



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

May 10, 2022

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

RE: Tower Share Application
56 Roper Road, Plainfield, CT 06374
Latitude: 41.746058
Longitude: -71.88015
Site #: CT00594-S_BOBOS00041A_SBA_DISH

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of Dish Wireless LLC. Dish Wireless LLC plans to install antennas and related equipment to the tower site located at 56 Roper Road, Plainfield, Connecticut.

Dish Wireless LLC proposes to install three (3) 600/1900 MHz 5G antennas and six (6) RRUs, at the 135-foot level of the existing 178-foot monopole tower, one (1) Fiber cable will also be installed. Dish Wireless LLC equipment cabinets will be placed within a 7' x 5' lease area within the fenced compound. Included are plans by B+T, dated October 11, 2021, Exhibit C. Also included is a structural analysis prepared by TES, dated July 9, 2021, confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as Exhibit D. The facility was approved by the Town of Plainfield Planning & Zoning Commission on July 14, 1998. Please see attached Exhibit A.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of Dish Wireless LLC intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Kevin M. Cunningham, First Selectman, and Mary Ann Chinatti, Town Planner for the Town of Plainfield, as well as the tower owner (SBA) and property owner (Tilcon, Inc).

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

1. The proposed modification will not result in an increase in the height of the existing structure. The top of the existing tower is 178-feet and the Dish Wireless LLC antennas will be located at a center line height of 135-feet.
2. The proposed modifications will not result in an increase of the site boundary as depicted on the attached site plan.



NSS **NORTHEAST**
SITE SOLUTIONS

Turnkey Wireless Development

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

4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. The combined site operations will result in a total power density of 16.12% as evidenced by Exhibit F.

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

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

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

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of Dish Wireless LLC equipment at the 135-foot level of the existing 178-foot tower would have an insignificant visual impact on the area around the tower. Dish Wireless LLC ground equipment would be installed within the existing facility compound. Dish Wireless LLC shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

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

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

Sincerely,

Denise Sabo

Denise Sabo

Mobile: 203-435-3640

Fax: 413-521-0558

Office: 4 Angela's Way, Burlington CT 06013

Email: denise@northeastsitesolutions.com



NSS **NORTHEAST**
SITE SOLUTIONS
Turnkey Wireless Development

Attachments

Cc: Kevin M. Cunningham, First Selectman
Town of Plainfield
8 Community Avenue
Plainfield, CT 06374

Mary Ann Chinatti, Town Planner
Town of Plainfield
8 Community Avenue
Plainfield, CT 06374

Tilcon, Inc – Property Owner
PO Box 311228
Newington, CT 06131

SBA - Tower Owner

Exhibit A

Original Facility Approval



Town Hall
8 Community Avenue
Plainfield, CT 06374

Telephone 564-4071
Fax 564-0612

THE PLAINFIELD TOWN HALL

PLAINFIELD - CENTRAL VILLAGE - MOOSUP - WAUREGAN

PLANNING AND ZONING COMMISSION

July 28, 1998

SBA, Inc.
Esther McNary
Nextel Communications
125 Shaw St. #116
New London, CT 06320

Dear Applicant:

At its meeting, on Tuesday, July 14, 1998, the Planning and Zoning Commission approved your request SP-98-06 for the construction of a telecommunication tower on Green Hollow Rd., Wauregan. Map 20, Block 124, Parcel 6.

The following are conditions of that approval:

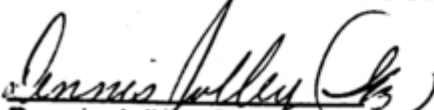
None

A copy of the Legal Notice is enclosed for your records and appeared in the Norwich Bulletin on Wednesday, July 22, 1998.

Please file the enclosed Special Permit Record in the Town Clerk's Office after the above date of publication. The Special Permit Record shall not be effective until the record is filed.

Very truly yours,

PLANNING AND ZONING COMMISSION


Dennis Jolley, Chairman

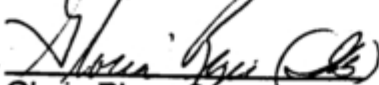
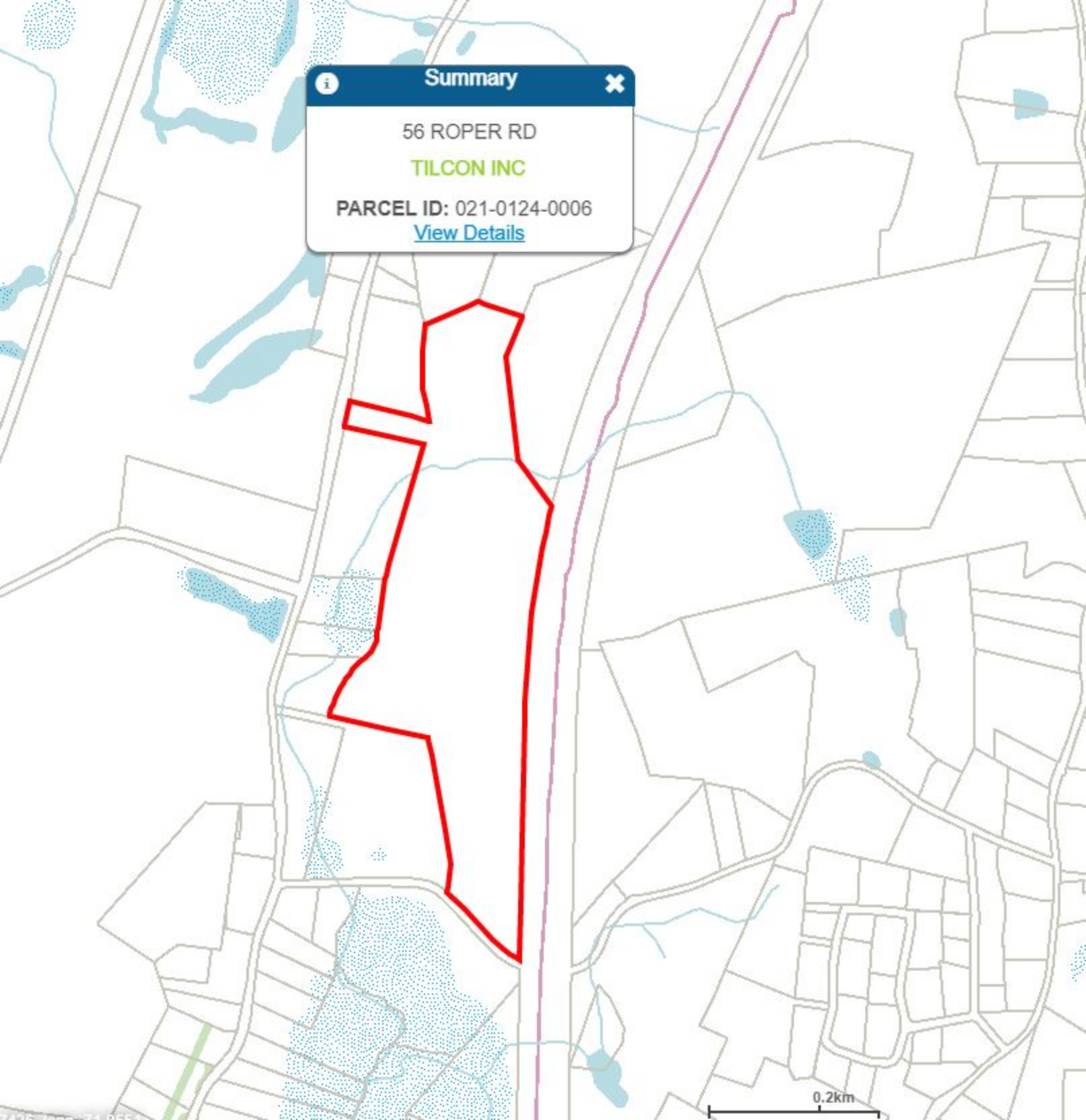

Gloria Rizer, Secretary

Exhibit B

Property Card

Summary ✕

56 ROPER RD
TILCON INC
PARCEL ID: 021-0124-0006
[View Details](#)



0.2km



PLAINFIELD,CT

56 ROPER RD

Location

56 ROPER RD

Mblu

021/ 0124/ 0006/ /

Acct#

00276300

Owner

TILCON INC

Assessment

\$324,870

Appraisal

\$464,100

PID

3062

Building Count

1

Current Value

Appraisal

Valuation Year	Improvements	Land	Total
2020	\$54,000	\$410,100	\$464,100

Assessment

Valuation Year	Improvements	Land	Total
----------------	--------------	------	-------

2020	\$37,800	\$287,070	\$324,870
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Owner of Record

Owner TILCON INC

Co-Owner

Address PO BOX 311228
NEWINGTON, CT 06131

Sale Price \$0

Certificate

Book & Page 0277/0805

Sale Date 07/16/2001

Instrument 29

Ownership History

Ownership History

Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
TILCON INC	\$0		0277/0805	29	07/16/2001
TILCON MINERALS INC	\$0		0140/0268		07/30/1981
TILCON MINERALS	\$0		0132/0853		04/26/1979

Building Information

Building 1 : Section 1

Year Built:

Living Area: 0

Replacement Cost: \$0

Building Percent Good:

Replacement Cost

Less Depreciation: \$0

Building Attributes


Field	Description
Style:	Outbuildings
Model	
Grade:	

Stories:	
Occupancy:	
Exterior Wall 1:	
Exterior Wall 2:	
Roof Structure:	
Roof Cover:	
Interior Wall 1:	
Interior Wall 2:	
Interior Flr 1:	
Interior Flr 2:	
Heat Fuel:	
Heat Type:	
AC Type:	
Total Bedrooms:	
Full Baths:	
Half Baths:	
Extra Fixtures:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Fireplaces:	
Xtra Openings:	
Gas Fireplaces:	
Woodstove/Pellet	
Bsmt Gar:	
Num Park	
Fireplaces	

Color	
Basement:	
Fndtn Cndtn	
Basement	



Building Photo

Building Layout 

Building Sub-Areas (sq ft) Legend

No Data for Building Sub-Areas

Extra Features

Extra Features Legend

No Data for Extra Features

Land

Land Use

Use Code 4400

Description IND LD DV

Zone IND

Neighborhood 4000

Alt Land Appr No

Category

Land Line Valuation

Size (Acres) 65.8

Frontage

Depth

Assessed Value \$287,070

Appraised Value \$410,100

Outbuildings

Outbuildings Legend

Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
TT4	Cell Tower			200.00 HEIGHT	\$54,000	1

Valuation History

Appraisal

Valuation Year	Improvements	Land	Total
2020	\$54,000	\$410,100	\$464,100
2019	\$54,000	\$410,100	\$464,100

Assessment

Valuation Year	Improvements	Land	Total
2020	\$37,800	\$287,070	\$324,870
2019	\$37,800	\$287,070	\$324,870

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closecloseclose

Exhibit C

Construction Drawings



DISH Wireless L.L.C. SITE ID:

BOBOS00041A

DISH Wireless L.L.C. SITE ADDRESS:

**56 ROPER ROAD
PLAINFIELD, CT 06374**

CONNECTICUT CODE COMPLIANCE

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

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

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
LS1	SITE SURVEY
A-1	OVERALL AND ENLARGED SITE PLAN
A-2	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT PLATFORM AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
E-1	ELECTRICAL/FIBER ROUTE PLAN AND NOTES
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
G-1	GROUNDING PLANS AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
RF-1	RF CABLE COLOR CODE
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES

SCOPE OF WORK

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

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

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

SITE PHOTO



UNDERGROUND SERVICE ALERT CBYD 811
UTILITY NOTIFICATION CENTER OF CONNECTICUT
 (800) 922-4455
 WWW.CBYD.COM

CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

GENERAL NOTES

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

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

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

SITE INFORMATION

PROPERTY OWNER: TILCON MINERALS INC
 ADDRESS: PO BOX 311228
 NEWINGTON, CT 06131

TOWER TYPE: MONOPOLE

TOWER CO SITE ID: CT-00594

TOWER APP NUMBER: 162753

COUNTY: WINDHAM

LATITUDE (NAD 83): 41° 44' 45.61" N
 41.74600244 N

LONGITUDE (NAD 83): 71° 52' 48.57" W
 71.88015767 W

ZONING JURISDICTION: WINDHAM COUNTY

ZONING DISTRICT: UNZONED

PARCEL NUMBER: 021-0124-0006

OCCUPANCY GROUP: U

CONSTRUCTION TYPE: V-B

POWER COMPANY: T.B.D.

TELEPHONE COMPANY: T.B.D.

PROJECT DIRECTORY

APPLICANT: DISH Wireless L.L.C.
 5701 SOUTH SANTA FE DRIVE
 LITTLETON, CO 80120

TOWER OWNER: SBA COMMUNICATAIONS CORP.
 8051 CONGRESS AVENUE
 BOCA RATON, FL 33487
 (800) 487-7483

SITE DESIGNER: B+T GROUP
 1717 S. BOULDER AVE, SUITE 300
 TULSA, OK 74119
 (918) 587-4630

SITE ACQUISITION: JEAN COTTRELL

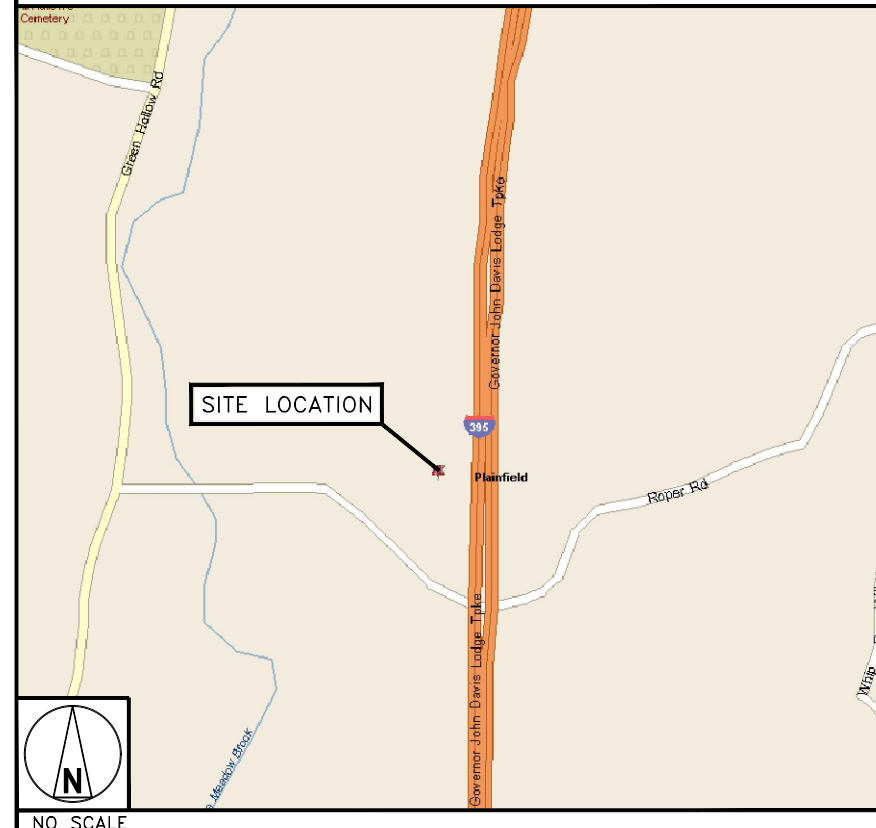
CONSTRUCTION MANAGER: CHAD WILCOX
 CHAD.WILCOX@DISH.COM
 (860) 634-9600

RF ENGINEER: ARVIN SEBASTIAN

DIRECTIONS

DIRECTIONS FROM BRADLEY INTERNATIONAL AIRPORT:
 TAKE I-395 S, CT-2 W AND I-91 N TO SCHOEPHOESTER RD IN WINDSOR LOCKS 1 HR 6 MIN (70.8 MI)
 HEAD SOUTH ON I-395 S 19.7 MI TAKE EXIT 14 TOWARD CT-2 W/CT-32 N/HARTFORD/COLCHESTER 0.2 MI
 TURN RIGHT ONTO W TOWN ST 1.1 MI CONTINUE ONTO FITCHVILLE RD/FRANKLIN
 TURNPIKE/NORWICH-COLCHESTER TURNPIKE 0.2 MI TURN LEFT TO MERGE WITH CT-2 W TOWARD HARTFORD
 34.5 MI USE THE LEFT 2 LANES TO TAKE EXIT 2W FOR I-84 W TOWARD I-91 N 0.7 MI MERGE WITH I-84
 0.4 MI TAKE EXIT 51 TO MERGE WITH I-91 N TOWARD SPRINGFIELD 9.4 MI USE THE RIGHT 2 LANES TO TAKE
 EXIT 40 FOR CT-20 TOWARD BRADLEY INTERNATIONAL AIRPORT 0.6 MI CONTINUE ONTO CT-20 W 2.8 MI
 CONTINUE ONTO BRADLEY INTERNATIONAL AIRPORT CON 1.3 MI DRIVE TO YOUR DESTINATION 1 MIN (0.4 MI)
 USE ANY LANE TO TURN SLIGHTLY RIGHT ONTO SCHOEPHOESTER RD 0.2 MI USE THE RIGHT 2 LANES TO TURN
 SLIGHTLY RIGHT

VICINITY MAP



5701 SOUTH SANTA FE DRIVE
 LITTLETON, CO 80120



8051 CONGRESS AVENUE
 BOCA RATON, FL 33487



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

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:
BLB	BLB	JW

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	6/24/21	ISSUED FOR REVIEW
0	10/11/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149426.001.01

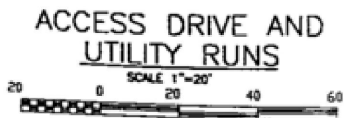
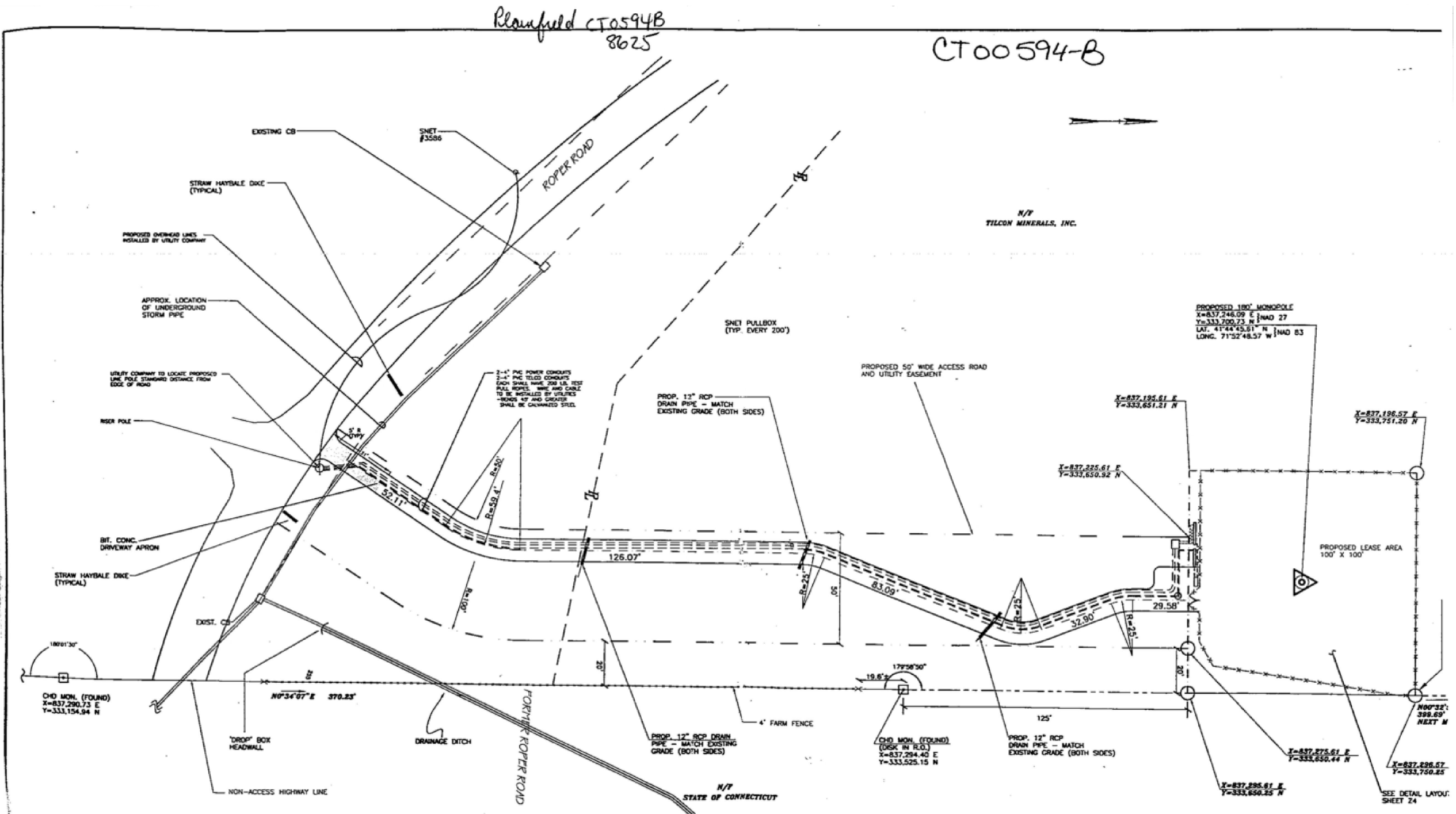
DISH Wireless L.L.C.
 PROJECT INFORMATION

BOBOS00041A
56 ROPER ROAD
PLAINFIELD, CT 06374

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

CT00594-B



Goodkind & O'Dea, Inc. Consulting Engineers and Planners 59 ELM STREET, SUITE 101 NEW HAVEN, CONNECTICUT 06510 (203) 776-2277	SBA, INC. 125 SHAW STREET SUITE 116 NEW LONDON, CONNECTICUT (860) 439-0152 ESTHER McMANUS	ONE TOWN CENTER RD., 3RD FL. BOCA RATON, FL 33486 (561) 995-7670	R/13/98 ISSUED FOR CONSTRUCTION MUS EAM FDK	7/30/98 PRELIMINARY ISSUE FOR CONSTRUCTION CJD EAM FDK	REVISIONS BY CHK APPD	SCALE AS NOTED DESIGNED CJD DRAWN CJD	PLAINFIELD NORTH GREEN HOLLOW ROAD PLAINFIELD, CONNECTICUT	SITE NUMBER 8625A PLAINFIELD NORTH OVERALL SITE AND UTILITY PLAN CT8625C3
			N/A	N/A	N/A	N/A	N/A	



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.blgrp.com



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BLB	BLB	JW

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CONSTRUCTION DOCUMENTS

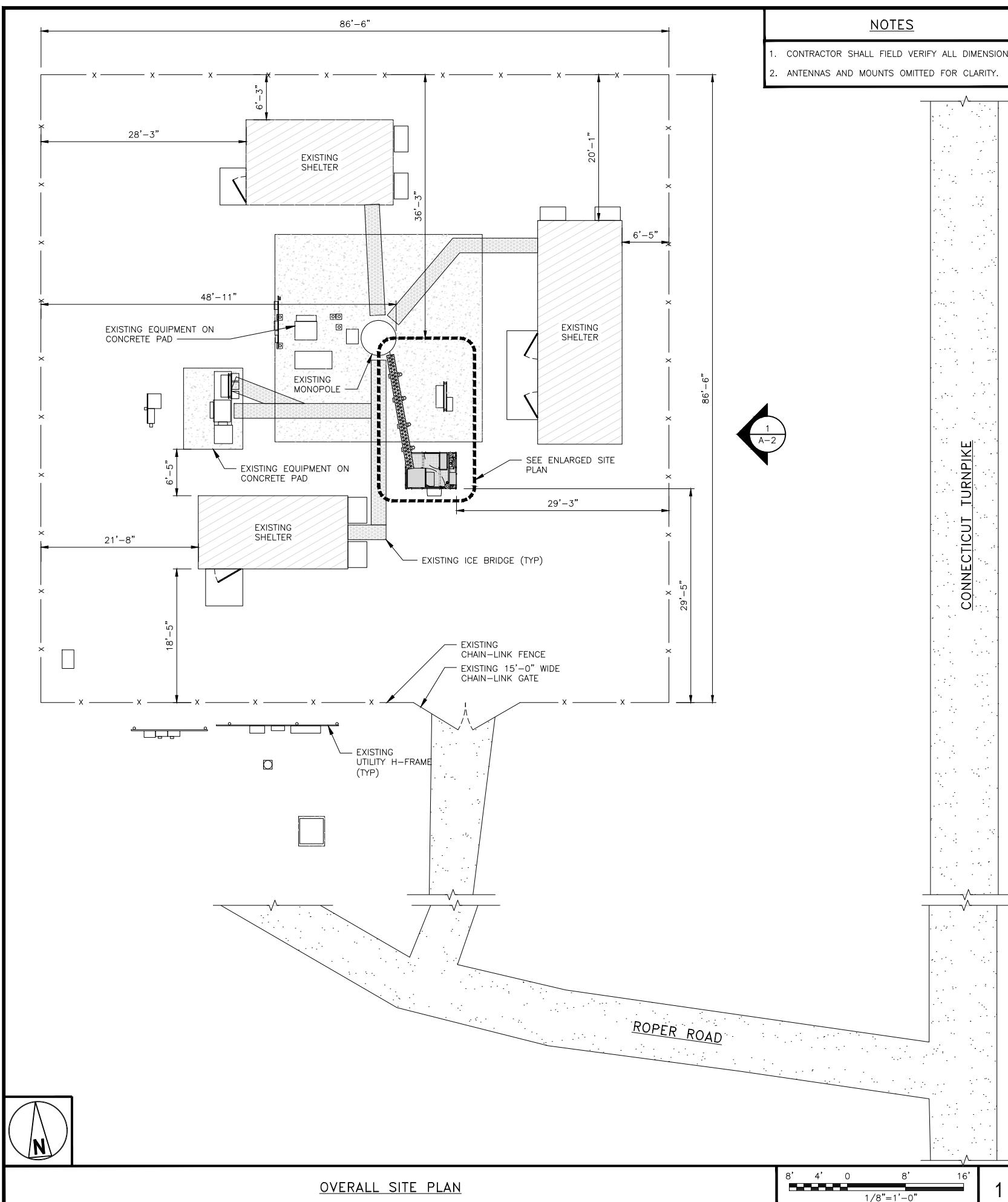
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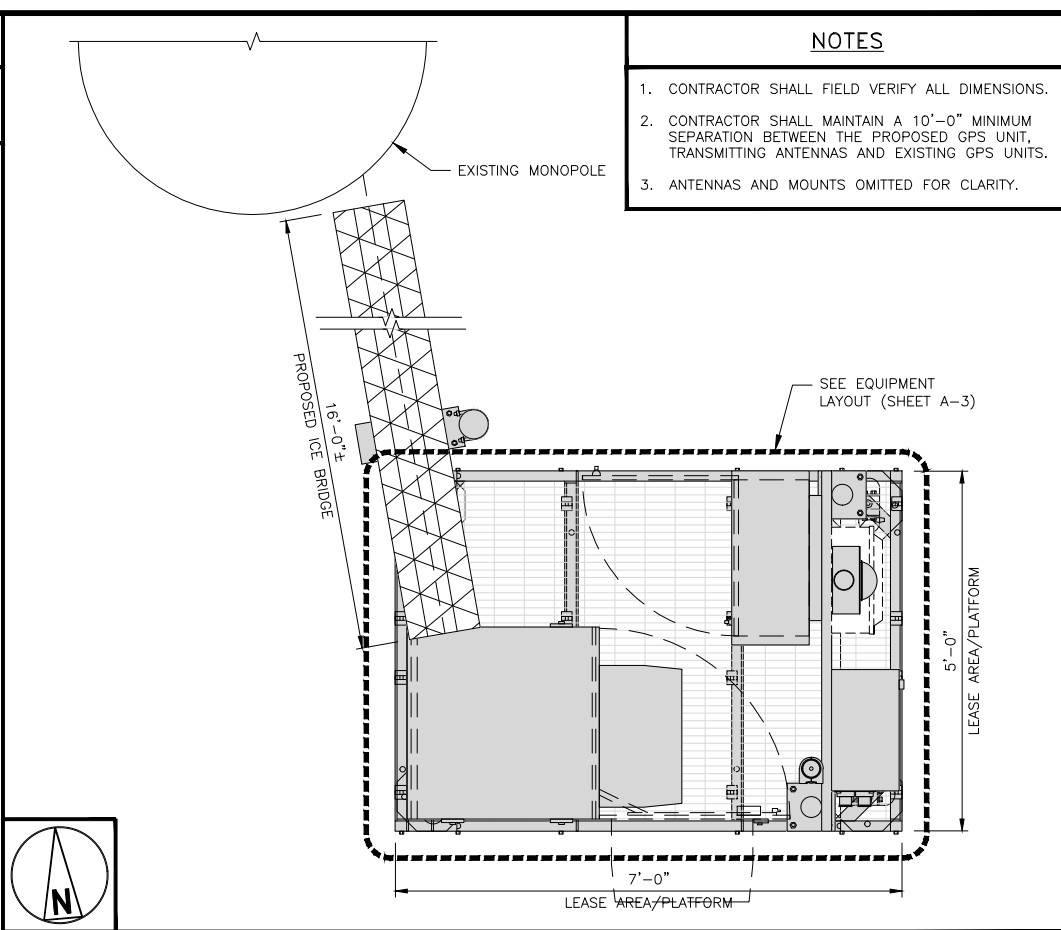
SHEET TITLE
SITE SURVEY

SHEET NUMBER
LS1



NOTES

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



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

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487

B+T GRP

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

(Professional Engineer Seal: No. 23924, Expires 08/12/21)

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

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BLB	BLB	JW

RFDS REV #: 0

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SHEET TITLE
OVERALL AND ENLARGED SITE PLAN

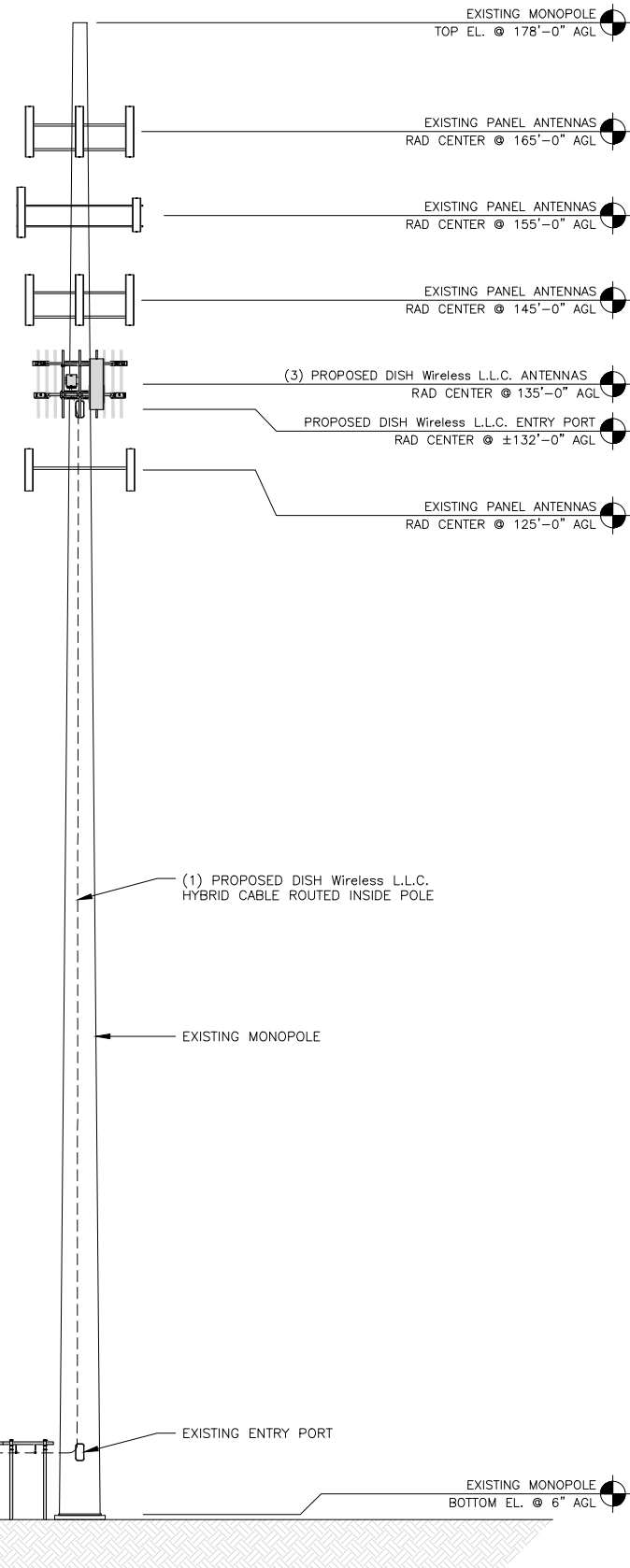
SHEET NUMBER
A-1

NOT USED

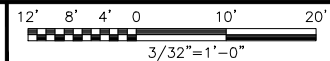
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NOTES

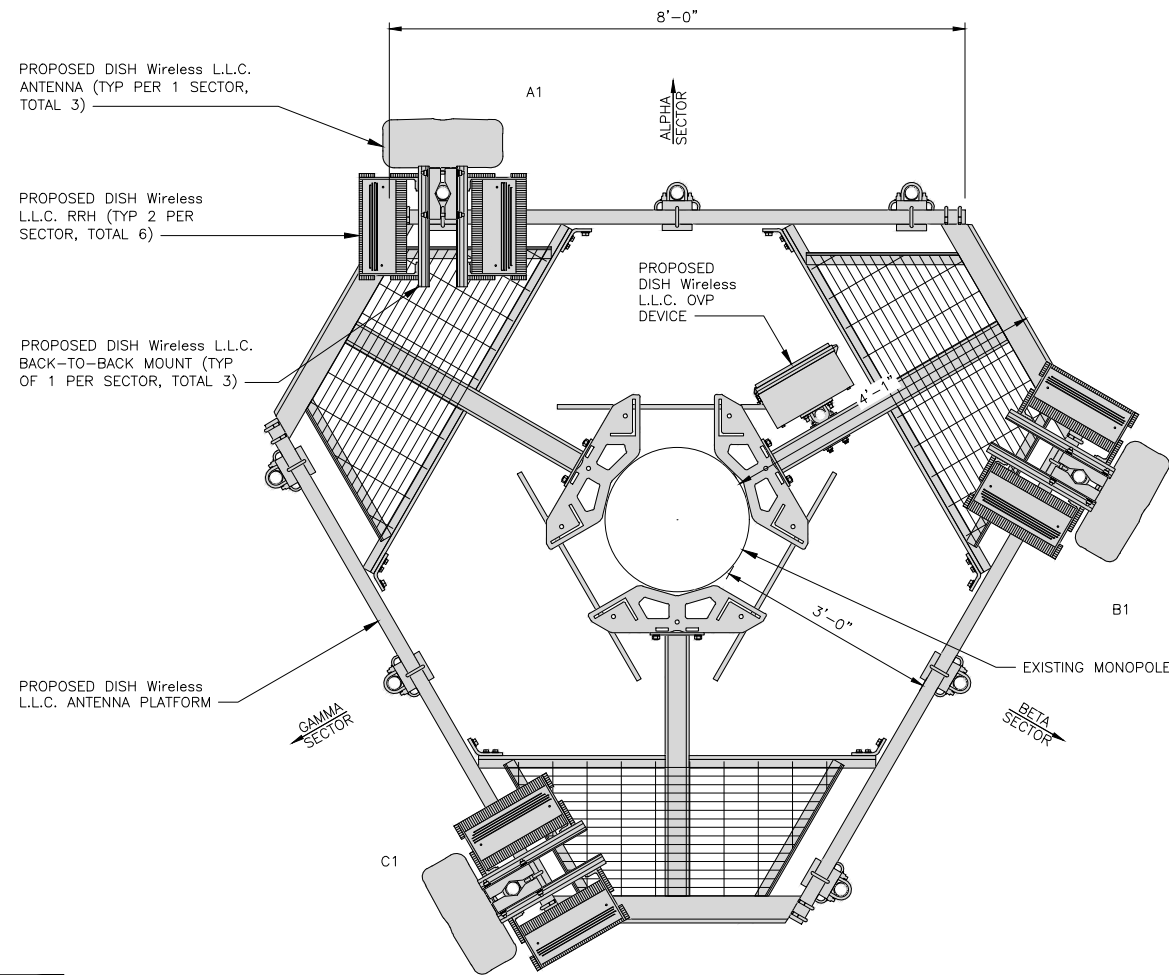
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



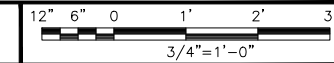
PROPOSED EAST ELEVATION



1



ANTENNA LAYOUT



2

SECTOR	POSITION	ANTENNA						TRANSMISSION CABLE
		EXISTING OR PROPOSED	MANUFACTURER - MODEL NUMBER	TECHNOLOGY	SIZE (HxW)	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH
ALPHA	A1	PROPOSED	COMMSCOPE-FFV-65B-R2	5G	72.0" x 20.0"	0°	135'-0"	(1) HIGH-CAPACITY HYBRID CABLE (175' LONG)
BETA	B1	PROPOSED	COMMSCOPE-FFV-65B-R2	5G	72.0" x 20.0"	120°	135'-0"	
GAMMA	C1	PROPOSED	COMMSCOPE-FFV-65B-R2	5G	72.0" x 20.0"	240°	135'-0"	
SECTOR	POSITION	RRH		NOTES				
		MANUFACTURER - MODEL NUMBER	TECHNOLOGY	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.				
ALPHA	A1	FUJITSU-TA08025-B605	5G					
	A1	FUJITSU-TA08025-B604	5G					
BETA	B1	FUJITSU-TA08025-B605	5G					
	B1	FUJITSU-TA08025-B604	5G					
GAMMA	C1	FUJITSU-TA08025-B605	5G					
	C1	FUJITSU-TA08025-B604	5G					

ANTENNA SCHEDULE

NO SCALE

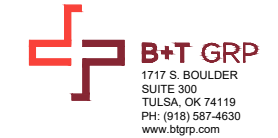
3



5701 SOUTH SANTA FE DRIVE
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DRAWN BY: BLB
CHECKED BY: BLB
APPROVED BY: JW

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

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REV	DATE	DESCRIPTION
A	6/24/21	ISSUED FOR REVIEW
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A&E PROJECT NUMBER
149426.001.01

DISH Wireless L.L.C. PROJECT INFORMATION
BOBOS00041A
56 ROPER ROAD
PLAINFIELD, CT 06374

SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER
A-2



5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120



8051 CONGRESS AVENUE
BOCA RATON, FL 33487



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
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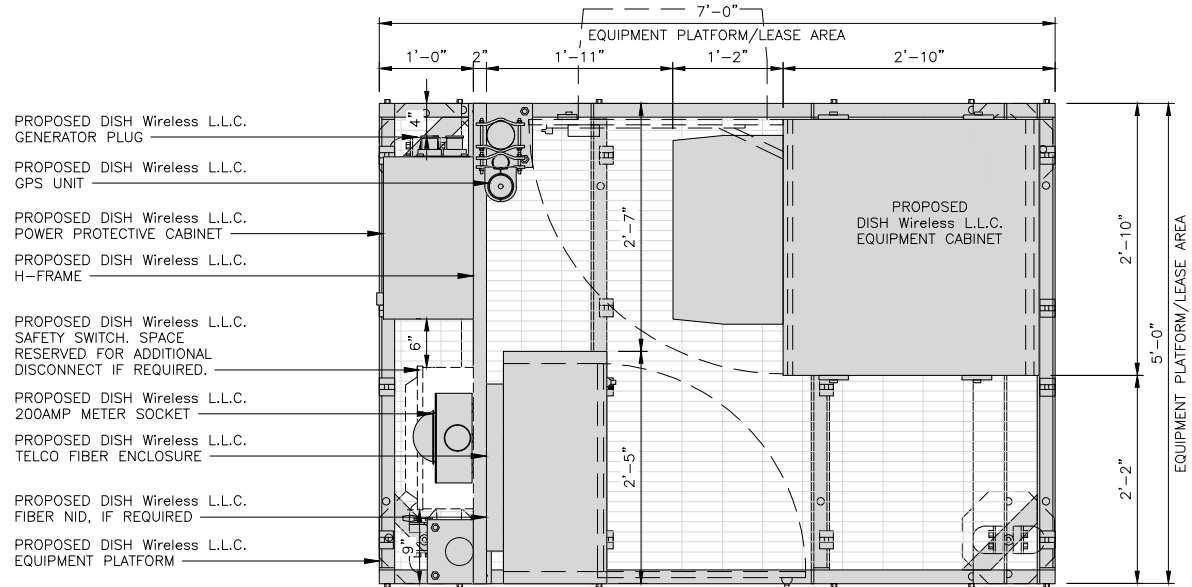
SHEET TITLE
EQUIPMENT PLATFORM AND H-FRAME DETAILS

SHEET NUMBER

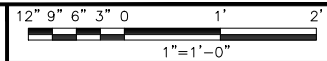
A-3

NOTES

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



PLATFORM EQUIPMENT PLAN

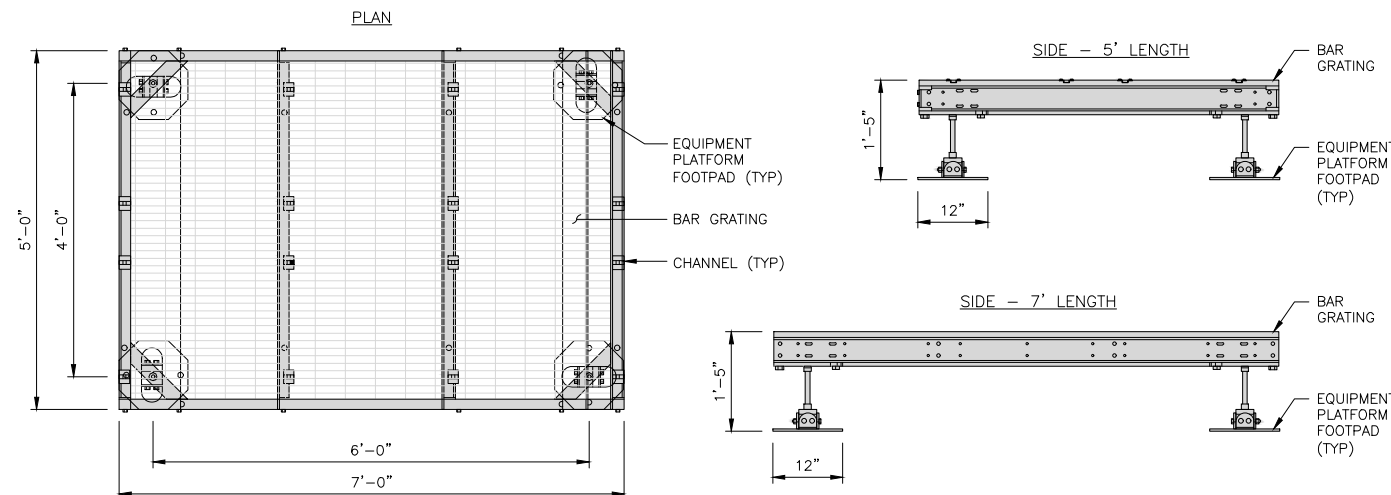


1

COMMSCOPE MTC4045LP 5X7 PLATFORM

DIMENSIONS (HxWxD)	16"x84"x60"
TOTAL WEIGHT	423 LBS

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



PLATFORM DETAIL

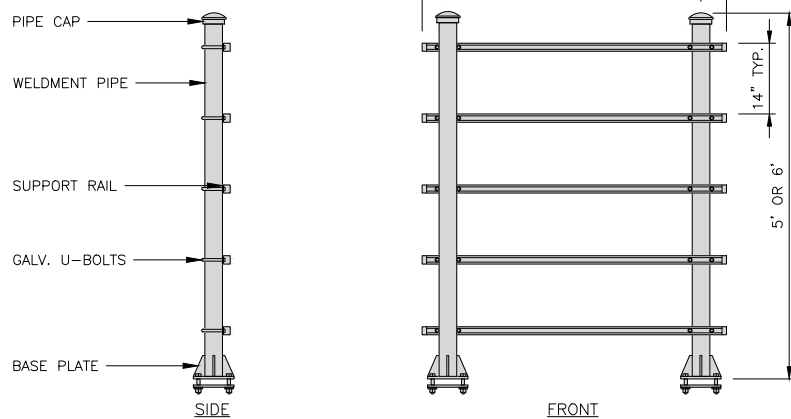
NO SCALE

2

COMMSCOPE MTC4045HFLD H-FRAME

UNISTRUT/SUPPORT RAILS QTY	5
WEIGHT	59.74 lbs

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



H-FRAME DETAIL

NO SCALE

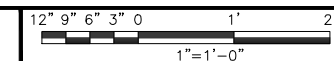
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NOT USED

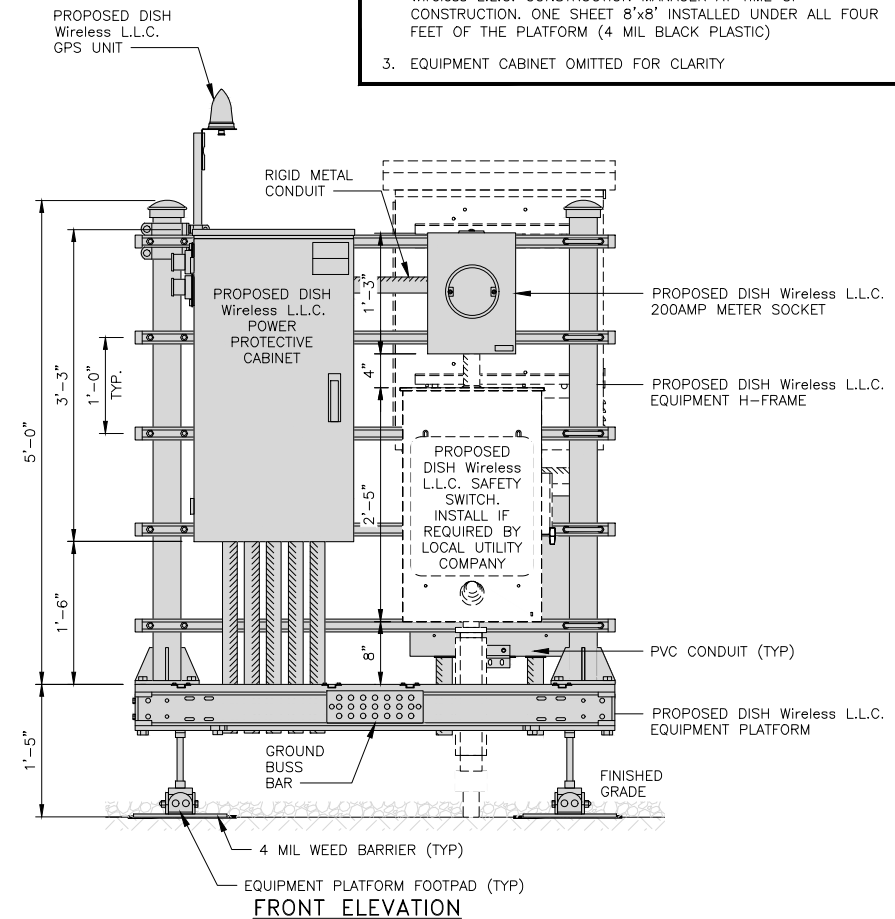
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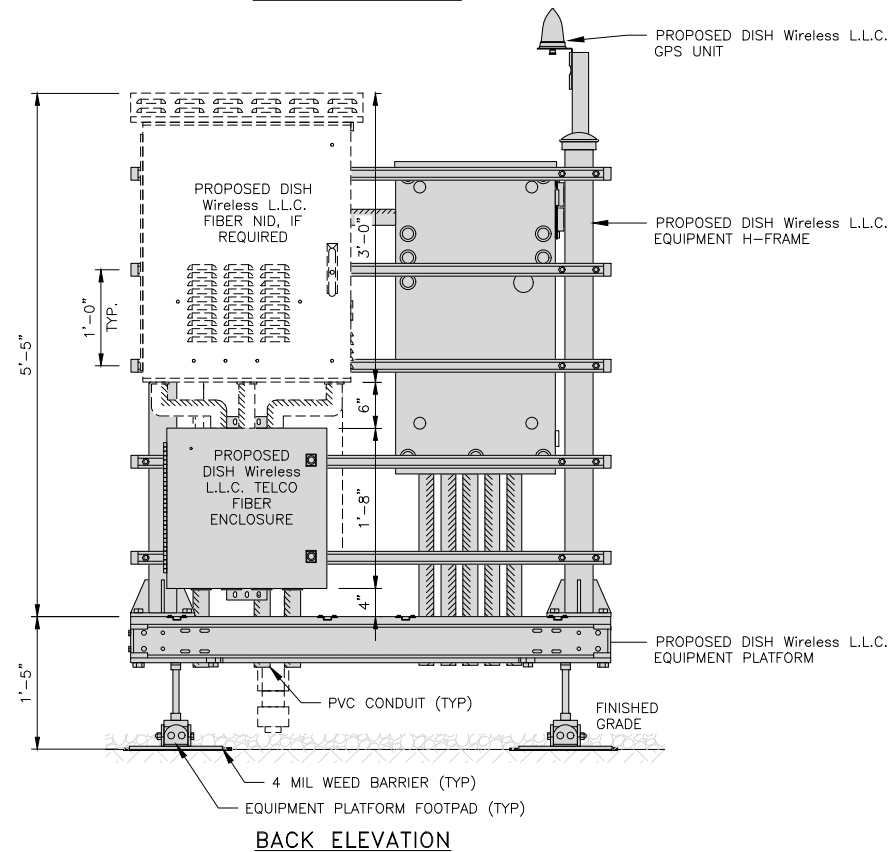
H-FRAME EQUIPMENT ELEVATION



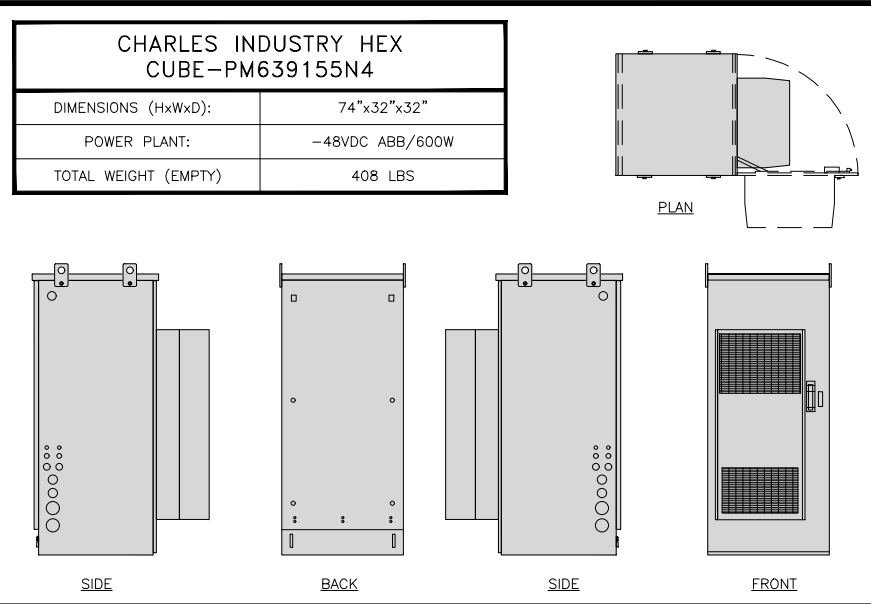
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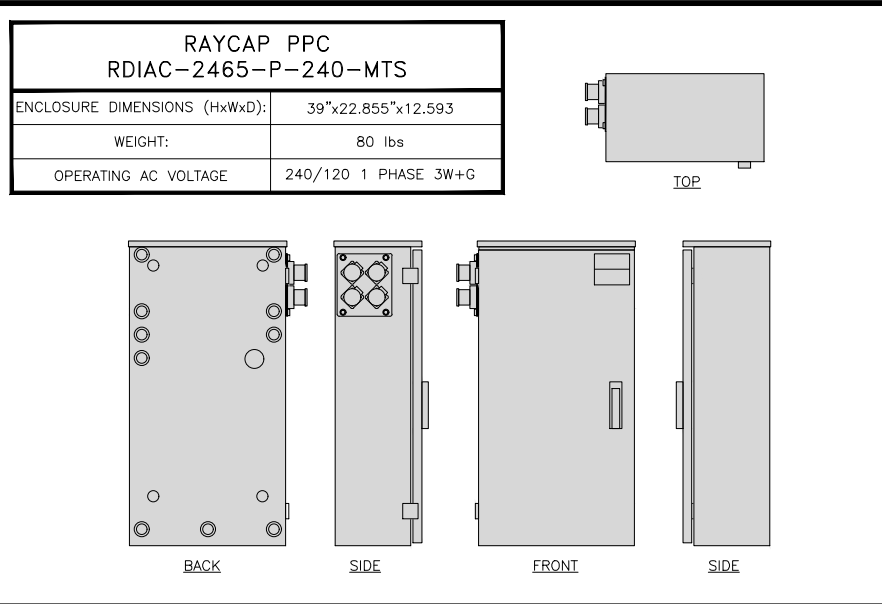
FRONT ELEVATION



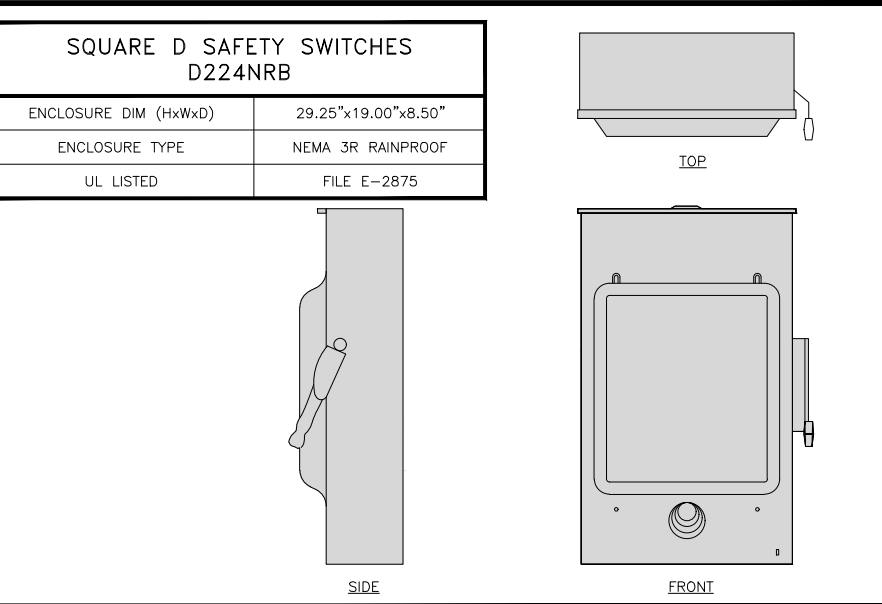
BACK ELEVATION



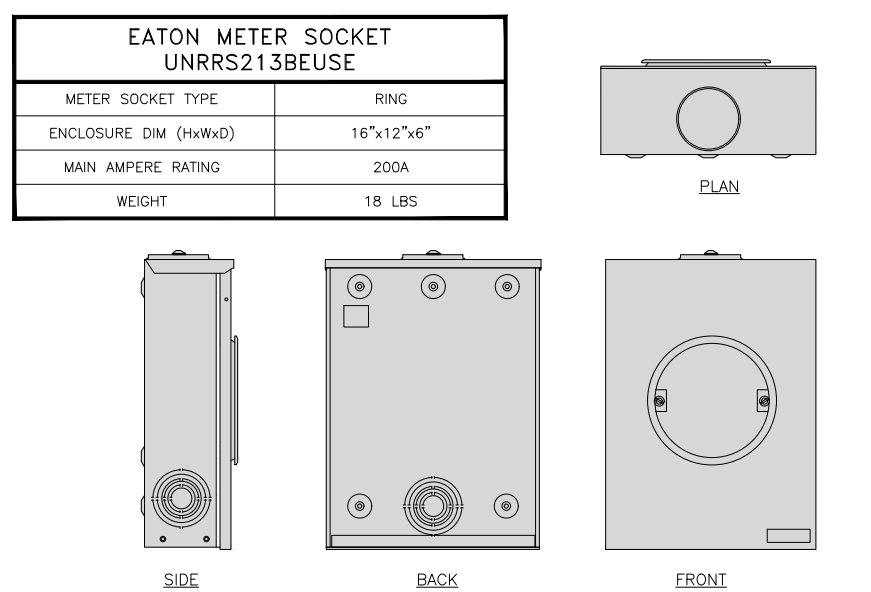
CABINET DETAIL NO SCALE 1



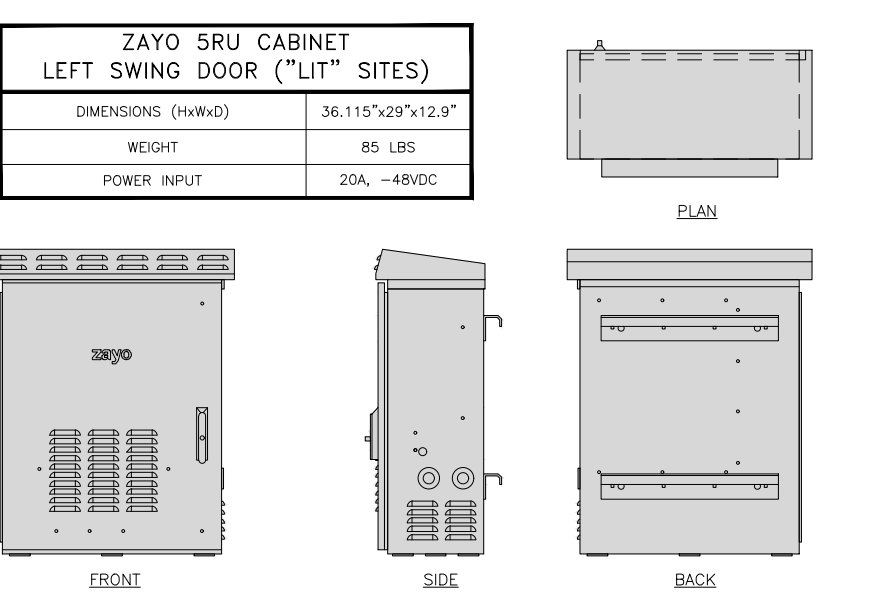
POWER PROTECTION CABINET (PPC) DETAIL NO SCALE 2



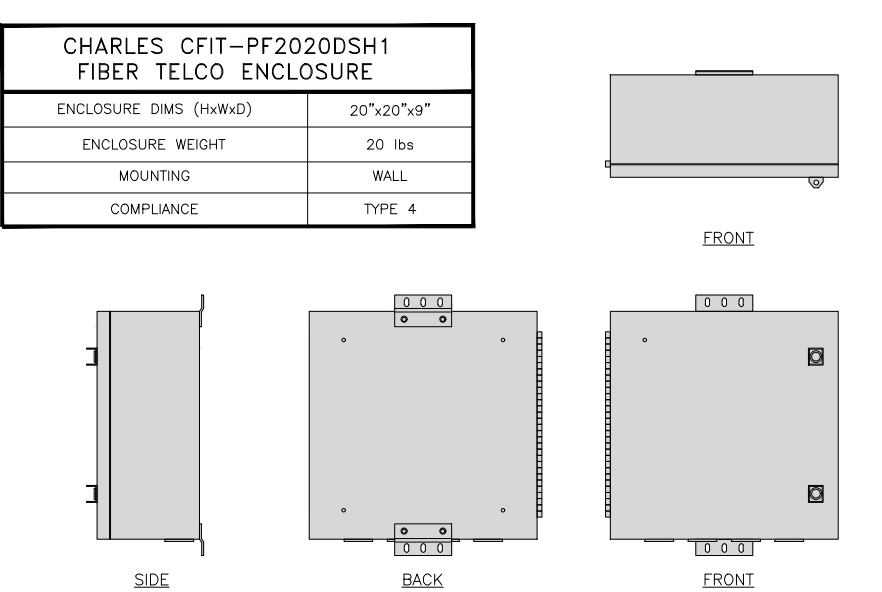
SAFETY SWITCH DETAIL NO SCALE 3



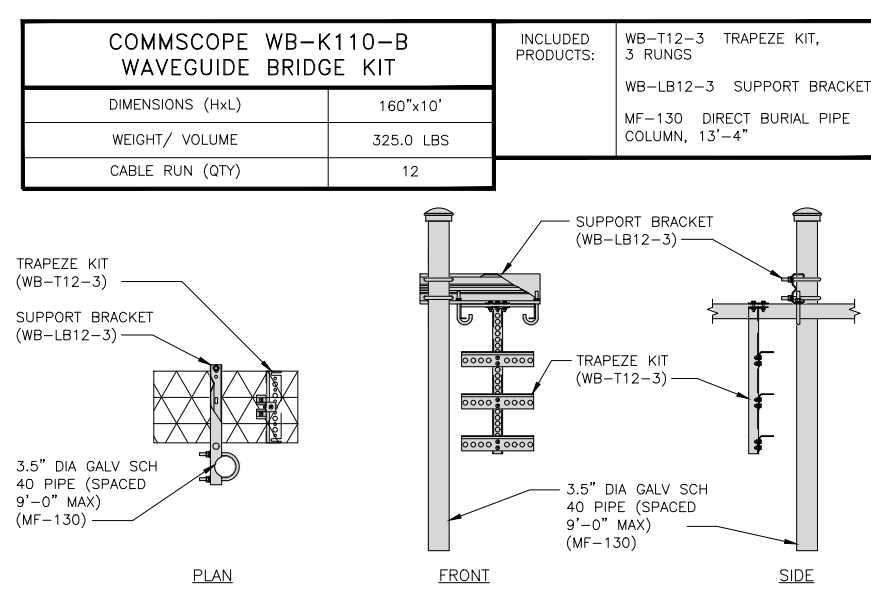
METER SOCKET DETAIL NO SCALE 4



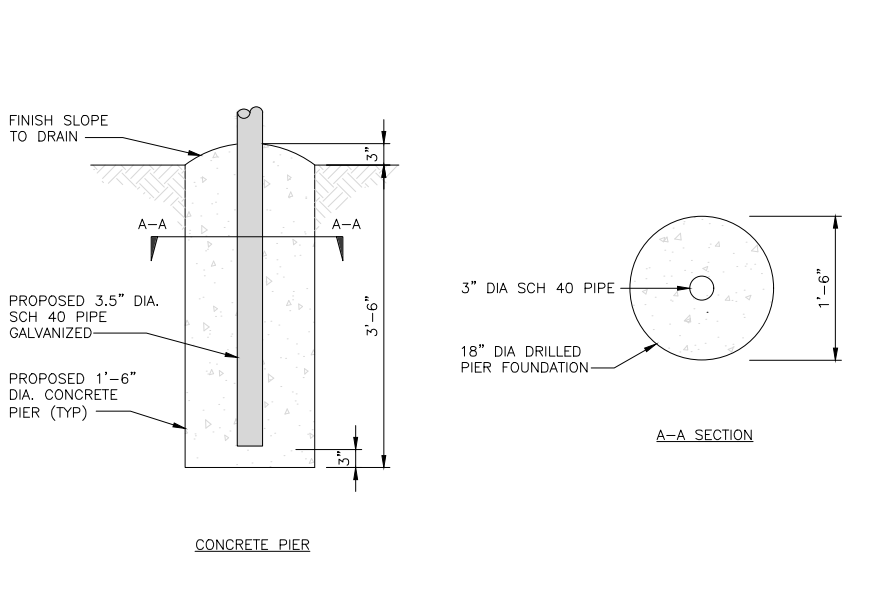
NETWORK INTERFACE UNIT DETAIL NO SCALE 5



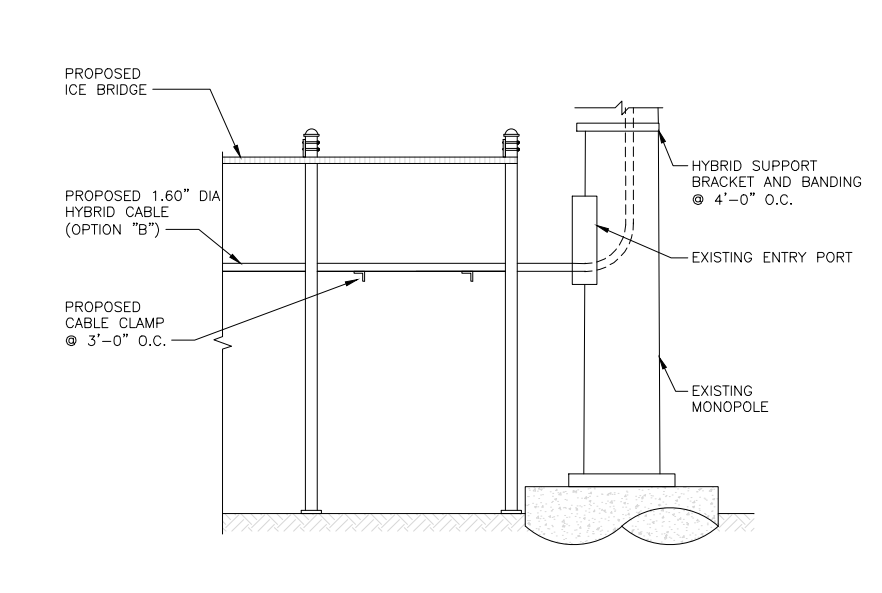
FIBER TELCO ENCLOSURE DETAIL NO SCALE 6



ICE BRIDGE DETAIL NO SCALE 7



TYPICAL ICE BRIDGE CONCRETE PIER DETAIL NO SCALE 8



HYBRID CABLE RUN NO SCALE 9

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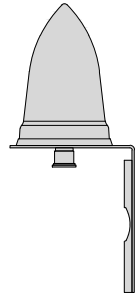
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PLAINFIELD, CT 06374

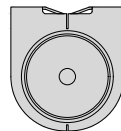
SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-4

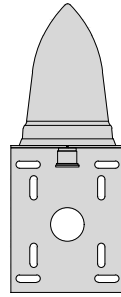
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



BACK



TOP

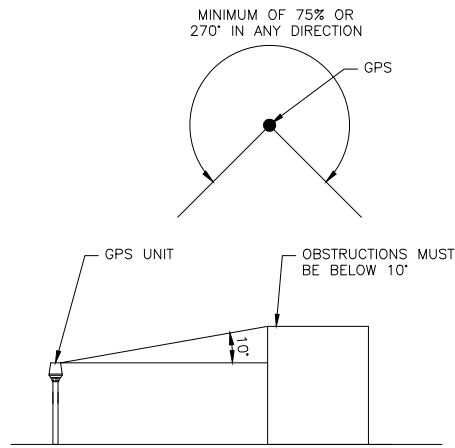


SIDE

GPS DETAIL

NO SCALE

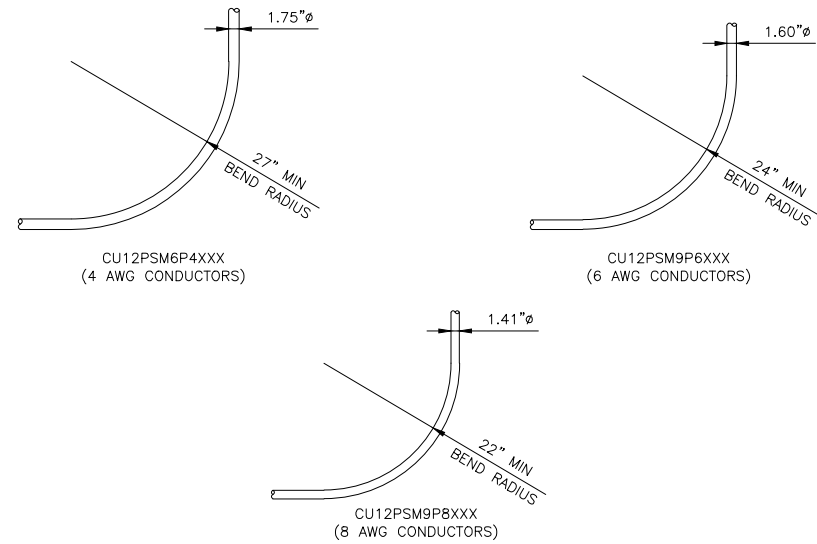
1



GPS MINIMUM SKY VIEW REQUIREMENTS

NO SCALE

2

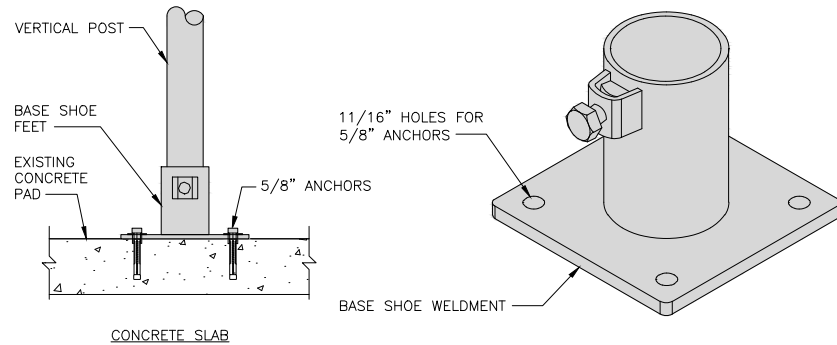


CABLES UNLIMITED HYBRID CABLE
MINIMUM BEND RADIUS

NO SCALE

3

SITEPRO1 BSF35 BASE SHOE FEET	
DIMENSIONS (HxWxL)	8"x8"x1/2"
WEIGHT	15.0 LBS
POST SIZE:	2-7/8" OR 3-1/2"



ICE BRIDGE PIPE MOUNT DETAIL

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

9



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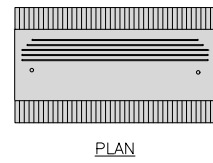
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56 ROPER ROAD
PLAINFIELD, CT 06374

SHEET TITLE
EQUIPMENT DETAILS

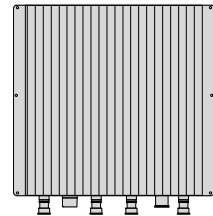
SHEET NUMBER

A-5

FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



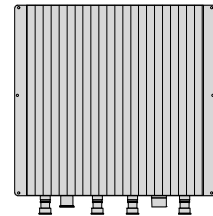
PLAN



BACK



SIDE



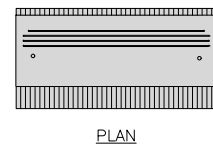
FRONT

RRH DETAIL

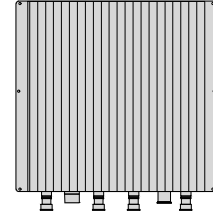
NO SCALE

1

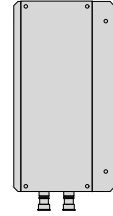
FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



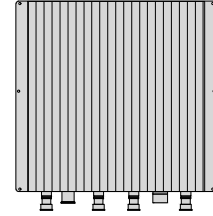
PLAN



BACK



SIDE



FRONT

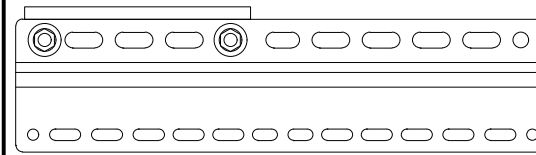
RRH DETAIL

NO SCALE

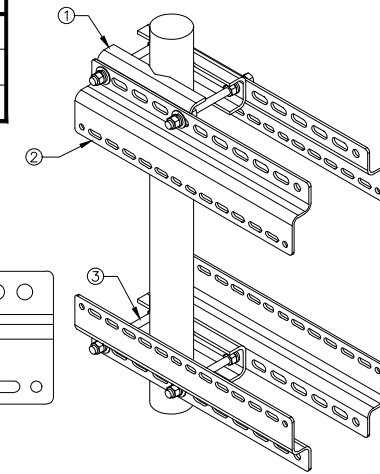
2

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

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



NOTE:
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APPROVED EQUIVALENT

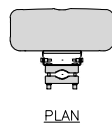


RRH MOUNT DETAIL

NO SCALE

3

COMMSCOPE FFVV-65B-R2	
DIMENSIONS (HxWxD)(MM/IN)	1828x498x197 72"x19.6"x7.8"
RF CONNECTOR INTERFACE	4.3-10 FEMALE
WEIGHT	70.8 lbs
WEIGHT WITH BRACKETS	98.1 lbs



PLAN



BACK



SIDE



FRONT

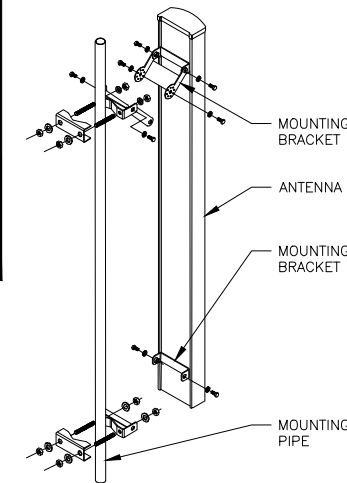
ANTENNA DETAIL

NO SCALE

4

M04 MOUNTING BRACKET HPA-33R-BUU-H4-K	
WIDTH	5"
DEPTH	2"
HEIGHT	8"
TOTAL WEIGHT	1.5 lbs
HOUSING MATERIAL	ASA/ABS/ALUMINUM
RADOME COLOR	LIGHT GRAY
CONNECTOR	1x8-PIN DAISY CHAIN

NOTE:
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APPROVED EQUIVALENT

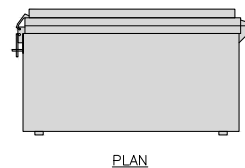


ANTENNA MOUNTING DETAIL

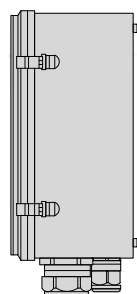
NO SCALE

6

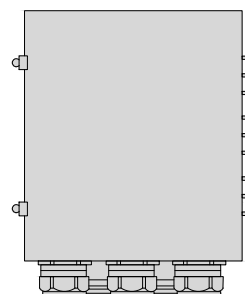
RAYCAP RDIC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS



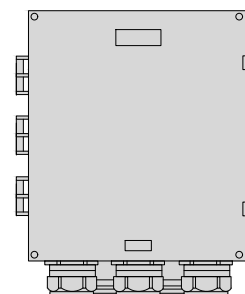
PLAN



SIDE



BACK



FRONT

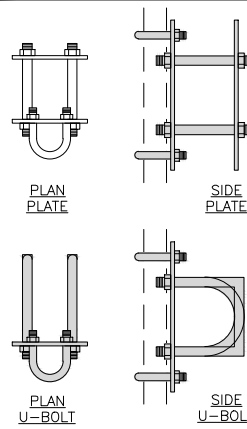
SURGE SUPPRESSION DETAIL (OVP)

NO SCALE

7

COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11 lbs

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



PLAN
U-BOLT

SIDE
U-BOLT

PLAN
U-BOLT

SIDE
U-BOLT

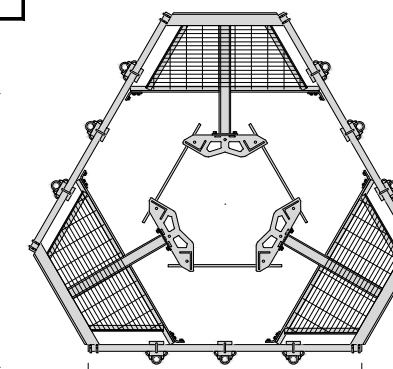
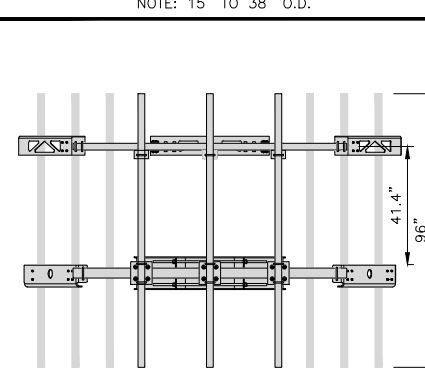
RRH/OVP MOUNT DETAIL

NO SCALE

8

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

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



ANTENNA PLATFORM DETAIL

NO SCALE

9



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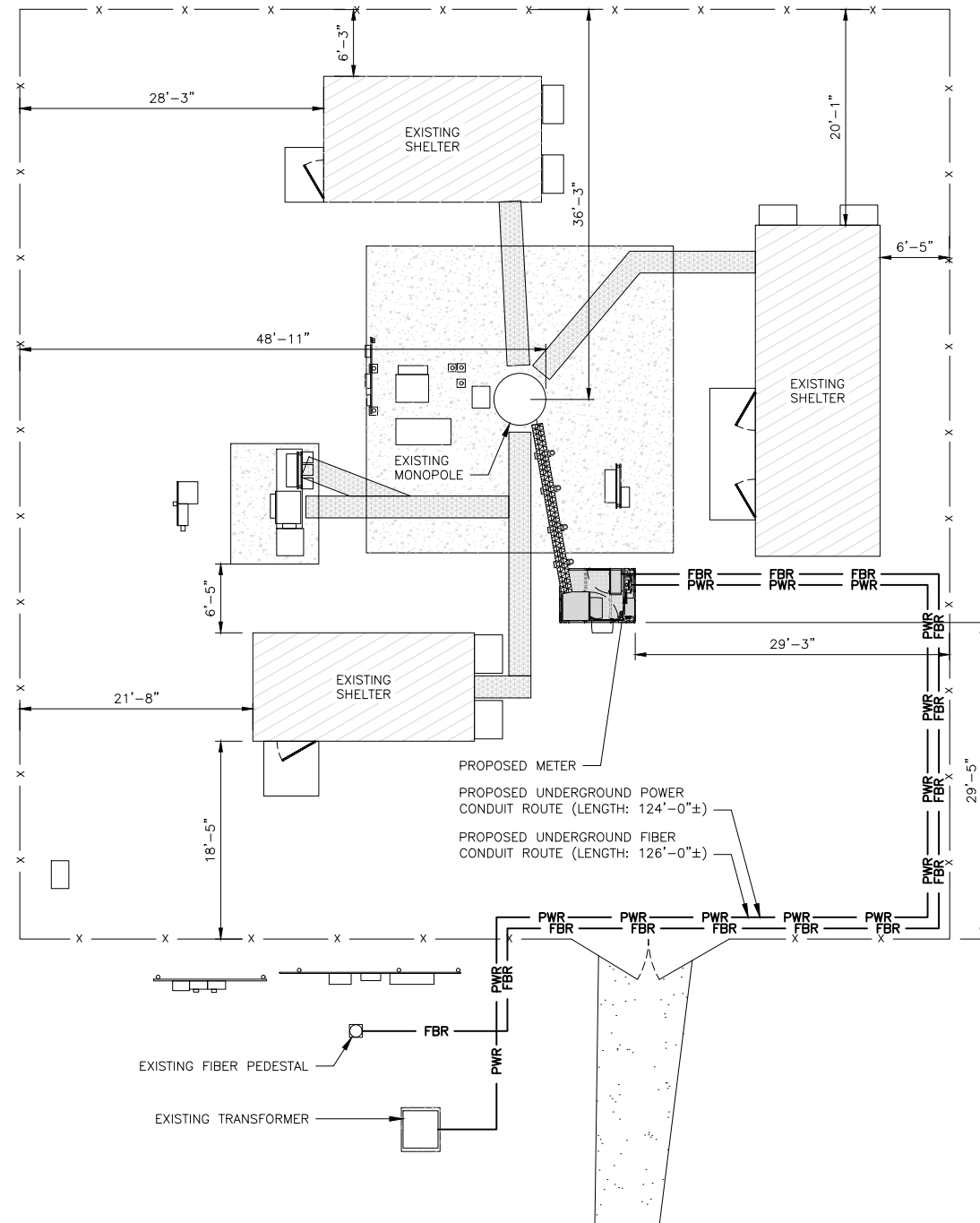
A-6

NOTES

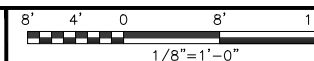
1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.

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

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



UTILITY ROUTE PLAN



1

ELECTRICAL NOTES

NO SCALE

2



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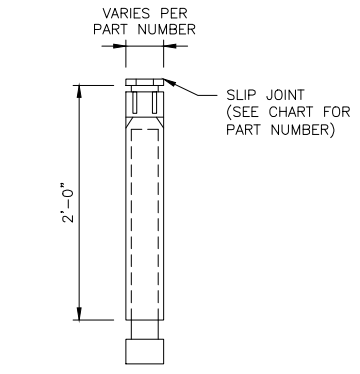
SHEET TITLE
ELECTRICAL/FIBER ROUTE
PLAN AND NOTES

SHEET NUMBER

E-1

CARLON EXPANSION FITTINGS

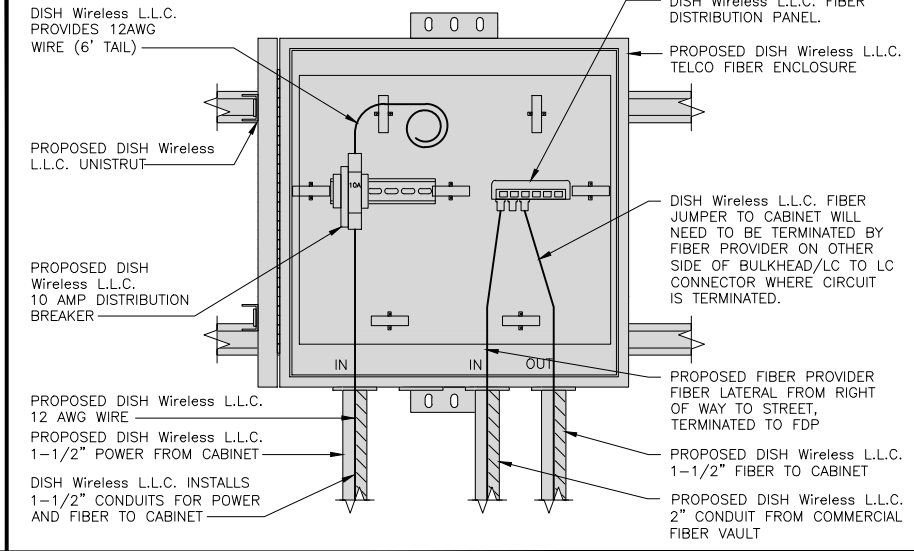
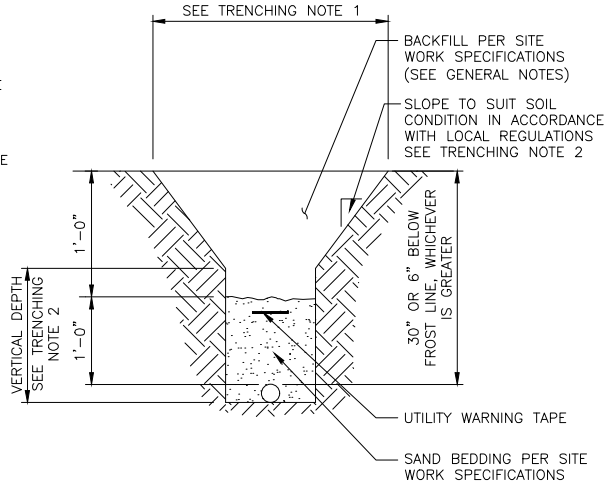
COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
E945M	E945MX	3 1/2"	5	8"
E945N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



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DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00041A
56 ROPER ROAD
PLAINFIELD, CT 06374

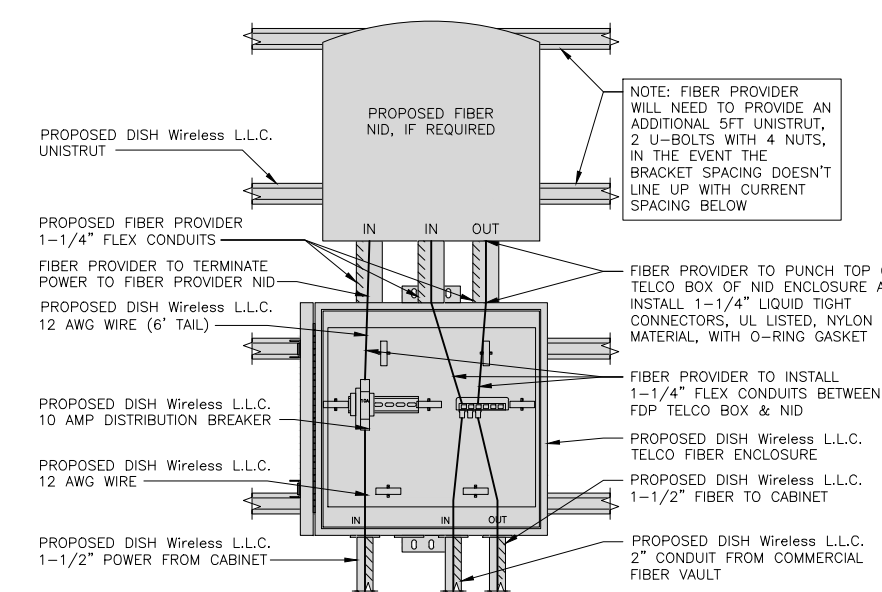
SHEET TITLE
ELECTRICAL DETAILS

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**

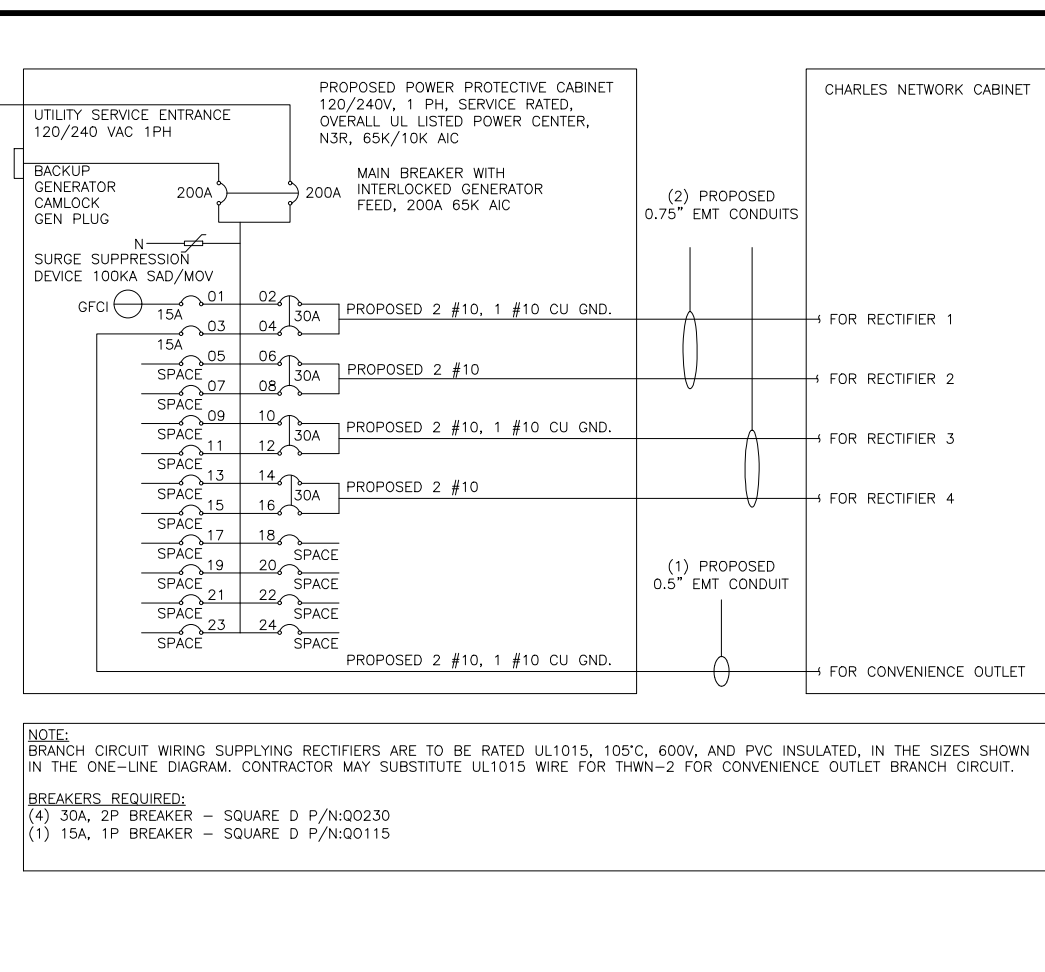
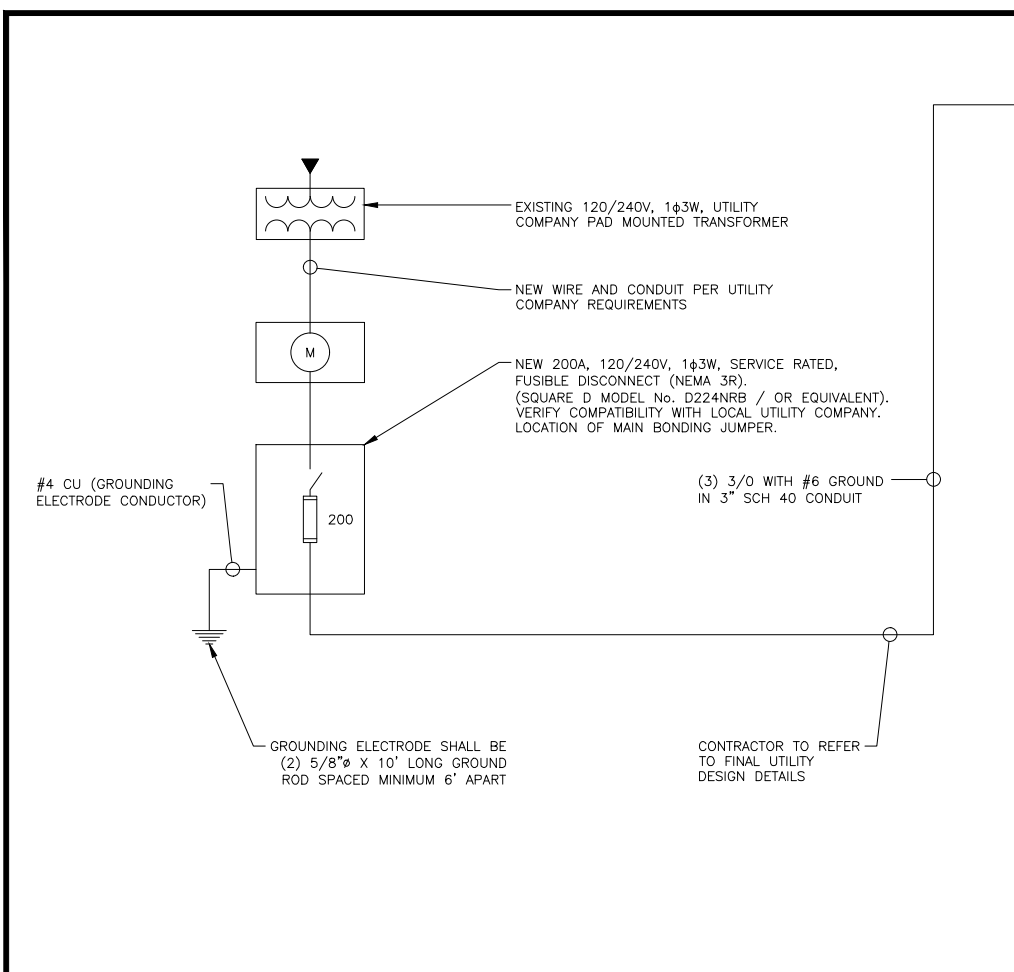
NOT USED NO SCALE **5**

NOT USED NO SCALE **6**

NOT USED NO SCALE **7**

NOT USED NO SCALE **8**

NOT USED NO SCALE **9**



NOTES

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

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

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

CABINET CONVENIENCE OUTLET CONDUCTORS (1 CONDUIT): USING THWN-2, CU.
#10 - 0.0211 SQ. IN X 2 = 0.0422 SQ. IN
#10 - 0.0211 SQ. IN X 1 = 0.0211 SQ. IN <GROUND
TOTAL = 0.0633 SQ. IN

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

RECTIFIER CONDUCTORS (2 CONDUITS): USING UL1015, CU.
#10 - 0.0266 SQ. IN X 4 = 0.1064 SQ. IN
#10 - 0.0082 SQ. IN X 1 = 0.0082 SQ. IN <BARE GROUND
TOTAL = 0.1146 SQ. IN

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

PPC FEED CONDUCTORS (1 CONDUIT): USING THWN, CU.
3/0 - 0.2679 SQ. IN X 3 = 0.8037 SQ. IN
#6 - 0.0507 SQ. IN X 1 = 0.0507 SQ. IN <GROUND
TOTAL = 0.8544 SQ. IN

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

PPC ONE-LINE DIAGRAM NO SCALE 1

PROPOSED CHARLES PANEL SCHEDULE

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

PANEL SCHEDULE NO SCALE 2

NOT USED NO SCALE 3

dish wireless.

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(Professional Engineer Seal)
No. 23924
EXPIRES 12/21

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CONSTRUCTION DOCUMENTS

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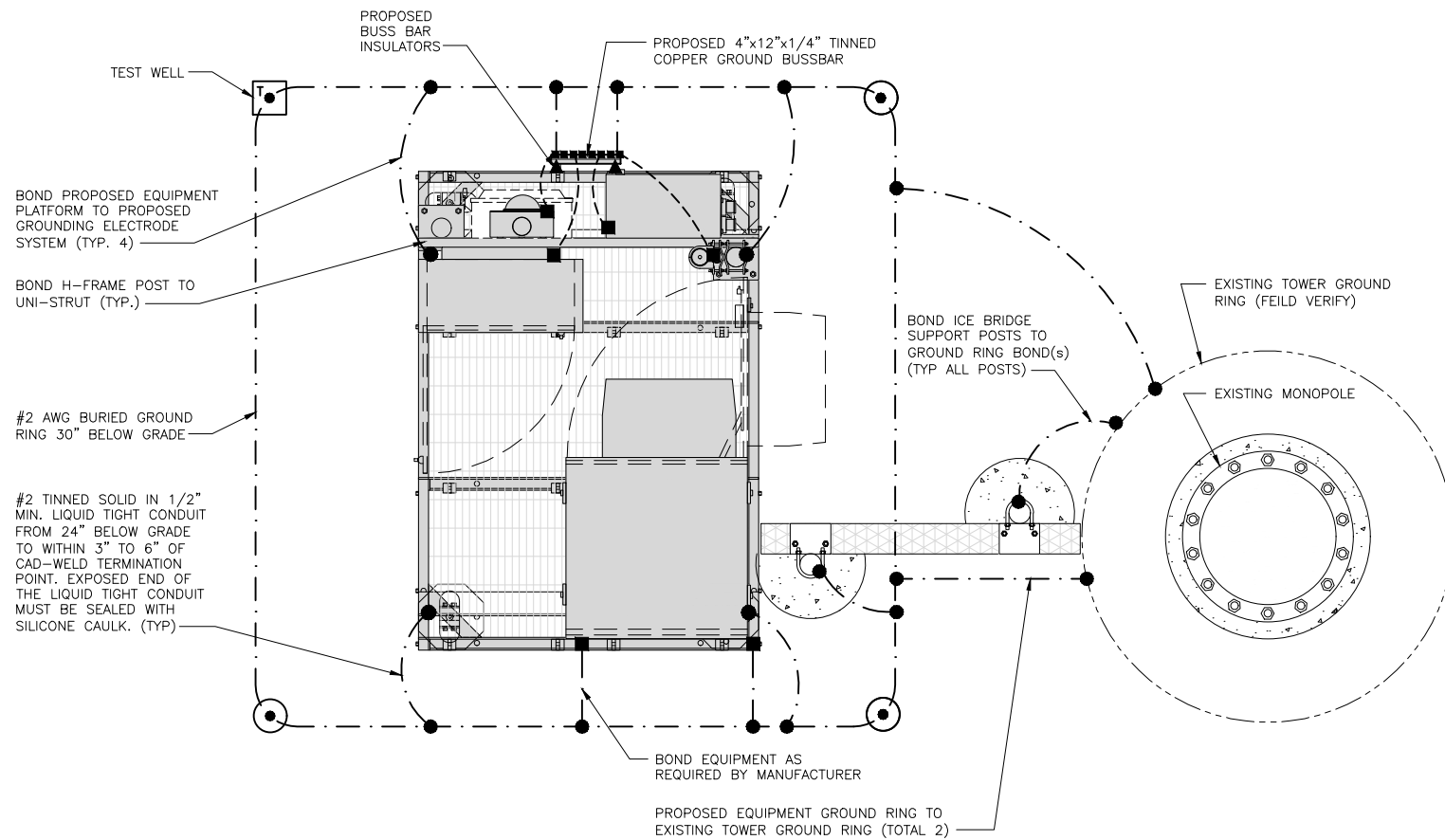
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PLAINFIELD, CT 06374

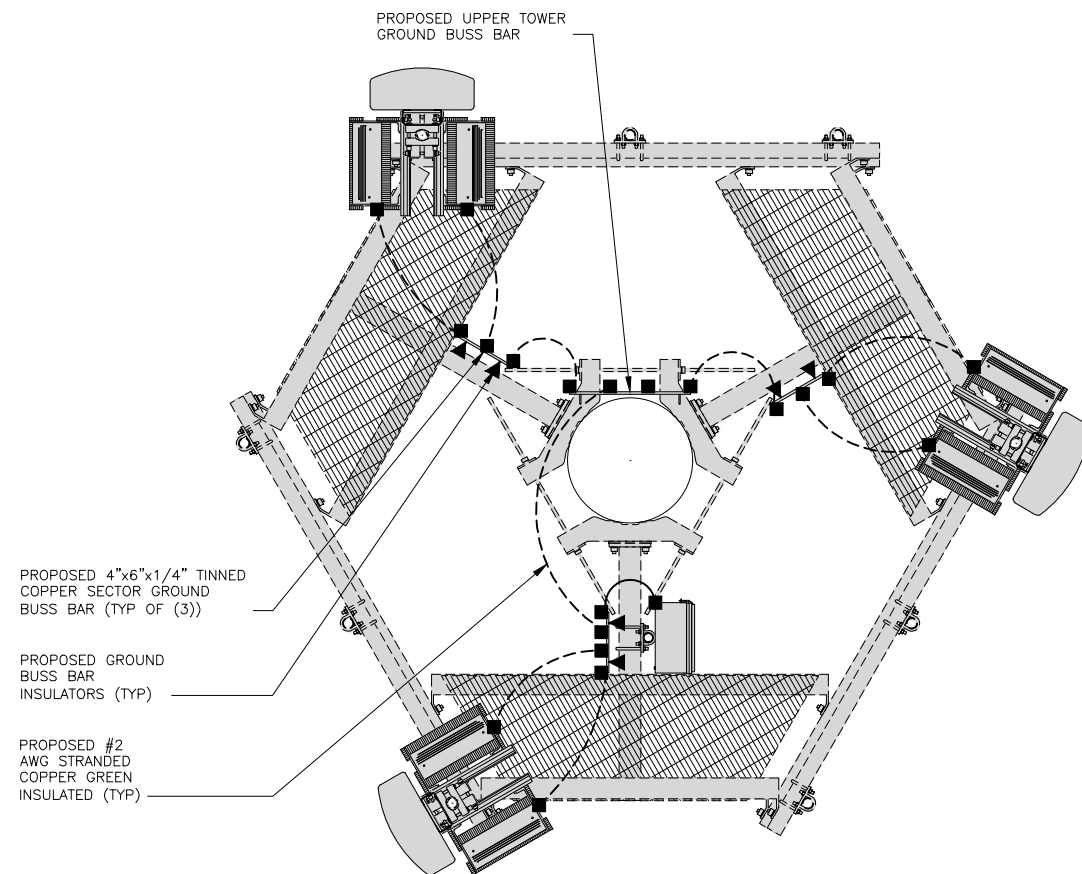
SHEET TITLE
ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE

SHEET NUMBER
E-3



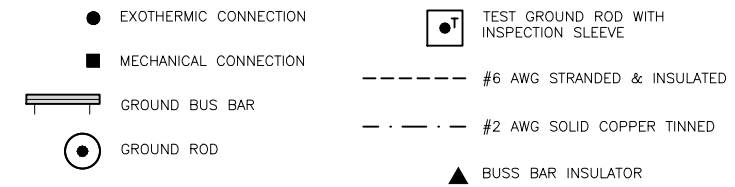
TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE 1



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



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PLAINFIELD, CT 06374

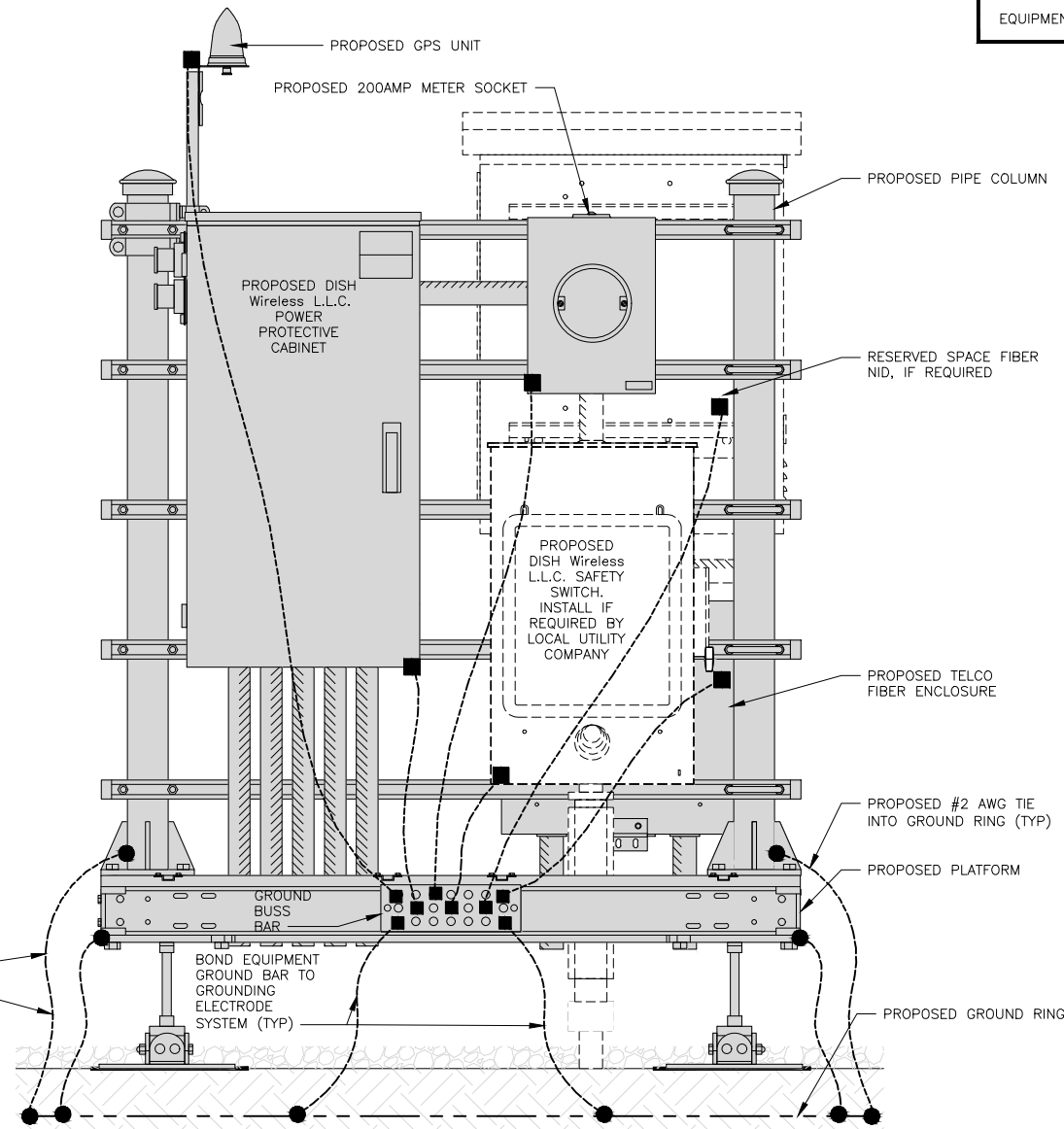
SHEET TITLE
GROUNDING PLANS
AND NOTES

SHEET NUMBER

G-1

NOTES

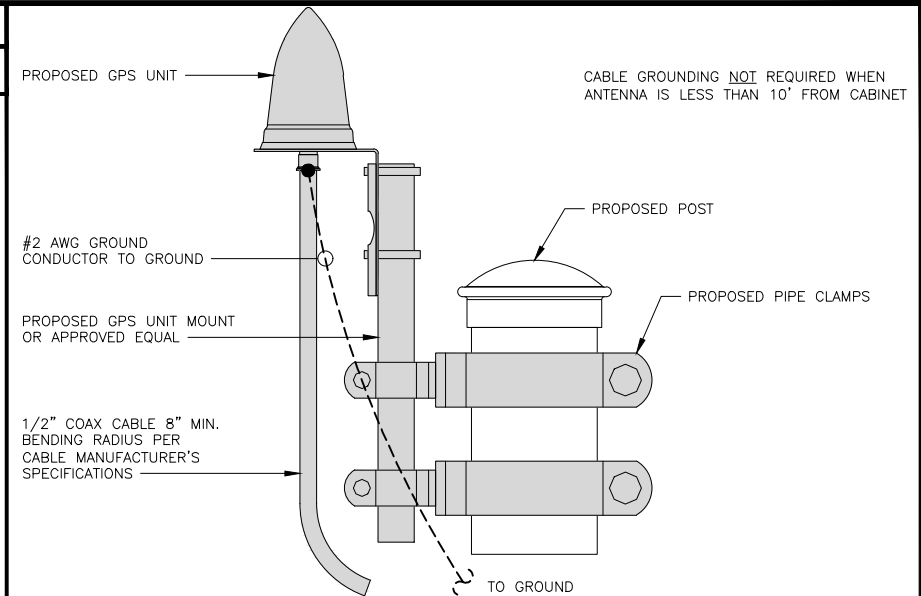
EQUIPMENT CABINET OMITTED FOR CLARITY



#2 TINNED SOLID IN 1/2" MIN. LIQUID TIGHT CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. EXPOSED END OF THE LIQUID TIGHT CONDUIT MUST BE SEALED WITH SILICONE CAULK. (TYP)

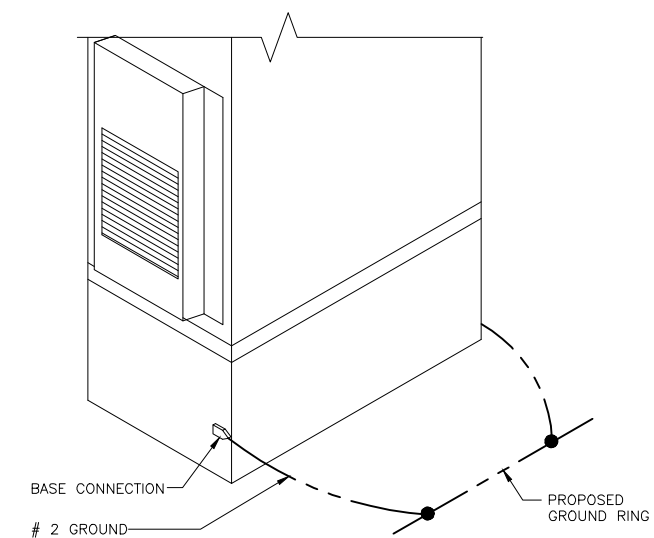
H-FRAME GROUNDING DETAIL

NO SCALE 1



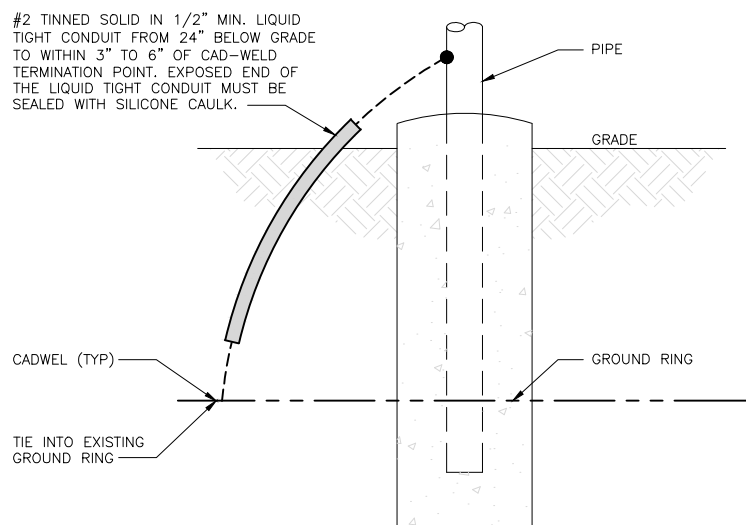
TYPICAL GPS UNIT GROUNDING

NO SCALE 2



OUTDOOR CABINET GROUNDING

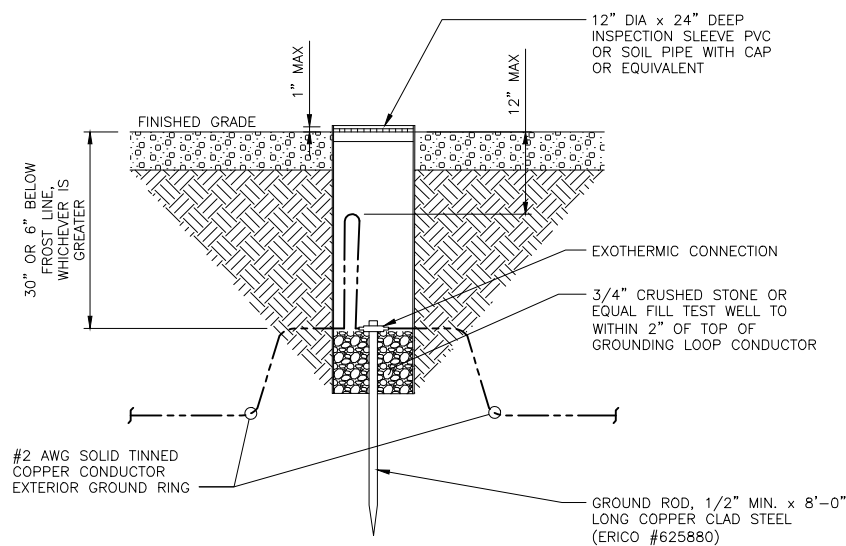
NO SCALE 3



#2 TINNED SOLID IN 1/2" MIN. LIQUID TIGHT CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. EXPOSED END OF THE LIQUID TIGHT CONDUIT MUST BE SEALED WITH SILICONE CAULK.

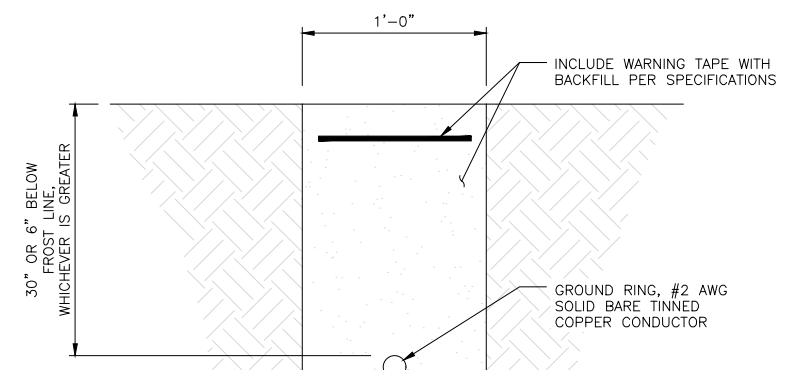
TRANSITIONING GROUND DETAIL

NO SCALE 4



TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE

NO SCALE 5



TYPICAL GROUND RING TRENCH

NO SCALE 6



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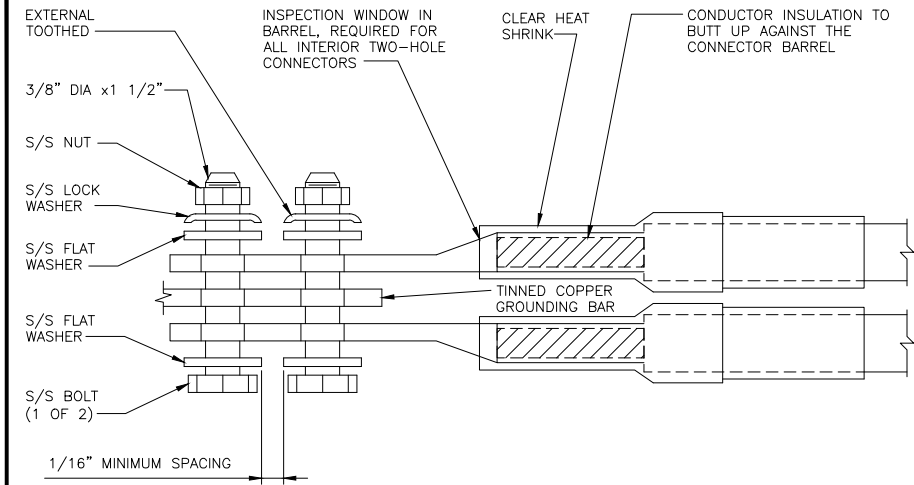
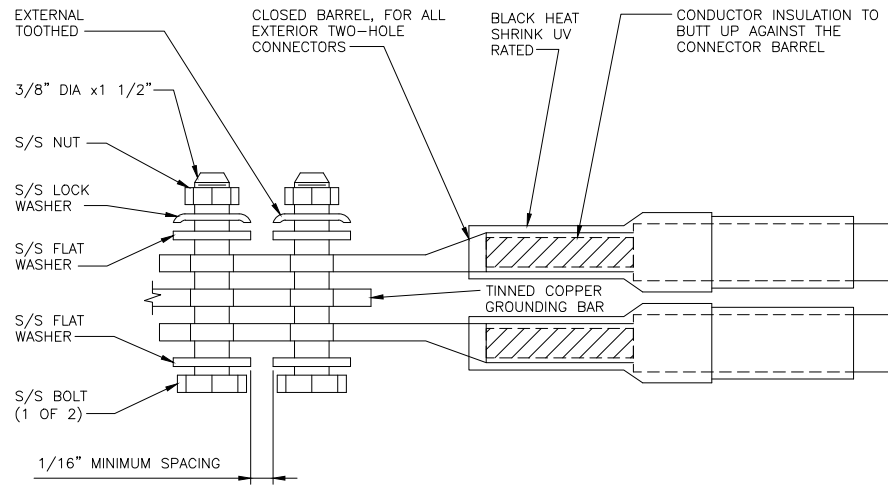
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SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER

G-2

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



TYPICAL GROUNDING NOTES

NO SCALE

1

TYPICAL EXTERIOR TWO HOLE LUG

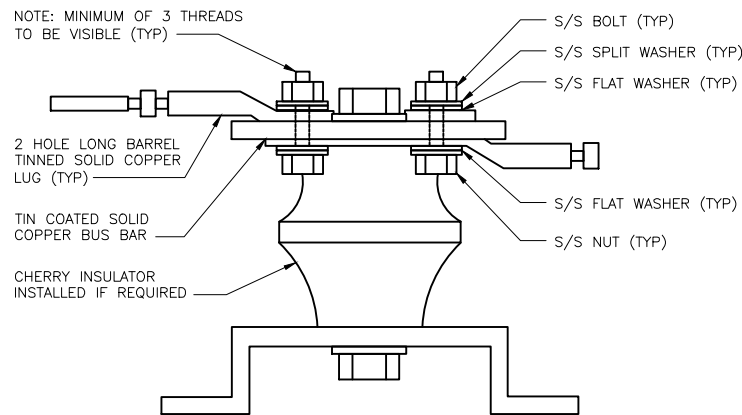
NO SCALE

2

TYPICAL INTERIOR TWO HOLE LUG

NO SCALE

3



LUG DETAIL

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

9

dish
wireless.

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SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER

G-3

HYBRID/DISCREET CABLES

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

LOW-BAND RRH
(600 MHz N71 BASEBAND) +
(850 MHz N26 BAND) +
(700 MHz N29 BAND) - OPTIONAL PER MARKET
ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BAND)

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

MID-BAND RRH
(AWS BANDS N66+N70)
ADD FREQUENCY COLOR TO SECTOR BAND
(CBRS WILL USE YELLOW BANDS)

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

HYBRID/DISCREET CABLES

INCLUDE SECTOR BANDS BEING SUPPORTED
ALONG WITH FREQUENCY BANDS.

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

EXAMPLE 2 - HYBRID, OR DISCREET, SUPPORTS
CBRS ONLY, ALL SECTORS.

EXAMPLE 3 - MAIN COAX WITH GROUND
MOUNTED RRHs.

EXAMPLE 1	EXAMPLE 2	EXAMPLE 3 COAX #1 (ALPHA)	COAX #2 (ALPHA)
RED	RED	RED	RED
BLUE	BLUE		
GREEN	GREEN		
ORANGE	YELLOW		
PURPLE			

CONTRACTOR TO REFER TO FINAL
CONSTRUCTION RFDS FOR ALL RD DETAILS.
FINAL RFDS IS IN NEXSYSONE.

FIBER JUMPERS TO RRHs

LOW-BAND HHR FIBER CABLES HAVE SECTOR
STRIPE ONLY.

LOW BAND RRH	MID BAND RRH	LOW BAND RRH	MID BAND RRH	LOW BAND RRH	MID BAND RRH
RED	RED	BLUE	BLUE	GREEN	GREEN
ORANGE	PURPLE	ORANGE	PURPLE	ORANGE	PURPLE

POWER CABLES TO RRHs

LOW-BAND RRH POWER CABLES HAVE SECTOR
STRIPE ONLY

LOW BAND RRH	MID BAND RRH	LOW BAND RRH	MID BAND RRH	LOW BAND RRH	MID BAND RRH
RED	RED	BLUE	BLUE	GREEN	GREEN
ORANGE	PURPLE	ORANGE	PURPLE	ORANGE	PURPLE

RET MOTORS AT ANTENNAS

RET CONTROL IS HANDLED BY THE MID-BAND
RRH WHEN ONE SET OF RET PORTS EXIST ON
ANTENNA.

SEPARATE RET CABLES ARE USED WHEN
ANTENNA PORTS PROVIDE INPUTS FOR BOTH
LOW AND MID BANDS.

ANTENNA 1 MID BAND		ANTENNA 1 LOW BAND		ANTENNA 1 MID BAND		ANTENNA 1 LOW BAND	
IN	IN	IN	IN	IN	IN	IN	IN
RED	RED	RED	RED	BLUE	BLUE	GREEN	GREEN
PURPLE	ORANGE	PURPLE	ORANGE	PURPLE	ORANGE	PURPLE	ORANGE

MICROWAVE RADIO LINKS

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

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

FORWARD AZIMUTH OF 0-120 DEGREES		FORWARD AZIMUTH OF 120-240 DEGREES		FORWARD AZIMUTH OF 240-359 DEGREES	
PRIMARY	SECONDARY	PRIMARY	SECONDARY	PRIMARY	SECONDARY
WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
RED	RED	BLUE	BLUE	GREEN	GREEN
WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
	RED	BLUE	BLUE	GREEN	GREEN
	WHITE	WHITE	WHITE	WHITE	WHITE

RF CABLE COLOR CODES

1

NOT USED

4

LOW BANDS (N71+N26)
OPTIONAL - (N29)

ORANGE

AWS
(N66+N70+H-BLOCK)

PURPLE

CBRS TECH
(3 GHz)

YELLOW

NEGATIVE SLANT PORT
ON ANT/RRH

WHITE

ALPHA SECTOR

RED

BETA SECTOR

BLUE

GAMMA SECTOR

GREEN

COLOR IDENTIFIER

2

NOT USED

3



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CONSTRUCTION DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
A	6/24/21	ISSUED FOR REVIEW
0	10/11/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149426.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

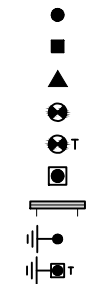
BOBOS00041A
56 ROPER ROAD
PLAINFIELD, CT 06374

SHEET TITLE
RF
CABLE COLOR CODES

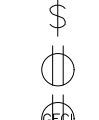
SHEET NUMBER

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



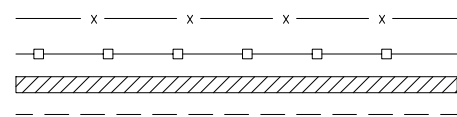
SMOKE DETECTION (DC)
 EMERGENCY LIGHTING (DC)



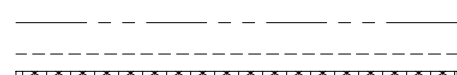
SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW
 LED-1-25A400/51K-SR4-120-PE-DBBTXD



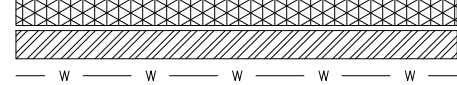
CHAIN LINK FENCE
 WOOD/WROUGHT IRON FENCE
 WALL STRUCTURE
 LEASE AREA



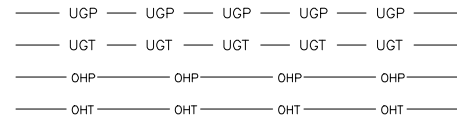
PROPERTY LINE (PL)
 SETBACKS



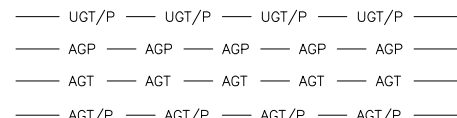
ICE BRIDGE
 CABLE TRAY
 WATER LINE



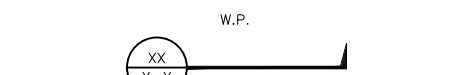
UNDERGROUND POWER
 UNDERGROUND TELCO
 OVERHEAD POWER
 OVERHEAD TELCO



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



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DISH Wireless L.L.C.
 PROJECT INFORMATION
BOBOS00041A
56 ROPER ROAD
PLAINFIELD, CT 06374

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.



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PROJECT INFORMATION
BOBOS00041A
56 ROPER ROAD
PLAINFIELD, CT 06374

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

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

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
- 4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
- 4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. TIE WRAPS ARE NOT ALLOWED.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

16. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH Wireless L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH Wireless L.L.C.".
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.



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

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DRAWN BY:	CHECKED BY:	APPROVED BY:
BLB	BLB	JW

RFDS REV #: 0

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
A	6/24/21	ISSUED FOR REVIEW
0	10/11/21	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER
149426.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION
BOBOS00041A
56 ROPER ROAD
PLAINFIELD, CT 06374

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-3

GROUNDING NOTES:

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



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RFDS REV #: 0

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SUBMITTALS		
REV	DATE	DESCRIPTION
A	6/24/21	ISSUED FOR REVIEW
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A&E PROJECT NUMBER
149426.001.01

DISH Wireless L.L.C.
PROJECT INFORMATION

BOBOS00041A
56 ROPER ROAD
PLAINFIELD, CT 06374

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-4

Exhibit D

Structural Analysis Report



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 178 ft Valmont Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT00594-S
Customer Site Name: Plainfield North
Carrier Name: Dish Wireless (App#: 162753, V1)
Carrier Site ID / Name: BOBOS00041A / 0
Site Location: 56 Roper Road
Plainfield, Connecticut
Windham County
Latitude: 41.746002
Longitude: -71.880158



Analysis Result:

Max Structural Usage: 83.2% [Pass]

Max Foundation Usage: 81.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By : Delu Zhou



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Report Prepared By : Delu Zhou

Introduction

The purpose of this report is to summarize the analysis results on the 178 ft Valmont Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Valmont, Monopole section data, Dated 09-11-1998. Project No F138. FDH Engineering, Inc. Structural report Dated 03-28-2014. Project No 1425021400.
Foundation Drawing	Monopole foundation mapping report prepared by FDH Engineering, Inc. Dated 08-16-2012. Project No 1207132 EN1.
Geotechnical Report	Monopole geotechnical report prepared by Jaworski Geotech, Inc. Dated 07-23-1998. Project No C98326G.
Modification Drawings	Tower previous modifications by Tower Engineering Solutions. Dated 11-25-2015. TES Project No 18414. Modification Inspection Report prepared by Tower Engineering Solutions. Dated 03-21-2016. TES Project No 20244.
Mount Analysis	N/A

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 135.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 105.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.171$, $S_1 = 0.061$

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft.)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	165.0	3	RFS APXV18-206516S-C-A20 - Panel	Platform w/ Hand Rails & Reinforcement Kit PRK-1245 & PRK-SFS	(3) 1.9" Fiber (8) 1 5/8"	T-Mobile
2		3	Kathrein 782 11056			
3		3	RFS APXVAALL24-43-U-NA20 - Panel			
4		6	Ericsson KRY 112 489/2 TMAs			
5		3	Ericsson 4449 B71 + B85 RRUs			
6	155.0	1	Kathrein 800 10764 - Panel	Platform w/ Hand Rails	(12) 1 5/8"; (2) 3/4" DC Power; (1) 7/16" Fiber; (1) 1/2"	AT&T
7		1	KMW AM-X-CD-17-65-00T - Panel			
8		1	Nokia CS72188.01			
9		6	Powerwave 7770 - Panel			
10		6	Powerwave LGP21401 TMAs			
11		6	Powerwave LGP21903 Diplexers			
12		1	Powerwave P65-17-XLH-RR - Panel			
13	152.5	6	Ericsson RRU511 RRUs	Ring Mount (Part No LWRM)	-	-
14		1	Raycap DC2-48-60-18-8F			
15	145.0	3	ALU 1900 MHz - RRUs	Platform w/ Hand Rails w/ (1) SitePro platform reinforcement kit PRK-1245L and (1) SitePro v-brace kit PRK-SFS-H-L	(4) 1-1/4" Fiber	Sprint Nextel
16		6	ALU 800 MHz - RRUs			
17		3	ALU TD-RRH8x20-25 - RRUs			
18		3	RFS APXVTM14-C-I20 - Panel			
19		3	Commscope NNVV-65B-R4 - Panel			
20	125.0 ¹	6	Antel LPA-80080-4CF-EDIN-0 - Panel	Low Profile Platform	(11) 1 5/8"; (2) 1 5/8" Hybrid; (1) 1/2"	Verizon ¹
21		6	Commscope SBNHH-1D65B - Panel			
22		3	ALU RRH2x60-700			
23		3	ALU RRH2x60-AWS			
24		3	ALU RRH2X60-PCS			
25		1	GPS			
26		2	RFS DB-T1-6Z-8AB-0Z			
27		6	RFS FD9R6004/2C-3L			

¹ Existing transmission lines considered running outside the pole shaft.

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
20	135.0	3	JMA Wireless MX08FRO665-21 Panel	(1) Commscope MC-PK8-DSH Platform w/HRK	(1) 1.6" Hybrid	Dish Wireless
21		3	Fujitsu TA08025-B605 RRU			
22		3	Fujitsu TA08025-B604 RRU			
23		1	Raycap RDIDC-9181-PF-48 OVP			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	83.2%	71.4%	48.2%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	5898.5	49.1	120.3

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.2634 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222 Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 83.22% at 0.0ft

Structure: CT00594-S-SBA
Site Name: Plainfield North
Height: 178.00 (ft)
Base Elev: 0.000 (ft)

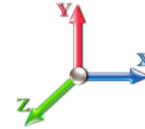
Code: EIA/TIA-222-G
Exposure: B
Gh: 1.1

7/9/2021



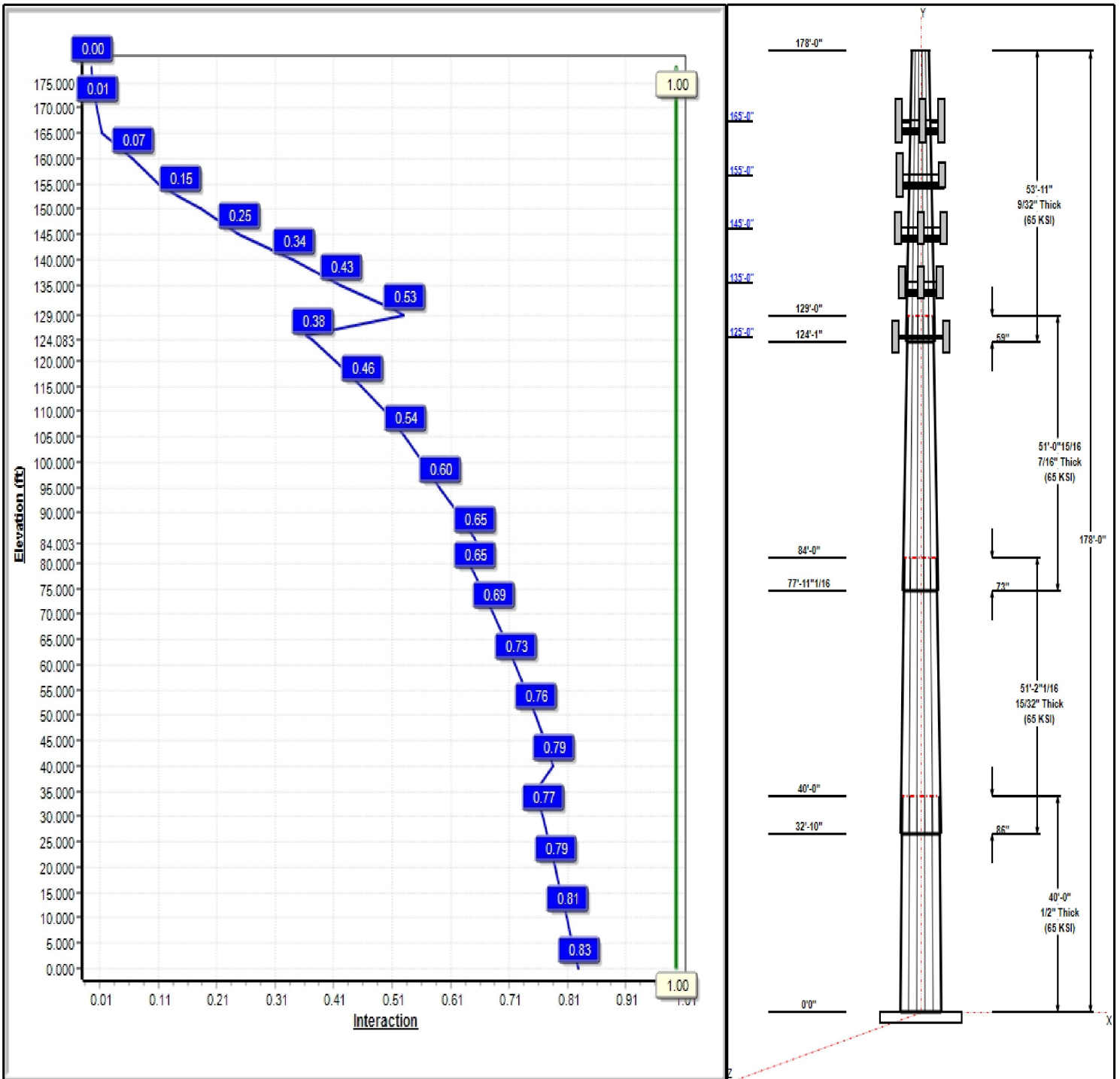
Dead Load Factor: 1.20
Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 105 mph Wind



Iterations: 25

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Structure: CT00594-S-SBA

Type: Tapered
Site Name: Plainfield North
Height: 178.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 12 Sided
Taper: 0.22997

7/9/2021

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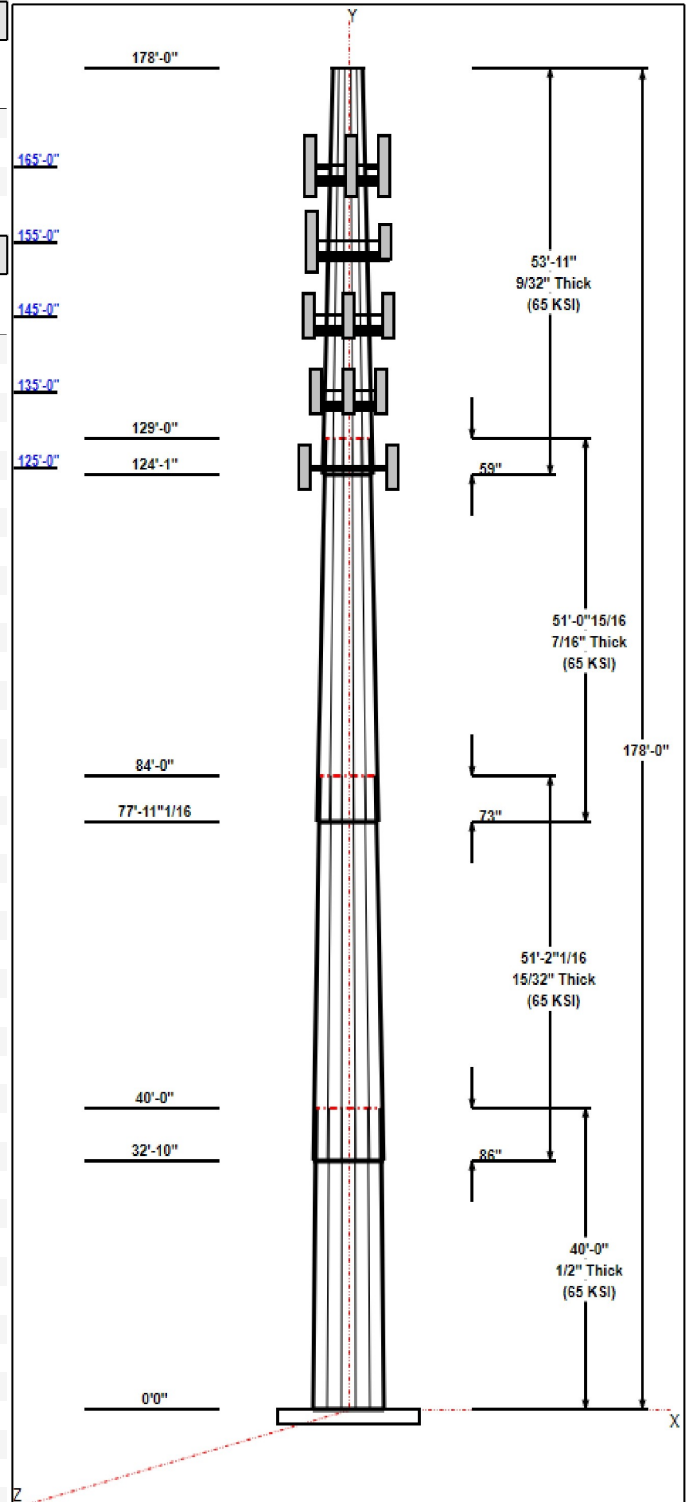


Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	40.00	49.05	58.25	0.500		0.22997	65
2	51.17	39.87	51.64	0.469	Slip	0.22997	65
3	51.08	30.40	42.14	0.438	Slip	0.22997	65
4	53.92	19.69	32.09	0.281	Slip	0.22997	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
165.00	165.00	3	RFS	T-Mobile
165.00	165.00	3	Kathrein 782 11056	T-Mobile
165.00	165.00	3	Reinf. Kit (SitePro1	T-Mobile
165.00	165.00	1	Platform w/ Hand Rails	T-Mobile
165.00	165.00	3	RFS	T-Mobile
165.00	165.00	6	Ericsson KRY 112 489/2	T-Mobile
165.00	165.00	3	Ericsson 4449 B71 + B85	T-Mobile
165.00	165.00	1	(3) SFS-H-L (V-Braces)	T-Mobile
155.00	155.00	1	Platform w/ Hand Rails	AT&T
155.00	155.00	6	Powerwave 7770	AT&T
155.00	155.00	1	KMW AM-X-CD-17-65-00T	AT&T
155.00	155.00	1	Powerwave	AT&T
155.00	155.00	1	Kathrein 800 10764	AT&T
155.00	155.00	1	Nokia CS72188.01	AT&T
155.00	155.00	6	Powerwave LGP21401	AT&T
155.00	155.00	6	Powerwave LGP21903	AT&T
152.50	152.50	6	Ericsson RRUS11 RRUs	---
152.50	152.50	1	Raycap DC2-48-60-18-8F	---
152.50	152.50	1	Ring Mount (Part No	---
145.00	145.00	1	Platform w/ Hand Rails	Sprint Nextel
145.00	145.00	3	ALU 1900 Mhz- RRUs	Sprint Nextel
145.00	145.00	6	ALU 800 Mhz- RRUs	Sprint Nextel
145.00	145.00	3	ALU TD-RRH8x20-25-	Sprint Nextel
145.00	145.00	3	APXVTM14-C-I20	Sprint Nextel
145.00	145.00	3	NNVV-65B-R4	Sprint Nextel
145.00	145.00	1	(3) SFS-H-L (V-Braces)	Sprint Nextel
145.00	145.00	1	PRK-1245 (kicker kit)	Sprint Nextel
135.00	135.00	3	MX08FRO665-21	Dish Wireless
135.00	135.00	1	MC-PK8-DSH	Dish Wireless
135.00	135.00	3	TA08025-B605	Dish Wireless
135.00	135.00	3	TA08025-B604	Dish Wireless
135.00	135.00	1	RDIDC-9181-PF-48	Dish Wireless
125.00	125.00	1	Low Profile Platform	Verizon
125.00	125.00	6	Commscope	Verizon
125.00	125.00	6	Antel	Verizon
125.00	125.00	3	ALU RRH2x60-AWS	Verizon
125.00	125.00	3	ALU RRH2x60-700	Verizon
125.00	125.00	3	ALU RRH2X60-PCS	Verizon
125.00	125.00	6	RFS FD9R6004/2C-3L	Verizon
125.00	125.00	2	RFS DB-T1-6Z-8AB-0Z	Verizon
125.00	125.00	1	GPS	Verizon



Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	165.00	Inside	1.9" Fiber	T-Mobile

Structure: CT00594-S-SBA

Type: Tapered
Site Name: Plainfield North
Height: 178.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 12 Sided
Taper: 0.22997

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3.00	165.00	Inside	1 5/8" Coax	T-Mobile
3.00	155.00	Inside	1 5/8" Coax	AT&T
3.00	155.00	Inside	1/2" Coax	AT&T
3.00	155.00	Inside	3/4" DC Power	AT&T
3.00	155.00	Inside	7/16" Fiber	AT&T
3.00	145.00	Inside	1-1/4" Fiber	Sprint Nextel
3.00	135.00	Inside	1.6" Hybrid	Dish Wireless
3.00	125.00	Outside	1 5/8" Coax	Verizon
3.00	125.00	Outside	1 5/8" Hybrid	Verizon
3.00	125.00	Outside	1/2" Coax	Verizon

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
24	2.25" 18J	75.0	Radial

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	72.8	60.0	Polygon

Reactions

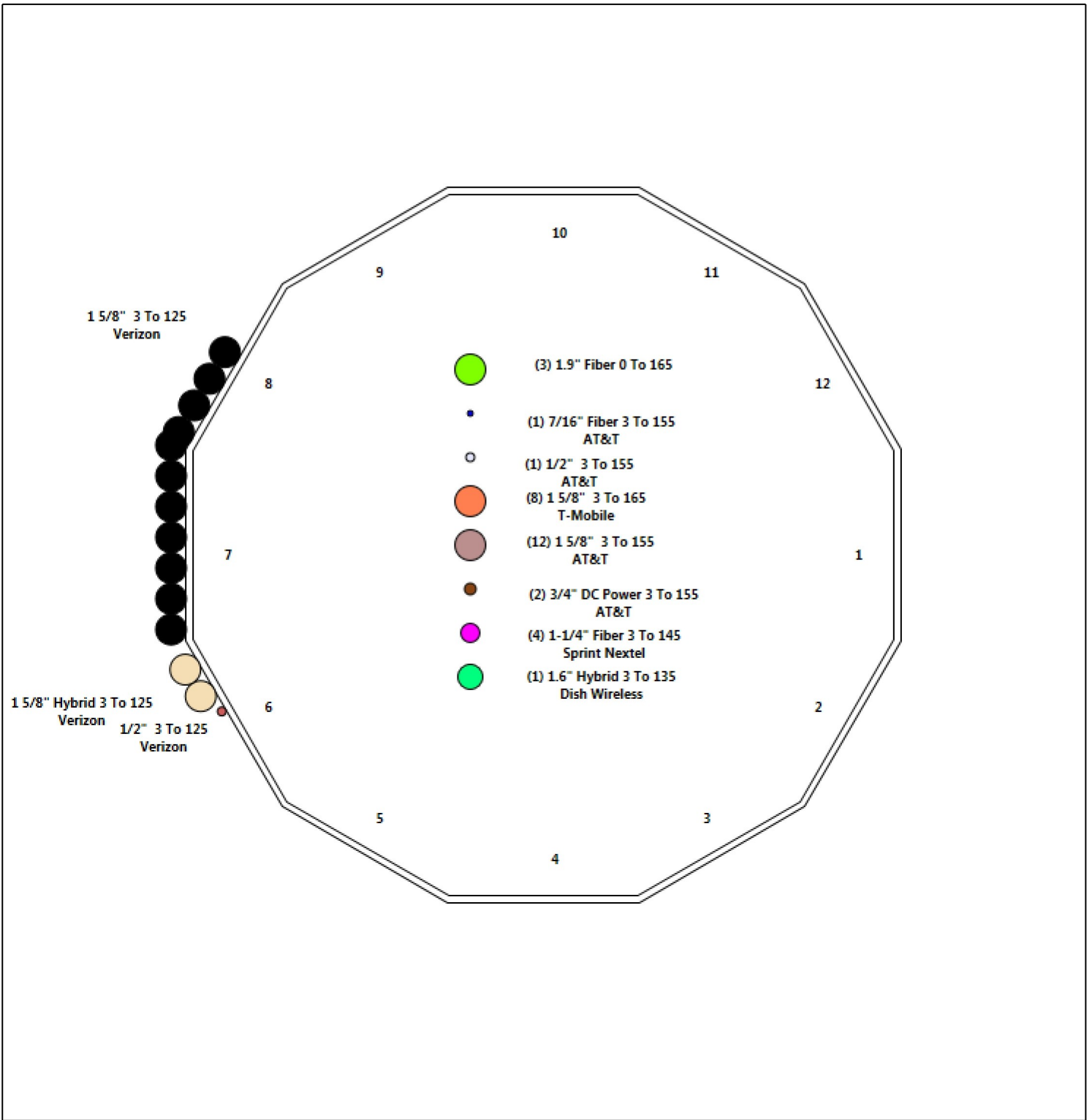
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 105 mph Wind	5898.5	49.1	68.8
0.9D + 1.6W 105 mph Wind	5821.6	49.1	51.6
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1393.0	10.5	120.3
1.2D + 1.0E	200.2	1.8	68.9
0.9D + 1.0E	197.4	1.8	51.7
1.0D + 1.0W 60 mph Wind	1195.5	10.0	57.4

Structure: CT00594-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Plainfield North
Height: 178.00 (ft)

7/9/2021

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Shaft Properties

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	12	40.000	0.5000	65		0.00	11,647
2	12	51.170	0.4688	65	Slip	86.00	11,901
3	12	51.080	0.4375	65	Slip	73.00	8,774
4	12	53.917	0.2813	65	Slip	59.00	4,255
Total Shaft Weight:							36,577

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper
1	58.25	0.00	92.98	39579.27	29.07	116.50	49.05	40.00	78.17	23518.5	24.14	98.10	0.229972
2	51.64	32.83	77.23	25809.44	27.37	110.16	39.87	84.00	59.47	11783.7	20.65	85.05	0.229972
3	42.14	77.92	58.75	13043.76	23.67	96.33	30.40	129.00	42.20	4834.88	16.47	69.48	0.229972
4	32.09	124.0	28.81	3720.03	28.43	114.10	19.69	178.00	17.58	845.14	16.62	70.01	0.229972

Load Summary

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	165.00	RFS APXV18-206516S-C-A20	3	18.70	3.61	0.73	113.03	6.110	0.75	0.00	0.00
2	165.00	Kathrein 782 11056	3	1.80	0.13	0.78	5.14	0.523	0.78	0.00	0.00
3	165.00	Reinf. Kit (SitePro1 PRK-1245)	3	95.00	3.50	0.75	351.83	14.259	0.75	0.00	0.00
4	165.00	Platform w/ Hand Rails	1	2000.00	40.00	1.00	4819.09	68.191	1.00	0.00	0.00
5	165.00	RFS APXVAALL24-43-U-NA20	3	122.80	20.24	0.70	723.66	22.831	0.70	0.00	0.00
6	165.00	Ericsson KRY 112 489/2	6	15.40	0.65	0.67	39.12	1.474	0.67	0.00	0.00
7	165.00	Ericsson 4449 B71 + B85	3	71.00	1.97	0.67	142.86	2.707	0.67	0.00	0.00
8	165.00	(3) SFS-H-L (V-Braces)	1	230.00	6.70	1.00	662.26	16.144	1.00	0.00	0.00
9	155.00	Platform w/ Hand Rails	1	2000.00	40.00	1.00	4801.52	68.015	1.00	0.00	0.00
10	155.00	Powerwave 7770	6	27.00	5.54	0.72	179.90	8.396	0.72	0.00	0.00
11	155.00	KMW AM-X-CD-17-65-00T	1	30.80	5.00	0.75	180.62	7.507	0.75	0.00	0.00
12	155.00	Powerwave P65-17-XLH-RR	1	59.00	11.44	0.75	348.75	15.767	0.75	0.00	0.00
13	155.00	Kathrein 800 10764	1	40.80	5.88	0.75	211.38	8.746	0.75	0.00	0.00
14	155.00	Nokia CS72188.01	1	19.80	1.32	0.67	58.65	2.439	0.67	0.00	0.00
15	155.00	Powerwave LGP21401 TMAs	6	14.10	1.29	0.67	47.54	2.408	0.67	0.00	0.00
16	155.00	Powerwave LGP21903 Diplexers	6	5.50	0.27	0.67	16.77	0.802	0.67	0.00	0.00
17	152.50	Ericsson RRUS11 RRUs	6	51.00	3.26	0.67	152.85	4.971	0.67	0.00	0.00
18	152.50	Raycap DC2-48-60-18-8F	1	32.80	1.47	1.00	115.37	2.405	1.00	0.00	0.00
19	152.50	Ring Mount (Part No LWRM)	1	150.00	5.00	1.00	317.82	9.662	1.00	0.00	0.00
20	145.00	Platform w/ Hand Rails	1	2000.00	40.00	1.00	4782.89	67.829	1.00	0.00	0.00
21	145.00	ALU 1900 Mhz- RRUs	3	60.00	2.77	0.67	170.87	4.456	0.67	0.00	0.00
22	145.00	ALU 800 Mhz- RRUs	6	53.00	2.49	0.67	151.28	4.010	0.67	0.00	0.00
23	145.00	ALU TD-RRH8x20-25- RRUs	3	70.00	4.05	0.67	227.05	5.158	0.67	0.00	0.00
24	145.00	APXVTM14-C-I20	3	56.20	6.34	0.77	283.73	7.851	0.77	0.00	0.00
25	145.00	NNVV-65B-R4	3	77.40	12.27	0.74	456.86	14.205	0.74	0.00	0.00
26	145.00	(3) SFS-H-L (V-Braces)	1	230.00	6.70	1.00	656.71	16.023	1.00	0.00	0.00
27	145.00	PRK-1245 (kicker kit)	1	464.91	9.50	1.00	896.18	22.719	1.00	0.00	0.00
28	135.00	MX08FRO665-21	3	64.50	12.49	0.74	448.26	14.423	0.74	0.00	0.00
29	135.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3953.86	99.909	1.00	0.00	0.00
30	135.00	TA08025-B605	3	75.00	1.96	0.67	144.01	2.700	0.67	0.00	0.00
31	135.00	TA08025-B604	3	63.90	1.96	0.67	130.70	2.700	0.67	0.00	0.00
32	135.00	RDIDC-9181-PF-48	1	21.85	2.01	1.00	91.94	2.760	1.00	0.00	0.00
33	125.00	Low Profile Platform	1	1200.00	25.00	1.00	2570.95	52.419	1.00	0.00	0.00
34	125.00	Commscope SBNHH-1D65B	6	50.71	8.08	0.83	329.88	9.779	0.83	0.00	0.00
35	125.00	Antel LPA-80080-4CF-EDIN-0	6	12.00	2.61	0.74	163.37	3.786	0.74	0.00	0.00
36	125.00	ALU RRH2x60-AWS	3	60.00	3.50	0.67	174.28	4.533	0.67	0.00	0.00
37	125.00	ALU RRH2x60-700	3	60.00	3.50	0.67	174.28	4.533	0.67	0.00	0.00
38	125.00	ALU RRH2X60-PCS	3	55.00	3.50	0.67	159.76	4.533	0.67	0.00	0.00
39	125.00	RFS FD9R6004/2C-3L	6	3.10	0.36	0.67	13.61	0.940	0.67	0.00	0.00
40	125.00	RFS DB-T1-6Z-8AB-OZ	2	44.00	4.10	0.91	363.30	5.149	0.91	0.00	0.00
41	125.00	GPS	1	10.00	1.00	0.83	48.39	1.932	0.87	0.00	0.00
Totals:			117	14,549.72			42,927.84				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
0.00	165.00	(3) 1.9" Fiber		0.00							
3.00	165.00	(8) 1 5/8" Coax		0.00							
3.00	155.00	(12) 1 5/8" Coax		0.00							
3.00	155.00	(1) 1/2" Coax		0.00							
3.00	155.00	(2) 3/4" DC Power		0.00							
3.00	155.00	(1) 7/16" Fiber		0.00							
3.00	145.00	(4) 1-1/4" Fiber		0.00							
3.00	135.00	(1) 1.6" Hybrid		0.00							
3.00	125.00	(11) 1 5/8" Coax		0.00							
3.00	125.00	(2) 1 5/8" Hybrid		0.00							
3.00	125.00	(1) 1/2" Coax		0.00							

Shaft Section Properties

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.5000	58.250	92.978	39579.3	29.07	116.50	73.0	1312.	0.0
5.00		0.5000	57.100	91.126	37261.8	28.46	114.20	73.7	1260.	1566.2
10.00		0.5000	55.950	89.275	35036.7	27.84	111.90	74.4	1209.	1534.7
15.00		0.5000	54.800	87.424	32901.9	27.22	109.60	75.0	1159.	1503.2
20.00		0.5000	53.651	85.572	30855.7	26.61	107.30	75.7	1111.	1471.7
25.00		0.5000	52.501	83.721	28896.1	25.99	105.00	76.4	1063.	1440.2
30.00		0.5000	51.351	81.870	27021.3	25.38	102.70	77.0	1016.	1408.7
32.83	Bot - Section 2	0.5000	50.699	80.821	25995.8	25.03	101.40	77.4	990.5	784.3
35.00		0.5000	50.201	80.019	25229.4	24.76	100.40	77.7	970.9	1159.5
40.00	Top - Section 1	0.4688	49.989	74.744	23394.9	26.43	106.64	0.0	0.0	2632.1
45.00		0.4688	48.839	73.008	21802.8	25.77	104.19	76.6	862.4	1256.9
50.00		0.4688	47.689	71.273	20284.5	25.12	101.74	77.3	821.7	1227.4
55.00		0.4688	46.539	69.537	18838.5	24.46	99.28	78.0	782.0	1197.9
60.00		0.4688	45.389	67.802	17462.8	23.80	96.83	78.8	743.3	1168.3
65.00		0.4688	44.239	66.066	16155.9	23.14	94.38	79.5	705.5	1138.8
70.00		0.4688	43.089	64.331	14915.8	22.49	91.92	80.2	668.7	1109.3
75.00		0.4688	41.940	62.595	13740.8	21.83	89.47	80.9	632.9	1079.8
77.92	Bot - Section 3	0.4688	41.268	61.582	13084.1	21.45	88.04	81.3	612.5	616.9
80.00		0.4688	40.790	60.860	12629.2	21.17	87.02	81.6	598.1	846.8
84.00	Top - Section 2	0.4375	40.744	56.782	11774.7	22.81	93.13	0.0	0.0	1601.9
85.00		0.4375	40.515	56.459	11574.9	22.67	92.61	80.0	551.9	192.0
90.00		0.4375	39.365	54.839	10606.9	21.97	89.98	80.8	520.5	946.8
95.00		0.4375	38.215	53.219	9694.5	21.26	87.35	81.5	490.1	919.2
100.00		0.4375	37.065	51.599	8835.9	20.56	84.72	81.9	460.5	891.7
105.00		0.4375	35.915	49.980	8029.6	19.85	82.09	81.9	431.9	864.1
110.00		0.4375	34.766	48.360	7273.9	19.15	79.46	81.9	404.2	836.6
115.00		0.4375	33.616	46.740	6567.2	18.44	76.84	81.9	377.4	809.0
120.00		0.4375	32.466	45.120	5907.8	17.74	74.21	81.9	351.5	781.4
124.08	Bot - Section 4	0.4375	31.527	43.797	5403.2	17.17	72.06	81.9	331.1	617.7
125.00		0.4375	31.316	43.500	5294.1	17.04	71.58	81.9	326.6	225.7
129.00	Top - Section 3	0.2813	30.959	27.782	3337.3	27.35	110.08	0.0	0.0	967.1
130.00		0.2813	30.729	27.574	3262.8	27.13	109.26	75.1	205.1	94.2
135.00		0.2813	29.579	26.533	2906.9	26.04	105.17	76.3	189.9	460.3
140.00		0.2813	28.429	25.491	2577.9	24.94	101.08	77.5	175.2	442.6
145.00		0.2813	27.279	24.450	2274.7	23.85	96.99	78.7	161.1	424.8
150.00		0.2813	26.129	23.409	1996.2	22.75	92.90	79.9	147.6	407.1
152.50		0.2813	25.554	22.888	1866.0	22.20	90.86	80.5	141.1	196.9
155.00		0.2813	24.979	22.367	1741.5	21.65	88.82	81.1	134.7	192.5
160.00		0.2813	23.829	21.326	1509.4	20.56	84.73	81.9	122.4	371.7
165.00		0.2813	22.680	20.285	1298.9	19.46	80.64	81.9	110.6	354.0
170.00		0.2813	21.530	19.243	1109.0	18.37	76.55	81.9	99.5	336.3
175.00		0.2813	20.380	18.202	938.5	17.27	72.46	81.9	89.0	318.5
178.00		0.2813	19.690	17.577	845.1	16.62	70.01	81.9	82.9	182.6

36577.3

Wind Loading - Shaft

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



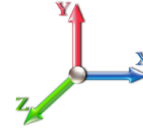
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Load Case: 1.2D + 1.6W 105 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.60



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	18.769	20.65	441.48	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	18.769	20.65	432.76	1.000	0.000	5.00	24.879	24.88	821.8	0.0	1879.4
10.00		1.00	0.70	18.769	20.65	424.05	1.000	0.000	5.00	24.383	24.38	805.5	0.0	1841.6
15.00		1.00	0.70	18.769	20.65	415.33	1.000	0.000	5.00	23.887	23.89	789.1	0.0	1803.8
20.00		1.00	0.70	18.769	20.65	406.62	1.000	0.000	5.00	23.391	23.39	772.7	0.0	1766.0
25.00		1.00	0.70	18.769	20.65	397.90	1.000	0.000	5.00	22.895	22.89	756.3	0.0	1728.2
30.00		1.00	0.70	18.785	20.66	389.35	1.000	0.000	5.00	22.399	22.40	740.5	0.0	1690.4
32.83	Bot - Section 2	1.00	0.72	19.275	21.20	389.40	1.000	0.000	2.83	12.473	12.47	423.1	0.0	941.1
35.00		1.00	0.73	19.631	21.59	389.11	1.000	0.000	2.17	9.606	9.61	331.9	0.0	1391.5
40.00	Top - Section 1	1.00	0.76	20.394	22.43	387.52	1.000	0.000	5.00	21.811	21.81	782.9	0.0	3158.6
45.00		1.00	0.79	21.092	23.20	392.39	1.000	0.000	5.00	21.315	21.32	791.3	0.0	1508.3
50.00		1.00	0.81	21.737	23.91	388.96	1.000	0.000	5.00	20.819	20.82	796.5	0.0	1472.9
55.00		1.00	0.83	22.337	24.57	384.79	1.000	0.000	5.00	20.323	20.32	799.0	0.0	1437.4
60.00		1.00	0.85	22.899	25.19	379.97	1.000	0.000	5.00	19.827	19.83	799.1	0.0	1402.0
65.00		1.00	0.87	23.429	25.77	374.61	1.000	0.000	5.00	19.331	19.33	797.1	0.0	1366.6
70.00		1.00	0.89	23.930	26.32	368.75	1.000	0.000	5.00	18.835	18.84	793.3	0.0	1331.1
75.00		1.00	0.91	24.406	26.85	362.47	1.000	0.000	5.00	18.339	18.34	787.8	0.0	1295.7
77.92	Bot - Section 3	1.00	0.92	24.674	27.14	358.62	1.000	0.000	2.92	10.481	10.48	455.1	0.0	740.3
80.00		1.00	0.93	24.861	27.35	355.80	1.000	0.000	2.08	7.520	7.52	329.0	0.0	1016.1
84.00	Top - Section 2	1.00	0.94	25.210	27.73	350.20	1.000	0.000	4.00	14.231	14.23	631.4	0.0	1922.3
85.00		1.00	0.94	25.295	27.82	356.47	1.000	0.000	1.00	3.494	3.49	155.5	0.0	230.4
90.00		1.00	0.96	25.711	28.28	349.19	1.000	0.000	5.00	17.229	17.23	779.6	0.0	1136.2
95.00		1.00	0.97	26.112	28.72	341.62	1.000	0.000	5.00	16.733	16.73	769.0	0.0	1103.1
100.00		1.00	0.99	26.497	29.15	333.78	1.000	0.000	5.00	16.237	16.24	757.2	0.0	1070.0
105.00		1.00	1.00	26.869	29.56	325.69	1.000	0.000	5.00	15.741	15.74	744.4	0.0	1037.0
110.00		1.00	1.02	27.229	29.95	317.36	1.000	0.000	5.00	15.245	15.24	730.6	0.0	1003.9
115.00		1.00	1.03	27.577	30.33	308.82	1.000	0.000	5.00	14.749	14.75	715.8	0.0	970.8
120.00		1.00	1.04	27.914	30.71	300.08	1.000	0.000	5.00	14.253	14.25	700.2	0.0	937.7
124.08	Bot - Section 4	1.00	1.05	28.182	31.00	292.79	1.000	0.000	4.08	11.272	11.27	559.1	0.0	741.3
125.00	Appurtenance(s)	1.00	1.05	28.242	31.07	291.14	1.000	0.000	0.92	2.529	2.53	125.7	0.0	270.8
129.00	Top - Section 3	1.00	1.06	28.497	31.35	283.86	1.000	0.000	4.00	10.842	10.84	543.8	0.0	1160.5
130.00		1.00	1.07	28.560	31.42	287.29	1.000	0.000	1.00	2.661	2.66	133.8	0.0	113.0
135.00	Appurtenance(s)	1.00	1.08	28.869	31.76	278.03	1.000	0.000	5.00	13.007	13.01	660.9	0.0	552.3
140.00		1.00	1.09	29.171	32.09	268.61	1.000	0.000	5.00	12.511	12.51	642.3	0.0	531.1
145.00	Appurtenance(s)	1.00	1.10	29.465	32.41	259.05	1.000	0.000	5.00	12.015	12.02	623.1	0.0	509.8
150.00		1.00	1.11	29.752	32.73	249.33	1.000	0.000	5.00	11.519	11.52	603.2	0.0	488.6
152.50	Appurtenance(s)	1.00	1.11	29.893	32.88	244.42	1.000	0.000	2.50	5.574	5.57	293.2	0.0	236.3
155.00	Appurtenance(s)	1.00	1.12	30.032	33.03	239.48	1.000	0.000	2.50	5.450	5.45	288.0	0.0	231.0
160.00		1.00	1.13	30.305	33.34	229.49	1.000	0.000	5.00	10.527	10.53	561.5	0.0	446.0
165.00	Appurtenance(s)	1.00	1.14	30.573	33.63	219.38	1.000	0.000	5.00	10.031	10.03	539.8	0.0	424.8
170.00		1.00	1.15	30.835	33.92	209.15	1.000	0.000	5.00	9.535	9.54	517.5	0.0	403.5
175.00		1.00	1.16	31.091	34.20	198.80	1.000	0.000	5.00	9.039	9.04	494.6	0.0	382.3
178.00		1.00	1.17	31.243	34.37	192.54	1.000	0.000	3.00	5.185	5.19	285.1	0.0	219.1
Totals:									178.00			25,427.3		43,892.8

Discrete Appurtenance Forces

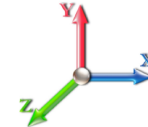
Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	165.00	Reinf. Kit (SitePro1	3	30.573	33.630	0.75	1.00	7.88	342.00	0.000	0.000	423.74	0.00	0.00
2	165.00	Kathrein 782 11056	3	30.573	33.630	0.58	0.75	0.23	6.48	0.000	0.000	12.28	0.00	0.00
3	165.00	RFS	3	30.573	33.630	0.55	0.75	5.93	67.32	0.000	0.000	319.05	0.00	0.00
4	165.00	(3) SFS-H-L (V-Braces)	1	30.573	33.630	1.00	1.00	6.70	276.00	0.000	0.000	360.52	0.00	0.00
5	165.00	Ericsson 4449 B71 + B85	3	30.573	33.630	0.50	0.75	2.97	255.60	0.000	0.000	159.80	0.00	0.00
6	165.00	Ericsson KRY 112 489/2	6	30.573	33.630	0.50	0.75	1.96	110.88	0.000	0.000	105.45	0.00	0.00
7	165.00	RFS	3	30.573	33.630	0.52	0.75	31.88	442.08	0.000	0.000	1715.31	0.00	0.00
8	165.00	Platform w/ Hand Rails	1	30.573	33.630	1.00	1.00	40.00	2400.00	0.000	0.000	2152.34	0.00	0.00
9	155.00	Powerwave 7770	6	30.032	33.035	0.54	0.75	17.95	194.40	0.000	0.000	948.74	0.00	0.00
10	155.00	KMW AM-X-CD-17-65-00T	1	30.032	33.035	0.56	0.75	2.81	36.96	0.000	0.000	148.66	0.00	0.00
11	155.00	Powerwave	1	30.032	33.035	0.56	0.75	6.43	70.80	0.000	0.000	340.13	0.00	0.00
12	155.00	Platform w/ Hand Rails	1	30.032	33.035	1.00	1.00	40.00	2400.00	0.000	0.000	2114.24	0.00	0.00
13	155.00	Powerwave LGP21401	6	30.032	33.035	0.50	0.75	3.89	101.52	0.000	0.000	205.58	0.00	0.00
14	155.00	Kathrein 800 10764	1	30.032	33.035	0.56	0.75	3.31	48.96	0.000	0.000	174.82	0.00	0.00
15	155.00	Nokia CS72188.01	1	30.032	33.035	0.50	0.75	0.66	23.76	0.000	0.000	35.06	0.00	0.00
16	155.00	Powerwave LGP21903	6	30.032	33.035	0.50	0.75	0.81	39.60	0.000	0.000	43.03	0.00	0.00
17	152.50	Ring Mount (Part No	1	29.893	32.882	1.00	1.00	5.00	180.00	0.000	0.000	263.05	0.00	0.00
18	152.50	Raycap DC2-48-60-18-8F	1	29.893	32.882	0.90	0.90	1.32	39.36	0.000	0.000	69.60	0.00	0.00
19	152.50	Ericsson RRUS11 RRUs	6	29.893	32.882	0.60	0.90	11.79	367.20	0.000	0.000	620.53	0.00	0.00
20	145.00	ALU TD-RRH8x20-25-	3	29.465	32.411	0.50	0.75	6.11	252.00	0.000	0.000	316.61	0.00	0.00
21	145.00	ALU 800 Mhz- RRUs	6	29.465	32.411	0.50	0.75	7.51	381.60	0.000	0.000	389.32	0.00	0.00
22	145.00	PRK-1245 (kicker kit)	1	29.465	32.411	1.00	1.00	9.50	557.89	0.000	0.000	492.65	0.00	0.00
23	145.00	(3) SFS-H-L (V-Braces)	1	29.465	32.411	1.00	1.00	6.70	276.00	0.000	0.000	347.45	0.00	0.00
24	145.00	NNVV-65B-R4	3	29.465	32.411	0.55	0.75	20.43	278.64	0.000	0.000	1059.44	0.00	0.00
25	145.00	APXVTM14-C-I20	3	29.465	32.411	0.58	0.75	10.98	202.32	0.000	0.000	569.61	0.00	0.00
26	145.00	Platform w/ Hand Rails	1	29.465	32.411	1.00	1.00	40.00	2400.00	0.000	0.000	2074.33	0.00	0.00
27	145.00	ALU 1900 Mhz- RRUs	3	29.465	32.411	0.50	0.75	4.18	216.00	0.000	0.000	216.55	0.00	0.00
28	135.00	TA08025-B605	3	28.869	31.756	0.50	0.75	2.95	270.00	0.000	0.000	150.13	0.00	0.00
29	135.00	MX08FRO665-21	3	28.869	31.756	0.55	0.75	20.80	232.20	0.000	0.000	1056.64	0.00	0.00
30	135.00	MC-PK8-DSH	1	28.869	31.756	1.00	1.00	37.59	2072.40	0.000	0.000	1909.96	0.00	0.00
31	135.00	RDIDC-9181-PF-48	1	28.869	31.756	1.00	1.00	2.01	26.22	0.000	0.000	102.13	0.00	0.00
32	135.00	TA08025-B604	3	28.869	31.756	0.50	0.75	2.95	230.04	0.000	0.000	150.13	0.00	0.00
33	125.00	ALU RRH2x60-AWS	3	28.242	31.066	0.54	0.80	5.63	216.00	0.000	0.000	279.74	0.00	0.00
34	125.00	Low Profile Platform	1	28.242	31.066	1.00	1.00	25.00	1440.00	0.000	0.000	1242.63	0.00	0.00
35	125.00	Commscope	6	28.242	31.066	0.66	0.80	32.19	365.11	0.000	0.000	1600.05	0.00	0.00
36	125.00	Antel	6	28.242	31.066	0.59	0.80	9.31	86.40	0.000	0.000	462.67	0.00	0.00
37	125.00	ALU RRH2X60-PCS	3	28.242	31.066	0.54	0.80	5.63	198.00	0.000	0.000	279.74	0.00	0.00
38	125.00	ALU RRH2x60-700	3	28.242	31.066	0.54	0.80	5.63	216.00	0.000	0.000	279.74	0.00	0.00
39	125.00	RFS FD9R6004/2C-3L	6	28.242	31.066	0.54	0.80	1.16	22.32	0.000	0.000	57.55	0.00	0.00
40	125.00	RFS DB-T1-6Z-8AB-OZ	2	28.242	31.066	0.73	0.80	5.97	105.60	0.000	0.000	296.72	0.00	0.00
41	125.00	GPS	1	28.242	31.066	0.67	0.80	0.67	12.00	0.000	0.000	33.12	0.00	0.00

Totals: 17,459.66 23,578.86

Total Applied Force Summary

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		821.84	1996.29	0.00	0.00
10.00		805.45	2104.13	0.00	0.00
15.00		789.07	2066.33	0.00	0.00
20.00		772.68	2028.54	0.00	0.00
25.00		756.30	1990.74	0.00	0.00
30.00		740.54	1952.94	0.00	0.00
32.83		423.13	1089.89	0.00	0.00
35.00		331.87	1505.22	0.00	0.00
40.00		782.89	3421.09	0.00	0.00
45.00		791.27	1770.84	0.00	0.00
50.00		796.47	1735.41	0.00	0.00
55.00		798.96	1699.97	0.00	0.00
60.00		799.08	1664.54	0.00	0.00
65.00		797.12	1629.11	0.00	0.00
70.00		793.28	1593.67	0.00	0.00
75.00		787.77	1558.24	0.00	0.00
77.92		455.14	893.62	0.00	0.00
80.00		329.02	1125.33	0.00	0.00
84.00		631.43	2132.52	0.00	0.00
85.00		155.53	282.76	0.00	0.00
90.00		779.64	1398.70	0.00	0.00
95.00		768.98	1365.63	0.00	0.00
100.00		757.20	1332.56	0.00	0.00
105.00		744.37	1299.49	0.00	0.00
110.00		730.56	1266.42	0.00	0.00
115.00		715.83	1233.34	0.00	0.00
120.00		700.22	1200.27	0.00	0.00
124.08		559.09	955.69	0.00	0.00
125.00	(31) attachments	4657.69	2980.41	0.00	0.00
129.00		543.79	1304.29	0.00	0.00
130.00		133.75	148.97	0.00	0.00
135.00	(11) attachments	4029.89	3562.93	0.00	0.00
140.00		642.34	704.81	0.00	0.00
145.00	(21) attachments	6089.07	5248.00	0.00	0.00
150.00		603.18	639.40	0.00	0.00
152.50	(8) attachments	1246.42	898.28	0.00	0.00
155.00	(23) attachments	4298.29	3222.41	0.00	0.00
160.00		561.50	515.75	0.00	0.00
165.00	(23) attachments	5788.26	4394.85	0.00	0.00
170.00		517.47	403.51	0.00	0.00
175.00		494.63	382.25	0.00	0.00
178.00		285.13	219.15	0.00	0.00
Totals:		49,006.14	68,918.31	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



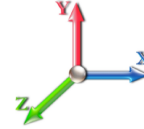
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Load Case: 1.2D + 1.6W 105 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	27.46
5.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	5.28
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.38
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	68.64
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	13.20
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.96
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	68.64
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	13.20
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.96
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	68.64
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	13.20
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.96
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	68.64
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	13.20
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.96
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	68.64
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	13.20
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	0.96
32.83	1 5/8" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	38.90
32.83	1 5/8" Hybrid	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	7.48
32.83	1/2" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	0.54
35.00	1 5/8" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	29.74
35.00	1 5/8" Hybrid	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	5.72
35.00	1/2" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	0.42
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	68.64
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	13.20
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	0.96
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	68.64
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	13.20
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	0.96
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	68.64
50.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	13.20
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	0.96
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	68.64
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	13.20
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	0.96
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	68.64
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	13.20
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	0.96
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	68.64
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	13.20
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	0.96
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	68.64
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	13.20
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	0.96
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	68.64
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	13.20

Linear Appurtenance Segment Forces (Factored)

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

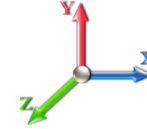


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Load Case: 1.2D + 1.6W 105 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.60

Iterations 25



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	0.96
77.92	1 5/8" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	40.09
77.92	1 5/8" Hybrid	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	7.71
77.92	1/2" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	0.56
80.00	1 5/8" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	28.55
80.00	1 5/8" Hybrid	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	5.49
80.00	1/2" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	0.40
84.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	54.96
84.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	10.57
84.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	0.77
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	13.68
85.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	2.63
85.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	0.19
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	68.64
90.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	13.20
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	0.96
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	68.64
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	13.20
95.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	0.96
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	68.64
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	13.20
100.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	0.96
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	68.64
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	13.20
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	0.96
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	68.64
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	13.20
110.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	0.96
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	68.64
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	13.20
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	0.96
120.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	68.64
120.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	13.20
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	0.96
124.08	1 5/8" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	56.06
124.08	1 5/8" Hybrid	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	10.78
124.08	1/2" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	0.78
125.00	1 5/8" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	12.58
125.00	1 5/8" Hybrid	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	2.42
125.00	1/2" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	0.18
Totals:											0.0	2,020.3

Wind Loading - Shaft

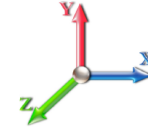
Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	18.769	20.65	441.48	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	18.769	20.65	432.76	1.000	0.000	5.00	24.879	24.88	821.8	0.0	1409.5
10.00		1.00	0.70	18.769	20.65	424.05	1.000	0.000	5.00	24.383	24.38	805.5	0.0	1381.2
15.00		1.00	0.70	18.769	20.65	415.33	1.000	0.000	5.00	23.887	23.89	789.1	0.0	1352.8
20.00		1.00	0.70	18.769	20.65	406.62	1.000	0.000	5.00	23.391	23.39	772.7	0.0	1324.5
25.00		1.00	0.70	18.769	20.65	397.90	1.000	0.000	5.00	22.895	22.89	756.3	0.0	1296.2
30.00		1.00	0.70	18.785	20.66	389.35	1.000	0.000	5.00	22.399	22.40	740.5	0.0	1267.8
32.83	Bot - Section 2	1.00	0.72	19.275	21.20	389.40	1.000	0.000	2.83	12.473	12.47	423.1	0.0	705.8
35.00		1.00	0.73	19.631	21.59	389.11	1.000	0.000	2.17	9.606	9.61	331.9	0.0	1043.6
40.00	Top - Section 1	1.00	0.76	20.394	22.43	387.52	1.000	0.000	5.00	21.811	21.81	782.9	0.0	2368.9
45.00		1.00	0.79	21.092	23.20	392.39	1.000	0.000	5.00	21.315	21.32	791.3	0.0	1131.2
50.00		1.00	0.81	21.737	23.91	388.96	1.000	0.000	5.00	20.819	20.82	796.5	0.0	1104.7
55.00		1.00	0.83	22.337	24.57	384.79	1.000	0.000	5.00	20.323	20.32	799.0	0.0	1078.1
60.00		1.00	0.85	22.899	25.19	379.97	1.000	0.000	5.00	19.827	19.83	799.1	0.0	1051.5
65.00		1.00	0.87	23.429	25.77	374.61	1.000	0.000	5.00	19.331	19.33	797.1	0.0	1024.9
70.00		1.00	0.89	23.930	26.32	368.75	1.000	0.000	5.00	18.835	18.84	793.3	0.0	998.4
75.00		1.00	0.91	24.406	26.85	362.47	1.000	0.000	5.00	18.339	18.34	787.8	0.0	971.8
77.92	Bot - Section 3	1.00	0.92	24.674	27.14	358.62	1.000	0.000	2.92	10.481	10.48	455.1	0.0	555.2
80.00		1.00	0.93	24.861	27.35	355.80	1.000	0.000	2.08	7.520	7.52	329.0	0.0	762.1
84.00	Top - Section 2	1.00	0.94	25.210	27.73	350.20	1.000	0.000	4.00	14.231	14.23	631.4	0.0	1441.7
85.00		1.00	0.94	25.295	27.82	356.47	1.000	0.000	1.00	3.494	3.49	155.5	0.0	172.8
90.00		1.00	0.96	25.711	28.28	349.19	1.000	0.000	5.00	17.229	17.23	779.6	0.0	852.1
95.00		1.00	0.97	26.112	28.72	341.62	1.000	0.000	5.00	16.733	16.73	769.0	0.0	827.3
100.00		1.00	0.99	26.497	29.15	333.78	1.000	0.000	5.00	16.237	16.24	757.2	0.0	802.5
105.00		1.00	1.00	26.869	29.56	325.69	1.000	0.000	5.00	15.741	15.74	744.4	0.0	777.7
110.00		1.00	1.02	27.229	29.95	317.36	1.000	0.000	5.00	15.245	15.24	730.6	0.0	752.9
115.00		1.00	1.03	27.577	30.33	308.82	1.000	0.000	5.00	14.749	14.75	715.8	0.0	728.1
120.00		1.00	1.04	27.914	30.71	300.08	1.000	0.000	5.00	14.253	14.25	700.2	0.0	703.3
124.08	Bot - Section 4	1.00	1.05	28.182	31.00	292.79	1.000	0.000	4.08	11.272	11.27	559.1	0.0	556.0
125.00	Appurtenance(s)	1.00	1.05	28.242	31.07	291.14	1.000	0.000	0.92	2.529	2.53	125.7	0.0	203.1
129.00	Top - Section 3	1.00	1.06	28.497	31.35	283.86	1.000	0.000	4.00	10.842	10.84	543.8	0.0	870.4
130.00		1.00	1.07	28.560	31.42	287.29	1.000	0.000	1.00	2.661	2.66	133.8	0.0	84.8
135.00	Appurtenance(s)	1.00	1.08	28.869	31.76	278.03	1.000	0.000	5.00	13.007	13.01	660.9	0.0	414.3
140.00		1.00	1.09	29.171	32.09	268.61	1.000	0.000	5.00	12.511	12.51	642.3	0.0	398.3
145.00	Appurtenance(s)	1.00	1.10	29.465	32.41	259.05	1.000	0.000	5.00	12.015	12.02	623.1	0.0	382.4
150.00		1.00	1.11	29.752	32.73	249.33	1.000	0.000	5.00	11.519	11.52	603.2	0.0	366.4
152.50	Appurtenance(s)	1.00	1.11	29.893	32.88	244.42	1.000	0.000	2.50	5.574	5.57	293.2	0.0	177.2
155.00	Appurtenance(s)	1.00	1.12	30.032	33.03	239.48	1.000	0.000	2.50	5.450	5.45	288.0	0.0	173.2
160.00		1.00	1.13	30.305	33.34	229.49	1.000	0.000	5.00	10.527	10.53	561.5	0.0	334.5
165.00	Appurtenance(s)	1.00	1.14	30.573	33.63	219.38	1.000	0.000	5.00	10.031	10.03	539.8	0.0	318.6
170.00		1.00	1.15	30.835	33.92	209.15	1.000	0.000	5.00	9.535	9.54	517.5	0.0	302.6
175.00		1.00	1.16	31.091	34.20	198.80	1.000	0.000	5.00	9.039	9.04	494.6	0.0	286.7
178.00		1.00	1.17	31.243	34.37	192.54	1.000	0.000	3.00	5.185	5.19	285.1	0.0	164.4
Totals:									178.00			25,427.3		32,919.6

Discrete Appurtenance Forces

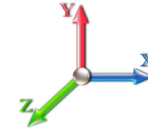
Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	165.00	Reinf. Kit (SitePro1	3	30.573	33.630	0.75	1.00	7.88	256.50	0.000	0.000	423.74	0.00	0.00
2	165.00	Kathrein 782 11056	3	30.573	33.630	0.58	0.75	0.23	4.86	0.000	0.000	12.28	0.00	0.00
3	165.00	RFS	3	30.573	33.630	0.55	0.75	5.93	50.49	0.000	0.000	319.05	0.00	0.00
4	165.00	(3) SFS-H-L (V-Braces)	1	30.573	33.630	1.00	1.00	6.70	207.00	0.000	0.000	360.52	0.00	0.00
5	165.00	Ericsson 4449 B71 + B85	3	30.573	33.630	0.50	0.75	2.97	191.70	0.000	0.000	159.80	0.00	0.00
6	165.00	Ericsson KRY 112 489/2	6	30.573	33.630	0.50	0.75	1.96	83.16	0.000	0.000	105.45	0.00	0.00
7	165.00	RFS	3	30.573	33.630	0.52	0.75	31.88	331.56	0.000	0.000	1715.31	0.00	0.00
8	165.00	Platform w/ Hand Rails	1	30.573	33.630	1.00	1.00	40.00	1800.00	0.000	0.000	2152.34	0.00	0.00
9	155.00	Powerwave 7770	6	30.032	33.035	0.54	0.75	17.95	145.80	0.000	0.000	948.74	0.00	0.00
10	155.00	KMW AM-X-CD-17-65-00T	1	30.032	33.035	0.56	0.75	2.81	27.72	0.000	0.000	148.66	0.00	0.00
11	155.00	Powerwave	1	30.032	33.035	0.56	0.75	6.43	53.10	0.000	0.000	340.13	0.00	0.00
12	155.00	Platform w/ Hand Rails	1	30.032	33.035	1.00	1.00	40.00	1800.00	0.000	0.000	2114.24	0.00	0.00
13	155.00	Powerwave LGP21401	6	30.032	33.035	0.50	0.75	3.89	76.14	0.000	0.000	205.58	0.00	0.00
14	155.00	Kathrein 800 10764	1	30.032	33.035	0.56	0.75	3.31	36.72	0.000	0.000	174.82	0.00	0.00
15	155.00	Nokia CS72188.01	1	30.032	33.035	0.50	0.75	0.66	17.82	0.000	0.000	35.06	0.00	0.00
16	155.00	Powerwave LGP21903	6	30.032	33.035	0.50	0.75	0.81	29.70	0.000	0.000	43.03	0.00	0.00
17	152.50	Ring Mount (Part No	1	29.893	32.882	1.00	1.00	5.00	135.00	0.000	0.000	263.05	0.00	0.00
18	152.50	Raycap DC2-48-60-18-8F	1	29.893	32.882	0.90	0.90	1.32	29.52	0.000	0.000	69.60	0.00	0.00
19	152.50	Ericsson RRUS11 RRUs	6	29.893	32.882	0.60	0.90	11.79	275.40	0.000	0.000	620.53	0.00	0.00
20	145.00	ALU TD-RRH8x20-25-	3	29.465	32.411	0.50	0.75	6.11	189.00	0.000	0.000	316.61	0.00	0.00
21	145.00	ALU 800 Mhz- RRUs	6	29.465	32.411	0.50	0.75	7.51	286.20	0.000	0.000	389.32	0.00	0.00
22	145.00	PRK-1245 (kicker kit)	1	29.465	32.411	1.00	1.00	9.50	418.42	0.000	0.000	492.65	0.00	0.00
23	145.00	(3) SFS-H-L (V-Braces)	1	29.465	32.411	1.00	1.00	6.70	207.00	0.000	0.000	347.45	0.00	0.00
24	145.00	NNVV-65B-R4	3	29.465	32.411	0.55	0.75	20.43	208.98	0.000	0.000	1059.44	0.00	0.00
25	145.00	APXVTM14-C-I20	3	29.465	32.411	0.58	0.75	10.98	151.74	0.000	0.000	569.61	0.00	0.00
26	145.00	Platform w/ Hand Rails	1	29.465	32.411	1.00	1.00	40.00	1800.00	0.000	0.000	2074.33	0.00	0.00
27	145.00	ALU 1900 Mhz- RRUs	3	29.465	32.411	0.50	0.75	4.18	162.00	0.000	0.000	216.55	0.00	0.00
28	135.00	TA08025-B605	3	28.869	31.756	0.50	0.75	2.95	202.50	0.000	0.000	150.13	0.00	0.00
29	135.00	MX08FRO665-21	3	28.869	31.756	0.55	0.75	20.80	174.15	0.000	0.000	1056.64	0.00	0.00
30	135.00	MC-PK8-DSH	1	28.869	31.756	1.00	1.00	37.59	1554.30	0.000	0.000	1909.96	0.00	0.00
31	135.00	RDIDC-9181-PF-48	1	28.869	31.756	1.00	1.00	2.01	19.67	0.000	0.000	102.13	0.00	0.00
32	135.00	TA08025-B604	3	28.869	31.756	0.50	0.75	2.95	172.53	0.000	0.000	150.13	0.00	0.00
33	125.00	ALU RRH2x60-AWS	3	28.242	31.066	0.54	0.80	5.63	162.00	0.000	0.000	279.74	0.00	0.00
34	125.00	Low Profile Platform	1	28.242	31.066	1.00	1.00	25.00	1080.00	0.000	0.000	1242.63	0.00	0.00
35	125.00	Commscope	6	28.242	31.066	0.66	0.80	32.19	273.83	0.000	0.000	1600.05	0.00	0.00
36	125.00	Antel	6	28.242	31.066	0.59	0.80	9.31	64.80	0.000	0.000	462.67	0.00	0.00
37	125.00	ALU RRH2X60-PCS	3	28.242	31.066	0.54	0.80	5.63	148.50	0.000	0.000	279.74	0.00	0.00
38	125.00	ALU RRH2x60-700	3	28.242	31.066	0.54	0.80	5.63	162.00	0.000	0.000	279.74	0.00	0.00
39	125.00	RFS FD9R6004/2C-3L	6	28.242	31.066	0.54	0.80	1.16	16.74	0.000	0.000	57.55	0.00	0.00
40	125.00	RFS DB-T1-6Z-8AB-OZ	2	28.242	31.066	0.73	0.80	5.97	79.20	0.000	0.000	296.72	0.00	0.00
41	125.00	GPS	1	28.242	31.066	0.67	0.80	0.67	9.00	0.000	0.000	33.12	0.00	0.00

Totals: 13,094.75 23,578.86

Total Applied Force Summary

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		821.84	1497.21	0.00	0.00
10.00		805.45	1578.10	0.00	0.00
15.00		789.07	1549.75	0.00	0.00
20.00		772.68	1521.40	0.00	0.00
25.00		756.30	1493.06	0.00	0.00
30.00		740.54	1464.71	0.00	0.00
32.83		423.13	817.42	0.00	0.00
35.00		331.87	1128.91	0.00	0.00
40.00		782.89	2565.82	0.00	0.00
45.00		791.27	1328.13	0.00	0.00
50.00		796.47	1301.56	0.00	0.00
55.00		798.96	1274.98	0.00	0.00
60.00		799.08	1248.40	0.00	0.00
65.00		797.12	1221.83	0.00	0.00
70.00		793.28	1195.25	0.00	0.00
75.00		787.77	1168.68	0.00	0.00
77.92		455.14	670.22	0.00	0.00
80.00		329.02	843.99	0.00	0.00
84.00		631.43	1599.39	0.00	0.00
85.00		155.53	212.07	0.00	0.00
90.00		779.64	1049.03	0.00	0.00
95.00		768.98	1024.22	0.00	0.00
100.00		757.20	999.42	0.00	0.00
105.00		744.37	974.62	0.00	0.00
110.00		730.56	949.81	0.00	0.00
115.00		715.83	925.01	0.00	0.00
120.00		700.22	900.20	0.00	0.00
124.08		559.09	716.77	0.00	0.00
125.00	(31) attachments	4657.69	2235.31	0.00	0.00
129.00		543.79	978.22	0.00	0.00
130.00		133.75	111.72	0.00	0.00
135.00	(11) attachments	4029.89	2672.20	0.00	0.00
140.00		642.34	528.61	0.00	0.00
145.00	(21) attachments	6089.07	3936.00	0.00	0.00
150.00		603.18	479.55	0.00	0.00
152.50	(8) attachments	1246.42	673.71	0.00	0.00
155.00	(23) attachments	4298.29	2416.81	0.00	0.00
160.00		561.50	386.82	0.00	0.00
165.00	(23) attachments	5788.26	3296.14	0.00	0.00
170.00		517.47	302.63	0.00	0.00
175.00		494.63	286.69	0.00	0.00
178.00		285.13	164.36	0.00	0.00
Totals:		49,006.14	51,688.73	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	20.59
5.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	3.96
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.29
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	51.48
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	9.90
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.72
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	51.48
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	9.90
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.72
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	51.48
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	9.90
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.72
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	51.48
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	9.90
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.769	0.00	0.72
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	51.48
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	9.90
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	18.785	0.00	0.72
32.83	1 5/8" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	29.17
32.83	1 5/8" Hybrid	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	5.61
32.83	1/2" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	19.275	0.00	0.41
35.00	1 5/8" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	22.31
35.00	1 5/8" Hybrid	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	4.29
35.00	1/2" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	19.631	0.00	0.31
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	51.48
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	9.90
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	20.394	0.00	0.72
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	51.48
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	9.90
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.092	0.00	0.72
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	51.48
50.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	9.90
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.737	0.00	0.72
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	51.48
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	9.90
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.337	0.00	0.72
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	51.48
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	9.90
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.899	0.00	0.72
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	51.48
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	9.90
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.429	0.00	0.72
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	51.48
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	9.90
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.930	0.00	0.72
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	51.48
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	9.90

Linear Appurtenance Segment Forces (Factored)

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

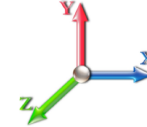


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Load Case: 0.9D + 1.6W 105 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60

Iterations 25



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.406	0.00	0.72
77.92	1 5/8" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	30.06
77.92	1 5/8" Hybrid	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	5.78
77.92	1/2" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	24.674	0.00	0.42
80.00	1 5/8" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	21.42
80.00	1 5/8" Hybrid	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	4.12
80.00	1/2" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	24.861	0.00	0.30
84.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	41.22
84.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	7.93
84.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	25.210	0.00	0.58
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	10.26
85.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	1.97
85.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	25.295	0.00	0.14
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	51.48
90.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	9.90
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.711	0.00	0.72
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	51.48
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	9.90
95.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.112	0.00	0.72
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	51.48
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	9.90
100.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.497	0.00	0.72
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	51.48
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	9.90
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.869	0.00	0.72
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	51.48
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	9.90
110.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.229	0.00	0.72
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	51.48
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	9.90
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.577	0.00	0.72
120.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	51.48
120.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	9.90
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	27.914	0.00	0.72
124.08	1 5/8" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	42.04
124.08	1 5/8" Hybrid	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	8.08
124.08	1/2" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	28.182	0.00	0.59
125.00	1 5/8" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	9.44
125.00	1 5/8" Hybrid	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	1.82
125.00	1/2" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	28.242	0.00	0.13
Totals:											0.0	1,515.2

Calculated Forces

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 105 mph Wind

Iterations 25

Dead Load Factor 0.90
Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-51.60	-49.10	0.00	-5821.5	0.00	5821.59	6109.19	3054.60	14553.3	7187.37	0.00	0.000	0.000	0.819
5.00	-49.93	-48.46	0.00	-5576.1	0.00	5576.10	6042.67	3021.34	14105.8	6966.35	0.11	-0.205	0.000	0.809
10.00	-48.18	-47.82	0.00	-5333.8	0.00	5333.82	5973.91	2986.96	13659.5	6745.94	0.44	-0.413	0.000	0.799
15.00	-46.46	-47.19	0.00	-5094.7	0.00	5094.73	5902.91	2951.46	13214.8	6526.30	0.98	-0.625	0.000	0.789
20.00	-44.77	-46.57	0.00	-4858.7	0.00	4858.79	5829.67	2914.84	12771.9	6307.60	1.75	-0.840	0.000	0.778
25.00	-43.12	-45.95	0.00	-4625.9	0.00	4625.96	5754.19	2877.10	12331.3	6089.98	2.75	-1.059	0.000	0.767
30.00	-41.53	-45.31	0.00	-4396.2	0.00	4396.20	5676.47	2838.24	11893.2	5873.62	3.98	-1.281	0.000	0.756
32.83	-40.63	-44.95	0.00	-4267.8	0.00	4267.83	5631.44	2815.72	11646.2	5751.63	4.78	-1.410	0.000	0.749
35.00	-39.38	-44.70	0.00	-4170.4	0.00	4170.44	5596.51	2798.26	11457.9	5658.66	5.44	-1.510	0.000	0.744
40.00	-36.67	-43.99	0.00	-3946.9	0.00	3946.94	5104.93	2552.47	10419.5	5145.84	7.15	-1.739	0.000	0.774
45.00	-35.19	-43.30	0.00	-3726.9	0.00	3726.97	5033.50	2516.75	10032.9	4954.92	9.09	-1.971	0.000	0.759
50.00	-33.74	-42.60	0.00	-3510.4	0.00	3510.45	4959.83	2479.91	9648.87	4765.22	11.28	-2.207	0.000	0.744
55.00	-32.32	-41.89	0.00	-3297.4	0.00	3297.45	4883.92	2441.96	9267.55	4576.90	13.72	-2.446	0.000	0.727
60.00	-30.94	-41.16	0.00	-3088.0	0.00	3088.02	4805.76	2402.88	8889.36	4390.12	16.41	-2.687	0.000	0.710
65.00	-29.58	-40.43	0.00	-2882.2	0.00	2882.21	4725.37	2362.69	8514.61	4205.04	19.35	-2.930	0.000	0.692
70.00	-28.26	-39.70	0.00	-2680.0	0.00	2680.04	4642.74	2321.37	8143.62	4021.83	22.55	-3.175	0.000	0.673
75.00	-27.01	-38.94	0.00	-2481.5	0.00	2481.55	4557.87	2278.94	7776.72	3840.63	26.01	-3.421	0.000	0.652
77.92	-26.28	-38.50	0.00	-2367.8	0.00	2367.85	4507.27	2253.64	7564.46	3735.80	28.15	-3.568	0.000	0.640
80.00	-25.36	-38.19	0.00	-2287.7	0.00	2287.77	4470.76	2235.38	7414.22	3661.61	29.72	-3.673	0.000	0.631
84.00	-23.72	-37.50	0.00	-2134.9	0.00	2134.90	4079.95	2039.98	6768.85	3342.88	32.89	-3.872	0.000	0.645
85.00	-23.42	-37.39	0.00	-2097.5	0.00	2097.52	4064.53	2032.27	6704.51	3311.11	33.70	-3.923	0.000	0.640
90.00	-22.28	-36.64	0.00	-1910.5	0.00	1910.55	3985.82	1992.91	6384.01	3152.82	37.94	-4.169	0.000	0.612
95.00	-21.16	-35.89	0.00	-1727.3	0.00	1727.36	3904.88	1952.44	6067.57	2996.54	42.43	-4.413	0.000	0.582
100.00	-20.08	-35.13	0.00	-1547.9	0.00	1547.94	3803.39	1901.70	5727.93	2828.81	47.18	-4.654	0.000	0.553
105.00	-19.03	-34.39	0.00	-1372.2	0.00	1372.26	3683.99	1842.00	5371.89	2652.97	52.18	-4.889	0.000	0.523
110.00	-18.02	-33.65	0.00	-1200.3	0.00	1200.32	3564.59	1782.30	5027.27	2482.78	57.42	-5.117	0.000	0.489
115.00	-17.04	-32.92	0.00	-1032.0	0.00	1032.08	3445.19	1722.60	4694.07	2318.23	62.89	-5.335	0.000	0.451
120.00	-16.11	-32.18	0.00	-867.50	0.00	867.50	3325.79	1662.90	4372.30	2159.32	68.58	-5.541	0.000	0.407
124.08	-15.40	-31.58	0.00	-736.09	0.00	736.09	3228.28	1614.14	4118.00	2033.73	73.38	-5.698	0.000	0.367
125.00	-13.60	-26.75	0.00	-707.14	0.00	707.14	3206.39	1603.20	4061.96	2006.05	74.48	-5.733	0.000	0.357
129.00	-12.64	-26.13	0.00	-600.15	0.00	600.15	1872.41	936.20	2368.25	1169.59	79.33	-5.874	0.000	0.521
130.00	-12.48	-26.01	0.00	-574.03	0.00	574.03	1864.30	932.15	2340.16	1155.72	80.57	-5.908	0.000	0.504
135.00	-10.17	-21.76	0.00	-443.98	0.00	443.98	1822.43	911.21	2200.41	1086.70	86.87	-6.130	0.000	0.415
140.00	-9.65	-21.09	0.00	-335.19	0.00	335.19	1778.31	889.16	2062.08	1018.38	93.38	-6.321	0.000	0.335
145.00	-6.38	-14.62	0.00	-229.73	0.00	229.73	1731.96	865.98	1925.47	950.92	100.08	-6.477	0.000	0.246
150.00	-5.95	-13.97	0.00	-156.64	0.00	156.64	1683.36	841.68	1790.92	884.47	106.91	-6.597	0.000	0.181
152.50	-5.42	-12.66	0.00	-121.71	0.00	121.71	1658.23	829.11	1724.52	851.67	110.37	-6.647	0.000	0.146
155.00	-3.51	-8.11	0.00	-90.06	0.00	90.06	1632.53	816.27	1658.75	819.19	113.86	-6.687	0.000	0.112
160.00	-3.19	-7.51	0.00	-49.49	0.00	49.49	1571.93	785.97	1521.98	751.65	120.88	-6.744	0.000	0.068
165.00	-0.60	-1.38	0.00	-11.93	0.00	11.93	1495.17	747.59	1376.14	679.62	127.95	-6.773	0.000	0.018
170.00	-0.36	-0.83	0.00	-5.05	0.00	5.05	1418.42	709.21	1237.64	611.22	135.03	-6.783	0.000	0.009
175.00	-0.13	-0.30	0.00	-0.91	0.00	0.91	1341.66	670.83	1106.49	546.45	142.12	-6.786	0.000	0.002
178.00	0.00	-0.29	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	146.37	-6.787	0.000	0.000

Wind Loading - Shaft

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	4.256	4.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	4.256	4.68	0.00	1.200	1.656	5.00	26.259	31.51	147.5	630.1	2509.5
10.00		1.00	0.70	4.256	4.68	0.00	1.200	1.775	5.00	25.862	31.03	145.3	663.4	2505.0
15.00		1.00	0.70	4.256	4.68	0.00	1.200	1.848	5.00	25.427	30.51	142.8	678.0	2481.8
20.00		1.00	0.70	4.256	4.68	0.00	1.200	1.902	5.00	24.976	29.97	140.3	684.2	2450.2
25.00		1.00	0.70	4.256	4.68	0.00	1.200	1.945	5.00	24.516	29.42	137.7	685.7	2413.9
30.00		1.00	0.70	4.260	4.69	0.00	1.200	1.981	5.00	24.050	28.86	135.2	684.0	2374.4
32.83	Bot - Section 2	1.00	0.72	4.371	4.81	0.00	1.200	1.999	2.83	13.417	16.10	77.4	386.4	1327.6
35.00		1.00	0.73	4.451	4.90	0.00	1.200	2.012	2.17	10.332	12.40	60.7	300.0	1691.4
40.00	Top - Section 1	1.00	0.76	4.625	5.09	0.00	1.200	2.039	5.00	23.510	28.21	143.5	686.7	3845.2
45.00		1.00	0.79	4.783	5.26	0.00	1.200	2.063	5.00	23.035	27.64	145.4	679.7	2188.0
50.00		1.00	0.81	4.929	5.42	0.00	1.200	2.085	5.00	22.557	27.07	146.8	671.7	2144.6
55.00		1.00	0.83	5.065	5.57	0.00	1.200	2.105	5.00	22.077	26.49	147.6	662.7	2100.1
60.00		1.00	0.85	5.193	5.71	0.00	1.200	2.123	5.00	21.597	25.92	148.0	652.9	2054.9
65.00		1.00	0.87	5.313	5.84	0.00	1.200	2.140	5.00	21.115	25.34	148.1	642.4	2009.0
70.00		1.00	0.89	5.426	5.97	0.00	1.200	2.156	5.00	20.632	24.76	147.8	631.3	1962.5
75.00		1.00	0.91	5.534	6.09	0.00	1.200	2.171	5.00	20.149	24.18	147.2	619.7	1915.4
77.92	Bot - Section 3	1.00	0.92	5.595	6.15	0.00	1.200	2.179	2.92	11.541	13.85	85.2	357.8	1098.1
80.00		1.00	0.93	5.637	6.20	0.00	1.200	2.185	2.08	8.277	9.93	61.6	257.9	1274.1
84.00	Top - Section 2	1.00	0.94	5.717	6.29	0.00	1.200	2.196	4.00	15.696	18.84	118.4	488.5	2410.8
85.00		1.00	0.94	5.736	6.31	0.00	1.200	2.198	1.00	3.859	4.63	29.2	121.1	351.5
90.00		1.00	0.96	5.830	6.41	0.00	1.200	2.211	5.00	19.071	22.89	146.8	594.8	1731.0
95.00		1.00	0.97	5.921	6.51	0.00	1.200	2.223	5.00	18.585	22.30	145.3	581.6	1684.7
100.00		1.00	0.99	6.008	6.61	0.00	1.200	2.234	5.00	18.099	21.72	143.5	568.1	1638.1
105.00		1.00	1.00	6.093	6.70	0.00	1.200	2.245	5.00	17.612	21.13	141.6	554.3	1591.3
110.00		1.00	1.02	6.174	6.79	0.00	1.200	2.256	5.00	17.125	20.55	139.6	540.2	1544.1
115.00		1.00	1.03	6.253	6.88	0.00	1.200	2.266	5.00	16.637	19.96	137.3	525.9	1496.7
120.00		1.00	1.04	6.330	6.96	0.00	1.200	2.276	5.00	16.149	19.38	134.9	511.3	1449.0
124.08	Bot - Section 4	1.00	1.05	6.391	7.03	0.00	1.200	2.283	4.08	12.826	15.39	108.2	407.7	1149.0
125.00	Appurtenance(s)	1.00	1.05	6.404	7.04	0.00	1.200	2.285	0.92	2.878	3.45	24.3	92.6	363.4
129.00	Top - Section 3	1.00	1.06	6.462	7.11	0.00	1.200	2.292	4.00	12.370	14.84	105.5	394.3	1554.8
130.00		1.00	1.07	6.476	7.12	0.00	1.200	2.294	1.00	3.043	3.65	26.0	98.0	211.0
135.00	Appurtenance(s)	1.00	1.08	6.546	7.20	0.00	1.200	2.303	5.00	14.926	17.91	129.0	474.7	1027.0
140.00		1.00	1.09	6.615	7.28	0.00	1.200	2.311	5.00	14.437	17.32	126.1	459.3	990.4
145.00	Appurtenance(s)	1.00	1.10	6.681	7.35	0.00	1.200	2.319	5.00	13.948	16.74	123.0	443.7	953.6
150.00		1.00	1.11	6.746	7.42	0.00	1.200	2.327	5.00	13.458	16.15	119.9	428.0	916.6
152.50	Appurtenance(s)	1.00	1.11	6.778	7.46	0.00	1.200	2.331	2.50	6.545	7.85	58.6	210.0	446.4
155.00	Appurtenance(s)	1.00	1.12	6.810	7.49	0.00	1.200	2.335	2.50	6.422	7.71	57.7	206.1	437.1
160.00		1.00	1.13	6.872	7.56	0.00	1.200	2.342	5.00	12.479	14.97	113.2	396.1	842.1
165.00	Appurtenance(s)	1.00	1.14	6.933	7.63	0.00	1.200	2.349	5.00	11.989	14.39	109.7	379.9	804.7
170.00		1.00	1.15	6.992	7.69	0.00	1.200	2.356	5.00	11.499	13.80	106.1	363.6	767.1
175.00		1.00	1.16	7.050	7.76	0.00	1.200	2.363	5.00	11.008	13.21	102.4	347.1	729.4
178.00		1.00	1.17	7.085	7.79	0.00	1.200	2.367	3.00	6.369	7.64	59.6	202.3	421.5
Totals:									178.00			4,814.2	63,856.8	

Discrete Appurtenance Forces

Structure: CT00594-S-SBA
Site Name: Plainfield North
Height: 178.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

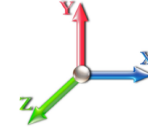
Code: EIA/TIA-222-G
Exposure: B
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

7/9/2021
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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	165.00	Reinf. Kit (SitePro1	3	6.933	7.626	0.75	1.00	32.08	1145.49	0.000	0.000	244.67	0.00	0.00
2	165.00	Kathrein 782 11056	3	6.933	7.626	0.58	0.75	0.92	9.89	0.000	0.000	7.00	0.00	0.00
3	165.00	RFS	3	6.933	7.626	0.56	0.75	10.31	290.30	0.000	0.000	78.63	0.00	0.00
4	165.00	(3) SFS-H-L (V-Braces)	1	6.933	7.626	1.00	1.00	16.14	607.26	0.000	0.000	123.11	0.00	0.00
5	165.00	Ericsson 4449 B71 + B85	3	6.933	7.626	0.50	0.75	4.08	430.37	0.000	0.000	31.12	0.00	0.00
6	165.00	Ericsson KRY 112 489/2	6	6.933	7.626	0.50	0.75	4.44	223.19	0.000	0.000	33.89	0.00	0.00
7	165.00	RFS	3	6.933	7.626	0.52	0.75	35.96	2244.65	0.000	0.000	274.22	0.00	0.00
8	165.00	Platform w/ Hand Rails	1	6.933	7.626	1.00	1.00	68.19	4619.09	0.000	0.000	520.02	0.00	0.00
9	155.00	Powerwave 7770	6	6.810	7.491	0.54	0.75	27.20	915.57	0.000	0.000	203.77	0.00	0.00
10	155.00	KMW AM-X-CD-17-65-00T	1	6.810	7.491	0.56	0.75	4.22	154.58	0.000	0.000	31.63	0.00	0.00
11	155.00	Powerwave	1	6.810	7.491	0.56	0.75	8.87	298.55	0.000	0.000	66.44	0.00	0.00
12	155.00	Platform w/ Hand Rails	1	6.810	7.491	1.00	1.00	68.02	4601.52	0.000	0.000	509.50	0.00	0.00
13	155.00	Powerwave LGP21401	6	6.810	7.491	0.50	0.75	7.26	259.59	0.000	0.000	54.38	0.00	0.00
14	155.00	Kathrein 800 10764	1	6.810	7.491	0.56	0.75	4.92	183.04	0.000	0.000	36.85	0.00	0.00
15	155.00	Nokia CS72188.01	1	6.810	7.491	0.50	0.75	1.23	54.31	0.000	0.000	9.18	0.00	0.00
16	155.00	Powerwave LGP21903	6	6.810	7.491	0.50	0.75	2.42	92.84	0.000	0.000	18.11	0.00	0.00
17	152.50	Ring Mount (Part No	1	6.778	7.456	1.00	1.00	9.66	47.82	0.000	0.000	72.04	0.00	0.00
18	152.50	Raycap DC2-48-60-18-8F	1	6.778	7.456	0.90	0.90	2.16	104.23	0.000	0.000	16.14	0.00	0.00
19	152.50	Ericsson RRUS11 RRUs	6	6.778	7.456	0.60	0.90	17.99	846.89	0.000	0.000	134.10	0.00	0.00
20	145.00	ALU TD-RRH8x20-25-	3	6.681	7.350	0.50	0.75	7.78	723.16	0.000	0.000	57.15	0.00	0.00
21	145.00	ALU 800 Mhz- RRUs	6	6.681	7.350	0.50	0.75	12.09	844.68	0.000	0.000	88.85	0.00	0.00
22	145.00	PRK-1245 (kicker kit)	1	6.681	7.350	1.00	1.00	22.72	894.07	0.000	0.000	166.97	0.00	0.00
23	145.00	(3) SFS-H-L (V-Braces)	1	6.681	7.350	1.00	1.00	16.02	601.71	0.000	0.000	117.76	0.00	0.00
24	145.00	NNVV-65B-R4	3	6.681	7.350	0.55	0.75	23.65	1219.61	0.000	0.000	173.83	0.00	0.00
25	145.00	APXVTM14-C-I20	3	6.681	7.350	0.58	0.75	13.60	884.92	0.000	0.000	99.96	0.00	0.00
26	145.00	Platform w/ Hand Rails	1	6.681	7.350	1.00	1.00	67.83	4582.89	0.000	0.000	498.51	0.00	0.00
27	145.00	ALU 1900 Mhz- RRUs	3	6.681	7.350	0.50	0.75	6.72	476.91	0.000	0.000	49.37	0.00	0.00
28	135.00	TA08025-B605	3	6.546	7.201	0.50	0.75	4.07	439.22	0.000	0.000	29.31	0.00	0.00
29	135.00	MX08FRO665-21	3	6.546	7.201	0.55	0.75	24.01	1181.89	0.000	0.000	172.92	0.00	0.00
30	135.00	MC-PK8-DSH	1	6.546	7.201	1.00	1.00	99.91	3926.26	0.000	0.000	719.44	0.00	0.00
31	135.00	RDIDC-9181-PF-48	1	6.546	7.201	1.00	1.00	2.76	118.16	0.000	0.000	19.87	0.00	0.00
32	135.00	TA08025-B604	3	6.546	7.201	0.50	0.75	4.07	394.14	0.000	0.000	29.31	0.00	0.00
33	125.00	ALU RRH2x60-AWS	3	6.404	7.044	0.54	0.80	7.29	498.55	0.000	0.000	51.35	0.00	0.00
34	125.00	Low Profile Platform	1	6.404	7.044	1.00	1.00	52.42	2510.95	0.000	0.000	369.26	0.00	0.00
35	125.00	Commscope	6	6.404	7.044	0.66	0.80	38.96	2040.12	0.000	0.000	274.44	0.00	0.00
36	125.00	Antel	6	6.404	7.044	0.59	0.80	13.50	796.05	0.000	0.000	95.12	0.00	0.00
37	125.00	ALU RRH2X60-PCS	3	6.404	7.044	0.54	0.80	7.29	436.98	0.000	0.000	51.35	0.00	0.00
38	125.00	ALU RRH2x60-700	3	6.404	7.044	0.54	0.80	7.29	498.55	0.000	0.000	51.35	0.00	0.00
39	125.00	RFS FD9R6004/2C-3L	6	6.404	7.044	0.54	0.80	3.02	71.57	0.000	0.000	21.30	0.00	0.00
40	125.00	RFS DB-T1-6Z-8AB-OZ	2	6.404	7.044	0.73	0.80	7.50	730.01	0.000	0.000	52.81	0.00	0.00
41	125.00	GPS	1	6.404	7.044	0.69	0.80	1.34	42.39	0.000	0.000	9.43	0.00	0.00

Totals: 41,041.94

5,664.47

Total Applied Force Summary

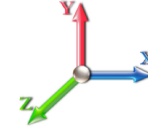
Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		147.52	2723.20	0.00	0.00
10.00		145.29	3029.24	0.00	0.00
15.00		142.85	3018.39	0.00	0.00
20.00		140.31	2996.10	0.00	0.00
25.00		137.73	2967.21	0.00	0.00
30.00		135.22	2933.96	0.00	0.00
32.83		77.41	1646.44	0.00	0.00
35.00		60.71	1936.24	0.00	0.00
40.00		143.52	4415.00	0.00	0.00
45.00		145.42	2762.13	0.00	0.00
50.00		146.76	2722.54	0.00	0.00
55.00		147.60	2681.70	0.00	0.00
60.00		148.03	2639.79	0.00	0.00
65.00		148.07	2596.97	0.00	0.00
70.00		147.78	2553.35	0.00	0.00
75.00		147.19	2509.02	0.00	0.00
77.92		85.24	1445.68	0.00	0.00
80.00		61.59	1522.05	0.00	0.00
84.00		118.44	2889.72	0.00	0.00
85.00		29.22	470.87	0.00	0.00
90.00		146.77	2331.86	0.00	0.00
95.00		145.26	2287.82	0.00	0.00
100.00		143.54	2243.35	0.00	0.00
105.00		141.64	2198.50	0.00	0.00
110.00		139.57	2153.28	0.00	0.00
115.00		137.33	2107.74	0.00	0.00
120.00		134.93	2061.88	0.00	0.00
124.08		108.19	1650.64	0.00	0.00
125.00	(31) attachments	1000.75	8101.22	0.00	0.00
129.00		105.52	1698.58	0.00	0.00
130.00		26.02	246.94	0.00	0.00
135.00	(11) attachments	1099.84	7266.41	0.00	0.00
140.00		126.06	1164.10	0.00	0.00
145.00	(21) attachments	1375.41	11355.24	0.00	0.00
150.00		119.85	1067.41	0.00	0.00
152.50	(8) attachments	280.84	1520.71	0.00	0.00
155.00	(23) attachments	987.60	7072.47	0.00	0.00
160.00		113.20	911.85	0.00	0.00
165.00	(23) attachments	1422.37	10444.64	0.00	0.00
170.00		106.13	767.10	0.00	0.00
175.00		102.45	729.39	0.00	0.00
178.00		59.56	421.47	0.00	0.00
	Totals:	10,478.70	120,262.18	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	97.46
5.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	23.62
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	8.83
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	256.21
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	63.39
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	24.87
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	264.06
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	66.16
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	26.68
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	269.87
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	68.24
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	28.05
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	274.51
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	69.91
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.256	0.00	29.17
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.260	0.00	278.40
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.260	0.00	71.33
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.260	0.00	30.12
32.83	1 5/8" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	4.371	0.00	158.87
32.83	1 5/8" Hybrid	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	4.371	0.00	40.82
32.83	1/2" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	4.371	0.00	17.34
35.00	1 5/8" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	4.451	0.00	122.10
35.00	1 5/8" Hybrid	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	4.451	0.00	31.44
35.00	1/2" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	4.451	0.00	13.41
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.625	0.00	284.72
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.625	0.00	73.65
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.625	0.00	31.68
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.783	0.00	287.37
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.783	0.00	74.63
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.783	0.00	32.35
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.929	0.00	289.77
50.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.929	0.00	75.52
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	4.929	0.00	32.96
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.065	0.00	291.98
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.065	0.00	76.34
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.065	0.00	33.52
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.193	0.00	294.01
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.193	0.00	77.10
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.193	0.00	34.04
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.313	0.00	295.90
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.313	0.00	77.81
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.313	0.00	34.53
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	297.67
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	78.48
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.426	0.00	34.99
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.534	0.00	299.32
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.534	0.00	79.11

Linear Appurtenance Segment Forces (Factored)

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.534	0.00	35.42
77.92	1 5/8" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	5.595	0.00	175.35
77.92	1 5/8" Hybrid	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	5.595	0.00	46.40
77.92	1/2" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	5.595	0.00	20.83
80.00	1 5/8" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	125.17
80.00	1 5/8" Hybrid	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	33.15
80.00	1/2" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	5.637	0.00	14.90
84.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	5.717	0.00	241.87
84.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	5.717	0.00	64.17
84.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	5.717	0.00	28.94
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	60.27
85.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	16.00
85.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	5.736	0.00	7.22
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	303.78
90.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	80.80
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.830	0.00	36.59
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.921	0.00	305.12
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.921	0.00	81.31
95.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.921	0.00	36.94
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.008	0.00	306.40
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.008	0.00	81.80
100.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.008	0.00	37.28
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.093	0.00	307.62
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.093	0.00	82.27
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.093	0.00	37.61
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.174	0.00	308.80
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.174	0.00	82.72
110.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.174	0.00	37.93
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	309.92
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	83.15
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.253	0.00	38.23
120.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	311.01
120.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	83.57
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.330	0.00	38.52
124.08	1 5/8" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	6.391	0.00	254.69
124.08	1 5/8" Hybrid	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	6.391	0.00	68.52
124.08	1/2" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	6.391	0.00	31.65
125.00	1 5/8" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	6.404	0.00	57.21
125.00	1 5/8" Hybrid	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	6.404	0.00	15.40
125.00	1/2" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	6.404	0.00	7.11
Totals:											0.0	9,817.9

Calculated Forces

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

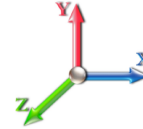


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 25

Dead Load Factor 1.20
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-120.2	-10.53	0.00	-1392.9	0.00	1392.99	6109.19	3054.60	14553.3	7187.37	0.00	0.000	0.000	0.214
5.00	-117.5	-10.48	0.00	-1340.3	0.00	1340.33	6042.67	3021.34	14105.8	6966.35	0.03	-0.049	0.000	0.212
10.00	-114.4	-10.44	0.00	-1287.9	0.00	1287.91	5973.91	2986.96	13659.5	6745.94	0.10	-0.099	0.000	0.210
15.00	-111.4	-10.39	0.00	-1235.7	0.00	1235.73	5902.91	2951.46	13214.8	6526.30	0.24	-0.151	0.000	0.208
20.00	-108.4	-10.34	0.00	-1183.8	0.00	1183.80	5829.67	2914.84	12771.9	6307.60	0.42	-0.203	0.000	0.206
25.00	-105.4	-10.29	0.00	-1132.1	0.00	1132.11	5754.19	2877.10	12331.3	6089.98	0.66	-0.256	0.000	0.204
30.00	-102.5	-10.22	0.00	-1080.6	0.00	1080.67	5676.47	2838.24	11893.2	5873.62	0.96	-0.311	0.000	0.202
32.83	-100.8	-10.18	0.00	-1051.7	0.00	1051.73	5631.44	2815.72	11646.2	5751.63	1.15	-0.342	0.000	0.201
35.00	-98.94	-10.18	0.00	-1029.6	0.00	1029.68	5596.51	2798.26	11457.9	5658.66	1.32	-0.367	0.000	0.200
40.00	-94.52	-10.10	0.00	-978.80	0.00	978.80	5104.93	2552.47	10419.5	5145.84	1.73	-0.424	0.000	0.209
45.00	-91.75	-10.02	0.00	-928.32	0.00	928.32	5033.50	2516.75	10032.9	4954.92	2.21	-0.481	0.000	0.206
50.00	-89.02	-9.94	0.00	-878.21	0.00	878.21	4959.83	2479.91	9648.87	4765.22	2.74	-0.540	0.000	0.202
55.00	-86.33	-9.86	0.00	-828.49	0.00	828.49	4883.92	2441.96	9267.55	4576.90	3.34	-0.600	0.000	0.199
60.00	-83.68	-9.77	0.00	-779.20	0.00	779.20	4805.76	2402.88	8889.36	4390.12	4.00	-0.661	0.000	0.195
65.00	-81.07	-9.68	0.00	-730.34	0.00	730.34	4725.37	2362.69	8514.61	4205.04	4.73	-0.722	0.000	0.191
70.00	-78.51	-9.58	0.00	-681.94	0.00	681.94	4642.74	2321.37	8143.62	4021.83	5.52	-0.785	0.000	0.186
75.00	-76.00	-9.47	0.00	-634.02	0.00	634.02	4557.87	2278.94	7776.72	3840.63	6.37	-0.847	0.000	0.182
77.92	-74.55	-9.40	0.00	-606.37	0.00	606.37	4507.27	2253.64	7564.46	3735.80	6.90	-0.885	0.000	0.179
80.00	-73.02	-9.37	0.00	-586.81	0.00	586.81	4470.76	2235.38	7414.22	3661.61	7.29	-0.912	0.000	0.177
84.00	-70.13	-9.24	0.00	-549.31	0.00	549.31	4079.95	2039.98	6768.85	3342.88	8.08	-0.963	0.000	0.182
85.00	-69.65	-9.25	0.00	-540.11	0.00	540.11	4064.53	2032.27	6704.51	3311.11	8.28	-0.976	0.000	0.180
90.00	-67.31	-9.14	0.00	-493.85	0.00	493.85	3985.82	1992.91	6384.01	3152.82	9.34	-1.040	0.000	0.174
95.00	-65.02	-9.02	0.00	-448.17	0.00	448.17	3904.88	1952.44	6067.57	2996.54	10.46	-1.103	0.000	0.166
100.00	-62.77	-8.90	0.00	-403.07	0.00	403.07	3803.39	1901.70	5727.93	2828.81	11.65	-1.165	0.000	0.159
105.00	-60.56	-8.78	0.00	-358.57	0.00	358.57	3683.99	1842.00	5371.89	2652.97	12.90	-1.227	0.000	0.152
110.00	-58.40	-8.65	0.00	-314.68	0.00	314.68	3564.59	1782.30	5027.27	2482.78	14.22	-1.286	0.000	0.143
115.00	-56.29	-8.52	0.00	-271.44	0.00	271.44	3445.19	1722.60	4694.07	2318.23	15.60	-1.344	0.000	0.133
120.00	-54.23	-8.38	0.00	-228.84	0.00	228.84	3325.79	1662.90	4372.30	2159.32	17.04	-1.398	0.000	0.122
124.08	-52.58	-8.25	0.00	-194.63	0.00	194.63	3228.28	1614.14	4118.00	2033.73	18.25	-1.439	0.000	0.112
125.00	-44.50	-7.07	0.00	-187.06	0.00	187.06	3206.39	1603.20	4061.96	2006.05	18.53	-1.449	0.000	0.107
129.00	-42.80	-6.94	0.00	-158.79	0.00	158.79	1872.41	936.20	2368.25	1169.59	19.76	-1.486	0.000	0.159
130.00	-42.55	-6.93	0.00	-151.86	0.00	151.86	1864.30	932.15	2340.16	1155.72	20.07	-1.495	0.000	0.154
135.00	-35.31	-5.67	0.00	-117.22	0.00	117.22	1822.43	911.21	2200.41	1086.70	21.67	-1.554	0.000	0.127
140.00	-34.15	-5.54	0.00	-88.87	0.00	88.87	1778.31	889.16	2062.08	1018.38	23.32	-1.604	0.000	0.107
145.00	-22.83	-3.86	0.00	-61.17	0.00	61.17	1731.96	865.98	1925.47	950.92	25.03	-1.645	0.000	0.078
150.00	-21.77	-3.71	0.00	-41.89	0.00	41.89	1683.36	841.68	1790.92	884.47	26.77	-1.678	0.000	0.060
152.50	-20.26	-3.39	0.00	-32.61	0.00	32.61	1658.23	829.11	1724.52	851.67	27.65	-1.691	0.000	0.051
155.00	-13.21	-2.20	0.00	-24.13	0.00	24.13	1632.53	816.27	1658.75	819.19	28.54	-1.702	0.000	0.038
160.00	-12.31	-2.06	0.00	-13.13	0.00	13.13	1571.93	785.97	1521.98	751.65	30.33	-1.717	0.000	0.025
165.00	-1.91	-0.33	0.00	-2.83	0.00	2.83	1495.17	747.59	1376.14	679.62	32.13	-1.724	0.000	0.005
170.00	-1.15	-0.20	0.00	-1.20	0.00	1.20	1418.42	709.21	1237.64	611.22	33.94	-1.727	0.000	0.003
175.00	-0.42	-0.07	0.00	-0.22	0.00	0.22	1341.66	670.83	1106.49	546.45	35.75	-1.728	0.000	0.001
178.00	0.00	-0.06	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	36.83	-1.728	0.000	0.000

Seismic Segment Forces (Factored)

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E				Iterations 22
Gust Response Factor	1.10	Sds	0.18	Ss 0.17
Dead Load Factor	1.20	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.28	SA 0.03
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1566.1	0.00	0.03	0.02	28.08	
10.00		1534.6	0.01	0.05	0.03	40.11	
15.00		1503.1	0.01	0.06	0.03	45.75	
20.00		1471.6	0.02	0.07	0.04	48.25	
25.00		1440.1	0.04	0.07	0.04	49.17	
30.00		1408.6	0.05	0.07	0.04	49.36	
32.83	Bot - Section 2	784.27	0.06	0.07	0.04	27.81	
35.00		1159.5	0.07	0.07	0.04	41.49	
40.00	Top - Section 1	2632.1	0.10	0.07	0.04	96.12	
45.00		1256.9	0.12	0.07	0.03	46.86	
50.00		1227.3	0.15	0.07	0.03	46.64	
55.00		1197.8	0.18	0.07	0.03	46.09	
60.00		1168.3	0.21	0.06	0.02	44.88	
65.00		1138.8	0.25	0.05	0.02	42.59	
70.00		1109.2	0.29	0.05	0.01	38.69	
75.00		1079.7	0.34	0.04	0.01	32.64	
77.92	Bot - Section 3	616.92	0.36	0.03	0.01	16.22	
80.00		846.76	0.38	0.02	0.01	19.39	
84.00	Top - Section 2	1601.9	0.42	0.01	0.01	23.97	
85.00		192.02	0.43	0.01	0.01	2.44	
90.00		946.81	0.48	-0.01	0.01	0.29	
95.00		919.25	0.54	-0.03	0.01	-11.83	
100.00		891.69	0.60	-0.05	0.01	-22.19	
105.00		864.13	0.66	-0.07	0.02	-29.54	
110.00		836.57	0.72	-0.09	0.03	-33.39	
115.00		809.01	0.79	-0.11	0.05	-33.89	
120.00		781.45	0.86	-0.12	0.07	-31.40	
124.08	Bot - Section 4	617.74	0.92	-0.12	0.09	-22.35	
125.00	Appurtenance(s)	2443.5	0.93	-0.12	0.10	-85.44	
129.00	Top - Section 3	967.08	0.99	-0.11	0.13	-27.42	
130.00		94.18	1.01	-0.11	0.14	-2.48	
135.00	Appurtenance(s)	2819.3	1.09	-0.08	0.18	-40.79	
140.00		442.56	1.17	-0.02	0.23	0.32	
145.00	Appurtenance(s)	4228.5	1.25	0.06	0.30	81.16	
150.00		407.13	1.34	0.18	0.37	16.70	
152.50	Appurtenance(s)	685.72	1.39	0.26	0.42	36.47	
155.00	Appurtenance(s)	2622.4	1.43	0.35	0.47	173.66	
160.00		371.69	1.53	0.57	0.58	35.27	
165.00	Appurtenance(s)	3604.2	1.62	0.85	0.70	458.15	
170.00		336.26	1.72	1.22	0.85	54.79	
175.00		318.54	1.83	1.66	1.02	64.50	
178.00		182.62	1.89	1.98	1.14	41.64	
Totals:		51,127.1				1,408.7	Total Wind: 49,006.1

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

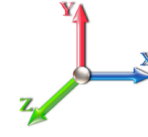
Calculated Forces

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E		Iterations 22
Gust Response Factor 1.10	Sds 0.18	Ss 0.17
Dead Load Factor 1.20	Seismic Load Factor 1.00	S1 0.06
Wind Load Factor 0.00	Structure Frequency (f1) 0.28	SA 0.03
	Seismic Importance Factor 1.00	



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-68.92	-1.75	0.00	-200.17	0.00	200.17	6109.19	3054.60	14553.3	7187.37	0.00	0.00	0.00	0.039
5.00	-66.92	-1.73	0.00	-191.40	0.00	191.40	6042.67	3021.34	14105.8	6966.35	0.00	-0.01	0.039	
10.00	-64.82	-1.70	0.00	-182.74	0.00	182.74	5973.91	2986.96	13659.5	6745.94	0.02	-0.01	0.038	
15.00	-62.75	-1.66	0.00	-174.23	0.00	174.23	5902.91	2951.46	13214.8	6526.30	0.03	-0.02	0.037	
20.00	-60.72	-1.62	0.00	-165.92	0.00	165.92	5829.67	2914.84	12771.9	6307.60	0.06	-0.03	0.037	
25.00	-58.73	-1.58	0.00	-157.82	0.00	157.82	5754.19	2877.10	12331.3	6089.98	0.09	-0.04	0.036	
30.00	-56.78	-1.53	0.00	-149.92	0.00	149.92	5676.47	2838.24	11893.2	5873.62	0.14	-0.04	0.036	
32.83	-55.69	-1.51	0.00	-145.58	0.00	145.58	5631.44	2815.72	11646.2	5751.63	0.16	-0.05	0.035	
35.00	-54.18	-1.47	0.00	-142.31	0.00	142.31	5596.51	2798.26	11457.9	5658.66	0.19	-0.05	0.035	
40.00	-50.76	-1.38	0.00	-134.95	0.00	134.95	5104.93	2552.47	10419.5	5145.84	0.24	-0.06	0.036	
45.00	-48.99	-1.34	0.00	-128.06	0.00	128.06	5033.50	2516.75	10032.9	4954.92	0.31	-0.07	0.036	
50.00	-47.26	-1.29	0.00	-121.38	0.00	121.38	4959.83	2479.91	9648.87	4765.22	0.39	-0.08	0.035	
55.00	-45.56	-1.25	0.00	-114.90	0.00	114.90	4883.92	2441.96	9267.55	4576.90	0.47	-0.08	0.034	
60.00	-43.89	-1.21	0.00	-108.64	0.00	108.64	4805.76	2402.88	8889.36	4390.12	0.56	-0.09	0.034	
65.00	-42.26	-1.17	0.00	-102.58	0.00	102.58	4725.37	2362.69	8514.61	4205.04	0.66	-0.10	0.033	
70.00	-40.67	-1.14	0.00	-96.71	0.00	96.71	4642.74	2321.37	8143.62	4021.83	0.77	-0.11	0.033	
75.00	-39.11	-1.11	0.00	-91.02	0.00	91.02	4557.87	2278.94	7776.72	3840.63	0.89	-0.12	0.032	
77.92	-38.22	-1.09	0.00	-87.79	0.00	87.79	4507.27	2253.64	7564.46	3735.80	0.97	-0.12	0.032	
80.00	-37.09	-1.07	0.00	-85.52	0.00	85.52	4470.76	2235.38	7414.22	3661.61	1.02	-0.13	0.032	
84.00	-34.96	-1.05	0.00	-81.22	0.00	81.22	4079.95	2039.98	6768.85	3342.88	1.13	-0.14	0.033	
85.00	-34.67	-1.05	0.00	-80.17	0.00	80.17	4064.53	2032.27	6704.51	3311.11	1.16	-0.14	0.033	
90.00	-33.28	-1.05	0.00	-74.93	0.00	74.93	3985.82	1992.91	6384.01	3152.82	1.31	-0.15	0.032	
95.00	-31.91	-1.05	0.00	-69.68	0.00	69.68	3904.88	1952.44	6067.57	2996.54	1.47	-0.16	0.031	
100.00	-30.58	-1.05	0.00	-64.42	0.00	64.42	3803.39	1901.70	5727.93	2828.81	1.64	-0.17	0.031	
105.00	-29.28	-1.05	0.00	-59.15	0.00	59.15	3683.99	1842.00	5371.89	2652.97	1.82	-0.18	0.030	
110.00	-28.01	-1.06	0.00	-53.88	0.00	53.88	3564.59	1782.30	5027.27	2482.78	2.01	-0.19	0.030	
115.00	-26.78	-1.06	0.00	-48.60	0.00	48.60	3445.19	1722.60	4694.07	2318.23	2.21	-0.20	0.029	
120.00	-25.58	-1.06	0.00	-43.32	0.00	43.32	3325.79	1662.90	4372.30	2159.32	2.42	-0.21	0.028	
124.08	-24.62	-1.05	0.00	-39.01	0.00	39.01	3228.28	1614.14	4118.00	2033.73	2.60	-0.21	0.027	
125.00	-21.64	-1.05	0.00	-38.04	0.00	38.04	3206.39	1603.20	4061.96	2006.05	2.64	-0.22	0.026	
129.00	-20.34	-1.04	0.00	-33.86	0.00	33.86	1872.41	936.20	2368.25	1169.59	2.83	-0.22	0.040	
130.00	-20.19	-1.04	0.00	-32.82	0.00	32.82	1864.30	932.15	2340.16	1155.72	2.87	-0.23	0.039	
135.00	-16.62	-1.03	0.00	-27.60	0.00	27.60	1822.43	911.21	2200.41	1086.70	3.12	-0.24	0.035	
140.00	-15.92	-1.03	0.00	-22.43	0.00	22.43	1778.31	889.16	2062.08	1018.38	3.37	-0.25	0.031	
145.00	-10.67	-0.93	0.00	-17.26	0.00	17.26	1731.96	865.98	1925.47	950.92	3.64	-0.26	0.024	
150.00	-10.03	-0.91	0.00	-12.61	0.00	12.61	1683.36	841.68	1790.92	884.47	3.92	-0.27	0.020	
152.50	-9.13	-0.87	0.00	-10.33	0.00	10.33	1658.23	829.11	1724.52	851.67	4.07	-0.28	0.018	
155.00	-5.91	-0.68	0.00	-8.15	0.00	8.15	1632.53	816.27	1658.75	819.19	4.21	-0.28	0.014	
160.00	-5.40	-0.65	0.00	-4.73	0.00	4.73	1571.93	785.97	1521.98	751.65	4.51	-0.28	0.010	
165.00	-1.00	-0.17	0.00	-1.50	0.00	1.50	1495.17	747.59	1376.14	679.62	4.81	-0.29	0.003	
170.00	-0.60	-0.11	0.00	-0.67	0.00	0.67	1418.42	709.21	1237.64	611.22	5.11	-0.29	0.002	
175.00	-0.22	-0.04	0.00	-0.13	0.00	0.13	1341.66	670.83	1106.49	546.45	5.41	-0.29	0.000	
178.00	0.00	-0.04	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	5.59	-0.29	0.000	

Seismic Segment Forces (Factored)

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E		Iterations 22
Gust Response Factor 1.10	Sds 0.18	Ss 0.17
Dead Load Factor 0.90	Seismic Load Factor 1.00	S1 0.06
Wind Load Factor 0.00	Structure Frequency (f1) 0.28	SA 0.03
	Seismic Importance Factor 1.00	



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1566.1	0.00	0.03	0.02	28.08	
10.00		1534.6	0.01	0.05	0.03	40.11	
15.00		1503.1	0.01	0.06	0.03	45.75	
20.00		1471.6	0.02	0.07	0.04	48.25	
25.00		1440.1	0.04	0.07	0.04	49.17	
30.00		1408.6	0.05	0.07	0.04	49.36	
32.83	Bot - Section 2	784.27	0.06	0.07	0.04	27.81	
35.00		1159.5	0.07	0.07	0.04	41.49	
40.00	Top - Section 1	2632.1	0.10	0.07	0.04	96.12	
45.00		1256.9	0.12	0.07	0.03	46.86	
50.00		1227.3	0.15	0.07	0.03	46.64	
55.00		1197.8	0.18	0.07	0.03	46.09	
60.00		1168.3	0.21	0.06	0.02	44.88	
65.00		1138.8	0.25	0.05	0.02	42.59	
70.00		1109.2	0.29	0.05	0.01	38.69	
75.00		1079.7	0.34	0.04	0.01	32.64	
77.92	Bot - Section 3	616.92	0.36	0.03	0.01	16.22	
80.00		846.76	0.38	0.02	0.01	19.39	
84.00	Top - Section 2	1601.9	0.42	0.01	0.01	23.97	
85.00		192.02	0.43	0.01	0.01	2.44	
90.00		946.81	0.48	-0.01	0.01	0.29	
95.00		919.25	0.54	-0.03	0.01	-11.83	
100.00		891.69	0.60	-0.05	0.01	-22.19	
105.00		864.13	0.66	-0.07	0.02	-29.54	
110.00		836.57	0.72	-0.09	0.03	-33.39	
115.00		809.01	0.79	-0.11	0.05	-33.89	
120.00		781.45	0.86	-0.12	0.07	-31.40	
124.08	Bot - Section 4	617.74	0.92	-0.12	0.09	-22.35	
125.00	Appurtenance(s)	2443.5	0.93	-0.12	0.10	-85.44	
129.00	Top - Section 3	967.08	0.99	-0.11	0.13	-27.42	
130.00		94.18	1.01	-0.11	0.14	-2.48	
135.00	Appurtenance(s)	2819.3	1.09	-0.08	0.18	-40.79	
140.00		442.56	1.17	-0.02	0.23	0.32	
145.00	Appurtenance(s)	4228.5	1.25	0.06	0.30	81.16	
150.00		407.13	1.34	0.18	0.37	16.70	
152.50	Appurtenance(s)	685.72	1.39	0.26	0.42	36.47	
155.00	Appurtenance(s)	2622.4	1.43	0.35	0.47	173.66	
160.00		371.69	1.53	0.57	0.58	35.27	
165.00	Appurtenance(s)	3604.2	1.62	0.85	0.70	458.15	
170.00		336.26	1.72	1.22	0.85	54.79	
175.00		318.54	1.83	1.66	1.02	64.50	
178.00		182.62	1.89	1.98	1.14	41.64	
Totals:		51,127.1				1,408.7	Total Wind: 49,006.1

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E		Iterations 22
Gust Response Factor 1.10	Sds 0.18	Ss 0.17
Dead Load Factor 0.90	Seismic Load Factor 1.00	S1 0.06
Wind Load Factor 0.00	Structure Frequency (f1) 0.28	SA 0.03
	Seismic Importance Factor 1.00	



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-51.69	-1.75	0.00	-197.43	0.00	197.43	6109.19	3054.60	14553.3	7187.37	0.00	0.00	0.00	0.036
5.00	-50.19	-1.73	0.00	-188.67	0.00	188.67	6042.67	3021.34	14105.8	6966.35	0.00	-0.01	0.00	0.035
10.00	-48.61	-1.70	0.00	-180.02	0.00	180.02	5973.91	2986.96	13659.5	6745.94	0.01	-0.01	0.00	0.035
15.00	-47.06	-1.66	0.00	-171.54	0.00	171.54	5902.91	2951.46	13214.8	6526.30	0.03	-0.02	0.00	0.034
20.00	-45.54	-1.61	0.00	-163.26	0.00	163.26	5829.67	2914.84	12771.9	6307.60	0.06	-0.03	0.00	0.034
25.00	-44.05	-1.57	0.00	-155.20	0.00	155.20	5754.19	2877.10	12331.3	6089.98	0.09	-0.04	0.00	0.033
30.00	-42.58	-1.52	0.00	-147.36	0.00	147.36	5676.47	2838.24	11893.2	5873.62	0.13	-0.04	0.00	0.033
32.83	-41.77	-1.50	0.00	-143.05	0.00	143.05	5631.44	2815.72	11646.2	5751.63	0.16	-0.05	0.00	0.032
35.00	-40.64	-1.46	0.00	-139.81	0.00	139.81	5596.51	2798.26	11457.9	5658.66	0.18	-0.05	0.00	0.032
40.00	-38.07	-1.36	0.00	-132.52	0.00	132.52	5104.93	2552.47	10419.5	5145.84	0.24	-0.06	0.00	0.033
45.00	-36.74	-1.32	0.00	-125.70	0.00	125.70	5033.50	2516.75	10032.9	4954.92	0.31	-0.07	0.00	0.033
50.00	-35.44	-1.28	0.00	-119.10	0.00	119.10	4959.83	2479.91	9648.87	4765.22	0.38	-0.07	0.00	0.032
55.00	-34.17	-1.23	0.00	-112.71	0.00	112.71	4883.92	2441.96	9267.55	4576.90	0.46	-0.08	0.00	0.032
60.00	-32.92	-1.19	0.00	-106.54	0.00	106.54	4805.76	2402.88	8889.36	4390.12	0.55	-0.09	0.00	0.031
65.00	-31.70	-1.15	0.00	-100.57	0.00	100.57	4725.37	2362.69	8514.61	4205.04	0.65	-0.10	0.00	0.031
70.00	-30.50	-1.12	0.00	-94.81	0.00	94.81	4642.74	2321.37	8143.62	4021.83	0.76	-0.11	0.00	0.030
75.00	-29.33	-1.09	0.00	-89.22	0.00	89.22	4557.87	2278.94	7776.72	3840.63	0.88	-0.12	0.00	0.030
77.92	-28.66	-1.07	0.00	-86.06	0.00	86.06	4507.27	2253.64	7564.46	3735.80	0.95	-0.12	0.00	0.029
80.00	-27.82	-1.05	0.00	-83.83	0.00	83.83	4470.76	2235.38	7414.22	3661.61	1.01	-0.13	0.00	0.029
84.00	-26.22	-1.03	0.00	-79.62	0.00	79.62	4079.95	2039.98	6768.85	3342.88	1.11	-0.13	0.00	0.030
85.00	-26.01	-1.03	0.00	-78.60	0.00	78.60	4064.53	2032.27	6704.51	3311.11	1.14	-0.13	0.00	0.030
90.00	-24.96	-1.03	0.00	-73.47	0.00	73.47	3985.82	1992.91	6384.01	3152.82	1.29	-0.14	0.00	0.030
95.00	-23.93	-1.03	0.00	-68.33	0.00	68.33	3904.88	1952.44	6067.57	2996.54	1.44	-0.15	0.00	0.029
100.00	-22.93	-1.03	0.00	-63.19	0.00	63.19	3803.39	1901.70	5727.93	2828.81	1.61	-0.16	0.00	0.028
105.00	-21.96	-1.03	0.00	-58.05	0.00	58.05	3683.99	1842.00	5371.89	2652.97	1.79	-0.17	0.00	0.028
110.00	-21.01	-1.03	0.00	-52.89	0.00	52.89	3564.59	1782.30	5027.27	2482.78	1.97	-0.18	0.00	0.027
115.00	-20.08	-1.03	0.00	-47.74	0.00	47.74	3445.19	1722.60	4694.07	2318.23	2.17	-0.19	0.00	0.026
120.00	-19.18	-1.03	0.00	-42.58	0.00	42.58	3325.79	1662.90	4372.30	2159.32	2.38	-0.20	0.00	0.025
124.08	-18.47	-1.03	0.00	-38.37	0.00	38.37	3228.28	1614.14	4118.00	2033.73	2.55	-0.21	0.00	0.025
125.00	-16.23	-1.02	0.00	-37.43	0.00	37.43	3206.39	1603.20	4061.96	2006.05	2.60	-0.21	0.00	0.024
129.00	-15.25	-1.02	0.00	-33.33	0.00	33.33	1872.41	936.20	2368.25	1169.59	2.78	-0.22	0.00	0.037
130.00	-15.14	-1.02	0.00	-32.31	0.00	32.31	1864.30	932.15	2340.16	1155.72	2.82	-0.22	0.00	0.036
135.00	-12.47	-1.01	0.00	-27.20	0.00	27.20	1822.43	911.21	2200.41	1086.70	3.06	-0.23	0.00	0.032
140.00	-11.94	-1.01	0.00	-22.12	0.00	22.12	1778.31	889.16	2062.08	1018.38	3.32	-0.25	0.00	0.028
145.00	-8.00	-0.92	0.00	-17.05	0.00	17.05	1731.96	865.98	1925.47	950.92	3.58	-0.26	0.00	0.023
150.00	-7.52	-0.90	0.00	-12.46	0.00	12.46	1683.36	841.68	1790.92	884.47	3.86	-0.27	0.00	0.019
152.50	-6.85	-0.86	0.00	-10.21	0.00	10.21	1658.23	829.11	1724.52	851.67	4.00	-0.27	0.00	0.016
155.00	-4.43	-0.68	0.00	-8.06	0.00	8.06	1632.53	816.27	1658.75	819.19	4.14	-0.27	0.00	0.013
160.00	-4.05	-0.64	0.00	-4.69	0.00	4.69	1571.93	785.97	1521.98	751.65	4.43	-0.28	0.00	0.009
165.00	-0.75	-0.16	0.00	-1.49	0.00	1.49	1495.17	747.59	1376.14	679.62	4.72	-0.28	0.00	0.003
170.00	-0.45	-0.11	0.00	-0.67	0.00	0.67	1418.42	709.21	1237.64	611.22	5.02	-0.28	0.00	0.001
175.00	-0.16	-0.04	0.00	-0.13	0.00	0.13	1341.66	670.83	1106.49	546.45	5.32	-0.28	0.00	0.000
178.00	0.00	-0.04	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	5.50	-0.28	0.00	0.000

Wind Loading - Shaft

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



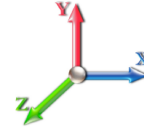
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 23

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.70	6.129	6.74	252.27	1.000	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.70	6.129	6.74	247.29	1.000	0.000	5.00	24.879	24.88	167.7	0.0	1566.2
10.00		1.00	0.70	6.129	6.74	242.31	1.000	0.000	5.00	24.383	24.38	164.4	0.0	1534.7
15.00		1.00	0.70	6.129	6.74	237.33	1.000	0.000	5.00	23.887	23.89	161.0	0.0	1503.2
20.00		1.00	0.70	6.129	6.74	232.35	1.000	0.000	5.00	23.391	23.39	157.7	0.0	1471.7
25.00		1.00	0.70	6.129	6.74	227.37	1.000	0.000	5.00	22.895	22.89	154.3	0.0	1440.2
30.00		1.00	0.70	6.134	6.75	222.49	1.000	0.000	5.00	22.399	22.40	151.1	0.0	1408.7
32.83	Bot - Section 2	1.00	0.72	6.294	6.92	222.51	1.000	0.000	2.83	12.473	12.47	86.4	0.0	784.3
35.00		1.00	0.73	6.410	7.05	222.35	1.000	0.000	2.17	9.606	9.61	67.7	0.0	1159.5
40.00	Top - Section 1	1.00	0.76	6.659	7.33	221.44	1.000	0.000	5.00	21.811	21.81	159.8	0.0	2632.1
45.00		1.00	0.79	6.887	7.58	224.22	1.000	0.000	5.00	21.315	21.32	161.5	0.0	1256.9
50.00		1.00	0.81	7.098	7.81	222.26	1.000	0.000	5.00	20.819	20.82	162.5	0.0	1227.4
55.00		1.00	0.83	7.294	8.02	219.88	1.000	0.000	5.00	20.323	20.32	163.1	0.0	1197.9
60.00		1.00	0.85	7.477	8.22	217.13	1.000	0.000	5.00	19.827	19.83	163.1	0.0	1168.3
65.00		1.00	0.87	7.650	8.42	214.06	1.000	0.000	5.00	19.331	19.33	162.7	0.0	1138.8
70.00		1.00	0.89	7.814	8.60	210.72	1.000	0.000	5.00	18.835	18.84	161.9	0.0	1109.3
75.00		1.00	0.91	7.969	8.77	207.12	1.000	0.000	5.00	18.339	18.34	160.8	0.0	1079.8
77.92	Bot - Section 3	1.00	0.92	8.057	8.86	204.92	1.000	0.000	2.92	10.481	10.48	92.9	0.0	616.9
80.00		1.00	0.93	8.118	8.93	203.31	1.000	0.000	2.08	7.520	7.52	67.1	0.0	846.8
84.00	Top - Section 2	1.00	0.94	8.232	9.05	200.11	1.000	0.000	4.00	14.231	14.23	128.9	0.0	1601.9
85.00		1.00	0.94	8.260	9.09	203.70	1.000	0.000	1.00	3.494	3.49	31.7	0.0	192.0
90.00		1.00	0.96	8.396	9.24	199.54	1.000	0.000	5.00	17.229	17.23	159.1	0.0	946.8
95.00		1.00	0.97	8.526	9.38	195.21	1.000	0.000	5.00	16.733	16.73	156.9	0.0	919.2
100.00		1.00	0.99	8.652	9.52	190.73	1.000	0.000	5.00	16.237	16.24	154.5	0.0	891.7
105.00		1.00	1.00	8.774	9.65	186.11	1.000	0.000	5.00	15.741	15.74	151.9	0.0	864.1
110.00		1.00	1.02	8.891	9.78	181.35	1.000	0.000	5.00	15.245	15.24	149.1	0.0	836.6
115.00		1.00	1.03	9.005	9.91	176.47	1.000	0.000	5.00	14.749	14.75	146.1	0.0	809.0
120.00		1.00	1.04	9.115	10.03	171.47	1.000	0.000	5.00	14.253	14.25	142.9	0.0	781.4
124.08	Bot - Section 4	1.00	1.05	9.202	10.12	167.31	1.000	0.000	4.08	11.272	11.27	114.1	0.0	617.7
125.00	Appurtenance(s)	1.00	1.05	9.222	10.14	166.37	1.000	0.000	0.92	2.529	2.53	25.7	0.0	225.7
129.00	Top - Section 3	1.00	1.06	9.305	10.24	162.21	1.000	0.000	4.00	10.842	10.84	111.0	0.0	967.1
130.00		1.00	1.07	9.326	10.26	164.16	1.000	0.000	1.00	2.661	2.66	27.3	0.0	94.2
135.00	Appurtenance(s)	1.00	1.08	9.427	10.37	158.87	1.000	0.000	5.00	13.007	13.01	134.9	0.0	460.3
140.00		1.00	1.09	9.525	10.48	153.49	1.000	0.000	5.00	12.511	12.51	131.1	0.0	442.6
145.00	Appurtenance(s)	1.00	1.10	9.621	10.58	148.03	1.000	0.000	5.00	12.015	12.02	127.2	0.0	424.8
150.00		1.00	1.11	9.715	10.69	142.47	1.000	0.000	5.00	11.519	11.52	123.1	0.0	407.1
152.50	Appurtenance(s)	1.00	1.11	9.761	10.74	139.67	1.000	0.000	2.50	5.574	5.57	59.8	0.0	196.9
155.00	Appurtenance(s)	1.00	1.12	9.806	10.79	136.84	1.000	0.000	2.50	5.450	5.45	58.8	0.0	192.5
160.00		1.00	1.13	9.896	10.89	131.14	1.000	0.000	5.00	10.527	10.53	114.6	0.0	371.7
165.00	Appurtenance(s)	1.00	1.14	9.983	10.98	125.36	1.000	0.000	5.00	10.031	10.03	110.2	0.0	354.0
170.00		1.00	1.15	10.069	11.08	119.51	1.000	0.000	5.00	9.535	9.54	105.6	0.0	336.3
175.00		1.00	1.16	10.152	11.17	113.60	1.000	0.000	5.00	9.039	9.04	100.9	0.0	318.5
178.00		1.00	1.17	10.202	11.22	110.02	1.000	0.000	3.00	5.185	5.19	58.2	0.0	182.6
Totals:									178.00			5,189.2		36,577.3

Discrete Appurtenance Forces

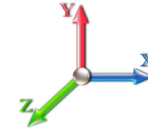
Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	165.00	Reinf. Kit (SitePro1	3	9.983	10.981	0.75	1.00	7.88	285.00	0.000	0.000	86.48	0.00	0.00
2	165.00	Kathrein 782 11056	3	9.983	10.981	0.58	0.75	0.23	5.40	0.000	0.000	2.51	0.00	0.00
3	165.00	RFS	3	9.983	10.981	0.55	0.75	5.93	56.10	0.000	0.000	65.11	0.00	0.00
4	165.00	(3) SFS-H-L (V-Braces)	1	9.983	10.981	1.00	1.00	6.70	230.00	0.000	0.000	73.58	0.00	0.00
5	165.00	Ericsson 4449 B71 + B85	3	9.983	10.981	0.50	0.75	2.97	213.00	0.000	0.000	32.61	0.00	0.00
6	165.00	Ericsson KRY 112 489/2	6	9.983	10.981	0.50	0.75	1.96	92.40	0.000	0.000	21.52	0.00	0.00
7	165.00	RFS	3	9.983	10.981	0.52	0.75	31.88	368.40	0.000	0.000	350.06	0.00	0.00
8	165.00	Platform w/ Hand Rails	1	9.983	10.981	1.00	1.00	40.00	2000.00	0.000	0.000	439.25	0.00	0.00
9	155.00	Powerwave 7770	6	9.806	10.787	0.54	0.75	17.95	162.00	0.000	0.000	193.62	0.00	0.00
10	155.00	KMW AM-X-CD-17-65-00T	1	9.806	10.787	0.56	0.75	2.81	30.80	0.000	0.000	30.34	0.00	0.00
11	155.00	Powerwave	1	9.806	10.787	0.56	0.75	6.43	59.00	0.000	0.000	69.41	0.00	0.00
12	155.00	Platform w/ Hand Rails	1	9.806	10.787	1.00	1.00	40.00	2000.00	0.000	0.000	431.48	0.00	0.00
13	155.00	Powerwave LGP21401	6	9.806	10.787	0.50	0.75	3.89	84.60	0.000	0.000	41.95	0.00	0.00
14	155.00	Kathrein 800 10764	1	9.806	10.787	0.56	0.75	3.31	40.80	0.000	0.000	35.68	0.00	0.00
15	155.00	Nokia CS72188.01	1	9.806	10.787	0.50	0.75	0.66	19.80	0.000	0.000	7.15	0.00	0.00
16	155.00	Powerwave LGP21903	6	9.806	10.787	0.50	0.75	0.81	33.00	0.000	0.000	8.78	0.00	0.00
17	152.50	Ring Mount (Part No	1	9.761	10.737	1.00	1.00	5.00	150.00	0.000	0.000	53.68	0.00	0.00
18	152.50	Raycap DC2-48-60-18-8F	1	9.761	10.737	0.90	0.90	1.32	32.80	0.000	0.000	14.20	0.00	0.00
19	152.50	Ericsson RRUS11 RRUs	6	9.761	10.737	0.60	0.90	11.79	306.00	0.000	0.000	126.64	0.00	0.00
20	145.00	ALU TD-RRH8x20-25-	3	9.621	10.583	0.50	0.75	6.11	210.00	0.000	0.000	64.62	0.00	0.00
21	145.00	ALU 800 Mhz- RRUs	6	9.621	10.583	0.50	0.75	7.51	318.00	0.000	0.000	79.45	0.00	0.00
22	145.00	PRK-1245 (kicker kit)	1	9.621	10.583	1.00	1.00	9.50	464.91	0.000	0.000	100.54	0.00	0.00
23	145.00	(3) SFS-H-L (V-Braces)	1	9.621	10.583	1.00	1.00	6.70	230.00	0.000	0.000	70.91	0.00	0.00
24	145.00	NNVV-65B-R4	3	9.621	10.583	0.55	0.75	20.43	232.20	0.000	0.000	216.21	0.00	0.00
25	145.00	APXVTM14-C-I20	3	9.621	10.583	0.58	0.75	10.98	168.60	0.000	0.000	116.25	0.00	0.00
26	145.00	Platform w/ Hand Rails	1	9.621	10.583	1.00	1.00	40.00	2000.00	0.000	0.000	423.33	0.00	0.00
27	145.00	ALU 1900 Mhz- RRUs	3	9.621	10.583	0.50	0.75	4.18	180.00	0.000	0.000	44.19	0.00	0.00
28	135.00	TA08025-B605	3	9.427	10.369	0.50	0.75	2.95	225.00	0.000	0.000	30.64	0.00	0.00
29	135.00	MX08FRO665-21	3	9.427	10.369	0.55	0.75	20.80	193.50	0.000	0.000	215.64	0.00	0.00
30	135.00	MC-PK8-DSH	1	9.427	10.369	1.00	1.00	37.59	1727.00	0.000	0.000	389.79	0.00	0.00
31	135.00	RDIDC-9181-PF-48	1	9.427	10.369	1.00	1.00	2.01	21.85	0.000	0.000	20.84	0.00	0.00
32	135.00	TA08025-B604	3	9.427	10.369	0.50	0.75	2.95	191.70	0.000	0.000	30.64	0.00	0.00
33	125.00	ALU RRH2x60-AWS	3	9.222	10.144	0.54	0.80	5.63	180.00	0.000	0.000	57.09	0.00	0.00
34	125.00	Low Profile Platform	1	9.222	10.144	1.00	1.00	25.00	1200.00	0.000	0.000	253.60	0.00	0.00
35	125.00	Commscope	6	9.222	10.144	0.66	0.80	32.19	304.26	0.000	0.000	326.54	0.00	0.00
36	125.00	Antel	6	9.222	10.144	0.59	0.80	9.31	72.00	0.000	0.000	94.42	0.00	0.00
37	125.00	ALU RRH2X60-PCS	3	9.222	10.144	0.54	0.80	5.63	165.00	0.000	0.000	57.09	0.00	0.00
38	125.00	ALU RRH2x60-700	3	9.222	10.144	0.54	0.80	5.63	180.00	0.000	0.000	57.09	0.00	0.00
39	125.00	RFS FD9R6004/2C-3L	6	9.222	10.144	0.54	0.80	1.16	18.60	0.000	0.000	11.74	0.00	0.00
40	125.00	RFS DB-T1-6Z-8AB-OZ	2	9.222	10.144	0.73	0.80	5.97	88.00	0.000	0.000	60.56	0.00	0.00
41	125.00	GPS	1	9.222	10.144	0.67	0.80	0.67	10.00	0.000	0.000	6.76	0.00	0.00

Totals: 14,549.72 4,812.01

Total Applied Force Summary

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		167.72	1663.57	0.00	0.00
10.00		164.38	1753.44	0.00	0.00
15.00		161.03	1721.95	0.00	0.00
20.00		157.69	1690.45	0.00	0.00
25.00		154.35	1658.95	0.00	0.00
30.00		151.13	1627.45	0.00	0.00
32.83		86.35	908.24	0.00	0.00
35.00		67.73	1254.35	0.00	0.00
40.00		159.77	2850.91	0.00	0.00
45.00		161.48	1475.70	0.00	0.00
50.00		162.55	1446.17	0.00	0.00
55.00		163.05	1416.65	0.00	0.00
60.00		163.08	1387.12	0.00	0.00
65.00		162.68	1357.59	0.00	0.00
70.00		161.89	1328.06	0.00	0.00
75.00		160.77	1298.53	0.00	0.00
77.92		92.89	744.68	0.00	0.00
80.00		67.15	937.77	0.00	0.00
84.00		128.86	1777.10	0.00	0.00
85.00		31.74	235.63	0.00	0.00
90.00		159.11	1165.59	0.00	0.00
95.00		156.93	1138.03	0.00	0.00
100.00		154.53	1110.47	0.00	0.00
105.00		151.91	1082.91	0.00	0.00
110.00		149.09	1055.35	0.00	0.00
115.00		146.09	1027.79	0.00	0.00
120.00		142.90	1000.23	0.00	0.00
124.08		114.10	796.41	0.00	0.00
125.00	(31) attachments	950.55	2483.67	0.00	0.00
129.00		110.98	1086.91	0.00	0.00
130.00		27.30	124.14	0.00	0.00
135.00	(11) attachments	822.43	2969.11	0.00	0.00
140.00		131.09	587.34	0.00	0.00
145.00	(21) attachments	1242.67	4373.34	0.00	0.00
150.00		123.10	532.83	0.00	0.00
152.50	(8) attachments	254.37	748.57	0.00	0.00
155.00	(23) attachments	877.20	2685.34	0.00	0.00
160.00		114.59	429.79	0.00	0.00
165.00	(23) attachments	1181.28	3662.38	0.00	0.00
170.00		105.61	336.26	0.00	0.00
175.00		100.95	318.54	0.00	0.00
178.00		58.19	182.62	0.00	0.00
Totals:		10,001.25	57,431.92	0.00	0.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

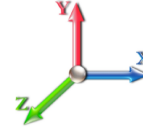


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 23

Dead Load Factor 1.00
Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1 5/8" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	22.88
5.00	1 5/8" Hybrid	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	4.40
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.32
10.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	57.20
10.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	11.00
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.80
15.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	57.20
15.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	11.00
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.80
20.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	57.20
20.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	11.00
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.80
25.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	57.20
25.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	11.00
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.129	0.00	0.80
30.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.134	0.00	57.20
30.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.134	0.00	11.00
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.134	0.00	0.80
32.83	1 5/8" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	6.294	0.00	32.41
32.83	1 5/8" Hybrid	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	6.294	0.00	6.23
32.83	1/2" Coax	Yes	2.83	0.000	0.00	0.00	0.00	0.000	0.000	6.294	0.00	0.45
35.00	1 5/8" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	6.410	0.00	24.79
35.00	1 5/8" Hybrid	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	6.410	0.00	4.77
35.00	1/2" Coax	Yes	2.17	0.000	0.00	0.00	0.00	0.000	0.000	6.410	0.00	0.35
40.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.659	0.00	57.20
40.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.659	0.00	11.00
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.659	0.00	0.80
45.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.887	0.00	57.20
45.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.887	0.00	11.00
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.887	0.00	0.80
50.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.098	0.00	57.20
50.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.098	0.00	11.00
50.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.098	0.00	0.80
55.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.294	0.00	57.20
55.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.294	0.00	11.00
55.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.294	0.00	0.80
60.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.477	0.00	57.20
60.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.477	0.00	11.00
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.477	0.00	0.80
65.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.650	0.00	57.20
65.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.650	0.00	11.00
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.650	0.00	0.80
70.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	57.20
70.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	11.00
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.814	0.00	0.80
75.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.969	0.00	57.20
75.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.969	0.00	11.00

Linear Appurtenance Segment Forces (Factored)

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 23

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.969	0.00	0.80
77.92	1 5/8" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	8.057	0.00	33.40
77.92	1 5/8" Hybrid	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	8.057	0.00	6.42
77.92	1/2" Coax	Yes	2.92	0.000	0.00	0.00	0.00	0.000	0.000	8.057	0.00	0.47
80.00	1 5/8" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	23.80
80.00	1 5/8" Hybrid	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	4.58
80.00	1/2" Coax	Yes	2.08	0.000	0.00	0.00	0.00	0.000	0.000	8.118	0.00	0.33
84.00	1 5/8" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	45.80
84.00	1 5/8" Hybrid	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	8.81
84.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.232	0.00	0.64
85.00	1 5/8" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	11.40
85.00	1 5/8" Hybrid	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	2.19
85.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	0.16
90.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	57.20
90.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	11.00
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.396	0.00	0.80
95.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.526	0.00	57.20
95.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.526	0.00	11.00
95.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.526	0.00	0.80
100.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.652	0.00	57.20
100.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.652	0.00	11.00
100.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.652	0.00	0.80
105.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.774	0.00	57.20
105.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.774	0.00	11.00
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.774	0.00	0.80
110.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.891	0.00	57.20
110.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.891	0.00	11.00
110.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.891	0.00	0.80
115.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	57.20
115.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	11.00
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.005	0.00	0.80
120.00	1 5/8" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	57.20
120.00	1 5/8" Hybrid	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	11.00
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.115	0.00	0.80
124.08	1 5/8" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	9.202	0.00	46.71
124.08	1 5/8" Hybrid	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	9.202	0.00	8.98
124.08	1/2" Coax	Yes	4.08	0.000	0.00	0.00	0.00	0.000	0.000	9.202	0.00	0.65
125.00	1 5/8" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	9.222	0.00	10.49
125.00	1 5/8" Hybrid	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	9.222	0.00	2.02
125.00	1/2" Coax	Yes	0.92	0.000	0.00	0.00	0.00	0.000	0.000	9.222	0.00	0.15
Totals:											0.0	1,683.6

Calculated Forces

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

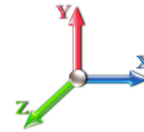


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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 23

Dead Load Factor 1.00
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-57.43	-10.02	0.00	-1195.5	0.00	1195.51	6109.19	3054.60	14553.3	7187.37	0.00	0.000	0.000	0.176
5.00	-55.76	-9.89	0.00	-1145.4	0.00	1145.40	6042.67	3021.34	14105.8	6966.35	0.02	-0.042	0.000	0.174
10.00	-54.00	-9.77	0.00	-1095.9	0.00	1095.93	5973.91	2986.96	13659.5	6745.94	0.09	-0.085	0.000	0.172
15.00	-52.27	-9.64	0.00	-1047.0	0.00	1047.08	5902.91	2951.46	13214.8	6526.30	0.20	-0.128	0.000	0.169
20.00	-50.57	-9.52	0.00	-998.86	0.00	998.86	5829.67	2914.84	12771.9	6307.60	0.36	-0.173	0.000	0.167
25.00	-48.90	-9.40	0.00	-951.25	0.00	951.25	5754.19	2877.10	12331.3	6089.98	0.57	-0.218	0.000	0.165
30.00	-47.27	-9.27	0.00	-904.25	0.00	904.25	5676.47	2838.24	11893.2	5873.62	0.82	-0.263	0.000	0.162
32.83	-46.36	-9.20	0.00	-877.98	0.00	877.98	5631.44	2815.72	11646.2	5751.63	0.98	-0.290	0.000	0.161
35.00	-45.10	-9.15	0.00	-858.05	0.00	858.05	5596.51	2798.26	11457.9	5658.66	1.12	-0.310	0.000	0.160
40.00	-42.24	-9.01	0.00	-812.28	0.00	812.28	5104.93	2552.47	10419.5	5145.84	1.47	-0.357	0.000	0.166
45.00	-40.76	-8.87	0.00	-767.23	0.00	767.23	5033.50	2516.75	10032.9	4954.92	1.87	-0.405	0.000	0.163
50.00	-39.31	-8.73	0.00	-722.85	0.00	722.85	4959.83	2479.91	9648.87	4765.22	2.32	-0.454	0.000	0.160
55.00	-37.89	-8.59	0.00	-679.18	0.00	679.18	4883.92	2441.96	9267.55	4576.90	2.82	-0.503	0.000	0.156
60.00	-36.49	-8.45	0.00	-636.22	0.00	636.22	4805.76	2402.88	8889.36	4390.12	3.37	-0.553	0.000	0.153
65.00	-35.13	-8.30	0.00	-593.98	0.00	593.98	4725.37	2362.69	8514.61	4205.04	3.98	-0.603	0.000	0.149
70.00	-33.80	-8.16	0.00	-552.46	0.00	552.46	4642.74	2321.37	8143.62	4021.83	4.64	-0.653	0.000	0.145
75.00	-32.49	-8.00	0.00	-511.68	0.00	511.68	4557.87	2278.94	7776.72	3840.63	5.35	-0.704	0.000	0.140
77.92	-31.75	-7.92	0.00	-488.31	0.00	488.31	4507.27	2253.64	7564.46	3735.80	5.79	-0.734	0.000	0.138
80.00	-30.81	-7.85	0.00	-471.85	0.00	471.85	4470.76	2235.38	7414.22	3661.61	6.12	-0.756	0.000	0.136
84.00	-29.03	-7.71	0.00	-440.41	0.00	440.41	4079.95	2039.98	6768.85	3342.88	6.77	-0.797	0.000	0.139
85.00	-28.79	-7.69	0.00	-432.73	0.00	432.73	4064.53	2032.27	6704.51	3311.11	6.93	-0.808	0.000	0.138
90.00	-27.62	-7.54	0.00	-394.26	0.00	394.26	3985.82	1992.91	6384.01	3152.82	7.81	-0.858	0.000	0.132
95.00	-26.48	-7.39	0.00	-356.55	0.00	356.55	3904.88	1952.44	6067.57	2996.54	8.73	-0.909	0.000	0.126
100.00	-25.36	-7.24	0.00	-319.60	0.00	319.60	3803.39	1901.70	5727.93	2828.81	9.71	-0.958	0.000	0.120
105.00	-24.28	-7.09	0.00	-283.40	0.00	283.40	3683.99	1842.00	5371.89	2652.97	10.74	-1.007	0.000	0.113
110.00	-23.22	-6.94	0.00	-247.95	0.00	247.95	3564.59	1782.30	5027.27	2482.78	11.82	-1.054	0.000	0.106
115.00	-22.19	-6.79	0.00	-213.25	0.00	213.25	3445.19	1722.60	4694.07	2318.23	12.95	-1.099	0.000	0.098
120.00	-21.19	-6.64	0.00	-179.29	0.00	179.29	3325.79	1662.90	4372.30	2159.32	14.13	-1.142	0.000	0.089
124.08	-20.39	-6.52	0.00	-152.17	0.00	152.17	3228.28	1614.14	4118.00	2033.73	15.12	-1.174	0.000	0.081
125.00	-17.93	-5.52	0.00	-146.19	0.00	146.19	3206.39	1603.20	4061.96	2006.05	15.34	-1.181	0.000	0.078
129.00	-16.84	-5.40	0.00	-124.09	0.00	124.09	1872.41	936.20	2368.25	1169.59	16.34	-1.210	0.000	0.115
130.00	-16.71	-5.37	0.00	-118.70	0.00	118.70	1864.30	932.15	2340.16	1155.72	16.60	-1.218	0.000	0.112
135.00	-13.76	-4.50	0.00	-91.82	0.00	91.82	1822.43	911.21	2200.41	1086.70	17.90	-1.263	0.000	0.092
140.00	-13.17	-4.36	0.00	-69.34	0.00	69.34	1778.31	889.16	2062.08	1018.38	19.25	-1.303	0.000	0.076
145.00	-8.83	-3.02	0.00	-47.53	0.00	47.53	1731.96	865.98	1925.47	950.92	20.63	-1.335	0.000	0.055
150.00	-8.30	-2.89	0.00	-32.41	0.00	32.41	1683.36	841.68	1790.92	884.47	22.04	-1.360	0.000	0.042
152.50	-7.55	-2.62	0.00	-25.18	0.00	25.18	1658.23	829.11	1724.52	851.67	22.76	-1.370	0.000	0.034
155.00	-4.89	-1.68	0.00	-18.64	0.00	18.64	1632.53	816.27	1658.75	819.19	23.48	-1.379	0.000	0.026
160.00	-4.46	-1.55	0.00	-10.24	0.00	10.24	1571.93	785.97	1521.98	751.65	24.93	-1.391	0.000	0.016
165.00	-0.83	-0.28	0.00	-2.47	0.00	2.47	1495.17	747.59	1376.14	679.62	26.39	-1.396	0.000	0.004
170.00	-0.50	-0.17	0.00	-1.04	0.00	1.04	1418.42	709.21	1237.64	611.22	27.85	-1.398	0.000	0.002
175.00	-0.18	-0.06	0.00	-0.19	0.00	0.19	1341.66	670.83	1106.49	546.45	29.31	-1.399	0.000	0.000
178.00	0.00	-0.06	0.00	0.00	0.00	0.00	1295.60	647.80	1031.32	509.33	30.19	-1.399	0.000	0.000

Final Analysis Summary

Structure: CT00594-S-SBA	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 105 mph Wind	49.1	0.00	68.83	0.00	0.00	5898.46
0.9D + 1.6W 105 mph Wind	49.1	0.00	51.60	0.00	0.00	5821.59
1.2D + 1.0Di + 1.0Wi 50 mph Wind	10.5	0.00	120.26	0.00	0.00	1392.99
1.2D + 1.0E	1.8	0.00	68.92	0.00	0.00	200.17
0.9D + 1.0E	1.8	0.00	51.69	0.00	0.00	197.43
1.0D + 1.0W 60 mph Wind	10.0	0.00	57.43	0.00	0.00	1195.51

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 105 mph Wind	-68.83	-49.13	0.00	-5898.4	0.00	-5898.4	6109.19	3054.6	14553.3	7187.37	0.00	0.832
0.9D + 1.6W 105 mph Wind	-51.60	-49.10	0.00	-5821.5	0.00	-5821.5	6109.19	3054.6	14553.3	7187.37	0.00	0.819
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-120.26	-10.53	0.00	-1392.9	0.00	-1392.9	6109.19	3054.6	14553.3	7187.37	0.00	0.214
1.2D + 1.0E	-20.34	-1.04	0.00	-33.86	0.00	-33.86	1872.41	936.20	2368.25	1169.59	129.00	0.040
0.9D + 1.0E	-15.25	-1.02	0.00	-33.33	0.00	-33.33	1872.41	936.20	2368.25	1169.59	129.00	0.037
1.0D + 1.0W 60 mph Wind	-57.43	-10.02	0.00	-1195.5	0.00	-1195.5	6109.19	3054.6	14553.3	7187.37	0.00	0.176

Base Plate Summary

Structure: CT00594-S-SB	Code: EIA/TIA-222-G	7/9/2021
Site Name: Plainfield North	Exposure: B	
Height: 178.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 60.00	Bolt Circle: 66.81
Moment (kip-ft): 5595.92	Width (in): 72.81	Number Bolts: 24.00
Axial (kip): 50.66	Style: Polygon	Bolt Type: 2.25" 18J
Shear (kip): 45.22	Polygon Sides: 12.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.6W)	Clip Length (in): 0.00	Yield (ksi): 75.00
Moment (kip-ft): 5898.46	Effective Len (in): 13.27	Ultimate (ksi): 100.00
Axial (kip): 68.83	Moment (kip-in): 777.18	Arrangement: Radial
Shear (kip): 49.13	Allow Stress (ksi): 81.00	Cluster Dist (in): 0.00
	Applied Stress (ksi): 38.88	Start Angle (deg): 15.00
	Stress Ratio: 0.48	Compression
		Force (kip): 181.58
		Allowable (kip): 260.00
		Ratio: 0.71
		Tension
		Force (kip): 171.56
		Allowable (kip): 260.00
		Ratio: 0.68



Monopole Mat Foundation Design

Date

7/9/2021

Customer Name:	Dish Wireless	EIA/TIA Standard:	EIA-222-G
Site Name:		Structure Height (Ft.):	178
Site Number:	CT00594-S-SBA	Engineer Name:	D. Zhou
Engr. Number:	111936	Engineer Login ID:	

Foundation Info Obtained from:

Mapping Operation

Structure Type:

Monopole

Analysis or Design?

Analysis

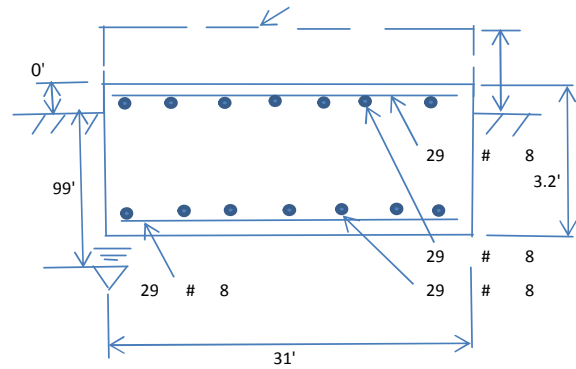
Base Reactions (Factored):

Axial Load (Kips):	68.8	Shear Force (Kips):	49.1
Uplift Force (Kips):	0.0	Moment (Kips-ft):	5898.5

Allowable overstress %: 5.0%

Foundation Geometries:

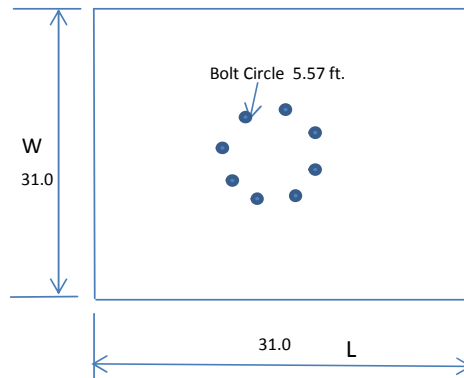
Anchor Bolt Circle (ft.):	5.57	Mod's required -Yes/No ?:	No
Thickness of Pad (ft):	3.20	Depth of Base BG (ft.):	3.20
Length of Pad (ft.):	31	Width of Pad (ft.):	31
Final Length of pad (ft)	31.0	Final width of pad (ft):	31.0



Material Properties and Rebar Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Pad Rebar Yield (Ksi):	60	Tie Spacing (in):	12.0	
Pad Steel Rebar Size (#):	8			
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf
Rebar at the bottom of the concrete pad:				
Qty. of Rebar in Pad (L):	29	Qty. of Rebar in Pad (W):	29	
Rebar at the top of the concrete pad:				
Qty. of Rebar in Pad (L):	29	Qty. of Rebar in Pad (W):	29	

Apply 1.35 factor for e/w Per G: 1.35



Soil Design Parameters:

Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	8000	Ultimate Skin Friction:	0	Psf	Angle from Botm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Botm of Pad:	25
Consider soil hor. resist. for OTM.:	No	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design:

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	0.00	Total Dry Soil Weight (Kips):	0.00
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	0.00	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	3075.20	Total Dry Concrete Weight (Kips):	461.28
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	461.28	Total Vertical Load on Base (Kips):	530.08

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	2707	<	Allowable Factored Soil Bearing (psf):	6000	0.45	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7501.3	>	Design Factored Momont (kips-ft):	6058	0.81	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.24					OK!

Load/
Capacity
Ratio

Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00

Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1066.6	>	One-Way Factored Shear (L-D. Kips):	399.6	0.37	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1066.6	>	One-Way Factored Shear (W-D., Kips):	399.6	0.37	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	1299.6	>	One-Way Factored Shear (C-C, Kips):	630.8	0.49	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK!	Lower Steel Pad Reinf. Ratio (W-Direct.):	0.0018		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	3523.3	>	Moment at Bottom (L-Direct. K-Ft):	1909.2	0.54	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	3523.3	>	Moment at Bottom (W-Direct. K-Ft):	1909.2	0.54	OK!
Lower Steel Pad Moment Capacity (Corner-Corner, K-ft):	4965.7	>	Moment at Bottom (C-C Dir. K-Ft):	2700.1	0.54	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0018	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0018		
Upper Steel Pad Moment Capacity (L-Direction, Kips-ft):	3523.3	>	Moment at the top (L-Dir Kips-Ft):	521.7	0.15	OK!
Upper Steel Pad Moment Capacity (W-Direction, Kips-ft):	3523.3	>	Moment at the top (W-Dir Kips-Ft):	521.7	0.15	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	4965.7	>	Moment at the top (C-C Direc. K-Ft):	870.7	0.18	OK!

Exhibit E

Mount Analysis



June 22, 2021

Sherri Knapik
SBA Network Services, LLC
134 Flanders Road, Suite 125
Westborough, MA 01581
(508) 251-0720 x 3805

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

Subject: **Appurtenance Mount Analysis Report**

Carrier Designation: **Dish Wireless Co-Locate**
Site Number: BOBOS00041A
Site Name: N/A

SBA Network Services Designation: **Site Number:** CT00594-S
Site Name: Plainfield North
Application Number: 162753, v1

Engineering Firm Designation: **B+T Group Project Number:** 149426.003.01

Site Data: **56 Roper Road, Plainfield, CT, 06374, Windham County**
Latitude 41.74600°, Longitude -71.88015°
Monopole
8' Platform Mount

Dear Ms. Knapik,

B+T Group is pleased to submit this “**Appurtenance Mount Analysis Report**” to determine the structural integrity of the antenna mount on the above-mentioned structure.

The purpose of the analysis is to determine acceptability of the mount’s stress level. Based on our analysis we have determined the stress level for the mount under the following load case to be:

Proposed Equipment

Note: See Table 1 for the final loading configuration

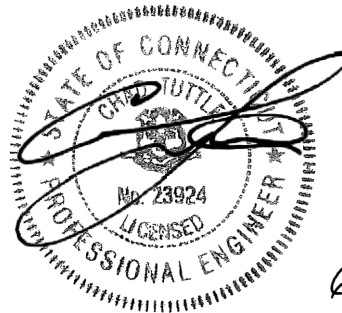
**Sufficient Capacity
(Passing at 62.7%)**

This analysis has been performed in accordance with the 2018 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 135 mph converted to a nominal 3-second gust wind speed of 105 mph per Section 1609.3 and Appendix N as required for use in the ANSI/TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category C and Risk Category II were used in this analysis.

We at B+T Group appreciate the opportunity of providing our continuing professional services to you and SBA Network Services, LLC. If you have any questions or need further assistance on this or any other projects, please give us a call.

Mount structural analysis prepared by: Massood Sattari, Project Engineer

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2022



6-30-21

Chad E. Tuttle, P.E.

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1) INTRODUCTION

The mount consists of Commscope Platform mounts (Part #MC-PK8-DSH) at 130 ft., attached to monopole at 56 Roper Road, Plainfield, CT, 06374, Windham County. The proposed antenna loading information was obtained from SBA Network Services, LLC. All information provided to B+T Group was assumed accurate and complete.

2) ANALYSIS CRITERIA

The structural analysis was performed for this mount in accordance with the ANSI/TIA-222-G-2-2005 Structural Standard for Antenna Supporting Structures and Antennas – Addendum 2 using a 3-second gust wind speed of 105 mph with no ice and 50 mph with 0.75 inch escalated ice thickness. Exposure Category C, Topographic Category 1 and Risk Category II were used in this analysis. In addition, the platform mount has been analyzed for various live loading conditions consisting of a 250-lb man live load applied individually at the midpoint and cantilevered ends of horizontal members as well as a 500-pound man live load applied individually at mount pipe locations using a 3-second gust of 30 mph. The mount was analyzed under 30° increments in the wind direction. The analyzed loading is detailed in Table 1.

Table 1 – Proposed Equipment Information

Loading	RAD Center Elev. (ft.)	Position	Qty.	Description	Note
Proposed	130	1	3	JMA MX08FRO665-21	1
		1	3	Fujitsu TA08025-B605	2
			3	Fujitsu TA08025-B604	
		--	1	Raycap RDIDC-9181-PF-48	3

Note:

- (1) Proposed Antenna to be installed on the proposed Mount Pipe.
- (2) Proposed Equipment to be installed directly behind the Antenna.
- (3) Proposed Equipment to be installed on the Mount.

Table 2 - Documents Provided

Documents	Remarks	Reference	Source
Colo App	Proposed Loading	Date: 06/19/2021	SBA Network Services, LLC
RFDS		Date: 04/30/2021	

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 19.0.1), a commercially available analysis software package, was used to create a three-dimensional model of the mount and calculate member stresses and deflections for various loading cases. Selected output from the analysis is included in Appendix A.

Manufacturers drawing were used to create the model.

3.2) Assumptions

1. The mount was built in accordance with the manufacturer's specifications.
2. The mount has been maintained in accordance with the manufacturer's specifications and is free of damage.
3. The configuration of antennas and other appurtenances are as specified in Table 1.
4. All mount components have been assumed to be in sufficient condition to carry their full design capacity for the analysis.

5. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.

The following assumptions have been included in the analysis of the mount

Component	Section	Length	Note
Proposed Mount Pipes	2" Std. Pipe	8'-0"	All Positions, All Sectors

6. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
7. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
8. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
9. The following material grades were assumed (Unless Noted Otherwise):
- a) Connection Bolts : ASTM A325
 - b) Steel Pipe : ASTM A53 (GR. 35)
 - c) HSS (Round) : ASTM 500 (GR. B-42)
 - d) HSS (Rectangular) : ASTM 500 (GR. B-46)
 - e) Channel : ASTM A36 (GR. 36)
 - f) Steel Solid Rod : ASTM A36 (GR. 36)
 - g) Steel Plate : ASTM A36 (GR. 36)
 - h) Steel Angle : ASTM A36 (GR. 36)
 - i) UNISTRUT : ASTM A570 (GR. 33)

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

4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity

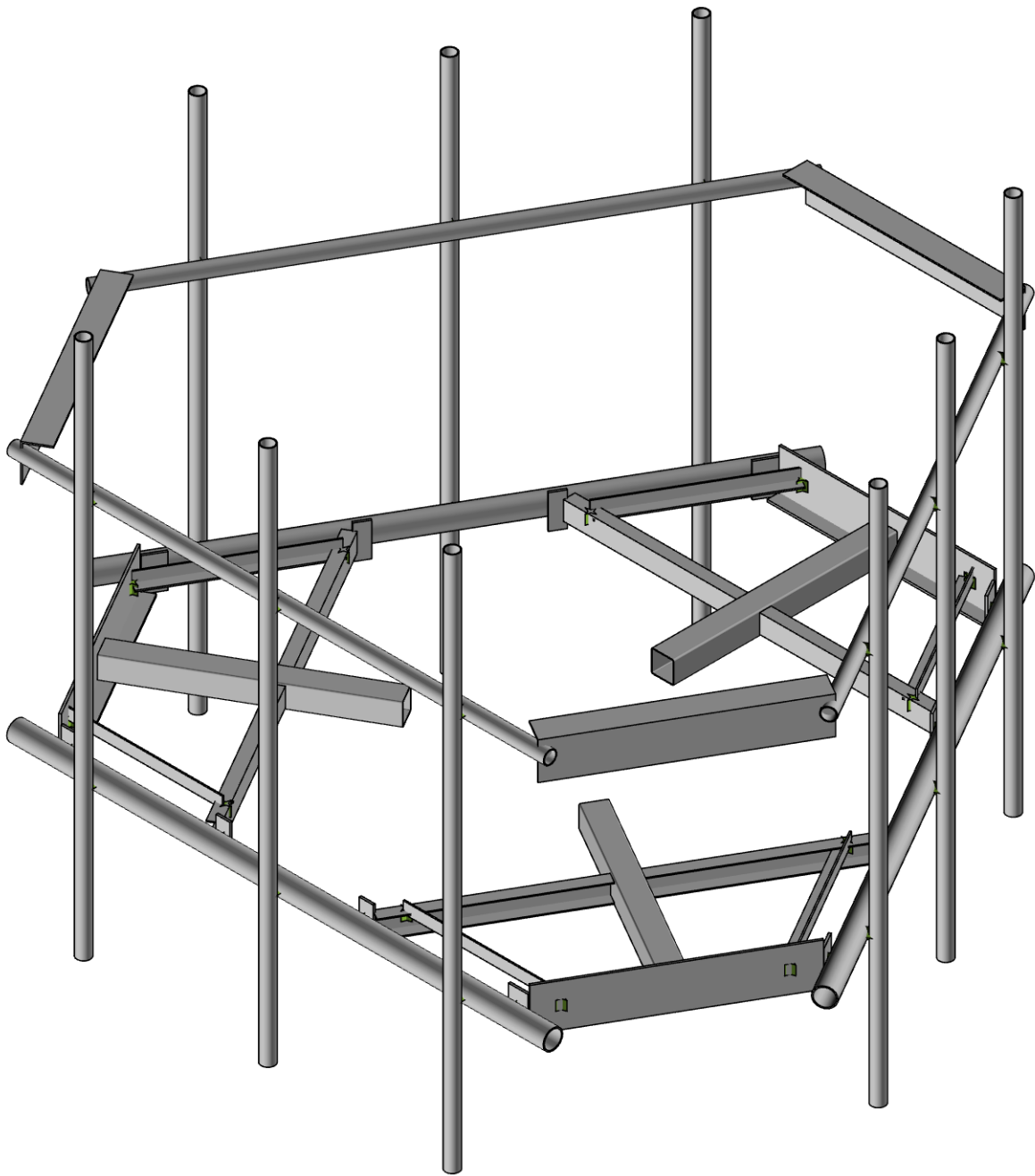
Notes	Component	Elevation (ft.)	% Capacity	Pass / Fail
-	Main Horizontals	130	11.8	Pass
-	Support Rails	130	58.6	Pass
-	Support Tubes	130	62.7	Pass
-	Support Channels	130	38.7	Pass
-	Support Angles	130	44.5	Pass
-	Mount Pipes	130	48.6	Pass
-	Connection Plates	130	23.0	Pass
-	Connection Angles	130	29.8	Pass
-	Connection Bolts	130	29.64	Pass

5) RECOMMENDATIONS

The Commscope Platform mounts (Part #MC-PK8-DSH) has sufficient capacity to carry the proposed loads and is in compliance with the ANSI/TIA-222-G standard for the proposed loading. (Refer to the RISA output for the specific members).

APPENDIX A

(RISA-3D Output)



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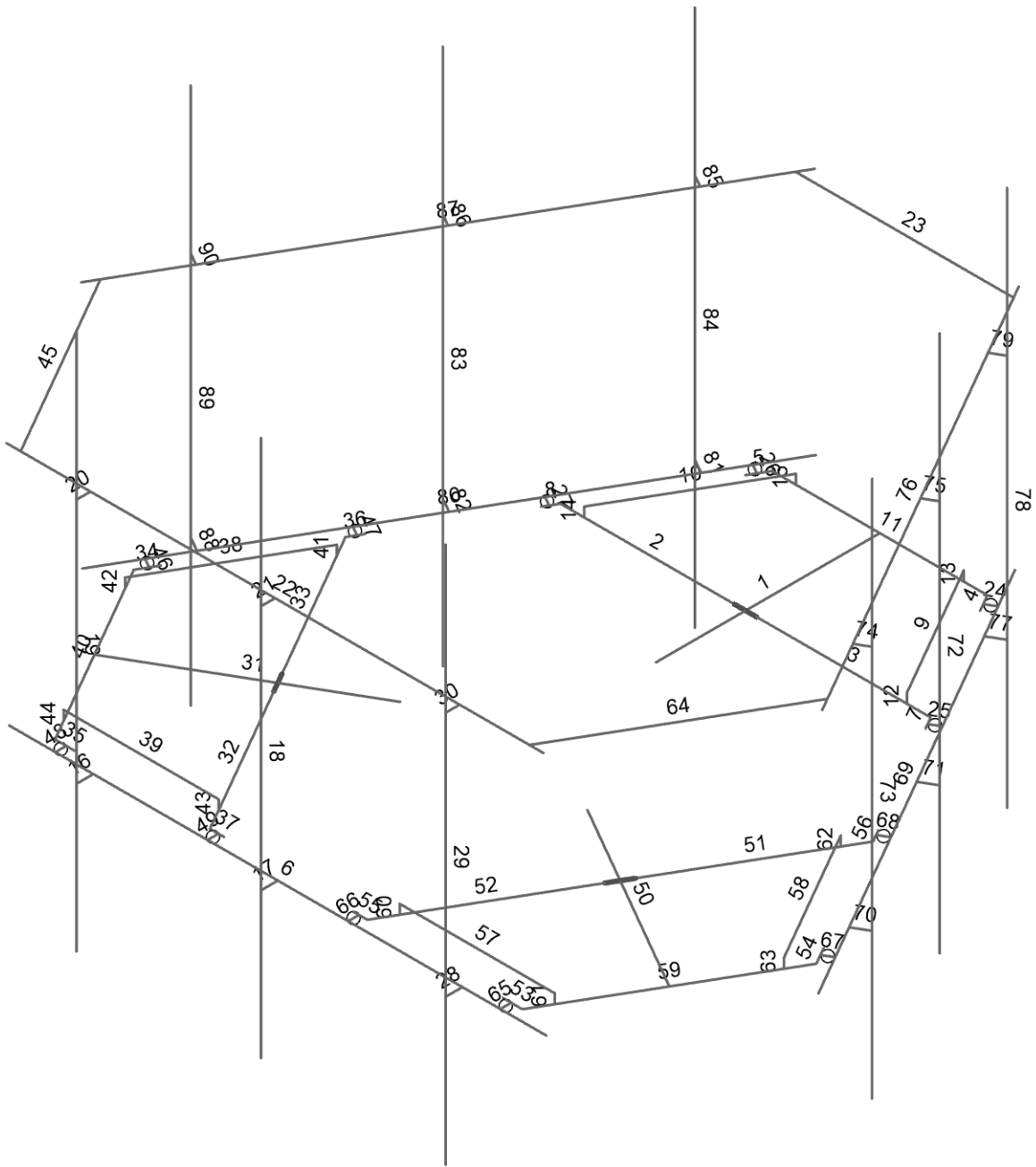
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SK-1

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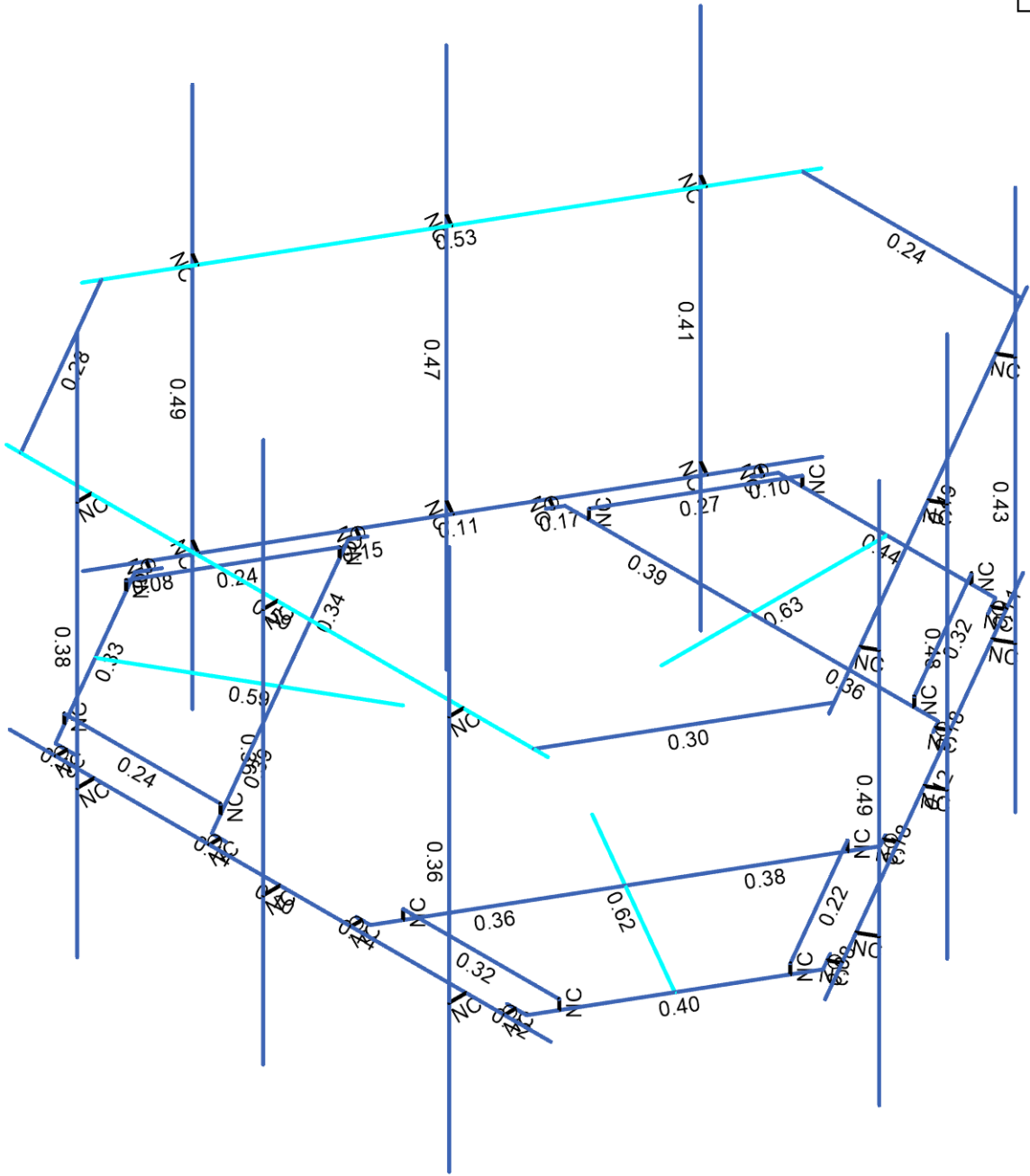
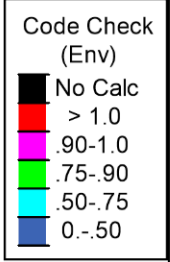
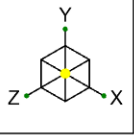
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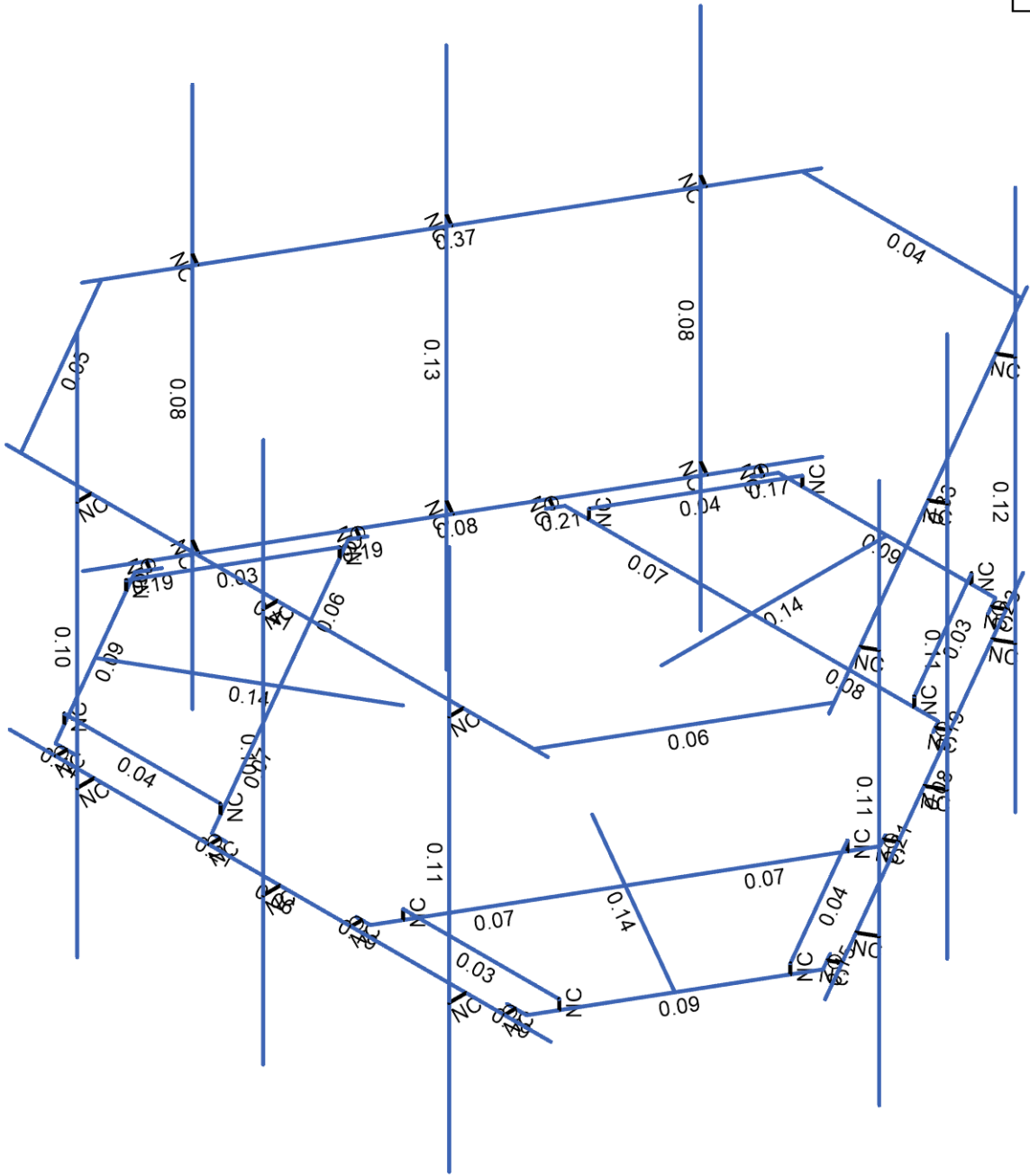
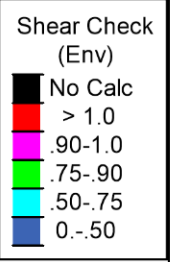
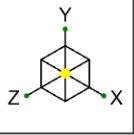


Member Code Checks Displayed (Enveloped)
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Member Shear Checks Displayed (Enveloped)
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SK-5
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Hot Rolled Steel Section Sets

Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1 MF-H1	PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2 MF-H2	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
3 SF-H1	HSS4X4X2	Beam	Tube	A500 Gr.B Rect	Typical	1.77	4.4	4.4	6.91
4 SF-H2	C3.38x2.06x.188	Beam	Channel	A36 Gr.36	Typical	1.339	0.562	2.4	0.015
5 SF-H3	L2x2x4	Beam	Single Angle	A36 Gr.36	Typical	0.944	0.346	0.346	0.021
6 SF-H4	L7.63x2.5x6	Beam	Single Angle	A36 Gr.36	Typical	3.658	1.307	22.092	0.163
7 MF-P1	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
8 MF-CP1	PL3/8"x6	Beam	RECT	A36 Gr.36	Typical	2.25	0.026	6.75	0.101
9 MF-H3	L6.63x4.33x.25	Beam	Single Angle	A36 Gr.36	Typical	2.678	4.383	12.502	0.054

Member Primary Data

Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	2		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
2	2	3	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
3	3	4	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
4	4	8		MF-CP1	Beam	RECT	A36 Gr.36	Typical
5	5	9		MF-CP1	Beam	RECT	A36 Gr.36	Typical
6	6	15		MF-H1	Beam	Pipe	A53 Gr.B	Typical
7	7	4		MF-CP1	Beam	RECT	A36 Gr.36	Typical
8	8	19		MF-CP1	Beam	RECT	A36 Gr.36	Typical
9	9	24		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
10	10	22		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
11	11	7		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
12	12	24		RIGID	None	None	RIGID	Typical
13	13	25		RIGID	None	None	RIGID	Typical
14	14	23		RIGID	None	None	RIGID	Typical
15	15	22		RIGID	None	None	RIGID	Typical
16	16	30		RIGID	None	None	RIGID	Typical
17	17	31		RIGID	None	None	RIGID	Typical
18	18	35		MF-P1	Column	Pipe	A53 Gr.B	Typical
19	19	34		MF-P1	Column	Pipe	A53 Gr.B	Typical
20	20	40		RIGID	None	None	RIGID	Typical
21	21	41		RIGID	None	None	RIGID	Typical
22	22	43		MF-H2	Beam	Pipe	A53 Gr.B	Typical
23	23	45	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
24	24	10		RIGID	None	None	RIGID	Typical
25	25	17		RIGID	None	None	RIGID	Typical
26	26	12		RIGID	None	None	RIGID	Typical
27	27	20		RIGID	None	None	RIGID	Typical
28	28	46		RIGID	None	None	RIGID	Typical
29	29	48		MF-P1	Column	Pipe	A53 Gr.B	Typical
30	30	51		RIGID	None	None	RIGID	Typical
31	31	54		SF-H1	Beam	Tube	A500 Gr.B Rect	Typical
32	32	55	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
33	33	56	180	SF-H2	Beam	Channel	A36 Gr.36	Typical
34	34	60		MF-CP1	Beam	RECT	A36 Gr.36	Typical
35	35	61		MF-CP1	Beam	RECT	A36 Gr.36	Typical
36	36	56		MF-CP1	Beam	RECT	A36 Gr.36	Typical
37	37	69		MF-CP1	Beam	RECT	A36 Gr.36	Typical
38	38	74		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
39	39	72		SF-H3	Beam	Single Angle	A36 Gr.36	Typical
40	40	59		SF-H4	Beam	Single Angle	A36 Gr.36	Typical
41	41	74		RIGID	None	None	RIGID	Typical
42	42	75		RIGID	None	None	RIGID	Typical
43	43	73		RIGID	None	None	RIGID	Typical
44	44	72		RIGID	None	None	RIGID	Typical
45	45	81	180	MF-H3	Beam	Single Angle	A36 Gr.36	Typical
46	46	62		RIGID	None	None	RIGID	Typical



Member Primary Data (Continued)

Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
47	47	68	67		RIGID	None	RIGID	Typical
48	48	65	64		RIGID	None	RIGID	Typical
49	49	71	70		RIGID	None	RIGID	Typical
50	50	82	83		SF-H1	Beam	A500 Gr.B Rect	Typical
51	51	86	84	180	SF-H2	Beam	A36 Gr.36	Typical
52	52	84	85	180	SF-H2	Beam	A36 Gr.36	Typical
53	53	88	89		MF-CP1	Beam	A36 Gr.36	Typical
54	54	87	90		MF-CP1	Beam	A36 Gr.36	Typical
55	55	95	85		MF-CP1	Beam	A36 Gr.36	Typical
56	56	86	98		MF-CP1	Beam	A36 Gr.36	Typical
57	57	104	103		SF-H3	Beam	A36 Gr.36	Typical
58	58	102	101		SF-H3	Beam	A36 Gr.36	Typical
59	59	87	88		SF-H4	Beam	A36 Gr.36	Typical
60	60	107	103		RIGID	None	RIGID	Typical
61	61	108	104		RIGID	None	RIGID	Typical
62	62	106	102		RIGID	None	RIGID	Typical
63	63	105	101		RIGID	None	RIGID	Typical
64	64	109	110	180	MF-H3	Beam	A36 Gr.36	Typical
65	65	92	91		RIGID	None	RIGID	Typical
66	66	97	96		RIGID	None	RIGID	Typical
67	67	94	93		RIGID	None	RIGID	Typical
68	68	100	99		RIGID	None	RIGID	Typical
69	69	111	112		MF-H1	Beam	A53 Gr.B	Typical
70	70	115	113		RIGID	None	RIGID	Typical
71	71	116	114		RIGID	None	RIGID	Typical
72	72	120	118		MF-P1	Column	A53 Gr.B	Typical
73	73	119	117		MF-P1	Column	A53 Gr.B	Typical
74	74	121	123		RIGID	None	RIGID	Typical
75	75	122	124		RIGID	None	RIGID	Typical
76	76	125	126		MF-H2	Beam	A53 Gr.B	Typical
77	77	128	127		RIGID	None	RIGID	Typical
78	78	130	129		MF-P1	Column	A53 Gr.B	Typical
79	79	131	132		RIGID	None	RIGID	Typical
80	80	133	134		MF-H1	Beam	A53 Gr.B	Typical
81	81	137	135		RIGID	None	RIGID	Typical
82	82	138	136		RIGID	None	RIGID	Typical
83	83	142	140		MF-P1	Column	A53 Gr.B	Typical
84	84	141	139		MF-P1	Column	A53 Gr.B	Typical
85	85	143	145		RIGID	None	RIGID	Typical
86	86	144	146		RIGID	None	RIGID	Typical
87	87	147	148		MF-H2	Beam	A53 Gr.B	Typical
88	88	150	149		RIGID	None	RIGID	Typical
89	89	152	151		MF-P1	Column	A53 Gr.B	Typical
90	90	153	154		RIGID	None	RIGID	Typical

Basic Load Cases

1	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
1	Dead	DL	-1		20		3
2	0 Wind - No Ice	WLZ			20	48	
3	90 Wind - No Ice	WLX			20	48	
4	0 Wind - Ice	WLZ			20	48	
5	90 Wind - Ice	WLX			20	48	
6	0 Wind - Service	WLZ			20	48	
7	90 Wind - Service	WLX			20	48	
8	Ice	OL1			20	48	3
9	Live Load a	LL		3			
10	Live Load b	LL		3			
11	Live Load c	LL		3			



Basic Load Cases (Continued)

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed	Area(Member)
12	Live Load d	LL					
13	Maint LL 1	LL			1		
14	Maint LL 2	LL			1		
15	Maint LL 3	LL			1		
16	Maint LL 4	LL			1		
17	Maint LL 5	LL			1		
18	Maint LL 6	LL			1		
19	Maint LL 7	LL			1		
20	Maint LL 8	LL			1		
21	Maint LL 9	LL			1		
22	Maint LL 10	LL			1		
23	Maint LL 11	LL			1		
24	Maint LL 12	LL			1		
25	Maint LL 13	LL			1		
26	Maint LL 14	LL			1		
27	Maint LL 15	LL			1		
28	BLC 1 Transient Area Loads	None				9	
29	BLC 8 Transient Area Loads	None				9	

Load Combinations

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	0.9 D + 1.6 - 0 W	Yes	Y	1	0.9	2	1.6				
3	0.9 D + 1.6 - 30 W	Yes	Y	1	0.9	2	1.386	3	0.8		
4	0.9 D + 1.6 - 60 W	Yes	Y	1	0.9	3	1.386	2	0.8		
5	0.9 D + 1.6 - 90 W	Yes	Y	1	0.9	3	1.6				
6	0.9 D + 1.6 - 120 W	Yes	Y	1	0.9	3	1.386	2	-0.8		
7	0.9 D + 1.6 - 150 W	Yes	Y	1	0.9	2	-1.386	3	0.8		
8	0.9 D + 1.6 - 180 W	Yes	Y	1	0.9	2	-1.6				
9	0.9 D + 1.6 - 210 W	Yes	Y	1	0.9	2	-1.386	3	-0.8		
10	0.9 D + 1.6 - 240 W	Yes	Y	1	0.9	3	-1.386	2	-0.8		
11	0.9 D + 1.6 - 270 W	Yes	Y	1	0.9	3	-1.6				
12	0.9 D + 1.6 - 300 W	Yes	Y	1	0.9	3	-1.386	2	0.8		
13	0.9 D + 1.6 - 330 W	Yes	Y	1	0.9	2	1.386	3	-0.8		
14	1.2 D + 1.6 - 0 W	Yes	Y	1	1.2	2	1.6				
15	1.2 D + 1.6 - 30 W	Yes	Y	1	1.2	2	1.386	3	0.8		
16	1.2 D + 1.6 - 60 W	Yes	Y	1	1.2	3	1.386	2	0.8		
17	1.2 D + 1.6 - 90 W	Yes	Y	1	1.2	3	1.6				
18	1.2 D + 1.6 - 120 W	Yes	Y	1	1.2	3	1.386	2	-0.8		
19	1.2 D + 1.6 - 150 W	Yes	Y	1	1.2	2	-1.386	3	0.8		
20	1.2 D + 1.6 - 180 W	Yes	Y	1	1.2	2	-1.6				
21	1.2 D + 1.6 - 210 W	Yes	Y	1	1.2	2	-1.386	3	-0.8		
22	1.2 D + 1.6 - 240 W	Yes	Y	1	1.2	3	-1.386	2	-0.8		
23	1.2 D + 1.6 - 270 W	Yes	Y	1	1.2	3	-1.6				
24	1.2 D + 1.6 - 300 W	Yes	Y	1	1.2	3	-1.386	2	0.8		
25	1.2 D + 1.6 - 330 W	Yes	Y	1	1.2	2	1.386	3	-0.8		
26	0.9 D + 1.6 - 0 W/Ice	Yes	Y	1	0.9	4	1.6			8	1
27	0.9 D + 1.6 - 30 W/Ice	Yes	Y	1	0.9	4	1.386	5	0.8	8	1
28	0.9 D + 1.6 - 60 W/Ice	Yes	Y	1	0.9	5	1.386	4	0.8	8	1
29	0.9 D + 1.6 - 90 W/Ice	Yes	Y	1	0.9	5	1.6			8	1
30	0.9 D + 1.6 - 120 W/Ice	Yes	Y	1	0.9	5	1.386	4	-0.8	8	1
31	0.9 D + 1.6 - 150 W/Ice	Yes	Y	1	0.9	4	-1.386	5	0.8	8	1
32	0.9 D + 1.6 - 180 W/Ice	Yes	Y	1	0.9	4	-1.6			8	1
33	0.9 D + 1.6 - 210 W/Ice	Yes	Y	1	0.9	4	-1.386	5	-0.8	8	1
34	0.9 D + 1.6 - 240 W/Ice	Yes	Y	1	0.9	5	-1.386	4	-0.8	8	1
35	0.9 D + 1.6 - 270 W/Ice	Yes	Y	1	0.9	5	-1.6			8	1
36	0.9 D + 1.6 - 300 W/Ice	Yes	Y	1	0.9	5	-1.386	4	0.8	8	1
37	0.9 D + 1.6 - 330 W/Ice	Yes	Y	1	0.9	4	1.386	5	-0.8	8	1



Load Combinations (Continued)

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
38	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
39	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
40	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
41	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
42	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1
43	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
44	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
45	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
46	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
47	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
48	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
49	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
50	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			9	1.5
51	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	9	1.5
52	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	9	1.5
53	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			9	1.5
54	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	9	1.5
55	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	9	1.5
56	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			9	1.5
57	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	9	1.5
58	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	9	1.5
59	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			9	1.5
60	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	9	1.5
61	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	9	1.5
62	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			10	1.5
63	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	10	1.5
64	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	10	1.5
65	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			10	1.5
66	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	10	1.5
67	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	10	1.5
68	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			10	1.5
69	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	10	1.5
70	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	10	1.5
71	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			10	1.5
72	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	10	1.5
73	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	10	1.5
74	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
75	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
76	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
77	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
78	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
79	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
80	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
81	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
82	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
83	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
84	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
85	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
86	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
87	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
88	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
89	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
90	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
91	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
92	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
93	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
94	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
95	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5



Load Combinations (Continued)

	Description	Solve	PDelta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
96	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
97	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
98	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					13	1.5
99	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					14	1.5
100	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					15	1.5
101	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					16	1.5
102	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					17	1.5
103	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					18	1.5
104	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					19	1.5
105	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					20	1.5
106	1.2 D + 1.5 LL Maint (9)	Yes	Y	1	1.2					21	1.5
107	1.2 D + 1.5 LL Maint (10)	Yes	Y	1	1.2					22	1.5
108	1.2 D + 1.5 LL Maint (11)	Yes	Y	1	1.2					23	1.5
109	1.2 D + 1.5 LL Maint (12)	Yes	Y	1	1.2					24	1.5
110	1.2 D + 1.5 LL Maint (13)	Yes	Y	1	1.2					25	1.5
111	1.2 D + 1.5 LL Maint (14)	Yes	Y	1	1.2					26	1.5
112	1.2 D + 1.5 LL Maint (15)	Yes	Y	1	1.2					27	1.5

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	Y	-0.032	%15
2	29	Y	-0.032	%85
3	29	Y	-0.075	%20
4	29	Y	-0.064	%50
5	29	Y	0	0
6	89	Y	-0.032	%15
7	89	Y	-0.032	%85
8	89	Y	-0.075	%20
9	89	Y	-0.064	%50
10	89	Y	0	0
11	78	Y	-0.032	%15
12	78	Y	-0.032	%85
13	78	Y	-0.075	%20
14	78	Y	-0.064	%50
15	78	Y	0	0
16	31	Y	-0.022	%20
17	31	Y	0	0
18	31	Y	0	0
19	31	Y	0	0
20	31	Y	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	Z	-0.178	%15
2	29	Z	-0.178	%85
3	29	Z	-0.056	%20
4	29	Z	-0.056	%50
5	29	Z	0	0
6	89	Z	-0.178	%15
7	89	Z	-0.178	%85
8	89	Z	-0.056	%20
9	89	Z	-0.056	%50
10	89	Z	0	0
11	78	Z	-0.178	%15
12	78	Z	-0.178	%85
13	78	Z	-0.056	%20
14	78	Z	-0.056	%50



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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
15	78	Z	0	0
16	31	Z	-0.058	%20
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	X	-0.071	%15
2	29	X	-0.071	%85
3	29	X	-0.034	%20
4	29	X	-0.03	%50
5	29	X	0	0
6	89	X	-0.071	%15
7	89	X	-0.071	%85
8	89	X	-0.034	%20
9	89	X	-0.03	%50
10	89	X	0	0
11	78	X	-0.071	%15
12	78	X	-0.071	%85
13	78	X	-0.034	%20
14	78	X	-0.03	%50
15	78	X	0	0
16	31	X	-0.032	%20
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	Z	-0.049	%15
2	29	Z	-0.049	%85
3	29	Z	-0.019	%20
4	29	Z	-0.019	%50
5	29	Z	0	0
6	89	Z	-0.049	%15
7	89	Z	-0.049	%85
8	89	Z	-0.019	%20
9	89	Z	-0.019	%50
10	89	Z	0	0
11	78	Z	-0.049	%15
12	78	Z	-0.049	%85
13	78	Z	-0.019	%20
14	78	Z	-0.019	%50
15	78	Z	0	0
16	31	Z	-0.02	%20
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	X	-0.024	%15
2	29	X	-0.024	%85

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
3	29	X	-0.013	%20
4	29	X	-0.012	%50
5	29	X	0	0
6	89	X	-0.024	%15
7	89	X	-0.024	%85
8	89	X	-0.013	%20
9	89	X	-0.012	%50
10	89	X	0	0
11	78	X	-0.024	%15
12	78	X	-0.024	%85
13	78	X	-0.013	%20
14	78	X	-0.012	%50
15	78	X	0	0
16	31	X	-0.013	%20
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	Z	-0.014	%15
2	29	Z	-0.014	%85
3	29	Z	-0.005	%20
4	29	Z	-0.005	%50
5	29	Z	0	0
6	89	Z	-0.014	%15
7	89	Z	-0.014	%85
8	89	Z	-0.005	%20
9	89	Z	-0.005	%50
10	89	Z	0	0
11	78	Z	-0.014	%15
12	78	Z	-0.014	%85
13	78	Z	-0.005	%20
14	78	Z	-0.005	%50
15	78	Z	0	0
16	31	Z	-0.005	%20
17	31	Z	0	0
18	31	Z	0	0
19	31	Z	0	0
20	31	Z	0	0

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	X	-0.006	%15
2	29	X	-0.006	%85
3	29	X	-0.003	%20
4	29	X	-0.002	%50
5	29	X	0	0
6	89	X	-0.006	%15
7	89	X	-0.006	%85
8	89	X	-0.003	%20
9	89	X	-0.002	%50
10	89	X	0	0
11	78	X	-0.006	%15
12	78	X	-0.006	%85
13	78	X	-0.003	%20

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

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
14	78	X	-0.002	%50
15	78	X	0	0
16	31	X	-0.003	%20
17	31	X	0	0
18	31	X	0	0
19	31	X	0	0
20	31	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	29	Y	-0.147	%15
2	29	Y	-0.147	%85
3	29	Y	-0.053	%20
4	29	Y	-0.051	%50
5	29	Y	0	0
6	89	Y	-0.147	%15
7	89	Y	-0.147	%85
8	89	Y	-0.053	%20
9	89	Y	-0.051	%50
10	89	Y	0	0
11	78	Y	-0.147	%15
12	78	Y	-0.147	%85
13	78	Y	-0.053	%20
14	78	Y	-0.051	%50
15	78	Y	0	0
16	31	Y	-0.053	%20
17	31	Y	0	0
18	31	Y	0	0
19	31	Y	0	0
20	31	Y	0	0

Member Point Loads (BLC 13 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	22	Y	-0.25	%5

Member Point Loads (BLC 14 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%5

Member Point Loads (BLC 15 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	22	Y	-0.25	%95

Member Point Loads (BLC 16 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	6	Y	-0.25	%95

Member Point Loads (BLC 17 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	87	Y	-0.25	%5

Member Point Loads (BLC 18 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	80	Y	-0.25	%5



Member Point Loads (BLC 19 : Maint LL 7)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	87	Y	-0.25	%95

Member Point Loads (BLC 20 : Maint LL 8)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	80	Y	-0.25	%95

Member Point Loads (BLC 21 : Maint LL 9)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	76	Y	-0.25	%5

Member Point Loads (BLC 22 : Maint LL 10)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%5

Member Point Loads (BLC 23 : Maint LL 11)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	76	Y	-0.25	%95

Member Point Loads (BLC 24 : Maint LL 12)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	69	Y	-0.25	%95

Member Point Loads (BLC 25 : Maint LL 13)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	31	Y	-0.25	%95

Member Point Loads (BLC 26 : Maint LL 14)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	1	Y	-0.25	%95

Member Point Loads (BLC 27 : Maint LL 15)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	50	Y	-0.25	%95

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

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.014	-0.014	0	%100
2	2	Z	-0.012	-0.012	0	%100
3	3	Z	-0.012	-0.012	0	%100
4	4	Z	-0.017	-0.017	0	%100
5	5	Z	-0.017	-0.017	0	%100
6	6	Z	-0.01	-0.01	0	%100
7	7	Z	-0.017	-0.017	0	%100
8	8	Z	-0.017	-0.017	0	%100
9	9	Z	-0.008	-0.008	0	%100
10	10	Z	-0.008	-0.008	0	%100
11	11	Z	-0.023	-0.023	0	%100
12	18	Z	-0.007	-0.007	0	%100
13	19	Z	-0.007	-0.007	0	%100
14	22	Z	-0.007	-0.007	0	%100
15	23	Z	-0.021	-0.021	0	%100
16	29	Z	-0.007	-0.007	0	%100
17	31	Z	-0.014	-0.014	0	%100
18	32	Z	-0.012	-0.012	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
19	33	Z	-0.012	-0.012	0	%100
20	34	Z	-0.017	-0.017	0	%100
21	35	Z	-0.017	-0.017	0	%100
22	36	Z	-0.017	-0.017	0	%100
23	37	Z	-0.017	-0.017	0	%100
24	38	Z	-0.008	-0.008	0	%100
25	39	Z	-0.008	-0.008	0	%100
26	40	Z	-0.023	-0.023	0	%100
27	45	Z	-0.021	-0.021	0	%100
28	50	Z	-0.014	-0.014	0	%100
29	51	Z	-0.012	-0.012	0	%100
30	52	Z	-0.012	-0.012	0	%100
31	53	Z	-0.017	-0.017	0	%100
32	54	Z	-0.017	-0.017	0	%100
33	55	Z	-0.017	-0.017	0	%100
34	56	Z	-0.017	-0.017	0	%100
35	57	Z	-0.008	-0.008	0	%100
36	58	Z	-0.008	-0.008	0	%100
37	59	Z	-0.023	-0.023	0	%100
38	64	Z	-0.021	-0.021	0	%100
39	69	Z	-0.01	-0.01	0	%100
40	72	Z	-0.007	-0.007	0	%100
41	73	Z	-0.007	-0.007	0	%100
42	76	Z	-0.007	-0.007	0	%100
43	78	Z	-0.007	-0.007	0	%100
44	80	Z	-0.01	-0.01	0	%100
45	83	Z	-0.007	-0.007	0	%100
46	84	Z	-0.007	-0.007	0	%100
47	87	Z	-0.007	-0.007	0	%100
48	89	Z	-0.007	-0.007	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.014	-0.014	0	%100
2	2	X	-0.012	-0.012	0	%100
3	3	X	-0.012	-0.012	0	%100
4	4	X	-0.017	-0.017	0	%100
5	5	X	-0.017	-0.017	0	%100
6	6	X	-0.01	-0.01	0	%100
7	7	X	-0.017	-0.017	0	%100
8	8	X	-0.017	-0.017	0	%100
9	9	X	-0.008	-0.008	0	%100
10	10	X	-0.008	-0.008	0	%100
11	11	X	-0.023	-0.023	0	%100
12	18	X	-0.007	-0.007	0	%100
13	19	X	-0.007	-0.007	0	%100
14	22	X	-0.007	-0.007	0	%100
15	23	X	-0.021	-0.021	0	%100
16	29	X	-0.007	-0.007	0	%100
17	31	X	-0.014	-0.014	0	%100
18	32	X	-0.012	-0.012	0	%100
19	33	X	-0.012	-0.012	0	%100
20	34	X	-0.017	-0.017	0	%100
21	35	X	-0.017	-0.017	0	%100
22	36	X	-0.017	-0.017	0	%100
23	37	X	-0.017	-0.017	0	%100
24	38	X	-0.008	-0.008	0	%100
25	39	X	-0.008	-0.008	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
26	40	X	-0.023	-0.023	0	%100
27	45	X	-0.021	-0.021	0	%100
28	50	X	-0.014	-0.014	0	%100
29	51	X	-0.012	-0.012	0	%100
30	52	X	-0.012	-0.012	0	%100
31	53	X	-0.017	-0.017	0	%100
32	54	X	-0.017	-0.017	0	%100
33	55	X	-0.017	-0.017	0	%100
34	56	X	-0.017	-0.017	0	%100
35	57	X	-0.008	-0.008	0	%100
36	58	X	-0.008	-0.008	0	%100
37	59	X	-0.023	-0.023	0	%100
38	64	X	-0.021	-0.021	0	%100
39	69	X	-0.01	-0.01	0	%100
40	72	X	-0.007	-0.007	0	%100
41	73	X	-0.007	-0.007	0	%100
42	76	X	-0.007	-0.007	0	%100
43	78	X	-0.007	-0.007	0	%100
44	80	X	-0.01	-0.01	0	%100
45	83	X	-0.007	-0.007	0	%100
46	84	X	-0.007	-0.007	0	%100
47	87	X	-0.007	-0.007	0	%100
48	89	X	-0.007	-0.007	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.006	-0.006	0	%100
2	2	Z	-0.006	-0.006	0	%100
3	3	Z	-0.006	-0.006	0	%100
4	4	Z	-0.012	-0.012	0	%100
5	5	Z	-0.012	-0.012	0	%100
6	6	Z	-0.002	-0.002	0	%100
7	7	Z	-0.015	-0.015	0	%100
8	8	Z	-0.015	-0.015	0	%100
9	9	Z	-0.005	-0.005	0	%100
10	10	Z	-0.005	-0.005	0	%100
11	11	Z	-0.008	-0.008	0	%100
12	18	Z	-0.002	-0.002	0	%100
13	19	Z	-0.002	-0.002	0	%100
14	22	Z	-0.002	-0.002	0	%100
15	23	Z	-0.008	-0.008	0	%100
16	29	Z	-0.002	-0.002	0	%100
17	31	Z	-0.006	-0.006	0	%100
18	32	Z	-0.006	-0.006	0	%100
19	33	Z	-0.006	-0.006	0	%100
20	34	Z	-0.012	-0.012	0	%100
21	35	Z	-0.012	-0.012	0	%100
22	36	Z	-0.015	-0.015	0	%100
23	37	Z	-0.015	-0.015	0	%100
24	38	Z	-0.005	-0.005	0	%100
25	39	Z	-0.005	-0.005	0	%100
26	40	Z	-0.008	-0.008	0	%100
27	45	Z	-0.008	-0.008	0	%100
28	50	Z	-0.006	-0.006	0	%100
29	51	Z	-0.006	-0.006	0	%100
30	52	Z	-0.006	-0.006	0	%100
31	53	Z	-0.012	-0.012	0	%100
32	54	Z	-0.012	-0.012	0	%100



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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
33	55	Z	-0.015	-0.015	0	%100
34	56	Z	-0.015	-0.015	0	%100
35	57	Z	-0.005	-0.005	0	%100
36	58	Z	-0.005	-0.005	0	%100
37	59	Z	-0.008	-0.008	0	%100
38	64	Z	-0.008	-0.008	0	%100
39	69	Z	-0.002	-0.002	0	%100
40	72	Z	-0.002	-0.002	0	%100
41	73	Z	-0.002	-0.002	0	%100
42	76	Z	-0.002	-0.002	0	%100
43	78	Z	-0.002	-0.002	0	%100
44	80	Z	-0.002	-0.002	0	%100
45	83	Z	-0.002	-0.002	0	%100
46	84	Z	-0.002	-0.002	0	%100
47	87	Z	-0.002	-0.002	0	%100
48	89	Z	-0.002	-0.002	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.006	-0.006	0	%100
2	2	X	-0.006	-0.006	0	%100
3	3	X	-0.006	-0.006	0	%100
4	4	X	-0.012	-0.012	0	%100
5	5	X	-0.012	-0.012	0	%100
6	6	X	-0.002	-0.002	0	%100
7	7	X	-0.015	-0.015	0	%100
8	8	X	-0.015	-0.015	0	%100
9	9	X	-0.005	-0.005	0	%100
10	10	X	-0.005	-0.005	0	%100
11	11	X	-0.008	-0.008	0	%100
12	18	X	-0.002	-0.002	0	%100
13	19	X	-0.002	-0.002	0	%100
14	22	X	-0.002	-0.002	0	%100
15	23	X	-0.008	-0.008	0	%100
16	29	X	-0.002	-0.002	0	%100
17	31	X	-0.006	-0.006	0	%100
18	32	X	-0.006	-0.006	0	%100
19	33	X	-0.006	-0.006	0	%100
20	34	X	-0.012	-0.012	0	%100
21	35	X	-0.012	-0.012	0	%100
22	36	X	-0.015	-0.015	0	%100
23	37	X	-0.015	-0.015	0	%100
24	38	X	-0.005	-0.005	0	%100
25	39	X	-0.005	-0.005	0	%100
26	40	X	-0.008	-0.008	0	%100
27	45	X	-0.008	-0.008	0	%100
28	50	X	-0.006	-0.006	0	%100
29	51	X	-0.006	-0.006	0	%100
30	52	X	-0.006	-0.006	0	%100
31	53	X	-0.012	-0.012	0	%100
32	54	X	-0.012	-0.012	0	%100
33	55	X	-0.015	-0.015	0	%100
34	56	X	-0.015	-0.015	0	%100
35	57	X	-0.005	-0.005	0	%100
36	58	X	-0.005	-0.005	0	%100
37	59	X	-0.008	-0.008	0	%100
38	64	X	-0.008	-0.008	0	%100
39	69	X	-0.002	-0.002	0	%100



Company : B+T Group
 Designer : KP
 Job Number : 149426.003.01
 Model Name : CT00594-S - Plainfield North

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
40	72	X	-0.002	-0.002	0	%100
41	73	X	-0.002	-0.002	0	%100
42	76	X	-0.002	-0.002	0	%100
43	78	X	-0.002	-0.002	0	%100
44	80	X	-0.002	-0.002	0	%100
45	83	X	-0.002	-0.002	0	%100
46	84	X	-0.002	-0.002	0	%100
47	87	X	-0.002	-0.002	0	%100
48	89	X	-0.002	-0.002	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.001	-0.001	0	%100
2	2	Z	-0.001	-0.001	0	%100
3	3	Z	-0.001	-0.001	0	%100
4	4	Z	-0.001	-0.001	0	%100
5	5	Z	-0.001	-0.001	0	%100
6	6	Z	-0.0004	-0.0004	0	%100
7	7	Z	-0.001	-0.001	0	%100
8	8	Z	-0.001	-0.001	0	%100
9	9	Z	-0.0006	-0.0006	0	%100
10	10	Z	-0.0006	-0.0006	0	%100
11	11	Z	-0.002	-0.002	0	%100
12	18	Z	-0.0003	-0.0003	0	%100
13	19	Z	-0.0003	-0.0003	0	%100
14	22	Z	-0.0003	-0.0003	0	%100
15	23	Z	-0.002	-0.002	0	%100
16	29	Z	-0.0003	-0.0003	0	%100
17	31	Z	-0.001	-0.001	0	%100
18	32	Z	-0.001	-0.001	0	%100
19	33	Z	-0.001	-0.001	0	%100
20	34	Z	-0.001	-0.001	0	%100
21	35	Z	-0.001	-0.001	0	%100
22	36	Z	-0.001	-0.001	0	%100
23	37	Z	-0.001	-0.001	0	%100
24	38	Z	-0.0006	-0.0006	0	%100
25	39	Z	-0.0006	-0.0006	0	%100
26	40	Z	-0.002	-0.002	0	%100
27	45	Z	-0.002	-0.002	0	%100
28	50	Z	-0.001	-0.001	0	%100
29	51	Z	-0.001	-0.001	0	%100
30	52	Z	-0.001	-0.001	0	%100
31	53	Z	-0.001	-0.001	0	%100
32	54	Z	-0.001	-0.001	0	%100
33	55	Z	-0.001	-0.001	0	%100
34	56	Z	-0.001	-0.001	0	%100
35	57	Z	-0.0006	-0.0006	0	%100
36	58	Z	-0.0006	-0.0006	0	%100
37	59	Z	-0.002	-0.002	0	%100
38	64	Z	-0.002	-0.002	0	%100
39	69	Z	-0.0004	-0.0004	0	%100
40	72	Z	-0.0003	-0.0003	0	%100
41	73	Z	-0.0003	-0.0003	0	%100
42	76	Z	-0.0003	-0.0003	0	%100
43	78	Z	-0.0003	-0.0003	0	%100
44	80	Z	-0.0004	-0.0004	0	%100
45	83	Z	-0.0003	-0.0003	0	%100
46	84	Z	-0.0003	-0.0003	0	%100



Company : B+T Group
 Designer : KP
 Job Number : 149426.003.01
 Model Name : CT00594-S - Plainfield North

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
47	87	Z	-0.0003	-0.0003	0	%100
48	89	Z	-0.0003	-0.0003	0	%100

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

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.001	-0.001	0	%100
2	2	X	-0.001	-0.001	0	%100
3	3	X	-0.001	-0.001	0	%100
4	4	X	-0.001	-0.001	0	%100
5	5	X	-0.001	-0.001	0	%100
6	6	X	-0.0004	-0.0004	0	%100
7	7	X	-0.001	-0.001	0	%100
8	8	X	-0.001	-0.001	0	%100
9	9	X	-0.0006	-0.0006	0	%100
10	10	X	-0.0006	-0.0006	0	%100
11	11	X	-0.002	-0.002	0	%100
12	18	X	-0.0003	-0.0003	0	%100
13	19	X	-0.0003	-0.0003	0	%100
14	22	X	-0.0003	-0.0003	0	%100
15	23	X	-0.002	-0.002	0	%100
16	29	X	-0.0003	-0.0003	0	%100
17	31	X	-0.001	-0.001	0	%100
18	32	X	-0.001	-0.001	0	%100
19	33	X	-0.001	-0.001	0	%100
20	34	X	-0.001	-0.001	0	%100
21	35	X	-0.001	-0.001	0	%100
22	36	X	-0.001	-0.001	0	%100
23	37	X	-0.001	-0.001	0	%100
24	38	X	-0.0006	-0.0006	0	%100
25	39	X	-0.0006	-0.0006	0	%100
26	40	X	-0.002	-0.002	0	%100
27	45	X	-0.002	-0.002	0	%100
28	50	X	-0.001	-0.001	0	%100
29	51	X	-0.001	-0.001	0	%100
30	52	X	-0.001	-0.001	0	%100
31	53	X	-0.001	-0.001	0	%100
32	54	X	-0.001	-0.001	0	%100
33	55	X	-0.001	-0.001	0	%100
34	56	X	-0.001	-0.001	0	%100
35	57	X	-0.0006	-0.0006	0	%100
36	58	X	-0.0006	-0.0006	0	%100
37	59	X	-0.002	-0.002	0	%100
38	64	X	-0.002	-0.002	0	%100
39	69	X	-0.0004	-0.0004	0	%100
40	72	X	-0.0003	-0.0003	0	%100
41	73	X	-0.0003	-0.0003	0	%100
42	76	X	-0.0003	-0.0003	0	%100
43	78	X	-0.0003	-0.0003	0	%100
44	80	X	-0.0004	-0.0004	0	%100
45	83	X	-0.0003	-0.0003	0	%100
46	84	X	-0.0003	-0.0003	0	%100
47	87	X	-0.0003	-0.0003	0	%100
48	89	X	-0.0003	-0.0003	0	%100



Member Distributed Loads (BLC 8 : Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Y	-0.016	-0.016	0	%100
2	2	Y	-0.012	-0.012	0	%100
3	3	Y	-0.012	-0.012	0	%100
4	4	Y	-0.016	-0.016	0	%100
5	5	Y	-0.016	-0.016	0	%100
6	6	Y	-0.011	-0.011	0	%100
7	7	Y	-0.016	-0.016	0	%100
8	8	Y	-0.016	-0.016	0	%100
9	9	Y	-0.01	-0.01	0	%100
10	10	Y	-0.01	-0.01	0	%100
11	11	Y	-0.02	-0.02	0	%100
12	18	Y	-0.009	-0.009	0	%100
13	19	Y	-0.009	-0.009	0	%100
14	22	Y	-0.009	-0.009	0	%100
15	23	Y	-0.02	-0.02	0	%100
16	29	Y	-0.009	-0.009	0	%100
17	31	Y	-0.016	-0.016	0	%100
18	32	Y	-0.012	-0.012	0	%100
19	33	Y	-0.012	-0.012	0	%100
20	34	Y	-0.016	-0.016	0	%100
21	35	Y	-0.016	-0.016	0	%100
22	36	Y	-0.016	-0.016	0	%100
23	37	Y	-0.016	-0.016	0	%100
24	38	Y	-0.01	-0.01	0	%100
25	39	Y	-0.01	-0.01	0	%100
26	40	Y	-0.02	-0.02	0	%100
27	45	Y	-0.02	-0.02	0	%100
28	50	Y	-0.016	-0.016	0	%100
29	51	Y	-0.012	-0.012	0	%100
30	52	Y	-0.012	-0.012	0	%100
31	53	Y	-0.016	-0.016	0	%100
32	54	Y	-0.016	-0.016	0	%100
33	55	Y	-0.016	-0.016	0	%100
34	56	Y	-0.016	-0.016	0	%100
35	57	Y	-0.01	-0.01	0	%100
36	58	Y	-0.01	-0.01	0	%100
37	59	Y	-0.02	-0.02	0	%100
38	64	Y	-0.02	-0.02	0	%100
39	69	Y	-0.011	-0.011	0	%100
40	72	Y	-0.009	-0.009	0	%100
41	73	Y	-0.009	-0.009	0	%100
42	76	Y	-0.009	-0.009	0	%100
43	78	Y	-0.009	-0.009	0	%100
44	80	Y	-0.011	-0.011	0	%100
45	83	Y	-0.009	-0.009	0	%100
46	84	Y	-0.009	-0.009	0	%100
47	87	Y	-0.009	-0.009	0	%100
48	89	Y	-0.009	-0.009	0	%100

Member Distributed Loads (BLC 28 : BLC 1 Transient Area Loads)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	9	Y	-0.015	-0.015	0	2.078
2	10	Y	-0.014	-0.02	0.231	1.27
3	10	Y	-0.02	-0.026	1.27	2.309
4	38	Y	-0.035	-0.016	0	1.155
5	38	Y	-0.016	0.0006163	1.155	2.309
6	39	Y	-0.018	-0.016	0.231	2.309
7	57	Y	-0.018	-0.016	0	2.078



Member Distributed Loads (BLC 28 : BLC 1 Transient Area Loads) (Continued)

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
8	58	Y	0.0006164	-0.016	0 1.155
9	58	Y	-0.016	-0.035	1.155 2.309

Member Distributed Loads (BLC 29 : BLC 8 Transient Area Loads)

Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	9	Y	-0.012	-0.012	0 2.078
2	10	Y	-0.011	-0.016	0.231 1.27
3	10	Y	-0.016	-0.021	1.27 2.309
4	38	Y	-0.028	-0.013	0 1.155
5	38	Y	-0.013	0.0004931	1.155 2.309
6	39	Y	-0.014	-0.013	0.231 2.309
7	57	Y	-0.014	-0.013	0 2.078
8	58	Y	0.0004931	-0.013	0 1.155
9	58	Y	-0.013	-0.028	1.155 2.309

Member Area Loads (BLC 1 : Dead)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	23	22	25	24	Y	Two Way	-0.01
2	73	72	75	74	Y	Two Way	-0.01
3	102	101	104	103	Y	Two Way	-0.01

Member Area Loads (BLC 8 : Ice)

	Node A	Node B	Node C	Node D	Direction	Load Direction	Magnitude [ksf]
1	23	22	25	24	Y	Two Way	-0.008
2	73	72	75	74	Y	Two Way	-0.008
3	102	101	104	103	Y	Two Way	-0.008

Node Loads and Enforced Displacements (BLC 9 : Live Load a)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	30	L	Y	-0.5
2	113	L	Y	-0.5
3	135	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 10 : Live Load b)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	31	L	Y	-0.5
2	114	L	Y	-0.5
3	136	L	Y	-0.5

Node Loads and Enforced Displacements (BLC 11 : Live Load c)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	46	L	Y	-0.5
2	127	L	Y	-0.5
3	149	L	Y	-0.5

Envelope Node Reactions

	Node Label	X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC	
1	1	max	1.369	5	2.075	38	1.545	2	4.719	14	1.371	11	0.446	84
2		min	-1.374	23	-0.714	8	-1.643	20	-2.304	8	-1.374	17	-0.249	54
3	53	max	1.315	5	2.115	42	1.776	14	0.809	13	1.747	3	1.274	12
4		min	-1.395	23	-0.406	12	-1.721	8	-1.876	19	-1.747	21	-3.829	42
5	82	max	1.248	17	2.032	46	1.912	14	0.874	3	1.757	7	3.484	46
6		min	-1.162	11	-0.433	4	-1.87	8	-2.37	45	-1.76	25	-1.337	4
7	Totals:	max	3.919	5	5.589	39	5.221	2						
8		min	-3.919	23	1.589	9	-5.221	8						



Company : B+T Group
 Designer : KP
 Job Number : 149426.003.01
 Model Name : CT00594-S - Plainfield North

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Envelope AISC 13TH (360-05): LRFD Member Steel Code Checks

Member	Shape	Code Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	phi*	Pnc [k]	phi*	Pnt [k]	phi*	Mn y-y [k-ft]	phi*	Mn z-z [k-ft]	Cb	Eqn
1	1	HSS4X4X2	0.627	0	25	0.139	0	y	49	70.173	73.278	8.24	8.24	1.917	H1-1b				
2	2	C3.38x2.06x.188	0.387	2.592	39	0.069	0.351	y	40	38.433	43.394	1.694	4.483	1.635	H1-1b				
3	3	C3.38x2.06x.188	0.363	0	25	0.079	2.241	z	20	38.433	43.394	1.694	4.483	1.589	H1-1b				
4	4	PL3/8"x6	0.107	0.164	19	0.23	0	y	14	68.856	72.9	0.57	9.113	2.697	H1-1b				
5	5	PL3/8"x6	0.102	0	15	0.167	0	y	14	68.856	72.9	0.57	9.113	2.096	H1-1b				
6	6	PIPE 3.0	0.101	4	19	0.059	4		17	46.291	65.205	5.749	5.749	1.569	H1-1b				
7	7	PL3/8"x6	0.181	0.208	14	0.189	0.208	y	49	70.733	72.9	0.57	9.113	2.327	H1-1b				
8	8	PL3/8"x6	0.173	0	25	0.211	0	y	39	70.733	72.9	0.57	9.113	2.906	H1-1b				
9	9	L2x2x4	0.322	0	20	0.031	2.309	y	59	23.349	30.586	0.691	1.577	1.5	H2-1				
10	10	L2x2x4	0.271	2.309	20	0.042	2.309	y	40	23.349	30.586	0.691	1.577	1.5	H2-1				
11	11	L7.63x2.5x6	0.445	1.604	8	0.087	1.604	y	75	73.845	118.523	1.798	13.738	1.246	H2-1				
12	18	PIPE 2.0	0.363	5.833	17	0.099	5.833		18	14.916	32.13	1.872	1.872	3	H1-1b				
13	19	PIPE 2.0	0.381	2.167	22	0.103	5.833		21	14.916	32.13	1.872	1.872	3	H1-1b				
14	22	PIPE 2.0	0.586	6.75	14	0.41	7.75		14	14.916	32.13	1.872	1.872	2.586	H3-6				
15	23	L6.63x4.33x.25	0.238	3.25	6	0.042	3.25	z	24	49.975	86.751	2.311	6.976	1.5	H2-1				
16	29	PIPE 2.0	0.364	5.833	18	0.115	2.167		20	14.916	32.13	1.872	1.872	3	H1-1b				
17	31	HSS4X4X2	0.59	0	19	0.142	0	y	41	70.173	73.278	8.24	8.24	1.95	H1-1b				
18	32	C3.38x2.06x.188	0.387	2.592	43	0.07	0.351	y	45	38.433	43.394	1.694	4.483	1.635	H1-1b				
19	33	C3.38x2.06x.188	0.337	0	41	0.065	2.241	y	61	38.433	43.394	1.694	4.483	1.635	H1-1b				
20	34	PL3/8"x6	0.084	0.164	22	0.19	0	y	19	68.856	72.9	0.57	9.113	2.261	H1-1b				
21	35	PL3/8"x6	0.104	0	19	0.14	0	y	54	68.856	72.9	0.57	9.113	1.928	H1-1b				
22	36	PL3/8"x6	0.153	0.208	19	0.188	0.208	y	41	70.733	72.9	0.57	9.113	2.532	H1-1b				
23	37	PL3/8"x6	0.135	0	17	0.212	0	y	43	70.733	72.9	0.57	9.113	2.985	H1-1b				
24	38	L2x2x4	0.242	0	23	0.031	0	y	51	23.349	30.586	0.691	1.577	1.5	H2-1				
25	39	L2x2x4	0.24	2.309	25	0.042	0	y	44	23.349	30.586	0.691	1.577	1.5	H2-1				
26	40	L7.63x2.5x6	0.328	1.604	12	0.088	1.604	y	80	73.845	118.523	1.798	13.779	1.255	H2-1				
27	45	L6.63x4.33x.25	0.283	0	2	0.046	0	y	15	49.975	86.751	2.311	6.976	1.5	H2-1				
28	50	HSS4X4X2	0.619	0	21	0.141	0	y	45	70.173	73.278	8.24	8.24	1.918	H1-1b				
29	51	C3.38x2.06x.188	0.377	2.592	47	0.069	0.351	y	49	38.433	43.394	1.694	4.483	1.633	H1-1b				
30	52	C3.38x2.06x.188	0.36	0	21	0.065	2.241	z	15	38.433	43.394	1.694	4.483	1.59	H1-1b				
31	53	PL3/8"x6	0.12	0.164	14	0.187	0	y	22	68.856	72.9	0.57	9.113	2.541	H1-1b				
32	54	PL3/8"x6	0.08	0	23	0.145	0	y	21	68.856	72.9	0.57	9.113	1.935	H1-1b				
33	55	PL3/8"x6	0.138	0.085	2	0.188	0.208	y	45	70.733	72.9	0.57	9.113	1.481	H1-1b				
34	56	PL3/8"x6	0.176	0	21	0.21	0	y	47	70.733	72.9	0.57	9.113	2.875	H1-1b				
35	57	L2x2x4	0.317	0	15	0.031	2.309	y	55	23.349	30.586	0.691	1.577	1.5	H2-1				
36	58	L2x2x4	0.22	2.309	16	0.042	2.309	y	49	23.349	30.586	0.691	1.577	1.5	H2-1				
37	59	L7.63x2.5x6	0.4	1.604	3	0.087	1.604	y	84	73.845	118.523	1.798	14.122	1.334	H2-1				
38	64	L6.63x4.33x.25	0.298	3.25	2	0.056	3.25	z	20	49.975	86.751	2.311	6.976	1.5	H2-1				
39	69	PIPE 3.0	0.118	4	14	0.08	4		21	46.291	65.205	5.749	5.749	1.593	H1-1b				
40	72	PIPE 2.0	0.477	5.833	21	0.11	5.833		21	14.916	32.13	1.872	1.872	3	H1-1b				
41	73	PIPE 2.0	0.486	2.167	14	0.108	5.833		25	14.916	32.13	1.872	1.872	3	H1-1b				
42	76	PIPE 2.0	0.487	1.25	25	0.33	1.25		25	14.916	32.13	1.872	1.872	2.275	H3-6				
43	78	PIPE 2.0	0.431	5.833	21	0.122	2.167		25	14.916	32.13	1.872	1.872	3	H1-1b				
44	80	PIPE 3.0	0.115	4	14	0.075	3		25	46.291	65.205	5.749	5.749	1.436	H1-1b				
45	83	PIPE 2.0	0.473	5.833	25	0.131	5.833		14	14.916	32.13	1.872	1.872	3	H1-1b				
46	84	PIPE 2.0	0.411	5.833	19	0.077	5.833		17	14.916	32.13	1.872	1.872	3	H1-1b				
47	87	PIPE 2.0	0.526	6.75	21	0.371	7.75		21	14.916	32.13	1.872	1.872	2.509	H3-6				
48	89	PIPE 2.0	0.486	5.833	14	0.085	5.833		18	14.916	32.13	1.872	1.872	3	H1-1b				

APPENDIX B

(Additional Calculations)

PROJECT	149426.003.01-Plainfield North, CT	KSC
SUBJECT	Platform Mount Analysis	
DATE	06/22/21	PAGE 1 OF 1



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

B+T GRP

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	1.545	k
Vertical Shear	:	2.075	k
Horizontal Shear	:	1.369	k
Torsion	:	0.446	k.ft
Moment from Horizontal Forces	:	1.371	k.ft
Moment from Vertical Forces	:	4.719	k.ft

Bolt Parameters

Bolt Grade	:	A325	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in ²
Bolt spacing, Horizontal	:	7	in
Bolt spacing, Vertical	:	7	in
Bolt edge distance, plate height	:	1	in
Bolt edge distance, plate width	:	1	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	2.49	k
Force from Horz. Moment	:	2.16	k
Force from Vert. Moment	:	7.43	k
Shear Load / Bolt	:	0.62	k
Tension Load / Bolt	:	0.39	k
Resultant from Moments / Bolt	:	3.87	k

Bolt Checks

Nominal Tensile Stress, F_{nt}	:	90.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	20.72	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	20.52%		OKAY
Nominal Shear Stress, F_{nv}	:	48.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	11.05	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	9.12%		OKAY
Unity Check, Combined	:	29.64%		OKAY
Available Bearing Strength, ΦR_n	:	18.35	k/bolt	
Unity Check, Bolt Bearing	:	3.39%		OKAY

Exhibit F

Power Density/RF Emissions Report



Radio Frequency Emissions Analysis Report



Site ID: BOBOS00041A

SBA - Roper Road
56 Roper Road
Plainfield, CT 06374

May 3, 2022

Fox Hill Telecom Project Number: 220982

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	16.12 %



May 3, 2022

Dish Wireless
5701 South Santa Fe Drive
Littleton, CO 80120

Emissions Analysis for Site: **BOBOS00041A – SBA - Roper Road**

Fox Hill Telecom, Inc (“Fox Hill”) was directed to analyze the proposed radio installation for Dish Wireless, LLC (Dish) facility located at **56 Roper Road, Plainfield, CT**, for the purpose of determining whether the emissions from the Proposed Dish radio and 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.

Population 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 & 700 MHz 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) and 2100 MHz (AWS / AWS-4) 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 performed for the proposed radio system installation for **Dish** on the subject site located at **56 Roper Road, Plainfield, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since **Dish** 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 manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
5G	n71 (600 MHz)	4	61.5
5G	n70 (AWS-4 / 1995-2020)	4	40
5G	n66 (AWS-4 / 2180-2200)	4	40

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz (n71) frequency band, and the 2100 MHz (AWS 4) frequency bands at 1995-2020 MHz (n70) and 2180-2200 MHz (n66). This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB for directional panel antennas, 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.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	Commscope FFVV-65B-R3	135
B	1	Commscope FFVV-65B-R3	135
C	1	Commscope FFVV-65B-R3	135

Table 2: Antenna Data

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



RESULTS

Per the calculations completed for the proposed **Dish** configurations *Table 3* shows resulting emissions power levels and percentages of the FCC’s allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	Commscope FFVV-65B-R3	n71 (600 MHz) / n70 (AWS-4 / 1995-2020) / n66 (AWS-4 / 2180-2200)	12.15 / 15.95 / 16.25	12	566	17,079.80	5.00
Sector A Composite MPE%							5.00
Antenna B1	Commscope FFVV-65B-R3	n71 (600 MHz) / n70 (AWS-4 / 1995-2020) / n66 (AWS-4 / 2180-2200)	12.15 / 15.95 / 16.25	12	566	17,079.80	5.00
Sector B Composite MPE%							5.00
Antenna C1	Commscope FFVV-65B-R3	n71 (600 MHz) / n70 (AWS-4 / 1995-2020) / n66 (AWS-4 / 2180-2200)	12.15 / 15.95 / 16.25	12	566	17,079.80	5.00
Sector C Composite MPE%							5.00

Table 3: Dish Emissions Levels



The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum **Dish** MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each **Dish** Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
Dish – Max Per Sector Value	5.00 %
Verizon Wireless	3.32 %
AT&T	1.60 %
MetroPCS	0.29 %
Sprint	2.84 %
T-Mobile	2.86 %
Nextel	0.21 %
Site Total MPE %:	16.12 %

Table 4: All Carrier MPE Contributions

Dish Sector A Total:	5.00 %
Dish Sector B Total:	5.00 %
Dish Sector C Total:	5.00 %
<hr/>	
Site Total:	16.12 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated **Dish** sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

Dish _ Frequency Band / Technology Max Power Values (Per Sector)	# 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 n71 (600 MHz) 5G	4	1,008.96	135	8.72	n71 (600 MHz)	400	2.18%
Dish n70 (AWS-4 / 1995-2020) 5G	4	1,574.20	135	13.60	n70 (AWS-4 / 1995-2020)	1000	1.36%
Dish n66 (AWS-4 / 2180-2200) 5G	4	1,686.79	135	14.58	n66 (AWS-4 / 2180-2200)	1000	1.46%
						Total:	5.00%

Table 6: Dish Maximum Sector MPE Power Values



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 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 Sector	Power Density Value (%)
Sector A:	5.00 %
Sector B:	5.00 %
Sector C:	5.00 %
Dish Maximum Total (per sector):	5.00 %
Site Total:	16.12 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **16.12 %** 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.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Holden, MA 01520
(978)660-3998

Exhibit G

Letter of Authorization

SBA 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

SBA COMMUNICATIONS CORPORATION hereby authorizes DISH Wireless LLC, including their Agent, to act as our Agent in the processing of all zoning applications, building permits and approvals through the CONNECTICUT SITING COUNCIL for existing wireless communications towers.

Kri Pelletier

Site Development Manager

SBA COMMUNICATIONS CORPORATION

134 Flanders Road, Suite 125

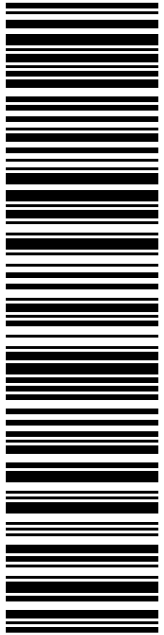
Westboro, MA 01581

SBA

By: _____ Date: _____

Exhibit H

Recipient Mailings



USPS TRACKING #

9405 5036 9930 0246 6262 47

Electronic Rate Approved #038555749

SHIP TO: SBA COMMUNICATIONS CORPORATION
13 FLANDERS RD
STE 125
WESTBOROUGH MA 01581

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

P

USPS.com 9405 5036 9930 0246 6262 47 0089 5000 0010 1581
US POSTAGE
Flat Rate Env


05/11/2022 Mailed from 01566

U.S. POSTAGE PAID
click-n-ship®

PRIORITY MAIL 1-DAY™

Expected Delivery Date: 05/12/22
Ref#: SBDS-00041
0006

R005



UNITED STATES POSTAL SERVICE®

Click-N-Ship®



Cut on dotted line.

Instructions

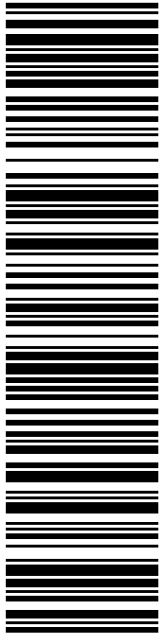
1. Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
2. Place your label so it does not wrap around the edge of the package.
3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO 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 0246 6262 47	
Trans. #: 563306539	Priority Mail® Postage: \$8.95
Print Date: 05/11/2022	Total: \$8.95
Ship Date: 05/11/2022	
Expected Delivery Date: 05/12/2022	
From: DEBORAH CHASE Ref#: SBDS-00041	
NORTHEAST SITE SOLUTIONS	
420 MAIN ST	
STE 1	
STURBRIDGE MA 01566-1359	
To: SBA COMMUNICATIONS CORPORATION	
13 FLANDERS RD	
STE 125	
WESTBOROUGH MA 01581	
* 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



USPS TRACKING #

9405 5036 9930 0246 6262 61

Electronic Rate Approved #038555749

SHIP

TO: MARY ANN CHINATTI
TOWN PLANNER- PLAINFIELD
8 COMMUNITY AVE
PLAINFIELD CT 06374-1238

Expected Delivery Date: 05/14/22

Ref#: SBDS-00041
0006

C001

P

05/11/2022

USPS TRACKING #

9405 5036 9930 0246 6262 61

US POSTAGE

Flat Rate Env

U.S. POSTAGE PAID

click-n-ship®

Click-N-Ship®

Mailed from 01566

USPS TRACKING # :

9405 5036 9930 0246 6262 61

Trans. #: 563306539

Print Date: 05/11/2022

Ship Date: 05/11/2022

Expected Delivery Date: 05/14/2022

Priority Mail® Postage: **\$8.95**

Total: **\$8.95**

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

Ref#: SBDS-00041

To: MARY ANN CHINATTI
TOWN PLANNER- PLAINFIELD
8 COMMUNITY AVE
PLAINFIELD CT 06374-1238



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 0246 6262 61

Trans. #: 563306539	Priority Mail® Postage: \$8.95
Print Date: 05/11/2022	Total: \$8.95
Ship Date: 05/11/2022	
Expected Delivery Date: 05/14/2022	

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

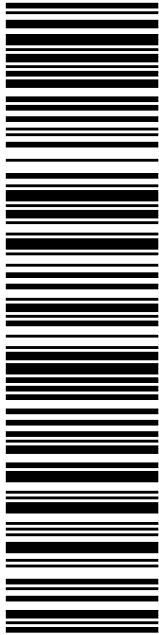
Ref#: SBDS-00041

To: MARY ANN CHINATTI
TOWN PLANNER- PLAINFIELD
8 COMMUNITY AVE
PLAINFIELD CT 06374-1238

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Electronic Rate Approved #038555749

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TO: KEVIN M CUNNINGHAM
FIRST SELECTMAN
8 COMMUNITY AVE
PLAINFIELD CT 06374-1238

Expected Delivery Date: 05/14/22

Ref#: SBDS-00041

0006

C001

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

Expected Delivery Date: 05/14/22

Ref#: SBDS-00041

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Flat Rate Env

\$8.95

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05/11/2022

PRIORITY MAIL 2-DAY™

UNITED STATES POSTAL SERVICE®

Click-N-Ship®



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Instructions

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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.

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Trans. #: 563306539	Priority Mail® Postage: \$8.95
Print Date: 05/11/2022	Total: \$8.95
Ship Date: 05/11/2022	
Expected Delivery Date: 05/14/2022	

From: DEBORAH CHASE Ref#: SBDS-00041
 NORTHEAST SITE SOLUTIONS
 420 MAIN ST
 STE 1
 STURBRIDGE MA 01566-1359


To: KEVIN M CUNNINGHAM
 FIRST SELECTMAN
 8 COMMUNITY AVE
 PLAINFIELD CT 06374-1238

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 U.S. POSTAGE PAID
 Click-N-Ship®

05/11/2022 Mailed from 01566


PRIORITY MAIL 2-DAY™

Expected Delivery Date: 05/14/22
 Ref#: SBDS-00041
0006

B012

SHIP TO:
 TILCON, INC.
 PO BOX 311228
 NEWINGTON CT 06131-1228

USPS TRACKING #



9405 5036 9930 0246 6262 92

Electronic Rate Approved #038555749



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Instructions

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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 0246 6262 92

Trans. #: 563306539	Priority Mail® Postage: \$8.95
Print Date: 05/11/2022	Total: \$8.95
Ship Date: 05/11/2022	
Expected Delivery Date: 05/14/2022	

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

Ref#: SBDS-00041

To: TILCON, INC.
 PO BOX 311228
 NEWINGTON CT 06131-1228

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BORGES00041 A SBA
DISK



UNIONVILLE
24 MILL ST
UNIONVILLE, CT 06085-9998
(800)275-8777

05/12/2022 11:41 AM

Product	Qty	Unit Price	Price
Prepaid Mail	1		\$0.00
Westborough, MA 01581			
Weight: 0 lb 2.00 oz			
Acceptance Date:			
Thu 05/12/2022			
Tracking #:			
9405 5036 9930 0246 6262 47			
Prepaid Mail	1		\$0.00
Plainfield, CT 06374			
Weight: 0 lb 9.70 oz			
Acceptance Date:			
Thu 05/12/2022			
Tracking #:			
9405 5036 9930 0246 6262 61			
Prepaid Mail	1		\$0.00
Plainfield, CT 06374			
Weight: 0 lb 9.70 oz			
Acceptance Date:			
Thu 05/12/2022			
Tracking #:			
9405 5036 9930 0246 6262 85			
Prepaid Mail	1		\$0.00
Newington, CT 06131			
Weight: 0 lb 9.70 oz			
Acceptance Date:			
Thu 05/12/2022			
Tracking #:			
9405 5036 9930 0246 6262 92			

Grand Total: \$0.00

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