, : MAY 13, 2022
CONNECTICUT :

PETITION FOR A DECLARATORY RULING:
INSTALLATION HAVING NO
SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT

I. Introduction

Pursuant to Sections 16-50j-38 and 16-50j-39 of the Regulations of Connecticut State Agencies (“R.C.S.A.”), DISH Wireless, LLC (“DISH”) hereby petitions the Connecticut Siting Council (the “Council”) for a declaratory ruling (“Petition”) that no Certificate of Environmental Compatibility and Public Need (“Certificate”) is required under Section 16-50k(a) of the Connecticut General Statutes (“C.G.S.”) for the modification of an existing wireless telecommunications facility at 1081 North Street in Greenwich, Connecticut (the “Existing Facility”).

II. Existing Facility

The Existing Facility is located on an approximately 5.66-acre wooded parcel that is otherwise undeveloped and is owned by Crown Castle. The Facility consists of a 175-foot monopole and associated compound, also owned by Crown Castle, and currently includes the telecommunications equipment of several wireless carriers. **Attachment 1** contains the owner’s authorization permitting DISH to file this Petition. The Facility was originally approved by the Connecticut Siting Council, Docket No. 86 on February 17, 1988, as documented in **Attachment 2**.

III. DISH Facility

DISH’s proposed facility is illustrated on the plans submitted as **Attachment 3**. DISH proposes the shared use of the Existing Facility to provide FCC licensed services. DISH will install three (3) panel antennas and six (6) remote radiohead units (RRH) on a new platform mount installed at the centerline height of approximately 154’ AGL.

DISH has confirmed that the Existing Facility is capable of supporting the addition of DISH's antennas and tower mounted equipment, as documented in the tower Structural Analysis Report annexed hereto as **Attachment 4**, and once new mounts are installed as documented in the Mount Analysis Report annexed hereto as **Attachment 5**.

DISH's 5' x 7' lease area is located to the North of the tower and adjacent to an existing equipment shelter. In order to fully enclose its ground equipment and ice bridge, DISH will install 19'-0" feet of fence along the North (gated) side of the compound extending 8'-6" outward to enclose the DISH ground equipment, and 24'-6" of fence along the East side of the compound extending 4'-0" outward to enclose the DISH ice bridge. Within its lease area, DISH will install a 5' x 7' steel platform for its ground equipment, supported by four (4) 12" x 12" footpads at grade.

IV. The Proposed Modification Will Not Have A Substantial Adverse Environmental Effect

1. Physical Environmental Effects

The attachment of DISH's antennas to the existing monopole, and the installation of radio and electrical equipment within the expanded compound will not involve a significant alteration to the physical and environmental characteristics of the Property. No native trees will need to be removed and no on-site or off-site wetlands or watercourses will be impacted by the proposed facility expansion.

2. Visual Effects

Given the height of the existing tower, 175' AGL, which has existing antennas at multiple levels, DISH's proposed antenna installation at a centerline height of approximately 154' AGL would have a minimal visual impact. The proposed compound expansion will impact only a portion of the existing fenced perimeter and will also have a minimal visual impact.

3. FCC Compliance

Radio frequency ("RF") emissions resulting from DISH's shared use of the Existing Facility will be well below the standards adopted by the Federal Communications Commission ("FCC"). Included in **Attachment 6** is a Radio Frequency Emissions Analysis Report prepared by EBI Consulting. This report confirms that the modified facility will operate well within the RF emission standards established by the FCC.

V. Notice to the City, Property Owner and Abutting Landowners

On May 4, 2022, a copy of this Petition was sent to Fred Camillo, First Selectman and Katie DeLuca, Director of Planning & Zoning for the Town of Greenwich. A notice of DISH's intent to file this Petition was also sent to the owners of land that may be considered to abut the Property. Included in **Attachment 7** is a sample abutter's letter and the list of those abutting landowners who were sent notice.

VI. Conclusion

Based on the information provided above, the Petitioners respectfully requests that the Council issue a determination in the form of a declaratory ruling that the installation of a temporary tower at the Property will not have a substantial adverse environmental effect and does not require the issuance of a Certificate of Environmental Compatibility and Public Need pursuant to § 16-50k of the General Statutes.

Respectfully submitted,

Denise Sabo
Northeast Site Solutions
Agent for DISH Wireless
(860) 209-4690
denise@northeastsitesolutions.com

Attachments

CE<
Fred Camillo, First Selectman
Greenwich Town Hall
101 Field Point Road
Greenwich, CT 06830
Katie DeLuca, Director of Planning & Zoning
Greenwich Town Hall
101 Field Point Road
Greenwich, CT 06830

Crown Atlantic Company – Tower & Property Owner
PMB 353
4107 Washington Road
McMurray, PA 15317

ATTACHMENT 1



1200 MacArthur Blvd, Suite @00
Mahwah, NJ 07430

Phone: (862) 226-6914
www.crowncastle.com

Crown Castle Letter of Authorization

CT - CONNECTICUT SITING COUNCIL


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

Re: Tower Share Application
Crown Castle telecommunications site at:
1081 NORTH STREET, GREENWICH, CT 06831

CROWN ATLANTIC COMPANY LLC ("Crown Castle") hereby authorizes DISH NETWORK, including their Agent, to act as our Agent in the processing of all zoning applications, building permits and approvals through the CT - CONNECTICUT SITING COUNCIL for the existing wireless communications site described below:

Crown Site ID/Name: 807132/BRG 133 943050
Customer Site ID: NJJER01164A/CT-CCI-T-807132
Site Address: 1081 North Street, Greenwich, CT 06831

Crown Castle

By:  _____ Date: 04/28/2022
Robin Cannizzaro
Real Estate Specialist

ADMINISTRATIVE INFORMATION

OWNERSHIP

Tax ID 187/017

Printed 01/12/2021 Card No. 1 of 1

PARCEL NUMBER 11-1794
Parent Parcel Number

CROWN ATLANTIC COMPANY LLC
PMB 353
4017 WASHINGTON ROAD
MCMURRAY, PA 15317
LOT NO 52B & 52C NORTH ST W 113

TRANSFER OF OWNERSHIP

Table with columns: Date, Description, Value. Rows include transactions from 04/19/1999 to 04/21/1983.

COMMERCIAL

Property Address NORTH STREET 1081
Neighborhood 2900 BANKSVILLE
Property Class 270 Telecommunications

TAXING DISTRICT INFORMATION

Jurisdiction 57 Greenwich, CT
Area 001
Corporation 057
District 11
Section & Plat 399
Routing Number 5830W0113

VALUATION RECORD

Table with columns: Assessment Year, Reason for Change, 2015 Prelim, 2015 Final, 2016 List, 2017 List, 2018 List, 2019 List, 2020 List. Rows include VALUATION and Market data.

Site Description

Topography:
Public Utilities: Electric

Street or Road:

Neighborhood:

Zoning: RA-4 Single Family 4 1 Primary Commercial
Legal Acres: 5.6600

LAND DATA AND CALCULATIONS

Table with columns: Rating, Measured, Table, Prod. Factor, Base Rate, Adjusted Rate, Extended Value, Influence Factor, Value. Includes land calculation data.

BP14: 14-1010: \$29,000 demo house 2016 GL
BP18: 18-1439; Add 6 Antennas \$26,000
GEN: Boarded up dwlg depr @ 95% and telecommunications tower w/ ancillary improvements. Real estate owner owns tower.
LAND: V2068 P233 9/14/90 30k+- sf sold to 11-1240 reducing acreage to 5.66+-acres.

Permit Number FilingDate Est. Cost Field Visit
Type Est. SqFt

Supplemental Cards

TRUE TAX VALUE 2071800

Supplemental Cards
TOTAL LAND VALUE

2071800

IMPROVEMENT DATA

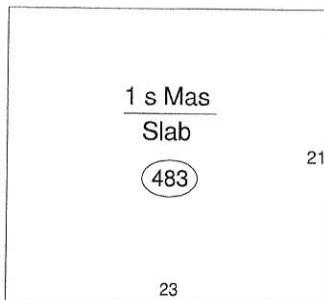
PHYSICAL CHARACTERISTICS

ROOFING
Built-up

WALLS
Frame B 1 2 U
Yes
Brick
Metal
Guard

FRAMING
F Prf B 1 2 U
0 483 0

HEATING AND AIR CONDITIONING
B 1 2 U



- 01
- 02
- 03
- 04

Item Description	Units	Cost	Total	Pct
M & S Cost Database Date: 01/2015				
Base Cost	483	204.17	98614	
Exterior Walls	483	46.14	22286	
Heating & Cooling	483	18.89	9124	
Basic Structure Cost	483	269.20	130024	
Physical	0	0.00	7801	6.00
Depreciated Cost	483	253.05	122223	
Rounded Total	0	0.00	122200	

Total Exterior Features Value
Depreciated Ext Features
Total Before Adjustments 122200
Neighborhood Adjustment 61100 50.00
TOTAL VALUE 183300

(LCM: 150.00)

SPECIAL FEATURES

SUMMARY OF IMPROVEMENTS

Description	Value	ID	Use	Stry Hgt	Const Type	Grade	Year Const	Eff Year	Cond	Base Rate	Feat-ures	Adj Rate	Size or Area	Computed Value	Phys Depr	Obsol Depr	Market Adj	% Comp	Value
		C	UTLSTOR	0.00		S2	1990	2005	VG	0.00	N	0.00	483	0	0	0	150	100	183300
01	COMCNPYA	0.00	1	Avg	1990	2000	GD	27.60	N	41.40	96	3970	0	0	100	100			4000
02	PAVING	0.00	6	Avg	1990	2000	GD	6.30	N	9.45	96	910	0	0	100	100			900
03	FENCECL	10.00	51E	Avg	1990	2000	GD	25.75	N	38.63	186	7180	0	0	100	100			7200
04	TOWERMON	0.00	5PF	Good	2001	2001	GD	916.50	N	2062	175	360870	0	0	100	100			360900

Data Collector/Date

Appraiser/Date

Neighborhood

Supplemental Cards

JLT 06/14/2000

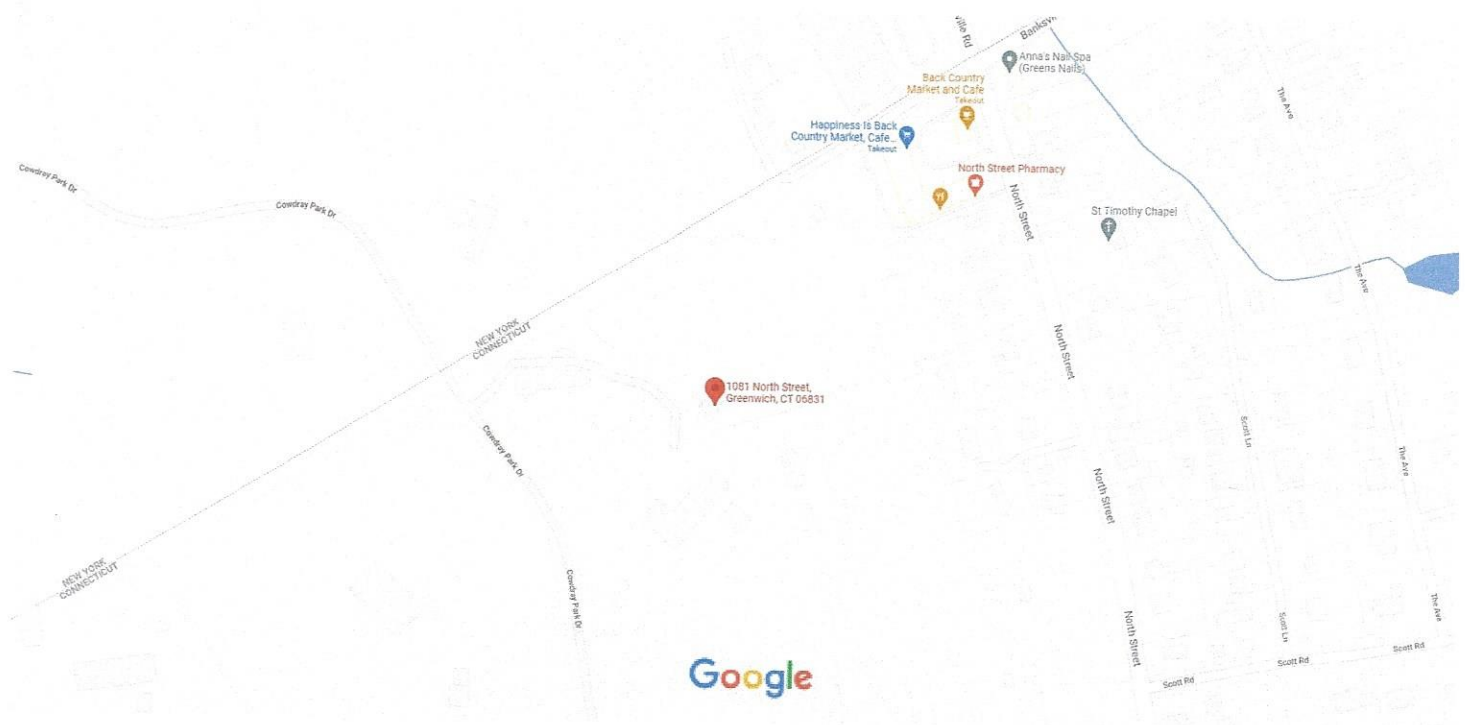
TOG 10/01/2015

Neigh 2900 AV

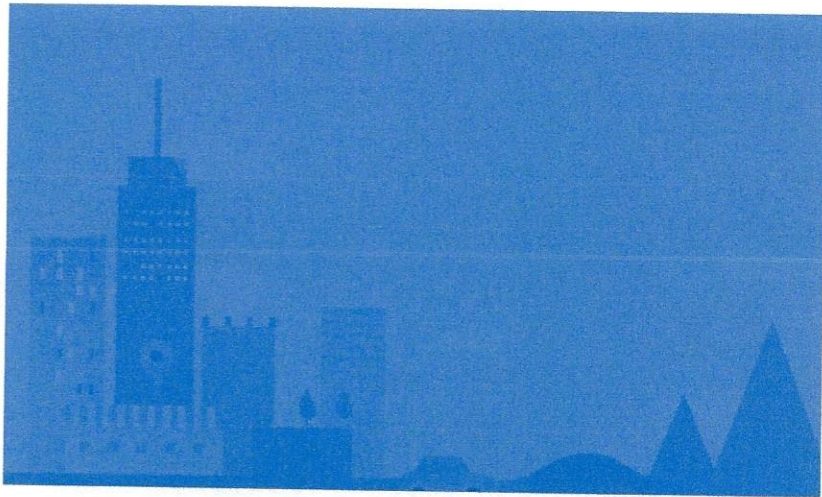
TOTAL IMPROVEMENT VALUE

556300

Google Maps 1081 North Street



Map data ©2021 100 ft



1081 North Street

Building



Directions



Save



Nearby



Send to your phone



Share



1081 North Street, Greenwich, CT 06831

ATTACHMENT 2

DOCKET NO. 86 - An application of Metro : Connecticut
Mobile CTS of Fairfield County, Inc.,
for a Certificate of Environmental Siting
Compatibility and Public Need for Council
cellular telephone antennas and
associated equipment in the Towns of
Greenwich, and Fairfield, Connecticut. February 17, 1988

DECISION AND ORDER

Pursuant to the forgoing opinion, the Connecticut Siting Council hereby directs that a Certificate of Environmental Compatibility and Public Need, as provided by Section 16-50k of the General Statutes of Connecticut (CGS) be issued to Metro Mobile CTS of Fairfield County, Inc. (Metro Mobile) for the construction, operation, and maintenance of cellular telephone tower sites and associated equipment at the "Greenwich AC/A" site off of North Street in Greenwich, and "Fairfield DE/A" site off of Wood House Road in Fairfield.

The proposed "Greenwich A" Riversville site, "Greenwich AC" Rockwood Lake site, and "Fairfield DE" sites are hereby denied.

The facilities shall be constructed, operated, and maintained as specified in the Council's record in this matter, and subject to the following conditions:

1. The monopole tower at the "Greenwich AC/A" Banksville site shall be no taller than necessary to provide the proposed service, and in no event shall exceed a total height of 213 feet, including antennas and associated equipment.
2. The monopole tower at the "Fairfield DE/A" site shall be no taller than necessary to provide the proposed service, and in no event shall exceed a total height of 173 feet, including antennas.

3. The facilities shall be constructed in accordance with all applicable federal, state, and municipal laws and regulations.
4. Unless necessary to comply with condition number 3, above, no lights shall be installed on these towers.
5. The Certificate Holder shall prepare development and management (D&M) plans for the Greenwich and Fairfield sites in compliance with sections 16-50j-75 through 16-50j-77 of the Regulations of State Agencies. The D&M plans shall provide for evergreen screening around the outside perimeters of the eight-foot chain link fences which will surround the sites.
6. The Certificate Holder or its successor shall notify the Council if and when directional antennas or any equipment other than that listed in this application are added to these facilities.
7. The Certificate Holder or its successor shall permit public or private entities to share space on the Greenwich and Fairfield towers for due consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
8. If these facilities do not provide, or permanently cease to provide, cellular service following completion of construction, this Decision and Order

shall be void, and the towers and all associated equipment in this application shall be dismantled and removed or reapplication for any new use shall be made to the Council before any such new use is made.

9. The Certificate Holder shall comply with any future radio frequency (RF) standards promulgated by State or federal regulatory agencies. Upon the establishment of any new governmental RF Standards, the facilities granted in this Decision and Order shall be brought into compliance with such standards.
10. Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three years of the issuance of this Decision and Order, or within three years of the completion of any appeal taken in this Decision and Order.

Pursuant to CGS Section 16-50p, we hereby direct that a copy of this Decision and Order be served on each person listed below. A notice of issuance shall be published in the Greenwich Time, the Advocate, the Norwalk Hour, and Bridgeport Post.

By this Decision and Order the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of State Agencies.

The parties or intervenors to this proceeding are:

Metro Mobile CTS of Fairfield County, Inc. (Applicant)
50 Rockland Street
South Norwalk, CT 06854

ATTN: Peter Kelley, Vice President
Michael Riley, General Manager

Howard L. Slater, Esq. (Its Attorneys)
Jennifer Young Gaudet, Esq.
Byrne, Slater, Sandler,
Schulman & Rouse, P.C.
330 Main Street - PO Box 3216
Hartford, CT 06103

Fleischman and Walsh, P.C.
1725 N Street, N.W.
Washington, D.C. 20036

ATTN: Richard Rubin, Esq.

SNET Cellular, Inc.

Intervenor

Peter J. Tyrrell, Esq.
Senior Attorney
SNET Cellular, Inc.
227 Church Street
New Haven, CT 06506

(Its Attorney)

Joan Koloski
11 Turner Lane
Wilton, CT 06897

(Intervenor)

Town of Wilton

Party

Louis H. Reens
Second Selectman
Town of Wilton
Town Hall
238 Danbury Road
Wilton, CT 06897

(Its Representative)

Joseph C. Lee, Esq.
Alice A. Bruno, Esq.
Tyler Cooper & Alcorn
205 Church Street
PO Box 1936
New Haven, CT 06509

(Its Attorneys)

David A. Schorsch

Party

Holly K. Dustin, Esq.
Albert, Pastore & Ward, P.C.
Attorneys At Law
125 Mason Street
PO Box 16668
Greenwich, CT 06636

(Its Attorney)

Ms. Rita Shannon

Party

Stephen J. Adams, Esq.
Attorney At Law
23 Ash Street
Fairfield, CT 06430

(Its Attorney)

Robert E. Sheriden, Jr.
Irene T. Sheriden
49 Quail Ridge Road
Wilton, CT 06897

Parties

John C. Parker
Attorney At Law
16 Cricket Lane
PO Box 548
Wilton, CT 06897

(Its Attorney)

Margaret A. Doheny
Joseph A. Charles

Parties

Robert P. Scholl
Attorney At Law
31 Imperial Avenue
Westport, CT 06880

(Its Attorney)

Robert E. Tomasson
355 Riversville Road
Greenwich, CT 06831

Party

The Hon. Fred H. Lovegrove, Jr.
State Senator
431 Catamount Road
Fairfield, CT 06430
(Service Waived)

Party

Ogden Bigelow
25 Hidden Lake Road
Wilton, CT 06897

Party

William F. Brennan
41 Hunting Ridge Lane
Wilton, CT 06897
(Service Waived)

Intervenor

John Cole
79 Warncke Road
Wilton, CT 06897
(Service Waived)

Intervenor

Ms. Kyle Cahill
140 Catalpa Road
Wilton, CT 06897
(Service Waived)

Intervenor

John B. Rust
2674 Congress Street
Fairfield, CT 06430
(Service Waived)

Intervenor

Patrick Byrne
2525 Hillside Road
Fairfield, CT 06430
(Service Waived)

Party

Town of Fairfield

Party

Paul Martin Tymniak
Attorney At Law
1512 Post Road
PO Box 1051
Fairfield, CT 06430

(Its Attorney)

PEACE, Inc.

Party

Ann M. Caggiano
President
PEACE, Inc.
33 Honey Hill Trail
Wilton, CT 06897

(Its Representative)

Dr. Saud M.A. Shawwaf

Party

Charles K. Campbell, Jr.
Linda Chiswick, Esq.
Cummings and Lockwood
Attorneys At Law
Ten Stamford Forum
PO Box 120
Stamford, CT 06904

(Its Attorneys)

Easton Construction Company, Inc.

Party

William J. Fitzpatrick, III
Fitzpatrick & Fray
Attorneys At Law
1238 Post Road
PO Box 278
Fairfield, CT 06430

(Its Attorneys)

Town of Greenwich

Party

John Margenot
First Selectman
Town of Greenwich
Town Hall
101 Field Point Road
PO Box 1249
Greenwich, CT 06830

(Its Representative)

John Gerli
44 South Stanwich Road
Greenwich, CT 06830
(Service Waived)

Party

Michael L. Tarnapol
Lynn Tarnapol

(Parties)

Alan R. Spirer
Spirer, Nasser & Marcus
253 Post Road West
PO Box 5201
Westport, CT 06881

(Its Attorney)

Iona Drescher
65 Audubon Lane
Fairfield, CT 06430
(Service Waived)

Intervenor

Robert N. Ettlenger
Rosemarie K. Ettlenger

Parties

Thomas F. Hartch
Hartch and Calhoun
Attorneys At Law
193 Field Point Road
Greenwich, CT 06830

(Its Attorney)

The Estate of Mathilde B. Vasileff

Party

Thor L. Crone
Avery & Crone
Attorneys and Counsellors At Law
25 Third Street
Stamford, CT 06905

(Its Attorney)

Joan Caldwell
Robert Tommasson

Parties

Robert Davidson
Davidson, Driscoll and Naylor
Attorneys At Law
544 Riverside Avenue
Box 191
Westport, CT 06881

(Its Attorney)

Rockwood Neighbors Association

Party

Stephan T. Vehslage
President
Rockwood Neighbors Association
40 South Stanwich Road
Greenwich, CT 06830

Daniel Karrell
2 Skyridge Road
Greenwich, CT 06830
(Service Waived)

0994E

CERTIFICATION

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case in Docket No. 86 or read the record thereof, and that we voted as follows:

Dated at New Britain, Connecticut the 17th day of February, 1988.

<u>Council Members</u>	<u>Vote Cast</u>
<u>Gloria Dibble Pond</u> Gloria Dibble Pond Chairperson	Yes
<u>Roland A. Miller</u> Commissioner Peter Boucher Designee: Roland Miller	Yes
<u>Commissioner Leslie Carothers</u> Designee: Brian Emerick	Absent
<u>Owen L. Clark</u>	Yes
<u>Fred J. Doocy</u>	Yes
<u>Mortimer A. Gelston</u>	Yes
<u>James G. Horsfall</u>	Yes
<u>William H. Smith</u>	Absent
<u>Colin C. Tait</u>	Absent

ATTACHMENT 3



DISH Wireless L.L.C. SITE ID:

NJJER01164A

DISH Wireless L.L.C. SITE ADDRESS:

**1081 NORTH STREET
GREENWICH, CT 06831**

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 ANTENNA PLATFORM MOUNT
•	INSTALL PROPOSED JUMPERS
•	INSTALL (6) PROPOSED RRU's (2 PER SECTOR)
•	INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
•	INSTALL (1) PROPOSED HYBRID CABLE
GROUND SCOPE OF WORK:	
•	INSTALL 56 LF FENCE FOR COMPOUND EXPANSION
•	INSTALL (1) PROPOSED METAL PLATFORM
•	INSTALL (1) PROPOSED ICE BRIDGE
•	INSTALL (1) PROPOSED PPC CABINET
•	INSTALL (1) PROPOSED EQUIPMENT CABINET
•	INSTALL (1) PROPOSED POWER CONDUIT
•	INSTALL (1) PROPOSED TELCO CONDUIT
•	INSTALL (1) PROPOSED TELCO-FIBER BOX
•	INSTALL (1) PROPOSED GPS UNIT
•	INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED)
•	INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)
•	INSTALL (1) PROPOSED METER SOCKET ON EXISTING H-FRAME

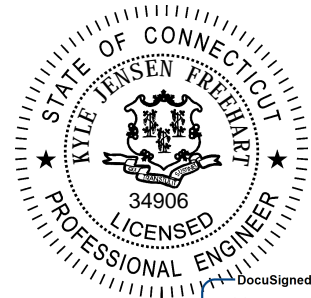
SITE INFORMATION	PROJECT DIRECTORY
PROPERTY OWNER: CROWN CASTLE, LLC PMB 353 ADDRESS: 4017 WASHINGTON RD MCMURRAY, PA 15317 TOWER TYPE: MONOPOLE	APPLICANT: DISH WIRELESS, LLC. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
CROWN CASTLE SITE ID: 807132	TOWER OWNER: CROWN CASTLE 2000 CORPORATE DRIVE CANONSBURG, PA 15317 (877) 486-9377
CROWN CASTLE APP NUMBER: 548697 COUNTY: FAIRFIELD	SITE DESIGNER: KIMLEY-HORN & ASSOCIATES 3875 EMBASSY PKWY, SUITE 280 AKRON, OH 44333 (216) 505-7771 COA #: PEC.0000738
LATITUDE (NAD 83): 41° 8' 21.50" N 41.13930556° N	SITE ACQUISITION: VICTOR NUNEZ VICTOR.NUNEZ@CROWNCastle.COM
LONGITUDE (NAD 83): 73° 38' 30.54" W 73.641817° W	CONSTRUCTION MANAGER: JOSEPH DIPIAZZA JOSEPH.DIPIAZZA@DISH.COM
ZONING JURISDICTION: CONNECTICUT SITING COUNCIL	RF ENGINEER: MURUGABIRAN JAYAPAL MURUGABIRAN.JAYAPAL@DISH.COM
ZONING DISTRICT: RA-4	
PARCEL NUMBER: 11-1794	
OCCUPANCY GROUP: U	
CONSTRUCTION TYPE: II-B	
POWER COMPANY: NORTHEAST UTILITIES	
TELEPHONE COMPANY: LIGHTOWER	



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



DocuSigned by:
Kyle Jensen

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

DRAWN BY: JRG
CHECKED BY: MCK
APPROVED BY: MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCL-16281

DISH Wireless L.L.C.
PROJECT INFORMATION

NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



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

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.

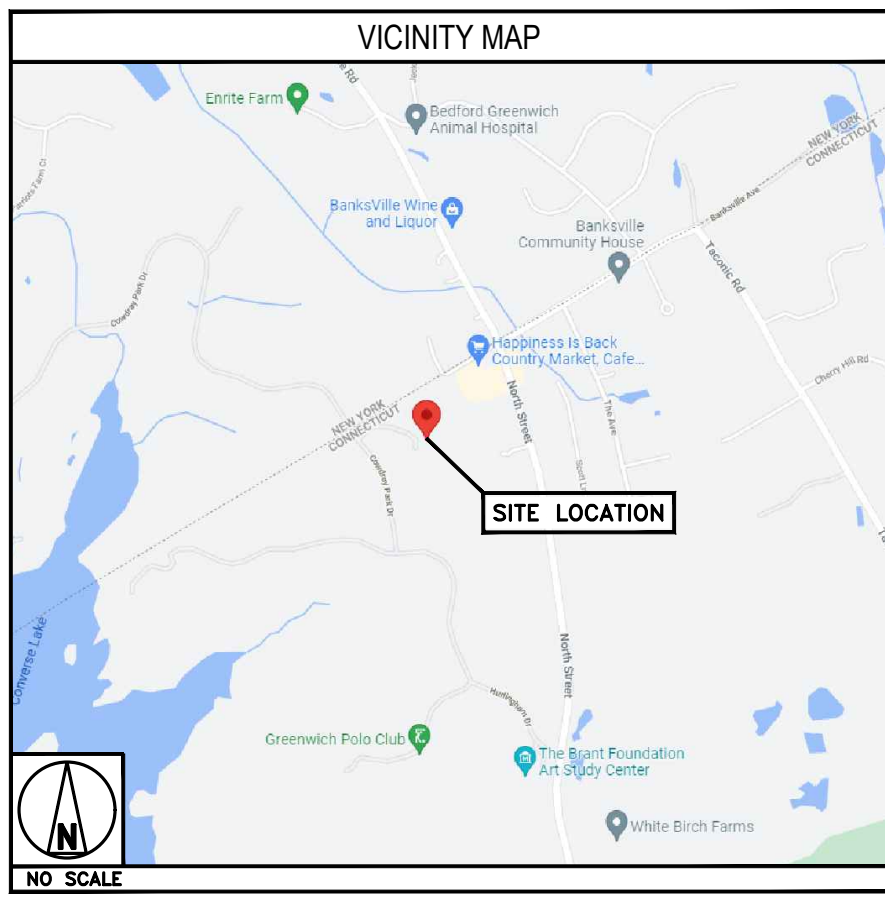
11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

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.

DIRECTIONS

DIRECTIONS FROM 3 ADP BLVD, ROSELAND, NJ 07068:

- x GET ON I-280 W FROM LIVINGSTON AVE
- x TAKE I-287 N AND CT-15 N TO NORTH STREET IN GREENWICH. TAKE EXIT 31 FROM CT-15 N
- x CONTINUE ON NORTH STREET TO YOUR DESTINATION



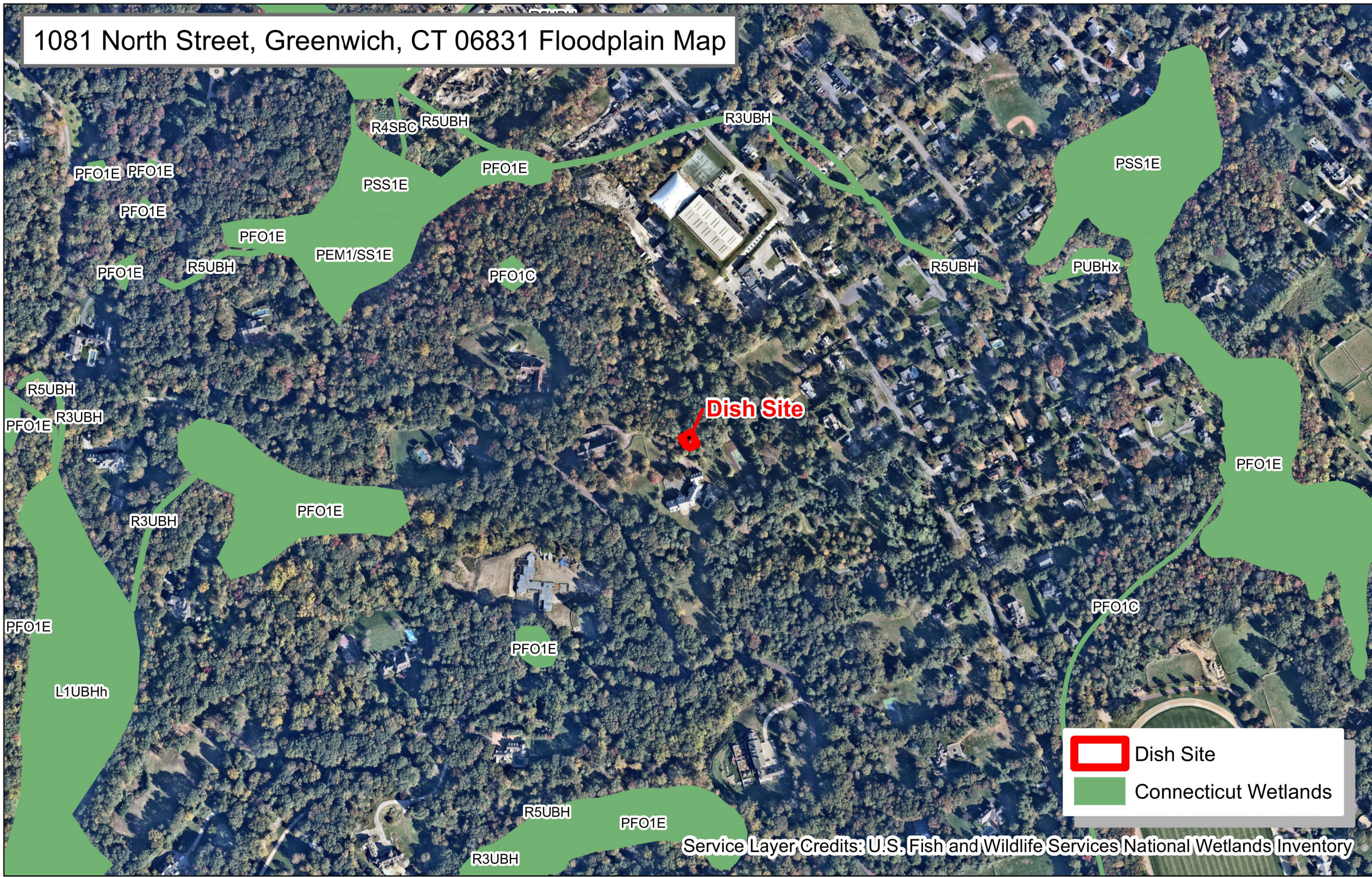
CONNECTICUT CODE OF COMPLIANCE

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

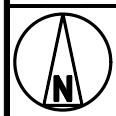
CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE/2015 IBC W/ CT AMENDMENTS
MECHANICAL	2018 CT STATE BUILDING CODE/2015 IMC W/ CT AMENDMENTS
ELECTRICAL	2018 CT STATE BUILDING CODE/2017 NEC W/ CT AMENDMENTS

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
A-1.1	WETLAND MAP
A-1.2	ABUTTER MAP
A-1.3	OVERALL AND ENLARGED SITE PLAN
A-2	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT PLATFORM AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
E-1	ELECTRICAL/FIBER ROUTE PLAN AND NOTES
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
G-1	GROUNDING PLANS AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
RF-1	RF CABLE COLOR CODE
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES



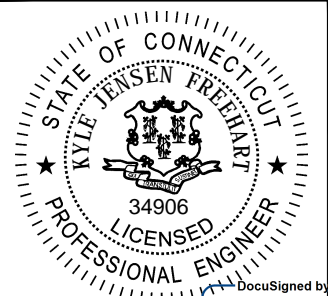
Service Layer Credits: U.S. Fish and Wildlife Services National Wetlands Inventory



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



DocuSigned by:
Kyle Jensen

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

DRAWN BY: JRG
CHECKED BY: MCK
APPROVED BY: MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

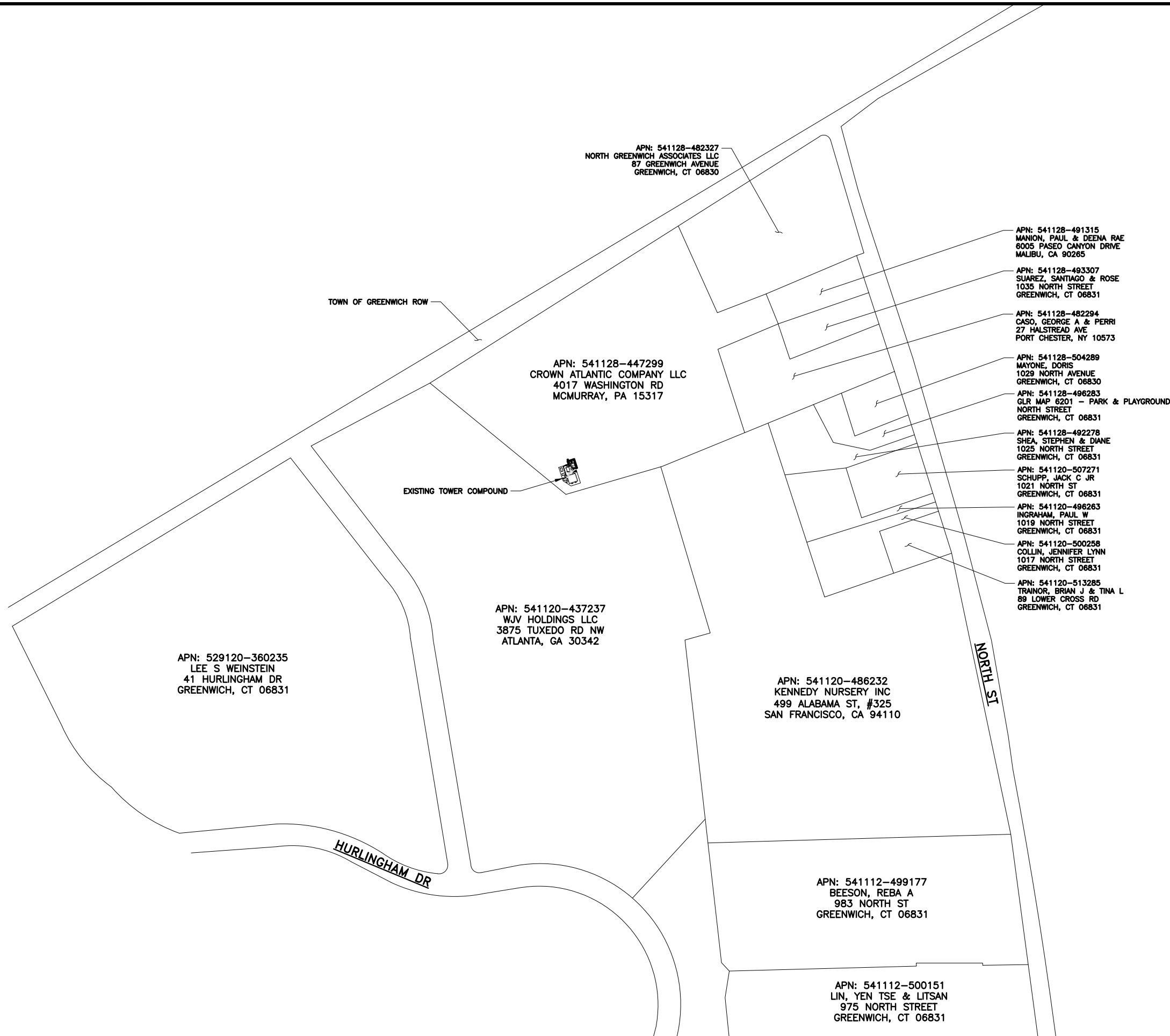
SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCLC-16281

DISH Wireless L.L.C.
PROJECT INFORMATION
NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

SHEET TITLE
WETLAND
MAP

SHEET NUMBER
A-1.1



ABUTTER MAP

NO SCALE

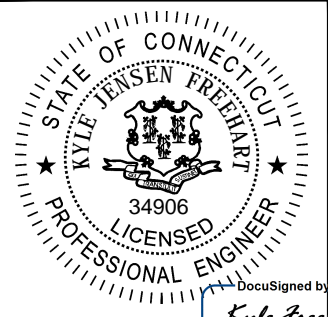
1



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



DocuSigned by:
Kyle Jensen

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
JRG	MCK	MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCL-16281

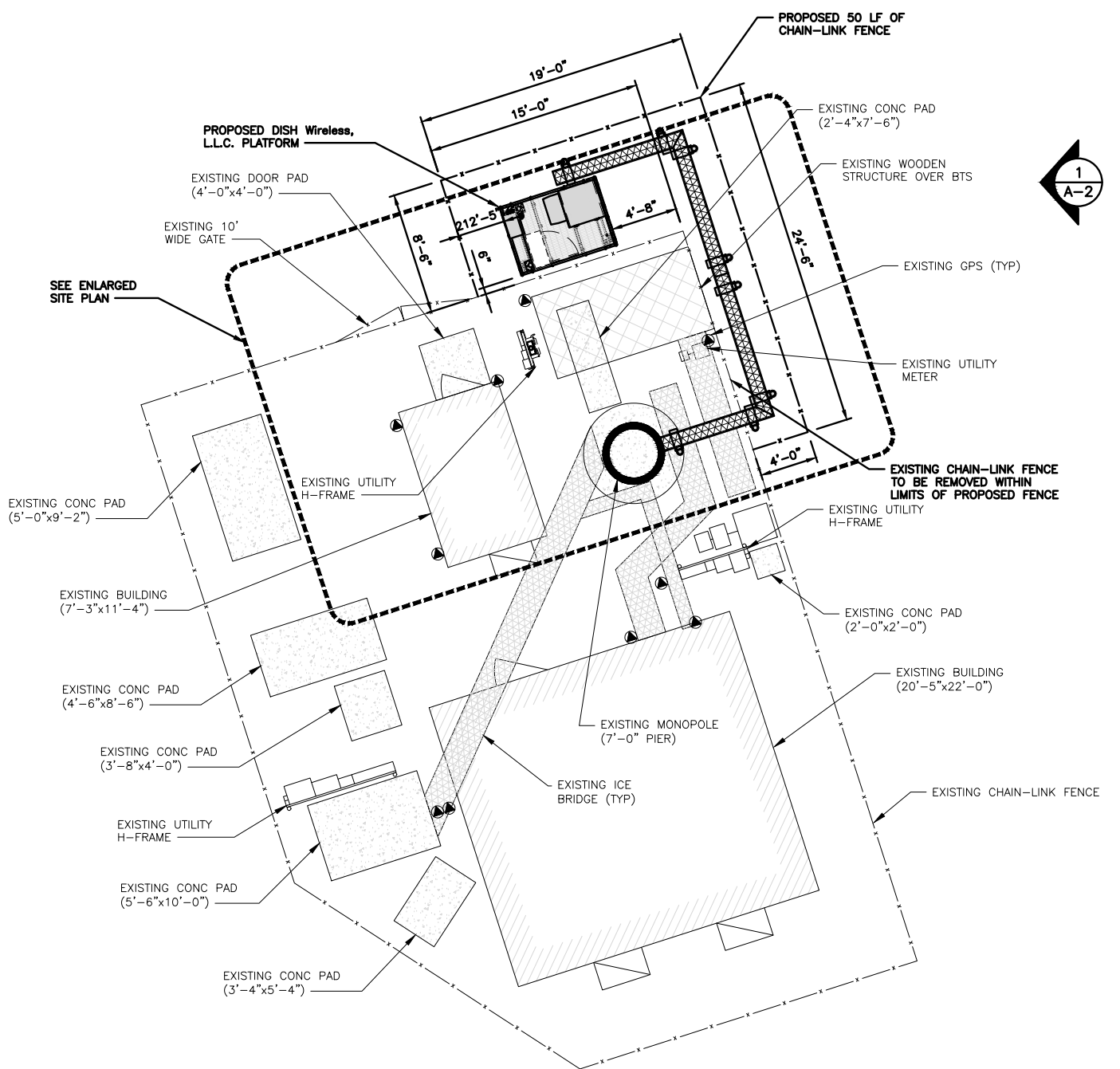
DISH Wireless L.L.C.
PROJECT INFORMATION
NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

SHEET TITLE
ABUTTER
MAP

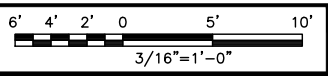
SHEET NUMBER
A-1.2

NOTES

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

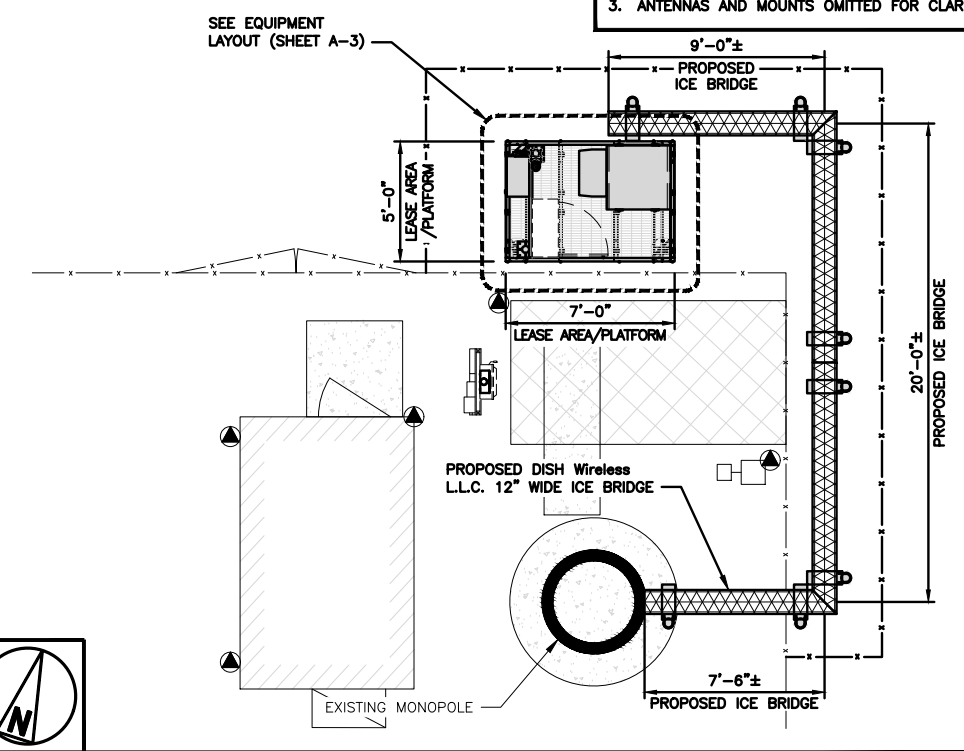


OVERALL SITE PLAN

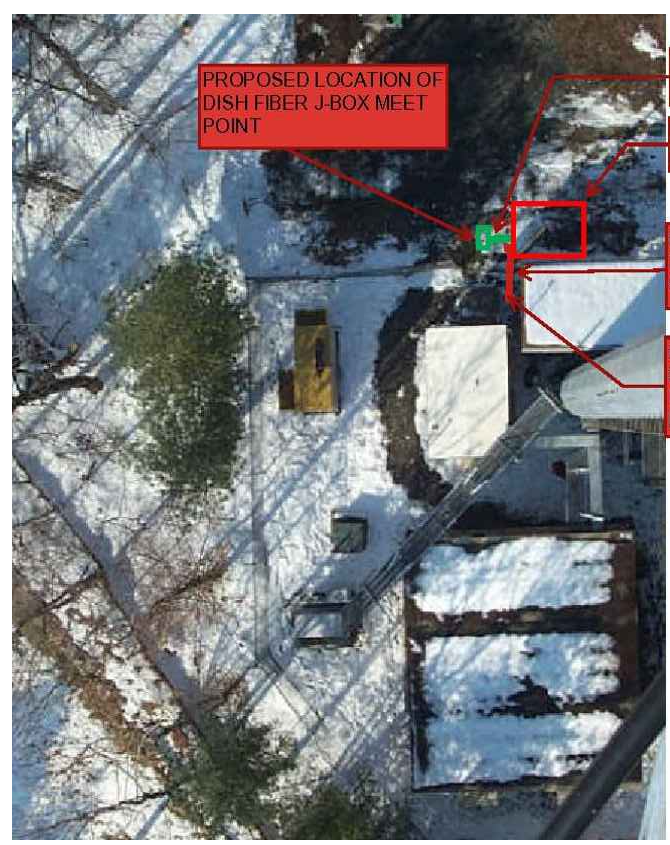
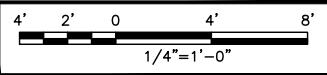


NOTES

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



OVERALL UTILITY ROUTE PLAN

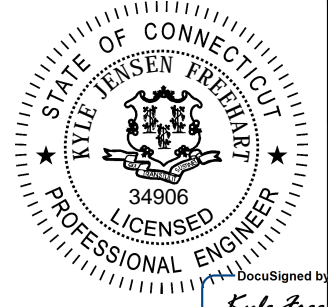
NO SCALE



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



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

DRAWN BY: JRG CHECKED BY: MCK APPROVED BY: MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCL-16281

DISH Wireless L.L.C.
PROJECT INFORMATION
NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

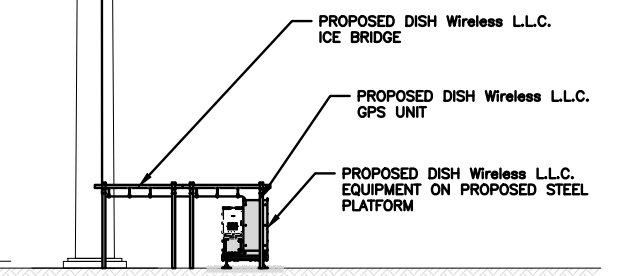
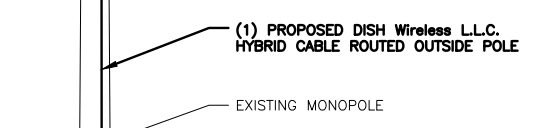
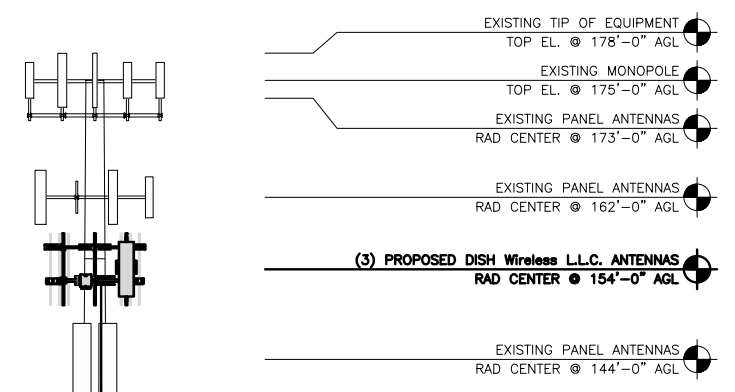
SHEET TITLE
OVERALL AND ENLARGED
SITE PLAN

SHEET NUMBER
A-1.3

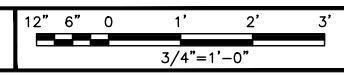
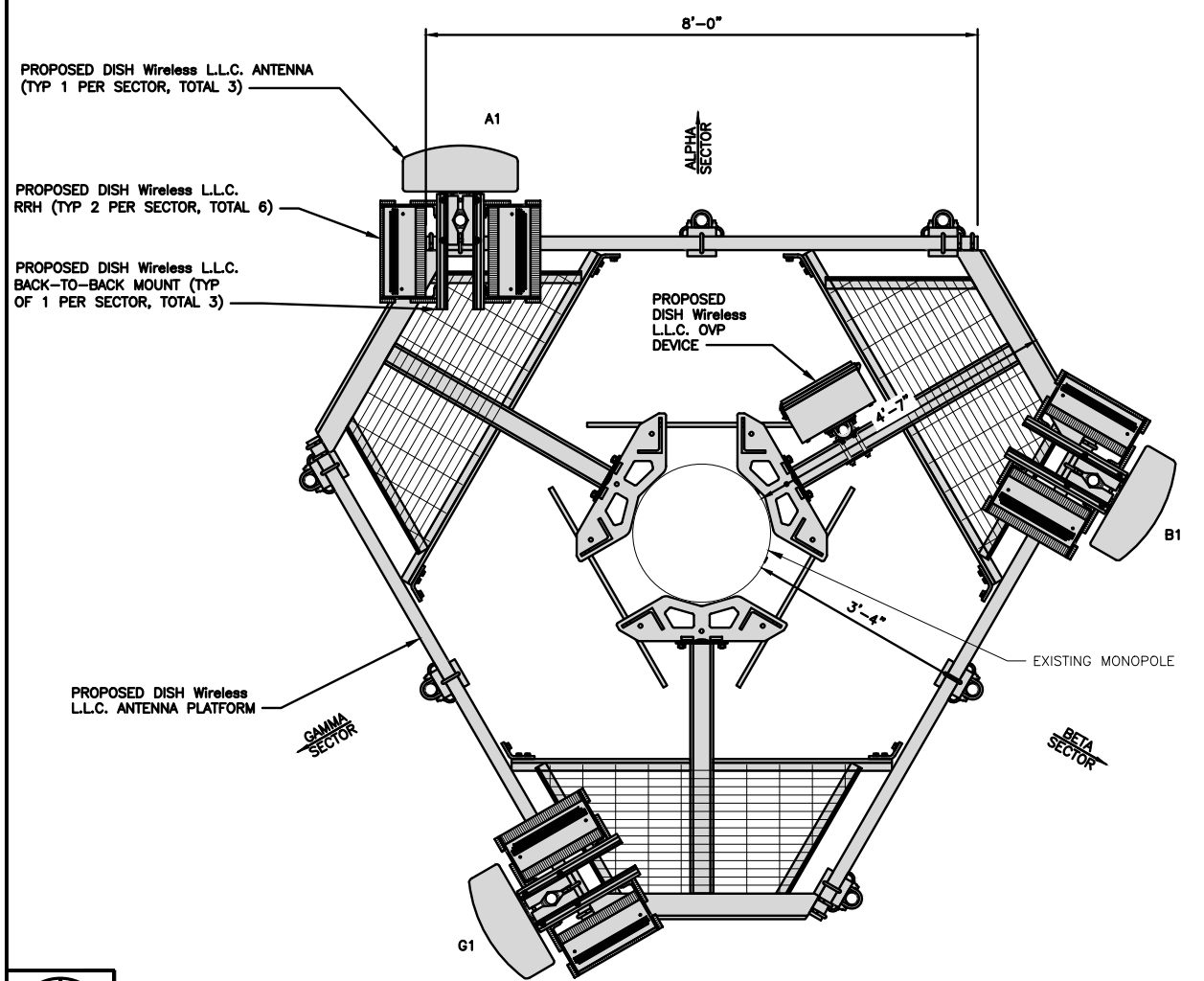
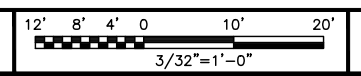
NOTES

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

KIMLEY-HORN HAS NOT ANALYZED THE PROPOSED ANTENNA MOUNT(S) TO DETERMINE ADEQUATE STRUCTURAL CAPACITY FOR PROPOSED CARRIER LOADING. MOUNT ANALYSIS TO BE DONE BY OTHERS.



PROPOSED WEST ELEVATION



ANTENNA LAYOUT

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°	154'-0"	(1) HIGH-CAPACITY HYBRID CABLE (215'-0" LONG)
BETA	B1	PROPOSED	JMA - MX08FRO665-21	5G	72.0" x 20.0"	120°	154'-0"	
GAMMA	G1	PROPOSED	JMA - MX08FRO665-21	5G	72.0" x 20.0"	240°	154'-0"	

OVP					
SECTOR	POSITION	EXISTING OR PROPOSED	MANUFACTURER - MODEL NUMBER	TECHNOLOGY	SIZE (HxW)
ALPHA	A1	PROPOSED	RAYCAP - RDIC-9181-PF-48	5G	18.98" x 14.39" x 8.15"

SECTOR	POSITION	RRH		NOTES
		MANUFACTURER - MODEL NUMBER	TECHNOLOGY	
ALPHA	A1	FUJITSU - TA08025-B604	5G	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.
	A1	FUJITSU - TA08025-B605	5G	
BETA	B1	FUJITSU - TA08025-B604	5G	
	B1	FUJITSU - TA08025-B605	5G	
GAMMA	G1	FUJITSU - TA08025-B604	5G	
	G1	FUJITSU - TA08025-B605	5G	

ANTENNA SCHEDULE

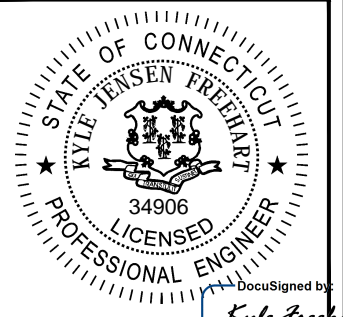
NO SCALE 3



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



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

DRAWN BY: JRG CHECKED BY: MCK APPROVED BY: MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

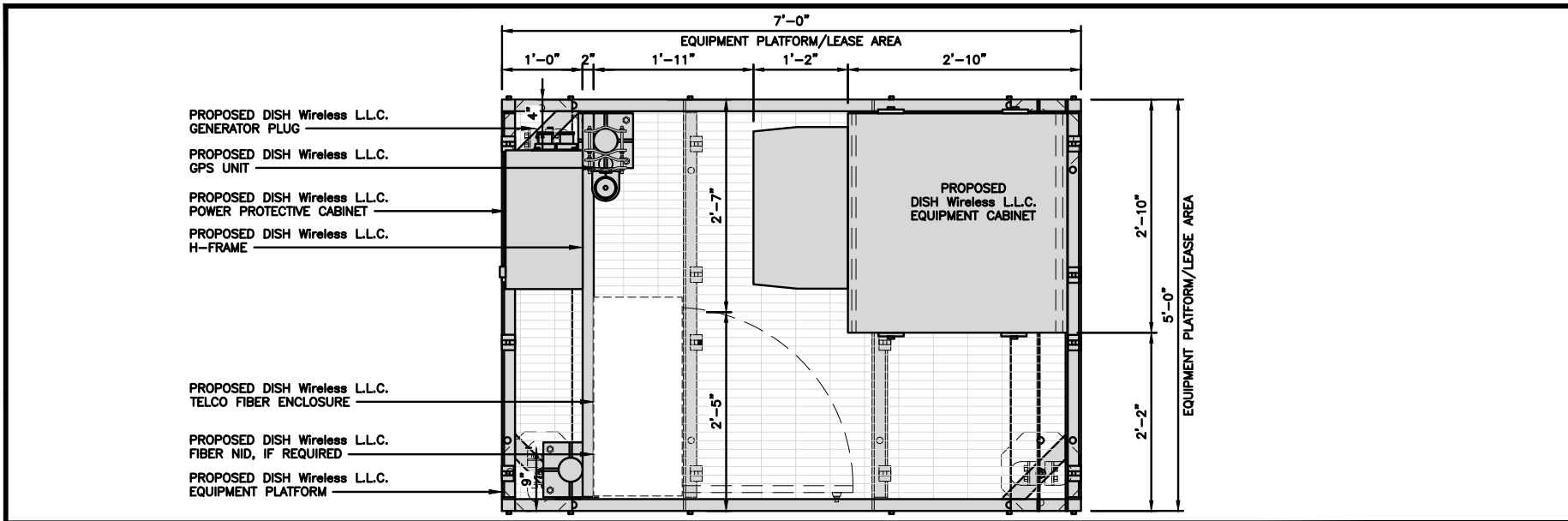
SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCLC-16281

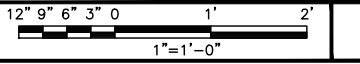
DISH Wireless L.L.C.
PROJECT INFORMATION
NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

SHEET TITLE
ELEVATION, ANTENNA
LAYOUT AND SCHEDULE

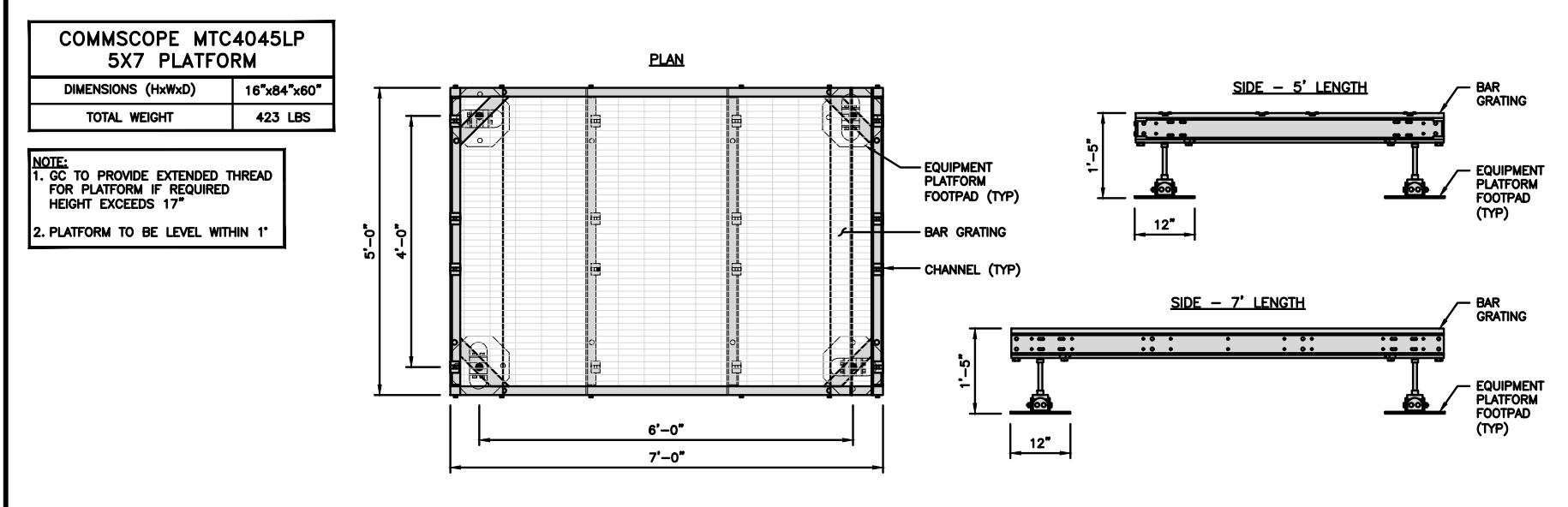
SHEET NUMBER
A-2



PLATFORM EQUIPMENT PLAN

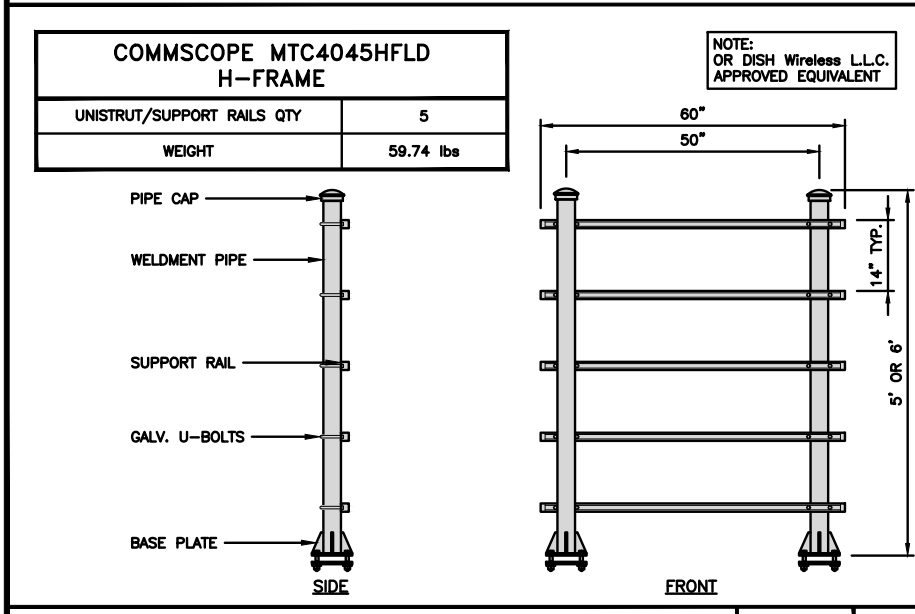


1



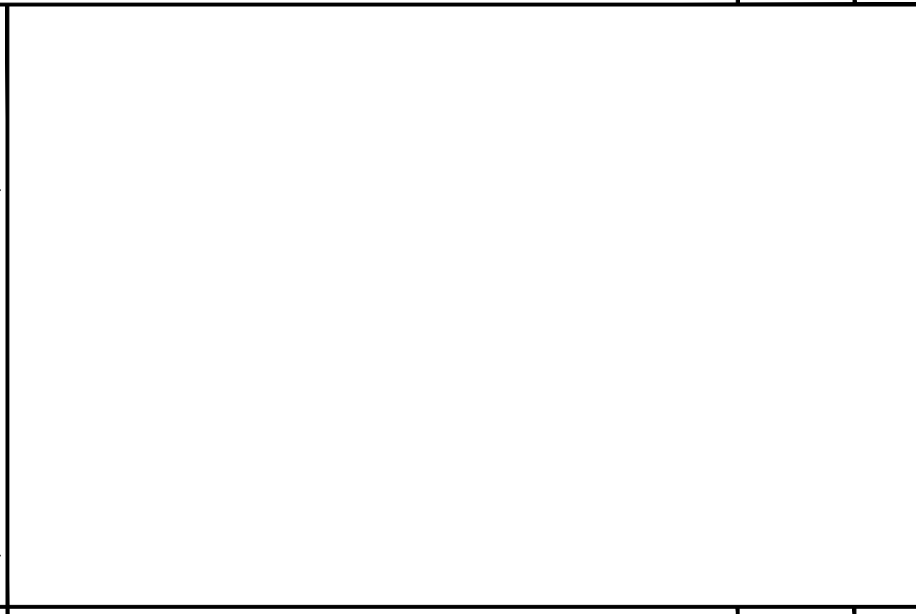
PLATFORM DETAIL

NO SCALE 2



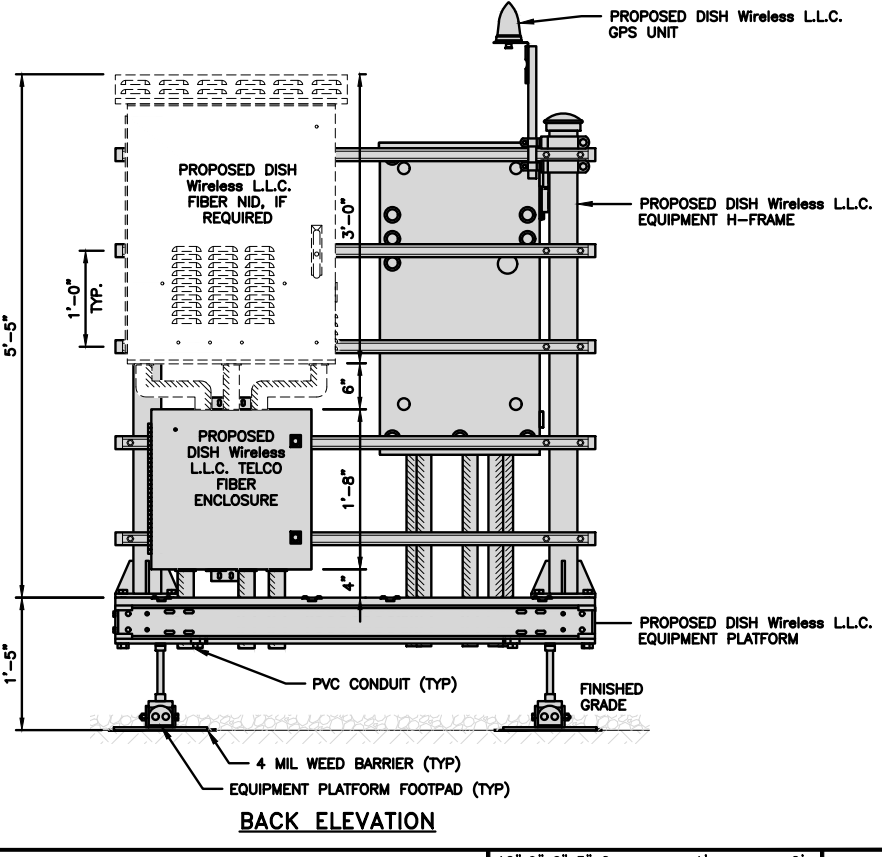
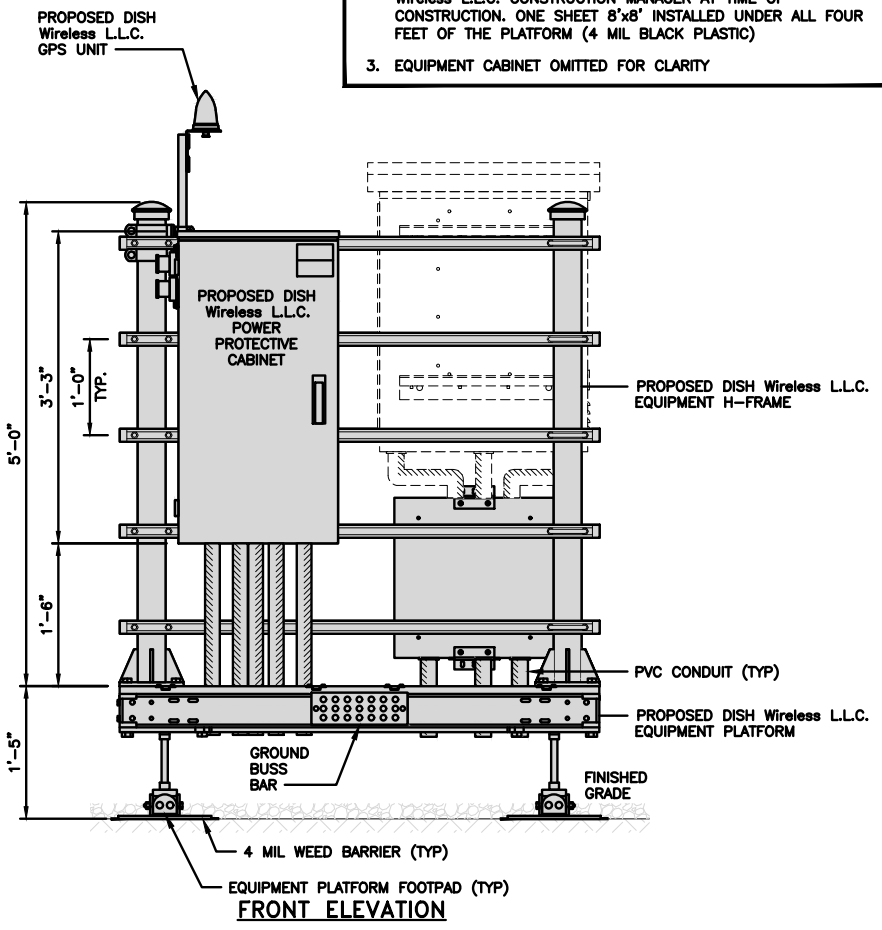
H-FRAME DETAIL

NO SCALE 3

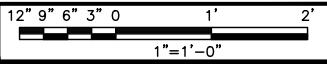


NO SCALE 4

- NOTES**
- CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
 - 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)
 - EQUIPMENT CABINET OMITTED FOR CLARITY



H-FRAME EQUIPMENT ELEVATION



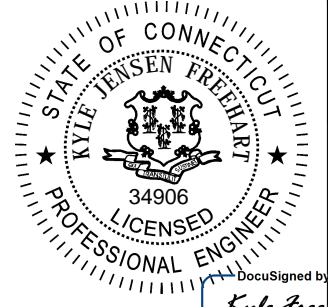
5



5701 SOUTH SANTA FE DRIVE
 LITTLETON, CO 80120



COA #: PEC.0000738
 421 FAYETTEVILLE ST, SUITE 600
 RALEIGH, NC 27601



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

DRAWN BY:	CHECKED BY:	APPROVED BY:
JRG	MCK	MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
 KHCL-16281

DISH Wireless L.L.C. PROJECT INFORMATION
 NJJER01164A
 1081 NORTH STREET
 GREENWICH, CT 06831

SHEET TITLE
 EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER

A-3

ENERSYS HEX 20000059996	
DIMENSIONS (HxWxD)	73"x30"x32"
POWER SYSTEM	-48V ALPHA/600A
HEATER	800W
TOTAL WEIGHT (EMPTY)	376 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

SQUARE D SAFETY SWITCHES D224NRB	
ENCLOSURE DIM (HxWxD)	29.25"x19.00"x8.50"
ENCLOSURE TYPE	NEMA 3R RAINPROOF
UL LISTED	FILE E-2875

SAFETY SWITCH DETAIL NO SCALE 3

EATON METER SOCKET UNRRS213BEUSE	
METER SOCKET TYPE	RING
ENCLOSURE DIM (HxWxD)	16"x12"x6"
MAIN AMPERE RATING	200A
WEIGHT	18 LBS

METER SOCKET DETAIL 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

FINISH SLOPE TO DRAIN

PROPOSED 3.5" DIA. SCH 40 PIPE GALVANIZED

PROPOSED 1'-6" DIA. CONCRETE PIER (TYP)

CONCRETE PIER

3" DIA SCH 40 PIPE

18" DIA DRILLED PIER FOUNDATION

A-A SECTION

TYPICAL ICE BRIDGE CONCRETE PIER DETAIL NO SCALE 8

PROPOSED ICE BRIDGE

PROPOSED 1-3/4" DIA HYBRID CABLE

PROPOSED CABLE CLAMP ● 3'-0" O.C.

HYBRID SUPPORT BRACKET AND BANDING ● 4'-0" O.C.

EXISTING MONOPOLE

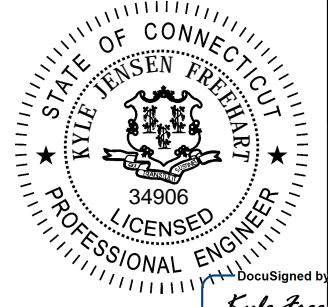
HYBRID CABLE RUN NO SCALE 9



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



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

DRAWN BY: JRG CHECKED BY: MCK APPROVED BY: MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

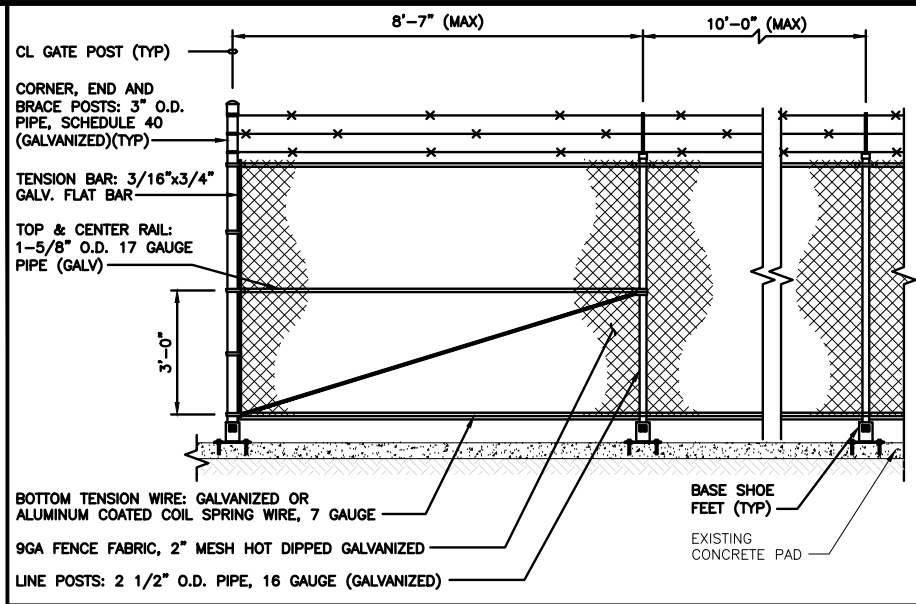
A&E PROJECT NUMBER
KHCL-16281

DISH Wireless L.L.C.
PROJECT INFORMATION
NJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

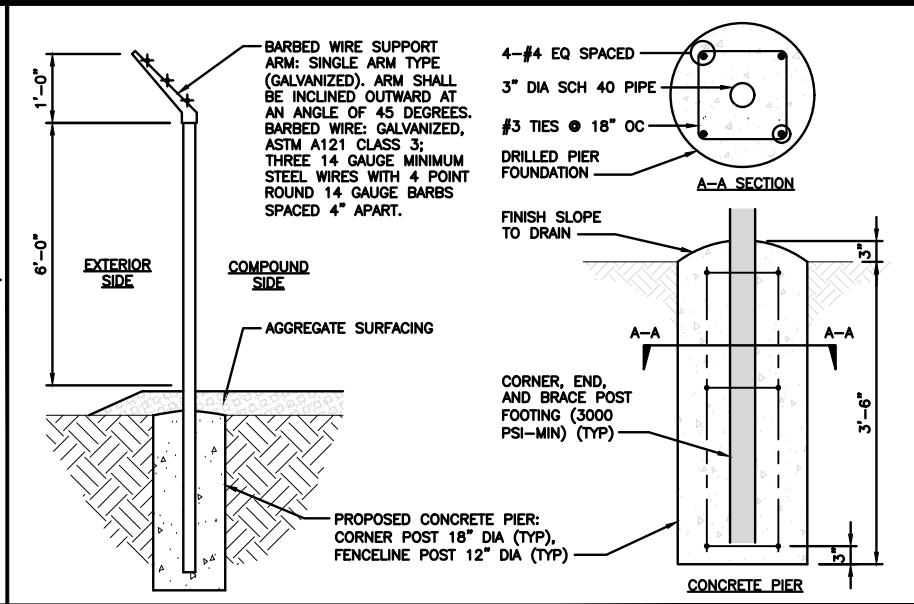
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-4

- 1 LINE POSTS: 2 1/2" O.D. PIPE, 16 GAUGE (GALVANIZED) PER ASTM-F1083.
- 2 CORNER, END AND BRACE POSTS: 3" O.D. PIPE, SCHEDULE 40 (GALVANIZED).
- 3 TOP RAIL: 1 5/8" O.D. 17 GAUGE PIPE (GALVANIZED) PER ASTM-F1083.
- 4 BRACE RAIL: 1 5/8" O.D. 17 GAUGE PIPE (GALVANIZED).
- 5 DIAGONAL TRUSS ROD: 3/8" GALVANIZED ROD WITH TURNBUCKLE.
- 6 TENSION BAR: 3/16" X 3/4" GALVANIZED FLAT BAR.
- 7 BOTTOM TENSION WIRE: GALVANIZED OR ALUMINUM COATED COIL SPRING WIRE, 7 GAUGE.
- 8 GATE POSTS: 2 7/8" O.D. SCHEDULE 40 PIPE (GALVANIZED).
- 9 COMBINATION PADLOCK ACCORDING TO DISH WIRELESS REQUIREMENTS.
- 10 GATE FRAMES: 1 7/8" O.D. SCHEDULE 40 PIPE (GALVANIZED).
- 11 BARBED WIRE SUPPORT ARM: SINGLE ARM TYPE (GALVANIZED). ARM SHALL BE INCLINED OUTWARD AT AN ANGLE OF 45 DEGREES.
- 12 BARBED WIRE: GALVANIZED, ASTM A121 CLASS 3; THREE 14 GAUGE MINIMUM STEEL WIRES WITH 4 POINT ROUND 14 GAUGE BARBS SPACED 4" APART.
- 13 9GA FENCE FABRIC, 2" MESH HOT DIPPED GALVANIZED
- 14 MISCELLANEOUS:
 - A. RAIL COUPLINGS: SLEEVE TYPE, 6" LONG EXPANSION SPRING EVERY FIFTH COUPLING.
 - B. POST TOPS: PRESSED STEEL, MALLEABLE IRON WITH PRESSED STEEL EXTENSION ARM, OR ONE-PIECE ALUMINUM CASTING; WITH HOLE FOR TOP, ALL DESIGNED TO FIT OVER THE OUTSIDE OF THE POSTS AND TO PREVENT ENTRY OF MOISTURE INTO TUBULAR POSTS.
 - C. LATCHES SHALL BE FORKED TYPE AND SHALL BE ARRANGED FOR PADLOCKING WITH THE PADLOCK ACCESSIBLE FROM BOTH SIDES OF THE GATE.
 - D. KEEPERS SHALL CONSIST OF MECHANICAL DEVICES FOR SECURING AND SUPPORTING THE FREE END OF THE GATES WHEN IN THE FULL OPEN POSITION. KEEPERS SHALL BE MOUNTED ON 2 7/8" O.D. PIPE POSTS FILLED WITH CONCRETE AND SET IN CONCRETE FOUNDATIONS.
 - E. INSTALL FENCING PER ASTM-F567.
 - F. INSTALL SWING GATES PER ASTM-F900.
 - G. LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT SHALL BE COMPLETED IF REQUIRED.
 - H. USE GALVANIZED HOG RING WIRE TO MOUNT ALL SIGNS.
 - I. ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE.



TYPICAL FENCE ELEVATION DETAIL NO SCALE 2

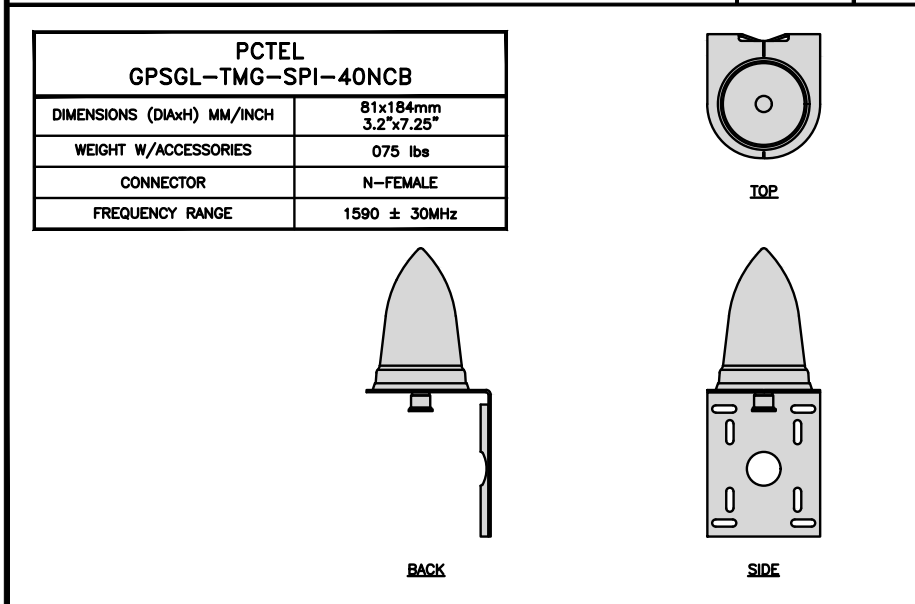


TYPICAL FENCE & CONCRETE PIER SECTION NO SCALE 3

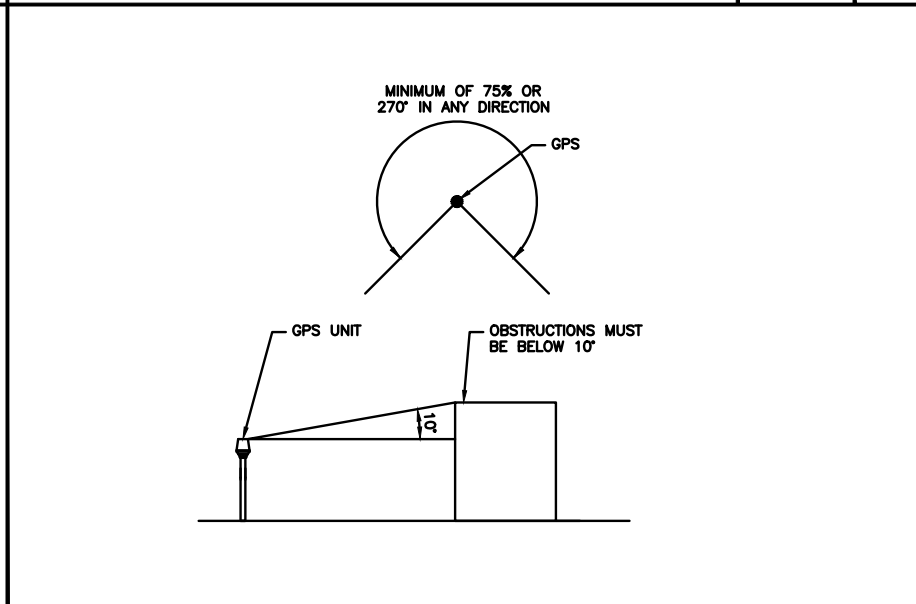
MATERIAL DESCRIPTION NO SCALE 1

NOT USED NO SCALE 4

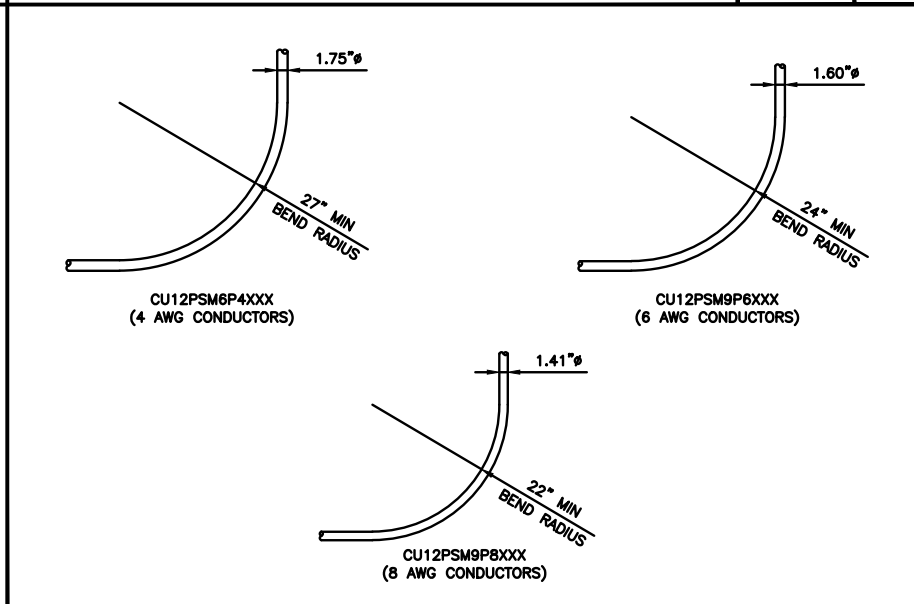
NOT USED NO SCALE 5



GPS DETAIL NO SCALE 6



GPS MINIMUM SKY VIEW REQUIREMENTS NO SCALE 7



CABLES UNLIMITED HYBRID CABLE MINIMUM BEND RADIUSSES NO SCALE 8

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

DocuSigned by:
Kyle Jensen

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
JRG	MCK	MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

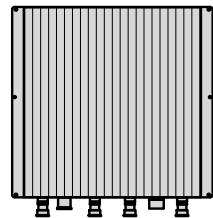
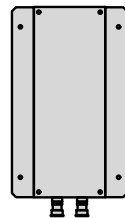
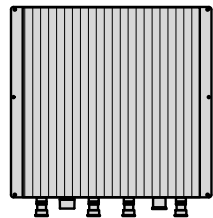
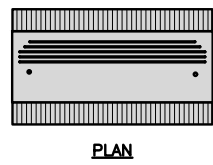
A&E PROJECT NUMBER
KHCL-16281

DISH Wireless L.L.C.
PROJECT INFORMATION
NJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

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

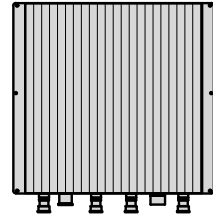
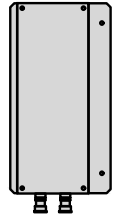
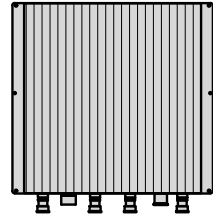
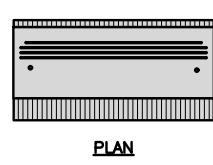


BACK

SIDE

FRONT

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



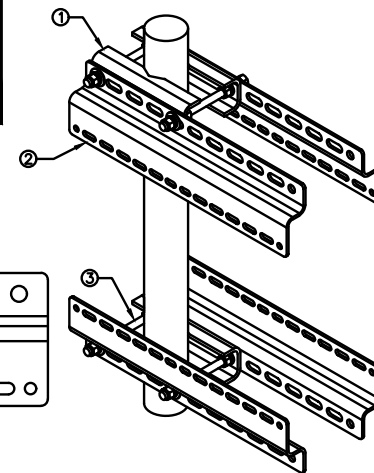
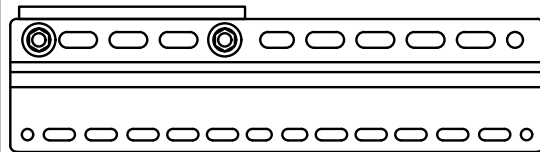
BACK

SIDE

FRONT

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 DETAIL

NO SCALE

1

RRH DETAIL

NO SCALE

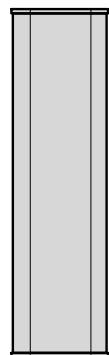
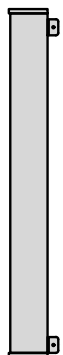
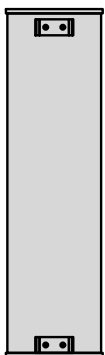
2

RRH MOUNT DETAIL

NO SCALE

3

JMA WIRELESS MX08FRO665-21 ANTENNA	
DIMENSIONS (HxWxD)	72.0"x20.0"x8.0"
TOTAL WEIGHT	82.5 LB
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE



BACK

SIDE

FRONT

ANTENNA DETAIL

NO SCALE

4

NOT USED

NO SCALE

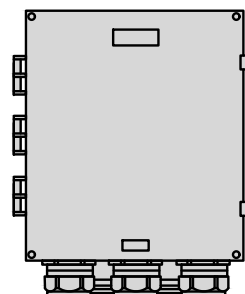
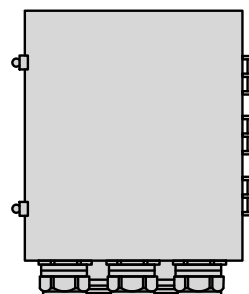
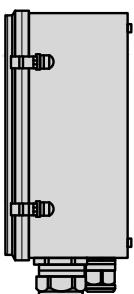
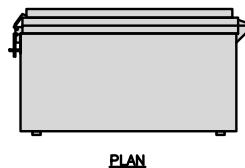
5

ANTENNA BRACKET DETAIL

NO SCALE

6

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



SIDE

BACK

FRONT

SURGE SUPPRESSION DETAIL (OVP)

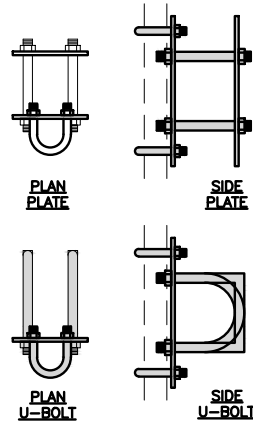
NO SCALE

7

COMMSCOPE XP-2040
CROSSOVER PLATE

DIMENSIONS (HxW)	10"x12"
WEIGHT	11 lbs

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

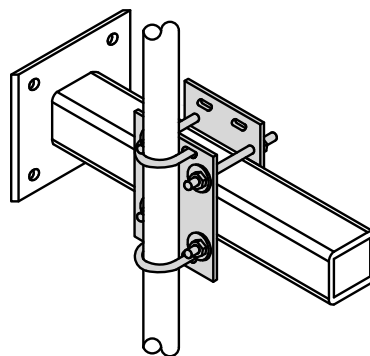


PLAN PLATE

SIDE PLATE

PLAN U-BOLT

SIDE U-BOLT



RRH/OVP MOUNT DETAIL

NO SCALE

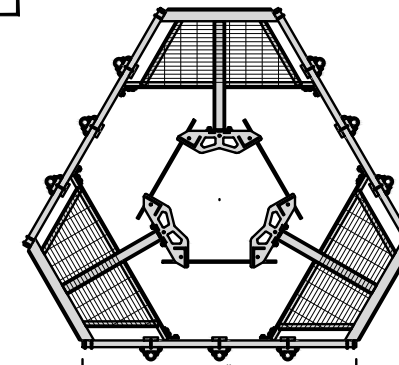
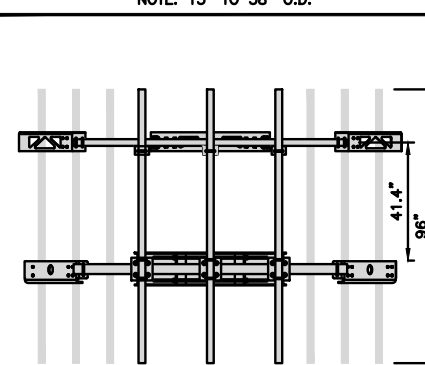
8

COMMSCOPE
MC-PK8-DSH

FACE WIDTH	96"
WEIGHT	1373.08 lbs

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

NOTE: 15" TO 38" O.D.



ANTENNA PLATFORM DETAIL

NO SCALE

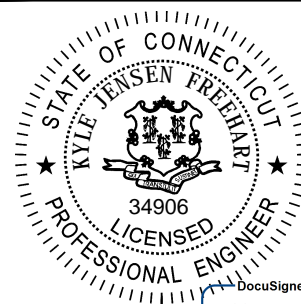
9



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



DocuSigned by:
Kyle Jensen

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
JRG	MCK	MCK

RFDS REV #: ---

CONSTRUCTION
DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCL-16281

DISH Wireless L.L.C.
PROJECT INFORMATION

NJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

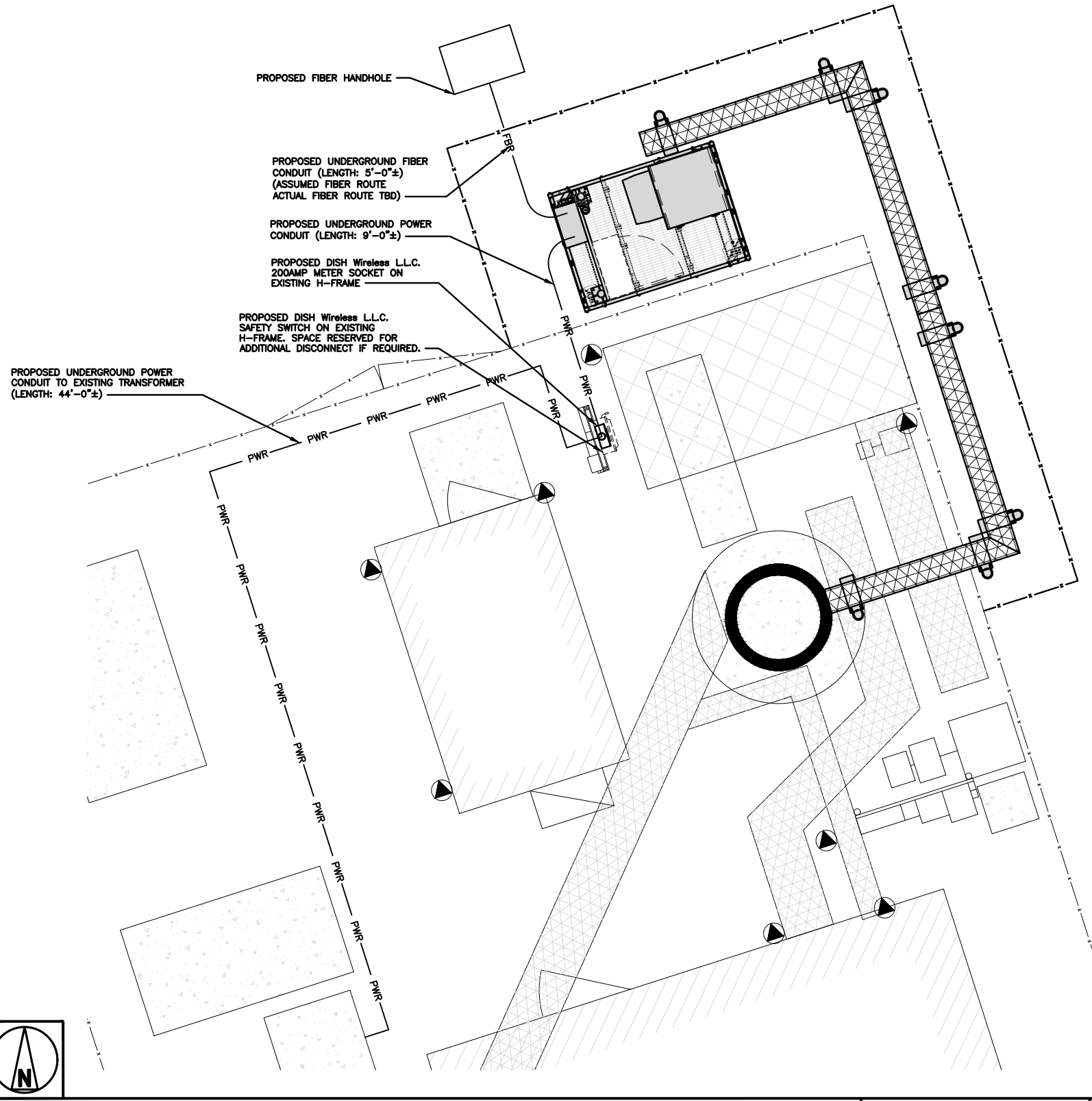
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER

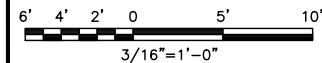
A-6

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. DUE TO UTILITY EASEMENT RIGHTS SPECIFIED IN THE GROUND LEASE, CUSTOMER MAY INSTALL EQUIPMENT WITHIN SPECIFIED UTILITY EASEMENT AREA. "PWR" AND "FBR" PATH DEPICTED ON A-1 AND E-1 REPRESENT PLANNED ROUTING BASED ON BEST AVAILABLE INFORMATION INCLUDING BUT NOT LIMITED TO A SURVEY, EXHIBITS, METES AND BOUNDS OF THE UTILITY EASEMENT, FIELD VERIFICATION, PRIOR PROJECT DOCUMENTATION AND OTHER REAL PROPERTY RIGHTS DOCUMENTS. WHEN INSTALLING THE UTILITIES PLEASE LOCATE AND FOLLOW EXISTING PATH. IF EXISTING PATH IS MATERIALLY INCONSISTENT WITH "PWR" AND "FBR" PATH DEPICTED ON A-1 AND E-1 AND SAID VARIANCE IS NOT NOTED ON CDs, PLEASE NOTIFY TOWER OWNER AS FURTHER COORDINATION MAY BE NEEDED.



UTILITY ROUTE PLAN



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

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

ELECTRICAL NOTES

NO SCALE

2

NOT USED

NO SCALE

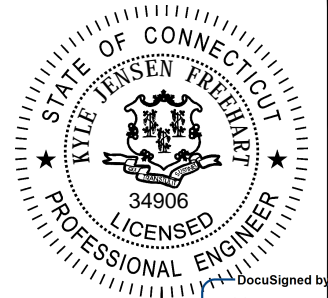
3



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



DocuSigned by:
Kyle Jensen

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
JRG	MCK	MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCL-16281

DISH Wireless L.L.C.
PROJECT INFORMATION

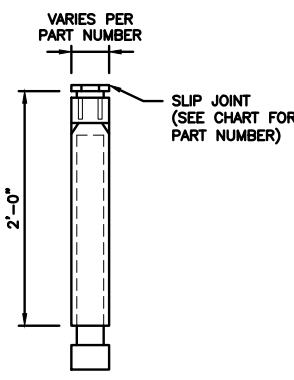
NJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

SHEET TITLE
ELECTRICAL/FIBER ROUTE
PLAN AND NOTES

SHEET NUMBER

E-1

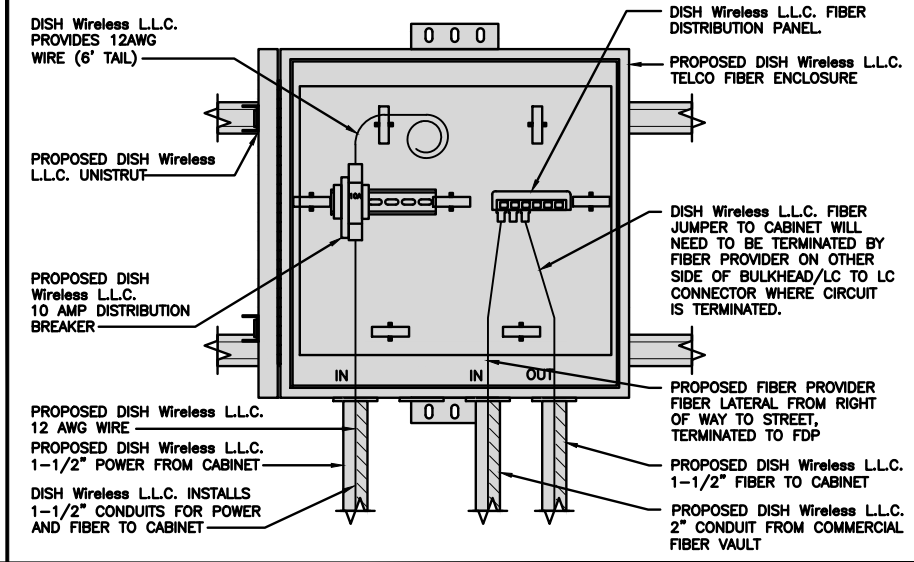
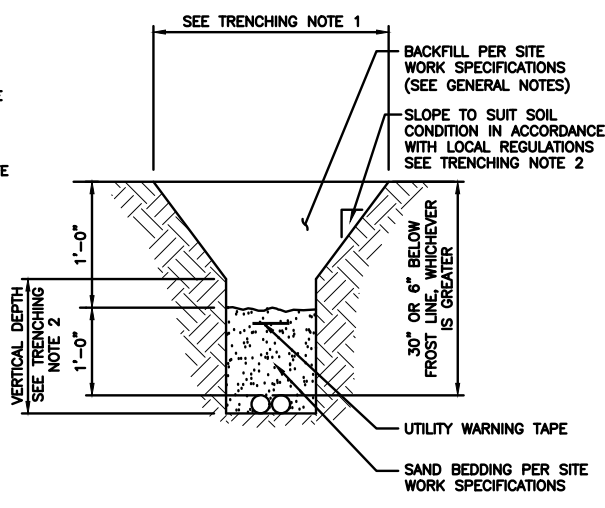
CARLON EXPANSION FITTINGS				
COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
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.

TRENCHING NOTES

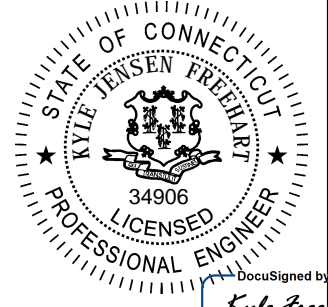
- CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
- TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
- 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.



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



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

DRAWN BY: JRG CHECKED BY: MCK APPROVED BY: MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCLC-16281

DISH Wireless L.L.C.
PROJECT INFORMATION
NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

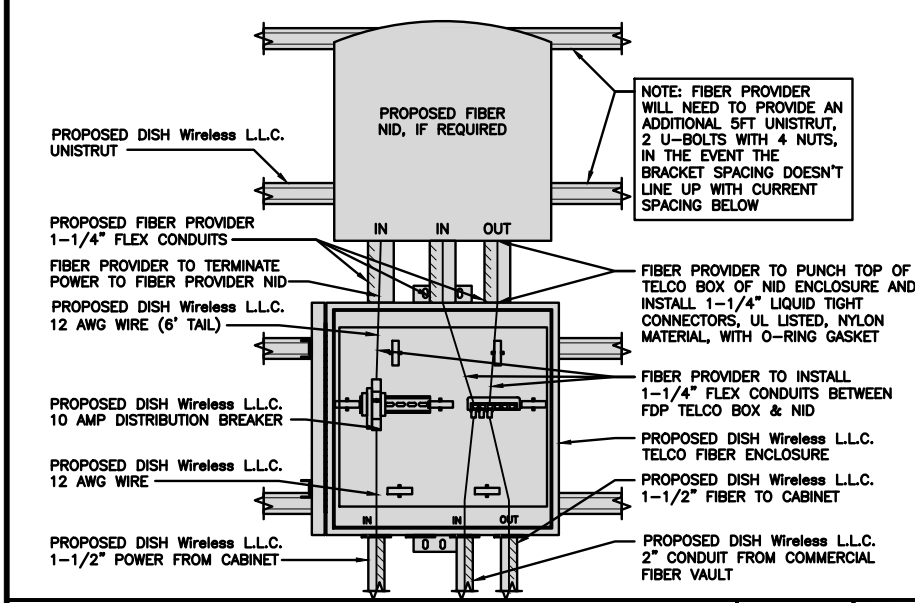
SHEET TITLE
ELECTRICAL
DETAILS

SHEET NUMBER
E-2

EXPANSION JOINT DETAIL NO SCALE 1

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

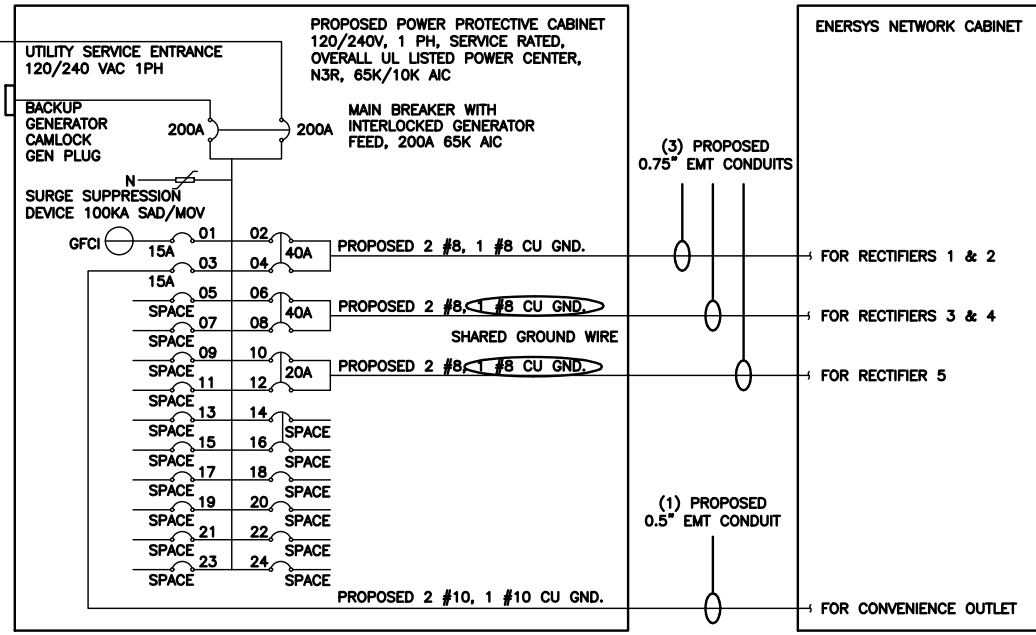
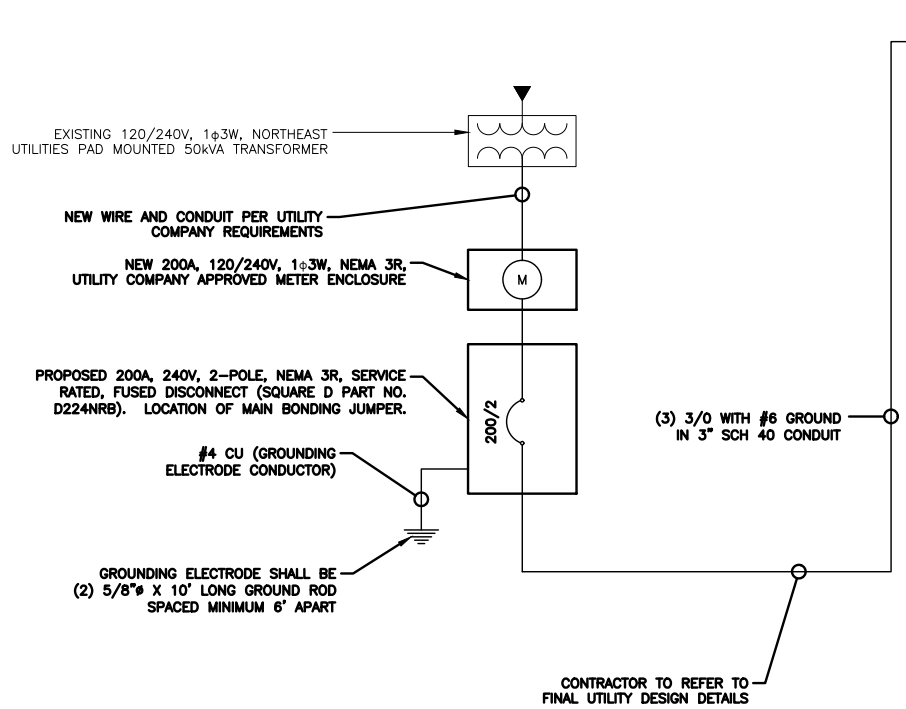
NOT USED NO SCALE 5

NOT USED NO SCALE 6

NOT USED NO SCALE 7

NOT USED NO SCALE 8

NOT USED NO SCALE 9



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:
(2) 40A, 2P BREAKER - SQUARE D P/N:Q0240
(1) 20A, 2P BREAKER - SQUARE D P/N:Q0220
(1) 20A, 1P BREAKER - SQUARE D P/N:Q0120

NOTES

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED SHORT CIRCUIT CALCULATIONS AND THE AIC RATINGS FOR EACH DEVICE IS ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.

THE ENGINEER OF RECORD HAS PERFORMED ALL REQUIRED VOLTAGE DROP CALCULATIONS AND ALL BRANCH CIRCUIT AND FEEDERS COMPLY WITH THE NEC (LISTED ON T-1) ARTICLE 210.19(A)(1) FPN NO. 4.

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 (3 CONDUITS): USING UL1015, CU.

#8 - 0.0552 SQ. IN X 2 = 0.1103 SQ. IN
#8 - 0.0131 SQ. IN X 1 = 0.0131 SQ. IN <BARE GROUND
TOTAL = 0.1234 SQ. IN

0.75" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) 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 ENERSYS PANEL SCHEDULE											
LOAD SERVED	VOLT AMPS (WATTS)		TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS)		LOAD SERVED	
	L1	L2						L1	L2		
PPC GFCI OUTLET	180	180	15A	1	A	2	40A	3840	3840	ENERSYS ALPHA CORDEX RECTIFIERS 1 & 2	
ENERSYS GFCI OUTLET			15A	3	B	4	40A	3840	3840	ENERSYS ALPHA CORDEX RECTIFIER 3 & 4	
-SPACE-				5	A	6	40A	3840	3840	ENERSYS ALPHA CORDEX RECTIFIER 3 & 4	
-SPACE-				7	B	8					
-SPACE-				9	A	10	20A	1920	1920	ENERSYS ALPHA CORDEX RECTIFIER 5	
-SPACE-				11	B	12					
-SPACE-				13	A	14				-SPACE-	
-SPACE-				15	B	16				-SPACE-	
-SPACE-				17	A	18				-SPACE-	
-SPACE-				19	B	20				-SPACE-	
-SPACE-				21	A	22				-SPACE-	
-SPACE-				23	B	24				-SPACE-	
VOLTAGE AMPS			180	180			9500	9500			
200A MCB, 1ϕ, 24 SPACE, 120/240V			L1		L2						
MB RATING: 65,000 AIC			9680	9680	VOLTAGE AMPS						
			81	81	AMPS						
			81	81	MAX AMPS						
			102	102	MAX 125%						

PANEL SCHEDULE

NO SCALE 2

NOT USED

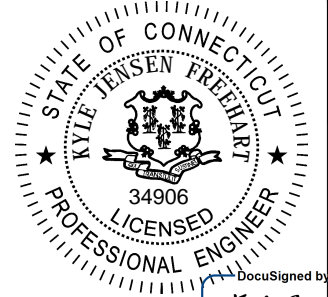
NO SCALE 3



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



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

DRAWN BY: JRG
CHECKED BY: MCK
APPROVED BY: MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

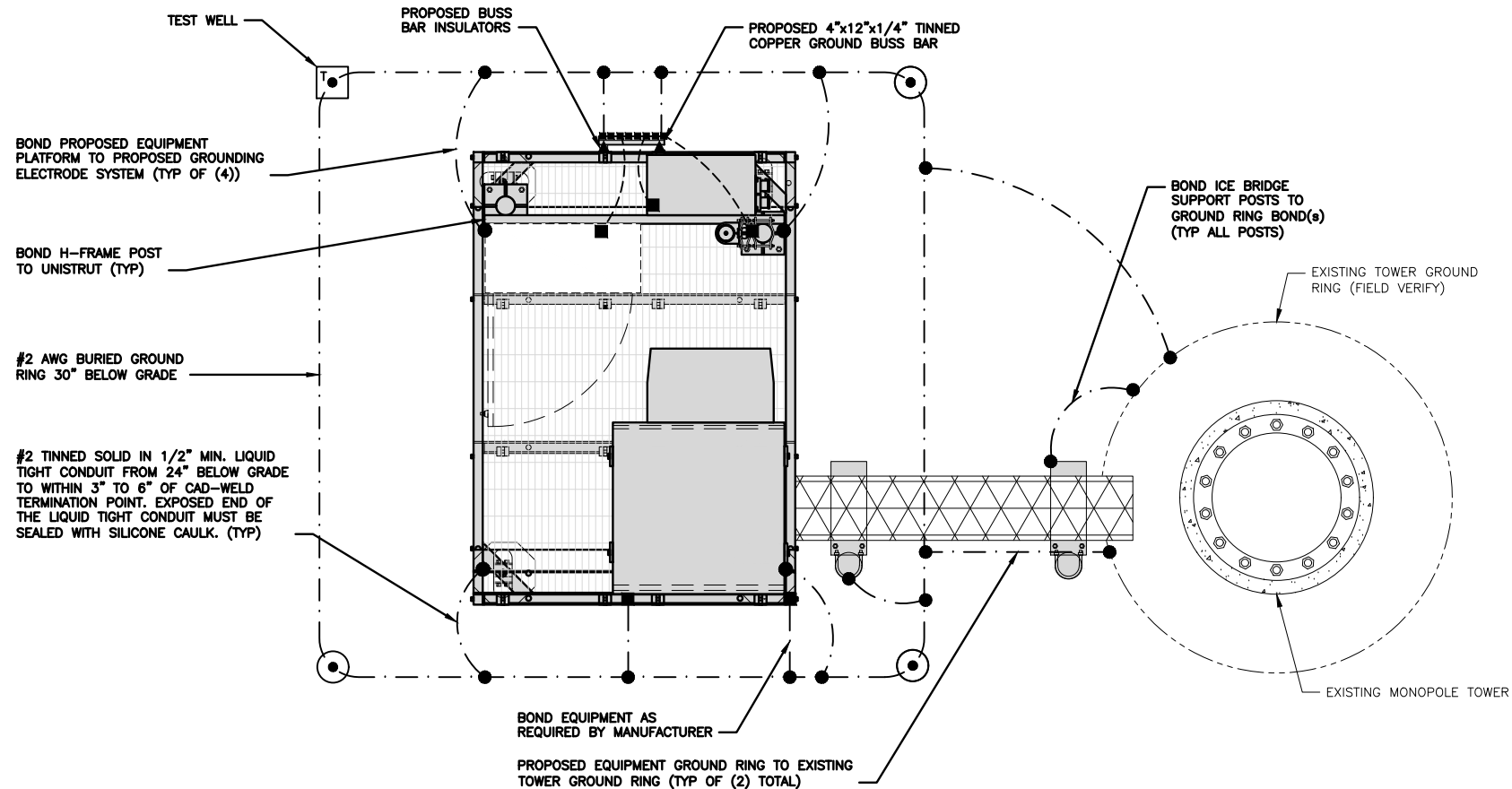
SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCL-16281

DISH Wireless L.L.C.
PROJECT INFORMATION
NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

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

SHEET NUMBER
E-3

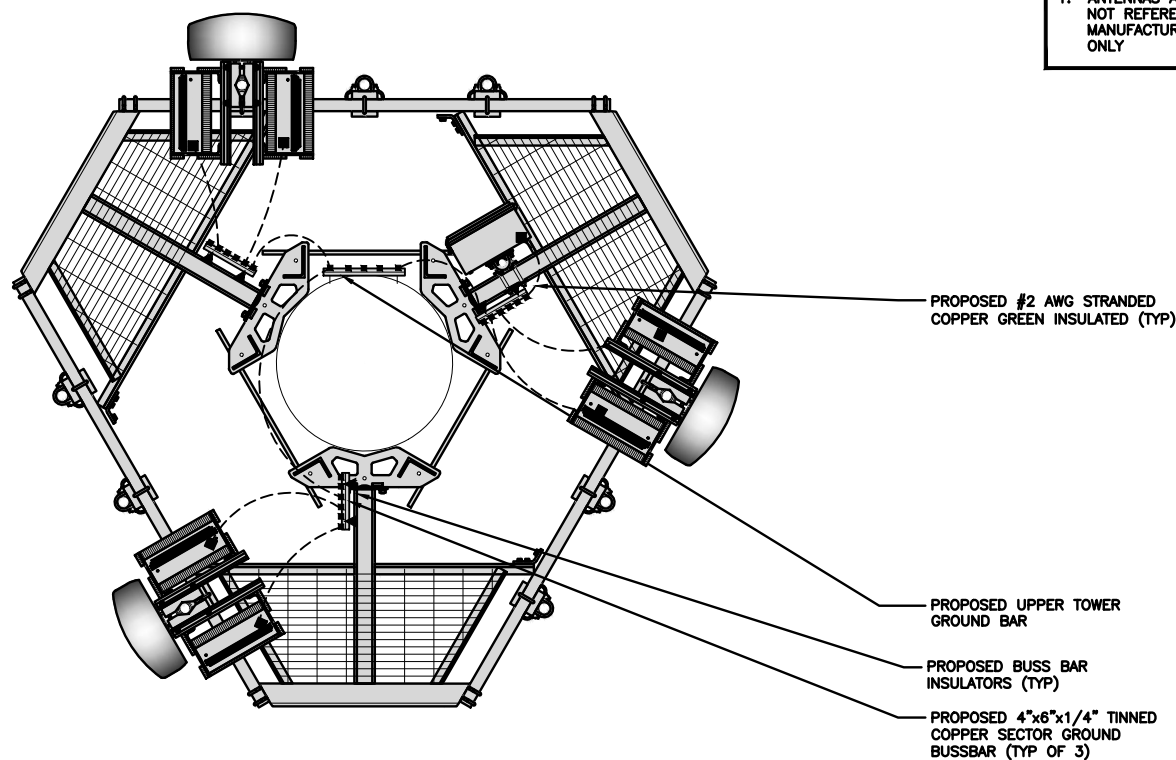


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE 1

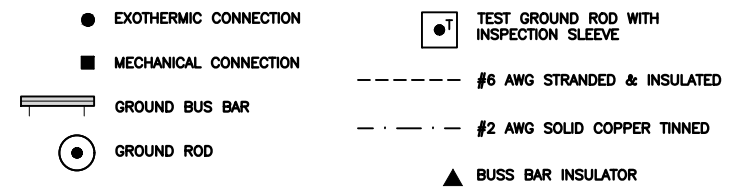
NOTES

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



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE 2



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

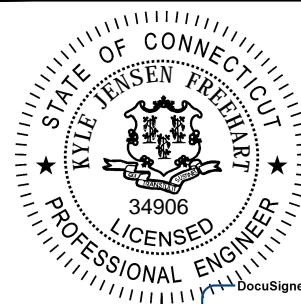
NO SCALE 3



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



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

DRAWN BY: JRG CHECKED BY: MCK APPROVED BY: MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCL-16281

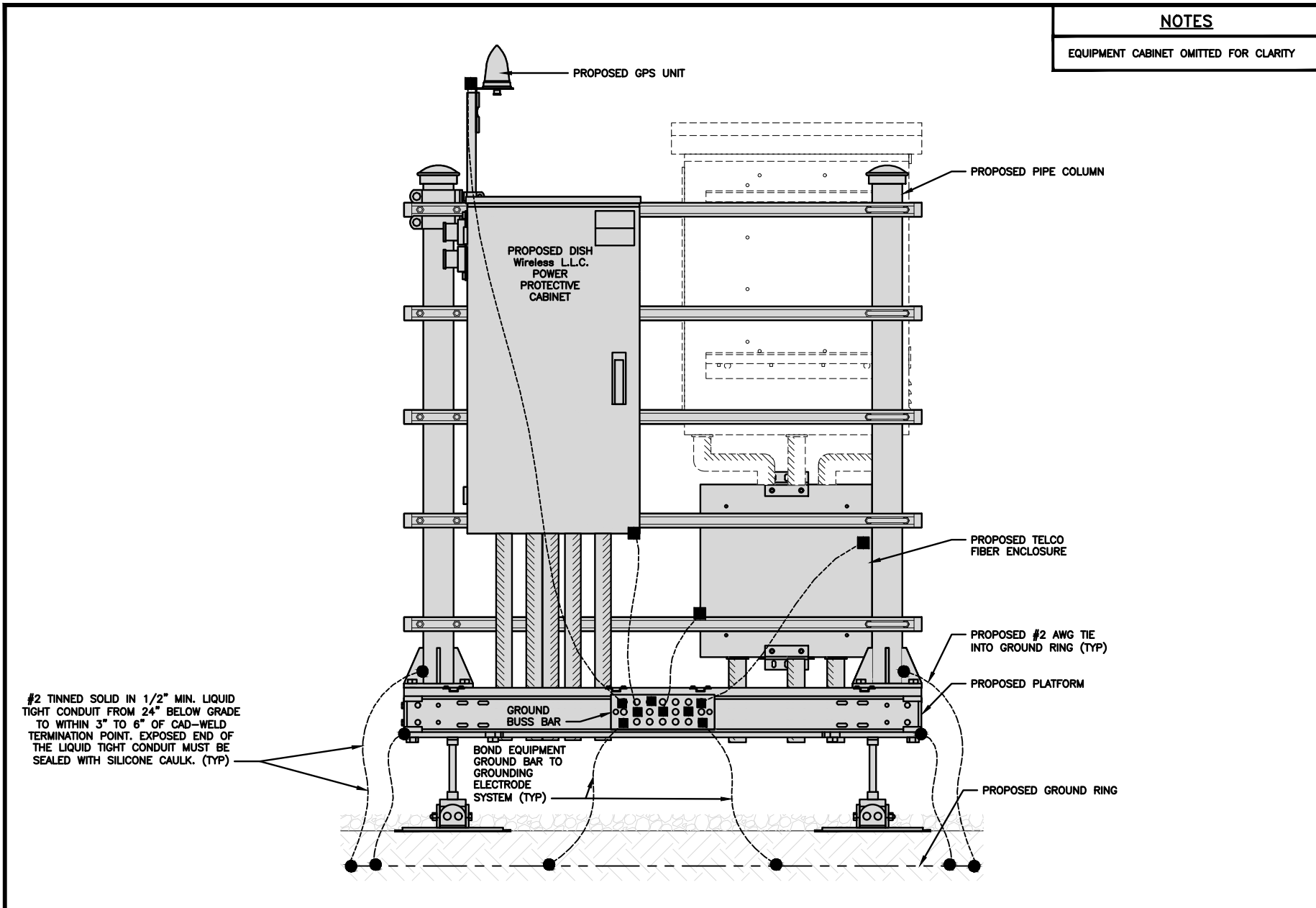
DISH Wireless L.L.C.
PROJECT INFORMATION

NJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

SHEET TITLE
GROUNDING PLANS
AND NOTES

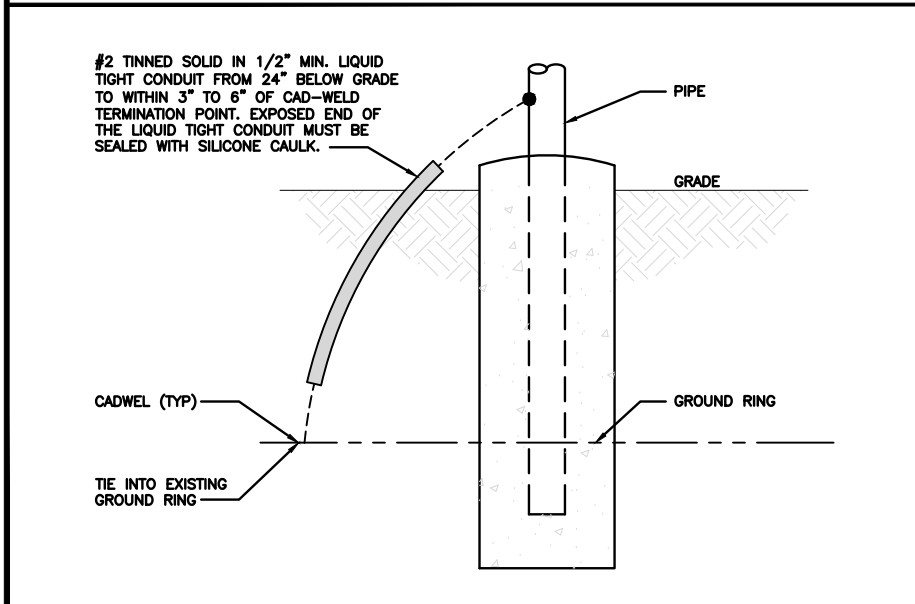
SHEET NUMBER

G-1



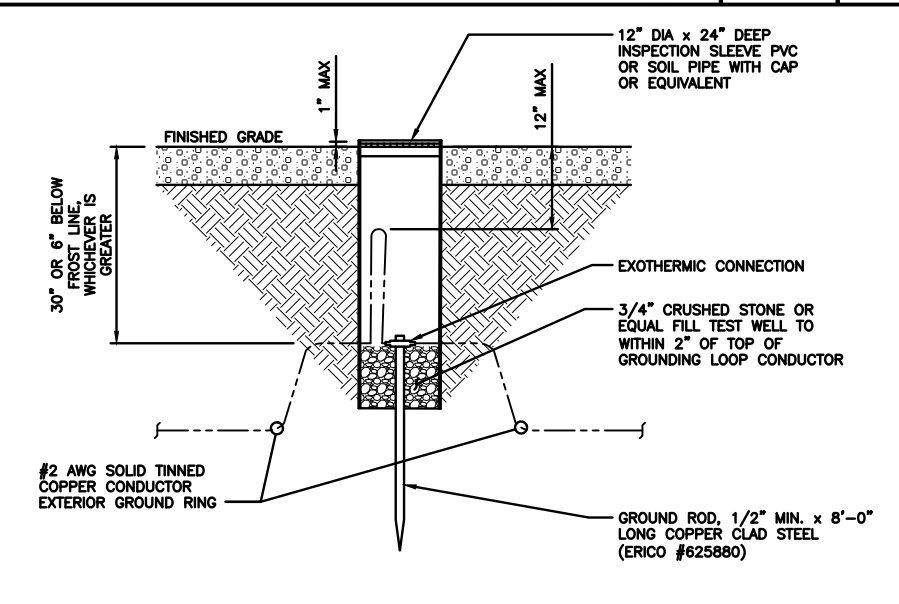
H-FRAME GROUNDING DETAIL

NO SCALE 1



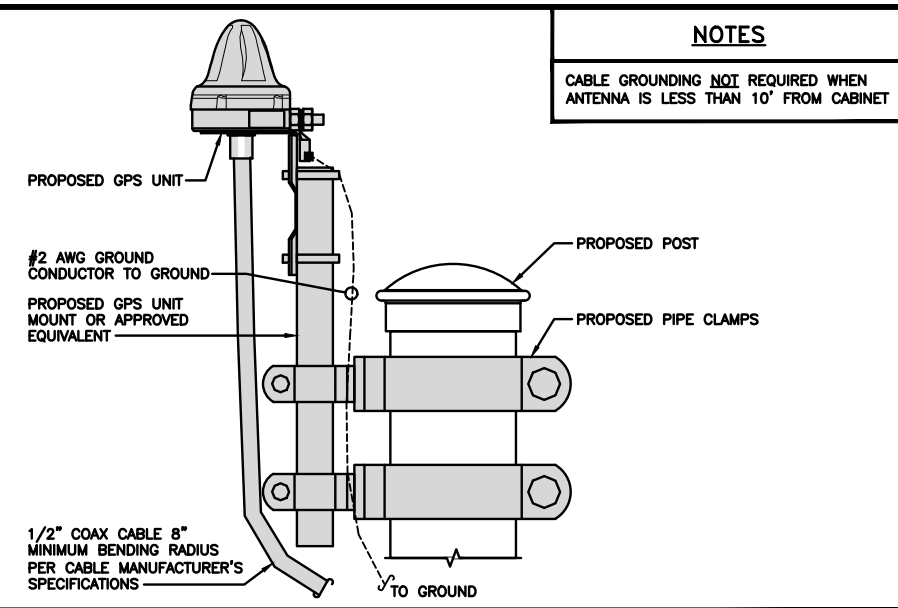
TRANSITIONING GROUND DETAIL

NO SCALE 4



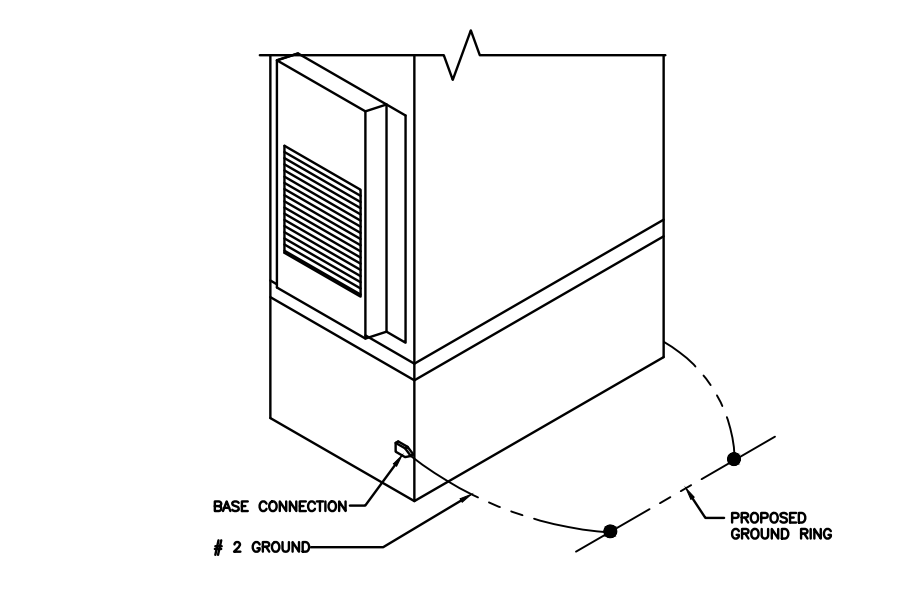
TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE

NO SCALE 5



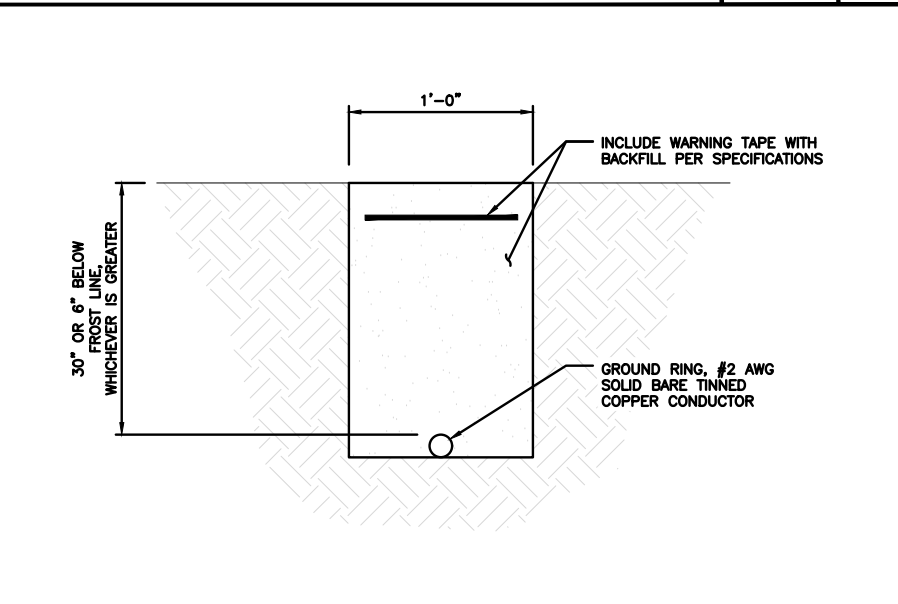
TYPICAL GPS UNIT GROUNDING

NO SCALE 2



OUTDOOR CABINET GROUNDING

NO SCALE 3



TYPICAL GROUND RING TRENCH

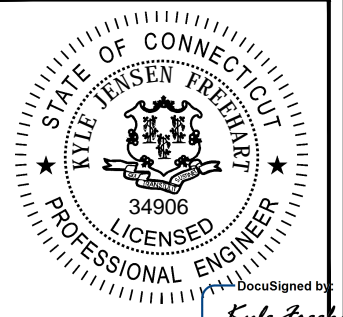
NO SCALE 6



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



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

DRAWN BY: JRG
CHECKED BY: MCK
APPROVED BY: MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

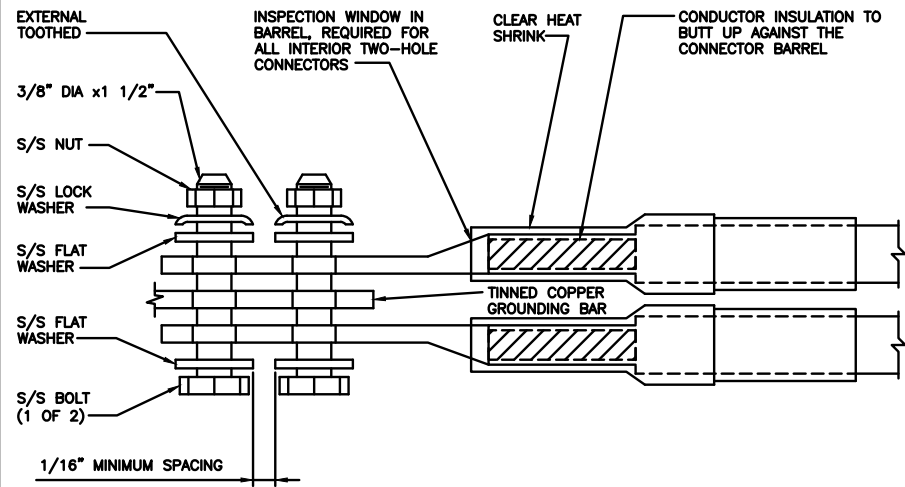
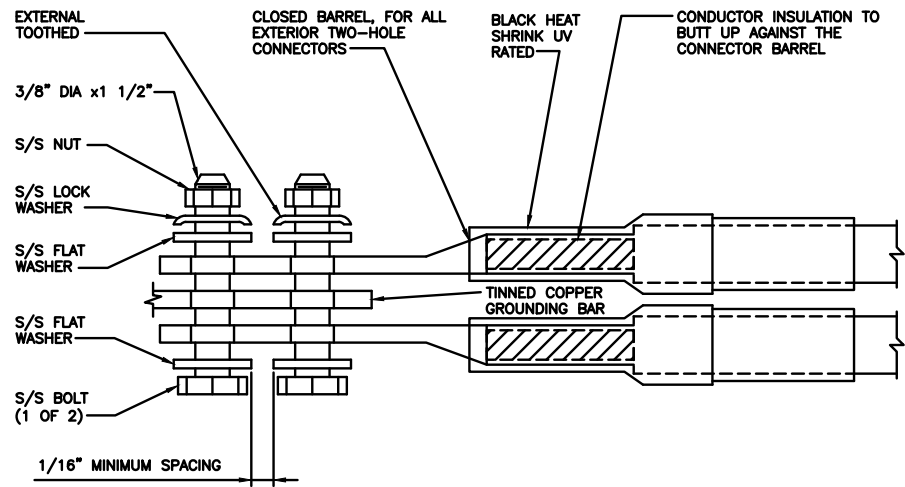
A&E PROJECT NUMBER
KHCL-16281

DISH Wireless L.L.C.
PROJECT INFORMATION
NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-2

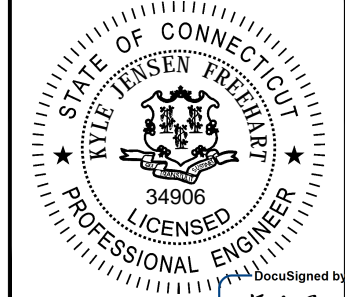
1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR. ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL EXTERIOR GROUNDING HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, 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).



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



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

DRAWN BY: JRG CHECKED BY: MCK APPROVED BY: MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCL-16281

DISH Wireless L.L.C.
PROJECT INFORMATION

NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
G-3

TYPICAL GROUNDING NOTES

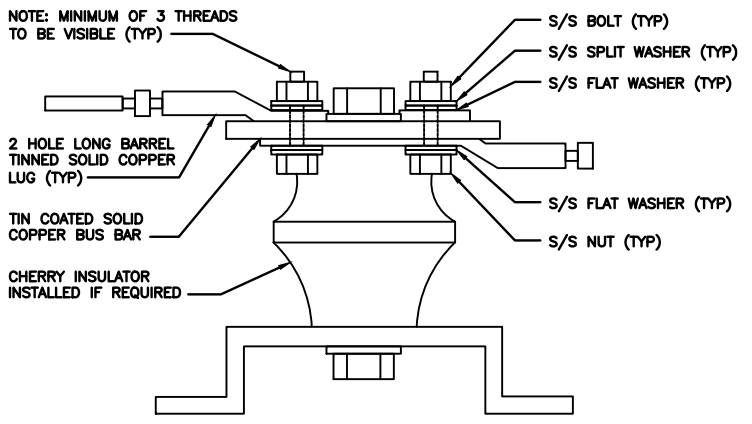
NO SCALE 1

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

RF JUMPER COLOR CODING		3/4" TAPE WIDTHS WITH 3/4" SPACING											
<p>LOW-BAND RRH - (600MHz N71 BASEBAND) + (850MHz N26 BAND) + (700MHz N29 BAND) - OPTIONAL PER MARKET</p> <p>ADD FREQUENCY COLOR TO SECTOR BAND (CBRS WILL USE YELLOW BANDS)</p>	ALPHA RRH				BETA RRH				GAMMA RRH				
	PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT	PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT	PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT	
	RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN	
	ORANGE	ORANGE	RED	RED	ORANGE	ORANGE	BLUE	BLUE	ORANGE	ORANGE	GREEN	GREEN	
		WHITE (-) PORT	ORANGE	ORANGE		WHITE (-) PORT	ORANGE	ORANGE		WHITE (-) PORT	ORANGE	ORANGE	
			WHITE (-) PORT				WHITE (-) PORT				WHITE (-) PORT		
<p>MID-BAND RRH - (AWS BANDS N66+N70)</p> <p>ADD FREQUENCY COLOR TO SECTOR BAND (CBRS WILL USE YELLOW BANDS)</p>	RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN	
	PURPLE	PURPLE	RED	RED	PURPLE	PURPLE	BLUE	BLUE	PURPLE	PURPLE	GREEN	GREEN	
		WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE	
			WHITE (-) PORT				WHITE (-) PORT				WHITE (-) PORT		
<p>HYBRID/DISCREET CABLES</p> <p>INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS</p> <p>EXAMPLE 1 - HYBRID, OR DISCREET, SUPPORTS ALL SECTORS, BOTH LOW-BANDS AND MID-BANDS</p> <p>EXAMPLE 2 - HYBRID, OR DISCREET, SUPPORTS CBRS ONLY, ALL SECTORS</p>	EXAMPLE 1	EXAMPLE 2	EXAMPLE 3										
	RED	RED	RED		BLUE	BLUE	BLUE		GREEN	GREEN	GREEN		
	BLUE	BLUE	ORANGE		PURPLE	PURPLE	PURPLE						
	GREEN	GREEN	PURPLE										
	ORANGE	YELLOW											
	PURPLE												
<p>FIBER JUMPERS TO RRHs</p> <p>LOW-BAND RRH FIBER CABLES HAVE SECTOR STRIPE ONLY</p>	LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH					
	RED	RED	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN					
		PURPLE		PURPLE		PURPLE		PURPLE					
<p>POWER CABLES TO RRHs</p> <p>LOW-BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY</p>	LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH					
	RED	RED	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN					
		PURPLE		PURPLE		PURPLE		PURPLE					
<p>RET MOTORS AT ANTENNAS</p>	ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"	ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"	ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"	ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"					
	RED	RED	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN					
		PURPLE		PURPLE		PURPLE		PURPLE					
<p>MICROWAVE RADIO LINKS</p> <p>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.</p> <p>MICROWAVE CABLES WILL REQUIRE P-TOUCH LABELS INSIDE THE CABINET TO IDENTIFY THE LOCAL AND REMOTE SITE ID'S</p>	FORWARD AZIMUTH OF 0-120 DEGREES		FORWARD AZIMUTH OF 120-240 DEGREES		FORWARD AZIMUTH OF 240-360 DEGREES								
	PRIMARY	SECONDARY	PRIMARY	SECONDARY	PRIMARY	SECONDARY	PRIMARY	SECONDARY					
	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE					
	RED	RED	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN					
	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE	WHITE					
		RED	WHITE	BLUE		WHITE		WHITE					
		WHITE	WHITE	WHITE		WHITE		WHITE					

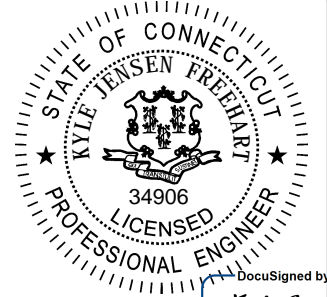
<p>LOW BANDS (N71+N26) OPTIONAL - (N29)</p> <p>ORANGE</p>	<p>AWS (N66+N70+H-BLOCK)</p> <p>PURPLE</p>	
<p>CBRS TECH (3 GHz)</p> <p>YELLOW</p>	<p>NEGATIVE SLANT PORT ON ANT/RRH</p> <p>WHITE</p>	
<p>ALPHA SECTOR</p> <p>RED</p>	<p>BETA SECTOR</p> <p>BLUE</p>	
	<p>GAMMA SECTOR</p> <p>GREEN</p>	
COLOR IDENTIFIER	NO SCALE	2
NOT USED	NO SCALE	3
RF CABLE COLOR CODES	NO SCALE	4



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



DocuSigned by:
Kyle Fredrick

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
JRG	MCK	MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCL-16281

DISH Wireless L.L.C.
PROJECT INFORMATION

NJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

SHEET TITLE
RF
CABLE COLOR CODES

SHEET NUMBER
RF-1

EXOTHERMIC CONNECTION	
MECHANICAL CONNECTION	
BUSS BAR INSULATOR	
CHEMICAL ELECTROLYTIC GROUNDING SYSTEM	
TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM	
EXOTHERMIC WITH INSPECTION SLEEVE	
GROUNDING BAR	
GROUND ROD	
TEST GROUND ROD WITH INSPECTION SLEEVE	
SINGLE POLE SWITCH	
DUPLEX RECEPTACLE	
DUPLEX GFCI RECEPTACLE	
FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48-T8	
SMOKE DETECTION (DC)	
EMERGENCY LIGHTING (DC)	
SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW LED-1-25A400/51K-SR4-120-PE-DBBTXD	
CHAIN LINK FENCE	
WOOD/WROUGHT IRON FENCE	
WALL STRUCTURE	
LEASE AREA	
PROPERTY LINE (PL)	
SETBACKS	
ICE BRIDGE	
CABLE TRAY	
WATER LINE	
UNDERGROUND POWER	
UNDERGROUND TELCO	
OVERHEAD POWER	
OVERHEAD TELCO	
UNDERGROUND TELCO/POWER	
ABOVE GROUND POWER	
ABOVE GROUND TELCO	
ABOVE GROUND TELCO/POWER	
WORKPOINT	
SECTION REFERENCE	
DETAIL REFERENCE	

LEGEND

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

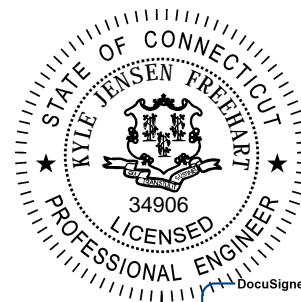
ABBREVIATIONS



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



DocuSigned by:
Kyle Jensen

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
JRG	MCK	MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCLC-16281

DISH Wireless L.L.C.
PROJECT INFORMATION
NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

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:

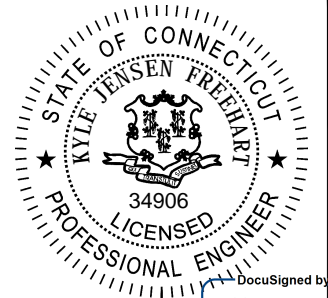
1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION
CARRIER: DISH Wireless L.L.C.
TOWER OWNER: TOWER OWNER
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED 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.



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



DocuSigned by:
Kyle Jensen

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
JRG	MCK	MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCL-16281

DISH Wireless L.L.C.
PROJECT INFORMATION

NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

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.

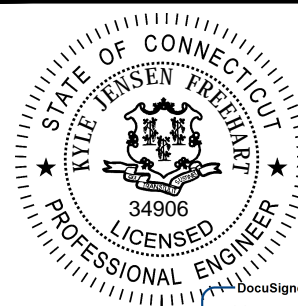
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL 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.



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



DocuSigned by:
Kyle Jensen

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
JRG	MCK	MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCLC-16281

DISH Wireless L.L.C.
PROJECT INFORMATION

NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-3

GROUNDING NOTES:

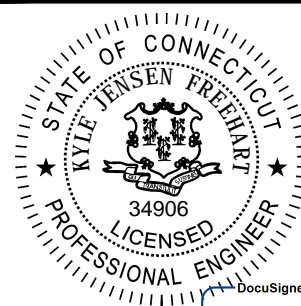
1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (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.



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



COA #: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601



DocuSigned by:
Kyle Frederick

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
JRG	MCK	MCK

RFDS REV #: ---

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	09/28/2021	ISSUED FOR REVIEW
0	11/30/2021	ISSUED FOR CONSTRUCTION
1	03/10/2022	REVISED PER CLIENT
2	05/10/2022	REVISED PER CLIENT

A&E PROJECT NUMBER
KHCLC-16281

DISH Wireless L.L.C.
PROJECT INFORMATION

NJJER01164A
1081 NORTH STREET
GREENWICH, CT 06831

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-4

Certificate Of Completion

Envelope Id: 42252EAC7BE8498D94352CBEAFC41C59	Status: Completed
Subject: Please DocuSign: NJJER01164A_FCD_Rev2_05.10.2022_Sealed.pdf	
Source Envelope:	
Document Pages: 20	Signatures: 20
Certificate Pages: 1	Initials: 0
AutoNav: Enabled	Envelope Originator:
Enveloped Stamping: Enabled	Tariq Salameh
Time Zone: (UTC-05:00) Eastern Time (US & Canada)	401 Fayetteville St.
	Suite 600
	Raleigh, NC 27601
	Tariq.Salameh@kimley-horn.com
	IP Address: 208.127.231.172


Record Tracking

Status: Original	Holder: Tariq Salameh	Location: DocuSign
5/11/2022 8:52:43 AM	Tariq.Salameh@kimley-horn.com	

Signer Events

Kyle Freehart
kyle.freehart@kimley-horn.com
Kimley-Horn
Security Level: Email, Account Authentication (None)

Signature

DocuSigned by:

D8BEE252A3804C1...
Signature Adoption: Pre-selected Style
Signed by link sent to
kyle.freehart@kimley-horn.com
Using IP Address: 208.127.224.42

Timestamp

Sent: 5/11/2022 8:54:47 AM
Viewed: 5/11/2022 9:30:25 AM
Signed: 5/11/2022 9:30:47 AM

Electronic Record and Signature Disclosure:
Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	5/11/2022 8:54:48 AM
Certified Delivered	Security Checked	5/11/2022 9:30:25 AM
Signing Complete	Security Checked	5/11/2022 9:30:47 AM
Completed	Security Checked	5/11/2022 9:30:47 AM
Payment Events	Status	Timestamps

ATTACHMENT 4

Date: **October 12, 2021**

Paul J Ford & Company
250 East Broad Street, STE 600
Columbus, Ohio
614-221-6679

Subject: **Structural Analysis Report**

Carrier Designation: **DISH Network Co-Locate**
Site Number: NJJER01164A
Site Name: CT-CCI-T-807132

Crown Castle Designation: **BU Number:** 807132
Site Name: BRG 133 943050
JDE Job Number: 640173
Work Order Number: 2031121
Order Number: 548697 Rev. 1

Engineering Firm Designation: **Paul J Ford & Company Project Number:** 37521-0909.002.7805

Site Data: **1081 North Street, Greenwich, Fairfield County, CT**
Latitude 41° 8' 21.5", Longitude -73° 38' 30.54"
175 Foot - Monopole Tower

Paul J Ford & Company is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above-mentioned tower.

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

LC7: Proposed Equipment Configuration

Sufficient Capacity – 64.3%

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

Respectfully submitted by:



Donna L. Campbell
Design Engineer II
dcampbell@pauljford.com

NDC

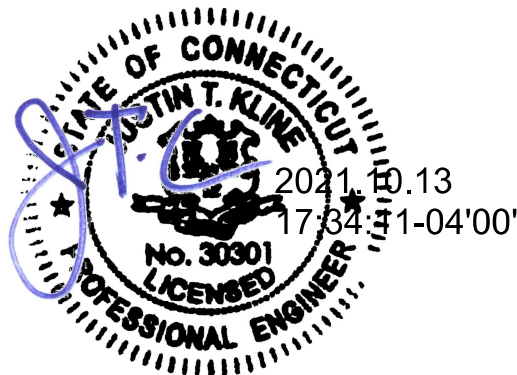


TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

Table 2 - Other Considered Equipment

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Table 5 – Tower Component Stresses vs. Capacity

4.1) Recommendations

5) APPENDIX A

tnxTower Output

6) APPENDIX B

Base Level Drawing

7) APPENDIX C

Additional Calculations

1) INTRODUCTION

This tower is a 175 ft Monopole tower designed by SSI Services in October of 2000.

The tower has been modified per reinforcement drawings prepared by Aero Solutions, in July of 2012. Reinforcement consists of shaft reinforcement and post-installed anchors.

The tower has been modified per reinforcement drawings prepared by Paul J. Ford and Company, in April of 2014. Reinforcement consists of shaft reinforcement.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	115 mph
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.0 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
154.0	154.0	3	fujitsu	TA08025-B604	1	1-3/4
		3	fujitsu	TA08025-B605		
		3	jma wireless	MX08FRO665-21 w/ Mount Pipe		
		1	mounts	Commscope_MC-Pk8-DSH_Platform		
		1	raycap	RDIDC-9181-PF-48		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
173.0	175.0	3	alcatel lucent	B66A RRH4X45	6 1	1-1/4 1-5/8
		3	alcatel lucent	RRH2X60-700		
		2	antel	ADA-85408580CF w/ Mount Pipe		
		2	antel	BXA-80080/4CF w/ Mount Pipe		
		6	commscope	JAAH-65B-R3B w/ Mount Pipe		
	173.0	1	rfs celwave	DB-C1-12C-24AB-0Z		
		1	tower mounts	Miscellaneous [NA 507-2]		
		1	tower mounts	Platform Mount [LP 601-1]		
162.0	162.0	3	cci antennas	HPA-65R-BUU-H6 w/ Mount Pipe	4	1-5/8
		3	ericsson	RRUS 11	4	1-1/4
		3	ericsson	RRUS 32 B2	2	5/8
		3	ericsson	RRUS-32 B30	1	3/8
					1	conduit

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
		2	kaelus	DBC0061F1V51-2		
		1	kathrein	800 10121 w/ Mount Pipe		
		1	powerwave technologies	7770.00 w/ Mount Pipe		
		4	powerwave technologies	LGP2140X		
		3	quintel technology	QS66512-2 w/ Mount Pipe		
		1	raycap	DC6-48-60-18-8C		
		1	raycap	DC6-48-60-18-8F		
		1	tower mounts	Platform Mount [LP 303-1]		
144.0	144.0	3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe	3	1-5/8
		3	ericsson	RADIO 4449 B71/B85A		
		3	ericsson	RADIO 4460 B2/B25 B66_TMO		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
		1	tower mounts	Sector Mount [SM 502-3]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Reference	Source
4-GEOTECHNICAL REPORTS	4837566	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	1057735	CCISITES
4-TOWER MANUFACTURER DRAWINGS	1057736	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	3279725	CCISITES
4-POST-MODIFICATION INSPECTION	3279736	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	4856181	CCISITES
4-POST-MODIFICATION INSPECTION	5456964	CCISITES

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

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

3.2) Assumptions

- 1) Tower and structures were built and have been maintained in accordance with the TIA-222 Standard.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 3) The structure was modified in conformance with the referenced modification drawings as shown in the referenced post modification inspection.

This analysis may be affected if any assumptions are not valid or have been made in error. Paul J Ford & Company should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
175 - 170	Pole	TP23.025x22.125x0.2188	Pole	3.8%	Pass
170 - 165	Pole	TP23.925x23.025x0.2188	Pole	7.9%	Pass
165 - 160	Pole	TP24.825x23.925x0.2188	Pole	13.2%	Pass
160 - 155	Pole	TP25.725x24.825x0.2188	Pole	19.4%	Pass
155 - 150	Pole	TP27.435x25.725x0.2188	Pole	27.4%	Pass
150 - 145	Pole	TP27.087x26.188x0.3125	Pole	22.0%	Pass
145 - 140	Pole	TP27.987x27.087x0.3125	Pole	27.6%	Pass
140 - 135	Pole	TP28.887x27.987x0.3125	Pole	32.8%	Pass
135 - 130	Pole	TP29.787x28.887x0.3125	Pole	37.6%	Pass
130 - 125	Pole	TP30.687x29.787x0.3125	Pole	42.1%	Pass
125 - 120	Pole	TP31.587x30.687x0.3125	Pole	46.3%	Pass
120 - 115	Pole	TP32.487x31.587x0.3125	Pole	50.3%	Pass
115 - 110	Pole	TP33.387x32.487x0.3125	Pole	54.1%	Pass
110 - 105	Pole	TP34.287x33.387x0.3125	Pole	57.6%	Pass
105 - 101	Pole	TP35.997x34.287x0.3125	Pole	60.4%	Pass
101 - 94.5	Pole	TP35.552x34.382x0.375	Pole	51.8%	Pass
94.5 - 89.5	Pole	TP36.452x35.552x0.375	Pole	54.1%	Pass
89.5 - 84.5	Pole	TP37.352x36.452x0.375	Pole	56.2%	Pass
84.5 - 83.17	Pole	TP37.591x37.352x0.375	Pole	56.8%	Pass
83.17 - 82.92	Pole	TP37.636x37.591x0.375	Pole	56.9%	Pass
82.92 - 77.92	Pole	TP38.536x37.636x0.375	Pole	59.0%	Pass
77.92 - 72.92	Pole	TP39.436x38.536x0.375	Pole	61.0%	Pass
72.92 - 67.92	Pole	TP40.336x39.436x0.375	Pole	62.9%	Pass
67.92 - 65.5	Pole	TP40.772x40.336x0.375	Pole	63.8%	Pass
65.5 - 65.25	Pole	TP40.817x40.772x0.375	Pole	63.8%	Pass

65.25 - 64	Pole	TP41.042x40.817x0.375	Pole	64.3%	Pass
64 - 63.75	Pole + Reinf.	TP41.087x41.042x0.625	Reinf. 8 Tension Rupture	54.0%	Pass
63.75 - 58.75	Pole + Reinf.	TP41.987x41.087x0.625	Reinf. 8 Tension Rupture	55.5%	Pass
58.75 - 53.75	Pole + Reinf.	TP42.886x41.987x0.625	Reinf. 8 Tension Rupture	56.9%	Pass
53.75 - 53	Pole + Reinf.	TP44.177x42.886x0.6125	Reinf. 8 Tension Rupture	57.1%	Pass
53 - 45.58	Pole + Reinf.	TP43.607x42.271x0.6438	Reinf. 8 Tension Rupture	57.8%	Pass
45.58 - 43	Pole + Reinf.	TP44.072x43.607x0.6438	Reinf. 8 Tension Rupture	58.4%	Pass
43 - 42.75	Pole + Reinf.	TP44.117x44.072x0.7063	Reinf. 8 Tension Rupture	56.4%	Pass
42.75 - 42.5	Pole + Reinf.	TP44.162x44.117x0.7063	Reinf. 8 Tension Rupture	56.5%	Pass
42.5 - 42.25	Pole + Reinf.	TP44.207x44.162x0.7813	Reinf. 8 Tension Rupture	48.7%	Pass
42.25 - 42	Pole + Reinf.	TP44.252x44.207x0.7813	Reinf. 8 Tension Rupture	48.8%	Pass
42 - 41.75	Pole + Reinf.	TP44.297x44.252x0.6813	Reinf. 8 Tension Rupture	55.6%	Pass
41.75 - 36.75	Pole + Reinf.	TP45.197x44.297x0.6813	Reinf. 8 Tension Rupture	56.7%	Pass
36.75 - 32	Pole + Reinf.	TP46.052x45.197x0.6688	Reinf. 8 Tension Rupture	57.7%	Pass
32 - 31.75	Pole + Reinf.	TP46.097x46.052x0.7188	Reinf. 7 Tension Rupture	53.1%	Pass
31.75 - 26.75	Pole + Reinf.	TP46.997x46.097x0.7063	Reinf. 7 Tension Rupture	54.1%	Pass
26.75 - 21.75	Pole + Reinf.	TP47.897x46.997x0.7063	Reinf. 7 Tension Rupture	55.1%	Pass
21.75 - 18	Pole + Reinf.	TP48.572x47.897x0.7063	Reinf. 7 Tension Rupture	55.8%	Pass
18 - 17.75	Pole + Reinf.	TP48.617x48.572x0.7063	Reinf. 7 Tension Rupture	55.8%	Pass
17.75 - 17	Pole + Reinf.	TP50.027x48.617x0.7063	Reinf. 7 Tension Rupture	56.0%	Pass
17 - 8.92	Pole + Reinf.	TP49.394x47.94x0.6625	Reinf. 1 Tension Rupture	59.0%	Pass
8.92 - 3.92	Pole + Reinf.	TP50.294x49.394x0.6625	Reinf. 1 Tension Rupture	59.7%	Pass
3.92 - 2.75	Pole + Reinf.	TP50.505x50.294x0.6625	Reinf. 1 Tension Rupture	59.9%	Pass
2.75 - 2.5	Pole + Reinf.	TP50.55x50.505x0.7125	Reinf. 10 Connection	58.8%	Pass
2.5 - 0	Pole + Reinf.	TP51x50.55x0.7125	Reinf. 10 Connection	59.2%	Pass
				Summary	
			Pole	64.3%	Pass
			Reinforcement	59.9%	Pass
			Overall	64.3%	Pass

Table 5 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	57.1	Pass
1	Base Plate	0	36.4	Pass
1	Base Foundation	0	39.9	Pass
Structure Rating (max from all components) =				64.3%

Notes:

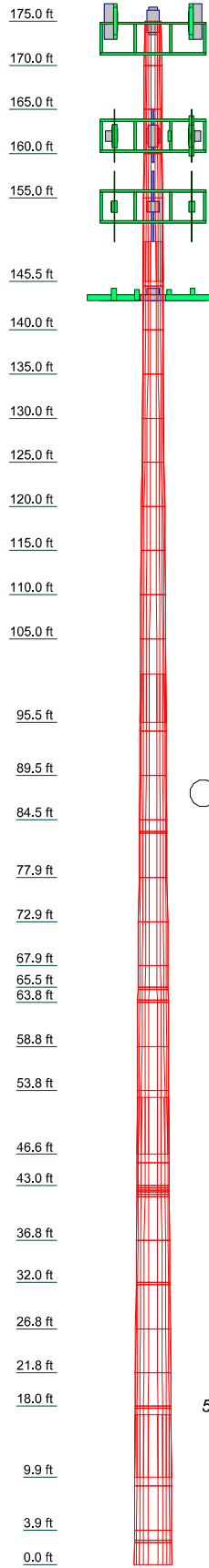
- All structural ratings are per TIA-222-H Section 15.5
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
2	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
3	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
4	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
5	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
6	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
7	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
8	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
9	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
10	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
11	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
12	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
13	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
14	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
15	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
16	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
17	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
18	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
19	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
20	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
21	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
22	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
23	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
24	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
25	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
26	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
27	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
28	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
29	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
30	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
31	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
32	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
33	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
34	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
35	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
36	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
37	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
38	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
39	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
40	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
41	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
42	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
43	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
44	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
45	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
46	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
47	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
48	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
49	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3
50	5.00	12	0.3125	4.50	33.387	34.287	0.3	0.3



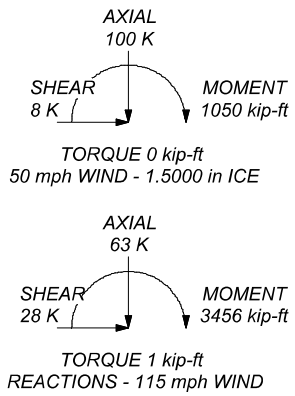
MATERIAL STRENGTH


GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 115 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TIA-222-H Annex S
9. TOWER RATING: 64.5%

ALL REACTIONS ARE FACTORED



 PJF Logo	Paul J Ford & Company 250 East Broad Street, STE 600 Columbus, Ohio Phone: 614-221-6679 FAX:			Job: 176-Ft Monopole / BRG 133 943050 Project: PJF 37521-0909.002.7805 / BU# 807132 Client: Crown Castle Drawn by: dcampbell App'd: Code: TIA-222-H Date: 10/11/21 Scale: NTS Path:		
				Dwg No. E-1		

Tower Input Data

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

- Tower is located in Fairfield County, Connecticut.
- Tower base elevation above sea level: 465.19 ft.
- Basic wind speed of 115 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.00 ft.
- Nominal ice thickness of 1.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50 °F.
- Deflections calculated using a wind speed of 60 mph.
- TIA-222-H Annex S.
- A non-linear (P-delta) analysis was used.
- Pressures are calculated at each section.
- Stress ratio used in pole design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification ✓ Use Code Stress Ratios ✓ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric	Distribute Leg Loads As Uniform Assume Legs Pinned ✓ Assume Rigid Index Plate ✓ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension ✓ Bypass Mast Stability Checks ✓ Use Azimuth Dish Coefficients ✓ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination ✓ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs	Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation ✓ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist. Exemption Use TIA-222-H Tension Splice Exemption <div style="text-align: center; background-color: #e0e0e0; padding: 2px;">Poles</div> ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known
--	---	---

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	175.00-170.00	5.00	0.00	12	22.1250	23.0250	0.2188	0.8750	A572-65 (65 ksi)
L2	170.00-165.00	5.00	0.00	12	23.0250	23.9250	0.2188	0.8750	A572-65 (65 ksi)
L3	165.00-160.00	5.00	0.00	12	23.9250	24.8250	0.2188	0.8750	A572-65 (65 ksi)
L4	160.00-155.00	5.00	0.00	12	24.8250	25.7250	0.2188	0.8750	A572-65 (65 ksi)
L5	155.00-145.50	9.50	4.50	12	25.7250	27.4350	0.2188	0.8750	A572-65 (65 ksi)
L6	145.50-145.00	5.00	0.00	12	26.1875	27.0875	0.3125	1.2500	A572-65 (65 ksi)
L7	145.00-140.00	5.00	0.00	12	27.0875	27.9874	0.3125	1.2500	A572-65 (65 ksi)
L8	140.00-135.00	5.00	0.00	12	27.9874	28.8874	0.3125	1.2500	A572-65 (65 ksi)
L9	135.00-130.00	5.00	0.00	12	28.8874	29.7873	0.3125	1.2500	A572-65 (65 ksi)
L10	130.00-125.00	5.00	0.00	12	29.7873	30.6873	0.3125	1.2500	A572-65 (65 ksi)
L11	125.00-120.00	5.00	0.00	12	30.6873	31.5872	0.3125	1.2500	A572-65 (65 ksi)
L12	120.00-115.00	5.00	0.00	12	31.5872	32.4872	0.3125	1.2500	A572-65 (65 ksi)
L13	115.00-110.00	5.00	0.00	12	32.4872	33.3871	0.3125	1.2500	A572-65 (65 ksi)
L14	110.00-105.00	5.00	0.00	12	33.3871	34.2871	0.3125	1.2500	A572-65 (65 ksi)
L15	105.00-95.50	9.50	5.50	12	34.2871	35.9970	0.3125	1.2500	A572-65 (65 ksi)
L16	95.50-94.50	6.50	0.00	12	34.3821	35.5520	0.3750	1.5000	A572-65 (65 ksi)
L17	94.50-89.50	5.00	0.00	12	35.5520	36.4519	0.3750	1.5000	A572-65 (65 ksi)
L18	89.50-84.50	5.00	0.00	12	36.4519	37.3519	0.3750	1.5000	A572-65 (65 ksi)
L19	84.50-83.17	1.33	0.00	12	37.3519	37.5912	0.3750	1.5000	A572-65 (65 ksi)
L20	83.17-82.92	0.25	0.00	12	37.5912	37.6362	0.3750	1.5000	A572-65 (65 ksi)
L21	82.92-77.92	5.00	0.00	12	37.6362	38.5362	0.3750	1.5000	A572-65 (65 ksi)
L22	77.92-72.92	5.00	0.00	12	38.5362	39.4361	0.3750	1.5000	A572-65 (65 ksi)
L23	72.92-67.92	5.00	0.00	12	39.4361	40.3361	0.3750	1.5000	A572-65 (65 ksi)
L24	67.92-65.50	2.42	0.00	12	40.3361	40.7716	0.3750	1.5000	A572-65 (65 ksi)
L25	65.50-65.25	0.25	0.00	12	40.7716	40.8166	0.3750	1.5000	A572-65 (65 ksi)
L26	65.25-64.00	1.25	0.00	12	40.8166	41.0416	0.3750	1.5000	A572-65 (65 ksi)
L27	64.00-63.75	0.25	0.00	12	41.0416	41.0866	0.6250	2.5000	A572-65 (65 ksi)
L28	63.75-58.75	5.00	0.00	12	41.0866	41.9865	0.6250	2.5000	A572-65 (65 ksi)
L29	58.75-53.75	5.00	0.00	12	41.9865	42.8865	0.6250	2.5000	A572-65 (65 ksi)
L30	53.75-46.58	7.17	6.42	12	42.8865	44.1770	0.6125	2.4500	A572-65 (65 ksi)
L31	46.58-45.58	7.42	0.00	12	42.2715	43.6073	0.6438	2.5752	A572-65 (65 ksi)
L32	45.58-43.00	2.58	0.00	12	43.6073	44.0717	0.6438	2.5752	A572-65 (65 ksi)
L33	43.00-42.75	0.25	0.00	12	44.0717	44.1167	0.7063	2.8252	A572-65

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L34	42.75-42.50	0.25	0.00	12	44.1167	44.1618	0.7063	2.8252	(65 ksi) A572-65
L35	42.50-42.25	0.25	0.00	12	44.1618	44.2068	0.7813	3.1252	(65 ksi) A572-65
L36	42.25-42.00	0.25	0.00	12	44.2068	44.2518	0.7813	3.1252	(65 ksi) A572-65
L37	42.00-41.75	0.25	0.00	12	44.2518	44.2968	0.6813	2.7252	(65 ksi) A572-65
L38	41.75-36.75	5.00	0.00	12	44.2968	45.1969	0.6813	2.7252	(65 ksi) A572-65
L39	36.75-32.00	4.75	0.00	12	45.1969	46.0520	0.6688	2.6752	(65 ksi) A572-65
L40	32.00-31.75	0.25	0.00	12	46.0520	46.0970	0.7188	2.8752	(65 ksi) A572-65
L41	31.75-26.75	5.00	0.00	12	46.0970	46.9972	0.7063	2.8252	(65 ksi) A572-65
L42	26.75-21.75	5.00	0.00	12	46.9972	47.8973	0.7063	2.8252	(65 ksi) A572-65
L43	21.75-18.00	3.75	0.00	12	47.8973	48.5724	0.7063	2.8252	(65 ksi) A572-65
L44	18.00-17.75	0.25	0.00	12	48.5724	48.6174	0.7063	2.8252	(65 ksi) A572-65
L45	17.75-9.92	7.83	7.08	12	48.6174	50.0270	0.7063	2.8252	(65 ksi) A572-65
L46	9.92-8.92	8.08	0.00	12	47.9398	49.3943	0.6625	2.6500	(65 ksi) A572-65
L47	8.92-3.92	5.00	0.00	12	49.3943	50.2944	0.6625	2.6500	(65 ksi) A572-65
L48	3.92-2.75	1.17	0.00	12	50.2944	50.5050	0.6625	2.6500	(65 ksi) A572-65
L49	2.75-2.50	0.25	0.00	12	50.5050	50.5500	0.7125	2.8500	(65 ksi) A572-65
L50	2.50-0.00	2.50		12	50.5500	51.0000	0.7125	2.8500	(65 ksi) A572-65

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	22.8283	15.4302	945.1353	7.8424	11.4608	82.4671	1915.1004	7.5943	5.3433	24.426
	23.7601	16.0642	1066.4771	8.1646	11.9270	89.4174	2160.9717	7.9063	5.5845	25.529
L2	23.7601	16.0642	1066.4771	8.1646	11.9270	89.4174	2160.9717	7.9063	5.5845	25.529
	24.6918	16.6981	1197.7839	8.4868	12.3932	96.6489	2427.0349	8.2183	5.8257	26.632
L3	24.6918	16.6981	1197.7839	8.4868	12.3932	96.6489	2427.0349	8.2183	5.8257	26.632
	25.6236	17.3320	1339.4490	8.8090	12.8594	104.1615	2714.0868	8.5303	6.0669	27.734
L4	25.6236	17.3320	1339.4490	8.8090	12.8594	104.1615	2714.0868	8.5303	6.0669	27.734
	26.5553	17.9660	1491.8657	9.1312	13.3256	111.9553	3022.9243	8.8423	6.3080	28.837
L5	26.5553	17.9660	1491.8657	9.1312	13.3256	111.9553	3022.9243	8.8423	6.3080	28.837
	28.3256	19.1704	1812.4863	9.7434	14.2113	127.5381	3672.5887	9.4351	6.7663	30.932
L6	27.8396	26.0367	2225.0149	9.2632	13.5651	164.0246	4508.4834	12.8145	6.1807	19.778
	27.9328	26.9423	2465.3469	9.5854	14.0313	175.7034	4995.4613	13.2602	6.4219	20.55
L7	27.9328	26.9423	2465.3469	9.5854	14.0313	175.7034	4995.4613	13.2602	6.4219	20.55
	28.8645	27.8479	2722.3904	9.9076	14.4975	187.7837	5516.3010	13.7059	6.6631	21.322
L8	28.8645	27.8479	2722.3904	9.9076	14.4975	187.7837	5516.3010	13.7059	6.6631	21.322
	29.7962	28.7535	2996.7069	10.2298	14.9637	200.2657	6072.1406	14.1516	6.9043	22.094
L9	29.7962	28.7535	2996.7069	10.2298	14.9637	200.2657	6072.1406	14.1516	6.9043	22.094
	30.7279	29.6590	3288.8586	10.5520	15.4298	213.1494	6664.1191	14.5973	7.1455	22.866
L10	30.7279	29.6590	3288.8586	10.5520	15.4298	213.1494	6664.1191	14.5973	7.1455	22.866
	31.6596	30.5646	3599.4064	10.8742	15.8960	226.4346	7293.3732	15.0430	7.3867	23.637
L11	31.6596	30.5646	3599.4064	10.8742	15.8960	226.4346	7293.3732	15.0430	7.3867	23.637

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L12	32.5913	31.4702	3928.9124	11.1964	16.3622	240.1215	7961.0416	15.4887	7.6279	24.409
	32.5913	31.4702	3928.9124	11.1964	16.3622	240.1215	7961.0416	15.4887	7.6279	24.409
	33.5230	32.3758	4277.9383	11.5185	16.8284	254.2101	8668.2627	15.9344	7.8691	25.181
L13	33.5230	32.3758	4277.9383	11.5185	16.8284	254.2101	8668.2627	15.9344	7.8691	25.181
	34.4547	33.2813	4647.0457	11.8407	17.2945	268.7002	9416.1745	16.3801	8.1103	25.953
L14	34.4547	33.2813	4647.0457	11.8407	17.2945	268.7002	9416.1745	16.3801	8.1103	25.953
	35.3864	34.1869	5036.7965	12.1629	17.7607	283.5921	10205.915	16.8258	8.3514	26.725
L15	35.3864	34.1869	5036.7965	12.1629	17.7607	283.5921	10205.915	16.8258	8.3514	26.725
	37.1566	35.9075	5836.2071	12.7751	18.6464	312.9930	11825.737	17.6726	8.8097	28.191
L16	36.4875	41.0635	6061.4980	12.1745	17.8099	340.3443	12282.238	20.2102	8.2094	21.892
	36.6738	42.4762	6708.8562	12.5934	18.4159	364.2965	13593.961	20.9055	8.5229	22.728
L17	36.6738	42.4762	6708.8562	12.5934	18.4159	364.2965	13593.961	20.9055	8.5229	22.728
	37.6055	43.5629	7237.0437	12.9155	18.8821	383.2755	14664.212	21.4403	8.7641	23.371
L18	37.6055	43.5629	7237.0437	12.9155	18.8821	383.2755	14664.212	21.4403	8.7641	23.371
	38.5372	44.6495	7792.2509	13.2377	19.3483	402.7365	15789.213	21.9752	9.0053	24.014
L19	38.5372	44.6495	7792.2509	13.2377	19.3483	402.7365	15789.213	21.9752	9.0053	24.014
	38.7850	44.9386	7944.5713	13.3234	19.4723	407.9943	16097.855	22.1174	9.0695	24.185
L20	38.7850	44.9386	7944.5713	13.3234	19.4723	407.9943	16097.855	22.1174	9.0695	24.185
	38.8316	44.9929	7973.4227	13.3395	19.4956	408.9864	16156.316	22.1442	9.0815	24.217
L21	38.8316	44.9929	7973.4227	13.3395	19.4956	408.9864	16156.316	22.1442	9.0815	24.217
	39.7633	46.0796	8565.2157	13.6617	19.9617	429.0816	17355.449	22.6790	9.3227	24.861
L22	39.7633	46.0796	8565.2157	13.6617	19.9617	429.0816	17355.449	22.6790	9.3227	24.861
	40.6950	47.1663	9185.5888	13.9839	20.4279	449.6588	18612.493	23.2138	9.5639	25.504
L23	40.6950	47.1663	9185.5888	13.9839	20.4279	449.6588	18612.493	23.2138	9.5639	25.504
	41.6267	48.2530	9835.2165	14.3061	20.8941	470.7179	19928.815	23.7486	9.8051	26.147
L24	41.6267	48.2530	9835.2165	14.3061	20.8941	470.7179	19928.815	23.7486	9.8051	26.147
	42.0776	48.7789	10160.343	14.4620	21.1197	481.0836	20587.609	24.0075	9.9218	26.458
L25	42.0776	48.7789	10160.343	14.4620	21.1197	481.0836	20587.609	24.0075	9.9218	26.458
	42.1242	48.8333	10194.333	14.4781	21.1430	482.1609	20656.482	24.0342	9.9339	26.49
L26	42.1242	48.8333	10194.333	14.4781	21.1430	482.1609	20656.482	24.0342	9.9339	26.49
	42.3571	49.1049	10365.420	14.5586	21.2596	487.5653	21003.152	24.1680	9.9942	26.651
L27	42.2689	81.3384	16959.046	14.4691	21.2596	797.7142	34363.625	40.0323	9.3242	14.919
	42.3155	81.4290	17015.752	14.4853	21.2829	799.5049	34478.527	40.0769	9.3362	14.938
L28	42.3155	81.4290	17015.752	14.4853	21.2829	799.5049	34478.527	40.0769	9.3362	14.938
	43.2472	83.2401	18176.576	14.8074	21.7490	835.7419	36830.672	40.9682	9.5774	15.324
L29	43.2472	83.2401	18176.576	14.8074	21.7490	835.7419	36830.672	40.9682	9.5774	15.324

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
	44.1789	85.0512	19389.032	15.1296	22.2152	872.7823	39287.435	41.8596	9.8186	15.71
			1				7			
L30	44.1833	83.3749	19018.116	15.1341	22.2152	856.0858	38535.860	41.0346	9.8521	16.085
			9				9			
	45.5193	85.9201	20813.547	15.5961	22.8837	909.5365	42173.890	42.2873	10.1979	16.65
			9				9			
L31	44.7321	86.2957	19087.072	14.9027	21.8966	871.6902	38675.583	42.4721	9.6034	14.917
			5				6			
	44.9185	89.0648	20984.124	15.3809	22.5886	928.9711	42519.524	43.8350	9.9614	15.473
			1				5			
L32	44.9185	89.0648	20984.124	15.3809	22.5886	928.9711	42519.524	43.8350	9.9614	15.473
			1				5			
	45.3993	90.0277	21672.069	15.5472	22.8292	949.3153	43913.489	44.3089	10.0858	15.666
			8				1			
L33	45.3773	98.6254	23673.485	15.5248	22.8292	1036.9845	47968.900	48.5404	9.9183	14.043
			8				4			
	45.4239	98.7278	23747.271	15.5409	22.8525	1039.1554	48118.409	48.5908	9.9304	14.06
			2				6			
L34	45.4239	98.7278	23747.271	15.5409	22.8525	1039.1554	48118.409	48.5908	9.9304	14.06
			2				6			
	45.4705	98.8301	23821.209	15.5571	22.8758	1041.3285	48268.229	48.6412	9.9425	14.077
			7				2			
L35	45.4440	109.1359	26214.515	15.5302	22.8758	1145.9503	53117.715	53.7134	9.7415	12.468
			4				4			
	45.4906	109.2492	26296.190	15.5463	22.8991	1148.3504	53283.211	53.7691	9.7535	12.484
			6				4			
L36	45.4906	109.2492	26296.190	15.5463	22.8991	1148.3504	53283.211	53.7691	9.7535	12.484
			6				4			
	45.5372	109.3624	26378.037	15.5624	22.9224	1150.7530	53449.054	53.8248	9.7656	12.499
			0				5			
L37	45.5725	95.5843	23160.971	15.5982	22.9224	1010.4072	46930.406	47.0437	10.0336	14.727
			2				8			
	45.6191	95.6830	23232.817	15.6143	22.9457	1012.5117	47075.987	47.0923	10.0457	14.745
			5				0			
L38	45.6191	95.6830	23232.817	15.6143	22.9457	1012.5117	47075.987	47.0923	10.0457	14.745
			5				0			
	46.5509	97.6577	24701.134	15.9366	23.4120	1055.0633	50051.195	48.0641	10.2869	15.099
			8				8			
L39	46.5553	95.8929	24268.368	15.9411	23.4120	1036.5784	49174.293	47.1956	10.3204	15.431
			4				9			
	47.4406	97.7344	25693.550	16.2472	23.8549	1077.0742	52062.099	48.1019	10.5496	15.774
			4				0			
L40	47.4230	104.9254	27523.249	16.2293	23.8549	1153.7753	55769.565	51.6411	10.4156	14.49
			6				7			
	47.4696	105.0295	27605.306	16.2454	23.8783	1156.0853	55935.835	51.6923	10.4276	14.507
			6				3			
L41	47.4740	103.2315	27147.669	16.2499	23.8783	1136.9198	55008.539	50.8074	10.4611	14.811
			8				2			
	48.4059	105.2787	28794.981	16.5721	24.3445	1182.8112	58346.439	51.8150	10.7024	15.153
			5				3			
L42	48.4059	105.2787	28794.981	16.5721	24.3445	1182.8112	58346.439	51.8150	10.7024	15.153
			5				3			
	49.3378	107.3258	30507.621	16.8944	24.8108	1229.6107	61816.712	52.8225	10.9436	15.494
			4				0			
L43	49.3378	107.3258	30507.621	16.8944	24.8108	1229.6107	61816.712	52.8225	10.9436	15.494
			4				0			
	50.0367	108.8612	31835.733	17.1361	25.1605	1265.3062	64507.827	53.5782	11.1245	15.75
			5				1			
L44	50.0367	108.8612	31835.733	17.1361	25.1605	1265.3062	64507.827	53.5782	11.1245	15.75
			5				1			
	50.0833	108.9635	31925.620	17.1522	25.1838	1267.7041	64689.962	53.6285	11.1366	15.767
			4				4			
L45	50.0833	108.9635	31925.620	17.1522	25.1838	1267.7041	64689.962	53.6285	11.1366	15.767
			4				4			
	51.5426	112.1694	34827.213	17.6568	25.9140	1343.9543	70569.375	55.2064	11.5144	16.302
			1				9			

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L46	50.7167	100.8543	28773.064 3	16.9253	24.8328	1158.6706	58302.029 0	49.6374	11.0724	16.713
	50.9030	103.9571	31511.214 7	17.4460	25.5862	1231.5684	63850.264 0	51.1645	11.4622	17.301
L47	50.9030	103.9571	31511.214 7	17.4460	25.5862	1231.5684	63850.264 0	51.1645	11.4622	17.301
	51.8348	105.8772	33289.653 8	17.7682	26.0525	1277.7923	67453.863 9	52.1095	11.7034	17.665
L48	51.8348	105.8772	33289.653 8	17.7682	26.0525	1277.7923	67453.863 9	52.1095	11.7034	17.665
	52.0529	106.3264	33715.249 1	17.8436	26.1616	1288.7317	68316.235 4	52.3306	11.7598	17.751
L49	52.0352	114.2364	36150.782 5	17.8257	26.1616	1381.8275	73251.286 2	56.2237	11.6258	16.317
	52.0818	114.3396	36248.891 5	17.8418	26.1849	1384.3441	73450.081 8	56.2745	11.6379	16.334
L50	52.0818	114.3396	36248.891 5	17.8418	26.1849	1384.3441	73450.081 8	56.2745	11.6379	16.334
	52.5477	115.3721	37239.756 0	18.0029	26.4180	1409.6357	75457.841 9	56.7826	11.7585	16.503

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L1 175.00-170.00				1	1	1			
L2 170.00-165.00				1	1	1			
L3 165.00-160.00				1	1	1			
L4 160.00-155.00				1	1	1			
L5 155.00-145.50				1	1	1			
L6 145.50-145.00				1	1	1			
L7 145.00-140.00				1	1	1			
L8 140.00-135.00				1	1	1			
L9 135.00-130.00				1	1	1			
L10 130.00-125.00				1	1	1			
L11 125.00-120.00				1	1	1			
L12 120.00-115.00				1	1	1			
L13 115.00-110.00				1	1	1			
L14 110.00-105.00				1	1	1			
L15 105.00-95.50				1	1	1			
L16 95.50-94.50				1	1	1			
L17 94.50-89.50				1	1	1			
L18 89.50-84.50				1	1	1			
L19 84.50-83.17				1	1	1			

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A_r	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L20 83.17-82.92				1	1	1			
L21 82.92-77.92				1	1	1			
L22 77.92-72.92				1	1	1			
L23 72.92-67.92				1	1	1			
L24 67.92-65.50				1	1	1			
L25 65.50-65.25				1	1	1			
L26 65.25-64.00				1	1	1			
L27 64.00-63.75				1	1	0.977451			
L28 63.75-58.75				1	1	0.969238			
L29 58.75-53.75				1	1	0.961376			
L30 53.75-46.58				1	1	0.979533			
L31 46.58-45.58				1	1	0.976287			
L32 45.58-43.00				1	1	0.972595			
L33 43.00-42.75				1	1	1.0021			
L34 42.75-42.50				1	1	1.00166			
L35 42.50-42.25				1	1	0.958464			
L36 42.25-42.00				1	1	0.95801			
L37 42.00-41.75				1	1	0.965912			
L38 41.75-36.75				1	1	0.95844			
L39 36.75-32.00				1	1	0.969134			
L40 32.00-31.75				1	1	0.963165			
L41 31.75-26.75				1	1	0.972072			
L42 26.75-21.75				1	1	0.964503			
L43 21.75-18.00				1	1	0.959013			
L44 18.00-17.75				1	1	0.958652			
L45 17.75-9.92				1	1	0.957575			
L46 9.92-8.92				1	1	1.06152			
L47 8.92-3.92				1	1	1.05424			
L48 3.92-2.75				1	1	1.05258			
L49 2.75-2.50				1	1	0.954075			
L50 2.50-0.00				1	1	0.951032			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight plf
LDF7-50A(1-5/8)	A	No	Surface Ar (CaAa)	162.00 - 0.00	4	3	-0.193 -0.106	1.9800		0.82

CU12PSM6P4XXX(1-3/4)	A	No	Surface Ar (CaAa)	154.00 - 0.00	1	1	0.210 0.220	1.7500		2.72

MP3-05	A	No	Surface Af (CaAa)	20.50 - 0.00	1	1	0.000 0.000	5.3300	14.8400	0.00
MP3-05	C	No	Surface Af (CaAa)	20.50 - 0.00	1	1	0.000 0.000	5.3300	14.8400	0.00
MP3-05	B	No	Surface Af (CaAa)	20.50 - 0.00	1	1	0.000 0.000	5.3300	14.8400	0.00
MP3-05	B	No	Surface Af (CaAa)	45.50 - 15.50	1	1	-0.500 -0.500	5.3300	14.8400	0.00
MP3-05	A	No	Surface Af (CaAa)	45.50 - 15.50	1	1	-0.500 -0.500	5.3300	14.8400	0.00
MP3-05	C	No	Surface Af (CaAa)	44.83 - 15.50	1	1	-0.500 -0.500	5.3300	14.8400	0.00
MP3-04	A	No	Surface Af (CaAa)	65.50 - 40.50	1	1	0.000 0.000	4.7800	12.7800	0.00
MP3-04	C	No	Surface Af (CaAa)	65.50 - 40.50	1	1	0.000 0.000	4.7800	12.7800	0.00
MP3-04	B	No	Surface Af (CaAa)	65.50 - 40.50	1	1	0.000 0.000	4.7800	12.7800	0.00

CCI-AFP-065125	A	No	Surface Af (CaAa)	15.50 - 0.00	1	1	-0.500 -0.500	6.5000	15.5000	0.00
CCI-AFP-065125	A	No	Surface Af (CaAa)	35.50 - 10.50	1	1	-0.250 -0.250	6.5000	15.5000	0.00
CCI-AFP-065125	C	No	Surface Af (CaAa)	35.50 - 0.00	1	1	-0.250 -0.250	6.5000	15.5000	0.00
CCI-AFP-065125	B	No	Surface Af (CaAa)	35.50 - 0.00	1	1	-0.250 -0.250	6.5000	15.5000	0.00
CCI-AFP-060100	A	No	Surface Af (CaAa)	85.67 - 35.50	1	1	-0.250 -0.250	6.0000	14.0000	0.00
CCI-AFP-060100	C	No	Surface Af (CaAa)	85.67 - 35.50	1	1	-0.250 -0.250	6.0000	14.0000	0.00
CCI-AFP-060100	B	No	Surface Af (CaAa)	85.67 - 35.50	1	1	-0.250 -0.250	6.0000	14.0000	0.00

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
LDF6-50A(1-1/4)	C	No	No	Inside Pole	173.00 - 0.00	6	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.60 0.60 0.60
LDF7-50A(1-5/8)	C	No	No	Inside Pole	173.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.82 0.82 0.82

2" (Nominal) Conduit	C	No	No	Inside Pole	162.00 - 0.00	1	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.72 0.72 0.72
LDF6-50A(1-1/4)	C	No	No	Inside Pole	162.00 - 0.00	4	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.60 0.60 0.60

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight plf
FB-L98B-034-XXX(3/8)	C	No	No	Inside Pole	162.00 - 0.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
WR-VG82ST-BRDA(5/8)	C	No	No	Inside Pole	162.00 - 0.00	2	No Ice	0.00	0.31
							1/2" Ice	0.00	0.31
							1" Ice	0.00	0.31

MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	C	No	No	Inside Pole	144.00 - 0.00	1	No Ice	0.00	1.07
							1/2" Ice	0.00	1.07
							1" Ice	0.00	1.07
MLE Hybrid 9Power/18Fiber RL 2(1 5/8)	C	No	No	Inside Pole	144.00 - 0.00	1	No Ice	0.00	1.07
							1/2" Ice	0.00	1.07
							1" Ice	0.00	1.07
HCS 6X12 4AWG(1-5/8)	C	No	No	Inside Pole	144.00 - 0.00	1	No Ice	0.00	2.40
							1/2" Ice	0.00	2.40
							1" Ice	0.00	2.40

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	175.00-170.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.01
L2	170.00-165.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L3	165.00-160.00	A	0.000	0.000	1.188	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.03
L4	160.00-155.00	A	0.000	0.000	2.970	0.000	0.02
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.04
L5	155.00-145.50	A	0.000	0.000	7.130	0.000	0.05
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.08
L6	145.50-145.00	A	0.000	0.000	0.385	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.00
L7	145.00-140.00	A	0.000	0.000	3.845	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.06
L8	140.00-135.00	A	0.000	0.000	3.845	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.06
L9	135.00-130.00	A	0.000	0.000	3.845	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.06
L10	130.00-125.00	A	0.000	0.000	3.845	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.06
L11	125.00-120.00	A	0.000	0.000	3.845	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.06
L12	120.00-115.00	A	0.000	0.000	3.845	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.00

Tower Sectio n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L13	115.00-110.00	C	0.000	0.000	0.000	0.000	0.06
		A	0.000	0.000	3.845	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.00
L14	110.00-105.00	C	0.000	0.000	0.000	0.000	0.06
		A	0.000	0.000	3.845	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.00
L15	105.00-95.50	C	0.000	0.000	0.000	0.000	0.06
		A	0.000	0.000	7.305	0.000	0.06
		B	0.000	0.000	0.000	0.000	0.00
L16	95.50-94.50	C	0.000	0.000	0.000	0.000	0.12
		A	0.000	0.000	0.769	0.000	0.01
		B	0.000	0.000	0.000	0.000	0.00
L17	94.50-89.50	C	0.000	0.000	0.000	0.000	0.01
		A	0.000	0.000	3.845	0.000	0.03
		B	0.000	0.000	0.000	0.000	0.00
L18	89.50-84.50	C	0.000	0.000	0.000	0.000	0.06
		A	0.000	0.000	5.015	0.000	0.03
		B	0.000	0.000	1.170	0.000	0.00
L19	84.50-83.17	C	0.000	0.000	1.170	0.000	0.06
		A	0.000	0.000	2.353	0.000	0.01
		B	0.000	0.000	1.330	0.000	0.00
L20	83.17-82.92	C	0.000	0.000	1.330	0.000	0.02
		A	0.000	0.000	0.442	0.000	0.00
		B	0.000	0.000	0.250	0.000	0.00
L21	82.92-77.92	C	0.000	0.000	0.250	0.000	0.00
		A	0.000	0.000	8.845	0.000	0.03
		B	0.000	0.000	5.000	0.000	0.00
L22	77.92-72.92	C	0.000	0.000	5.000	0.000	0.06
		A	0.000	0.000	8.845	0.000	0.03
		B	0.000	0.000	5.000	0.000	0.00
L23	72.92-67.92	C	0.000	0.000	5.000	0.000	0.06
		A	0.000	0.000	8.845	0.000	0.03
		B	0.000	0.000	5.000	0.000	0.00
L24	67.92-65.50	C	0.000	0.000	5.000	0.000	0.06
		A	0.000	0.000	4.281	0.000	0.01
		B	0.000	0.000	2.420	0.000	0.00
L25	65.50-65.25	C	0.000	0.000	2.420	0.000	0.03
		A	0.000	0.000	0.641	0.000	0.00
		B	0.000	0.000	0.449	0.000	0.00
L26	65.25-64.00	C	0.000	0.000	0.449	0.000	0.00
		A	0.000	0.000	3.207	0.000	0.01
		B	0.000	0.000	2.246	0.000	0.00
L27	64.00-63.75	C	0.000	0.000	2.246	0.000	0.02
		A	0.000	0.000	0.641	0.000	0.00
		B	0.000	0.000	0.449	0.000	0.00
L28	63.75-58.75	C	0.000	0.000	0.449	0.000	0.00
		A	0.000	0.000	12.828	0.000	0.03
		B	0.000	0.000	8.983	0.000	0.00
L29	58.75-53.75	C	0.000	0.000	8.983	0.000	0.06
		A	0.000	0.000	12.828	0.000	0.03
		B	0.000	0.000	8.983	0.000	0.00
L30	53.75-46.58	C	0.000	0.000	8.983	0.000	0.06
		A	0.000	0.000	18.396	0.000	0.04
		B	0.000	0.000	12.882	0.000	0.00
L31	46.58-45.58	C	0.000	0.000	12.882	0.000	0.09
		A	0.000	0.000	2.566	0.000	0.01
		B	0.000	0.000	1.797	0.000	0.00
L32	45.58-43.00	C	0.000	0.000	1.797	0.000	0.01
		A	0.000	0.000	8.840	0.000	0.02
		B	0.000	0.000	6.856	0.000	0.00
L33	43.00-42.75	C	0.000	0.000	6.261	0.000	0.03
		A	0.000	0.000	0.863	0.000	0.00
		B	0.000	0.000	0.671	0.000	0.00
L34	42.75-42.50	C	0.000	0.000	0.671	0.000	0.00
		A	0.000	0.000	0.863	0.000	0.00

Tower Section <i>n</i>	Tower Elevation <i>ft</i>	Face	A_R <i>ft²</i>	A_F <i>ft²</i>	C_{AA} In Face <i>ft²</i>	C_{AA} Out Face <i>ft²</i>	Weight <i>K</i>
		B	0.000	0.000	0.671	0.000	0.00
		C	0.000	0.000	0.671	0.000	0.00
L35	42.50-42.25	A	0.000	0.000	0.863	0.000	0.00
		B	0.000	0.000	0.671	0.000	0.00
		C	0.000	0.000	0.671	0.000	0.00
L36	42.25-42.00	A	0.000	0.000	0.863	0.000	0.00
		B	0.000	0.000	0.671	0.000	0.00
		C	0.000	0.000	0.671	0.000	0.00
L37	42.00-41.75	A	0.000	0.000	0.863	0.000	0.00
		B	0.000	0.000	0.671	0.000	0.00
		C	0.000	0.000	0.671	0.000	0.00
L38	41.75-36.75	A	0.000	0.000	14.283	0.000	0.03
		B	0.000	0.000	10.438	0.000	0.00
		C	0.000	0.000	10.438	0.000	0.06
L39	36.75-32.00	A	0.000	0.000	12.914	0.000	0.03
		B	0.000	0.000	9.261	0.000	0.00
		C	0.000	0.000	9.261	0.000	0.06
L40	32.00-31.75	A	0.000	0.000	0.685	0.000	0.00
		B	0.000	0.000	0.493	0.000	0.00
		C	0.000	0.000	0.493	0.000	0.00
L41	31.75-26.75	A	0.000	0.000	13.703	0.000	0.03
		B	0.000	0.000	9.858	0.000	0.00
		C	0.000	0.000	9.858	0.000	0.06
L42	26.75-21.75	A	0.000	0.000	13.703	0.000	0.03
		B	0.000	0.000	9.858	0.000	0.00
		C	0.000	0.000	9.858	0.000	0.06
L43	21.75-18.00	A	0.000	0.000	12.498	0.000	0.02
		B	0.000	0.000	9.615	0.000	0.00
		C	0.000	0.000	9.615	0.000	0.05
L44	18.00-17.75	A	0.000	0.000	0.907	0.000	0.00
		B	0.000	0.000	0.715	0.000	0.00
		C	0.000	0.000	0.715	0.000	0.00
L45	17.75-9.92	A	0.000	0.000	28.875	0.000	0.05
		B	0.000	0.000	17.437	0.000	0.00
		C	0.000	0.000	17.437	0.000	0.10
L46	9.92-8.92	A	0.000	0.000	2.741	0.000	0.01
		B	0.000	0.000	1.972	0.000	0.00
		C	0.000	0.000	1.972	0.000	0.01
L47	8.92-3.92	A	0.000	0.000	13.703	0.000	0.03
		B	0.000	0.000	9.858	0.000	0.00
		C	0.000	0.000	9.858	0.000	0.06
L48	3.92-2.75	A	0.000	0.000	3.207	0.000	0.01
		B	0.000	0.000	2.307	0.000	0.00
		C	0.000	0.000	2.307	0.000	0.01
L49	2.75-2.50	A	0.000	0.000	0.685	0.000	0.00
		B	0.000	0.000	0.493	0.000	0.00
		C	0.000	0.000	0.493	0.000	0.00
L50	2.50-0.00	A	0.000	0.000	6.852	0.000	0.01
		B	0.000	0.000	4.929	0.000	0.00
		C	0.000	0.000	4.929	0.000	0.03

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section <i>n</i>	Tower Elevation <i>ft</i>	Face or Leg	Ice Thickness <i>in</i>	A_R <i>ft²</i>	A_F <i>ft²</i>	C_{AA} In Face <i>ft²</i>	C_{AA} Out Face <i>ft²</i>	Weight <i>K</i>
L1	175.00-170.00	A	1.003	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.01
L2	170.00-165.00	A	1.000	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.02

Tower Sectio n	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	C_{AA} In Face ft ²	C_{AA} Out Face ft ²	Weight K
L3	165.00-160.00	A	0.997	0.000	0.000	1.983	0.000	0.02
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.03
L4	160.00-155.00	A	0.994	0.000	0.000	4.955	0.000	0.06
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.04
L5	155.00-145.50	A	0.989	0.000	0.000	12.572	0.000	0.17
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.08
L6	145.50-145.00	A	0.986	0.000	0.000	0.681	0.000	0.01
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.00
L7	145.00-140.00	A	0.984	0.000	0.000	6.801	0.000	0.09
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L8	140.00-135.00	A	0.980	0.000	0.000	6.793	0.000	0.09
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L9	135.00-130.00	A	0.977	0.000	0.000	6.785	0.000	0.09
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L10	130.00-125.00	A	0.973	0.000	0.000	6.777	0.000	0.09
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L11	125.00-120.00	A	0.969	0.000	0.000	6.768	0.000	0.09
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L12	120.00-115.00	A	0.965	0.000	0.000	6.759	0.000	0.09
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L13	115.00-110.00	A	0.961	0.000	0.000	6.750	0.000	0.09
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L14	110.00-105.00	A	0.957	0.000	0.000	6.740	0.000	0.09
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L15	105.00-95.50	A	0.950	0.000	0.000	12.777	0.000	0.17
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.12
L16	95.50-94.50	A	0.945	0.000	0.000	1.345	0.000	0.02
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.01
L17	94.50-89.50	A	0.942	0.000	0.000	6.706	0.000	0.09
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L18	89.50-84.50	A	0.937	0.000	0.000	8.084	0.000	0.09
		B		0.000	0.000	1.389	0.000	0.01
		C		0.000	0.000	1.389	0.000	0.07
L19	84.50-83.17	A	0.933	0.000	0.000	3.357	0.000	0.03
		B		0.000	0.000	1.578	0.000	0.01
		C		0.000	0.000	1.578	0.000	0.03
L20	83.17-82.92	A	0.932	0.000	0.000	0.631	0.000	0.01
		B		0.000	0.000	0.297	0.000	0.00
		C		0.000	0.000	0.297	0.000	0.00
L21	82.92-77.92	A	0.929	0.000	0.000	12.607	0.000	0.12
		B		0.000	0.000	5.929	0.000	0.03
		C		0.000	0.000	5.929	0.000	0.10
L22	77.92-72.92	A	0.923	0.000	0.000	12.588	0.000	0.12
		B		0.000	0.000	5.923	0.000	0.03
		C		0.000	0.000	5.923	0.000	0.10
L23	72.92-67.92	A	0.917	0.000	0.000	12.567	0.000	0.12
		B		0.000	0.000	5.917	0.000	0.03
		C		0.000	0.000	5.917	0.000	0.09
L24	67.92-65.50	A	0.912	0.000	0.000	6.075	0.000	0.06
		B		0.000	0.000	2.861	0.000	0.01

Tower Section	Tower Elevation	Face or Leg	Ice Thickness	A _R	A _F	C _A A _A In Face	C _A A _A Out Face	Weight
n	ft		in	ft ²	ft ²	ft ²	ft ²	K
		C		0.000	0.000	2.861	0.000	0.05
L25	65.50-65.25	A	0.910	0.000	0.000	0.872	0.000	0.01
		B		0.000	0.000	0.540	0.000	0.00
		C		0.000	0.000	0.540	0.000	0.01
L26	65.25-64.00	A	0.909	0.000	0.000	4.359	0.000	0.04
		B		0.000	0.000	2.700	0.000	0.01
		C		0.000	0.000	2.700	0.000	0.03
L27	64.00-63.75	A	0.908	0.000	0.000	0.871	0.000	0.01
		B		0.000	0.000	0.540	0.000	0.00
		C		0.000	0.000	0.540	0.000	0.01
L28	63.75-58.75	A	0.904	0.000	0.000	17.414	0.000	0.14
		B		0.000	0.000	10.792	0.000	0.06
		C		0.000	0.000	10.792	0.000	0.12
L29	58.75-53.75	A	0.897	0.000	0.000	17.381	0.000	0.14
		B		0.000	0.000	10.776	0.000	0.06
		C		0.000	0.000	10.776	0.000	0.12
L30	53.75-46.58	A	0.886	0.000	0.000	24.862	0.000	0.20
		B		0.000	0.000	15.424	0.000	0.08
		C		0.000	0.000	15.424	0.000	0.17
L31	46.58-45.58	A	0.879	0.000	0.000	3.468	0.000	0.03
		B		0.000	0.000	2.151	0.000	0.01
		C		0.000	0.000	2.151	0.000	0.02
L32	45.58-43.00	A	0.875	0.000	0.000	11.581	0.000	0.09
		B		0.000	0.000	8.197	0.000	0.04
		C		0.000	0.000	7.485	0.000	0.07
L33	43.00-42.75	A	0.873	0.000	0.000	1.130	0.000	0.01
		B		0.000	0.000	0.802	0.000	0.00
		C		0.000	0.000	0.802	0.000	0.01
L34	42.75-42.50	A	0.872	0.000	0.000	1.130	0.000	0.01
		B		0.000	0.000	0.802	0.000	0.00
		C		0.000	0.000	0.802	0.000	0.01
L35	42.50-42.25	A	0.872	0.000	0.000	1.129	0.000	0.01
		B		0.000	0.000	0.802	0.000	0.00
		C		0.000	0.000	0.802	0.000	0.01
L36	42.25-42.00	A	0.871	0.000	0.000	1.129	0.000	0.01
		B		0.000	0.000	0.802	0.000	0.00
		C		0.000	0.000	0.802	0.000	0.01
L37	42.00-41.75	A	0.870	0.000	0.000	1.129	0.000	0.01
		B		0.000	0.000	0.802	0.000	0.00
		C		0.000	0.000	0.802	0.000	0.01
L38	41.75-36.75	A	0.865	0.000	0.000	18.917	0.000	0.15
		B		0.000	0.000	12.383	0.000	0.07
		C		0.000	0.000	12.383	0.000	0.13
L39	36.75-32.00	A	0.853	0.000	0.000	17.065	0.000	0.13
		B		0.000	0.000	10.883	0.000	0.06
		C		0.000	0.000	10.883	0.000	0.12
L40	32.00-31.75	A	0.847	0.000	0.000	0.902	0.000	0.01
		B		0.000	0.000	0.578	0.000	0.00
		C		0.000	0.000	0.578	0.000	0.01
L41	31.75-26.75	A	0.840	0.000	0.000	18.015	0.000	0.14
		B		0.000	0.000	11.538	0.000	0.06
		C		0.000	0.000	11.538	0.000	0.12
L42	26.75-21.75	A	0.824	0.000	0.000	17.949	0.000	0.14
		B		0.000	0.000	11.507	0.000	0.06
		C		0.000	0.000	11.507	0.000	0.12
L43	21.75-18.00	A	0.808	0.000	0.000	16.035	0.000	0.12
		B		0.000	0.000	11.230	0.000	0.06
		C		0.000	0.000	11.230	0.000	0.10
L44	18.00-17.75	A	0.799	0.000	0.000	1.154	0.000	0.01
		B		0.000	0.000	0.835	0.000	0.00
		C		0.000	0.000	0.835	0.000	0.01
L45	17.75-9.92	A	0.779	0.000	0.000	36.262	0.000	0.25
		B		0.000	0.000	20.228	0.000	0.10
		C		0.000	0.000	20.228	0.000	0.20
L46	9.92-8.92	A	0.750	0.000	0.000	3.538	0.000	0.03

Tower Section <i>n</i>	Tower Elevation <i>ft</i>	Face or Leg	Ice Thickness <i>in</i>	A_R <i>ft²</i>	A_F <i>ft²</i>	C_{AA} <i>In Face ft²</i>	C_{AA} <i>Out Face ft²</i>	Weight <i>K</i>
L47	8.92-3.92	B	0.722	0.000	0.000	2.283	0.000	0.01
		C		0.000	0.000	2.283	0.000	0.02
		A		0.000	0.000	17.458	0.000	0.12
L48	3.92-2.75	B	0.676	0.000	0.000	11.301	0.000	0.05
		C		0.000	0.000	11.301	0.000	0.11
		A		0.000	0.000	4.045	0.000	0.03
L49	2.75-2.50	B	0.660	0.000	0.000	2.623	0.000	0.01
		C		0.000	0.000	2.623	0.000	0.03
		A		0.000	0.000	0.861	0.000	0.01
L50	2.50-0.00	B	0.613	0.000	0.000	0.559	0.000	0.00
		C		0.000	0.000	0.559	0.000	0.01
		A		0.000	0.000	8.518	0.000	0.05
		B		0.000	0.000	5.542	0.000	0.02
		C		0.000	0.000	5.542	0.000	0.05

Feed Line Center of Pressure

Section	Elevation <i>ft</i>	CP_x <i>in</i>	CP_z <i>in</i>	CP_x <i>Ice in</i>	CP_z <i>Ice in</i>
L1	175.00-170.00	0.0000	0.0000	0.0000	0.0000
L2	170.00-165.00	0.0000	0.0000	0.0000	0.0000
L3	165.00-160.00	-1.4910	-0.3174	-1.6763	-0.3569
L4	160.00-155.00	-2.8866	-0.6145	-3.2990	-0.7023
L5	155.00-145.50	-3.1896	-1.1750	-3.6653	-1.4848
L6	145.50-145.00	-3.2401	-1.2438	-3.7214	-1.5762
L7	145.00-140.00	-3.2635	-1.2534	-3.7392	-1.5836
L8	140.00-135.00	-3.3051	-1.2704	-3.7739	-1.5990
L9	135.00-130.00	-3.3455	-1.2869	-3.8070	-1.6136
L10	130.00-125.00	-3.3846	-1.3029	-3.8387	-1.6276
L11	125.00-120.00	-3.4225	-1.3184	-3.8691	-1.6409
L12	120.00-115.00	-3.4593	-1.3334	-3.8981	-1.6536
L13	115.00-110.00	-3.4951	-1.3481	-3.9258	-1.6656
L14	110.00-105.00	-3.5298	-1.3622	-3.9523	-1.6770
L15	105.00-95.50	-3.5784	-1.3821	-3.9886	-1.6925
L16	95.50-94.50	-3.5912	-1.3873	-4.0003	-1.6978
L17	94.50-89.50	-3.6106	-1.3952	-4.0106	-1.7011
L18	89.50-84.50	-3.0342	-1.1731	-3.5274	-1.4959
L19	84.50-83.17	-1.9804	-0.7659	-2.5191	-1.0682
L20	83.17-82.92	-1.9850	-0.7677	-2.5235	-1.0701
L21	82.92-77.92	-2.0000	-0.7737	-2.5382	-1.0762
L22	77.92-72.92	-2.0284	-0.7851	-2.5655	-1.0875
L23	72.92-67.92	-2.0564	-0.7962	-2.5920	-1.0984
L24	67.92-65.50	-2.0768	-0.8044	-2.6112	-1.1062
L25	65.50-65.25	-1.5670	-0.6070	-2.0116	-0.8521
L26	65.25-64.00	-1.5705	-0.6084	-2.0152	-0.8535
L27	64.00-63.75	-1.5748	-0.6101	-2.0202	-0.8556
L28	63.75-58.75	-1.5870	-0.6149	-2.0326	-0.8606
L29	58.75-53.75	-1.6100	-0.6241	-2.0558	-0.8700
L30	53.75-46.58	-1.6376	-0.6351	-2.0830	-0.8808
L31	46.58-45.58	-1.6374	-0.6350	-2.0831	-0.8808
L32	45.58-43.00	-1.7686	-0.3452	-2.2392	-0.5888
L33	43.00-42.75	-1.2002	-0.4656	-1.6646	-0.7028
L34	42.75-42.50	-1.2009	-0.4659	-1.6657	-0.7032
L35	42.50-42.25	-1.2019	-0.4662	-1.6669	-0.7037
L36	42.25-42.00	-1.2027	-0.4665	-1.6679	-0.7041
L37	42.00-41.75	-1.2031	-0.4667	-1.6686	-0.7043
L38	41.75-36.75	-1.4085	-0.5465	-1.9543	-0.8245
L39	36.75-32.00	-1.6081	-0.6241	-2.0569	-0.8668
L40	32.00-31.75	-1.6064	-0.6236	-2.0568	-0.8661
L41	31.75-26.75	-1.6174	-0.6280	-2.0664	-0.8695

Section	Elevation	CP _x	CP _z	CP _x Ice	CP _z Ice
	ft	in	in	in	in
L42	26.75-21.75	-1.6384	-0.6363	-2.0839	-0.8754
L43	21.75-18.00	-1.3043	-0.5067	-1.8104	-0.7590
L44	18.00-17.75	-1.2246	-0.4758	-1.6987	-0.7115
L45	17.75-9.92	-1.9195	1.5095	-2.2737	1.0607
L46	9.92-8.92	-0.0898	1.5391	-0.6939	1.0302
L47	8.92-3.92	-0.0893	1.5496	-0.6785	1.0587
L48	3.92-2.75	-0.0887	1.5603	-0.6681	1.0888
L49	2.75-2.50	-0.0886	1.5629	-0.6642	1.0987
L50	2.50-0.00	-0.0883	1.5677	-0.6496	1.1204

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

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L3	6	LDF7-50A(1-5/8)	160.00 - 162.00	1.0000	1.0000
L4	6	LDF7-50A(1-5/8)	155.00 - 160.00	1.0000	1.0000
L5	6	LDF7-50A(1-5/8)	145.50 - 155.00	1.0000	1.0000
L5	10	CU12PSM6P4XXX(1-3/4)	145.50 - 154.00	1.0000	1.0000
L6	6	LDF7-50A(1-5/8)	145.00 - 145.50	1.0000	1.0000
L6	10	CU12PSM6P4XXX(1-3/4)	145.00 - 145.50	1.0000	1.0000
L7	6	LDF7-50A(1-5/8)	140.00 - 145.00	1.0000	1.0000
L7	10	CU12PSM6P4XXX(1-3/4)	140.00 - 145.00	1.0000	1.0000
L8	6	LDF7-50A(1-5/8)	135.00 - 140.00	1.0000	1.0000
L8	10	CU12PSM6P4XXX(1-3/4)	135.00 - 140.00	1.0000	1.0000
L9	6	LDF7-50A(1-5/8)	130.00 - 135.00	1.0000	1.0000
L9	10	CU12PSM6P4XXX(1-3/4)	130.00 - 135.00	1.0000	1.0000
L10	6	LDF7-50A(1-5/8)	125.00 - 130.00	1.0000	1.0000
L10	10	CU12PSM6P4XXX(1-3/4)	125.00 - 130.00	1.0000	1.0000
L11	6	LDF7-50A(1-5/8)	120.00 - 125.00	1.0000	1.0000
L11	10	CU12PSM6P4XXX(1-3/4)	120.00 - 125.00	1.0000	1.0000
L12	6	LDF7-50A(1-5/8)	115.00 - 120.00	1.0000	1.0000
L12	10	CU12PSM6P4XXX(1-3/4)	115.00 - 120.00	1.0000	1.0000
L13	6	LDF7-50A(1-5/8)	110.00 - 115.00	1.0000	1.0000
L13	10	CU12PSM6P4XXX(1-3/4)	110.00 - 115.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L14	6	LDF7-50A(1-5/8)	105.00 - 110.00	1.0000	1.0000
L14	10	CU12PSM6P4XXX(1-3/4)	105.00 - 110.00	1.0000	1.0000
L15	6	LDF7-50A(1-5/8)	95.50 - 105.00	1.0000	1.0000
L15	10	CU12PSM6P4XXX(1-3/4)	95.50 - 105.00	1.0000	1.0000
L16	6	LDF7-50A(1-5/8)	94.50 - 95.50	1.0000	1.0000
L16	10	CU12PSM6P4XXX(1-3/4)	94.50 - 95.50	1.0000	1.0000
L17	6	LDF7-50A(1-5/8)	89.50 - 94.50	1.0000	1.0000
L17	10	CU12PSM6P4XXX(1-3/4)	89.50 - 94.50	1.0000	1.0000
L18	6	LDF7-50A(1-5/8)	84.50 - 89.50	1.0000	1.0000
L18	10	CU12PSM6P4XXX(1-3/4)	84.50 - 89.50	1.0000	1.0000
L18	31	CCI-AFP-060100	84.50 - 85.67	1.0000	1.0000
L18	32	CCI-AFP-060100	84.50 - 85.67	1.0000	1.0000
L18	33	CCI-AFP-060100	84.50 - 85.67	1.0000	1.0000
L19	6	LDF7-50A(1-5/8)	83.17 - 84.50	1.0000	1.0000
L19	10	CU12PSM6P4XXX(1-3/4)	83.17 - 84.50	1.0000	1.0000
L19	31	CCI-AFP-060100	83.17 - 84.50	1.0000	1.0000
L19	32	CCI-AFP-060100	83.17 - 84.50	1.0000	1.0000
L19	33	CCI-AFP-060100	83.17 - 84.50	1.0000	1.0000
L20	6	LDF7-50A(1-5/8)	82.92 - 83.17	1.0000	1.0000
L20	10	CU12PSM6P4XXX(1-3/4)	82.92 - 83.17	1.0000	1.0000
L20	31	CCI-AFP-060100	82.92 - 83.17	1.0000	1.0000
L20	32	CCI-AFP-060100	82.92 - 83.17	1.0000	1.0000
L20	33	CCI-AFP-060100	82.92 - 83.17	1.0000	1.0000
L21	6	LDF7-50A(1-5/8)	77.92 - 82.92	1.0000	1.0000
L21	10	CU12PSM6P4XXX(1-3/4)	77.92 - 82.92	1.0000	1.0000
L21	31	CCI-AFP-060100	77.92 - 82.92	1.0000	1.0000
L21	32	CCI-AFP-060100	77.92 - 82.92	1.0000	1.0000
L21	33	CCI-AFP-060100	77.92 - 82.92	1.0000	1.0000
L22	6	LDF7-50A(1-5/8)	72.92 - 77.92	1.0000	1.0000
L22	10	CU12PSM6P4XXX(1-3/4)	72.92 - 77.92	1.0000	1.0000
L22	31	CCI-AFP-060100	72.92 - 77.92	1.0000	1.0000
L22	32	CCI-AFP-060100	72.92 - 77.92	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L22	33	CCI-AFP-060100	72.92 - 77.92	1.0000	1.0000
L23	6	LDF7-50A(1-5/8)	67.92 - 72.92	1.0000	1.0000
L23	10	CU12PSM6P4XXX(1-3/4)	67.92 - 72.92	1.0000	1.0000
L23	31	CCI-AFP-060100	67.92 - 72.92	1.0000	1.0000
L23	32	CCI-AFP-060100	67.92 - 72.92	1.0000	1.0000
L23	33	CCI-AFP-060100	67.92 - 72.92	1.0000	1.0000
L24	6	LDF7-50A(1-5/8)	65.50 - 67.92	1.0000	1.0000
L24	10	CU12PSM6P4XXX(1-3/4)	65.50 - 67.92	1.0000	1.0000
L24	31	CCI-AFP-060100	65.50 - 67.92	1.0000	1.0000
L24	32	CCI-AFP-060100	65.50 - 67.92	1.0000	1.0000
L24	33	CCI-AFP-060100	65.50 - 67.92	1.0000	1.0000
L25	6	LDF7-50A(1-5/8)	65.25 - 65.50	1.0000	1.0000
L25	10	CU12PSM6P4XXX(1-3/4)	65.25 - 65.50	1.0000	1.0000
L25	23	MP3-04	65.25 - 65.50	1.0000	1.0000
L25	24	MP3-04	65.25 - 65.50	1.0000	1.0000
L25	25	MP3-04	65.25 - 65.50	1.0000	1.0000
L25	31	CCI-AFP-060100	65.25 - 65.50	1.0000	1.0000
L25	32	CCI-AFP-060100	65.25 - 65.50	1.0000	1.0000
L25	33	CCI-AFP-060100	65.25 - 65.50	1.0000	1.0000
L26	6	LDF7-50A(1-5/8)	64.00 - 65.25	1.0000	1.0000
L26	10	CU12PSM6P4XXX(1-3/4)	64.00 - 65.25	1.0000	1.0000
L26	23	MP3-04	64.00 - 65.25	1.0000	1.0000
L26	24	MP3-04	64.00 - 65.25	1.0000	1.0000
L26	25	MP3-04	64.00 - 65.25	1.0000	1.0000
L26	31	CCI-AFP-060100	64.00 - 65.25	1.0000	1.0000
L26	32	CCI-AFP-060100	64.00 - 65.25	1.0000	1.0000
L26	33	CCI-AFP-060100	64.00 - 65.25	1.0000	1.0000
L27	6	LDF7-50A(1-5/8)	63.75 - 64.00	1.0000	1.0000
L27	10	CU12PSM6P4XXX(1-3/4)	63.75 - 64.00	1.0000	1.0000
L27	23	MP3-04	63.75 - 64.00	1.0000	1.0000
L27	24	MP3-04	63.75 - 64.00	1.0000	1.0000
L27	25	MP3-04	63.75 - 64.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L27	31	CCI-AFP-060100	63.75 - 64.00	1.0000	1.0000
L27	32	CCI-AFP-060100	63.75 - 64.00	1.0000	1.0000
L27	33	CCI-AFP-060100	63.75 - 64.00	1.0000	1.0000
L28	6	LDF7-50A(1-5/8)	58.75 - 63.75	1.0000	1.0000
L28	10	CU12PSM6P4XXX(1-3/4)	58.75 - 63.75	1.0000	1.0000
L28	23	MP3-04	58.75 - 63.75	1.0000	1.0000
L28	24	MP3-04	58.75 - 63.75	1.0000	1.0000
L28	25	MP3-04	58.75 - 63.75	1.0000	1.0000
L28	31	CCI-AFP-060100	58.75 - 63.75	1.0000	1.0000
L28	32	CCI-AFP-060100	58.75 - 63.75	1.0000	1.0000
L28	33	CCI-AFP-060100	58.75 - 63.75	1.0000	1.0000
L29	6	LDF7-50A(1-5/8)	53.75 - 58.75	1.0000	1.0000
L29	10	CU12PSM6P4XXX(1-3/4)	53.75 - 58.75	1.0000	1.0000
L29	23	MP3-04	53.75 - 58.75	1.0000	1.0000
L29	24	MP3-04	53.75 - 58.75	1.0000	1.0000
L29	25	MP3-04	53.75 - 58.75	1.0000	1.0000
L29	31	CCI-AFP-060100	53.75 - 58.75	1.0000	1.0000
L29	32	CCI-AFP-060100	53.75 - 58.75	1.0000	1.0000
L29	33	CCI-AFP-060100	53.75 - 58.75	1.0000	1.0000
L30	6	LDF7-50A(1-5/8)	46.58 - 53.75	1.0000	1.0000
L30	10	CU12PSM6P4XXX(1-3/4)	46.58 - 53.75	1.0000	1.0000
L30	23	MP3-04	46.58 - 53.75	1.0000	1.0000
L30	24	MP3-04	46.58 - 53.75	1.0000	1.0000
L30	25	MP3-04	46.58 - 53.75	1.0000	1.0000
L30	31	CCI-AFP-060100	46.58 - 53.75	1.0000	1.0000
L30	32	CCI-AFP-060100	46.58 - 53.75	1.0000	1.0000
L30	33	CCI-AFP-060100	46.58 - 53.75	1.0000	1.0000
L31	6	LDF7-50A(1-5/8)	45.58 - 46.58	1.0000	1.0000
L31	10	CU12PSM6P4XXX(1-3/4)	45.58 - 46.58	1.0000	1.0000
L31	23	MP3-04	45.58 - 46.58	1.0000	1.0000
L31	24	MP3-04	45.58 - 46.58	1.0000	1.0000
L31	25	MP3-04	45.58 - 46.58	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L31	31	CCI-AFP-060100	45.58 - 46.58	1.0000	1.0000
L31	32	CCI-AFP-060100	45.58 - 46.58	1.0000	1.0000
L31	33	CCI-AFP-060100	45.58 - 46.58	1.0000	1.0000
L32	6	LDF7-50A(1-5/8)	43.00 - 45.58	1.0000	1.0000
L32	10	CU12PSM6P4XXX(1-3/4)	43.00 - 45.58	1.0000	1.0000
L32	20	MP3-05	43.00 - 45.50	1.0000	1.0000
L32	21	MP3-05	43.00 - 45.50	1.0000	1.0000
L32	22	MP3-05	43.00 - 44.83	1.0000	1.0000
L32	23	MP3-04	43.00 - 45.58	1.0000	1.0000
L32	24	MP3-04	43.00 - 45.58	1.0000	1.0000
L32	25	MP3-04	43.00 - 45.58	1.0000	1.0000
L32	31	CCI-AFP-060100	43.00 - 45.58	1.0000	1.0000
L32	32	CCI-AFP-060100	43.00 - 45.58	1.0000	1.0000
L32	33	CCI-AFP-060100	43.00 - 45.58	1.0000	1.0000
L33	6	LDF7-50A(1-5/8)	42.75 - 43.00	1.0000	1.0000
L33	10	CU12PSM6P4XXX(1-3/4)	42.75 - 43.00	1.0000	1.0000
L33	20	MP3-05	42.75 - 43.00	1.0000	1.0000
L33	21	MP3-05	42.75 - 43.00	1.0000	1.0000
L33	22	MP3-05	42.75 - 43.00	1.0000	1.0000
L33	23	MP3-04	42.75 - 43.00	1.0000	1.0000
L33	24	MP3-04	42.75 - 43.00	1.0000	1.0000
L33	25	MP3-04	42.75 - 43.00	1.0000	1.0000
L33	31	CCI-AFP-060100	42.75 - 43.00	1.0000	1.0000
L33	32	CCI-AFP-060100	42.75 - 43.00	1.0000	1.0000
L33	33	CCI-AFP-060100	42.75 - 43.00	1.0000	1.0000
L34	6	LDF7-50A(1-5/8)	42.50 - 42.75	1.0000	1.0000
L34	10	CU12PSM6P4XXX(1-3/4)	42.50 - 42.75	1.0000	1.0000
L34	20	MP3-05	42.50 - 42.75	1.0000	1.0000
L34	21	MP3-05	42.50 - 42.75	1.0000	1.0000
L34	22	MP3-05	42.50 - 42.75	1.0000	1.0000
L34	23	MP3-04	42.50 - 42.75	1.0000	1.0000
L34	24	MP3-04	42.50 - 42.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L34	25	MP3-04	42.50 - 42.75	1.0000	1.0000
L34	31	CCI-AFP-060100	42.50 - 42.75	1.0000	1.0000
L34	32	CCI-AFP-060100	42.50 - 42.75	1.0000	1.0000
L34	33	CCI-AFP-060100	42.50 - 42.75	1.0000	1.0000
L35	6	LDF7-50A(1-5/8)	42.25 - 42.50	1.0000	1.0000
L35	10	CU12PSM6P4XXX(1-3/4)	42.25 - 42.50	1.0000	1.0000
L35	20	MP3-05	42.25 - 42.50	1.0000	1.0000
L35	21	MP3-05	42.25 - 42.50	1.0000	1.0000
L35	22	MP3-05	42.25 - 42.50	1.0000	1.0000
L35	23	MP3-04	42.25 - 42.50	1.0000	1.0000
L35	24	MP3-04	42.25 - 42.50	1.0000	1.0000
L35	25	MP3-04	42.25 - 42.50	1.0000	1.0000
L35	31	CCI-AFP-060100	42.25 - 42.50	1.0000	1.0000
L35	32	CCI-AFP-060100	42.25 - 42.50	1.0000	1.0000
L35	33	CCI-AFP-060100	42.25 - 42.50	1.0000	1.0000
L36	6	LDF7-50A(1-5/8)	42.00 - 42.25	1.0000	1.0000
L36	10	CU12PSM6P4XXX(1-3/4)	42.00 - 42.25	1.0000	1.0000
L36	20	MP3-05	42.00 - 42.25	1.0000	1.0000
L36	21	MP3-05	42.00 - 42.25	1.0000	1.0000
L36	22	MP3-05	42.00 - 42.25	1.0000	1.0000
L36	23	MP3-04	42.00 - 42.25	1.0000	1.0000
L36	24	MP3-04	42.00 - 42.25	1.0000	1.0000
L36	25	MP3-04	42.00 - 42.25	1.0000	1.0000
L36	31	CCI-AFP-060100	42.00 - 42.25	1.0000	1.0000
L36	32	CCI-AFP-060100	42.00 - 42.25	1.0000	1.0000
L36	33	CCI-AFP-060100	42.00 - 42.25	1.0000	1.0000
L37	6	LDF7-50A(1-5/8)	41.75 - 42.00	1.0000	1.0000
L37	10	CU12PSM6P4XXX(1-3/4)	41.75 - 42.00	1.0000	1.0000
L37	20	MP3-05	41.75 - 42.00	1.0000	1.0000
L37	21	MP3-05	41.75 - 42.00	1.0000	1.0000
L37	22	MP3-05	41.75 - 42.00	1.0000	1.0000
L37	23	MP3-04	41.75 - 42.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L37	24	MP3-04	41.75 - 42.00	1.0000	1.0000
L37	25	MP3-04	41.75 - 42.00	1.0000	1.0000
L37	31	CCI-AFP-060100	41.75 - 42.00	1.0000	1.0000
L37	32	CCI-AFP-060100	41.75 - 42.00	1.0000	1.0000
L37	33	CCI-AFP-060100	41.75 - 42.00	1.0000	1.0000
L38	6	LDF7-50A(1-5/8)	36.75 - 41.75	1.0000	1.0000
L38	10	CU12PSM6P4XXX(1-3/4)	36.75 - 41.75	1.0000	1.0000
L38	20	MP3-05	36.75 - 41.75	1.0000	1.0000
L38	21	MP3-05	36.75 - 41.75	1.0000	1.0000
L38	22	MP3-05	36.75 - 41.75	1.0000	1.0000
L38	23	MP3-04	40.50 - 41.75	1.0000	1.0000
L38	24	MP3-04	40.50 - 41.75	1.0000	1.0000
L38	25	MP3-04	40.50 - 41.75	1.0000	1.0000
L38	31	CCI-AFP-060100	36.75 - 41.75	1.0000	1.0000
L38	32	CCI-AFP-060100	36.75 - 41.75	1.0000	1.0000
L38	33	CCI-AFP-060100	36.75 - 41.75	1.0000	1.0000
L39	6	LDF7-50A(1-5/8)	32.00 - 36.75	1.0000	1.0000
L39	10	CU12PSM6P4XXX(1-3/4)	32.00 - 36.75	1.0000	1.0000
L39	20	MP3-05	32.00 - 36.75	1.0000	1.0000
L39	21	MP3-05	32.00 - 36.75	1.0000	1.0000
L39	22	MP3-05	32.00 - 36.75	1.0000	1.0000
L39	28	CCI-AFP-065125	32.00 - 35.50	1.0000	1.0000
L39	29	CCI-AFP-065125	32.00 - 35.50	1.0000	1.0000
L39	30	CCI-AFP-065125	32.00 - 35.50	1.0000	1.0000
L39	31	CCI-AFP-060100	35.50 - 36.75	1.0000	1.0000
L39	32	CCI-AFP-060100	35.50 - 36.75	1.0000	1.0000
L39	33	CCI-AFP-060100	35.50 - 36.75	1.0000	1.0000
L40	6	LDF7-50A(1-5/8)	31.75 - 32.00	1.0000	1.0000
L40	10	CU12PSM6P4XXX(1-3/4)	31.75 - 32.00	1.0000	1.0000
L40	20	MP3-05	31.75 - 32.00	1.0000	1.0000
L40	21	MP3-05	31.75 - 32.00	1.0000	1.0000
L40	22	MP3-05	31.75 - 32.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L40	28	CCI-AFP-065125	31.75 - 32.00	1.0000	1.0000
L40	29	CCI-AFP-065125	31.75 - 32.00	1.0000	1.0000
L40	30	CCI-AFP-065125	31.75 - 32.00	1.0000	1.0000
L41	6	LDF7-50A(1-5/8)	26.75 - 31.75	1.0000	1.0000
L41	10	CU12PSM6P4XXX(1-3/4)	26.75 - 31.75	1.0000	1.0000
L41	20	MP3-05	26.75 - 31.75	1.0000	1.0000
L41	21	MP3-05	26.75 - 31.75	1.0000	1.0000
L41	22	MP3-05	26.75 - 31.75	1.0000	1.0000
L41	28	CCI-AFP-065125	26.75 - 31.75	1.0000	1.0000
L41	29	CCI-AFP-065125	26.75 - 31.75	1.0000	1.0000
L41	30	CCI-AFP-065125	26.75 - 31.75	1.0000	1.0000
L42	6	LDF7-50A(1-5/8)	21.75 - 26.75	1.0000	1.0000
L42	10	CU12PSM6P4XXX(1-3/4)	21.75 - 26.75	1.0000	1.0000
L42	20	MP3-05	21.75 - 26.75	1.0000	1.0000
L42	21	MP3-05	21.75 - 26.75	1.0000	1.0000
L42	22	MP3-05	21.75 - 26.75	1.0000	1.0000
L42	28	CCI-AFP-065125	21.75 - 26.75	1.0000	1.0000
L42	29	CCI-AFP-065125	21.75 - 26.75	1.0000	1.0000
L42	30	CCI-AFP-065125	21.75 - 26.75	1.0000	1.0000
L43	6	LDF7-50A(1-5/8)	18.00 - 21.75	1.0000	1.0000
L43	10	CU12PSM6P4XXX(1-3/4)	18.00 - 21.75	1.0000	1.0000
L43	17	MP3-05	18.00 - 20.50	1.0000	1.0000
L43	18	MP3-05	18.00 - 20.50	1.0000	1.0000
L43	19	MP3-05	18.00 - 20.50	1.0000	1.0000
L43	20	MP3-05	18.00 - 21.75	1.0000	1.0000
L43	21	MP3-05	18.00 - 21.75	1.0000	1.0000
L43	22	MP3-05	18.00 - 21.75	1.0000	1.0000
L43	28	CCI-AFP-065125	18.00 - 21.75	1.0000	1.0000
L43	29	CCI-AFP-065125	18.00 - 21.75	1.0000	1.0000
L43	30	CCI-AFP-065125	18.00 - 21.75	1.0000	1.0000
L44	6	LDF7-50A(1-5/8)	17.75 - 18.00	1.0000	1.0000
L44	10	CU12PSM6P4XXX(1-3/4)	17.75 - 18.00	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L44	17	MP3-05	17.75 - 18.00	1.0000	1.0000
L44	18	MP3-05	17.75 - 18.00	1.0000	1.0000
L44	19	MP3-05	17.75 - 18.00	1.0000	1.0000
L44	20	MP3-05	17.75 - 18.00	1.0000	1.0000
L44	21	MP3-05	17.75 - 18.00	1.0000	1.0000
L44	22	MP3-05	17.75 - 18.00	1.0000	1.0000
L44	28	CCI-AFP-065125	17.75 - 18.00	1.0000	1.0000
L44	29	CCI-AFP-065125	17.75 - 18.00	1.0000	1.0000
L44	30	CCI-AFP-065125	17.75 - 18.00	1.0000	1.0000
L45	6	LDF7-50A(1-5/8)	9.92 - 17.75	1.0000	1.0000
L45	10	CU12PSM6P4XXX(1-3/4)	9.92 - 17.75	1.0000	1.0000
L45	17	MP3-05	9.92 - 17.75	1.0000	1.0000
L45	18	MP3-05	9.92 - 17.75	1.0000	1.0000
L45	19	MP3-05	9.92 - 17.75	1.0000	1.0000
L45	20	MP3-05	15.50 - 17.75	1.0000	1.0000
L45	21	MP3-05	15.50 - 17.75	1.0000	1.0000
L45	22	MP3-05	15.50 - 17.75	1.0000	1.0000
L45	27	CCI-AFP-065125	9.92 - 15.50	1.0000	1.0000
L45	28	CCI-AFP-065125	10.50 - 17.75	1.0000	1.0000
L45	29	CCI-AFP-065125	9.92 - 17.75	1.0000	1.0000
L45	30	CCI-AFP-065125	9.92 - 17.75	1.0000	1.0000
L46	6	LDF7-50A(1-5/8)	8.92 - 9.92	1.0000	1.0000
L46	10	CU12PSM6P4XXX(1-3/4)	8.92 - 9.92	1.0000	1.0000
L46	17	MP3-05	8.92 - 9.92	1.0000	1.0000
L46	18	MP3-05	8.92 - 9.92	1.0000	1.0000
L46	19	MP3-05	8.92 - 9.92	1.0000	1.0000
L46	27	CCI-AFP-065125	8.92 - 9.92	1.0000	1.0000
L46	29	CCI-AFP-065125	8.92 - 9.92	1.0000	1.0000
L46	30	CCI-AFP-065125	8.92 - 9.92	1.0000	1.0000
L47	6	LDF7-50A(1-5/8)	3.92 - 8.92	1.0000	1.0000
L47	10	CU12PSM6P4XXX(1-3/4)	3.92 - 8.92	1.0000	1.0000
L47	17	MP3-05	3.92 - 8.92	1.0000	1.0000
L47	18	MP3-05	3.92 - 8.92	1.0000	1.0000
L47	19	MP3-05	3.92 - 8.92	1.0000	1.0000
L47	27	CCI-AFP-065125	3.92 - 8.92	1.0000	1.0000
L47	29	CCI-AFP-065125	3.92 - 8.92	1.0000	1.0000
L47	30	CCI-AFP-065125	3.92 - 8.92	1.0000	1.0000
L48	6	LDF7-50A(1-5/8)	2.75 - 3.92	1.0000	1.0000
L48	10	CU12PSM6P4XXX(1-3/4)	2.75 - 3.92	1.0000	1.0000
L48	17	MP3-05	2.75 - 3.92	1.0000	1.0000
L48	18	MP3-05	2.75 - 3.92	1.0000	1.0000
L48	19	MP3-05	2.75 - 3.92	1.0000	1.0000
L48	27	CCI-AFP-065125	2.75 - 3.92	1.0000	1.0000
L48	29	CCI-AFP-065125	2.75 - 3.92	1.0000	1.0000
L48	30	CCI-AFP-065125	2.75 - 3.92	1.0000	1.0000
L49	6	LDF7-50A(1-5/8)	2.50 - 2.75	1.0000	1.0000
L49	10	CU12PSM6P4XXX(1-3/4)	2.50 - 2.75	1.0000	1.0000
L49	17	MP3-05	2.50 - 2.75	1.0000	1.0000
L49	18	MP3-05	2.50 - 2.75	1.0000	1.0000
L49	19	MP3-05	2.50 - 2.75	1.0000	1.0000
L49	27	CCI-AFP-065125	2.50 - 2.75	1.0000	1.0000
L49	29	CCI-AFP-065125	2.50 - 2.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L49	30	CCI-AFP-065125	2.50 - 2.75	1.0000	1.0000
L50	6	LDF7-50A(1-5/8)	0.00 - 2.50	1.0000	1.0000
L50	10	CU12PSM6P4XXX(1-3/4)	0.00 - 2.50	1.0000	1.0000
L50	17	MP3-05	0.00 - 2.50	1.0000	1.0000
L50	18	MP3-05	0.00 - 2.50	1.0000	1.0000
L50	19	MP3-05	0.00 - 2.50	1.0000	1.0000
L50	27	CCI-AFP-065125	0.00 - 2.50	1.0000	1.0000
L50	29	CCI-AFP-065125	0.00 - 2.50	1.0000	1.0000
L50	30	CCI-AFP-065125	0.00 - 2.50	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L18	31	CCI-AFP-060100	84.50 - 85.67	Auto	0.0000
L18	32	CCI-AFP-060100	84.50 - 85.67	Auto	0.0000
L18	33	CCI-AFP-060100	84.50 - 85.67	Auto	0.0000
L19	31	CCI-AFP-060100	83.17 - 84.50	Auto	0.0000
L19	32	CCI-AFP-060100	83.17 - 84.50	Auto	0.0000
L19	33	CCI-AFP-060100	83.17 - 84.50	Auto	0.0000
L20	31	CCI-AFP-060100	82.92 - 83.17	Auto	0.0000
L20	32	CCI-AFP-060100	82.92 - 83.17	Auto	0.0000
L20	33	CCI-AFP-060100	82.92 - 83.17	Auto	0.0000
L21	31	CCI-AFP-060100	77.92 - 82.92	Auto	0.0000
L21	32	CCI-AFP-060100	77.92 - 82.92	Auto	0.0000
L21	33	CCI-AFP-060100	77.92 - 82.92	Auto	0.0000
L22	31	CCI-AFP-060100	72.92 - 77.92	Auto	0.0000
L22	32	CCI-AFP-060100	72.92 - 77.92	Auto	0.0000
L22	33	CCI-AFP-060100	72.92 - 77.92	Auto	0.0000
L23	31	CCI-AFP-060100	67.92 - 72.92	Auto	0.0000
L23	32	CCI-AFP-060100	67.92 - 72.92	Auto	0.0000
L23	33	CCI-AFP-060100	67.92 - 72.92	Auto	0.0000
L24	31	CCI-AFP-060100	65.50 - 67.92	Auto	0.0000
L24	32	CCI-AFP-060100	65.50 - 67.92	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L24	33	CCI-AFP-060100	65.50 - 67.92	Auto	0.0000
L25	23	MP3-04	65.25 - 65.50	Manual	1.0000
L25	24	MP3-04	65.25 - 65.50	Manual	1.0000
L25	25	MP3-04	65.25 - 65.50	Manual	1.0000
L25	31	CCI-AFP-060100	65.25 - 65.50	Auto	0.0000
L25	32	CCI-AFP-060100	65.25 - 65.50	Auto	0.0000
L25	33	CCI-AFP-060100	65.25 - 65.50	Auto	0.0000
L26	23	MP3-04	64.00 - 65.25	Manual	1.0000
L26	24	MP3-04	64.00 - 65.25	Manual	1.0000
L26	25	MP3-04	64.00 - 65.25	Manual	1.0000
L26	31	CCI-AFP-060100	64.00 - 65.25	Auto	0.0000
L26	32	CCI-AFP-060100	64.00 - 65.25	Auto	0.0000
L26	33	CCI-AFP-060100	64.00 - 65.25	Auto	0.0000
L27	23	MP3-04	63.75 - 64.00	Manual	1.0000
L27	24	MP3-04	63.75 - 64.00	Manual	1.0000
L27	25	MP3-04	63.75 - 64.00	Manual	1.0000
L27	31	CCI-AFP-060100	63.75 - 64.00	Auto	0.0000
L27	32	CCI-AFP-060100	63.75 - 64.00	Auto	0.0000
L27	33	CCI-AFP-060100	63.75 - 64.00	Auto	0.0000
L28	23	MP3-04	58.75 - 63.75	Manual	1.0000
L28	24	MP3-04	58.75 - 63.75	Manual	1.0000
L28	25	MP3-04	58.75 - 63.75	Manual	1.0000
L28	31	CCI-AFP-060100	58.75 - 63.75	Auto	0.0000
L28	32	CCI-AFP-060100	58.75 - 63.75	Auto	0.0000
L28	33	CCI-AFP-060100	58.75 - 63.75	Auto	0.0000
L29	23	MP3-04	53.75 - 58.75	Manual	1.0000
L29	24	MP3-04	53.75 - 58.75	Manual	1.0000
L29	25	MP3-04	53.75 - 58.75	Manual	1.0000
L29	31	CCI-AFP-060100	53.75 - 58.75	Auto	0.0000
L29	32	CCI-AFP-060100	53.75 - 58.75	Auto	0.0000
L29	33	CCI-AFP-060100	53.75 - 58.75	Auto	0.0000
L30	23	MP3-04	46.58 - 53.75	Manual	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L30	24	MP3-04	46.58 - 53.75	Manual	1.0000
L30	25	MP3-04	46.58 - 53.75	Manual	1.0000
L30	31	CCI-AFP-060100	46.58 - 53.75	Auto	0.0000
L30	32	CCI-AFP-060100	46.58 - 53.75	Auto	0.0000
L30	33	CCI-AFP-060100	46.58 - 53.75	Auto	0.0000
L31	23	MP3-04	45.58 - 46.58	Manual	1.0000
L31	24	MP3-04	45.58 - 46.58	Manual	1.0000
L31	25	MP3-04	45.58 - 46.58	Manual	1.0000
L31	31	CCI-AFP-060100	45.58 - 46.58	Auto	0.0000
L31	32	CCI-AFP-060100	45.58 - 46.58	Auto	0.0000
L31	33	CCI-AFP-060100	45.58 - 46.58	Auto	0.0000
L32	20	MP3-05	43.00 - 45.50	Manual	1.0000
L32	21	MP3-05	43.00 - 45.50	Manual	1.0000
L32	22	MP3-05	43.00 - 44.83	Manual	1.0000
L32	23	MP3-04	43.00 - 45.58	Manual	1.0000
L32	24	MP3-04	43.00 - 45.58	Manual	1.0000
L32	25	MP3-04	43.00 - 45.58	Manual	1.0000
L32	31	CCI-AFP-060100	43.00 - 45.58	Auto	0.0000
L32	32	CCI-AFP-060100	43.00 - 45.58	Auto	0.0000
L32	33	CCI-AFP-060100	43.00 - 45.58	Auto	0.0000
L33	20	MP3-05	42.75 - 43.00	Manual	1.0000
L33	21	MP3-05	42.75 - 43.00	Manual	1.0000
L33	22	MP3-05	42.75 - 43.00	Manual	1.0000
L33	23	MP3-04	42.75 - 43.00	Manual	1.0000
L33	24	MP3-04	42.75 - 43.00	Manual	1.0000
L33	25	MP3-04	42.75 - 43.00	Manual	1.0000
L33	31	CCI-AFP-060100	42.75 - 43.00	Auto	0.0000
L33	32	CCI-AFP-060100	42.75 - 43.00	Auto	0.0000
L33	33	CCI-AFP-060100	42.75 - 43.00	Auto	0.0000
L34	20	MP3-05	42.50 - 42.75	Manual	1.0000
L34	21	MP3-05	42.50 - 42.75	Manual	1.0000
L34	22	MP3-05	42.50 - 42.75	Manual	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L34	23	MP3-04	42.50 - 42.75	Manual	1.0000
L34	24	MP3-04	42.50 - 42.75	Manual	1.0000
L34	25	MP3-04	42.50 - 42.75	Manual	1.0000
L34	31	CCI-AFP-060100	42.50 - 42.75	Auto	0.0000
L34	32	CCI-AFP-060100	42.50 - 42.75	Auto	0.0000
L34	33	CCI-AFP-060100	42.50 - 42.75	Auto	0.0000
L35	20	MP3-05	42.25 - 42.50	Manual	1.0000
L35	21	MP3-05	42.25 - 42.50	Manual	1.0000
L35	22	MP3-05	42.25 - 42.50	Manual	1.0000
L35	23	MP3-04	42.25 - 42.50	Manual	1.0000
L35	24	MP3-04	42.25 - 42.50	Manual	1.0000
L35	25	MP3-04	42.25 - 42.50	Manual	1.0000
L35	31	CCI-AFP-060100	42.25 - 42.50	Auto	0.0000
L35	32	CCI-AFP-060100	42.25 - 42.50	Auto	0.0000
L35	33	CCI-AFP-060100	42.25 - 42.50	Auto	0.0000
L36	20	MP3-05	42.00 - 42.25	Manual	1.0000
L36	21	MP3-05	42.00 - 42.25	Manual	1.0000
L36	22	MP3-05	42.00 - 42.25	Manual	1.0000
L36	23	MP3-04	42.00 - 42.25	Manual	1.0000
L36	24	MP3-04	42.00 - 42.25	Manual	1.0000
L36	25	MP3-04	42.00 - 42.25	Manual	1.0000
L36	31	CCI-AFP-060100	42.00 - 42.25	Auto	0.0000
L36	32	CCI-AFP-060100	42.00 - 42.25	Auto	0.0000
L36	33	CCI-AFP-060100	42.00 - 42.25	Auto	0.0000
L37	20	MP3-05	41.75 - 42.00	Manual	1.0000
L37	21	MP3-05	41.75 - 42.00	Manual	1.0000
L37	22	MP3-05	41.75 - 42.00	Manual	1.0000
L37	23	MP3-04	41.75 - 42.00	Manual	1.0000
L37	24	MP3-04	41.75 - 42.00	Manual	1.0000
L37	25	MP3-04	41.75 - 42.00	Manual	1.0000
L37	31	CCI-AFP-060100	41.75 - 42.00	Auto	0.0000
L37	32	CCI-AFP-060100	41.75 - 42.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L37	33	CCI-AFP-060100	41.75 - 42.00	Auto	0.0000
L38	20	MP3-05	36.75 - 41.75	Manual	1.0000
L38	21	MP3-05	36.75 - 41.75	Manual	1.0000
L38	22	MP3-05	36.75 - 41.75	Manual	1.0000
L38	23	MP3-04	40.50 - 41.75	Manual	1.0000
L38	24	MP3-04	40.50 - 41.75	Manual	1.0000
L38	25	MP3-04	40.50 - 41.75	Manual	1.0000
L38	31	CCI-AFP-060100	36.75 - 41.75	Auto	0.0000
L38	32	CCI-AFP-060100	36.75 - 41.75	Auto	0.0000
L38	33	CCI-AFP-060100	36.75 - 41.75	Auto	0.0000
L39	20	MP3-05	32.00 - 36.75	Manual	1.0000
L39	21	MP3-05	32.00 - 36.75	Manual	1.0000
L39	22	MP3-05	32.00 - 36.75	Manual	1.0000
L39	28	CCI-AFP-065125	32.00 - 35.50	Auto	0.0000
L39	29	CCI-AFP-065125	32.00 - 35.50	Auto	0.0000
L39	30	CCI-AFP-065125	32.00 - 35.50	Auto	0.0000
L39	31	CCI-AFP-060100	35.50 - 36.75	Auto	0.0000
L39	32	CCI-AFP-060100	35.50 - 36.75	Auto	0.0000
L39	33	CCI-AFP-060100	35.50 - 36.75	Auto	0.0000
L40	20	MP3-05	31.75 - 32.00	Manual	1.0000
L40	21	MP3-05	31.75 - 32.00	Manual	1.0000
L40	22	MP3-05	31.75 - 32.00	Manual	1.0000
L40	28	CCI-AFP-065125	31.75 - 32.00	Auto	0.0000
L40	29	CCI-AFP-065125	31.75 - 32.00	Auto	0.0000
L40	30	CCI-AFP-065125	31.75 - 32.00	Auto	0.0000
L41	20	MP3-05	26.75 - 31.75	Manual	1.0000
L41	21	MP3-05	26.75 - 31.75	Manual	1.0000
L41	22	MP3-05	26.75 - 31.75	Manual	1.0000
L41	28	CCI-AFP-065125	26.75 - 31.75	Auto	0.0000
L41	29	CCI-AFP-065125	26.75 - 31.75	Auto	0.0000
L41	30	CCI-AFP-065125	26.75 - 31.75	Auto	0.0000
L42	20	MP3-05	21.75 - 26.75	Manual	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L42	21	MP3-05	21.75 - 26.75	Manual	1.0000
L42	22	MP3-05	21.75 - 26.75	Manual	1.0000
L42	28	CCI-AFP-065125	21.75 - 26.75	Auto	0.0000
L42	29	CCI-AFP-065125	21.75 - 26.75	Auto	0.0000
L42	30	CCI-AFP-065125	21.75 - 26.75	Auto	0.0000
L43	17	MP3-05	18.00 - 20.50	Manual	1.0000
L43	18	MP3-05	18.00 - 20.50	Manual	1.0000
L43	19	MP3-05	18.00 - 20.50	Manual	1.0000
L43	20	MP3-05	18.00 - 21.75	Manual	1.0000
L43	21	MP3-05	18.00 - 21.75	Manual	1.0000
L43	22	MP3-05	18.00 - 21.75	Manual	1.0000
L43	28	CCI-AFP-065125	18.00 - 21.75	Auto	0.0000
L43	29	CCI-AFP-065125	18.00 - 21.75	Auto	0.0000
L43	30	CCI-AFP-065125	18.00 - 21.75	Auto	0.0000
L44	17	MP3-05	17.75 - 18.00	Manual	1.0000
L44	18	MP3-05	17.75 - 18.00	Manual	1.0000
L44	19	MP3-05	17.75 - 18.00	Manual	1.0000
L44	20	MP3-05	17.75 - 18.00	Manual	1.0000
L44	21	MP3-05	17.75 - 18.00	Manual	1.0000
L44	22	MP3-05	17.75 - 18.00	Manual	1.0000
L44	28	CCI-AFP-065125	17.75 - 18.00	Auto	0.0000
L44	29	CCI-AFP-065125	17.75 - 18.00	Auto	0.0000
L44	30	CCI-AFP-065125	17.75 - 18.00	Auto	0.0000
L45	17	MP3-05	9.92 - 17.75	Manual	1.0000
L45	18	MP3-05	9.92 - 17.75	Manual	1.0000
L45	19	MP3-05	9.92 - 17.75	Manual	1.0000
L45	20	MP3-05	15.50 - 17.75	Manual	1.0000
L45	21	MP3-05	15.50 - 17.75	Manual	1.0000
L45	22	MP3-05	15.50 - 17.75	Manual	1.0000
L45	27	CCI-AFP-065125	9.92 - 15.50	Auto	0.0000
L45	28	CCI-AFP-065125	10.50 - 17.75	Auto	0.0000
L45	29	CCI-AFP-065125	9.92 - 17.75	Auto	0.0000
L45	30	CCI-AFP-065125	9.92 - 17.75	Auto	0.0000
L46	17	MP3-05	8.92 - 9.92	Manual	1.0000
L46	18	MP3-05	8.92 - 9.92	Manual	1.0000
L46	19	MP3-05	8.92 - 9.92	Manual	1.0000
L46	27	CCI-AFP-065125	8.92 - 9.92	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L46	29	CCI-AFP-065125	8.92 - 9.92	Auto	0.0000
L46	30	CCI-AFP-065125	8.92 - 9.92	Auto	0.0000
L47	17	MP3-05	3.92 - 8.92	Manual	1.0000
L47	18	MP3-05	3.92 - 8.92	Manual	1.0000
L47	19	MP3-05	3.92 - 8.92	Manual	1.0000
L47	27	CCI-AFP-065125	3.92 - 8.92	Auto	0.0000
L47	29	CCI-AFP-065125	3.92 - 8.92	Auto	0.0000
L47	30	CCI-AFP-065125	3.92 - 8.92	Auto	0.0000
L48	17	MP3-05	2.75 - 3.92	Manual	1.0000
L48	18	MP3-05	2.75 - 3.92	Manual	1.0000
L48	19	MP3-05	2.75 - 3.92	Manual	1.0000
L48	27	CCI-AFP-065125	2.75 - 3.92	Auto	0.0000
L48	29	CCI-AFP-065125	2.75 - 3.92	Auto	0.0000
L48	30	CCI-AFP-065125	2.75 - 3.92	Auto	0.0000
L49	17	MP3-05	2.50 - 2.75	Manual	1.0000
L49	18	MP3-05	2.50 - 2.75	Manual	1.0000
L49	19	MP3-05	2.50 - 2.75	Manual	1.0000
L49	27	CCI-AFP-065125	2.50 - 2.75	Auto	0.0000
L49	29	CCI-AFP-065125	2.50 - 2.75	Auto	0.0000
L49	30	CCI-AFP-065125	2.50 - 2.75	Auto	0.0000
L50	17	MP3-05	0.00 - 2.50	Manual	1.0000
L50	18	MP3-05	0.00 - 2.50	Manual	1.0000
L50	19	MP3-05	0.00 - 2.50	Manual	1.0000
L50	27	CCI-AFP-065125	0.00 - 2.50	Auto	0.0000
L50	29	CCI-AFP-065125	0.00 - 2.50	Auto	0.0000
L50	30	CCI-AFP-065125	0.00 - 2.50	Auto	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement	C _A A _A Front	C _A A _A Side	Weight	
			ft ft ft	°	ft	ft ²	ft ²	K	
(2) ADA-85408580CF w/ Mount Pipe	A	From Leg	4.00	0.0000	173.00	No Ice	4.95	3.42	0.03
			0.00			1/2"	5.32	4.02	0.07
			2.00			Ice	5.71	4.64	0.12
BXA-80080/4CF w/ Mount Pipe	B	From Leg	4.00	0.0000	173.00	1" Ice	5.04	4.03	0.03
			0.00			1/2"	5.42	4.65	0.08
			2.00			Ice	5.81	5.28	0.13
BXA-80080/4CF w/ Mount Pipe	C	From Leg	4.00	0.0000	173.00	1" Ice	5.04	4.03	0.03
			0.00			1/2"	5.42	4.65	0.08
			2.00			Ice	5.81	5.28	0.13
(2) JAHH-65B-R3B w/ Mount Pipe	A	From Leg	4.00	0.0000	173.00	1" Ice	5.50	4.38	0.10
			0.00			1/2"	5.97	4.84	0.17
			2.00			Ice	6.45	5.30	0.25
(2) JAHH-65B-R3B w/ Mount Pipe	B	From Leg	4.00	0.0000	173.00	1" Ice	5.50	4.38	0.10
			0.00			1/2"	5.97	4.84	0.17
			2.00			Ice	6.45	5.30	0.25
(2) JAHH-65B-R3B w/ Mount Pipe	C	From Leg	4.00	0.0000	173.00	No Ice	5.50	4.38	0.10
			0.00			1/2"	5.97	4.84	0.17

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustmen t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			2.00			1/2"	6.45	5.30	0.25
						Ice			
						1" Ice			
B66A RRH4X45	A	From Leg	4.00 0.00 2.00	0.0000	173.00	No Ice 1/2" Ice	2.58 2.79 3.01	1.63 1.81 2.00	0.07 0.09 0.11
						1" Ice			
B66A RRH4X45	B	From Leg	4.00 0.00 2.00	0.0000	173.00	No Ice 1/2" Ice	2.58 2.79 3.01	1.63 1.81 2.00	0.07 0.09 0.11
						1" Ice			
B66A RRH4X45	C	From Leg	4.00 0.00 2.00	0.0000	173.00	No Ice 1/2" Ice	2.58 2.79 3.01	1.63 1.81 2.00	0.07 0.09 0.11
						1" Ice			
RRH2X60-700	A	From Leg	4.00 0.00 2.00	0.0000	173.00	No Ice 1/2" Ice	3.50 3.76 4.03	1.82 2.05 2.29	0.06 0.08 0.11
						1" Ice			
RRH2X60-700	B	From Leg	4.00 0.00 2.00	0.0000	173.00	No Ice 1/2" Ice	3.50 3.76 4.03	1.82 2.05 2.29	0.06 0.08 0.11
						1" Ice			
RRH2X60-700	C	From Leg	4.00 0.00 2.00	0.0000	173.00	No Ice 1/2" Ice	3.50 3.76 4.03	1.82 2.05 2.29	0.06 0.08 0.11
						1" Ice			
DB-C1-12C-24AB-0Z	A	From Leg	4.00 0.00 2.00	0.0000	173.00	No Ice 1/2" Ice	4.06 4.32 4.58	3.10 3.34 3.58	0.03 0.07 0.11
						1" Ice			
Platform Mount [LP 601-1]	C	None		0.0000	173.00	No Ice 1/2" Ice	28.50 31.69 34.87	28.50 31.69 34.87	1.12 1.68 2.28
						1" Ice			
Miscellaneous [NA 507-2]	C	None		0.0000	173.00	No Ice 1/2" Ice	13.88 16.96 19.89	13.88 16.96 19.89	0.43 0.60 0.83
						1" Ice			

HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	162.00	No Ice 1/2" Ice	9.22 9.98 10.76	6.25 6.96 7.70	0.07 0.14 0.22
						1" Ice			
HPA-65R-BUU-H6 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	162.00	No Ice 1/2" Ice	9.22 9.98 10.76	6.25 6.96 7.70	0.07 0.14 0.22
						1" Ice			
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	162.00	No Ice 1/2" Ice	9.22 9.98 10.76	6.25 6.96 7.70	0.07 0.14 0.22
						1" Ice			
QS66512-2 w/ Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	162.00	No Ice 1/2" Ice	4.04 4.42 4.82	4.18 4.57 4.97	0.14 0.21 0.29
						1" Ice			
QS66512-2 w/ Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	162.00	No Ice 1/2" Ice	4.04 4.42 4.82	4.18 4.57 4.97	0.14 0.21 0.29
						1" Ice			
QS66512-2 w/ Mount Pipe	C	From Leg	4.00	0.0000	162.00	No Ice	4.04	4.18	0.14

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
			0.00			1/2"	4.42	4.57	0.21
			0.00			Ice	4.82	4.97	0.29
						1" Ice			
800 10121 w/ Mount Pipe	A	From Leg	4.00	0.0000	162.00	No Ice	3.60	2.95	0.07
			0.00			1/2"	4.00	3.34	0.11
			0.00			Ice	4.42	3.74	0.17
						1" Ice			
7770.00 w/ Mount Pipe	B	From Leg	4.00	0.0000	162.00	No Ice	5.75	4.25	0.06
			0.00			1/2"	6.18	5.01	0.10
			0.00			Ice	6.61	5.71	0.16
						1" Ice			
RRUS 11	A	From Leg	4.00	0.0000	162.00	No Ice	2.79	1.19	0.05
			0.00			1/2"	3.00	1.34	0.07
			0.00			Ice	3.21	1.50	0.10
						1" Ice			
RRUS 11	B	From Leg	4.00	0.0000	162.00	No Ice	2.79	1.19	0.05
			0.00			1/2"	3.00	1.34	0.07
			0.00			Ice	3.21	1.50	0.10
						1" Ice			
RRUS 11	C	From Leg	4.00	0.0000	162.00	No Ice	2.79	1.19	0.05
			0.00			1/2"	3.00	1.34	0.07
			0.00			Ice	3.21	1.50	0.10
						1" Ice			
RRUS 32 B2	A	From Leg	4.00	0.0000	162.00	No Ice	2.74	1.67	0.05
			0.00			1/2"	2.96	1.86	0.07
			0.00			Ice	3.19	2.05	0.10
						1" Ice			
RRUS 32 B2	B	From Leg	4.00	0.0000	162.00	No Ice	2.74	1.67	0.05
			0.00			1/2"	2.96	1.86	0.07
			0.00			Ice	3.19	2.05	0.10
						1" Ice			
RRUS 32 B2	C	From Leg	4.00	0.0000	162.00	No Ice	2.74	1.67	0.05
			0.00			1/2"	2.96	1.86	0.07
			0.00			Ice	3.19	2.05	0.10
						1" Ice			
RRUS-32 B30	A	From Leg	4.00	0.0000	162.00	No Ice	3.31	2.42	0.08
			0.00			1/2"	3.56	2.64	0.10
			0.00			Ice	3.81	2.86	0.14
						1" Ice			
RRUS-32 B30	B	From Leg	4.00	0.0000	162.00	No Ice	3.31	2.42	0.08
			0.00			1/2"	3.56	2.64	0.10
			0.00			Ice	3.81	2.86	0.14
						1" Ice			
RRUS-32 B30	C	From Leg	4.00	0.0000	162.00	No Ice	3.31	2.42	0.08
			0.00			1/2"	3.56	2.64	0.10
			0.00			Ice	3.81	2.86	0.14
						1" Ice			
DBC0061F1V51-2	A	From Leg	4.00	0.0000	162.00	No Ice	0.21	0.41	0.01
			0.00			1/2"	0.28	0.50	0.02
			0.00			Ice	0.35	0.59	0.02
						1" Ice			
DBC0061F1V51-2	B	From Leg	4.00	0.0000	162.00	No Ice	0.21	0.41	0.01
			0.00			1/2"	0.28	0.50	0.02
			0.00			Ice	0.35	0.59	0.02
						1" Ice			
(2) LGP2140X	A	From Leg	4.00	0.0000	162.00	No Ice	1.08	0.36	0.01
			0.00			1/2"	1.21	0.45	0.02
			0.00			Ice	1.35	0.56	0.03
						1" Ice			
(2) LGP2140X	B	From Leg	4.00	0.0000	162.00	No Ice	1.08	0.36	0.01
			0.00				1.21	0.45	0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			0.00			1/2"	1.35	0.56	0.03
						Ice			
						1" Ice			
DC6-48-60-18-8C	C	From Leg	4.00	0.0000	162.00	No Ice	1.14	1.14	0.03
			0.00			1/2"	1.79	1.79	0.05
			0.00			Ice	2.00	2.00	0.07
						1" Ice			
DC6-48-60-18-8F	C	From Leg	4.00	0.0000	162.00	No Ice	1.21	1.21	0.03
			0.00			1/2"	1.89	1.89	0.05
			0.00			Ice	2.11	2.11	0.08
						1" Ice			
6' x 2" Mount Pipe	A	From Leg	4.00	0.0000	162.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice			
6' x 2" Mount Pipe	B	From Leg	4.00	0.0000	162.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice			
(2) 6' x 2" Mount Pipe	C	From Leg	4.00	0.0000	162.00	No Ice	1.43	1.43	0.02
			0.00			1/2"	1.92	1.92	0.03
			0.00			Ice	2.29	2.29	0.05
						1" Ice			
Platform Mount [LP 303-1]	C	None		0.0000	162.00	No Ice	14.69	14.69	1.25
						1/2"	18.01	18.01	1.57
						Ice	21.34	21.34	1.94
						1" Ice			

MX08FRO665-21 w/ Mount Pipe	A	From Leg	4.00	0.0000	154.00	No Ice	8.01	4.23	0.11
			0.00			1/2"	8.52	4.69	0.19
			0.00			Ice	9.04	5.16	0.29
						1" Ice			
MX08FRO665-21 w/ Mount Pipe	B	From Leg	4.00	0.0000	154.00	No Ice	8.01	4.23	0.11
			0.00			1/2"	8.52	4.69	0.19
			0.00			Ice	9.04	5.16	0.29
						1" Ice			
MX08FRO665-21 w/ Mount Pipe	C	From Leg	4.00	0.0000	154.00	No Ice	8.01	4.23	0.11
			0.00			1/2"	8.52	4.69	0.19
			0.00			Ice	9.04	5.16	0.29
						1" Ice			
TA08025-B604	A	From Leg	4.00	0.0000	154.00	No Ice	1.96	0.98	0.06
			0.00			1/2"	2.14	1.11	0.08
			0.00			Ice	2.32	1.25	0.10
						1" Ice			
TA08025-B604	B	From Leg	4.00	0.0000	154.00	No Ice	1.96	0.98	0.06
			0.00			1/2"	2.14	1.11	0.08
			0.00			Ice	2.32	1.25	0.10
						1" Ice			
TA08025-B604	C	From Leg	4.00	0.0000	154.00	No Ice	1.96	0.98	0.06
			0.00			1/2"	2.14	1.11	0.08
			0.00			Ice	2.32	1.25	0.10
						1" Ice			
TA08025-B605	A	From Leg	4.00	0.0000	154.00	No Ice	1.96	1.13	0.08
			0.00			1/2"	2.14	1.27	0.09
			0.00			Ice	2.32	1.41	0.11
						1" Ice			
TA08025-B605	B	From Leg	4.00	0.0000	154.00	No Ice	1.96	1.13	0.08
			0.00			1/2"	2.14	1.27	0.09
			0.00			Ice	2.32	1.41	0.11
						1" Ice			
TA08025-B605	C	From Leg	4.00	0.0000	154.00	No Ice	1.96	1.13	0.08

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
			0.00			1/2"	2.14	1.27	0.09
			0.00			Ice	2.32	1.41	0.11
						1" Ice			
RDIDC-9181-PF-48	C	From Leg	4.00	0.0000	154.00	No Ice	2.01	1.17	0.02
			0.00			1/2"	2.19	1.31	0.04
			0.00			Ice	2.37	1.46	0.06
						1" Ice			
(2) 8' x 2" Mount Pipe	A	From Leg	4.00	0.0000	154.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
(2) 8' x 2" Mount Pipe	B	From Leg	4.00	0.0000	154.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
(2) 8' x 2" Mount Pipe	C	From Leg	4.00	0.0000	154.00	No Ice	1.90	1.90	0.03
			0.00			1/2"	2.73	2.73	0.04
			0.00			Ice	3.40	3.40	0.06
						1" Ice			
Commscope_MC-Pk8-DSH_Platform	C	None		0.0000	154.00	No Ice	34.24	34.24	1.75
						1/2"	62.95	62.95	2.10
						Ice	91.66	91.66	2.45
						1" Ice			

AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.00	0.0000	144.00	No Ice	5.19	2.71	0.13
			0.00			1/2"	5.59	3.04	0.17
			0.00			Ice	6.02	3.38	0.23
						1" Ice			
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.00	0.0000	144.00	No Ice	5.19	2.71	0.13
			0.00			1/2"	5.59	3.04	0.17
			0.00			Ice	6.02	3.38	0.23
						1" Ice			
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.00	0.0000	144.00	No Ice	5.19	2.71	0.13
			0.00			1/2"	5.59	3.04	0.17
			0.00			Ice	6.02	3.38	0.23
						1" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	1.00	0.0000	144.00	No Ice	14.69	6.87	0.19
			0.00			1/2"	15.46	7.55	0.31
			0.00			Ice	16.23	8.25	0.46
						1" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	1.00	0.0000	144.00	No Ice	14.69	6.87	0.19
			0.00			1/2"	15.46	7.55	0.31
			0.00			Ice	16.23	8.25	0.46
						1" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	1.00	0.0000	144.00	No Ice	14.69	6.87	0.19
			0.00			1/2"	15.46	7.55	0.31
			0.00			Ice	16.23	8.25	0.46
						1" Ice			
RADIO 4449 B71/B85A	A	From Leg	1.00	0.0000	144.00	No Ice	1.64	1.31	0.07
			0.00			1/2"	1.80	1.46	0.09
			0.00			Ice	1.97	1.61	0.11
						1" Ice			
RADIO 4449 B71/B85A	B	From Leg	1.00	0.0000	144.00	No Ice	1.64	1.31	0.07
			0.00			1/2"	1.80	1.46	0.09
			0.00			Ice	1.97	1.61	0.11
						1" Ice			
RADIO 4449 B71/B85A	C	From Leg	1.00	0.0000	144.00	No Ice	1.64	1.31	0.07
			0.00			1/2"	1.80	1.46	0.09
			0.00			Ice	1.97	1.61	0.11
						1" Ice			

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	
RADIO 4460 B2/B25 B66_TMO	A	From Leg	4.00	0.0000	144.00	No Ice	2.14	1.69	0.11
			0.00			1/2"	2.32	1.85	0.13
			0.00			Ice	2.51	2.02	0.16
RADIO 4460 B2/B25 B66_TMO	B	From Leg	4.00	0.0000	144.00	1" Ice	2.14	1.69	0.11
			0.00			No Ice	2.14	1.69	0.11
			0.00			1/2"	2.32	1.85	0.13
RADIO 4460 B2/B25 B66_TMO	C	From Leg	4.00	0.0000	144.00	Ice	2.51	2.02	0.16
			0.00			1" Ice	2.14	1.69	0.11
			0.00			No Ice	2.14	1.69	0.11
Sector Mount [SM 502-3]	C	None		0.0000	144.00	1/2"	2.32	1.85	0.13
						Ice	2.51	2.02	0.16
						1" Ice	2.14	1.69	0.11
						No Ice	29.82	29.82	1.67
						1/2"	42.21	42.21	2.27
						Ice	54.43	54.43	3.05
						1" Ice			

Tower Pressures - No Ice

$G_H = 1.100$

Section Elevation ft	z ft	K _Z	q _Z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _{AA} In Face ft ²	C _{AA} Out Face ft ²
L1 175.00-170.00	172.48	1.155	35	9.706	A	0.000	9.706	9.706	100.00	0.000	0.000
					B	0.000	9.706	100.00	0.000	0.000	
					C	0.000	9.706	100.00	0.000	0.000	
L2 170.00-165.00	167.48	1.145	34	10.094	A	0.000	10.094	10.094	100.00	0.000	0.000
					B	0.000	10.094	100.00	0.000	0.000	
					C	0.000	10.094	100.00	0.000	0.000	
L3 165.00-160.00	162.48	1.135	34	10.482	A	0.000	10.482	10.482	100.00	1.188	0.000
					B	0.000	10.482	100.00	0.000	0.000	
					C	0.000	10.482	100.00	0.000	0.000	
L4 160.00-155.00	157.49	1.125	34	10.871	A	0.000	10.871	10.871	100.00	2.970	0.000
					B	0.000	10.871	100.00	0.000	0.000	
					C	0.000	10.871	100.00	0.000	0.000	
L5 155.00-145.50	150.20	1.11	33	21.724	A	0.000	21.724	21.724	100.00	7.130	0.000
					B	0.000	21.724	100.00	0.000	0.000	
					C	0.000	21.724	100.00	0.000	0.000	
L6 145.50-145.00	145.25	1.099	33	1.162	A	0.000	1.162	1.162	100.00	0.385	0.000
					B	0.000	1.162	100.00	0.000	0.000	
					C	0.000	1.162	100.00	0.000	0.000	
L7 145.00-140.00	142.49	1.093	33	11.833	A	0.000	11.833	11.833	100.00	3.845	0.000
					B	0.000	11.833	100.00	0.000	0.000	
					C	0.000	11.833	100.00	0.000	0.000	
L8 140.00-135.00	137.49	1.082	33	12.221	A	0.000	12.221	12.221	100.00	3.845	0.000
					B	0.000	12.221	100.00	0.000	0.000	
					C	0.000	12.221	100.00	0.000	0.000	
L9 135.00-130.00	132.49	1.071	32	12.609	A	0.000	12.609	12.609	100.00	3.845	0.000
					B	0.000	12.609	100.00	0.000	0.000	
					C	0.000	12.609	100.00	0.000	0.000	
L10 130.00-125.00	127.49	1.059	32	12.997	A	0.000	12.997	12.997	100.00	3.845	0.000
					B	0.000	12.997	100.00	0.000	0.000	
					C	0.000	12.997	100.00	0.000	0.000	

Section Elevation ft	z ft	K_z	q_z psf	A_G ft ²	F a c e	A_F ft ²	A_R ft ²	A_{leg} ft ²	Leg %	C_{AA} In Face ft ²	C_{AA} Out Face ft ²
L11 125.00-120.00	122.49	1.047	31	13.386	C	0.000	12.997		100.00	0.000	0.000
					A	0.000	13.386	13.386	100.00	3.845	0.000
					B	0.000	13.386		100.00	0.000	0.000
					C	0.000	13.386		100.00	0.000	0.000
L12 120.00-115.00	117.49	1.035	31	13.774	A	0.000	13.774	13.774	100.00	3.845	0.000
					B	0.000	13.774		100.00	0.000	0.000
					C	0.000	13.774		100.00	0.000	0.000
L13 115.00-110.00	112.49	1.022	31	14.162	A	0.000	14.162	14.162	100.00	3.845	0.000
					B	0.000	14.162		100.00	0.000	0.000
					C	0.000	14.162		100.00	0.000	0.000
L14 110.00-105.00	107.49	1.009	30	14.550	A	0.000	14.550	14.550	100.00	3.845	0.000
					B	0.000	14.550		100.00	0.000	0.000
					C	0.000	14.550		100.00	0.000	0.000
L15 105.00-95.50	100.21	0.989	30	28.715	A	0.000	28.715	28.715	100.00	7.305	0.000
					B	0.000	28.715		100.00	0.000	0.000
					C	0.000	28.715		100.00	0.000	0.000
L16 95.50-94.50	95.00	0.974	29	3.048	A	0.000	3.048	3.048	100.00	0.769	0.000
					B	0.000	3.048		100.00	0.000	0.000
					C	0.000	3.048		100.00	0.000	0.000
L17 94.50-89.50	91.99	0.965	29	15.475	A	0.000	15.475	15.475	100.00	3.845	0.000
					B	0.000	15.475		100.00	0.000	0.000
					C	0.000	15.475		100.00	0.000	0.000
L18 89.50-84.50	86.99	0.95	29	15.863	A	0.000	15.863	15.863	100.00	5.015	0.000
					B	0.000	15.863		100.00	1.170	0.000
					C	0.000	15.863		100.00	1.170	0.000
L19 84.50-83.17	83.83	0.94	28	4.285	A	0.000	4.285	4.285	100.00	2.353	0.000
					B	0.000	4.285		100.00	1.330	0.000
					C	0.000	4.285		100.00	1.330	0.000
L20 83.17-82.92	83.04	0.937	28	0.809	A	0.000	0.809	0.809	100.00	0.442	0.000
					B	0.000	0.809		100.00	0.250	0.000
					C	0.000	0.809		100.00	0.250	0.000
L21 82.92-77.92	80.41	0.929	28	16.374	A	0.000	16.374	16.374	100.00	8.845	0.000
					B	0.000	16.374		100.00	5.000	0.000
					C	0.000	16.374		100.00	5.000	0.000
L22 77.92-72.92	75.41	0.912	27	16.762	A	0.000	16.762	16.762	100.00	8.845	0.000
					B	0.000	16.762		100.00	5.000	0.000
					C	0.000	16.762		100.00	5.000	0.000
L23 72.92-67.92	70.41	0.894	27	17.150	A	0.000	17.150	17.150	100.00	8.845	0.000
					B	0.000	17.150		100.00	5.000	0.000
					C	0.000	17.150		100.00	5.000	0.000
L24 67.92-65.50	66.71	0.88	26	8.440	A	0.000	8.440	8.440	100.00	4.281	0.000
					B	0.000	8.440		100.00	2.420	0.000
					C	0.000	8.440		100.00	2.420	0.000
L25 65.50-65.25	65.37	0.875	26	0.877	A	0.000	0.877	0.877	100.00	0.641	0.000
					B	0.000	0.877		100.00	0.449	0.000
					C	0.000	0.877		100.00	0.449	0.000
L26 65.25-64.00	64.62	0.872	26	4.400	A	0.000	4.400	4.400	100.00	3.207	0.000
					B	0.000	4.400		100.00	2.246	0.000
					C	0.000	4.400		100.00	2.246	0.000
L27 64.00-63.75	63.87	0.869	26	0.881	A	0.000	0.881	0.881	100.00	0.641	0.000
					B	0.000	0.881		100.00	0.449	0.000
					C	0.000	0.881		100.00	0.449	0.000
L28 63.75-58.75	61.24	0.859	26	17.826	A	0.000	17.826	17.826	100.00	12.828	0.000
					B	0.000	17.826		100.00	8.983	0.000
					C	0.000	17.826		100.00	8.983	0.000
L29 58.75-53.75	56.24	0.838	25	18.214	A	0.000	18.214	18.214	100.00	12.828	0.000
					B	0.000	18.214		100.00	8.983	0.000
					C	0.000	18.214		100.00	8.983	0.000
L30 53.75-46.58	50.15	0.811	24	26.799	A	0.000	26.799	26.799	100.00	18.396	0.000
					B	0.000	26.799		100.00	12.882	0.000
					C	0.000	26.799		100.00	12.882	0.000
L31 46.58-45.58	46.08	0.792	24	3.735	A	0.000	3.735	3.735	100.00	2.566	0.000
					B	0.000	3.735		100.00	1.797	0.000
					C	0.000	3.735		100.00	1.797	0.000

Section Elevation ft	z ft	K_z	q_z psf	A_G ft ²	F a c e	A_F ft ²	A_R ft ²	A_{leg} ft ²	Leg %	C_{AA} In Face ft ²	C_{AA} Out Face ft ²
L32 45.58-43.00	44.29	0.783	24	9.709	A	0.000	9.709	9.709	100.00	8.840	0.000
					B	0.000	9.709	100.00	6.856	0.000	
					C	0.000	9.709	100.00	6.261	0.000	
L33 43.00-42.75	42.87	0.776	23	0.946	A	0.000	0.946	0.946	100.00	0.863	0.000
					B	0.000	0.946	100.00	0.671	0.000	
					C	0.000	0.946	100.00	0.671	0.000	
L34 42.75-42.50	42.62	0.775	23	0.947	A	0.000	0.947	0.947	100.00	0.863	0.000
					B	0.000	0.947	100.00	0.671	0.000	
					C	0.000	0.947	100.00	0.671	0.000	
L35 42.50-42.25	42.37	0.773	23	0.947	A	0.000	0.947	0.947	100.00	0.863	0.000
					B	0.000	0.947	100.00	0.671	0.000	
					C	0.000	0.947	100.00	0.671	0.000	
L36 42.25-42.00	42.12	0.772	23	0.948	A	0.000	0.948	0.948	100.00	0.863	0.000
					B	0.000	0.948	100.00	0.671	0.000	
					C	0.000	0.948	100.00	0.671	0.000	
L37 42.00-41.75	41.87	0.771	23	0.950	A	0.000	0.950	0.950	100.00	0.863	0.000
					B	0.000	0.950	100.00	0.671	0.000	
					C	0.000	0.950	100.00	0.671	0.000	
L38 41.75-36.75	39.24	0.756	23	19.202	A	0.000	19.202	19.202	100.00	14.283	0.000
					B	0.000	19.202	100.00	10.438	0.000	
					C	0.000	19.202	100.00	10.438	0.000	
L39 36.75-32.00	34.37	0.728	22	18.603	A	0.000	18.603	18.603	100.00	12.914	0.000
					B	0.000	18.603	100.00	9.261	0.000	
					C	0.000	18.603	100.00	9.261	0.000	
L40 32.00-31.75	31.87	0.713	21	0.988	A	0.000	0.988	0.988	100.00	0.685	0.000
					B	0.000	0.988	100.00	0.493	0.000	
					C	0.000	0.988	100.00	0.493	0.000	
L41 31.75-26.75	29.24	0.7	21	19.975	A	0.000	19.975	19.975	100.00	13.703	0.000
					B	0.000	19.975	100.00	9.858	0.000	
					C	0.000	19.975	100.00	9.858	0.000	
L42 26.75-21.75	24.24	0.7	21	20.363	A	0.000	20.363	20.363	100.00	13.703	0.000
					B	0.000	20.363	100.00	9.858	0.000	
					C	0.000	20.363	100.00	9.858	0.000	
L43 21.75-18.00	19.87	0.7	21	15.527	A	0.000	15.527	15.527	100.00	12.498	0.000
					B	0.000	15.527	100.00	9.615	0.000	
					C	0.000	15.527	100.00	9.615	0.000	
L44 18.00-17.75	17.87	0.7	21	1.043	A	0.000	1.043	1.043	100.00	0.907	0.000
					B	0.000	1.043	100.00	0.715	0.000	
					C	0.000	1.043	100.00	0.715	0.000	
L45 17.75-9.92	13.82	0.7	21	33.155	A	0.000	33.155	33.155	100.00	28.875	0.000
					B	0.000	33.155	100.00	17.437	0.000	
					C	0.000	33.155	100.00	17.437	0.000	
L46 9.92-8.92	9.42	0.7	21	4.234	A	0.000	4.234	4.234	100.00	2.741	0.000
					B	0.000	4.234	100.00	1.972	0.000	
					C	0.000	4.234	100.00	1.972	0.000	
L47 8.92-3.92	6.41	0.7	21	21.404	A	0.000	21.404	21.404	100.00	13.703	0.000
					B	0.000	21.404	100.00	9.858	0.000	
					C	0.000	21.404	100.00	9.858	0.000	
L48 3.92-2.75	3.33	0.7	21	5.065	A	0.000	5.065	5.065	100.00	3.207	0.000
					B	0.000	5.065	100.00	2.307	0.000	
					C	0.000	5.065	100.00	2.307	0.000	
L49 2.75-2.50	2.62	0.7	21	1.085	A	0.000	1.085	1.085	100.00	0.685	0.000
					B	0.000	1.085	100.00	0.493	0.000	
					C	0.000	1.085	100.00	0.493	0.000	
L50 2.50-0.00	1.25	0.7	21	10.899	A	0.000	10.899	10.899	100.00	6.852	0.000
					B	0.000	10.899	100.00	4.929	0.000	
					C	0.000	10.899	100.00	4.929	0.000	

Tower Pressure - With Ice

$G_H = 1.100$

Section Elevation	z	K _Z	q _z	t _z	A _G	F a c e	A _F	A _R	A _{leg}	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
ft	ft		psf	in	ft ²		ft ²	ft ²	ft ²			
L1 175.00- 170.00	172.48	1.155	7	1.0029	10.542	A	0.000	10.542	10.542	100.00	0.000	0.000
						B	0.000	10.542		100.00	0.000	0.000
						C	0.000	10.542		100.00	0.000	0.000
L2 170.00- 165.00	167.48	1.145	7	0.9999	10.927	A	0.000	10.927	10.927	100.00	0.000	0.000
						B	0.000	10.927		100.00	0.000	0.000
						C	0.000	10.927		100.00	0.000	0.000
L3 165.00- 160.00	162.48	1.135	6	0.9969	11.313	A	0.000	11.313	11.313	100.00	1.983	0.000
						B	0.000	11.313		100.00	0.000	0.000
						C	0.000	11.313		100.00	0.000	0.000
L4 160.00- 155.00	157.49	1.125	6	0.9938	11.699	A	0.000	11.699	11.699	100.00	4.955	0.000
						B	0.000	11.699		100.00	0.000	0.000
						C	0.000	11.699		100.00	0.000	0.000
L5 155.00- 145.50	150.20	1.11	6	0.9891	23.290	A	0.000	23.290	23.290	100.00	12.572	0.000
						B	0.000	23.290		100.00	0.000	0.000
						C	0.000	23.290		100.00	0.000	0.000
L6 145.50- 145.00	145.25	1.099	6	0.9858	1.244	A	0.000	1.244	1.244	100.00	0.681	0.000
						B	0.000	1.244		100.00	0.000	0.000
						C	0.000	1.244		100.00	0.000	0.000
L7 145.00- 140.00	142.49	1.093	6	0.9839	12.653	A	0.000	12.653	12.653	100.00	6.801	0.000
						B	0.000	12.653		100.00	0.000	0.000
						C	0.000	12.653		100.00	0.000	0.000
L8 140.00- 135.00	137.49	1.082	6	0.9804	13.038	A	0.000	13.038	13.038	100.00	6.793	0.000
						B	0.000	13.038		100.00	0.000	0.000
						C	0.000	13.038		100.00	0.000	0.000
L9 135.00- 130.00	132.49	1.071	6	0.9768	13.423	A	0.000	13.423	13.423	100.00	6.785	0.000
						B	0.000	13.423		100.00	0.000	0.000
						C	0.000	13.423		100.00	0.000	0.000
L10 130.00- 125.00	127.49	1.059	6	0.9730	13.808	A	0.000	13.808	13.808	100.00	6.777	0.000
						B	0.000	13.808		100.00	0.000	0.000
						C	0.000	13.808		100.00	0.000	0.000
L11 125.00- 120.00	122.49	1.047	6	0.9691	14.193	A	0.000	14.193	14.193	100.00	6.768	0.000
						B	0.000	14.193		100.00	0.000	0.000
						C	0.000	14.193		100.00	0.000	0.000
L12 120.00- 115.00	117.49	1.035	6	0.9651	14.578	A	0.000	14.578	14.578	100.00	6.759	0.000
						B	0.000	14.578		100.00	0.000	0.000
						C	0.000	14.578		100.00	0.000	0.000
L13 115.00- 110.00	112.49	1.022	6	0.9609	14.963	A	0.000	14.963	14.963	100.00	6.750	0.000
						B	0.000	14.963		100.00	0.000	0.000
						C	0.000	14.963		100.00	0.000	0.000
L14 110.00- 105.00	107.49	1.009	6	0.9565	15.347	A	0.000	15.347	15.347	100.00	6.740	0.000
						B	0.000	15.347		100.00	0.000	0.000
						C	0.000	15.347		100.00	0.000	0.000
L15 105.00- 95.50	100.21	0.989	6	0.9499	30.219	A	0.000	30.219	30.219	100.00	12.777	0.000
						B	0.000	30.219		100.00	0.000	0.000
						C	0.000	30.219		100.00	0.000	0.000
L16 95.50- 94.50	95.00	0.974	6	0.9448	3.207	A	0.000	3.207	3.207	100.00	1.345	0.000
						B	0.000	3.207		100.00	0.000	0.000
						C	0.000	3.207		100.00	0.000	0.000
L17 94.50- 89.50	91.99	0.965	5	0.9418	16.260	A	0.000	16.260	16.260	100.00	6.706	0.000
						B	0.000	16.260		100.00	0.000	0.000
						C	0.000	16.260		100.00	0.000	0.000
L18 89.50- 84.50	86.99	0.95	5	0.9365	16.643	A	0.000	16.643	16.643	100.00	8.084	0.000
						B	0.000	16.643		100.00	1.389	0.000
						C	0.000	16.643		100.00	1.389	0.000
L19 84.50- 83.17	83.83	0.94	5	0.9331	4.492	A	0.000	4.492	4.492	100.00	3.357	0.000
						B	0.000	4.492		100.00	1.578	0.000
						C	0.000	4.492		100.00	1.578	0.000
L20 83.17- 82.92	83.04	0.937	5	0.9322	0.847	A	0.000	0.847	0.847	100.00	0.631	0.000
						B	0.000	0.847		100.00	0.297	0.000
						C	0.000	0.847		100.00	0.297	0.000
L21 82.92- 77.92	80.41	0.929	5	0.9292	17.148	A	0.000	17.148	17.148	100.00	12.607	0.000
						B	0.000	17.148		100.00	5.929	0.000

Section Elevation ft	z ft	K _Z	q _z psf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L22 77.92-72.92	75.41	0.912	5	0.9232	17.532	C	0.000	17.148		100.00	5.929	0.000
						A	0.000	17.532	17.532	100.00	12.588	0.000
						B	0.000	17.532		100.00	5.923	0.000
						C	0.000	17.532		100.00	5.923	0.000
L23 72.92-67.92	70.41	0.894	5	0.9169	17.914	A	0.000	17.914	17.914	100.00	12.567	0.000
						B	0.000	17.914		100.00	5.917	0.000
						C	0.000	17.914		100.00	5.917	0.000
L24 67.92-65.50	66.71	0.88	5	0.9120	8.808	A	0.000	8.808	8.808	100.00	6.075	0.000
						B	0.000	8.808		100.00	2.861	0.000
						C	0.000	8.808		100.00	2.861	0.000
L25 65.50-65.25	65.37	0.875	5	0.9101	0.915	A	0.000	0.915	0.915	100.00	0.872	0.000
						B	0.000	0.915		100.00	0.540	0.000
						C	0.000	0.915		100.00	0.540	0.000
L26 65.25-64.00	64.62	0.872	5	0.9091	4.589	A	0.000	4.589	4.589	100.00	4.359	0.000
						B	0.000	4.589		100.00	2.700	0.000
						C	0.000	4.589		100.00	2.700	0.000
L27 64.00-63.75	63.87	0.869	5	0.9080	0.919	A	0.000	0.919	0.919	100.00	0.871	0.000
						B	0.000	0.919		100.00	0.540	0.000
						C	0.000	0.919		100.00	0.540	0.000
L28 63.75-58.75	61.24	0.859	5	0.9042	18.579	A	0.000	18.579	18.579	100.00	17.414	0.000
						B	0.000	18.579		100.00	10.792	0.000
						C	0.000	18.579		100.00	10.792	0.000
L29 58.75-53.75	56.24	0.838	5	0.8965	18.961	A	0.000	18.961	18.961	100.00	17.381	0.000
						B	0.000	18.961		100.00	10.776	0.000
						C	0.000	18.961		100.00	10.776	0.000
L30 53.75-46.58	50.15	0.811	5	0.8863	27.858	A	0.000	27.858	27.858	100.00	24.862	0.000
						B	0.000	27.858		100.00	15.424	0.000
						C	0.000	27.858		100.00	15.424	0.000
L31 46.58-45.58	46.08	0.792	4	0.8789	3.883	A	0.000	3.883	3.883	100.00	3.468	0.000
						B	0.000	3.883		100.00	2.151	0.000
						C	0.000	3.883		100.00	2.151	0.000
L32 45.58-43.00	44.29	0.783	4	0.8754	10.086	A	0.000	10.086	10.086	100.00	11.581	0.000
						B	0.000	10.086		100.00	8.197	0.000
						C	0.000	10.086		100.00	7.485	0.000
L33 43.00-42.75	42.87	0.776	4	0.8725	0.982	A	0.000	0.982	0.982	100.00	1.130	0.000
						B	0.000	0.982		100.00	0.802	0.000
						C	0.000	0.982		100.00	0.802	0.000
L34 42.75-42.50	42.62	0.775	4	0.8720	0.983	A	0.000	0.983	0.983	100.00	1.130	0.000
						B	0.000	0.983		100.00	0.802	0.000
						C	0.000	0.983		100.00	0.802	0.000
L35 42.50-42.25	42.37	0.773	4	0.8715	0.984	A	0.000	0.984	0.984	100.00	1.129	0.000
						B	0.000	0.984		100.00	0.802	0.000
						C	0.000	0.984		100.00	0.802	0.000
L36 42.25-42.00	42.12	0.772	4	0.8710	0.984	A	0.000	0.984	0.984	100.00	1.129	0.000
						B	0.000	0.984		100.00	0.802	0.000
						C	0.000	0.984		100.00	0.802	0.000
L37 42.00-41.75	41.87	0.771	4	0.8705	0.986	A	0.000	0.986	0.986	100.00	1.129	0.000
						B	0.000	0.986		100.00	0.802	0.000
						C	0.000	0.986		100.00	0.802	0.000
L38 41.75-36.75	39.24	0.756	4	0.8649	19.923	A	0.000	19.923	19.923	100.00	18.917	0.000
						B	0.000	19.923		100.00	12.383	0.000
						C	0.000	19.923		100.00	12.383	0.000
L39 36.75-32.00	34.37	0.728	4	0.8535	19.279	A	0.000	19.279	19.279	100.00	17.065	0.000
						B	0.000	19.279		100.00	10.883	0.000
						C	0.000	19.279		100.00	10.883	0.000
L40 32.00-31.75	31.87	0.713	4	0.8471	1.024	A	0.000	1.024	1.024	100.00	0.902	0.000
						B	0.000	1.024		100.00	0.578	0.000
						C	0.000	1.024		100.00	0.578	0.000
L41 31.75-26.75	29.24	0.7	4	0.8398	20.675	A	0.000	20.675	20.675	100.00	18.015	0.000
						B	0.000	20.675		100.00	11.538	0.000
						C	0.000	20.675		100.00	11.538	0.000
L42 26.75-21.75	24.24	0.7	4	0.8242	21.050	A	0.000	21.050	21.050	100.00	17.949	0.000
						B	0.000	21.050		100.00	11.507	0.000
						C	0.000	21.050		100.00	11.507	0.000

Section Elevation ft	z ft	K _Z	q _z psf	t _z in	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L43 21.75-18.00	19.87	0.7	4	0.8080	16.032	A	0.000	16.032	16.032	100.00	16.035	0.000
						B	0.000	16.032	100.00	11.230	0.000	
						C	0.000	16.032	100.00	11.230	0.000	
L44 18.00-17.75	17.87	0.7	4	0.7995	1.076	A	0.000	1.076	1.076	100.00	1.154	0.000
						B	0.000	1.076	100.00	0.835	0.000	
						C	0.000	1.076	100.00	0.835	0.000	
L45 17.75-9.92	13.82	0.7	4	0.7791	34.172	A	0.000	34.172	34.172	100.00	36.262	0.000
						B	0.000	34.172	100.00	20.228	0.000	
						C	0.000	34.172	100.00	20.228	0.000	
L46 9.92-8.92	9.42	0.7	4	0.7498	4.364	A	0.000	4.364	4.364	100.00	3.538	0.000
						B	0.000	4.364	100.00	2.283	0.000	
						C	0.000	4.364	100.00	2.283	0.000	
L47 8.92-3.92	6.41	0.7	4	0.7216	22.005	A	0.000	22.005	22.005	100.00	17.458	0.000
						B	0.000	22.005	100.00	11.301	0.000	
						C	0.000	22.005	100.00	11.301	0.000	
L48 3.92-2.75	3.33	0.7	4	0.6759	5.196	A	0.000	5.196	5.196	100.00	4.045	0.000
						B	0.000	5.196	100.00	2.623	0.000	
						C	0.000	5.196	100.00	2.623	0.000	
L49 2.75-2.50	2.62	0.7	4	0.6599	1.112	A	0.000	1.112	1.112	100.00	0.861	0.000
						B	0.000	1.112	100.00	0.559	0.000	
						C	0.000	1.112	100.00	0.559	0.000	
L50 2.50-0.00	1.25	0.7	4	0.6126	11.154	A	0.000	11.154	11.154	100.00	8.518	0.000
						B	0.000	11.154	100.00	5.542	0.000	
						C	0.000	11.154	100.00	5.542	0.000	

Tower Pressure - Service

G_H = 1.100

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L1 175.00-170.00	172.48	1.155	9	9.706	A	0.000	9.706	9.706	100.00	0.000	0.000
					B	0.000	9.706	100.00	0.000	0.000	
					C	0.000	9.706	100.00	0.000	0.000	
L2 170.00-165.00	167.48	1.145	9	10.094	A	0.000	10.094	10.094	100.00	0.000	0.000
					B	0.000	10.094	100.00	0.000	0.000	
					C	0.000	10.094	100.00	0.000	0.000	
L3 165.00-160.00	162.48	1.135	9	10.482	A	0.000	10.482	10.482	100.00	1.188	0.000
					B	0.000	10.482	100.00	0.000	0.000	
					C	0.000	10.482	100.00	0.000	0.000	
L4 160.00-155.00	157.49	1.125	9	10.871	A	0.000	10.871	10.871	100.00	2.970	0.000
					B	0.000	10.871	100.00	0.000	0.000	
					C	0.000	10.871	100.00	0.000	0.000	
L5 155.00-145.50	150.20	1.11	9	21.724	A	0.000	21.724	21.724	100.00	7.130	0.000
					B	0.000	21.724	100.00	0.000	0.000	
					C	0.000	21.724	100.00	0.000	0.000	
L6 145.50-145.00	145.25	1.099	8	1.162	A	0.000	1.162	1.162	100.00	0.385	0.000
					B	0.000	1.162	100.00	0.000	0.000	
					C	0.000	1.162	100.00	0.000	0.000	
L7 145.00-140.00	142.49	1.093	8	11.833	A	0.000	11.833	11.833	100.00	3.845	0.000
					B	0.000	11.833	100.00	0.000	0.000	
					C	0.000	11.833	100.00	0.000	0.000	
L8 140.00-135.00	137.49	1.082	8	12.221	A	0.000	12.221	12.221	100.00	3.845	0.000
					B	0.000	12.221	100.00	0.000	0.000	
					C	0.000	12.221	100.00	0.000	0.000	
L9 135.00-130.00	132.49	1.071	8	12.609	A	0.000	12.609	12.609	100.00	3.845	0.000
					B	0.000	12.609	100.00	0.000	0.000	
					C	0.000	12.609	100.00	0.000	0.000	

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L10 130.00-125.00	127.49	1.059	8	12.997	A	0.000	12.997	12.997	100.00	3.845	0.000
					B	0.000	12.997	100.00	0.000	0.000	
					C	0.000	12.997	100.00	0.000	0.000	
L11 125.00-120.00	122.49	1.047	8	13.386	A	0.000	13.386	13.386	100.00	3.845	0.000
					B	0.000	13.386	100.00	0.000	0.000	
					C	0.000	13.386	100.00	0.000	0.000	
L12 120.00-115.00	117.49	1.035	8	13.774	A	0.000	13.774	13.774	100.00	3.845	0.000
					B	0.000	13.774	100.00	0.000	0.000	
					C	0.000	13.774	100.00	0.000	0.000	
L13 115.00-110.00	112.49	1.022	8	14.162	A	0.000	14.162	14.162	100.00	3.845	0.000
					B	0.000	14.162	100.00	0.000	0.000	
					C	0.000	14.162	100.00	0.000	0.000	
L14 110.00-105.00	107.49	1.009	8	14.550	A	0.000	14.550	14.550	100.00	3.845	0.000
					B	0.000	14.550	100.00	0.000	0.000	
					C	0.000	14.550	100.00	0.000	0.000	
L15 105.00-95.50	100.21	0.989	8	28.715	A	0.000	28.715	28.715	100.00	7.305	0.000
					B	0.000	28.715	100.00	0.000	0.000	
					C	0.000	28.715	100.00	0.000	0.000	
L16 95.50-94.50	95.00	0.974	8	3.048	A	0.000	3.048	3.048	100.00	0.769	0.000
					B	0.000	3.048	100.00	0.000	0.000	
					C	0.000	3.048	100.00	0.000	0.000	
L17 94.50-89.50	91.99	0.965	7	15.475	A	0.000	15.475	15.475	100.00	3.845	0.000
					B	0.000	15.475	100.00	0.000	0.000	
					C	0.000	15.475	100.00	0.000	0.000	
L18 89.50-84.50	86.99	0.95	7	15.863	A	0.000	15.863	15.863	100.00	5.015	0.000
					B	0.000	15.863	100.00	1.170	0.000	
					C	0.000	15.863	100.00	1.170	0.000	
L19 84.50-83.17	83.83	0.94	7	4.285	A	0.000	4.285	4.285	100.00	2.353	0.000
					B	0.000	4.285	100.00	1.330	0.000	
					C	0.000	4.285	100.00	1.330	0.000	
L20 83.17-82.92	83.04	0.937	7	0.809	A	0.000	0.809	0.809	100.00	0.442	0.000
					B	0.000	0.809	100.00	0.250	0.000	
					C	0.000	0.809	100.00	0.250	0.000	
L21 82.92-77.92	80.41	0.929	7	16.374	A	0.000	16.374	16.374	100.00	8.845	0.000
					B	0.000	16.374	100.00	5.000	0.000	
					C	0.000	16.374	100.00	5.000	0.000	
L22 77.92-72.92	75.41	0.912	7	16.762	A	0.000	16.762	16.762	100.00	8.845	0.000
					B	0.000	16.762	100.00	5.000	0.000	
					C	0.000	16.762	100.00	5.000	0.000	
L23 72.92-67.92	70.41	0.894	7	17.150	A	0.000	17.150	17.150	100.00	8.845	0.000
					B	0.000	17.150	100.00	5.000	0.000	
					C	0.000	17.150	100.00	5.000	0.000	
L24 67.92-65.50	66.71	0.88	7	8.440	A	0.000	8.440	8.440	100.00	4.281	0.000
					B	0.000	8.440	100.00	2.420	0.000	
					C	0.000	8.440	100.00	2.420	0.000	
L25 65.50-65.25	65.37	0.875	7	0.877	A	0.000	0.877	0.877	100.00	0.641	0.000
					B	0.000	0.877	100.00	0.449	0.000	
					C	0.000	0.877	100.00	0.449	0.000	
L26 65.25-64.00	64.62	0.872	7	4.400	A	0.000	4.400	4.400	100.00	3.207	0.000
					B	0.000	4.400	100.00	2.246	0.000	
					C	0.000	4.400	100.00	2.246	0.000	
L27 64.00-63.75	63.87	0.869	7	0.881	A	0.000	0.881	0.881	100.00	0.641	0.000
					B	0.000	0.881	100.00	0.449	0.000	
					C	0.000	0.881	100.00	0.449	0.000	
L28 63.75-58.75	61.24	0.859	7	17.826	A	0.000	17.826	17.826	100.00	12.828	0.000
					B	0.000	17.826	100.00	8.983	0.000	
					C	0.000	17.826	100.00	8.983	0.000	
L29 58.75-53.75	56.24	0.838	6	18.214	A	0.000	18.214	18.214	100.00	12.828	0.000
					B	0.000	18.214	100.00	8.983	0.000	
					C	0.000	18.214	100.00	8.983	0.000	
L30 53.75-46.58	50.15	0.811	6	26.799	A	0.000	26.799	26.799	100.00	18.396	0.000
					B	0.000	26.799	100.00	12.882	0.000	
					C	0.000	26.799	100.00	12.882	0.000	

Section Elevation ft	z ft	K _Z	q _z psf	A _G ft ²	F a c e	A _F ft ²	A _R ft ²	A _{leg} ft ²	Leg %	C _A A _A In Face ft ²	C _A A _A Out Face ft ²
L31 46.58-45.58	46.08	0.792	6	3.735	A	0.000	3.735	3.735	100.00	2.566	0.000
					B	0.000	3.735	100.00	1.797	0.000	
					C	0.000	3.735	100.00	1.797	0.000	
L32 45.58-43.00	44.29	0.783	6	9.709	A	0.000	9.709	9.709	100.00	8.840	0.000
					B	0.000	9.709	100.00	6.856	0.000	
					C	0.000	9.709	100.00	6.261	0.000	
L33 43.00-42.75	42.87	0.776	6	0.946	A	0.000	0.946	0.946	100.00	0.863	0.000
					B	0.000	0.946	100.00	0.671	0.000	
					C	0.000	0.946	100.00	0.671	0.000	
L34 42.75-42.50	42.62	0.775	6	0.947	A	0.000	0.947	0.947	100.00	0.863	0.000
					B	0.000	0.947	100.00	0.671	0.000	
					C	0.000	0.947	100.00	0.671	0.000	
L35 42.50-42.25	42.37	0.773	6	0.947	A	0.000	0.947	0.947	100.00	0.863	0.000
					B	0.000	0.947	100.00	0.671	0.000	
					C	0.000	0.947	100.00	0.671	0.000	
L36 42.25-42.00	42.12	0.772	6	0.948	A	0.000	0.948	0.948	100.00	0.863	0.000
					B	0.000	0.948	100.00	0.671	0.000	
					C	0.000	0.948	100.00	0.671	0.000	
L37 42.00-41.75	41.87	0.771	6	0.950	A	0.000	0.950	0.950	100.00	0.863	0.000
					B	0.000	0.950	100.00	0.671	0.000	
					C	0.000	0.950	100.00	0.671	0.000	
L38 41.75-36.75	39.24	0.756	6	19.202	A	0.000	19.202	19.202	100.00	14.283	0.000
					B	0.000	19.202	100.00	10.438	0.000	
					C	0.000	19.202	100.00	10.438	0.000	
L39 36.75-32.00	34.37	0.728	6	18.603	A	0.000	18.603	18.603	100.00	12.914	0.000
					B	0.000	18.603	100.00	9.261	0.000	
					C	0.000	18.603	100.00	9.261	0.000	
L40 32.00-31.75	31.87	0.713	5	0.988	A	0.000	0.988	0.988	100.00	0.685	0.000
					B	0.000	0.988	100.00	0.493	0.000	
					C	0.000	0.988	100.00	0.493	0.000	
L41 31.75-26.75	29.24	0.7	5	19.975	A	0.000	19.975	19.975	100.00	13.703	0.000
					B	0.000	19.975	100.00	9.858	0.000	
					C	0.000	19.975	100.00	9.858	0.000	
L42 26.75-21.75	24.24	0.7	5	20.363	A	0.000	20.363	20.363	100.00	13.703	0.000
					B	0.000	20.363	100.00	9.858	0.000	
					C	0.000	20.363	100.00	9.858	0.000	
L43 21.75-18.00	19.87	0.7	5	15.527	A	0.000	15.527	15.527	100.00	12.498	0.000
					B	0.000	15.527	100.00	9.615	0.000	
					C	0.000	15.527	100.00	9.615	0.000	
L44 18.00-17.75	17.87	0.7	5	1.043	A	0.000	1.043	1.043	100.00	0.907	0.000
					B	0.000	1.043	100.00	0.715	0.000	
					C	0.000	1.043	100.00	0.715	0.000	
L45 17.75-9.92	13.82	0.7	5	33.155	A	0.000	33.155	33.155	100.00	28.875	0.000
					B	0.000	33.155	100.00	17.437	0.000	
					C	0.000	33.155	100.00	17.437	0.000	
L46 9.92-8.92	9.42	0.7	5	4.234	A	0.000	4.234	4.234	100.00	2.741	0.000
					B	0.000	4.234	100.00	1.972	0.000	
					C	0.000	4.234	100.00	1.972	0.000	
L47 8.92-3.92	6.41	0.7	5	21.404	A	0.000	21.404	21.404	100.00	13.703	0.000
					B	0.000	21.404	100.00	9.858	0.000	
					C	0.000	21.404	100.00	9.858	0.000	
L48 3.92-2.75	3.33	0.7	5	5.065	A	0.000	5.065	5.065	100.00	3.207	0.000
					B	0.000	5.065	100.00	2.307	0.000	
					C	0.000	5.065	100.00	2.307	0.000	
L49 2.75-2.50	2.62	0.7	5	1.085	A	0.000	1.085	1.085	100.00	0.685	0.000
					B	0.000	1.085	100.00	0.493	0.000	
					C	0.000	1.085	100.00	0.493	0.000	
L50 2.50-0.00	1.25	0.7	5	10.899	A	0.000	10.899	10.899	100.00	6.852	0.000
					B	0.000	10.899	100.00	4.929	0.000	
					C	0.000	10.899	100.00	4.929	0.000	

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	175 - 170	Pole	Max Tension	3	0.00	-0.00	-0.00
			Max. Compression	26	-6.93	0.00	1.15
			Max. Mx	20	-3.12	17.62	0.26
			Max. My	2	-3.10	0.00	18.52

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L2	170 - 165	Pole	Max. Vy	20	-4.48	17.62	0.26
			Max. Vx	2	-4.59	0.00	18.52
			Max. Torque	8			1.04
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-7.44	0.01	1.16
			Max. Mx	20	-3.45	41.01	0.27
			Max. My	2	-3.43	0.01	42.45
			Max. Vy	20	-4.88	41.01	0.27
			Max. Vx	2	-4.99	0.01	42.45
			Max. Torque	8			1.04
L3	165 - 160	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-13.84	-0.15	1.36
			Max. Mx	8	-6.82	-72.71	0.31
			Max. My	2	-6.79	0.06	74.82
			Max. Vy	20	-8.42	72.63	0.47
			Max. Vx	2	-8.56	0.06	74.82
			Max. Torque	8			1.04
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-14.48	-0.07	1.41
			Max. Mx	8	-7.23	-115.81	0.14
L4	160 - 155	Pole	Max. My	2	-7.19	0.26	118.76
			Max. Vy	20	-8.83	115.77	0.67
			Max. Vx	2	-9.02	0.26	118.76
			Max. Torque	8			0.97
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-20.10	0.32	1.33
			Max. Mx	20	-10.66	172.12	0.79
			Max. My	2	-10.61	0.54	175.94
			Max. Vy	20	-12.00	172.12	0.79
			Max. Vx	2	-12.23	0.54	175.94
L5	155 - 145.5	Pole	Max. Torque	8			0.97
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-21.45	0.44	1.41
			Max. Mx	20	-11.61	233.34	0.95
			Max. My	2	-11.56	0.71	238.40
			Max. Vy	20	-12.48	233.34	0.95
			Max. Vx	2	-12.75	0.71	238.40
			Max. Torque	8			0.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.85	0.57	1.49
L6	145.5 - 145	Pole	Max. Mx	20	-15.81	308.75	1.12
			Max. My	2	-15.75	0.89	315.30
			Max. Vy	20	-15.89	308.75	1.12
			Max. Vx	2	-16.21	0.89	315.30
			Max. Torque	8			0.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-29.78	0.69	1.58
			Max. Mx	20	-16.51	389.26	1.29
			Max. My	2	-16.45	1.07	397.50
			Max. Vy	20	-16.31	389.26	1.29
L7	145 - 140	Pole	Max. Vx	2	-16.67	1.07	397.50
			Max. Torque	8			0.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.74	0.83	1.67
			Max. Mx	20	-17.23	471.90	1.46
			Max. My	2	-17.17	1.25	482.00
			Max. Vy	20	-16.74	471.90	1.46
			Max. Vx	2	-17.13	1.25	482.00
			Max. Torque	8			0.88
			Max Tension	1	0.00	0.00	0.00
L8	140 - 135	Pole	Max. Compression	26	-29.78	0.69	1.58
			Max. Mx	20	-16.51	389.26	1.29
			Max. My	2	-16.45	1.07	397.50
			Max. Vy	20	-16.31	389.26	1.29
			Max. Vx	2	-16.67	1.07	397.50
			Max. Torque	8			0.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.71	0.96	1.76
			Max. Mx	20	-17.99	556.65	1.63
			Max. My	2	-17.92	1.43	568.77
L9	135 - 130	Pole	Max. Vy	20	-17.16	556.65	1.63
			Max. Vx	2	-17.58	1.43	568.77
			Max. Torque	8			0.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.71	0.96	1.76
			Max. Mx	20	-17.99	556.65	1.63
			Max. My	2	-17.92	1.43	568.77
			Max. Vy	20	-17.16	556.65	1.63
			Max. Vx	2	-17.58	1.43	568.77
			Max. Torque	8			0.88
L10	130 - 125	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.71	0.96	1.76
			Max. Mx	20	-17.99	556.65	1.63
			Max. My	2	-17.92	1.43	568.77
			Max. Vy	20	-17.16	556.65	1.63
			Max. Vx	2	-17.58	1.43	568.77
			Max. Torque	8			0.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.71	0.96	1.76
			Max. Mx	20	-17.99	556.65	1.63

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L11	125 - 120	Pole	Max. Torque	8			0.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.71	1.10	1.85
			Max. Mx	20	-18.77	643.51	1.80
			Max. My	2	-18.70	1.61	657.78
			Max. Vy	20	-17.58	643.51	1.80
			Max. Vx	2	-18.03	1.61	657.78
L12	120 - 115	Pole	Max. Torque	8			0.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.74	1.23	1.94
			Max. Mx	20	-19.57	732.49	1.97
			Max. My	2	-19.51	1.80	749.01
			Max. Vy	20	-18.01	732.49	1.97
			Max. Vx	2	-18.47	1.80	749.01
L13	115 - 110	Pole	Max. Torque	8			0.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-34.78	1.37	2.03
			Max. Mx	20	-20.40	823.56	2.13
			Max. My	2	-20.34	1.98	842.43
			Max. Vy	20	-18.43	823.56	2.13
			Max. Vx	2	-18.91	1.98	842.43
L14	110 - 105	Pole	Max. Torque	8			0.88
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.85	1.52	2.12
			Max. Mx	20	-21.25	916.73	2.30
			Max. My	2	-21.20	2.17	938.00
			Max. Vy	20	-18.84	916.73	2.30
			Max. Vx	2	-19.34	2.17	938.00
L15	105 - 95.5	Pole	Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.72	1.63	2.19
			Max. Mx	20	-21.95	992.75	2.44
			Max. My	2	-21.90	2.32	1015.99
			Max. Vy	20	-19.17	992.75	2.44
			Max. Vx	2	-19.67	2.32	1015.99
L16	95.5 - 94.5	Pole	Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.36	1.82	2.31
			Max. Mx	20	-24.03	1119.54	2.65
			Max. My	2	-23.98	2.56	1146.01
			Max. Vy	20	-19.82	1119.54	2.65
			Max. Vx	2	-20.33	2.56	1146.01
L17	94.5 - 89.5	Pole	Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.63	1.97	2.40
			Max. Mx	20	-25.08	1219.70	2.82
			Max. My	2	-25.03	2.75	1248.68
			Max. Vy	20	-20.24	1219.70	2.82
			Max. Vx	2	-20.75	2.75	1248.68
L18	89.5 - 84.5	Pole	Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41.94	2.11	2.48
			Max. Mx	20	-26.15	1321.93	2.99
			Max. My	2	-26.11	2.93	1353.45
			Max. Vy	20	-20.65	1321.93	2.99
			Max. Vx	2	-21.17	2.93	1353.45
L19	84.5 - 83.17	Pole	Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.32	2.14	2.50
			Max. Mx	20	-26.44	1349.48	3.03
			Max. My	2	-26.40	2.98	1381.67
			Max. Vy	20	-20.77	1349.48	3.03
			Max. Vx	2	-21.29	2.98	1381.67
			Max. Torque	8			0.87

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L20	83.17 - 82.92	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.39	2.15	2.51
			Max. Mx	20	-26.51	1354.67	3.04
			Max. My	2	-26.46	2.99	1387.00
			Max. Vy	20	-20.79	1354.67	3.04
			Max. Vx	2	-21.33	2.99	1387.00
			Max. Torque	8			0.87
L21	82.92 - 77.92	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.81	2.29	2.58
			Max. Mx	20	-27.61	1459.60	3.21
			Max. My	2	-27.57	3.18	1494.61
			Max. Vy	20	-21.19	1459.60	3.21
			Max. Vx	2	-21.75	3.18	1494.61
			Max. Torque	8			0.87
L22	77.92 - 72.92	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.25	2.43	2.66
			Max. Mx	20	-28.75	1566.54	3.38
			Max. My	2	-28.70	3.37	1604.37
			Max. Vy	20	-21.59	1566.54	3.38
			Max. Vx	2	-22.17	3.37	1604.37
			Max. Torque	8			0.87
L23	72.92 - 67.92	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.72	2.57	2.74
			Max. Mx	20	-29.91	1675.47	3.54
			Max. My	2	-29.87	3.56	1716.24
			Max. Vy	20	-21.98	1675.47	3.54
			Max. Vx	2	-22.59	3.56	1716.24
			Max. Torque	8			0.87
L24	67.92 - 65.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.44	2.64	2.78
			Max. Mx	20	-30.48	1728.90	3.62
			Max. My	2	-30.44	3.65	1771.13
			Max. Vy	20	-22.17	1728.90	3.62
			Max. Vx	2	-22.79	3.65	1771.13
			Max. Torque	8			0.87
L25	65.5 - 65.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.52	2.65	2.79
			Max. Mx	20	-30.55	1734.44	3.63
			Max. My	2	-30.51	3.66	1776.83
			Max. Vy	20	-22.20	1734.44	3.63
			Max. Vx	2	-22.82	3.66	1776.83
			Max. Torque	8			0.87
L26	65.25 - 64	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.92	2.68	2.81
			Max. Mx	20	-30.83	1762.24	3.67
			Max. My	2	-30.80	3.71	1805.39
			Max. Vy	20	-22.29	1762.24	3.67
			Max. Vx	2	-22.91	3.71	1805.39
			Max. Torque	8			0.87
L27	64 - 63.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.03	2.69	2.82
			Max. Mx	20	-30.93	1767.81	3.68
			Max. My	2	-30.90	3.72	1811.12
			Max. Vy	20	-22.31	1767.81	3.68
			Max. Vx	2	-22.95	3.72	1811.12
			Max. Torque	8			0.87
L28	63.75 - 58.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.24	2.83	2.90
			Max. Mx	20	-32.72	1880.46	3.84
			Max. My	2	-32.68	3.91	1926.88

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L29	58.75 - 53.75	Pole	Max. Vy	20	-22.75	1880.46	3.84
			Max. Vx	2	-23.39	3.91	1926.88
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.48	2.98	2.98
			Max. Mx	20	-34.53	1995.31	4.01
			Max. My	2	-34.50	4.10	2044.92
			Max. Vy	20	-23.19	1995.31	4.01
			Max. Vx	2	-23.84	4.10	2044.92
			Max. Torque	8			0.87
L30	53.75 - 46.58	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-52.82	3.01	2.99
			Max. Mx	20	-34.80	2012.73	4.04
			Max. My	2	-34.77	4.13	2062.82
			Max. Vy	20	-23.25	2012.73	4.04
			Max. Vx	2	-23.90	4.13	2062.82
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.77	3.23	3.12
			Max. Mx	20	-39.77	2188.02	4.28
L31	46.58 - 45.58	Pole	Max. My	2	-39.75	4.41	2242.95
			Max. Vy	20	-23.98	2188.02	4.28
			Max. Vx	2	-24.64	4.41	2242.95
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.03	3.31	3.17
			Max. Mx	20	-40.78	2250.14	4.37
			Max. My	2	-40.75	4.51	2306.87
			Max. Vy	8	24.25	-2247.73	-2.12
			Max. Vx	2	-24.92	4.51	2306.87
L32	45.58 - 43	Pole	Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.17	3.32	3.18
			Max. Mx	20	-40.89	2256.19	4.38
			Max. My	2	-40.86	4.52	2313.11
			Max. Vy	8	24.28	-2253.79	-2.12
			Max. Vx	2	-24.96	4.52	2313.11
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.30	3.33	3.19
L33	43 - 42.75	Pole	Max. Mx	20	-41.00	2262.25	4.39
			Max. My	2	-40.97	4.53	2319.34
			Max. Vy	8	24.31	-2259.86	-2.13
			Max. Vx	2	-24.99	4.53	2319.34
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.44	3.34	3.19
			Max. Mx	20	-41.11	2268.31	4.39
			Max. My	2	-41.09	4.54	2325.59
			Max. Vy	8	24.33	-2265.93	-2.13
L34	42.75 - 42.5	Pole	Max. Vx	2	-25.02	4.54	2325.59
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.58	3.35	3.20
			Max. Mx	20	-41.23	2274.38	4.40
			Max. My	2	-41.20	4.55	2331.84
			Max. Vy	8	24.36	-2272.01	-2.14
			Max. Vx	2	-25.04	4.55	2331.84
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
L35	42.5 - 42.25	Pole	Max. Compression	26	-60.71	3.35	3.20
			Max. Mx	20	-41.33	2280.46	4.41
			Max. My	2			
			Max. Vy	8			
L36	42.25 - 42	Pole	Max. Vy	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.71	3.35	3.20
			Max. Mx	20	-41.33	2280.46	4.41
			Max. My	2			
			Max. Vy	8			
			Max. Vx	2			
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.71	3.35	3.20
L37	42 - 41.75	Pole	Max. Mx	20			
			Max. My	2			
			Max. Vy	8			
			Max. Vx	2			

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L38	41.75 - 36.75	Pole	Max. My	2	-41.31	4.56	2338.10
			Max. Vy	8	24.39	-2278.09	-2.14
			Max. Vx	2	-25.07	4.56	2338.10
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.21	3.50	3.28
			Max. Mx	20	-43.38	2403.00	4.58
			Max. My	2	-43.36	4.75	2464.61
			Max. Vy	8	24.77	-2400.84	-2.23
			Max. Vx	2	-25.56	4.75	2464.61
L39	36.75 - 32	Pole	Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.60	3.65	3.37
			Max. Mx	20	-45.36	2521.16	4.73
			Max. My	2	-45.34	4.93	2586.84
			Max. Vy	8	25.12	-2519.19	-2.32
			Max. Vx	2	-25.92	4.93	2586.84
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.73	3.66	3.37
L40	32 - 31.75	Pole	Max. Mx	20	-45.48	2527.43	4.74
			Max. My	2	-45.46	4.94	2593.33
			Max. Vy	8	25.14	-2525.47	-2.32
			Max. Vx	2	-25.95	4.94	2593.33
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-68.39	3.81	3.46
			Max. Mx	20	-47.71	2653.68	4.91
			Max. My	2	-47.69	5.14	2723.89
			Max. Vy	8	25.49	-2651.92	-2.41
L41	31.75 - 26.75	Pole	Max. Vx	2	-26.30	5.14	2723.89
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-71.07	3.97	3.55
			Max. Mx	20	-49.97	2781.71	5.07
			Max. My	2	-49.95	5.33	2856.25
			Max. Vy	8	25.85	-2780.15	-2.50
			Max. Vx	2	-26.66	5.33	2856.25
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
L42	26.75 - 21.75	Pole	Max. Compression	26	-73.14	4.08	3.61
			Max. Mx	20	-51.68	2878.92	5.20
			Max. My	2	-51.66	5.47	2956.89
			Max. Vy	8	26.12	-2877.50	-2.56
			Max. Vx	2	-27.02	5.47	2956.89
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.28	4.09	3.62
			Max. Mx	20	-51.80	2885.43	5.20
			Max. My	2	-51.79	5.48	2963.65
L43	21.75 - 18	Pole	Max. Vy	8	26.14	-2884.03	-2.57
			Max. Vx	2	-27.05	5.48	2963.65
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.69	4.12	3.63
			Max. Mx	20	-52.14	2905.01	5.23
			Max. My	2	-52.13	5.51	2983.95
			Max. Vy	8	26.19	-2903.64	-2.58
			Max. Vx	2	-27.10	5.51	2983.95
			Max. Torque	8			0.87
L44	18 - 17.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-81.65	4.45	3.75
			Max. Mx	20	-51.80	2885.43	5.20
			Max. My	2	-51.79	5.48	2963.65
			Max. Vy	8	26.14	-2884.03	-2.57
			Max. Vx	2	-27.05	5.48	2963.65
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.69	4.12	3.63
			Max. Mx	20	-52.14	2905.01	5.23
L45	17.75 - 9.92	Pole	Max. My	2	-52.13	5.51	2983.95
			Max. Vy	8	26.19	-2903.64	-2.58
			Max. Vx	2	-27.10	5.51	2983.95
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-81.65	4.45	3.75
			Max. Mx	20	-51.80	2885.43	5.20
			Max. My	2	-51.79	5.48	2963.65
			Max. Vy	8	26.14	-2884.03	-2.57
			Max. Vx	2	-27.05	5.48	2963.65
L46	9.92 - 8.92	Pole	Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-81.65	4.45	3.75

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L47	8.92 - 3.92	Pole	Max. Mx	20	-59.02	3118.95	5.50
			Max. My	2	-59.02	5.83	3205.65
			Max. Vy	8	26.87	-3117.88	-2.72
			Max. Vx	14	27.84	-2.39	-3200.16
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-84.44	4.61	3.81
			Max. Mx	20	-61.46	3253.79	5.66
			Max. My	2	-61.46	6.02	3345.28
			Max. Vy	8	27.20	-3252.91	-2.81
L48	3.92 - 2.75	Pole	Max. Vx	14	28.17	-2.44	-3340.07
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.09	4.65	3.83
			Max. Mx	20	-62.03	3285.58	5.70
			Max. My	2	-62.03	6.07	3378.18
			Max. Vy	8	27.28	-3284.75	-2.83
			Max. Vx	14	28.25	-2.46	-3373.04
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
L49	2.75 - 2.5	Pole	Max. Compression	26	-85.23	4.66	3.83
			Max. Mx	20	-62.16	3292.39	5.71
			Max. My	2	-62.16	6.08	3385.23
			Max. Vy	8	27.28	-3291.56	-2.83
			Max. Vx	14	28.25	-2.46	-3380.10
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.58	4.73	3.86
			Max. Mx	20	-63.36	3360.67	5.79
			Max. My	2	-63.35	6.17	3455.89
L50	2.5 - 0	Pole	Max. Vy	8	27.47	-3359.94	-2.87
			Max. Vx	14	28.43	-2.49	-3450.91
			Max. Torque	8			0.87
			Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-86.58	4.73	3.86
			Max. Mx	20	-63.36	3360.67	5.79
			Max. My	2	-63.35	6.17	3455.89
			Max. Vy	8	27.47	-3359.94	-2.87
			Max. Vx	14	28.43	-2.49	-3450.91
			Max. Torque	8			0.87

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	86.58	-0.00	-0.00
	Max. H _x	20	63.36	27.38	0.02
	Max. H _z	2	63.36	0.02	28.34
	Max. M _x	2	3455.89	0.02	28.34
	Max. M _z	8	3359.94	-27.45	-0.02
	Max. Torsion	8	0.87	-27.45	-0.02
	Min. Vert	3	47.52	0.02	28.34
	Min. H _x	8	63.36	-27.45	-0.02
	Min. H _z	14	63.36	-0.02	-28.41
	Min. M _x	14	-3450.91	-0.02	-28.41
	Min. M _z	20	-3360.67	27.38	0.02
	Min. Torsion	20	-0.87	27.38	0.02

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturing Moment, M _x kip-ft	Overturing Moment, M _z kip-ft	Torque kip-ft
Dead Only	52.80	-0.00	-0.00	-1.15	1.46	0.00

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
1.2 Dead+1.0 Wind 0 deg - No Ice	63.36	-0.02	-28.34	-3455.89	6.17	0.05
0.9 Dead+1.0 Wind 0 deg - No Ice	47.52	-0.02	-28.34	-3412.02	5.63	0.05
1.2 Dead+1.0 Wind 30 deg - No Ice	63.36	13.93	-24.24	-2958.77	-1693.12	-0.40
0.9 Dead+1.0 Wind 30 deg - No Ice	47.52	13.93	-24.24	-2921.15	-1672.29	-0.39
1.2 Dead+1.0 Wind 60 deg - No Ice	63.36	24.02	-13.90	-1691.11	-2911.83	-0.74
0.9 Dead+1.0 Wind 60 deg - No Ice	47.52	24.02	-13.90	-1669.44	-2875.65	-0.73
1.2 Dead+1.0 Wind 90 deg - No Ice	63.36	27.45	0.02	2.87	-3359.94	-0.87
0.9 Dead+1.0 Wind 90 deg - No Ice	47.52	27.45	0.02	3.19	-3318.02	-0.86
1.2 Dead+1.0 Wind 120 deg - No Ice	63.36	23.98	13.92	1696.88	-2918.20	-0.77
0.9 Dead+1.0 Wind 120 deg - No Ice	47.52	23.98	13.92	1675.86	-2881.95	-0.77
1.2 Dead+1.0 Wind 150 deg - No Ice	63.36	13.75	23.88	2929.48	-1682.89	-0.47
0.9 Dead+1.0 Wind 150 deg - No Ice	47.52	13.75	23.88	2892.89	-1662.14	-0.47
1.2 Dead+1.0 Wind 180 deg - No Ice	63.36	0.02	28.41	3450.91	-2.49	-0.05
0.9 Dead+1.0 Wind 180 deg - No Ice	47.52	0.02	28.41	3407.82	-2.90	-0.05
1.2 Dead+1.0 Wind 210 deg - No Ice	63.36	-13.93	24.24	2955.83	1696.79	0.38
0.9 Dead+1.0 Wind 210 deg - No Ice	47.52	-13.93	24.24	2918.99	1675.01	0.38
1.2 Dead+1.0 Wind 240 deg - No Ice	63.36	-23.96	13.87	1689.33	2917.48	0.72
0.9 Dead+1.0 Wind 240 deg - No Ice	47.52	-23.96	13.87	1668.42	2880.33	0.71
1.2 Dead+1.0 Wind 270 deg - No Ice	63.36	-27.38	-0.02	-5.79	3360.67	0.87
0.9 Dead+1.0 Wind 270 deg - No Ice	47.52	-27.38	-0.02	-5.34	3317.80	0.86
1.2 Dead+1.0 Wind 300 deg - No Ice	63.36	-24.04	-13.95	-1698.53	2919.71	0.79
0.9 Dead+1.0 Wind 300 deg - No Ice	47.52	-24.04	-13.95	-1676.76	2882.51	0.78
1.2 Dead+1.0 Wind 330 deg - No Ice	63.36	-13.71	-23.82	-2929.85	1685.11	0.49
0.9 Dead+1.0 Wind 330 deg - No Ice	47.52	-13.71	-23.82	-2892.50	1663.40	0.48
1.2 Dead+1.0 Ice+1.0 Temp	86.58	0.00	0.00	-3.86	4.73	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	86.58	-0.00	-7.17	-928.26	5.52	-0.01
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	86.58	3.57	-6.21	-804.03	-454.72	-0.12
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	86.58	6.19	-3.58	-465.59	-791.88	-0.19
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	86.58	7.15	0.00	-3.41	-915.41	-0.21
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	86.58	6.20	3.59	458.64	-792.54	-0.18
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	86.58	3.58	6.21	796.59	-455.79	-0.09
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	86.58	0.00	7.17	920.17	4.29	0.01
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	86.58	-3.57	6.21	795.97	464.53	0.12

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	86.58	-6.19	3.58	457.56	801.71	0.19
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	86.58	-7.15	-0.00	-4.64	925.19	0.21
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	86.58	-6.20	-3.59	-466.65	802.28	0.18
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	86.58	-3.58	-6.21	-804.62	465.58	0.10
Dead+Wind 0 deg - Service	52.80	-0.01	-7.27	-880.88	2.62	0.00
Dead+Wind 30 deg - Service	52.80	3.57	-6.22	-754.16	-430.03	-0.11
Dead+Wind 60 deg - Service	52.80	6.16	-3.57	-431.40	-740.30	-0.19
Dead+Wind 90 deg - Service	52.80	7.04	0.01	-0.11	-854.45	-0.22
Dead+Wind 120 deg - Service	52.80	6.15	3.57	431.19	-741.93	-0.19
Dead+Wind 150 deg - Service	52.80	3.53	6.12	745.01	-427.42	-0.11
Dead+Wind 180 deg - Service	52.80	0.01	7.29	877.93	0.42	-0.00
Dead+Wind 210 deg - Service	52.80	-3.57	6.22	751.74	433.08	0.11
Dead+Wind 240 deg - Service	52.80	-6.14	3.56	429.26	743.86	0.19
Dead+Wind 270 deg - Service	52.80	-7.02	-0.01	-2.31	856.74	0.22
Dead+Wind 300 deg - Service	52.80	-6.16	-3.58	-433.29	744.42	0.19
Dead+Wind 330 deg - Service	52.80	-3.52	-6.11	-746.78	430.09	0.11

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.00	-52.80	0.00	0.00	52.80	0.00	0.000%
2	-0.02	-63.36	-28.34	0.02	63.36	28.34	0.005%
3	-0.02	-47.52	-28.34	0.02	47.52	28.34	0.007%
4	13.93	-63.36	-24.24	-13.93	63.36	24.24	0.000%
5	13.93	-47.52	-24.24	-13.93	47.52	24.24	0.000%
6	24.02	-63.36	-13.90	-24.02	63.36	13.90	0.000%
7	24.02	-47.52	-13.90	-24.02	47.52	13.90	0.000%
8	27.45	-63.36	0.02	-27.45	63.36	-0.02	0.003%
9	27.45	-47.52	0.02	-27.45	47.52	-0.02	0.004%
10	23.98	-63.36	13.92	-23.98	63.36	-13.92	0.000%
11	23.98	-47.52	13.92	-23.98	47.52	-13.92	0.000%
12	13.75	-63.36	23.88	-13.75	63.36	-23.88	0.000%
13	13.75	-47.52	23.88	-13.75	47.52	-23.88	0.000%
14	0.02	-63.36	28.42	-0.02	63.36	-28.41	0.005%
15	0.02	-47.52	28.42	-0.02	47.52	-28.41	0.007%
16	-13.93	-63.36	24.24	13.93	63.36	-24.24	0.000%
17	-13.93	-47.52	24.24	13.93	47.52	-24.24	0.000%
18	-23.96	-63.36	13.87	23.96	63.36	-13.87	0.000%
19	-23.96	-47.52	13.87	23.96	47.52	-13.87	0.000%
20	-27.39	-63.36	-0.02	27.38	63.36	0.02	0.003%
21	-27.39	-47.52	-0.02	27.38	47.52	0.02	0.004%
22	-24.04	-63.36	-13.95	24.04	63.36	13.95	0.000%
23	-24.04	-47.52	-13.95	24.04	47.52	13.95	0.000%
24	-13.71	-63.36	-23.82	13.71	63.36	23.82	0.000%
25	-13.71	-47.52	-23.82	13.71	47.52	23.82	0.000%
26	0.00	-86.58	0.00	-0.00	86.58	-0.00	0.000%
27	-0.00	-86.58	-7.17	0.00	86.58	7.17	0.000%
28	3.57	-86.58	-6.21	-3.57	86.58	6.21	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
29	6.19	-86.58	-3.58	-6.19	86.58	3.58	0.000%
30	7.15	-86.58	0.00	-7.15	86.58	-0.00	0.000%
31	6.20	-86.58	3.59	-6.20	86.58	-3.59	0.000%
32	3.58	-86.58	6.21	-3.58	86.58	-6.21	0.000%
33	0.00	-86.58	7.17	-0.00	86.58	-7.17	0.000%
34	-3.57	-86.58	6.21	3.57	86.58	-6.21	0.000%
35	-6.19	-86.58	3.58	6.19	86.58	-3.58	0.000%
36	-7.15	-86.58	-0.00	7.15	86.58	0.00	0.000%
37	-6.20	-86.58	-3.59	6.20	86.58	3.59	0.000%
38	-3.58	-86.58	-6.21	3.58	86.58	6.21	0.000%
39	-0.01	-52.80	-7.27	0.01	52.80	7.27	0.002%
40	3.57	-52.80	-6.22	-3.57	52.80	6.22	0.002%
41	6.16	-52.80	-3.57	-6.16	52.80	3.57	0.002%
42	7.04	-52.80	0.01	-7.04	52.80	-0.01	0.002%
43	6.15	-52.80	3.57	-6.15	52.80	-3.57	0.002%
44	3.53	-52.80	6.12	-3.53	52.80	-6.12	0.002%
45	0.01	-52.80	7.29	-0.01	52.80	-7.29	0.002%
46	-3.57	-52.80	6.22	3.57	52.80	-6.22	0.002%
47	-6.15	-52.80	3.56	6.14	52.80	-3.56	0.002%
48	-7.02	-52.80	-0.01	7.02	52.80	0.01	0.002%
49	-6.17	-52.80	-3.58	6.16	52.80	3.58	0.002%
50	-3.52	-52.80	-6.11	3.52	52.80	6.11	0.002%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	6	0.00000001	0.00000001
2	Yes	19	0.00006413	0.00011968
3	Yes	18	0.00007505	0.00012761
4	Yes	25	0.00000001	0.00012673
5	Yes	25	0.00000001	0.00009157
6	Yes	25	0.00000001	0.00012638
7	Yes	25	0.00000001	0.00009152
8	Yes	20	0.00003644	0.00009502
9	Yes	19	0.00004235	0.00011716
10	Yes	25	0.00000001	0.00012368
11	Yes	25	0.00000001	0.00008948
12	Yes	25	0.00000001	0.00012689
13	Yes	25	0.00000001	0.00009190
14	Yes	19	0.00006413	0.00011999
15	Yes	18	0.00007506	0.00012892
16	Yes	25	0.00000001	0.00012862
17	Yes	25	0.00000001	0.00009298
18	Yes	25	0.00000001	0.00012300
19	Yes	25	0.00000001	0.00008898
20	Yes	20	0.00003643	0.00010509
21	Yes	19	0.00004235	0.00013234
22	Yes	25	0.00000001	0.00012783
23	Yes	25	0.00000001	0.00009250
24	Yes	25	0.00000001	0.00012522
25	Yes	25	0.00000001	0.00009052
26	Yes	13	0.00000001	0.00013405
27	Yes	24	0.00000001	0.00010219
28	Yes	24	0.00000001	0.00010681
29	Yes	24	0.00000001	0.00010628
30	Yes	24	0.00000001	0.00010041
31	Yes	24	0.00000001	0.00010546
32	Yes	24	0.00000001	0.00010572
33	Yes	24	0.00000001	0.00010080
34	Yes	24	0.00000001	0.00010632
35	Yes	24	0.00000001	0.00010635
36	Yes	24	0.00000001	0.00010154
37	Yes	24	0.00000001	0.00010752
38	Yes	24	0.00000001	0.00010775
39	Yes	18	0.00009095	0.00004958
40	Yes	18	0.00009088	0.00014080
41	Yes	18	0.00009088	0.00014576
42	Yes	18	0.00009099	0.00005041
43	Yes	18	0.00009087	0.00013601
44	Yes	18	0.00009089	0.00014387
45	Yes	18	0.00009094	0.00004936
46	Yes	18	0.00009086	0.00014689
47	Yes	18	0.00009087	0.00013570
48	Yes	18	0.00009099	0.00005081
49	Yes	18	0.00009089	0.00014786
50	Yes	18	0.00009091	0.00013999

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	175 - 170	26.853	39	1.4480	0.0032
L2	170 - 165	25.337	39	1.4454	0.0029
L3	165 - 160	23.828	39	1.4355	0.0025
L4	160 - 155	22.333	39	1.4192	0.0021
L5	155 - 145.5	20.860	39	1.3943	0.0018
L6	150 - 145	19.416	39	1.3606	0.0016

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L7	145 - 140	18.001	39	1.3407	0.0015
L8	140 - 135	16.617	39	1.3023	0.0013
L9	135 - 130	15.276	39	1.2572	0.0012
L10	130 - 125	13.986	39	1.2066	0.0011
L11	125 - 120	12.751	39	1.1515	0.0009
L12	120 - 115	11.576	39	1.0926	0.0008
L13	115 - 110	10.464	39	1.0307	0.0007
L14	110 - 105	9.418	39	0.9663	0.0007
L15	105 - 95.5	8.441	39	0.8998	0.0006
L16	101 - 94.5	7.709	39	0.8455	0.0005
L17	94.5 - 89.5	6.587	39	0.7976	0.0005
L18	89.5 - 84.5	5.785	39	0.7355	0.0004
L19	84.5 - 83.17	5.047	39	0.6730	0.0004
L20	83.17 - 82.92	4.862	39	0.6564	0.0003
L21	82.92 - 77.92	4.828	39	0.6533	0.0003
L22	77.92 - 72.92	4.177	39	0.5903	0.0003
L23	72.92 - 67.92	3.591	39	0.5272	0.0003
L24	67.92 - 65.5	3.072	39	0.4641	0.0002
L25	65.5 - 65.25	2.845	39	0.4336	0.0002
L26	65.25 - 64	2.822	39	0.4304	0.0002
L27	64 - 63.75	2.712	39	0.4148	0.0002
L28	63.75 - 58.75	2.690	39	0.4129	0.0002
L29	58.75 - 53.75	2.278	39	0.3745	0.0002
L30	53.75 - 46.58	1.906	39	0.3362	0.0001
L31	53 - 45.58	1.853	39	0.3304	0.0001
L32	45.58 - 43	1.362	39	0.2977	0.0001
L33	43 - 42.75	1.207	39	0.2778	0.0001
L34	42.75 - 42.5	1.192	39	0.2760	0.0001
L35	42.5 - 42.25	1.178	39	0.2743	0.0001
L36	42.25 - 42	1.164	39	0.2727	0.0001
L37	42 - 41.75	1.150	39	0.2711	0.0001
L38	41.75 - 36.75	1.135	39	0.2693	0.0001
L39	36.75 - 32	0.872	39	0.2330	0.0001
L40	32 - 31.75	0.658	39	0.1982	0.0001
L41	31.75 - 26.75	0.648	39	0.1965	0.0001
L42	26.75 - 21.75	0.460	39	0.1621	0.0001
L43	21.75 - 18	0.308	39	0.1280	0.0000
L44	18 - 17.75	0.217	39	0.1027	0.0000
L45	17.75 - 9.92	0.212	39	0.1010	0.0000
L46	17 - 8.92	0.197	39	0.0960	0.0000
L47	8.92 - 3.92	0.058	39	0.0637	0.0000
L48	3.92 - 2.75	0.011	39	0.0270	0.0000
L49	2.75 - 2.5	0.005	39	0.0186	0.0000
L50	2.5 - 0	0.004	39	0.0169	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
173.00	(2) ADA-85408580CF w/ Mount Pipe	39	26.246	1.4475	0.0031	44877
162.00	HPA-65R-BUU-H6 w/ Mount Pipe	39	22.929	1.4264	0.0023	16781
154.00	MX08FRO665-21 w/ Mount Pipe	39	20.568	1.3874	0.0018	9773
144.00	AIR6449 B41_T-MOBILE w/ Mount Pipe	39	17.721	1.3348	0.0014	9012

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	175 - 170	105.492	2	5.6911	0.0126
L2	170 - 165	99.545	2	5.6814	0.0115
L3	165 - 160	93.622	2	5.6435	0.0099
L4	160 - 155	87.752	2	5.5803	0.0084
L5	155 - 145.5	81.966	2	5.4835	0.0072
L6	150 - 145	76.297	2	5.3517	0.0062
L7	145 - 140	70.737	2	5.2739	0.0058
L8	140 - 135	65.299	2	5.1230	0.0052
L9	135 - 130	60.031	2	4.9458	0.0047
L10	130 - 125	54.961	2	4.7469	0.0042
L11	125 - 120	50.107	2	4.5300	0.0038
L12	120 - 115	45.488	2	4.2983	0.0033
L13	115 - 110	41.118	2	4.0545	0.0030
L14	110 - 105	37.007	2	3.8008	0.0026
L15	105 - 95.5	33.166	2	3.5393	0.0023
L16	101 - 94.5	30.292	2	3.3255	0.0021
L17	94.5 - 89.5	25.881	2	3.1366	0.0019
L18	89.5 - 84.5	22.725	2	2.8923	0.0016
L19	84.5 - 83.17	19.827	2	2.6459	0.0014
L20	83.17 - 82.92	19.099	2	2.5808	0.0014
L21	82.92 - 77.92	18.964	2	2.5684	0.0014
L22	77.92 - 72.92	16.405	2	2.3205	0.0012
L23	72.92 - 67.92	14.106	2	2.0721	0.0010
L24	67.92 - 65.5	12.066	2	1.8237	0.0008
L25	65.5 - 65.25	11.172	2	1.7036	0.0008
L26	65.25 - 64	11.083	2	1.6913	0.0008
L27	64 - 63.75	10.649	2	1.6298	0.0007
L28	63.75 - 58.75	10.564	2	1.6223	0.0007
L29	58.75 - 53.75	8.944	2	1.4711	0.0006
L30	53.75 - 46.58	7.483	2	1.3207	0.0005
L31	53 - 45.58	7.277	2	1.2978	0.0005
L32	45.58 - 43	5.349	2	1.1694	0.0005
L33	43 - 42.75	4.738	2	1.0911	0.0004
L34	42.75 - 42.5	4.681	2	1.0842	0.0004
L35	42.5 - 42.25	4.625	2	1.0772	0.0004
L36	42.25 - 42	4.569	2	1.0710	0.0004
L37	42 - 41.75	4.513	2	1.0647	0.0004
L38	41.75 - 36.75	4.457	2	1.0575	0.0004
L39	36.75 - 32	3.425	2	0.9150	0.0003
L40	32 - 31.75	2.582	2	0.7783	0.0003
L41	31.75 - 26.75	2.542	2	0.7716	0.0003
L42	26.75 - 21.75	1.805	2	0.6364	0.0002
L43	21.75 - 18	1.208	2	0.5025	0.0002
L44	18 - 17.75	0.853	2	0.4030	0.0001
L45	17.75 - 9.92	0.832	2	0.3964	0.0001
L46	17 - 8.92	0.771	2	0.3766	0.0001
L47	8.92 - 3.92	0.229	2	0.2499	0.0001
L48	3.92 - 2.75	0.043	2	0.1060	0.0000
L49	2.75 - 2.5	0.021	2	0.0729	0.0000
L50	2.5 - 0	0.017	2	0.0662	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
173.00	(2) ADA-85408580CF w/ Mount Pipe	2	103.112	5.6893	0.0123	12113

Elevation	Appurtenance	Gov. Load Comb.	Deflection	Tilt	Twist	Radius of Curvature
ft			in	°	°	ft
162.00	HPA-65R-BUU-H6 w/ Mount Pipe	2	90.092	5.6084	0.0091	4410
154.00	MX08FRO665-21 w/ Mount Pipe	2	80.822	5.4566	0.0071	2546
144.00	AIR6449 B41_T-MOBILE w/ Mount Pipe	2	69.639	5.2505	0.0059	2332

Compression Checks

Pole Design Data

Section No.	Elevation	Size	L	L _u	Kl/r	A	P _u
	ft		ft	ft		in ²	K
L1	175 - 170 (1)	TP23.025x22.125x0.2188	5.00	0.00	0.0	16.064 2	-3.10
L2	170 - 165 (2)	TP23.925x23.025x0.2188	5.00	0.00	0.0	16.698 1	-3.43
L3	165 - 160 (3)	TP24.825x23.925x0.2188	5.00	0.00	0.0	17.332 0	-6.79
L4	160 - 155 (4)	TP25.725x24.825x0.2188	5.00	0.00	0.0	17.966 0	-7.19
L5	155 - 145.5 (5)	TP27.435x25.725x0.2188	9.50	0.00	0.0	18.599 9	-10.61
L6	145.5 - 145 (6)	TP27.0875x26.1875x0.3125	5.00	0.00	0.0	26.942 3	-11.56
L7	145 - 140 (7)	TP27.9874x27.0875x0.3125	5.00	0.00	0.0	27.847 9	-15.75
L8	140 - 135 (8)	TP28.8874x27.9874x0.3125	5.00	0.00	0.0	28.753 5	-16.45
L9	135 - 130 (9)	TP29.7873x28.8874x0.3125	5.00	0.00	0.0	29.659 0	-17.17
L10	130 - 125 (10)	TP30.6873x29.7873x0.3125	5.00	0.00	0.0	30.564 6	-17.92
L11	125 - 120 (11)	TP31.5872x30.6873x0.3125	5.00	0.00	0.0	31.470 2	-18.70
L12	120 - 115 (12)	TP32.4872x31.5872x0.3125	5.00	0.00	0.0	32.375 8	-19.51
L13	115 - 110 (13)	TP33.3871x32.4872x0.3125	5.00	0.00	0.0	33.281 3	-20.34
L14	110 - 105 (14)	TP34.2871x33.3871x0.3125	5.00	0.00	0.0	34.186 9	-21.20
L15	105 - 95.5 (15)	TP35.997x34.2871x0.3125	9.50	0.00	0.0	34.911 4	-21.90
L16	95.5 - 94.5 (16)	TP35.552x34.3821x0.375	6.50	0.00	0.0	42.476 2	-23.98
L17	94.5 - 89.5 (17)	TP36.4519x35.552x0.375	5.00	0.00	0.0	43.562 9	-25.03
L18	89.5 - 84.5 (18)	TP37.3519x36.4519x0.375	5.00	0.00	0.0	44.649 6	-26.11
L19	84.5 - 83.17 (19)	TP37.5912x37.3519x0.375	1.33	0.00	0.0	44.938 6	-26.40
L20	83.17 - 82.92 (20)	TP37.6362x37.5912x0.375	0.25	0.00	0.0	44.992 9	-26.46
L21	82.92 - 77.92 (21)	TP38.5362x37.6362x0.375	5.00	0.00	0.0	46.079 6	-27.57
L22	77.92 - 72.92 (22)	TP39.4361x38.5362x0.375	5.00	0.00	0.0	47.166 3	-28.70
L23	72.92 - 67.92 (23)	TP40.3361x39.4361x0.375	5.00	0.00	0.0	48.253 0	-29.87

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K
L24	67.92 - 65.5 (24)	TP40.7716x40.3361x0.37 5	2.42	0.00	0.0	48.778 9	-30.44
L25	65.5 - 65.25 (25)	TP40.8166x40.7716x0.37 5	0.25	0.00	0.0	48.833 3	-30.51
L26	65.25 - 64 (26)	TP41.0416x40.8166x0.37 5	1.25	0.00	0.0	49.104 9	-30.80
L27	64 - 63.75 (27)	TP41.0866x41.0416x0.62 5	0.25	0.00	0.0	81.429 0	-30.90
L28	63.75 - 58.75 (28)	TP41.9865x41.0866x0.62 5	5.00	0.00	0.0	83.240 1	-32.68
L29	58.75 - 53.75 (29)	TP42.8865x41.9865x0.62 5	5.00	0.00	0.0	85.051 2	-34.50
L30	53.75 - 46.58 (30)	TP44.177x42.8865x0.612 5	7.17	0.00	0.0	83.641 1	-34.77
L31	46.58 - 45.58 (31)	TP43.6073x42.2715x0.64 38	7.42	0.00	0.0	89.064 8	-39.75
L32	45.58 - 43 (32)	TP44.0717x43.6073x0.64 38	2.58	0.00	0.0	90.027 7	-40.75
L33	43 - 42.75 (33)	TP44.1167x44.0717x0.70 63	0.25	0.00	0.0	98.727 8	-40.86
L34	42.75 - 42.5 (34)	TP44.1618x44.1167x0.70 63	0.25	0.00	0.0	98.830 1	-40.97
L35	42.5 - 42.25 (35)	TP44.2068x44.1618x0.78 13	0.25	0.00	0.0	109.24 90	-41.09
L36	42.25 - 42 (36)	TP44.2518x44.2068x0.78 13	0.25	0.00	0.0	109.36 20	-41.20
L37	42 - 41.75 (37)	TP44.2968x44.2518x0.68 13	0.25	0.00	0.0	95.683 0	-41.31
L38	41.75 - 36.75 (38)	TP45.1969x44.2968x0.68 13	5.00	0.00	0.0	97.657 7	-43.36
L39	36.75 - 32 (39)	TP46.052x45.1969x0.668 8	4.75	0.00	0.0	97.734 4	-45.34
L40	32 - 31.75 (40)	TP46.097x46.052x0.7188	0.25	0.00	0.0	105.03 00	-45.46
L41	31.75 - 26.75 (41)	TP46.9972x46.097x0.706 3	5.00	0.00	0.0	105.27 90	-47.69
L42	26.75 - 21.75 (42)	TP47.8973x46.9972x0.70 63	5.00	0.00	0.0	107.32 60	-49.95
L43	21.75 - 18 (43)	TP48.5724x47.8973x0.70 63	3.75	0.00	0.0	108.86 10	-51.66
L44	18 - 17.75 (44)	TP48.6174x48.5724x0.70 63	0.25	0.00	0.0	108.96 40	-51.79
L45	17.75 - 9.92 (45)	TP50.027x48.6174x0.706 3	7.83	0.00	0.0	109.27 10	-52.13
L46	9.92 - 8.92 (46)	TP49.3943x47.9398x0.66 25	8.08	0.00	0.0	103.95 70	-59.02
L47	8.92 - 3.92 (47)	TP50.2944x49.3943x0.66 25	5.00	0.00	0.0	105.87 70	-61.46
L48	3.92 - 2.75 (48)	TP50.505x50.2944x0.662 5	1.17	0.00	0.0	106.32 60	-62.03
L49	2.75 - 2.5 (49)	TP50.55x50.505x0.7125	0.25	0.00	0.0	114.34 00	-62.16
L50	2.5 - 0 (50)	TP51x50.55x0.7125	2.50	0.00	0.0	115.37 20	-63.35

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft
L1	175 - 170 (1)	TP23.025x22.125x0.2188	18.52

Section No.	Elevation ft	Size	M _{ux} kip-ft
L2	170 - 165 (2)	TP23.925x23.025x0.2188	42.45
L3	165 - 160 (3)	TP24.825x23.925x0.2188	74.82
L4	160 - 155 (4)	TP25.725x24.825x0.2188	118.76
L5	155 - 145.5 (5)	TP27.435x25.725x0.2188	175.94
L6	145.5 - 145 (6)	TP27.0875x26.1875x0.31 25	238.40
L7	145 - 140 (7)	TP27.9874x27.0875x0.31 25	315.30
L8	140 - 135 (8)	TP28.8874x27.9874x0.31 25	397.50
L9	135 - 130 (9)	TP29.7873x28.8874x0.31 25	482.00
L10	130 - 125 (10)	TP30.6873x29.7873x0.31 25	568.77
L11	125 - 120 (11)	TP31.5872x30.6873x0.31 25	657.78
L12	120 - 115 (12)	TP32.4872x31.5872x0.31 25	749.01
L13	115 - 110 (13)	TP33.3871x32.4872x0.31 25	842.43
L14	110 - 105 (14)	TP34.2871x33.3871x0.31 25	938.01
L15	105 - 95.5 (15)	TP35.997x34.2871x0.312 5	1015.99
L16	95.5 - 94.5 (16)	TP35.552x34.3821x0.375	1146.01
L17	94.5 - 89.5 (17)	TP36.4519x35.552x0.375	1248.68
L18	89.5 - 84.5 (18)	TP37.3519x36.4519x0.37 5	1353.45
L19	84.5 - 83.17 (19)	TP37.5912x37.3519x0.37 5	1381.68
L20	83.17 - 82.92 (20)	TP37.6362x37.5912x0.37 5	1387.00
L21	82.92 - 77.92 (21)	TP38.5362x37.6362x0.37 5	1494.61
L22	77.92 - 72.92 (22)	TP39.4361x38.5362x0.37 5	1604.38
L23	72.92 - 67.92 (23)	TP40.3361x39.4361x0.37 5	1716.25
L24	67.92 - 65.5 (24)	TP40.7716x40.3361x0.37 5	1771.13
L25	65.5 - 65.25 (25)	TP40.8166x40.7716x0.37 5	1776.83
L26	65.25 - 64 (26)	TP41.0416x40.8166x0.37 5	1805.39
L27	64 - 63.75 (27)	TP41.0866x41.0416x0.62 5	1811.12
L28	63.75 - 58.75 (28)	TP41.9865x41.0866x0.62 5	1926.88
L29	58.75 - 53.75 (29)	TP42.8865x41.9865x0.62 5	2044.93
L30	53.75 - 46.58 (30)	TP44.177x42.8865x0.612 5	2062.82
L31	46.58 - 45.58 (31)	TP43.6073x42.2715x0.64 38	2242.96
L32	45.58 - 43 (32)	TP44.0717x43.6073x0.64 38	2306.88
L33	43 - 42.75 (33)	TP44.1167x44.0717x0.70 63	2313.11
L34	42.75 - 42.5 (34)	TP44.1618x44.1167x0.70 63	2319.35
L35	42.5 - 42.25 (35)	TP44.2068x44.1618x0.78 13	2325.59

Section No.	Elevation ft	Size	M_{ux} kip-ft
L36	42.25 - 42 (36)	TP44.2518x44.2068x0.78 13	2331.85
L37	42 - 41.75 (37)	TP44.2968x44.2518x0.68 13	2338.11
L38	41.75 - 36.75 (38)	TP45.1969x44.2968x0.68 13	2464.61
L39	36.75 - 32 (39)	TP46.052x45.1969x0.668 8	2586.85
L40	32 - 31.75 (40)	TP46.097x46.052x0.7188	2593.33
L41	31.75 - 26.75 (41)	TP46.9972x46.097x0.706 3	2723.89
L42	26.75 - 21.75 (42)	TP47.8973x46.9972x0.70 63	2856.26
L43	21.75 - 18 (43)	TP48.5724x47.8973x0.70 63	2956.89
L44	18 - 17.75 (44)	TP48.6174x48.5724x0.70 63	2963.65
L45	17.75 - 9.92 (45)	TP50.027x48.6174x0.706 3	2983.95
L46	9.92 - 8.92 (46)	TP49.3943x47.9398x0.66 25	3205.65
L47	8.92 - 3.92 (47)	TP50.2944x49.3943x0.66 25	3345.28
L48	3.92 - 2.75 (48)	TP50.505x50.2944x0.662 5	3378.19
L49	2.75 - 2.5 (49)	TP50.55x50.505x0.7125	3385.23
L50	2.5 - 0 (50)	TP51x50.55x0.7125	3455.90

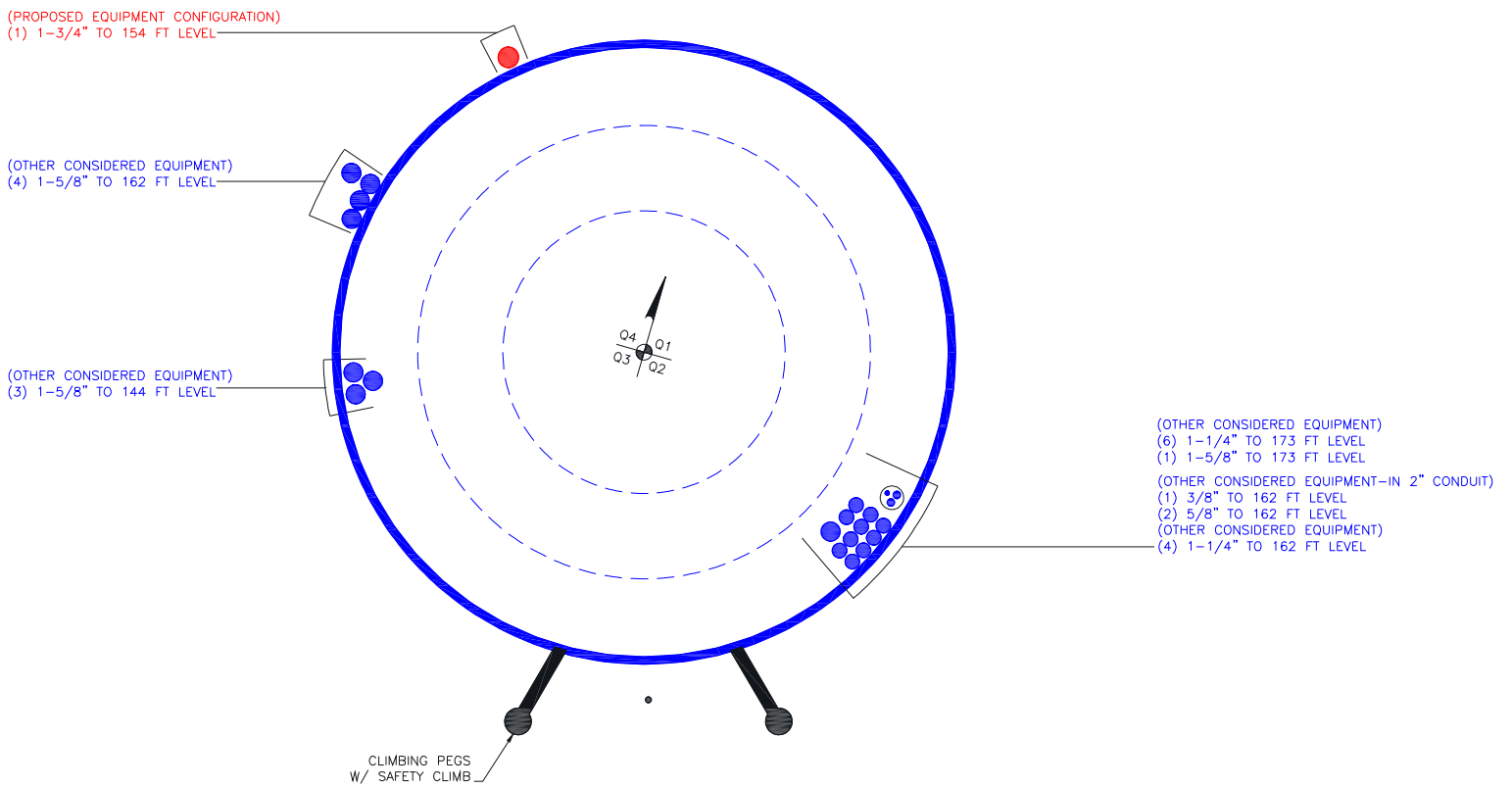
Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K
L1	175 - 170 (1)	TP23.025x22.125x0.2188	4.59
L2	170 - 165 (2)	TP23.925x23.025x0.2188	4.99
L3	165 - 160 (3)	TP24.825x23.925x0.2188	8.56
L4	160 - 155 (4)	TP25.725x24.825x0.2188	9.02
L5	155 - 145.5 (5)	TP27.435x25.725x0.2188	12.23
L6	145.5 - 145 (6)	TP27.0875x26.1875x0.31 25	12.75
L7	145 - 140 (7)	TP27.9874x27.0875x0.31 25	16.21
L8	140 - 135 (8)	TP28.8874x27.9874x0.31 25	16.67
L9	135 - 130 (9)	TP29.7873x28.8874x0.31 25	17.13
L10	130 - 125 (10)	TP30.6873x29.7873x0.31 25	17.58
L11	125 - 120 (11)	TP31.5872x30.6873x0.31 25	18.03
L12	120 - 115 (12)	TP32.4872x31.5872x0.31 25	18.47
L13	115 - 110 (13)	TP33.3871x32.4872x0.31 25	18.91
L14	110 - 105 (14)	TP34.2871x33.3871x0.31 25	19.34
L15	105 - 95.5 (15)	TP35.997x34.2871x0.312 5	19.67

Section No.	Elevation ft	Size	Actual V_u K
L16	95.5 - 94.5 (16)	TP35.552x34.3821x0.375	20.33
L17	94.5 - 89.5 (17)	TP36.4519x35.552x0.375	20.75
L18	89.5 - 84.5 (18)	TP37.3519x36.4519x0.375	21.17
L19	84.5 - 83.17 (19)	TP37.5912x37.3519x0.375	21.29
L20	83.17 - 82.92 (20)	TP37.6362x37.5912x0.375	21.33
L21	82.92 - 77.92 (21)	TP38.5362x37.6362x0.375	21.75
L22	77.92 - 72.92 (22)	TP39.4361x38.5362x0.375	22.17
L23	72.92 - 67.92 (23)	TP40.3361x39.4361x0.375	22.59
L24	67.92 - 65.5 (24)	TP40.7716x40.3361x0.375	22.79
L25	65.5 - 65.25 (25)	TP40.8166x40.7716x0.375	22.82
L26	65.25 - 64 (26)	TP41.0416x40.8166x0.375	22.91
L27	64 - 63.75 (27)	TP41.0866x41.0416x0.62	22.95
L28	63.75 - 58.75 (28)	TP41.9865x41.0866x0.62	23.39
L29	58.75 - 53.75 (29)	TP42.8865x41.9865x0.62	23.84
L30	53.75 - 46.58 (30)	TP44.177x42.8865x0.612	23.90
L31	46.58 - 45.58 (31)	TP43.6073x42.2715x0.64	24.64
L32	45.58 - 43 (32)	TP44.0717x43.6073x0.64	24.92
L33	43 - 42.75 (33)	TP44.1167x44.0717x0.70	24.96
L34	42.75 - 42.5 (34)	TP44.1618x44.1167x0.70	24.99
L35	42.5 - 42.25 (35)	TP44.2068x44.1618x0.78	25.02
L36	42.25 - 42 (36)	TP44.2518x44.2068x0.78	25.04
L37	42 - 41.75 (37)	TP44.2968x44.2518x0.68	25.07
L38	41.75 - 36.75 (38)	TP45.1969x44.2968x0.68	25.56
L39	36.75 - 32 (39)	TP46.052x45.1969x0.668	25.92
L40	32 - 31.75 (40)	TP46.097x46.052x0.7188	25.95
L41	31.75 - 26.75 (41)	TP46.9972x46.097x0.706	26.30
L42	26.75 - 21.75 (42)	TP47.8973x46.9972x0.70	26.66
L43	21.75 - 18 (43)	TP48.5724x47.8973x0.70	27.02
L44	18 - 17.75 (44)	TP48.6174x48.5724x0.70	27.05
L45	17.75 - 9.92 (45)	TP50.027x48.6174x0.706	27.10
L46	9.92 - 8.92 (46)	TP49.3943x47.9398x0.66	27.77
L47	8.92 - 3.92 (47)	TP50.2944x49.3943x0.66	28.10

Section No.	Elevation ft	Size	Actual V_u K
L48	3.92 - 2.75 (48)	TP50.505x50.2944x0.662 5	28.18
L49	2.75 - 2.5 (49)	TP50.55x50.505x0.7125	28.18
L50	2.5 - 0 (50)	TP51x50.55x0.7125	28.36

APPENDIX B
BASE LEVEL DRAWING



APPENDIX C
ADDITIONAL CALCULATIONS

Site BU: 807132
Work Order: 2031121



Copyright © 2019 Crown Castle

Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	175	29.5	4.5	12	22.125	27.435	0.21875	Auto	A572-65
2	150	54.5	5.5	12	26.19	35.997	0.3125	Auto	A572-65
3	101	54.42	6.42	12	34.38	44.177	0.375	Auto	A572-65
4	53	43.08	7.08	12	42.27	50.027	0.4063	Auto	A572-65
5	17	17	0	12	47.94	51	0.4375	Auto	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12
1	2.75	18	channel	MP3-05 (1.1875")	3			o				o				o	
2	18	43	channel	MP3-05 (1.1875")	2					o				o			
3	18	42.5	channel	MP3-05 (1.1875")	1	o											
4	42	64	channel	MP3-04 (1.1875")	3			o				o				o	
5	2.75	32	plate	CCI-AFP-065125	2								o				o
6	2.75	12	plate	CCI-AFP-065125	1					o							
7	14	32	plate	CCI-AFP-065125	1				o								
8	32	65.5	plate	CCI-AFP-060100	3				o				o				o
9	65.5	83.17	plate	CCI-AFP-060100	3				o				o				o
10	0	2.75	plate	FP 1.25 x 6.5_1	3	c					o				o		
11	0	2.75	plate	FP 1.25 x 3.75_1	3			o				o				o	
12																	

Reinforcement Details

	B (in)	H (in)	Gross Area (in ²)	Pole Face to Centroid (in)	Bottom Termination Type	Bottom Termination Length (in)	Top Termination Type	Top Termination Length (in)	Lu (in)	Net Area (in ²)	Bolt Hole Size (in)	Reinforcement Material
1	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	5.025	1.1875	A572-65
2	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	5.025	1.1875	A572-65
3	5.33	2.09	5.65	0.79	PC 8.8 - M20 (100)	29	PC 8.8 - M20 (100)	29.000	18.000	5.025	1.1875	A572-65
4	4.78	1.61	4.13	0.61	PC 8.8 - M20 (100)	17	PC 8.8 - M20 (100)	17.000	18.000	3.593	1.1875	A572-65
5	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	42	PC 8.8 - M20 (100)	42.000	19.000	6.563	1.1875	A572-65
6	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	42	PC 8.8 - M20 (100)	42.000	19.000	6.563	1.1875	A572-65
7	6.5	1.25	8.125	0.625	PC 8.8 - M20 (100)	42	PC 8.8 - M20 (100)	42.000	19.000	6.563	1.1875	A572-65
8	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
9	6	1	6	0.5	PC 8.8 - M20 (100)	30	PC 8.8 - M20 (100)	30.000	16.000	4.750	1.1875	A572-65
10	1.25	6.5	8.125	3.25	Capacity Input	n/a	Capacity Input	n/a	0.000	8.125	0.0000	A572-65
11	1.25	3.75	4.6875	1.875	Capacity Input	n/a	Capacity Input	n/a	0.000	4.688	0.0000	A572-65

Connection Details for Custom Reinforcements

Reinforcement	End	# Bolts	N or X	Bolt Spacing (in)	Edge Dist (in)	Weld Grade (ksi)	Transverse (Horiz.) Weld Type	Horiz. Weld Length (in)	Horiz. Groove Depth (in)	Horiz. Groove Angle (deg)	Horiz. Fillet Size (in)	Vertical Weld Length (in)	Vertical Fillet Size (in)	Rev H Connection Capacity (kip)
FP 1.25 x 6.5_1	Top	0	0	0	0	-	-	-	-	-	-	-	-	420.47
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	420.47
FP 1.25 x 3.75_1	Top	0	0	0	0	-	-	-	-	-	-	-	-	267.33
	Bottom	-	-	-	-	0	0	0	-	-	0	-	-	267.33

TNX Geometry Input

Increment (ft): 5 [Export to TNX](#)

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	175 - 170	5		12	22.125	23.025	0.21875	A572-65	1.000
2	170 - 165	5		12	23.025	23.925	0.21875	A572-65	1.000
3	165 - 160	5		12	23.925	24.825	0.21875	A572-65	1.000
4	160 - 155	5		12	24.825	25.725	0.21875	A572-65	1.000
5	155 - 150	9.5	4.5	12	25.725	27.435	0.21875	A572-65	1.000
6	150 - 145	5		12	26.188	27.087	0.3125	A572-65	1.000
7	145 - 140	5		12	27.087	27.987	0.3125	A572-65	1.000
8	140 - 135	5		12	27.987	28.887	0.3125	A572-65	1.000
9	135 - 130	5		12	28.887	29.787	0.3125	A572-65	1.000
10	130 - 125	5		12	29.787	30.687	0.3125	A572-65	1.000
11	125 - 120	5		12	30.687	31.587	0.3125	A572-65	1.000
12	120 - 115	5		12	31.587	32.487	0.3125	A572-65	1.000
13	115 - 110	5		12	32.487	33.387	0.3125	A572-65	1.000
14	110 - 105	5		12	33.387	34.287	0.3125	A572-65	1.000
15	105 - 101	9.5	5.5	12	34.287	35.997	0.3125	A572-65	1.000
16	101 - 94.5	6.5		12	34.382	35.552	0.375	A572-65	1.000
17	94.5 - 89.5	5		12	35.552	36.452	0.375	A572-65	1.000
18	89.5 - 84.5	5		12	36.452	37.352	0.375	A572-65	1.000
19	84.5 - 83.17	1.33		12	37.352	37.591	0.375	A572-65	1.000
20	83.17 - 82.92	0.25		12	37.591	37.636	0.375	A572-65	1.000
21	82.92 - 77.92	5		12	37.636	38.536	0.375	A572-65	1.000
22	77.92 - 72.92	5		12	38.536	39.436	0.375	A572-65	1.000
23	72.92 - 67.92	5		12	39.436	40.336	0.375	A572-65	1.000
24	67.92 - 65.5	2.42		12	40.336	40.772	0.375	A572-65	1.000
25	65.5 - 65.25	0.25		12	40.772	40.817	0.375	A572-65	1.000
26	65.25 - 64	1.25		12	40.817	41.042	0.375	A572-65	1.000
27	64 - 63.75	0.25		12	41.042	41.087	0.625	A572-65	0.977
28	63.75 - 58.75	5		12	41.087	41.987	0.625	A572-65	0.969
29	58.75 - 53.75	5		12	41.987	42.886	0.625	A572-65	0.961
30	53.75 - 53	7.17	6.42	12	42.886	44.177	0.6125	A572-65	0.980
31	53 - 45.58	7.42		12	42.271	43.607	0.6438	A572-65	0.976
32	45.58 - 43	2.58		12	43.607	44.072	0.6438	A572-65	0.973
33	43 - 42.75	0.25		12	44.072	44.117	0.7063	A572-65	1.002
34	42.75 - 42.5	0.25		12	44.117	44.162	0.7063	A572-65	1.002
35	42.5 - 42.25	0.25		12	44.162	44.207	0.7813	A572-65	0.958
36	42.25 - 42	0.25		12	44.207	44.252	0.7813	A572-65	0.958
37	42 - 41.75	0.25		12	44.252	44.297	0.6813	A572-65	0.966
38	41.75 - 36.75	5		12	44.297	45.197	0.6813	A572-65	0.958
39	36.75 - 32	4.75		12	45.197	46.052	0.6688	A572-65	0.969
40	32 - 31.75	0.25		12	46.052	46.097	0.7188	A572-65	0.963
41	31.75 - 26.75	5		12	46.097	46.997	0.7063	A572-65	0.972
42	26.75 - 21.75	5		12	46.997	47.897	0.7063	A572-65	0.965
43	21.75 - 18	3.75		12	47.897	48.572	0.7063	A572-65	0.959
44	18 - 17.75	0.25		12	48.572	48.617	0.7063	A572-65	0.959
45	17.75 - 17	7.83	7.08	12	48.617	50.027	0.7063	A572-65	0.958
46	17 - 8.92	8.08		12	47.940	49.394	0.6625	A572-65	1.062
47	8.92 - 3.92	5		12	49.394	50.294	0.6625	A572-65	1.054
48	3.92 - 2.75	1.17		12	50.294	50.505	0.6625	A572-65	1.053
49	2.75 - 2.5	0.25		12	50.505	50.550	0.7125	A572-65	0.954
50	2.5 - 0	2.5		12	50.550	51.000	0.7125	A572-65	0.951

TNX Section Forces

Increment (ft):		TNX Output			
	5	Section Height (ft)	P _u (K)	M _{ux} (kip-ft)	V _u (K)
1	175 - 170		3.10	18.52	4.59
2	170 - 165		3.43	42.45	4.99
3	165 - 160		6.79	74.82	8.56
4	160 - 155		7.19	118.76	9.02
5	155 - 150		10.61	175.94	12.23
6	150 - 145		11.56	238.40	12.75
7	145 - 140		15.75	315.30	16.21
8	140 - 135		16.45	397.50	16.67
9	135 - 130		17.17	482.00	17.13
10	130 - 125		17.92	568.77	17.58
11	125 - 120		18.70	657.78	18.03
12	120 - 115		19.51	749.01	18.47
13	115 - 110		20.34	842.43	18.91
14	110 - 105		21.20	938.00	19.34
15	105 - 101		21.90	1015.99	19.67
16	101 - 94.5		23.98	1146.01	20.33
17	94.5 - 89.5		25.03	1248.68	20.75
18	89.5 - 84.5		26.11	1353.45	21.17
19	84.5 - 83.17		26.40	1381.68	21.29
20	83.17 - 82.92		26.46	1387.00	21.33
21	82.92 - 77.92		27.57	1494.61	21.75
22	77.92 - 72.92		28.70	1604.38	22.17
23	72.92 - 67.92		29.87	1716.25	22.59
24	67.92 - 65.5		30.44	1771.13	22.79
25	65.5 - 65.25		30.51	1776.83	22.82
26	65.25 - 64		30.80	1805.39	22.91
27	64 - 63.75		30.90	1811.12	22.95
28	63.75 - 58.75		32.68	1926.88	23.39
29	58.75 - 53.75		34.50	2044.92	23.84
30	53.75 - 53		34.77	2062.82	23.90
31	53 - 45.58		39.75	2242.96	24.64
32	45.58 - 43		40.75	2306.88	24.92
33	43 - 42.75		40.86	2313.11	24.96
34	42.75 - 42.5		40.97	2319.35	24.99
35	42.5 - 42.25		41.09	2325.59	25.02
36	42.25 - 42		41.20	2331.85	25.04
37	42 - 41.75		41.31	2338.10	25.07
38	41.75 - 36.75		43.36	2464.61	25.56
39	36.75 - 32		45.34	2586.85	25.92
40	32 - 31.75		45.46	2593.33	25.95
41	31.75 - 26.75		47.69	2723.89	26.30
42	26.75 - 21.75		49.95	2856.26	26.66
43	21.75 - 18		51.66	2956.89	27.02
44	18 - 17.75		51.79	2963.65	27.05
45	17.75 - 17		52.13	2983.95	27.10
46	17 - 8.92		59.02	3205.65	27.77
47	8.92 - 3.92		61.46	3345.28	28.10
48	3.92 - 2.75		62.03	3378.19	28.18
49	2.75 - 2.5		62.16	3385.23	28.18
50	2.5 - 0		63.35	3455.90	28.36

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
175 - 170	Pole	TP23.025x22.125x0.2188	Pole	3.8%	Pass
170 - 165	Pole	TP23.925x23.025x0.2188	Pole	7.9%	Pass
165 - 160	Pole	TP24.825x23.925x0.2188	Pole	13.2%	Pass
160 - 155	Pole	TP25.725x24.825x0.2188	Pole	19.4%	Pass
155 - 150	Pole	TP27.435x25.725x0.2188	Pole	27.4%	Pass
150 - 145	Pole	TP27.087x26.188x0.3125	Pole	22.0%	Pass
145 - 140	Pole	TP27.987x27.087x0.3125	Pole	27.6%	Pass
140 - 135	Pole	TP28.887x27.987x0.3125	Pole	32.8%	Pass
135 - 130	Pole	TP29.787x28.887x0.3125	Pole	37.6%	Pass
130 - 125	Pole	TP30.687x29.787x0.3125	Pole	42.1%	Pass
125 - 120	Pole	TP31.587x30.687x0.3125	Pole	46.3%	Pass
120 - 115	Pole	TP32.487x31.587x0.3125	Pole	50.3%	Pass
115 - 110	Pole	TP33.387x32.487x0.3125	Pole	54.1%	Pass
110 - 105	Pole	TP34.287x33.387x0.3125	Pole	57.6%	Pass
105 - 101	Pole	TP35.997x34.287x0.3125	Pole	60.4%	Pass
101 - 94.5	Pole	TP35.552x34.382x0.375	Pole	51.8%	Pass
94.5 - 89.5	Pole	TP36.452x35.552x0.375	Pole	54.1%	Pass
89.5 - 84.5	Pole	TP37.352x36.452x0.375	Pole	56.2%	Pass
84.5 - 83.17	Pole	TP37.591x37.352x0.375	Pole	56.8%	Pass
83.17 - 82.92	Pole	TP37.636x37.591x0.375	Pole	56.9%	Pass
82.92 - 77.92	Pole	TP38.536x37.636x0.375	Pole	59.0%	Pass
77.92 - 72.92	Pole	TP39.436x38.536x0.375	Pole	61.0%	Pass
72.92 - 67.92	Pole	TP40.336x39.436x0.375	Pole	62.9%	Pass
67.92 - 65.5	Pole	TP40.772x40.336x0.375	Pole	63.8%	Pass
65.5 - 65.25	Pole	TP40.817x40.772x0.375	Pole	63.8%	Pass
65.25 - 64	Pole	TP41.042x40.817x0.375	Pole	64.3%	Pass
64 - 63.75	Pole + Reinf.	TP41.087x41.042x0.625	Reinf. 8 Tension Rupture	54.0%	Pass
63.75 - 58.75	Pole + Reinf.	TP41.987x41.087x0.625	Reinf. 8 Tension Rupture	55.5%	Pass
58.75 - 53.75	Pole + Reinf.	TP42.886x41.987x0.625	Reinf. 8 Tension Rupture	56.9%	Pass
53.75 - 53	Pole + Reinf.	TP44.177x42.886x0.6125	Reinf. 8 Tension Rupture	57.1%	Pass
53 - 45.58	Pole + Reinf.	TP43.607x42.271x0.6438	Reinf. 8 Tension Rupture	57.8%	Pass
45.58 - 43	Pole + Reinf.	TP44.072x43.607x0.6438	Reinf. 8 Tension Rupture	58.4%	Pass
43 - 42.75	Pole + Reinf.	TP44.117x44.072x0.7063	Reinf. 8 Tension Rupture	56.4%	Pass
42.75 - 42.5	Pole + Reinf.	TP44.162x44.117x0.7063	Reinf. 8 Tension Rupture	56.5%	Pass
42.5 - 42.25	Pole + Reinf.	TP44.207x44.162x0.7813	Reinf. 8 Tension Rupture	48.7%	Pass
42.25 - 42	Pole + Reinf.	TP44.252x44.207x0.7813	Reinf. 8 Tension Rupture	48.8%	Pass
42 - 41.75	Pole + Reinf.	TP44.297x44.252x0.6813	Reinf. 8 Tension Rupture	55.6%	Pass
41.75 - 36.75	Pole + Reinf.	TP45.197x44.297x0.6813	Reinf. 8 Tension Rupture	56.7%	Pass
36.75 - 32	Pole + Reinf.	TP46.052x45.197x0.6688	Reinf. 8 Tension Rupture	57.7%	Pass
32 - 31.75	Pole + Reinf.	TP46.097x46.052x0.7188	Reinf. 7 Tension Rupture	53.1%	Pass
31.75 - 26.75	Pole + Reinf.	TP46.997x46.097x0.7063	Reinf. 7 Tension Rupture	54.1%	Pass
26.75 - 21.75	Pole + Reinf.	TP47.897x46.997x0.7063	Reinf. 7 Tension Rupture	55.1%	Pass
21.75 - 18	Pole + Reinf.	TP48.572x47.897x0.7063	Reinf. 7 Tension Rupture	55.8%	Pass
18 - 17.75	Pole + Reinf.	TP48.617x48.572x0.7063	Reinf. 7 Tension Rupture	55.8%	Pass
17.75 - 17	Pole + Reinf.	TP50.027x48.617x0.7063	Reinf. 7 Tension Rupture	56.0%	Pass
17 - 8.92	Pole + Reinf.	TP49.394x47.94x0.6625	Reinf. 1 Tension Rupture	59.0%	Pass
8.92 - 3.92	Pole + Reinf.	TP50.294x49.394x0.6625	Reinf. 1 Tension Rupture	59.7%	Pass
3.92 - 2.75	Pole + Reinf.	TP50.505x50.294x0.6625	Reinf. 1 Tension Rupture	59.9%	Pass
2.75 - 2.5	Pole + Reinf.	TP50.55x50.505x0.7125	Reinf. 10 Connection	58.8%	Pass
2.5 - 0	Pole + Reinf.	TP51x50.55x0.7125	Reinf. 10 Connection	59.2%	Pass
				Summary	
			Pole	64.3%	Pass
			Reinforcement	59.9%	Pass
			Overall	64.3%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in ⁴)			Area (in ²)			% Capacity*											
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11
175 - 170	1068	n/a	1068	16.04	n/a	16.04	3.8%											
170 - 165	1199	n/a	1199	16.67	n/a	16.67	7.9%											
165 - 160	1341	n/a	1341	17.31	n/a	17.31	13.2%											
160 - 155	1494	n/a	1494	17.94	n/a	17.94	19.4%											
155 - 150	1658	n/a	1658	18.57	n/a	18.57	27.4%											
150 - 145	2469	n/a	2469	26.90	n/a	26.90	22.0%											
145 - 140	2726	n/a	2726	27.81	n/a	27.81	27.6%											
140 - 135	3001	n/a	3001	28.71	n/a	28.71	32.8%											
135 - 130	3293	n/a	3293	29.62	n/a	29.62	37.6%											
130 - 125	3604	n/a	3604	30.52	n/a	30.52	42.1%											
125 - 120	3934	n/a	3934	31.43	n/a	31.43	46.3%											
120 - 115	4284	n/a	4284	32.33	n/a	32.33	50.3%											
115 - 110	4653	n/a	4653	33.23	n/a	33.23	54.1%											
110 - 105	5044	n/a	5044	34.14	n/a	34.14	57.6%											
105 - 101	5371	n/a	5371	34.86	n/a	34.86	60.4%											
101 - 94.5	6718	n/a	6718	42.42	n/a	42.42	51.8%											
94.5 - 89.5	7247	n/a	7247	43.50	n/a	43.50	54.1%											
89.5 - 84.5	7803	n/a	7803	44.59	n/a	44.59	56.2%											
84.5 - 83.17	7955	n/a	7955	44.87	n/a	44.87	56.8%											
83.17 - 82.92	7984	n/a	7984	44.93	n/a	44.93	56.9%											
82.92 - 77.92	8577	n/a	8577	46.01	n/a	46.01	59.0%											
77.92 - 72.92	9198	n/a	9198	47.10	n/a	47.10	61.0%											
72.92 - 67.92	9848	n/a	9848	48.18	n/a	48.18	62.9%											
67.92 - 65.5	10174	n/a	10174	48.71	n/a	48.71	63.8%											
65.5 - 65.25	10208	n/a	10208	48.76	n/a	48.76	63.8%											
65.25 - 64	10379	n/a	10379	49.03	n/a	49.03	64.3%											
64 - 63.75	10414	6792	17206	49.09	30.39	79.48	37.7%				51.5%				54.0%			
63.75 - 58.75	11120	7083	18203	50.17	30.39	80.56	39.1%				52.9%				55.5%			
58.75 - 53.75	11857	7381	19238	51.26	30.39	81.65	40.5%				54.3%				56.9%			
53.75 - 53	11970	7426	19396	51.42	30.39	81.81	40.7%				54.4%				57.1%			
53 - 45.58	13482	7624	21106	56.44	30.39	86.83	40.1%				55.2%				57.8%			
45.58 - 43	13922	7782	21704	57.05	30.39	87.44	40.7%				55.8%				58.4%			
43 - 42.75	14045	9589	23634	57.10	41.69	98.79	40.2%		45.4%		49.8%				56.4%			
42.75 - 42.5	14088	9608	23697	57.16	41.69	98.85	40.3%		45.4%		49.9%				56.5%			
42.5 - 42.25	14051	12281	26332	57.22	47.34	104.56	34.0%		45.3%	45.3%	46.5%				48.7%			
42.25 - 42	14094	12305	26400	57.28	47.34	104.62	34.1%		45.3%	45.3%	46.5%				48.8%			
42 - 41.75	14138	9114	23252	57.34	34.95	92.29	38.8%		51.7%	51.7%					55.6%			
41.75 - 36.75	15026	9476	24502	58.52	34.95	93.47	40.0%		52.7%	52.7%					56.7%			
36.75 - 32	15903	9827	25730	59.63	34.95	94.58	41.1%		53.7%	53.7%					57.7%			
32 - 31.75	15950	11702	27652	59.69	41.33	101.02	38.4%		50.1%	50.1%		53.1%		53.1%				
31.75 - 26.75	16911	12147	29059	60.87	41.33	102.19	39.5%		51.0%	51.0%		54.1%		54.1%				
26.75 - 21.75	17910	12602	30512	62.04	41.33	103.37	40.5%		51.9%	51.9%		55.1%		55.1%				
21.75 - 18	18685	12948	31633	62.92	41.33	104.25	41.3%		52.6%	52.6%		55.8%		55.8%				
18 - 17.75	18738	12971	31708	62.98	41.33	104.31	41.4%	52.6%				55.8%		55.8%				
17.75 - 17	18895	13041	31936	63.16	41.33	104.48	41.5%	52.7%				56.0%		56.0%				
17 - 8.92	21159	10701	31860	68.87	41.33	110.19	45.2%	59.0%				57.1%	54.7%					
8.92 - 3.92	22347	11081	33429	70.14	41.33	111.46	46.2%	59.7%				57.8%	55.4%					
3.92 - 2.75	22631	11171	33803	70.43	41.33	111.76	46.4%	59.9%				58.0%	55.6%					
2.75 - 2.5	22675	13755	36430	70.49	38.44	108.93	44.2%										58.8%	52.7%
2.5 - 0	23291	13977	37267	71.13	38.44	109.57	44.7%										59.2%	53.0%

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

CCIplate

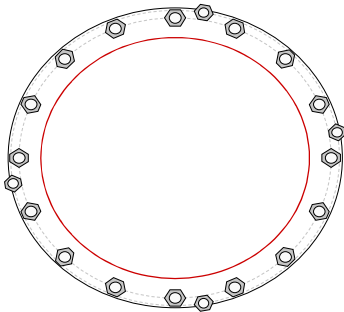
Elevation (ft) 0 (Base)

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

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

Custom Bolt Connection										
Bolt	Bolt Group ID	Location (deg.)	Diameter (in)	Material	Bolt Circle (in)	Eta Factor, η	I_{br} (in)	Thread Type	Area Override, in ²	Tension Only
1	1	0	2.25	A615-75	59.3	0.5	1.5	N-Included		No
2	1	22.5	2.25	A615-75	59.3	0.5	1.5	N-Included		No
3	1	45	2.25	A615-75	59.3	0.5	1.5	N-Included		No
4	1	67.5	2.25	A615-75	59.3	0.5	1.5	N-Included		No
5	1	90	2.25	A615-75	59.3	0.5	1.5	N-Included		No
6	1	112.5	2.25	A615-75	59.3	0.5	1.5	N-Included		No
7	1	135	2.25	A615-75	59.3	0.5	1.5	N-Included		No
8	1	157.5	2.25	A615-75	59.3	0.5	1.5	N-Included		No
9	1	180	2.25	A615-75	59.3	0.5	1.5	N-Included		No
10	1	202.5	2.25	A615-75	59.3	0.5	1.5	N-Included		No
11	1	225	2.25	A615-75	59.3	0.5	1.5	N-Included		No
12	1	247.5	2.25	A615-75	59.3	0.5	1.5	N-Included		No
13	1	270	2.25	A615-75	59.3	0.5	1.5	N-Included		No
14	1	292.5	2.25	A615-75	59.3	0.5	1.5	N-Included		No
15	1	315	2.25	A615-75	59.3	0.5	1.5	N-Included		No
16	1	337.5	2.25	A615-75	59.3	0.5	1.5	N-Included		No
17	2	10	2	A193 Gr. B7	62.5	0.5	1.5	N-Included		No
18	2	80	2	A193 Gr. B7	62.5	0.5	1.5	N-Included		No
19	2	190	2	A193 Gr. B7	62.5	0.5	1.5	N-Included		No
20	2	280	2	A193 Gr. B7	62.5	0.5	1.5	N-Included		No

Plot Graphic



Monopole Base Plate Connection

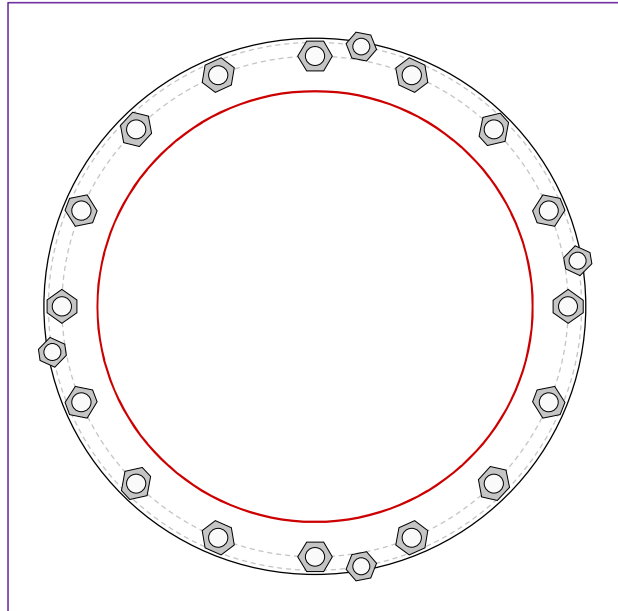


Site Info	
BU #	807132
Site Name	BRG 133 943050
Order #	548697 rev 1

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

Applied Loads	
Moment (kip-ft)	3455.90
Axial Force (kips)	63.35
Shear Force (kips)	28.36

*TIA-222-H Section 15.5 Applied



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

Anchor Rod Data

GROUP 1: (16) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 59.3" BC
 GROUP 2: (4) 2" ϕ bolts (A193 Gr. B7 N; $F_y=105$ ksi, $F_u=125$ ksi) on 62.5" BC
pos. (deg): 10, 80, 190, 280

Base Plate Data

63.5" OD x 2.75" Plate (A572-60; $F_y=60$ ksi, $F_u=75$ ksi)

Stiffener Data

N/A

Pole Data

51" x 0.4375" 12-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)

Anchor Rod Summary (units of kips, kip-in)		
GROUP 1:		
$P_{u,t} = 146.07$	$\phi P_{n,t} = 243.75$	Stress Rating
$V_u = 1.77$	$\phi V_n = 149.1$	57.1%
$M_u = n/a$	$\phi M_n = n/a$	Pass
GROUP 2:		
$P_{u,t} = 117.66$	$\phi P_{n,t} = 234.38$	Stress Rating
$V_u = 0$	$\phi V_n = 147.26$	47.8%
$M_u = n/a$	$\phi M_n = n/a$	Pass

Base Plate Summary		
Max Stress (ksi):	20.61	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	36.3%	Pass

DRILLED PIER STEEL ANALYSIS - STEEL CALCULATIONS - TIA-222-H

BASED ON ACI 318-14, SECTION 10 (ASSUMING TIE REINFORCEMENT)

Rebar Size and Specifications

Factored Internal Loads from Analysis

Reference Standard =	TIA-222-H
ACI Code =	ACI 318-14
Maximum Ratio =	100.0%
Axial Load, Pu =	117.6 kips, (+Comp, -Tension)
Moment, Mu =	3456.0 k-ft (Must be Positive)
Depth to Analysis Section =	10.00 ft, from Grade

Factored Internal Loads

Load Factor =	1.0
Axial Load, Pu = ΦP_n =	117.6 kips
Moment, Mu =	3456.0 k-ft

Drilled Pier Geometry and Concrete Specifications

Diameter =	84 in
f_c' =	3 ksi
ϵ_c =	0.003 in/in
β_1 =	0.85
Ag =	5541.8 in ²
Height Above Grade =	0.5 ft
Depth Below Grade =	10 ft

Nominal Axial Load and Moment

ΦP_n (max) =	8961.6 kips
ΦP_n (min) =	-2916.0 kips
ΦP_n =	117.6 kips
Φ =	0.900
ΦM_n (Resultant) =	8240.3 k-ft
at θ =	30.00 degrees
NA Depth =	17.60 in

Existing	Bar Circle 2	Bar Circle 3	Bar Circle 4
#14			
	0.0000	0.0000	0.0000
1.6930	0.0000	0.0000	0.0000
2.2500	0.0000	0.0000	0.0000
2.2500	0.0000	0.0000	0.0000
Number Bars =	24		
Spacing =	Symmetric		
f_y =	60		
Es =	29000	29000	29000
ϵ_y =	0.00207	0.00000	0.00000
Tie Size =	#6		
Clear Cover to Ties =	3		
Bar Circle =	74.807		
Adjust =	7.5000		
% of Area Effective =	100.0%	100.0%	100.0%
Include in Calcs =	Yes	Yes	Yes
Bar Circle Valid =	Yes	No	No

Bar Size =
 Override Bar Diameter =
 Bar Diameter =
 Bar Area =
 Effective Bar Area =
 Number Bars =
 Spacing =
 f_y =
 Es =
 ϵ_y =
 Tie Size =
 Clear Cover to Ties =
 Bar Circle =
 Adjust =
 % of Area Effective =
 Include in Calcs =
 Bar Circle Valid =

AXIAL RATIO* = 1.2% OK

MOMENT RATIO* = 39.9% OK

*Rating per TIA-222-H Section 15.5

Minimum Required Steel

Seismic Design Category =	D
As(min) =	27.71 sq in
As =	54.00 sq in
Stl Area Reduction Factor =	1.00

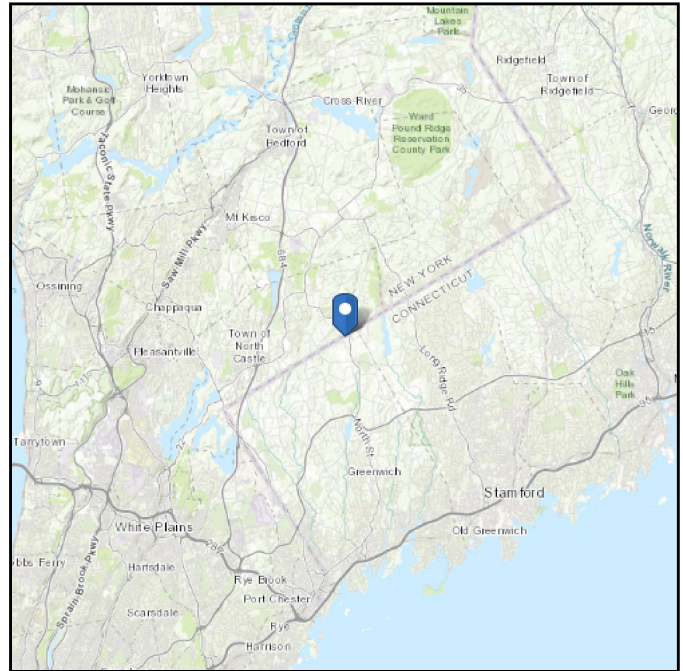
TIA-222-H, 9.4.1

ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see
Section 11.4.3)

Elevation: 502.51 ft (NAVD 88)
Latitude: 41.139306
Longitude: -73.641817



Wind

Results:

Wind Speed:	115 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	96 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Fri Jul 23 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 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

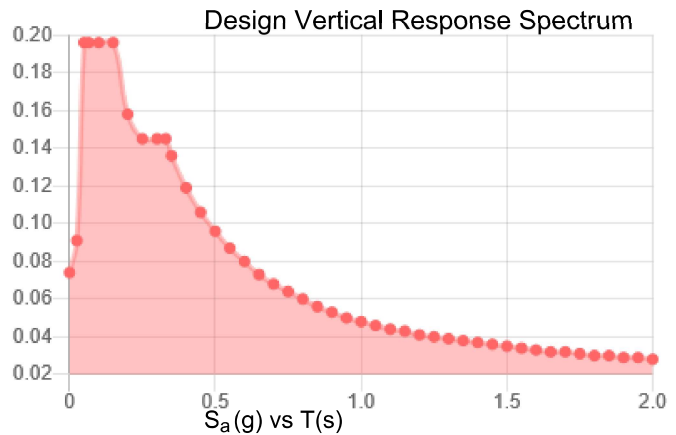
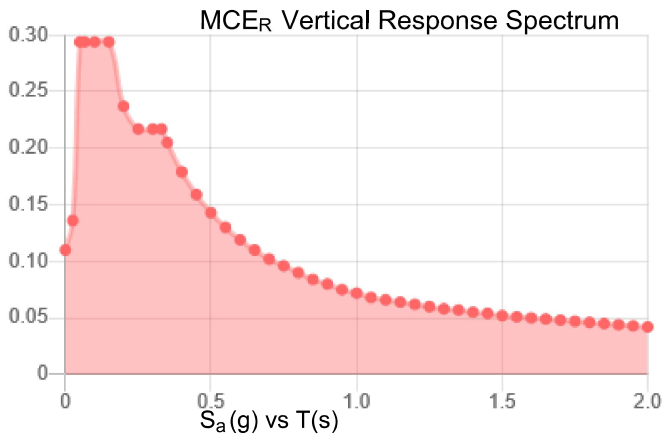
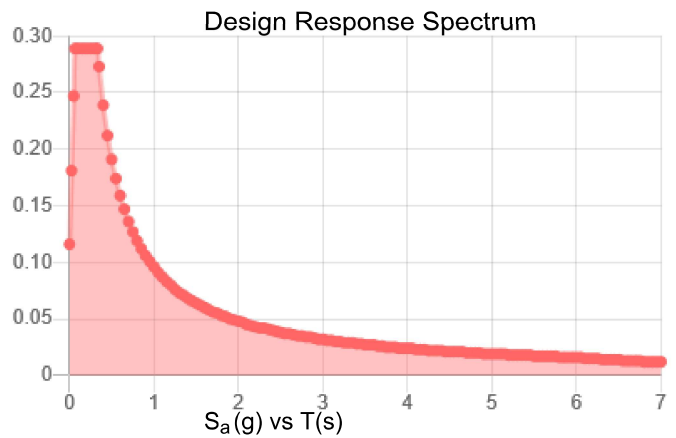
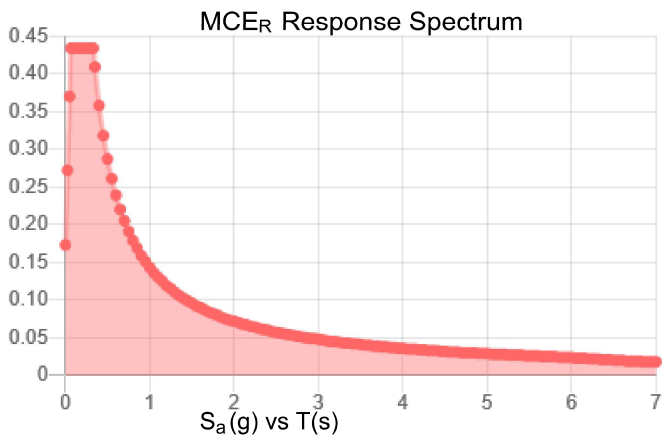
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_s :	0.274	S_{D1} :	0.096
S_1 :	0.06	T_L :	6
F_a :	1.581	PGA :	0.167
F_v :	2.4	PGA _M :	0.245
S_{MS} :	0.434	F_{PGA} :	1.466
S_{M1} :	0.143	I_e :	1
S_{DS} :	0.289	C_v :	0.849

Seismic Design Category B



Data Accessed:

Fri Jul 23 2021

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.00 in.

Concurrent Temperature: 15 F

Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Fri Jul 23 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 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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

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

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

ATTACHMENT 5

Date: **March 9, 2022**



Kimley-Horn and Associates, Inc.
421 Fayetteville Street, Suite 600
Raleigh, NC 27601
(919) 677-2000
CrownMounts@kimley-horn.com

Subject: **Mount Analysis - Conditional Passing Report**

Carrier Designation: **DISH Network Equipment Change-Out**
Carrier Site Number: NJJER01164A
Carrier Site Name: CT-CCI-T-807132

Crown Castle Designation: **BU Number:** 807132
Site Name: BRG 133 943050
JDE Job Number: 640173
Order Number: 548697, Rev. 1

Engineering Firm Designation: **Kimley-Horn Project Number:** 019558058

Site Data: **1081 North Street, Greenwich, Fairfield County, CT 06831**
Latitude 41° 8' 21.50" Longitude -73° 38' 30.54"

Structure Information: **Tower Height & Type:** 175 ft Monopole
Mount Elevation: 154 ft
Mount Type: 8 ft Platform w/ Support Rails

Kimley-Horn is pleased to submit this “**Mount Analysis - Conditional Passing Report**” to determine the structural integrity of DISH Network’s antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

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

Platform w/ Support Rails

Sufficient

* See Section 4.1 for loading and structural modifications required for the mount to support the loading listed in Table 1.

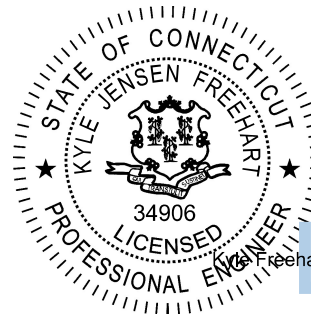
This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 115 mph. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount analysis prepared by: Jeff Sparks

Respectfully Submitted by:

Kyle Freehart, P.E.

Lic. #PEN.0034906, Exp. 1/31/2022
Kimley-Horn and Associates, Inc. COA #PEC.0000738



Digitally signed by Kyle Freehart
DN: c=US
E=Kyle.Freehart@kimley-horn.com,
O=Kimley-Horn, CN=Kyle Freehart
Date: 2022.03.09 13:33:39-0500

TABLE OF CONTENTS

1) INTRODUCTION

2) ANALYSIS CRITERIA

Table 1 - Proposed Equipment Configuration

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

3.1) Analysis Method

3.2) Assumptions

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity

4.1) Recommendations

5) APPENDIX A

Wire Frame and Rendered Models

6) APPENDIX B

Software Input Calculations

7) APPENDIX C

Software Analysis Output

8) APPENDIX D

Additional Calculations

9) APPENDIX E

Supplemental Drawings

1) INTRODUCTION

The mounting configuration consists of a proposed 8 ft Platform w/ Support Rails designed by CommScope.

2) ANALYSIS CRITERIA

Building Code:	2018 Connecticut State Building Code
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	115 mph
Exposure Category:	B
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	1 in
Wind Speed with Ice:	50 mph
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lb
Man Live Load at Mount Pipes:	500 lb

Table 1 – Proposed Equipment Configuration

Elevation (ft)		Antennas			Mount / Modification Details
Mount	Centerline	#	Manufacturer	Model	
154	154	3	Fujitsu	TA08025-B605	Proposed 8 ft Platform w/ Support Rails designed by CommScope
		1	Raycap	RDIDC-9181-PF-48	
		3	Fujitsu	TA08025-B604	
		3	JMA	MX08FRO665-21	

3) ANALYSIS PROCEDURE

Table 2 – Documents Provided

Document	Remarks	Reference	Source
Structural Analysis	Paul J. Ford	10013109	CCISites
Mount Design Drawings	Commscope	MC-PK8-DSH	On File
Site Photos	-	-	CCISites

3.1) Analysis Method

RISA-3D (v. 17.02.00), a commercially-available analysis software package, was used to create a three-dimensional model of the antenna mounting system and calculate member stresses for various loading cases.

A proprietary tool internally developed by Kimley-Horn was used to calculate wind loading on all appurtenances, dishes and mount members for various load cases. Selected output from the analysis is included in Appendix B.

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

3.2) Assumptions

- 1) The antenna mounting system (including any considered modifications) was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer specifications.
- 2) The configuration of antennas, mounts, and other appurtenances are as specified in Table 1 and the provided reference information.
- 3) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected members unless otherwise specified in this report.
- 4) The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members that could not be verified at this time.
- 5) Any referenced prior structural modifications to the tower mounting system are assumed to be installed as shown per available data unless noted otherwise.
- 6) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate	ASTM A36 (Gr. 36)
HSS (Rectangular)	ASTM A36 (Gr. 36)
Pipe	ASTM A53 (Gr. 35)
Connection Bolts	ASTM A325
U-Bolts	ASTM A36 (Gr. 36)
Threaded Rods	ASTM A36 (Gr. 36)

If any assumptions are not valid or have been made in error, Kimley-Horn should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1, 2	Connections	-	154	24%	Pass
1, 2	Other Member 1...	M63A		19%	Pass
1, 2	Corner Plates	M10		17%	Pass
1, 2	Stand Off Horizontals	M12		15%	Pass
1, 2	Mount Pipes	MP6		12%	Pass
1, 2	Face Horizontals	M62		8%	Pass
1, 2	Support Rails	M29		7%	Pass

Structure Rating (max from all components) =	24%
---	------------

Notes:

- 1) See additional documentation in Appendix C and Appendix D for calculations supporting the % capacity consumed.
- 2) Rating per TIA-222-H, Section 15.5.

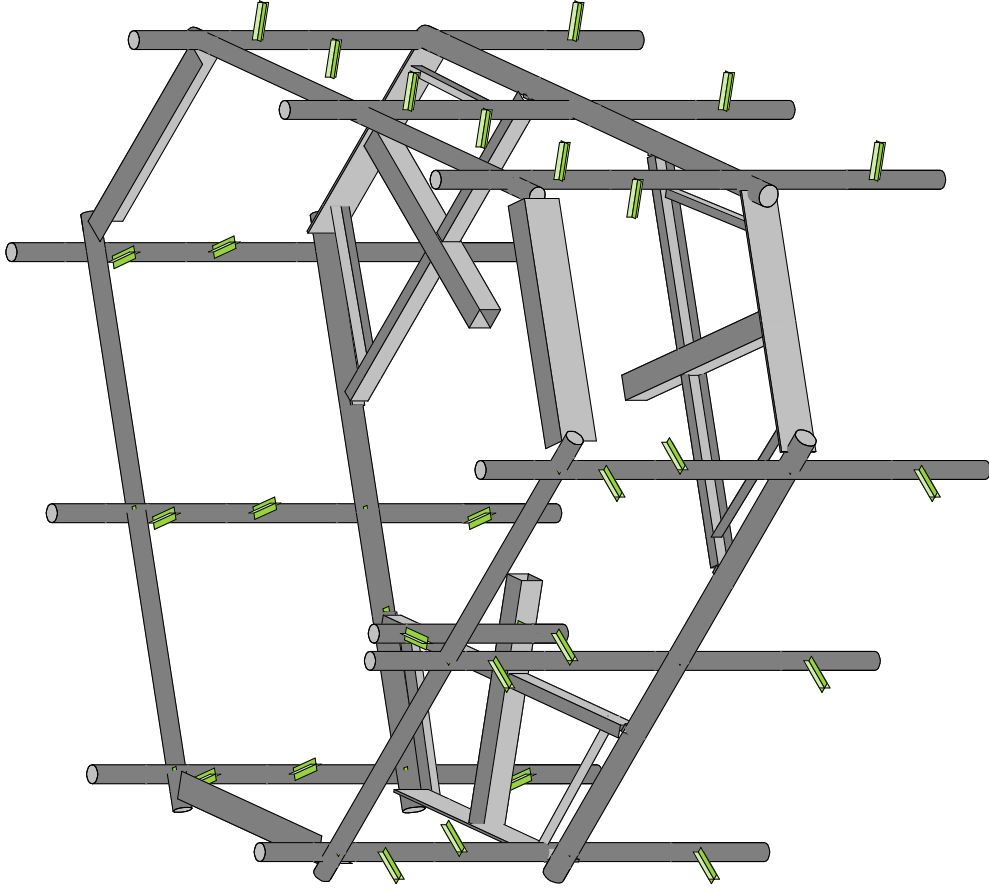
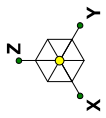
4.1) Recommendations

The mounting configuration will have sufficient capacity to carry the referenced loading once the following modifications are completed:

- **Install new Commscope MC-PK8-DSH platform. Vertically center antennas and mount pipes on mount face horizontals.**

No additional modifications are required at this time provided that the above-listed changes are completed.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

Kimley-Horn and Associates, Inc.

JSS

019558058

807132 - BRG 133 943050

SK - 1

Mar 9, 2022 at 12:32 PM

807132.r3d

APPENDIX B
SOFTWARE INPUT CALCULATIONS

Date **March 09, 2022**

Client **Crown Castle**

Site # **807132**

Site Name **BRG 133 943050**

Project # **195580585**

General Criteria	
TIA Standard	H
IBC Edition	2018
Structure Class	-
Risk Category	II

Wind Summary	
Basic Wind Speed w/o Ice, V (mph)	115.00
Velocity Pressure Coeff., K _z	1.12
Velocity Pressure, q _z (w/o Ice) (psf)	35.31

Site-Specific Criteria	
Exposure Category	B
Topographic Factor, K _{zt}	1.00
Structure Base Elev. (AMSL), z _s (ft)	503.00
Ground Effect Factor, K _e	0.98

Ice Load Summary	
Basic Wind Speed w/ Ice, V _i (mph)	50.00
Design Ice Thick. (ASCE 7-16), t _i (in)	1
Velocity Pressure, q _z (w/ Ice) (psf)	6.67
Escalated Ice Thick. @ Mount, t _{iz} (in)	1.17

Mount & Structure Criteria	
Mount Elevation (AGL) (ft)	154.00
Structure Height (ft)	175.00
Structure Type	Monopole

Seismic Load Summary	
Spectral Response (Short Periods), S _s	-
Spectral Response (1-Sec. Period), S ₁	-
Site Class	D
Seismic Design Category	-
Seismic Risk Category	-

Constants	
Wind Direction Probability Factor, K _d	0.95
Gust Effect Factor, G _h	1
Shielding Factor, K _s (antenna)	0.9
Shielding Factor, K _s (mount)	0.9

Snow Load Summary	
Ground Snow Load, p _g (psf)	-
Snow Load on Flat Roofs, p _f (psf)	-

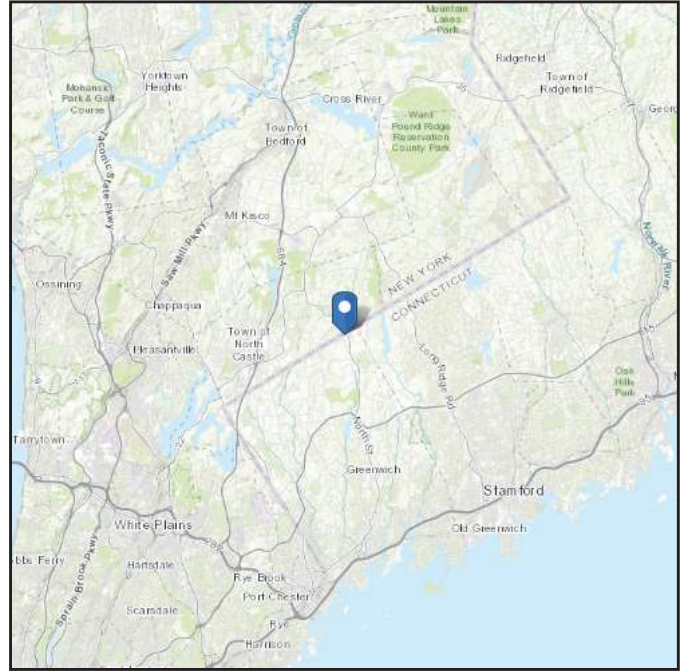
Antenna Name	Qty	Shape	Dimensions (in)			Weight (lb)	Joint Labels								EPA (ft ²)		Wind Force, F _A (lb)			
			H	W	D		Alpha		Beta		Gamma		Delta		Front	Side	No Ice		With Ice	
							A1T	A1B	B1T	B1B	G1T	G1B					Front	Side	Front	Side
MX08FRO665-21	3	Flat	72	20	8	64.5	A1T	A1B	B1T	B1B	G1T	G1B			7.99	3.23	254	102.54	54.82	24.79
TA08025-B604	3	Flat	15.8	15	7.9	63.9	A1R		B1R		G1R				1.03	1.96	32.82	62.4	9.24	15.65
TA08025-B605	3	Flat	15.8	15	9.1	75	A1R		B1R		G1R				1.19	1.96	37.75	62.4	10.3	15.65
RDIDC-9181-PF-48	1	Flat	16.6	14.6	8.5	21.9	RC1								2.01	1.17	63.93	37.12	16	10.21

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 502.51 ft (NAVD 88)
Latitude: 41.139306
Longitude: -73.641817



Wind

Results:

Wind Speed	115 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	96 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Wed Mar 09 2022

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 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

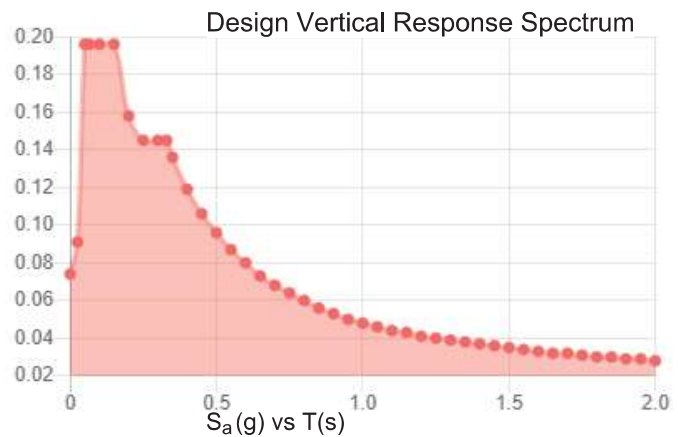
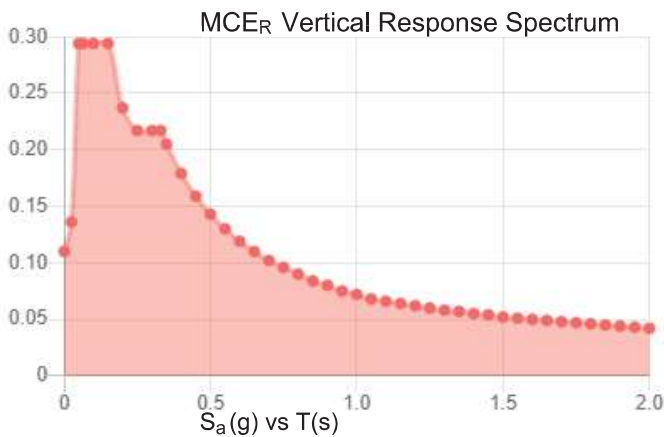
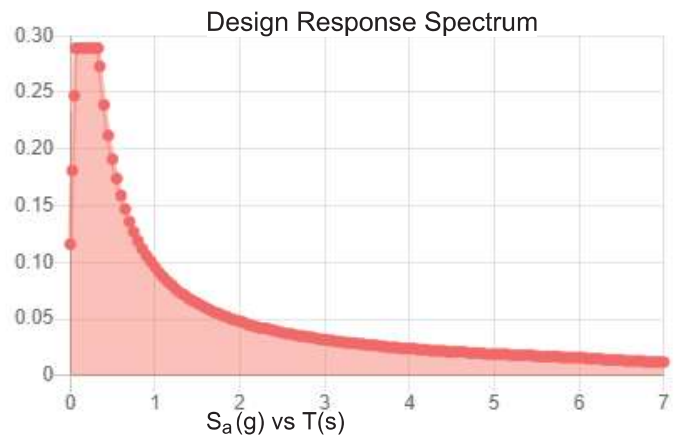
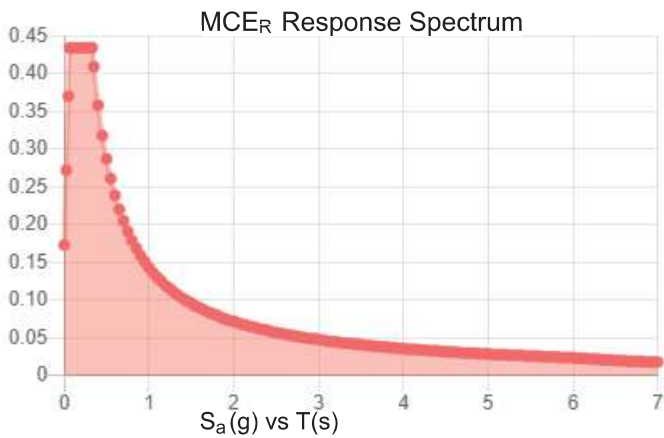
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_s :	0.274	S_{D1} :	0.096
S_1 :	0.06	T_L :	6
F_a :	1.581	PGA :	0.167
F_v :	2.4	PGA _M :	0.245
S_{MS} :	0.434	F_{PGA} :	1.466
S_{M1} :	0.143	I_e :	1
S_{DS} :	0.289	C_v :	0.849

Seismic Design Category B



Data Accessed: Wed Mar 09 2022

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.00 in.
Concurrent Temperature: 15 F
Gust Speed 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Wed Mar 09 2022

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

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

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

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

APPENDIX C
SOFTWARE ANALYSIS OUTPUT

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (1...	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B Rnd	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3
8	A913 Gr.65	29000	11154	.3	.65	.49	65	1.1	80	1.1
9	A500 Gr.C Rnd	29000	11154	.3	.65	.49	46	1.6	62	1.2
10	A500 Gr.C Rect	29000	11154	.3	.65	.49	50	1.5	62	1.2
11	A529 Gr. 50	29000	11154	.3	.65	.49	50	1.1	65	1.1
12	A1011-33 ksi	29000	11154	.3	.65	.49	33	1.5	58	1.2
13	A1011 36 ksi	29000	11154	.3	.65	.49	36	1.5	58	1.2
14	A1018 50 ksi	29000	11154	.3	.65	.49	50	1.5	65	1.2
15	Q235	29000	11154	.3	.65	.49	35	1.5	58	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Corner Plate	PL6-1/2x3/8	Beam	None	A1011 3...	Typical	2.438	.029	8.582	.11
2	Side Plate	PL2-3/8x1/2	Beam	None	A1011 3...	Typical	1.188	.025	.558	.086
3	Grating Horiz	L2x2x4	Beam	None	A529 Gr...	Typical	.944	.346	.346	.021
4	Face Horiz	HSS3.500x0.165	Beam	None	A500 Gr...	Typical	1.729	2.409	2.409	4.819
5	Mount Pipe	HSS2.875x0.120	Column	None	A500 Gr...	Typical	1.039	.987	.987	1.975
6	Cross Horiz	C3.38x2.06x1/4	Beam	None	A1011 3...	Typical	1.75	.715	3.026	.034
7	Stand-Off Horiz	HSS4X4X6	Beam	None	A500 Gr...	Typical	4.78	10.3	10.3	17.5
8	Support Rail	HSS2.875x0.120	Beam	None	A500 Gr...	Typical	1.039	.987	.987	1.975
9	SR Corner Brace	L6.6x4.46x0.25	Beam	None	A1011 3...	Typical	2.703	4.759	12.473	.055

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	M3	Grating Horiz	27.295			Lbyy						Lateral
2	M8	Grating Horiz	27.295			Lbyy						Lateral
3	M13	Grating Horiz	27.295			Lbyy						Lateral
4	M28	SR Corner ...	42			Lbyy						Lateral
5	M29	SR Corner ...	42			Lbyy						Lateral
6	M30	SR Corner ...	42			Lbyy						Lateral
7	M63A	Cross Horiz	33			Lbyy						Lateral
8	M61B	Cross Horiz	33			Lbyy						Lateral
9	M63B	Cross Horiz	33			Lbyy						Lateral
10	M25	Support Rail	96			Lbyy						Lateral
11	M51	Support Rail	96			Lbyy						Lateral
12	M65A	Support Rail	96			Lbyy						Lateral
13	M2	Stand-Off H...	40			Lbyy						Lateral
14	M7	Stand-Off H...	40			Lbyy						Lateral
15	M12	Stand-Off H...	40			Lbyy						Lateral
16	MP9	Mount Pipe	96			Lbyy						Lateral
17	MP7	Mount Pipe	96			Lbyy						Lateral
18	MP8	Mount Pipe	96			Lbyy						Lateral
19	MP3	Mount Pipe	96			Lbyy						Lateral
20	MP1	Mount Pipe	96			Lbyy						Lateral
21	MP6	Mount Pipe	96			Lbyy						Lateral
22	MP4	Mount Pipe	96			Lbyy						Lateral
23	MP2	Mount Pipe	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
24	MP5	Mount Pipe	96			Lbyy						Lateral
25	M4	Grating Horiz	27.295			Lbyy						Lateral
26	M9	Grating Horiz	27.295			Lbyy						Lateral
27	M14	Grating Horiz	27.295			Lbyy						Lateral
28	M18	Face Horiz	96			Lbyy						Lateral
29	M48	Face Horiz	96			Lbyy						Lateral
30	M62	Face Horiz	96			Lbyy						Lateral
31	M61A	Cross Horiz	33			Lbyy						Lateral
32	M60A	Cross Horiz	33			Lbyy						Lateral
33	M62A	Cross Horiz	33			Lbyy						Lateral
34	M5	Corner Plate	42			Lbyy						Lateral
35	M10	Corner Plate	42			Lbyy						Lateral
36	M15	Corner Plate	42			Lbyy						Lateral
37	M88A	Side Plate	1.5			Lbyy						Lateral
38	M89A	Side Plate	1.5			Lbyy						Lateral
39	M90A	Side Plate	1.5			Lbyy						Lateral
40	M91A	Side Plate	1.5			Lbyy						Lateral
41	M92A	Side Plate	1.5			Lbyy						Lateral
42	M93A	Side Plate	1.5			Lbyy						Lateral
43	M101	Mount Pipe	36									Lateral

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(...	Surface...
1	Dead	DL			-1	13				
2	Dead of Ice	RL				13		43		
4	Structure Wind (0)	None						86		
5	Structure Wind (30)	None						86		
6	Structure Wind (45)	None						86		
7	Structure Wind (60)	None						86		
8	Structure Wind (90)	None						86		
9	Structure Wind (120)	None						86		
10	Structure Wind (135)	None						86		
11	Structure Wind (150)	None						86		
12	Structure Wind w/ Ice (0)	None						86		
13	Structure Wind w/ Ice (30)	None						86		
14	Structure Wind w/ Ice (45)	None						86		
15	Structure Wind w/ Ice (60)	None						86		
16	Structure Wind w/ Ice (90)	None						86		
17	Structure Wind w/ Ice (120)	None						86		
18	Structure Wind w/ Ice (135)	None						86		
19	Structure Wind w/ Ice (150)	None						86		
20	Antenna Wind (0)	None				26				
21	Antenna Wind (30)	None				26				
22	Antenna Wind (45)	None				26				
23	Antenna Wind (60)	None				26				
24	Antenna Wind (90)	None				26				
25	Antenna Wind (120)	None				26				
26	Antenna Wind (135)	None				26				
27	Antenna Wind (150)	None				26				
28	Antenna Wind w/ Ice (0)	None				26				
29	Antenna Wind w/ Ice (30)	None				26				
30	Antenna Wind w/ Ice (45)	None				26				
31	Antenna Wind w/ Ice (60)	None				26				
32	Antenna Wind w/ Ice (90)	None				26				
33	Antenna Wind w/ Ice (120)	None				26				

Load Combinations (Continued)

	Description	S...	P...	SRSS	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
45	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	6	-.068	22	-.068	O...	1.5														
46	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	7	-.068	23	-.068	O...	1.5														
47	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	8	-.068	24	-.068	O...	1.5														
48	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	9	-.068	25	-.068	O...	1.5														
49	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	10	-.068	26	-.068	O...	1.5														
50	1.2D + 1.5Lm(1) + 1.0...	Yes	Y		DL	1.2	11	-.068	27	-.068	O...	1.5														
51	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	4	.068	20	.068	O...	1.5														
52	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	5	.068	21	.068	O...	1.5														
53	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	6	.068	22	.068	O...	1.5														
54	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	7	.068	23	.068	O...	1.5														
55	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	8	.068	24	.068	O...	1.5														
56	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	9	.068	25	.068	O...	1.5														
57	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	10	.068	26	.068	O...	1.5														
58	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	11	.068	27	.068	O...	1.5														
59	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	4	-.068	20	-.068	O...	1.5														
60	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	5	-.068	21	-.068	O...	1.5														
61	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	6	-.068	22	-.068	O...	1.5														
62	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	7	-.068	23	-.068	O...	1.5														
63	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	8	-.068	24	-.068	O...	1.5														
64	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	9	-.068	25	-.068	O...	1.5														
65	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	10	-.068	26	-.068	O...	1.5														
66	1.2D + 1.5Lm(2) + 1.0...	Yes	Y		DL	1.2	11	-.068	27	-.068	O...	1.5														
67	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	4	.068	20	.068	O...	1.5														
68	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	5	.068	21	.068	O...	1.5														
69	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	6	.068	22	.068	O...	1.5														
70	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	7	.068	23	.068	O...	1.5														
71	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	8	.068	24	.068	O...	1.5														
72	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	9	.068	25	.068	O...	1.5														
73	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	10	.068	26	.068	O...	1.5														
74	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	11	.068	27	.068	O...	1.5														
75	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	4	-.068	20	-.068	O...	1.5														
76	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	5	-.068	21	-.068	O...	1.5														
77	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	6	-.068	22	-.068	O...	1.5														
78	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	7	-.068	23	-.068	O...	1.5														
79	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	8	-.068	24	-.068	O...	1.5														
80	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	9	-.068	25	-.068	O...	1.5														
81	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	10	-.068	26	-.068	O...	1.5														
82	1.2D + 1.5Lm(3) + 1.0...	Yes	Y		DL	1.2	11	-.068	27	-.068	O...	1.5														
83	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	4	.068	20	.068	O...	1.5														
84	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	5	.068	21	.068	O...	1.5														
85	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	6	.068	22	.068	O...	1.5														
86	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	7	.068	23	.068	O...	1.5														
87	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	8	.068	24	.068	O...	1.5														
88	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	9	.068	25	.068	O...	1.5														
89	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	10	.068	26	.068	O...	1.5														
90	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	11	.068	27	.068	O...	1.5														
91	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	4	-.068	20	-.068	O...	1.5														
92	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	5	-.068	21	-.068	O...	1.5														
93	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	6	-.068	22	-.068	O...	1.5														
94	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	7	-.068	23	-.068	O...	1.5														
95	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	8	-.068	24	-.068	O...	1.5														
96	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	9	-.068	25	-.068	O...	1.5														
97	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	10	-.068	26	-.068	O...	1.5														
98	1.2D + 1.5Lv(1) + 1.0W...	Yes	Y		DL	1.2	11	-.068	27	-.068	O...	1.5														
99	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	4	.068	20	.068	O...	1.5														
100	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	5	.068	21	.068	O...	1.5														
101	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	6	.068	22	.068	O...	1.5														

Load Combinations (Continued)

Description	S...	P...	SRSS	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
102	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	7	.068	23	.068	O...	1.5											
103	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	8	.068	24	.068	O...	1.5											
104	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	9	.068	25	.068	O...	1.5											
105	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	10	.068	26	.068	O...	1.5											
106	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	11	.068	27	.068	O...	1.5											
107	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	4	-.068	20	-.068	O...	1.5											
108	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	5	-.068	21	-.068	O...	1.5											
109	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	6	-.068	22	-.068	O...	1.5											
110	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	7	-.068	23	-.068	O...	1.5											
111	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	8	-.068	24	-.068	O...	1.5											
112	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	9	-.068	25	-.068	O...	1.5											
113	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	10	-.068	26	-.068	O...	1.5											
114	1.2D + 1.5Lv(2) + 1.0W...	Yes	Y		DL	1.2	11	-.068	27	-.068	O...	1.5											
115	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	4	.068	20	.068	O...	1.5											
116	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	5	.068	21	.068	O...	1.5											
117	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	6	.068	22	.068	O...	1.5											
118	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	7	.068	23	.068	O...	1.5											
119	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	8	.068	24	.068	O...	1.5											
120	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	9	.068	25	.068	O...	1.5											
121	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	10	.068	26	.068	O...	1.5											
122	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	11	.068	27	.068	O...	1.5											
123	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	4	-.068	20	-.068	O...	1.5											
124	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	5	-.068	21	-.068	O...	1.5											
125	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	6	-.068	22	-.068	O...	1.5											
126	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	7	-.068	23	-.068	O...	1.5											
127	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	8	-.068	24	-.068	O...	1.5											
128	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	9	-.068	25	-.068	O...	1.5											
129	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	10	-.068	26	-.068	O...	1.5											
130	1.2D + 1.5Lv(3) + 1.0W...	Yes	Y		DL	1.2	11	-.068	27	-.068	O...	1.5											

Envelope Joint Reactions

Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC	
1	P24	max	1016.611	18	820.993	16	1489.988	30	-.468	6	-.003	6	1.565	18
2		min	-1016.718	10	-818.93	8	363.648	6	-3.195	30	-2.607	78	-1.558	9
3	P13	max	506.38	3	1106.338	15	1358.899	19	.726	31	3.173	19	1.478	7
4		min	-513.836	11	-1110.375	7	311.818	11	.183	7	.479	11	-1.474	15
5	P1	max	1006.033	3	612.412	14	1406.573	40	2.294	40	-.447	16	1.439	12
6		min	-998.989	11	-610.225	6	302.722	16	.231	16	-3.091	40	-1.448	4
7	Totals:	max	2492.827	3	2466.142	15	3971.409	33						
8		min	-2492.828	11	-2466.149	7	1601.881	1						

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

Member	Shape	Code Check	Loc[in]	LC	She...	Lo...	LC	phi*P...	phi*P...	phi*M...	phi*M...	Eqn
1	M63A C3.38x2.06x1/4	.202	0	9	.034	0	y50	4828...	56700	2.203	5.751	H1-1b
2	M61B C3.38x2.06x1/4	.196	0	3	.030	26...	z12	4828...	56700	2.203	5.751	H1-1b
3	M63B C3.38x2.06x1/4	.193	0	14	.028	26...	z7	4828...	56700	2.203	5.751	H1-1b
4	M62A C3.38x2.06x1/4	.181	0	14	.039	26...	y21	4828...	56700	2.203	5.751	H1-1b
5	M61A C3.38x2.06x1/4	.180	0	8	.037	26...	y32	4828...	56700	2.203	5.751	H1-1b
6	M10 PL6-1/2x3/8	.175	21	3	.085	36...	y31	3658...	78975	.617	8.245	H1-1b
7	M60A C3.38x2.06x1/4	.173	0	3	.037	26...	y27	4828...	56700	2.203	5.751	H1-1b
8	M5 PL6-1/2x3/8	.172	21	40	.102	36...	y35	3658...	78975	.617	8.749	H1-1b
9	M15 PL6-1/2x3/8	.171	21	14	.074	5.9...	y67	3658...	78975	.617	8.224	H1-1b
10	M12 HSS4X4X6	.155	40	75	.069	40	y79	2037...	2151...	23.963	23.963	H1-1b
11	M93A PL2-3/8x1/2	.151	1.5	3	.152	0	y22	3825...	38475	.401	1.904	H1-1b

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

Member	Shape	Code Check	Loc[in]	LC	She...	Lo...	LC	phi*P...	phi*P...	phi*M...	phi*M...	Eqn		
12	M2	HSS4X4X6	.151	40	43	.099	40	y	39	2037...	2151...	23.963	23.963	H1-1b
13	M89A	PL2-3/8x1/2	.149	1.5	16	.190	0	y	60	3825...	38475	.401	1.904	H1-1b
14	M92A	PL2-3/8x1/2	.146	1.5	18	.112	0	y	20	3825...	38475	.401	1.904	H1-1b
15	M91A	PL2-3/8x1/2	.145	1.5	13	.154	0	y	34	3825...	38475	.401	1.904	H1-1b
16	M7	HSS4X4X6	.143	40	22	.066	24	y	32	2037...	2151...	23.963	23.963	H1-1b
17	M88A	PL2-3/8x1/2	.142	1.5	7	.181	0	y	58	3825...	38475	.401	1.904	H1-1b
18	M90A	PL2-3/8x1/2	.141	1.5	12	.120	0	y	30	3825...	38475	.401	1.904	H1-1b
19	M8	L2x2x4	.140	0	4	.009	0	y	12	2952...	42480	.96	2.19	H2-1
20	M13	L2x2x4	.134	0	15	.008	0	y	7	2952...	42480	.96	2.19	H2-1
21	M3	L2x2x4	.131	0	9	.009	0	y	17	2952...	42480	.96	2.19	H2-1
22	MP6	HSS2.875x0.1...	.130	42.442	9	.039	42...	6	2239...	4301...	3.143	3.143	H1-1b	
23	MP3	HSS2.875x0.1...	.125	42.442	7	.047	85...	11	2239...	4301...	3.143	3.143	H1-1b	
24	MP9	HSS2.875x0.1...	.123	42.442	4	.056	42...	3	2239...	4301...	3.143	3.143	H1-1b	
25	MP8	HSS2.875x0.1...	.116	42.442	4	.036	42...	12	2239...	4301...	3.143	3.143	H1-1b	
26	MP2	HSS2.875x0.1...	.110	42.442	15	.037	42...	7	2239...	4301...	3.143	3.143	H1-1b	
27	MP5	HSS2.875x0.1...	.106	42.442	10	.040	42...	18	2239...	4301...	3.143	3.143	H1-1b	
28	MP4	HSS2.875x0.1...	.101	42.442	18	.036	42...	11	2239...	4301...	3.143	3.143	H1-1b	
29	M4	L2x2x4	.096	0	16	.014	27...	y	36	2952...	42480	.96	2.19	H2-1
30	M14	L2x2x4	.096	0	6	.013	27...	y	26	2952...	42480	.96	2.19	H2-1
31	MP1	HSS2.875x0.1...	.094	42.442	7	.038	42...	8	2239...	4301...	3.143	3.143	H1-1b	
32	MP7	HSS2.875x0.1...	.090	42.442	12	.040	42...	14	2239...	4301...	3.143	3.143	H1-1b	
33	M9	L2x2x4	.089	0	11	.013	27...	y	31	2952...	42480	.96	2.19	H2-1
34	M62	HSS3.500x0.1...	.085	31.326	3	.031	48	4	4587...	7158...	6.338	6.338	H1-1b	
35	M48	HSS3.500x0.1...	.083	31.326	8	.042	92...	39	4587...	7158...	6.338	6.338	H1-1b	
36	M18	HSS3.500x0.1...	.083	31.326	14	.029	48	7	4587...	7158...	6.338	6.338	H1-1b	
37	M29	L6.6x4.46x0.25	.075	39	3	.011	39	z	11	5143...	87561	2.465	7.125	H2-1
38	M25	HSS2.875x0.1...	.070	6.063	12	.028	92...	8	2239...	4301...	3.143	3.143	H1-1b	
39	M65A	HSS2.875x0.1...	.070	6.063	18	.030	5.5...	3	2239...	4301...	3.143	3.143	H1-1b	
40	M28	L6.6x4.46x0.25	.070	39	13	.011	3.9	z	7	5143...	87561	2.465	7.125	H2-1
41	M30	L6.6x4.46x0.25	.069	39	8	.011	39	z	17	5143...	87561	2.465	7.125	H2-1
42	M51	HSS2.875x0.1...	.068	6.063	7	.030	92...	11	2239...	4301...	3.143	3.143	H1-1b	
43	M101	HSS2.875x0.1...	.054	29.937	11	.015	29...	12	3924...	4301...	3.143	3.143	H1-1b	

APPENDIX D
ADDITIONAL CALCULATIONS

Square/Rectangular Flange Connection

TIA-222-H

Site Number	807132
Job number	019558058
Code	TIA-222-H

Normalize usages per TIA-222-H, Sec. 15.5

REACTIONS (ABOUT X - HORIZONTAL)	
Moment, Mu (kip-ft)	3.660
Shear, Vu (kips)	-1.472
Axial, Pu (kips) - <i>Negative for tension</i>	-0.040

BOLT CONFIGURATION	
Bolt Quantity, n _b	4
Bolt Diameter, d _b (in)	0.625
Bolt Grade	A325
Width between bolts, s (in)	7.00

PLATE CONFIGURATION	
Plate Shape	Square
Plate Grade	A572-50
Thickness of plate, t (in)	0.750
Width of plate, w (in)	9.00

SUPPORT ARM CONFIGURATION	
Member Shape	Square
Member Grade	A500-50
Thickness of Member, t (in)	0.375
Width of member, w (in)	4.000

Stiffeners present?

Member/Node Under Consideration	M12
Controlling Load Combination (X-Direction)	LC78
Controlling Load Combination (Y-Direction)	LC9

X and Y Reactions Simultaneous? No

REACTIONS (ABOUT Y - VERTICAL)	
Moment, Mu (kip-ft)	1.558
Shear, Vu (kips)	1.187
Axial, Pu (kips) - <i>Negative for tension</i>	0.198

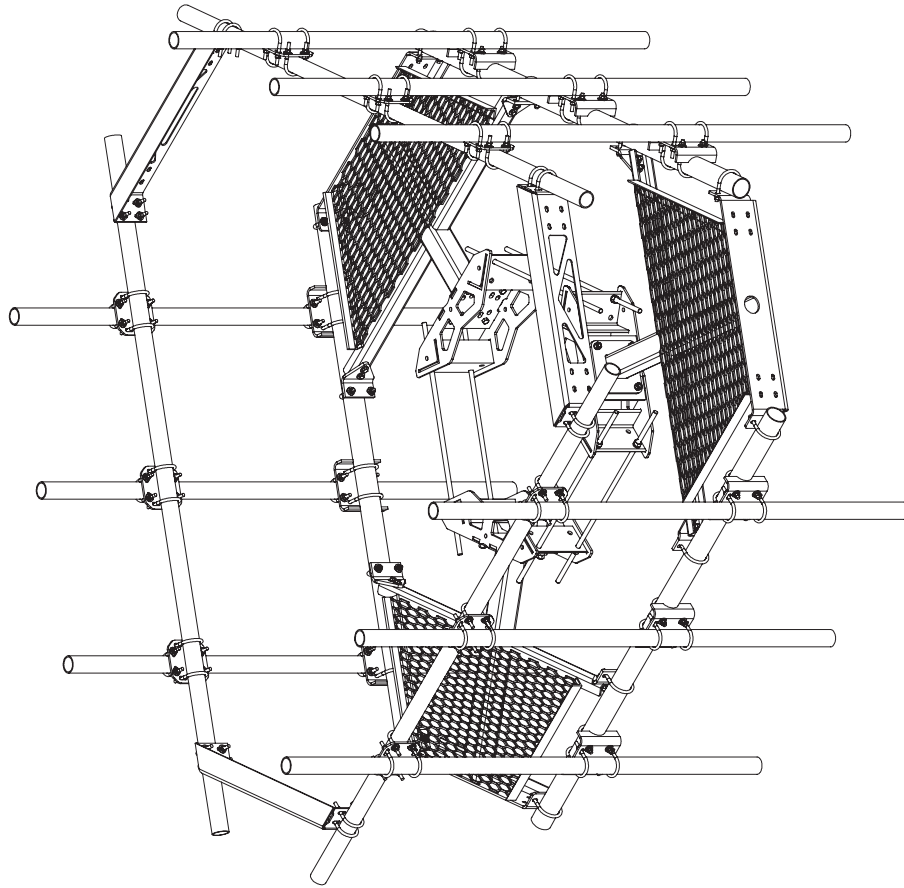
BOLT USAGE	
Maximum Tension in Bolt, Tub (kip)	3.147
Nominal Tensile Strength, φR _t (kip)	20,340
Tensile Usage (Section 4.9.6.1)	15%

PLATE USAGE	
Effective width of plate, b _{eff} (in)	4.493
Ultimate flexural load in plate, Mu (kip-in)	7.069
Factored flexural capacity, φM _n (kip-in)	28,430
Flexural Usage	25%

APPENDIX E
SUPPLEMENTAL DRAWINGS

NOTES:

- 1.0 GENERAL
 - 1.1 ALL METRIC DIMENSIONS ARE IN BRACKETS
 - 1.2 FOR PATENTS, SEE WWW.COMMSCOPE.COM
- 2.0 DESIGN NOTES
 - 2.1 TORQUE L-BOLTS TO 44 FT-LBS
- 3.0 MANUFACTURING/SPECIAL REQUIREMENTS
- 4.0 TEST
- 5.0 PACKAGING



REV.	ECN	REVISIONS	BY	DATE
A	10272PC	INITIAL RELEASE	HDAI	03/09/2021

PATENT PENDING

COMMSCOPE, INC. OF NORTH CAROLINA

TOLERANCES
 1 PLACE .X ± .25
 2 PLACE .XX ± 0.12
 3 PLACE .XXX ± 0.06
 ANGLES ± 2°

FINISH
 GALV A123

MATERIAL
 A500, A1011/A1018

NAME	DATE	TITLE
MRC 02/17/20	02/17/20	
CE ROGHANSON 03/16/2021	03/16/2021	
AD BURGESS 03/17/2021	03/17/2021	
RE FATTO24 02/27/2020	02/27/2020	
ECN 10272PC		

SCALE	DOCUMENT NO.
1:32	MC-PK8-DSH

SIZE	VERSION	STATUS	MODEL
C	01	AD	

REVISION	STATUS	DATE	BY
00	AD		

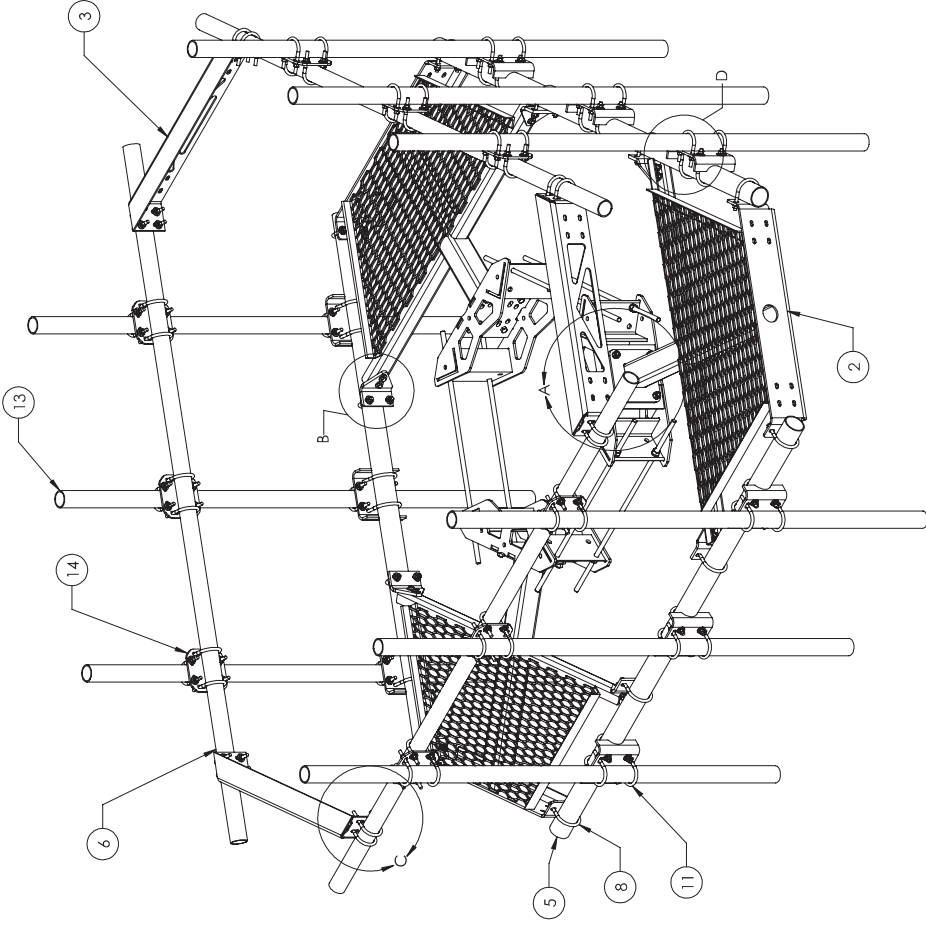
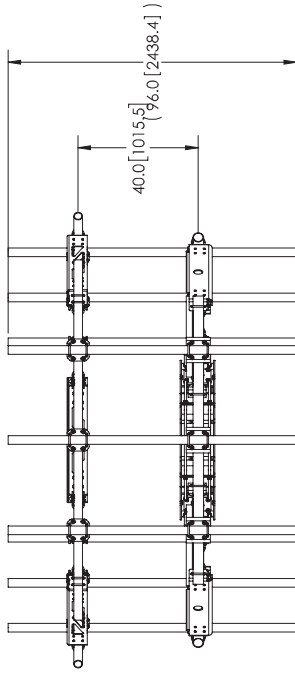
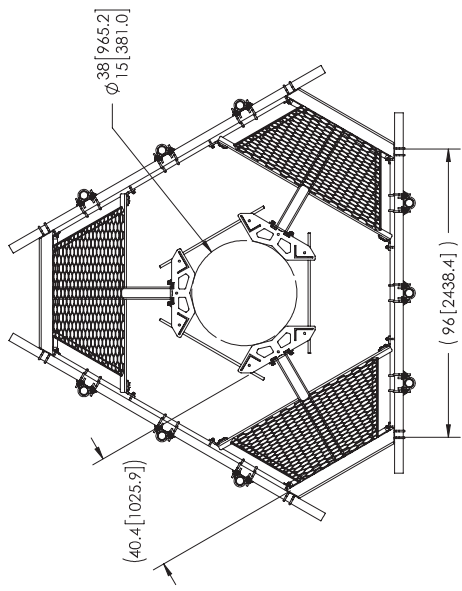
REVISION	STATUS	DATE	BY
00	AD		

REVISION	STATUS	DATE	BY
00	AD		

REVISION	STATUS	DATE	BY
00	AD		

PROPERTY	UNIT	VALUE
DENSITY	lbs/in ³	
MASS	lbs	
VOLUME	in ³	
SURFACE AREA	in ²	
HEIGHT	96"	
LENGTH	46"	
WIDTH	29"	

NOTES:



ITEM	PART NO.	DESCRIPTION	QTY.
1	MC-RMT1550-3	12" - 50" OD RINGMOUNT	1
2	MITC300602	SECTOR WELDMENT FOR SNUB NOSE PLATFORM	3
3	MIT195801	Corner Weldment Snub Nose Handrail	1
4	GB-0520A	5/8" X 2" GALV BOLT KIT (A325)	12
5	MIT54796	3.50" OD X 96" GALV PIPE	3
6	MIT546120	2.875" O.D. X 120" PIPE	3
7	GWF-04	1/2" GALV FLAT WASHER	12
8	GJB-4355	1/2" X 3-5/8" X 5" GALV U-BOLT	12
9	MITC300618	MOUNTING PLATE FOR MT-196	6
10	GB-04205	1/2" X 2" GALV BOLT KIT	12
11	MT-219MH	3.5" OD X 2-7/8" OD Clamp Bracket Assembly	9
12	GUB-4352	1/2" X 3" X 5-1/4" GALV U-BOLT	12
13	MIT54696	Ø 2.875" O.D. X 96 PIPE	9
14	XP-2525	CROSSOVER PLATE KIT, 2-7/8 OD X 2-7/8 OD	9

COMMSCOPE, INC. OF NORTH CAROLINA

TITLE
LOW PROFILE PLATFORM FACE

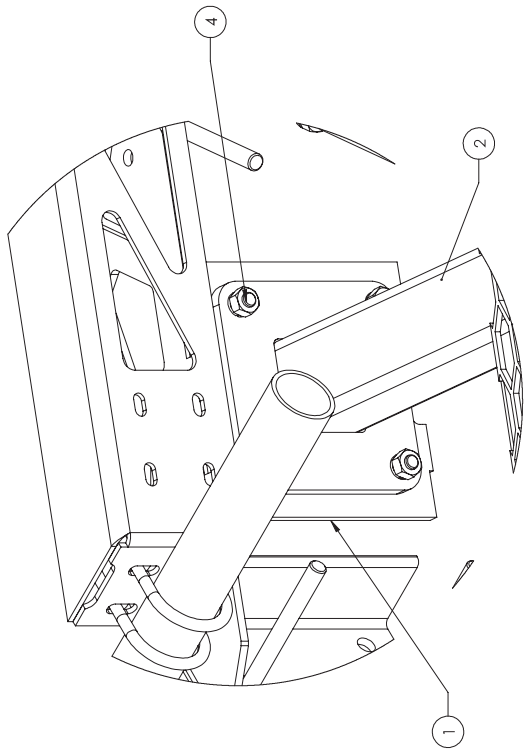
SCALE
1:32

DOCUMENT NO.
MC-PK8-DSH

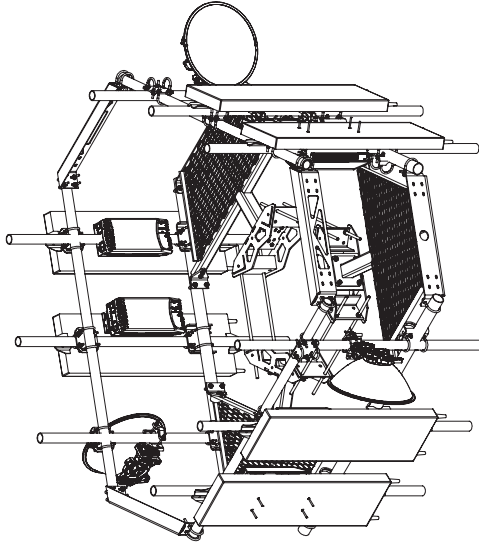
DRAWING STATUS	AD	A
	00	
VERSION		
REVISION		

© 2021 CommScope, Inc.

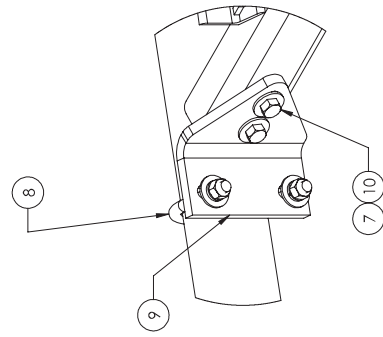
NOTES:



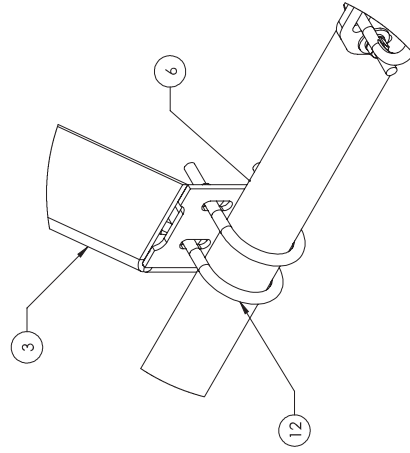
DETAIL A
SCALE 1 : 4



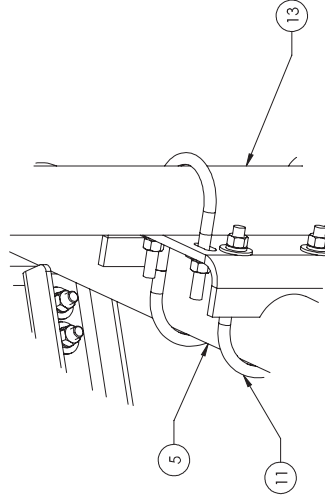
WITH ANTENNAS



DETAIL B
SCALE 1 : 4



DETAIL C
SCALE 1 : 4



DETAIL D
SCALE 1 : 4

COMMSCOPE, INC. OF NORTH CAROLINA

TITLE

LOW PROFILE PLATFORM FACE

SIZE
SCALE
C
1:24

DOCUMENT NO.
MC-PK8-DSH

DRAWING		SHEET	
VERSION	STATUS	REVISION	A
00	AD		A

3 OF 3

© 2021 CommScope, Inc.

ATTACHMENT 6

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

Dish Wireless Existing Facility

Site ID: NJJER01164A

807132

1081 North Street

Greenwich, Connecticut 06831

April 27, 2022

EBI Project Number: 6222002991

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	9.64%

April 27, 2022

Attn: Dish Wireless

Emissions Analysis for Site: NJJER01164A - 807132

EBI Consulting was directed to analyze the proposed Dish Wireless facility located at **1081 North Street in Greenwich, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

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

General population/uncontrolled exposure limits apply to situations in which the general 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 ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed Dish Wireless Wireless antenna facility located at 1081 North Street in Greenwich, 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 154 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:	11.45 dBd / 15.75 dBd / 16.75 dBd	Gain:	11.45 dBd / 15.75 dBd / 16.75 dBd	Gain:	11.45 dBd / 15.75 dBd / 16.75 dBd
Height (AGL):	154 feet	Height (AGL):	154 feet	Height (AGL):	154 feet
Channel Count:	12	Channel Count:	12	Channel Count:	12
Total TX Power (W):	440.00 Watts	Total TX Power (W):	440.00 Watts	Total TX Power (W):	440.00 Watts
ERP (W):	2,529.88	ERP (W):	2,529.88	ERP (W):	2,529.88
Antenna AI MPE %:	0.53%	Antenna BI MPE %:	0.53%	Antenna CI MPE %:	0.53%

Site Composite MPE %	
Carrier	MPE %
Dish Wireless (Max at Sector A):	0.53%
RAM Mobile	0.27%
Verizon	1.68%
Sprint	1.12%
T-Mobile	3.61%
AT&T	2.43%
Site Total MPE % :	9.64%

Dish Wireless MPE % Per Sector	
Dish Wireless Sector A Total:	0.53%
Dish Wireless Sector B Total:	0.53%
Dish Wireless Sector C Total:	0.53%
Site Total MPE % :	9.64%

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 ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
Dish Wireless 600 MHz n71	4	112.10	154.0	0.74	600 MHz n71	400	0.18%
Dish Wireless 1900 MHz n70	4	245.22	154.0	1.61	1900 MHz n70	1000	0.16%
Dish Wireless 2190 MHz n66	4	275.14	154.0	1.81	2190 MHz n66	1000	0.18%
						Total:	0.53%

• 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:	0.53%
Sector B:	0.53%
Sector C:	0.53%
Dish Wireless Maximum MPE % (Sector A):	0.53%
Site Total:	9.64%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **9.64%** 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.

ATTACHMENT 7

CERTIFICATION OF SERVICE

I hereby certify that on the 13th day of May 2022, DISH Wireless, LLC provided notice of its intent to file a Petition for a declaratory ruling that a Certificate of Environmental Compatibility and Public Need is not required for the modification of a wireless telecommunications facility at 1081 North Street in Greenwich, Connecticut, to the following:

Abutters

North Greenwich Associates LLC
87 Greenwich Avenue
Greenwich, CT 06830

Manion, Paul & Deena Rae
6005 Paseo Canyon Drive
Malibu, CA 90265

Caso, George A & Perri
27 Halstead Avenue
Port Chester, NY 10573

Kennedy Nursery Inc
499 Alabama Street, #325
San Francisco, CA 94110

WJV Holdings LLC
3875 Tuxedo Road NW
Atlanta, GA 30342

Owner

Crown Atlantic Company
PMB 353
4107 Washington Road
McMurray, PA 15317

Respectfully Submitted,

Victoria Masse
Northeast Site Solutions
420 Main Street #2
Sturbridge, MA 01566

May 13, 2022

**VIA USPS CERTIFIED MAIL/
RETURN RECEIPT REQUESTED**

Crown Atlantic Company
PMB 353
4107 Washington Road
McMurray, PA 15317

**RE: Proposed Modification to Existing Wireless Telecommunications Facility at
1081 North Street in Greenwich, Connecticut**

To Whom It May Concern:

I am writing to you on behalf of DISH Wireless, LLC (“DISH”). DISH intends to file with the Connecticut Siting Council (“Council”) a petition for declaratory ruling (“Petition”) that a Certificate of Environmental Compatibility and Public Need is not required.

The Petition will provide details of the Existing Facility modification and explain why it will have no significant adverse environmental effect.

This letter serves as notice to you as an abutting property owner pursuant to § 16-50j-40 of the Regulations of Connecticut State Agencies. DISH will file the Petition on or about May 4, 2022 and will request that the Council place the Petition on some future agenda.

You may review the Petition at the office of the Council, which is located at Ten Franklin Square, New Britain, Connecticut, 06051, or at the Office of the Town Clerk at the Greenwich Town Hall. All inquiries should be addressed to Council or to the undersigned.

Sincerely,

Victoria Masse
Northeast Site Solutions
420 Main Street #2
Sturbridge, MA 01566

7021 1970 0001 2284 4314

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Conohobara, PA 15317

OFFICIAL USE

Certified Mail Fee	\$3.75
\$	\$3.05
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.58
\$	
Total Postage and Fees	\$7.38

Sent To **Crown Atlantic Company**
 Street and Apt. No., or PO Box No. **P.O. BOX 353**
 City, State, ZIP+4® **ME MURRAY, PA 15317**

PS Form 3800, April 2015 PSN 7530-02 000-9047 See Reverse for Instructions



05/17/2022

7021 1970 0001 2284 0460

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Atlanta, GA 30342

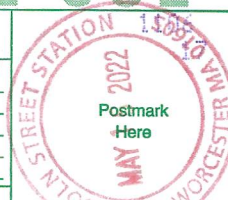
OFFICIAL USE

Certified Mail Fee	\$3.75
\$	\$3.05
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.58
\$	
Total Postage and Fees	\$7.38

Sent To **WJV Holdings LLC**
 Street and Apt. No., or PO Box No. **3875 Tuxedo Rd NW**
 City, State, ZIP+4® **Atlanta GA 30342**

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



05/17/2022

7021 1970 0001 2284 4352

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

San Francisco, CA 94110

OFFICIAL USE

Certified Mail Fee	\$3.75
\$	\$3.05
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.58
\$	
Total Postage and Fees	\$7.38

Sent To **Kennedy Nursery Inc**
 Street and Apt. No., or PO Box No. **409 Alabang St. # 325**
 City, State, ZIP+4® **San Francisco, CA 94110**

PS Form 3800, April 2015 PSN 7530-02 000-9047 See Reverse for Instructions



05/17/2022

7021 1970 0001 2284 4345

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Port Chester, NY 10573

OFFICIAL USE

Certified Mail Fee	\$3.75
\$	\$3.05
Extra Services & Fees (check box, add fee as appropriate)	
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00

Postage	\$0.58
\$	
Total Postage and Fees	\$7.38

Sent To **George / Perri Caso**
 Street and Apt. No., or PO Box No. **27 Halstead Ave**
 City, State, ZIP+4® **Port Chester, NY 10573**

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



05/17/2022

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Greenwich, CT 06830

Certified Mail Fee	\$3.75	\$3.05
Extra Services & Fees (check box, add fee as appropriate)		
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	\$0.00

Postage \$0.58

Total Postage and Fees \$7.38

Sent To North Greenwich Associates
 Street and Apt. No., or PO Box No. 87 Greenwich Ave.
 City, State, ZIP+4® Greenwich, CT 06830

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



05/17/2022

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
 Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

Malibu, CA 90265

Certified Mail Fee	\$3.75	\$3.05
Extra Services & Fees (check box, add fee as appropriate)		
<input type="checkbox"/> Return Receipt (hardcopy)	\$0.00	\$0.00
<input type="checkbox"/> Return Receipt (electronic)	\$0.00	\$0.00
<input type="checkbox"/> Certified Mail Restricted Delivery	\$0.00	\$0.00
<input type="checkbox"/> Adult Signature Required	\$0.00	\$0.00
<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00	\$0.00

Postage \$0.58

Total Postage and Fees \$7.38

Sent To Paul & Deena Rae Manion
 Street and Apt. No., or PO Box No. 6005 Paseo Canyon Dr.
 City, State, ZIP+4® Malibu, CA 90265

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



05/17/2022

Text your tracking number to 28777 (2USPS) to get the latest status. Standard Message

a
vi



LINCOLN MALL
 560 LINCOLN ST STE 8
 WORCESTER, MA 01605-1925
 (800)275-8777

A
R

05/17/2022

11:03 AM

Go
or

Product	Qty	Unit Price	Price
---------	-----	------------	-------

First-Class Mail® Letter	1		\$0.58
--------------------------	---	--	--------

Atlanta, GA 30342
 Weight: 0 lb 0.90 oz
 Estimated Delivery Date Sat 05/21/2022

Certified Mail® Tracking #:	70211970000122840460	\$3.75
-----------------------------	----------------------	--------

Return Receipt Tracking #:	9590 9402 6930 1104 6429 38	\$3.05
----------------------------	-----------------------------	--------

Total		\$7.38
-------	--	--------

UFN:
Rece
Cler

First-Class Mail® Letter	1	\$0.58
--------------------------	---	--------

San Francisco, CA 94110
 Weight: 0 lb 0.90 oz
 Estimated Delivery Date Mon 05/23/2022

Certified Mail® Tracking #:	70211970000122844352	\$3.75
-----------------------------	----------------------	--------

Return Receipt Tracking #:	9590 9402 6930 1104 6429 21	\$3.05
----------------------------	-----------------------------	--------

Total		\$7.38
-------	--	--------

First-Class Mail® Letter	1	\$0.58
--------------------------	---	--------

Port Chester, NY 10573
 Weight: 0 lb 0.90 oz
 Estimated Delivery Date Fri 05/20/2022

Certified Mail® Tracking #:	70211970000122844345	\$3.75
-----------------------------	----------------------	--------

Return Receipt Tracking #:	9590 9402 6930 1104 6427 16	\$3.05
----------------------------	-----------------------------	--------

Total

First-Class Mail® 1 \$0.58
 Letter
 Malibu, CA 90265
 Weight: 0 lb 0.90 oz
 Estimated Delivery Date
 Mon 05/23/2022
 Certified Mail® \$3.75
 Tracking #: 70211970000122844338
 Return Receipt \$3.05
 Tracking #: 9590 9402 6930 1104 6427 23
 Total \$7.38

First-Class Mail® 1 \$0.58
 Letter
 Greenwich, CT 06830
 Weight: 0 lb 0.90 oz
 Estimated Delivery Date
 Fri 05/20/2022
 Certified Mail® \$3.75
 Tracking #: 70211970000122844321
 Return Receipt \$3.05
 Tracking #: 9590 9402 6930 1104 6427 30
 Total \$7.38

First-Class Mail® 1 \$0.58
 Letter
 Canonsburg, PA 15317
 Weight: 0 lb 0.90 oz
 Estimated Delivery Date
 Fri 05/20/2022
 Certified Mail® \$3.75
 Tracking #: 70211970000122844314
 Return Receipt \$3.05
 Tracking #: 9590 9402 6930 1104 6427 47
 Total \$7.38


807321 (DISH)

 Grand Total: \$44.28

Credit Card Remitted \$44.28

Card Name: VISA
 Account #: XXXXXXXXXXXX7594
 Approval #: 07718G
 Transaction #: 252
 AID: A0000000031010 Chip
 AL: VISA CREDIT
 PIN: Not Required CHASE VISA

 Every household in the U.S. is now
 eligible to receive a second set
 of 4 free test kits.
 Go to www.covidtests.gov



**UNITED STATES
POSTAL SERVICE®**

Click-N-Ship®

P

USPS.com | 9405 5036 9930 0250 6656 14 0089 5000 0020 6830
US POSTAGE
 Flat Rate Env
 U.S. POSTAGE PAID
 Click-N-Ship®

05/16/2022 Mailed from 01566

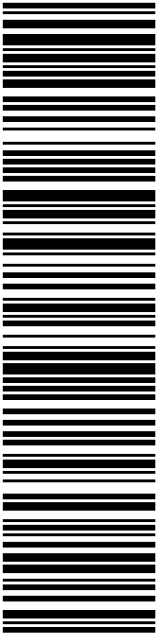
PRIORITY MAIL 2-DAY™

Expected Delivery Date: 05/19/22
 Ref#: DS-807132
0006

C027

SHIP TO: FRED CAMILLO
 FIRST SELECTMAN-GREENWICH
 101 FIELD POINT RD
 GREENWICH CT 06830-6463

USPS TRACKING #



9405 5036 9930 0250 6656 14

Electronic Rate Approved #038555749



Cut on dotted line.

Instructions

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

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0250 6656 14

Trans. #: 563654366	Priority Mail® Postage: \$8.95
Print Date: 05/16/2022	Total: \$8.95
Ship Date: 05/16/2022	
Expected Delivery Date: 05/19/2022	

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


Ref#: DS-807132

To: FRED CAMILLO
 FIRST SELECTMAN-GREENWICH
 101 FIELD POINT RD
 GREENWICH CT 06830-6463

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



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



UNITED STATES POSTAL SERVICE®

Click-N-Ship®

P

usps.com | 9405 5036 9930 0250 6656 38 0089 5000 0020 6830
US POSTAGE
Flat Rate Env
05/16/2022

U.S. POSTAGE PAID
Click-N-Ship®

Mailed from 01566

PRIORITY MAIL 2-DAY™

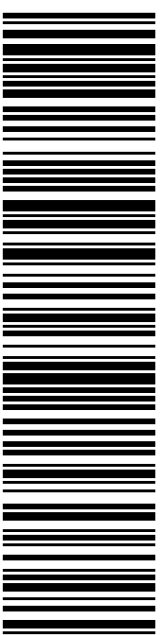
Expected Delivery Date: 05/19/22
Ref#: DS-807132
0006

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

C027

SHIP TO: KATIE DELUCA
PLANNING & ZONING-ZEO-TOWN PLANNER
101 FIELD POINT RD
GREENWICH CT 06830-6463

USPS TRACKING #



9405 5036 9930 0250 6656 38

Electronic Rate Approved #038555749



Cut on dotted line.

Instructions

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

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0250 6656 38

Trans. #: 563654366	Priority Mail® Postage: \$8.95
Print Date: 05/16/2022	Total: \$8.95
Ship Date: 05/16/2022	
Expected Delivery Date: 05/19/2022	

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

Ref#: DS-807132

To: KATIE DELUCA
PLANNING & ZONING-ZEO-TOWN PLANNER
101 FIELD POINT RD
GREENWICH CT 06830-6463

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



Thank you for shipping with the United States Postal Service!

Check the status of your shipment on the USPS Tracking® page at usps.com

807132 Crown Dish



FARMINGTON
210 MAIN ST
FARMINGTON, CT 06032-9998
(800)275-8777

05/18/2022

03:13 PM

Product	Qty	Unit Price	Price
---------	-----	------------	-------

Prepaid Mail	1		\$0.00
Canonsburg, PA 15317			
Weight: 0 lb 15.30 oz			
Acceptance Date: Wed 05/18/2022			
Tracking #: 9405 5036 9930 0250 6656 69			

Prepaid Mail	1		\$0.00
Greenwich, CT 06830			
Weight: 0 lb 15.20 oz			
Acceptance Date: Wed 05/18/2022			
Tracking #: 9405 5036 9930 0250 6656 14			

Prepaid Mail	1		\$0.00
Greenwich, CT 06830			
Weight: 0 lb 15.30 oz			
Acceptance Date: Wed 05/18/2022			
Tracking #: 9405 5036 9930 0250 6656 38			

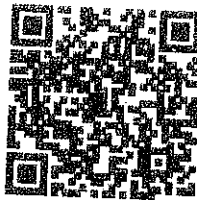
Grand Total:			\$0.00
--------------	--	--	--------

 Every household in the U.S. is now
 eligible to receive a second set
 of 4 free test kits.
 Go to www.covidtests.gov

Preview your Mail
 Track your Packages
 Sign up for FREE @
<https://informedelivery.usps.com>

All sales final on stamps and postage.
 Refunds for guaranteed services only.
 Thank you for your business.

Tell us about your experience.
 Go to: <https://postalexperience.com/Pos>
 or scan this code with your mobile device,



or call 1-800-410-7420

UFN: 082618-0132
Receipt #: 840-50600020-1-4731541-1
Clerk: 9