October 22, 2019

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

Re:	**Notice of Exempt Modification – Antenna and RRU Add**
Property Address:	**165 Huntington Road, Scotland, CT 06264**
Applicant:	**AT&T Mobility, LLC**

Dear Ms. Bachman:

On behalf of AT&T, please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16- 50j-72(b) (2).

AT&T currently maintains a wireless telecommunications facility consisting of nine (9) wireless telecommunication antennas at an antenna center line height of 238-feet on an existing 240-foot monopole, owned by SBA at 8051 Congress Ave, Boca Raton, FL 33487. AT&T now intends to remove three (3) 4' Kathrein 7770 Panel Antennas, each currently installed in position [3] and three (3) 8' KMW AM-X-CD-17-65-00T-RET Panel Antennas, each currently installed in position [4]. Swap these for six (6) 8' CCI DMP65r-BU8DA Panel Antennas, each to be installed in position [3 + 4], all sectors. In addition, AT&T intends to remove one (1) RRUS-11, and add one (1) RRUS-4478 B14, one (1) RRUS-8843 B2/B66A and one (1) RRUS-4449 B5/B12 in position [3 + 4], all sectors, for a total of nine (9) new RRUs. AT&T is also proposing to add (2) Raycap Squid, as well as one (1) fiber line and (4) DC Power Cables to their equipment configuration. All of the changes will take place on a new antenna mount.

Attached is a summary of the planned modifications including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-5l0j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to John Berard – Building Official, Scotland, CT at 9 Devotion Rd. PO Box 122 Scotland, CT 06264 and Daniel D Syme – First Selectman, Town of Scotland, CT at 9 Devotion Rd. PO Box 122 Scotland, CT 06264. A copy of this letter is being sent to the property owner, Pauline M & Guy T Passarello at P.O. Box 153, Scotland, CT 06264 and to the tower company, SBA at 8051 Congress Ave, Boca Raton, FL 33487.

The following is a list of subsequent decisions by the Connecticut Siting Council:

- **EM-CING-123-081205**- New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 165 Huntington Road, Scotland, Connecticut.
- **EM-AT&T-123-120905** – AT&T Mobility notice of intent to modify an existing telecommunications facility located at 165 Huntington Road, Scotland, Connecticut.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b) (2).

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's replacement antennas will be installed at the 105-foot level of the 147-foot self-support tower.
2. The proposed modifications will not involve any changes to ground-mounted equipment and, therefore, will not require and extension of the site boundary.

3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in Tab 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The tower and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Tab 3).

For the foregoing reasons, AT&T respectfully submits that the proposed modifications to the above referenced telecommunications facility constitutes an exempt modification under R.C.S.A. §16-50j-72(b) (2).

Sincerely,

Kristina Cottone

CC w/enclosures:
John Berard – Building Official, Town of Scotland, CT
Daniel D Syme, First Selectman, Town of Scotland, CT
Pauline M & Guy T Passarello – Property Owners
SBA – Tower Company

165 HUNTINGTON RD

Location	165 HUNTINGTON RD	**Mblu**	21/ 19/ 5/ /
Acct#	00070900	**Owner**	PASSARELLO PAULINE M & GUY T
Assessment	$492,800	**Appraisal**	$703,800
PID	1887	**Legal Description**	

Current Value

Appraisal					
Valuation Year	**Building**	**Extra Features**	**Outbuildings**	**Land**	**Total**
2018	$282,900	$0	$198,700	$222,200	$703,800
Assessment					
Valuation Year	**Building**	**Extra Features**	**Outbuildings**	**Land**	**Total**
2018	$198,100	$0	$139,100	$155,600	$492,800

Parcel Addreses

Additional Addresses
No Additional Addresses available for this parcel

Owner of Record

Owner	PASSARELLO PAULINE M & GUY T	**Sale Price**	$0
Co-Owner		**Book**	51
Care Of		**Page**	604
Address	PO BOX 153 SCOTLAND, CT 06264	**Sale Date**	01/02/2003

Ownership History

Ownership History				
Owner	**Sale Price**	**Sale Date**	**Book**	**Page**
PASSARELLO PAULINE M & GUY T	$0	01/02/2003	51	604

Building Information

Building 1 : Section 1

Year Built: 1953

Building Photo

Living Area: 3,052
Replacement Cost: $342,413
Building Percent Good: 72
Replacement Cost Less Depreciation: $246,500

Building Attributes	
Field	**Description**
Style	Ranch
Model	Residential
Grade:	B-
Stories:	1
Occupancy	1
Exterior Wall 1	Brick
Exterior Wall 2	Vinyl Siding
Roof Structure:	Gable
Roof Cover	Asphalt
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Hardwood
Interior Flr 2	Ceram Clay Til
Heat Fuel	Oil
Heat Type:	Forced Air
AC Type:	Central
Total Bedrooms:	3 Bedrooms
Total Bthrms:	3
Total Half Baths:	1
Total Xtra Fixtrs:	2
Total Rooms:	7
Bath Style:	
Kitchen Style:	
Solar	
FPL Stack	
FPL Openings	
Bsmt Garage	2 Car
Woodstove	
Generator	
Mini Split(s)	
Extra Kitchens	

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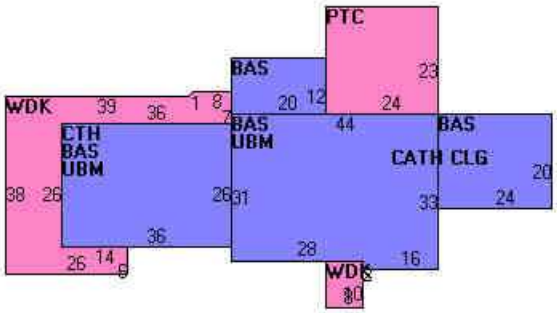
Building Layout



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Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	3,052	3,052
CTH	Cathedral Ceiling	936	0
PTC	Patio, Concrete	552	0
UBM	Basement, Unfinished	2,332	0
WDK	Deck, Wood	844	0
		7,716	3,052

Building 2 : Section 1

Year Built: 1951
Living Area: 1,410

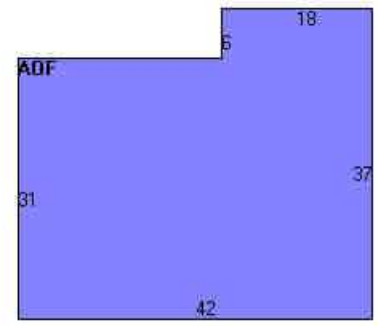
Replacement Cost: $72,773
Building Percent Good: 50
Replacement Cost Less Depreciation: $36,400

Building Attributes : Bldg 2 of 2	
Field	**Description**
STYLE	Office/Warehs
MODEL	Commercial
Grade	D+
Stories:	1
Occupancy	1
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Metal
Interior Wall 1	Drywall
Interior Wall 2	
Interior Floor 1	Average
Interior Floor 2	
Heating Fuel	Electric
Heating Type	None
AC Type	None
Bldg Use	COMM BLDG
1st Floor Use:	
Heat/AC	NONE
Frame Type	STEEL
Baths/Plumbing	LIGHT
Ceiling/Walls	SUS-CEIL & WL
Rooms/Prtns	AVERAGE
Wall Height	8
% Comn Wall	0

Building Photo

(http://images.vgsi.com/photos/ScotlandCTPhotos//\00\00\16/0

Building Layout



(http://images.vgsi.com/photos/ScotlandCTPhotos//Sketches/18

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
AOF	Office	1,410	1,410
		1,410	1,410

Extra Features

Extra Features	Legend
No Data for Extra Features	

Parcel Information

Use Code 1010
Description Single Fam
Deeded Acres 21.51

Land

Land Use

Use Code	1010
Description	Single Fam
Zone	RA
Category	

Land Line Valuation

Size (Acres)	21.51
Assessed Value	$155,600
Appraised Value	$222,200

Outbuildings

Outbuildings							Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Assessed Value**	**Bldg #**
TOW	CELL TOWER			240 HEIGHT	$198,000	$138,600	1
SHD1	SHED			182 S.F.	$700	$500	1

Valuation History

Appraisal					
Valuation Year	**Building**	**Extra Features**	**Outbuildings**	**Land**	**Total**
2018	$282,900	$0	$198,700	$222,200	$703,800
2017	$272,800	$0	$298,960	$265,530	$837,290

Assessment					
Valuation Year	**Building**	**Extra Features**	**Outbuildings**	**Land**	**Total**
2018	$198,100	$0	$139,100	$155,600	$492,800
2017	$190,960	$0	$209,270	$185,870	$586,100

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SBA Communications Corporation
8051 Congress Avenue
Boca Raton, FL 33487-1307

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sbasite.com

Structural Analysis Report

Client: AT&T

Client Site ID / Name: CTL01242 / Scotland
AppID : 122605, v2

SBA Site Name: Scotland
SBA Site ID: CT00990-S

240' Self Supporting Tower

165 Huntington Road
Scotland, CT 06264-2202
Lat: 41°41'45.28", Long: -72°5'49.45"

Project number: CT00990-ATT-092419

Analysis Results

Tower	65.7%	Pass
Foundation	54.8%	Pass

Client Mount modification / replacement

Net change in tower due to mount Modification/ replacement	1.8%

Prepared by:

Juan M. Valega
Structural Engineer I
561-226-9337
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Reviewed by:

Nitesh Ahuja ,P.E.
Director of Engineering
561-226-9452
nahuja@sbasite.com

September 24, 2019

Prepared in compliance with:

- *ANSI/TIA-222-G Structural Standard for Antennas and Antenna Supporting Structures*
- *2015 International Building Code (IBC), 2018 CSBC*

Table of Contents

Executive Summary

The enclosed structural analysis was performed for *AT&T* to verify the structural capacity of the 240' Self Supporting Tower located at 165 Huntington Road, Scotland, CT 06264-2202 to support the proposed antenna, transmission lines and mounting equipment in addition to those currently installed. The following documents were used to determine the geotechnical characteristics, foundation data, tower geometry and member sizes/type:

Table 1 List of Documents Used

Item	Document
Tower design/drawings	Pirod , Job #: A-115649 , Dated: 5/5/1999
Foundation drawings	Pirod , Job #: A-115649 , Dated: 5/5/1999
Geotechnical report	JGI Geotech, Inc. , Project # 99222G , Dated: 4/28/1999
Latest SA	SBAE, Project # CT00990-ATT-090419, Dated: 9/13/2019

The analysis was performed in accordance with the following requirements:

Table 2 Code Related Data

Jurisdiction (State/County/City)	Connecticut / Windham / Scotland
Governing Codes	ANSI/TIA-222-G , 2015 IBC, 2018 CSBC
Basic Wind Speed	101 mph (Ultimate Wind Speed: 130 mph 3-sec gust)
Wind Speed with Ice	50 mph
Ice Thickness	1 in
Structural Class	II
Exposure Category	C
Topographic Category	1
Crest Height	0 ft

"This structural analysis is based upon the tower being classified as a 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."

The SBA Communications Corporation verifies that the 240' Self Supporting Tower located at 165 Huntington Road, Scotland, CT 06264-2202 is ***sufficient*** to support the proposed loadings for AT&T in addition to those currently existing based on standards set forth in governing building codes and dependent on AT&T satisfying all Installation Requirements provided herein. The analysis performed assumes the site information provided is accurate and the tower/foundation has been properly designed, manufactured, installed and maintained. Additional details regarding the assumptions and limitations are provided within the Assumptions and Limitations section of this report.

Assumptions

This analysis was completed based on the following assumptions:

- Tower has been properly maintained
- Tower erection was in accordance to manufacturer drawings
- Leg flanges have been properly designed by manufacturer to not be a limiting reaction
- Welds have been properly designed and installed by manufacturer to not be a limiting reaction
- Foundation was constructed in accordance to manufacturer drawings
- Foundation does not have structural damage
- Bolts have been properly tightened according to manufacturer specifications
- Appurtenance, mount and transmission line sizes and weights are best estimates using the tnxTower database and manufacturer information

Limitations

The computer generated analysis performed by the tnxTower software is limited to theoretical capacities of the towers structural members and does not account for any missing or damaged members or connections. The tower and foundation are assumed to have been properly designed, fabricated, installed and maintained, barring any conflicting findings from the most recent inspection. All leg flanges, welds and bolts are assumed to be designed by the manufacturer in such a way that these are not limiting reactions.
SBA Communications Corporation has used its due diligence to verify the information provided to perform this analysis. It is unreasonable to perform a more detailed inspection of a tower and its components. This report is not a condition assessment of the tower or foundation.

Installation Requirements

This analysis was performed under the assumption that AT&T will place the proposed equipment and feed lines at a height of 238’ and in accordance with the coax layout shown. RRUs are to be installed on existing mounts behind tenant’s antennas unless otherwise noted. No equipment is to be installed directly in the climbing path. All equipment is to be installed per mount manufacturer specifications. In case site conditions do not allow for the required installation parameters to be met AT&T must notify SBA Communications Corporation engineers for approval of an alternative placement.

Appurtenance Loading

Existing Loading:

The existing antenna and feed line information was obtained from the Site Summary and/or previous Structural Analysis. SBA Communications Corporation uses due diligence to ensure reasonably accurate information has been recorded. The existing loadings are shown in Table 3.

Table 3 Existing Appurtenances

Mount Elev. (ft)	CL Elev. (ft)	Carrier	Type	Qty	Manufacturer	Model	Qty	Feed Line Size	Mount Type Qty
238	238	AT&T	Panel	6	Powerwave	7770	12 2 1	1-5/8" 3/4" DC 1/2" Fiber	(1) Low Profile Platform
			Panel	3	KMW	AM-X-CD-17-65-00T-RET			
			TMA	6	Powerwave	LGP21401			
			Diplexer	6	Powerwave	LGP21903			
			RRU	6	Ericsson	RRUS 11			
			Combiner	3	CSS	Dual Band Combiner			
			Other	1	Raycap	DC6-48-60-18-8F			
228	228	Verizon	Panel	6	Antel	LPA-80080/6CF	18	1-5/8"	(3) T-Frames
			Panel	3	Antel	BXA-171085-12BF			
			Panel	3	Antel	BXA-70063/6CF			

Proposed Loading:

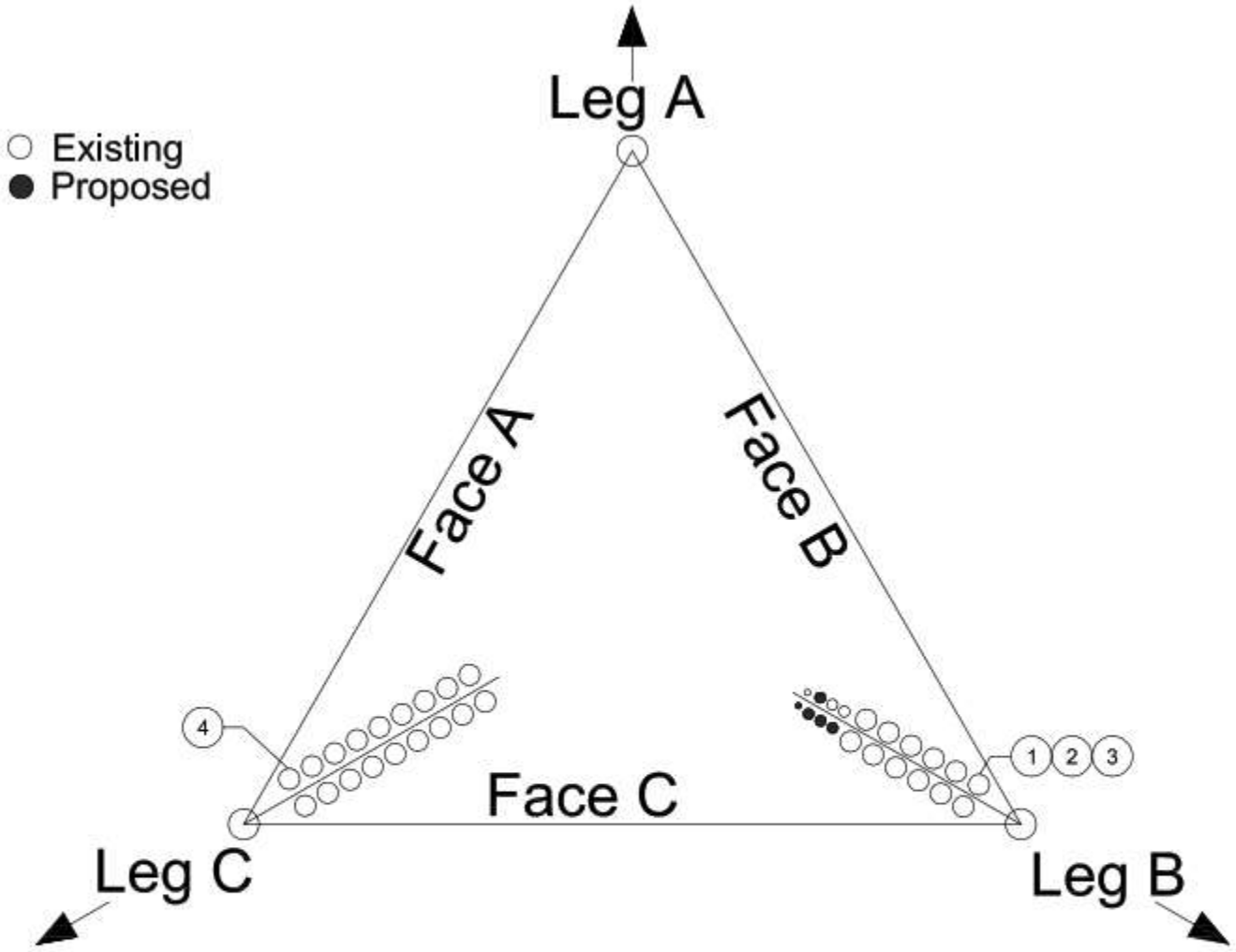
Information pertaining to proposed antennas and transmission lines were based upon the APP ID 122605, v2 from AT&T and is listed in Table 4.

Table 4 Proposed Appurtenances

Mount Elev. (ft)	CL Elev. (ft)	Carrier	Type	Qty	Manufacturer	Model	Qty	Feed Line Size	Mount Type Qty
238	238	AT&T	Panel	3	Powerwave	7770	12 6 2	1-5/8" 3/4" DC 1/2" Fiber	(3) V-Frames [SitePro VFA10-HD3L5NP]
			Panel	6	CCI	DMP65R-BU8DA			
			TMA	6	Powerwave	LGP21401			
			RRU	3	Ericsson	RRUS 4478 B14			
			RRU	3	Ericsson	RRUS 8843 B2 B66A			
			RRU	3	Ericsson	RRUS 4449 B5/B12			
			Other	3	Raycap	DC6-48-60-18-8F			

Note: AT&T loading includes FirstNET equipment

Coax Layout



CT00990-S					
#	CARRIER	SIZE	QTY.	ELEVATION	NOTES
1	AT&T	1-5/8"	12	238'	
2	AT&T	3/4"	6	238'	(4) Proposed DC Power
3	AT&T	3/4"	2	238'	(1) Proposed Fiber
4	Verizon	1-5/8"	18	228'	

Results

Tower

The results of the structural analysis performed with the tnxTower software are shown below. Table 5 shows the most critical member elements and the percentage of the force in the member with respect to the member capacity. Capacities of up to 105% are considered acceptable. The foundation reactions obtained from tnxTower are shown in Table 6 and Table 7. These reactions are used for the analysis of the foundation systems. Additional information for the tower analysis is provided within the Appendix.

Table 5 Tower Analysis Summary

Structural Component	% capacity	Analysis Result
Leg	62.3	Pass
Diagonal	65.7	Pass
Top girt	19.9	Pass
Anchor Bolt	25.1	Pass
Bolt	64.9	Pass
Tower	65.7	Pass

Table 6 Tower Base Reactions

Axial (kips)	89
Shear (kips)	71
Moment (kip-ft)	9275

Table 7 Tower leg Reactions

Uplift (kips)	378
Compression (kips)	441
Shear (kips)	48

Foundation System

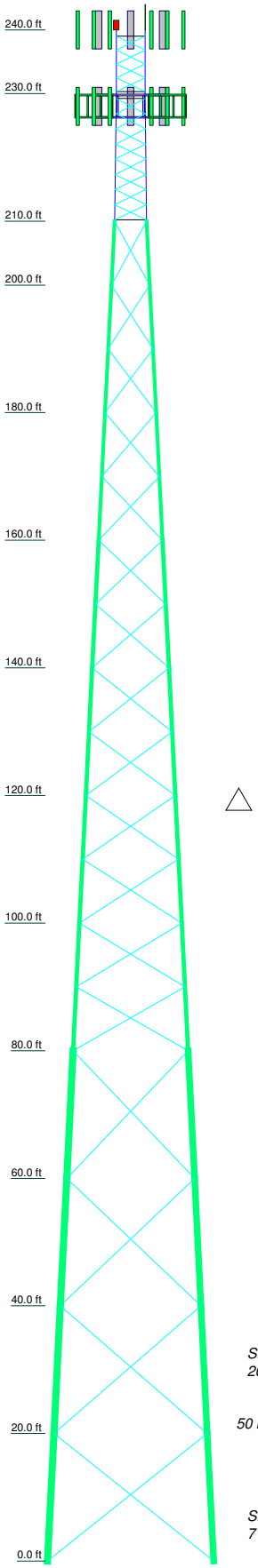
The results of the foundation based on the geotechnical report and foundation mapping or design drawings are shown below in Table 8. Additional information for the foundation analysis is provided within the Appendix.

Table 8 Foundation Analysis Summary

Structural Component	% capacity	Analysis Result
Foundation	54.8	Pass

Appendix

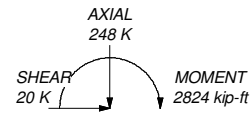
Section	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	G	F	#18 - 2.50" (Pirod 112743)		#12 - 2.25" - 1.25" conn. (Pirod 105220)		E	D	C	B	A	SR 2	SR 1 3/4
Leg Grade						A572-50							
Diagonals			2L3 1/2x3 1/2x5/16x3/8			L3 1/2x3 1/2x5/16		L3x3x5/16		L3x3x3/16		SR 1	SR 3/4
Diagonal Grade						A36				A572-50			
Top Girts						N.A.				SR 1			
Bottom Girts						N.A.				SR 1			
Face Width (ft)	26	24	22	20	18	16	14	12	10	8	6	5	4.5
# Panels @ (ft)			4 @ 20				13 @ 10					8 @ 2.375	5 @ 2.16667
Weight (K)	59.7	8.8	7.8	8.6	7.7	5.2	5.0	4.2	3.8	2.9	2.5	1.1	1.5	0.5



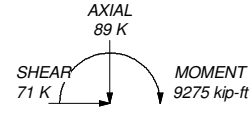
ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 441 K
SHEAR: 48 K

UPLIFT: -378 K
SHEAR: 41 K



TORQUE 21 kip-ft
50 mph WIND - 1.0000 in ICE



TORQUE 74 kip-ft
REACTIONS - 101 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Flash Beacon Lighting	240	8843 B2 B66A (14.9"x13.2"x10.9")	238
Lightning Rod	240	4449 B5/B12 (14.96"x13.19"x10.43")	238
(1) Site Pro VFA10-HD3L5NP	238	4449 B5/B12 (14.96"x13.19"x10.43")	238
(1) Site Pro VFA10-HD3L5NP	238	4449 B5/B12 (14.96"x13.19"x10.43")	238
(1) Site Pro VFA10-HD3L5NP	238	DC6-48-60-18-8F (24"x11"x11")	238
2" sch 40 x 96" pipe	238	DC6-48-60-18-8F (24"x11"x11")	238
2" sch 40 x 96" pipe	238	DC6-48-60-18-8F (24"x11"x11")	238
2" sch 40 x 96" pipe	238	(1) T-Frame	228
7770 (55"x11"x5") w/mount pipe	238	(1) T-Frame	228
7770 (55"x11"x5") w/mount pipe	238	(1) T-Frame	228
7770 (55"x11"x5") w/mount pipe	238	(2) LPA-80080/6CF (70.9"x5.5"x13.2") w/mount pipe	228
(2) DMP65R-BU8DA (96"x20.7"x7.7") w/mount pipe	238	(2) LPA-80080/6CF (70.9"x5.5"x13.2") w/mount pipe	228
(2) DMP65R-BU8DA (96"x20.7"x7.7") w/mount pipe	238	(2) LPA-80080/6CF (70.9"x5.5"x13.2") w/mount pipe	228
(2) DMP65R-BU8DA (96"x20.7"x7.7") w/mount pipe	238	BXA-171085-12BF (71.7"x11.2"5.2") w/mount pipe	228
(2) LGP21401 (14"x9"x2.7")	238	BXA-171085-12BF (71.7"x11.2"5.2") w/mount pipe	228
(2) LGP21401 (14"x9"x2.7")	238	BXA-171085-12BF (71.7"x11.2"5.2") w/mount pipe	228
(2) LGP21401 (14"x9"x2.7")	238	BXA-70063/6CF (71"x11.3"x6") w/mount pipe	228
4478 B14 (18.1"x13.4"x8.26")	238	BXA-70063/6CF (71"x11.3"x6") w/mount pipe	228
4478 B14 (18.1"x13.4"x8.26")	238	BXA-70063/6CF (71"x11.3"x6") w/mount pipe	228
4478 B14 (18.1"x13.4"x8.26")	238		
8843 B2 B66A (14.9"x13.2"x10.9")	238		
8843 B2 B66A (14.9"x13.2"x10.9")	238		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	#12 - 1.25" - 1.00" conn. (Pirod 105244)	E	#12 - 2.00" - 1.25" conn. (Pirod 105219)
B	#12 - 1.50" - 1.00" conn. (Pirod 105217)	F	#18 - 2.75" (Pirod 112744)
C	#12 - 1.75" - 1.00" conn. (Pirod 105218)	G	#18 - 2.75" (Pirod 112739) BASE ONLY
D	#12 - 2.00" - 1.25" conn. (Pirod 105219)		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

TOWER DESIGN NOTES

1. Tower is located in Windham County, Connecticut.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 101 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 65.7%

SBA Communications Corporation
8051 Congress Avenue
Boca Raton, FL 33487-1307
Phone: (555) 226-9337
FAX: (561) 226-0892

Job:	***CT00990-S, Scotland***		
Project:	***CT00990-ATT-092419***		
Client:	AT&T (App. # 122605, v2)	Drawn by: Juan M. Valega	App'd:
Code:	TIA-222-G	Date: 09/24/19	Scale: NTS
Path:	J:\Engineering\Structural Analysis\CT-CT00990-S\ASDrev122605_v2\Tower Calcs\CT00990-S_Scotland_8-4-2019.eri		Dwg No. E-1

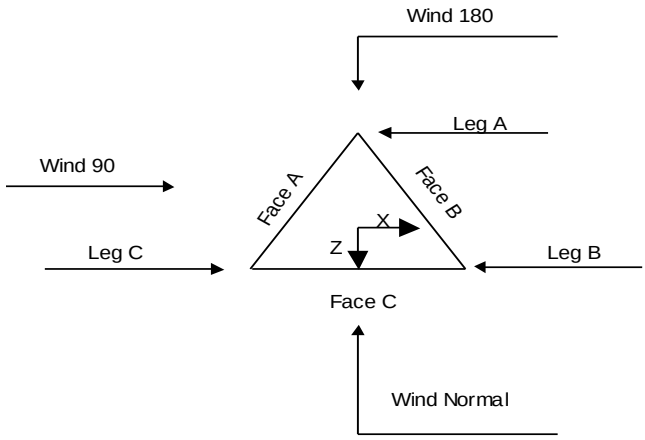
Tower Input Data

The main tower is a 3x free standing tower with an overall height of 240.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 4.50 ft at the top and 26.00 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Windham County, Connecticut.
ASCE 7-10 Wind Data is used (wind speeds converted to nominal values).
Basic wind speed of 101 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 1.0000 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	240.00-230.00		#54 1.75"Lx0.750"D (111574)	4.50	1	10.00
T2	230.00-210.00		#60/54 2.00"Lx1.000"DTrans(114529)	4.50	1	20.00
T3	210.00-200.00		U- 6,12Z,1.00"D x 10'	5.00	1	10.00
T4	200.00-180.00		U- 8,12Z,1.00"D x 20'	6.00	1	20.00
T5	180.00-160.00		U-10,12Z,1.00"D x 20'	8.00	1	20.00
T6	160.00-140.00		U-12,12Z,1.25"D x 20'	10.00	1	20.00
T7	140.00-120.00		U-14,12Z,1.25"D x 20'	12.00	1	20.00
T8	120.00-100.00		U-16,12Z,1.25"D x 20'	14.00	1	20.00
T9	100.00-80.00		U-18,12Z,1.25"D x 20'	16.00	1	20.00
T10	80.00-60.00		U-20,18K,1.25"L,1.00"D x 20'	18.00	1	20.00
T11	60.00-40.00		U-22,18K,1.25"L,1.00"D x 20'	20.00	1	20.00
T12	40.00-20.00		U-24,18K,1.25"L,1.00"D x 20'	22.00	1	20.00
T13	20.00-0.00		U-26,18K,1.25"L,1.00"D x 20'	24.00	1	20.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	240.00-230.00	2.17	X Brace	No	No	12.0000	4.0000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T2	230.00-210.00	2.38	X Brace	No	No	9.5000	2.5000
T3	210.00-200.00	10.00	X Brace	No	No	0.0000	0.0000
T4	200.00-180.00	10.00	X Brace	No	No	0.0000	0.0000
T5	180.00-160.00	10.00	X Brace	No	No	0.0000	0.0000
T6	160.00-140.00	10.00	X Brace	No	No	0.0000	0.0000
T7	140.00-120.00	10.00	X Brace	No	No	0.0000	0.0000
T8	120.00-100.00	10.00	X Brace	No	No	0.0000	0.0000
T9	100.00-80.00	10.00	X Brace	No	No	0.0000	0.0000
T10	80.00-60.00	20.00	X Brace	No	No	0.0000	0.0000
T11	60.00-40.00	20.00	X Brace	No	No	0.0000	0.0000
T12	40.00-20.00	20.00	X Brace	No	No	0.0000	0.0000
T13	20.00-0.00	20.00	X Brace	No	No	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 240.00-230.00	Solid Round	1 3/4	A572-50 (50 ksi)	Solid Round	3/4	A572-50 (50 ksi)
T2 230.00-210.00	Solid Round	2	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T3 210.00-200.00	Truss Leg	#12 - 1.25" - 1.00" conn. (Pirod 105244)	A572-50 (50 ksi)	Equal Angle	L3x3x3/16	A36 (36 ksi)
T4 200.00-180.00	Truss Leg	#12 - 1.50" - 1.00" conn. (Pirod 105217)	A572-50 (50 ksi)	Equal Angle	L3x3x3/16	A36 (36 ksi)
T5 180.00-160.00	Truss Leg	#12 - 1.75" - 1.00" conn. (Pirod 105218)	A572-50 (50 ksi)	Equal Angle	L3x3x3/16	A36 (36 ksi)
T6 160.00-140.00	Truss Leg	#12 - 2.00" - 1.25" conn. (Pirod 105219)	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T7 140.00-120.00	Truss Leg	#12 - 2.00" - 1.25" conn. (Pirod 105219)	A572-50 (50 ksi)	Equal Angle	L3x3x5/16	A36 (36 ksi)
T8 120.00-100.00	Truss Leg	#12 - 2.25" - 1.25" conn. (Pirod 105220)	A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x5/16	A36 (36 ksi)
T9 100.00-80.00	Truss Leg	#12 - 2.25" - 1.25" conn. (Pirod 105220)	A572-50 (50 ksi)	Equal Angle	L3 1/2x3 1/2x5/16	A36 (36 ksi)
T10 80.00-60.00	Truss Leg	#18 - 2.50" (Pirod 112743)	A572-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 1/2x5/16x3/8	A36 (36 ksi)
T11 60.00-40.00	Truss Leg	#18 - 2.50" (Pirod 112743)	A572-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 1/2x5/16x3/8	A36 (36 ksi)
T12 40.00-20.00	Truss Leg	#18 - 2.75" (Pirod 112744)	A572-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 1/2x5/16x3/8	A36 (36 ksi)
T13 20.00-0.00	Truss Leg	#18 - 2.75" (Pirod 112739) BASE ONLY	A572-50 (50 ksi)	Double Equal Angle	2L3 1/2x3 1/2x5/16x3/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 240.00-230.00	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T2 230.00-210.00	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
T1 240.00-230.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T2 230.00-210.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T3 210.00-200.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T4 200.00-180.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T5 180.00-160.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T6 160.00-140.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T7 140.00-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T8 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T9 100.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	36.0000	36.0000	36.0000
T10 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	Mid-Pt	36.0000	36.0000
T11 60.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	Mid-Pt	36.0000	36.0000
T12 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	Mid-Pt	36.0000	36.0000
T13 20.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1.05	Mid-Pt	36.0000	36.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1 240.00-230.00	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T2 230.00-210.00	Yes	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T3 210.00-200.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T4	Yes	No	1	1	1	1	1	1	1	1

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
200.00-180.00				1	1	1	1	1	1	1
T5	Yes	No	1	1	1	1	1	1	1	1
180.00-160.00				1	1	1	1	1	1	1
T6	Yes	No	1	1	1	1	1	1	1	1
160.00-140.00				1	1	1	1	1	1	1
T7	Yes	No	1	1	1	1	1	1	1	1
140.00-120.00				1	1	1	1	1	1	1
T8	Yes	No	1	1	1	1	1	1	1	1
120.00-100.00				1	1	1	1	1	1	1
T9	Yes	No	1	1	1	1	1	1	1	1
100.00-80.00				1	1	1	1	1	1	1
T10	Yes	No	1	1	1	1	1	1	1	1
80.00-60.00				1	1	1	1	1	1	1
T11	Yes	No	1	1	1	1	1	1	1	1
60.00-40.00				1	1	1	1	1	1	1
T12	Yes	No	1	1	1	1	1	1	1	1
40.00-20.00				1	1	1	1	1	1	1
T13	Yes	No	1	1	1	1	1	1	1	1
20.00-0.00				1	1	1	1	1	1	1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Truss-Leg K Factors: Truss-Legs Used As Leg Members — Leg Panels	X Brace Diagonals	Z Brace Diagonals	Truss-Legs Used As Inner Members — Leg Panels	X Brace Diagonals	Z Brace Diagonals
T3	1	0.5	0.85	1	0.5	0.7
210.00-200.00						
T4	1	0.5	0.85	1	0.5	0.7
200.00-180.00						
T5	1	0.5	0.85	1	0.7	0.7
180.00-160.00						
T6	1	0.5	0.85	1	0.5	0.7
160.00-140.00						
T7	1	0.5	0.85	1	0.7	0.7
140.00-120.00						
T8	1	0.5	0.85	1	0.5	0.7
120.00-100.00						
T9	1	0.5	0.85	1	0.5	0.7
100.00-80.00						
T10	1	0.5	1	1	0.5	1
80.00-60.00						
T11	1	0.5	1	1	0.5	1
60.00-40.00						
T12	1	0.5	1	1	0.5	1
40.00-20.00						
T13	1	0.5	1	1	0.5	1
20.00-0.00						

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 240.00-230.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T2 230.00-210.00	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1	0.0000	1
T3 210.00-200.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 200.00-180.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 180.00-160.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 160.00-140.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 140.00-120.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 120.00-100.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 100.00-80.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 80.00-60.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 60.00-40.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 40.00-20.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 20.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation	Connection Offsets							
	Diagonal				K-Bracing			
	Vert. Top	Horiz. Top	Vert. Bot.	Horiz. Bot.	Vert. Top	Horiz. Top	Vert. Bot.	Horiz. Bot.
ft	in	in	in	in	in	in	in	in
T1 240.00-230.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T2 230.00-210.00	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
T3 210.00-200.00	5.0000	10.7500	5.0000	10.7500	0.0000	0.0000	0.0000	0.0000
T4 200.00-180.00	5.0000	10.7500	5.0000	10.7500	0.0000	0.0000	0.0000	0.0000
T5 180.00-160.00	5.0000	10.7500	5.0000	10.7500	0.0000	0.0000	0.0000	0.0000
T6 160.00-140.00	5.0000	12.2500	5.0000	12.2500	0.0000	0.0000	0.0000	0.0000

Tower Elevation	Connection Offsets							
	Diagonal				K-Bracing			
	Vert. Top	Horiz. Top	Vert. Bot.	Horiz. Bot.	Vert. Top	Horiz. Top	Vert. Bot.	Horiz. Bot.
ft	in	in	in	in	in	in	in	in
T7 140.00-120.00	5.0000	12.2500	5.0000	12.2500	0.0000	0.0000	0.0000	0.0000
T8 120.00-100.00	5.0000	12.2500	5.0000	12.2500	0.0000	0.0000	0.0000	0.0000
T9 100.00-80.00	5.0000	12.2500	5.0000	12.2500	0.0000	0.0000	0.0000	0.0000
T10 80.00-60.00	6.5000	15.2500	6.5000	15.2500	0.0000	0.0000	0.0000	0.0000
T11 60.00-40.00	6.5000	15.2500	6.5000	15.2500	0.0000	0.0000	0.0000	0.0000
T12 40.00-20.00	6.5000	15.2500	6.5000	15.2500	0.0000	0.0000	0.0000	0.0000
T13 20.00-0.00	6.5000	15.2500	6.5000	15.2500	0.0000	0.0000	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1 240.00-230.00	Sleeve DS	0.6250 A325N	5	0.6250 A325N	0	0.6250 A325X	0	0.6250 A325X	0	0.6250 A325X	0	0.6250 A325X	0	0.6250 A325X	0
T2 230.00-210.00	Flange	1.0000 A325N	6	0.6250 A325N	0	0.6250 A325X	0	0.6250 A325X	0	0.6250 A325X	0	0.6250 A325X	0	0.6250 A325X	0
T3 210.00-200.00	Flange	1.0000 A325N	6	1.0000 A325N	1	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0
T4 200.00-180.00	Flange	1.0000 A325N	6	1.0000 A325N	1	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0
T5 180.00-160.00	Flange	1.0000 A325N	6	1.0000 A325N	1	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0
T6 160.00-140.00	Flange	1.2500 A325N	6	1.2500 A325N	1	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0
T7 140.00-120.00	Flange	1.2500 A325N	6	1.2500 A325N	1	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0
T8 120.00-100.00	Flange	1.2500 A325N	6	1.2500 A325N	1	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0
T9 100.00-80.00	Flange	1.2500 A325N	6	1.2500 A325N	1	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0
T10 80.00-60.00	Flange	1.2500 A325N	12	1.0000 A325N	2	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.2500 A325X	0
T11 60.00-40.00	Flange	1.2500 A325N	12	1.0000 A325N	2	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.2500 A325X	0
T12 40.00-20.00	Flange	1.2500 A325N	12	1.0000 A325N	2	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.2500 A325X	0
T13 20.00-0.00	Flange	1.2500 A325N	0	1.0000 A325N	2	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.0000 A325X	0	1.2500 A325X	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
**													
DC Power 3/4"	B	No	No	Ar (CaAa)	238.00 - 8.00	-11.0000	0.4	6	6	0.5000	0.4400		0.08
LDF7-50A (1-5/8 FOAM)	B	No	No	Ar (CaAa)	238.00 - 8.00	-10.0000	0.425	12	6	0.5000	1.9800		0.82
Fiber 1/2"	B	No	No	Ar (CaAa)	238.00 - 8.00	-11.0000	0.4	2	2	0.5000	1.0900		0.33
T-Bracket	B	No	No	Af (CaAa)	240.00 - 8.00	-9.0000	0.425	1	1	3.0000	3.0000		10.00
**													
T-Bracket	C	No	No	Af (CaAa)	240.00 - 8.00	-8.0000	0.425	1	1	3.0000	3.0000		10.00
LDF7-50A (1-5/8 FOAM)	C	No	No	Ar (CaAa)	228.00 - 8.00	-9.0000	0.425	18	9	0.5000	1.9800		0.82
**													

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	C_AA_A ft^2/ft	Weight plf
**								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	240.00-230.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	25.864	0.000	0.188
		C	0.000	0.000	3.000	0.000	0.100
T2	230.00-210.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	63.160	0.000	0.420
		C	0.000	0.000	70.152	0.000	0.466
T3	210.00-200.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	31.580	0.000	0.210
		C	0.000	0.000	38.640	0.000	0.248
T4	200.00-180.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	63.160	0.000	0.420
		C	0.000	0.000	77.280	0.000	0.495
T5	180.00-160.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	63.160	0.000	0.420
		C	0.000	0.000	77.280	0.000	0.495
T6	160.00-140.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	63.160	0.000	0.420
		C	0.000	0.000	77.280	0.000	0.495

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T7	140.00-120.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	63.160	0.000	0.420
		C	0.000	0.000	77.280	0.000	0.495
T8	120.00-100.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	63.160	0.000	0.420
		C	0.000	0.000	77.280	0.000	0.495
T9	100.00-80.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	63.160	0.000	0.420
		C	0.000	0.000	77.280	0.000	0.495
T10	80.00-60.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	63.160	0.000	0.420
		C	0.000	0.000	77.280	0.000	0.495
T11	60.00-40.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	63.160	0.000	0.420
		C	0.000	0.000	77.280	0.000	0.495
T12	40.00-20.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	63.160	0.000	0.420
		C	0.000	0.000	77.280	0.000	0.495
T13	20.00-0.00	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	37.896	0.000	0.252
		C	0.000	0.000	46.368	0.000	0.297

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
T1	240.00-230.00	A	2.434	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	50.200	0.000	0.998
		C		0.000	0.000	7.868	0.000	0.244
T2	230.00-210.00	A	2.418	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	121.174	0.000	2.358
		C		0.000	0.000	79.189	0.000	2.027
T3	210.00-200.00	A	2.401	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	60.379	0.000	1.171
		C		0.000	0.000	43.035	0.000	1.093
T4	200.00-180.00	A	2.383	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	120.314	0.000	2.324
		C		0.000	0.000	85.881	0.000	2.174
T5	180.00-160.00	A	2.356	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	119.670	0.000	2.299
		C		0.000	0.000	85.608	0.000	2.156
T6	160.00-140.00	A	2.327	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	118.954	0.000	2.272
		C		0.000	0.000	85.305	0.000	2.135
T7	140.00-120.00	A	2.294	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	118.146	0.000	2.241
		C		0.000	0.000	84.962	0.000	2.112
T8	120.00-100.00	A	2.256	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	117.218	0.000	2.205
		C		0.000	0.000	84.569	0.000	2.086
T9	100.00-80.00	A	2.211	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	116.124	0.000	2.164
		C		0.000	0.000	84.106	0.000	2.056
T10	80.00-60.00	A	2.156	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	114.786	0.000	2.114
		C		0.000	0.000	83.539	0.000	2.019
T11	60.00-40.00	A	2.085	0.000	0.000	0.000	0.000	0.000

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B		0.000	0.000	113.048	0.000	2.050
		C		0.000	0.000	82.802	0.000	1.971
T12	40.00-20.00	A	1.981	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	110.521	0.000	1.959
		C		0.000	0.000	81.731	0.000	1.902
T13	20.00-0.00	A	1.775	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	63.311	0.000	1.070
		C		0.000	0.000	47.766	0.000	1.062

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	240.00-230.00	4.4042	8.8995	1.8869	3.9818
T2	230.00-210.00	-6.4289	9.3146	-1.2880	5.1921
T3	210.00-200.00	-5.4842	7.0143	-1.1519	4.1437
T4	200.00-180.00	-6.3995	8.5203	-1.1228	5.0208
T5	180.00-160.00	-7.3795	10.1160	-1.3801	7.7798
T6	160.00-140.00	-8.0168	11.1112	-1.5256	10.1916
T7	140.00-120.00	-9.0297	12.7619	-1.6332	12.3507
T8	120.00-100.00	-9.2723	13.2081	-1.6477	13.5765
T9	100.00-80.00	-9.9186	14.2525	-1.7018	14.7356
T10	80.00-60.00	-10.4755	14.7719	-1.8209	15.8696
T11	60.00-40.00	-11.2221	15.9198	-2.0001	17.0056
T12	40.00-20.00	-11.8004	16.7893	-2.2869	17.9487
T13	20.00-0.00	-8.4230	11.6860	-1.9649	12.3074

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	3	DC Power 3/4"	230.00 - 238.00	0.6000	0.3391
T1	4	LDF7-50A (1-5/8 FOAM)	230.00 - 238.00	0.6000	0.3391
T1	5	Fiber 1/2"	230.00 - 238.00	0.6000	0.3391
T1	6	T-Bracket	230.00 - 240.00	0.6000	0.3391
T1	8	T-Bracket	230.00 - 240.00	0.6000	0.3391
T2	3	DC Power 3/4"	210.00 - 230.00	0.6000	0.3686
T2	4	LDF7-50A (1-5/8 FOAM)	210.00 - 230.00	0.6000	0.3686
T2	5	Fiber 1/2"	210.00 - 230.00	0.6000	0.3686
T2	6	T-Bracket	210.00 - 230.00	0.6000	0.3686
T2	8	T-Bracket	210.00 -	0.6000	0.3686

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			230.00		
T2	9	LDF7-50A (1-5/8 FOAM)	210.00 - 228.00	0.6000	0.3686
T3	3	DC Power 3/4"	200.00 - 210.00	0.6000	0.3239
T3	4	LDF7-50A (1-5/8 FOAM)	200.00 - 210.00	0.6000	0.3239
T3	5	Fiber 1/2"	200.00 - 210.00	0.6000	0.3239
T3	6	T-Bracket	200.00 - 210.00	0.6000	0.3239
T3	8	T-Bracket	200.00 - 210.00	0.6000	0.3239
T3	9	LDF7-50A (1-5/8 FOAM)	200.00 - 210.00	0.6000	0.3239
T4	3	DC Power 3/4"	180.00 - 200.00	0.6000	0.3542
T4	4	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.3542
T4	5	Fiber 1/2"	180.00 - 200.00	0.6000	0.3542
T4	6	T-Bracket	180.00 - 200.00	0.6000	0.3542
T4	8	T-Bracket	180.00 - 200.00	0.6000	0.3542
T4	9	LDF7-50A (1-5/8 FOAM)	180.00 - 200.00	0.6000	0.3542
T5	3	DC Power 3/4"	160.00 - 180.00	0.6000	0.4624
T5	4	LDF7-50A (1-5/8 FOAM)	160.00 - 180.00	0.6000	0.4624
T5	5	Fiber 1/2"	160.00 - 180.00	0.6000	0.4624
T5	6	T-Bracket	160.00 - 180.00	0.6000	0.4624
T5	8	T-Bracket	160.00 - 180.00	0.6000	0.4624
T5	9	LDF7-50A (1-5/8 FOAM)	160.00 - 180.00	0.6000	0.4624
T6	3	DC Power 3/4"	140.00 - 160.00	0.6000	0.5357
T6	4	LDF7-50A (1-5/8 FOAM)	140.00 - 160.00	0.6000	0.5357
T6	5	Fiber 1/2"	140.00 - 160.00	0.6000	0.5357
T6	6	T-Bracket	140.00 - 160.00	0.6000	0.5357
T6	8	T-Bracket	140.00 - 160.00	0.6000	0.5357
T6	9	LDF7-50A (1-5/8 FOAM)	140.00 - 160.00	0.6000	0.5357
T7	3	DC Power 3/4"	120.00 - 140.00	0.6000	0.5888
T7	4	LDF7-50A (1-5/8 FOAM)	120.00 - 140.00	0.6000	0.5888
T7	5	Fiber 1/2"	120.00 - 140.00	0.6000	0.5888
T7	6	T-Bracket	120.00 - 140.00	0.6000	0.5888
T7	8	T-Bracket	120.00 - 140.00	0.6000	0.5888
T7	9	LDF7-50A (1-5/8 FOAM)	120.00 -	0.6000	0.5888

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			140.00		
T8	3	DC Power 3/4"	100.00 - 120.00	0.6000	0.6000
T8	4	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.6000
T8	5	Fiber 1/2"	100.00 - 120.00	0.6000	0.6000
T8	6	T-Bracket	100.00 - 120.00	0.6000	0.6000
T8	8	T-Bracket	100.00 - 120.00	0.6000	0.6000
T8	9	LDF7-50A (1-5/8 FOAM)	100.00 - 120.00	0.6000	0.6000
T9	3	DC Power 3/4"	80.00 - 100.00	0.6000	0.6000
T9	4	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T9	5	Fiber 1/2"	80.00 - 100.00	0.6000	0.6000
T9	6	T-Bracket	80.00 - 100.00	0.6000	0.6000
T9	8	T-Bracket	80.00 - 100.00	0.6000	0.6000
T9	9	LDF7-50A (1-5/8 FOAM)	80.00 - 100.00	0.6000	0.6000
T10	3	DC Power 3/4"	60.00 - 80.00	0.6000	0.6000
T10	4	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T10	5	Fiber 1/2"	60.00 - 80.00	0.6000	0.6000
T10	6	T-Bracket	60.00 - 80.00	0.6000	0.6000
T10	8	T-Bracket	60.00 - 80.00	0.6000	0.6000
T10	9	LDF7-50A (1-5/8 FOAM)	60.00 - 80.00	0.6000	0.6000
T11	3	DC Power 3/4"	40.00 - 60.00	0.6000	0.6000
T11	4	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T11	5	Fiber 1/2"	40.00 - 60.00	0.6000	0.6000
T11	6	T-Bracket	40.00 - 60.00	0.6000	0.6000
T11	8	T-Bracket	40.00 - 60.00	0.6000	0.6000
T11	9	LDF7-50A (1-5/8 FOAM)	40.00 - 60.00	0.6000	0.6000
T12	3	DC Power 3/4"	20.00 - 40.00	0.6000	0.6000
T12	4	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T12	5	Fiber 1/2"	20.00 - 40.00	0.6000	0.6000
T12	6	T-Bracket	20.00 - 40.00	0.6000	0.6000
T12	8	T-Bracket	20.00 - 40.00	0.6000	0.6000
T12	9	LDF7-50A (1-5/8 FOAM)	20.00 - 40.00	0.6000	0.6000
T13	3	DC Power 3/4"	8.00 - 20.00	0.6000	0.6000
T13	4	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000
T13	5	Fiber 1/2"	8.00 - 20.00	0.6000	0.6000
T13	6	T-Bracket	8.00 - 20.00	0.6000	0.6000
T13	8	T-Bracket	8.00 - 20.00	0.6000	0.6000
T13	9	LDF7-50A (1-5/8 FOAM)	8.00 - 20.00	0.6000	0.6000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
**									
Flash Beacon Lighting	C	From Leg	0.00	0.0000	240.00	No Ice	2.70	2.70	0.050

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2" Ice	3.10	3.10	0.070
			0.00			1" Ice	3.50	3.50	0.090
Lightning Rod	B	From Leg	0.00	0.0000	240.00	No Ice	0.25	0.25	0.030
			0.00			1/2" Ice	0.66	0.66	0.034
			2.00			1" Ice	0.97	0.97	0.039
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(1) Site Pro VFA10-HD3L5NP	A	From Leg	4.00	0.0000	238.00	No Ice	11.40	7.00	0.553
			0.00			1/2" Ice	17.30	11.30	0.652
			0.00			1" Ice	23.20	15.60	0.751
(1) Site Pro VFA10-HD3L5NP	B	From Leg	4.00	0.0000	238.00	No Ice	11.40	7.00	0.553
			0.00			1/2" Ice	17.30	11.30	0.652
			0.00			1" Ice	23.20	15.60	0.751
(1) Site Pro VFA10-HD3L5NP	C	From Leg	4.00	0.0000	238.00	No Ice	11.40	7.00	0.553
			0.00			1/2" Ice	17.30	11.30	0.652
			0.00			1" Ice	23.20	15.60	0.751
2" sch 40 x 96" pipe	A	From Leg	4.00	0.0000	238.00	No Ice	1.90	1.90	0.029
			0.00			1/2" Ice	2.73	2.73	0.043
			0.00			1" Ice	3.40	3.40	0.063
2" sch 40 x 96" pipe	B	From Leg	4.00	0.0000	238.00	No Ice	1.90	1.90	0.029
			0.00			1/2" Ice	2.73	2.73	0.043
			0.00			1" Ice	3.40	3.40	0.063
2" sch 40 x 96" pipe	C	From Leg	4.00	0.0000	238.00	No Ice	1.90	1.90	0.029
			0.00			1/2" Ice	2.73	2.73	0.043
			0.00			1" Ice	3.40	3.40	0.063
**									
7770 (55"x11"x5") w/mount pipe	A	From Leg	4.00	0.0000	238.00	No Ice	6.32	4.83	0.064
			0.00			1/2" Ice	7.03	6.00	0.118
			2.00			1" Ice	7.69	7.03	0.179
7770 (55"x11"x5") w/mount pipe	B	From Leg	4.00	0.0000	238.00	No Ice	6.32	4.83	0.064
			0.00			1/2" Ice	7.03	6.00	0.118
			2.00			1" Ice	7.69	7.03	0.179
7770 (55"x11"x5") w/mount pipe	C	From Leg	4.00	0.0000	238.00	No Ice	6.32	4.83	0.064
			0.00			1/2" Ice	7.03	6.00	0.118
			2.00			1" Ice	7.69	7.03	0.179
(2) DMP65R-BU8DA (96"x20.7"x7.7") w/mount pipe	A	From Leg	4.00	0.0000	238.00	No Ice	17.87	10.02	0.125
			0.00			1/2" Ice	18.50	11.44	0.244
			0.00			1" Ice	19.14	12.72	0.373
(2) DMP65R-BU8DA (96"x20.7"x7.7") w/mount pipe	B	From Leg	4.00	0.0000	238.00	No Ice	17.87	10.02	0.125
			0.00			1/2" Ice	18.50	11.44	0.244
			0.00			1" Ice	19.14	12.72	0.373
(2) DMP65R-BU8DA (96"x20.7"x7.7") w/mount pipe	C	From Leg	4.00	0.0000	238.00	No Ice	17.87	10.02	0.125
			0.00			1/2" Ice	18.50	11.44	0.244
			0.00			1" Ice	19.14	12.72	0.373
(2) LGP21401 (14"x9"x2.7")	A	From Leg	4.00	0.0000	238.00	No Ice	1.05	0.35	0.019
			0.00			1/2" Ice	1.18	0.44	0.026
			0.00			1" Ice	1.32	0.54	0.035
(2) LGP21401 (14"x9"x2.7")	B	From Leg	4.00	0.0000	238.00	No Ice	1.05	0.35	0.019
			0.00			1/2" Ice	1.18	0.44	0.026
			0.00			1" Ice	1.32	0.54	0.035
(2) LGP21401 (14"x9"x2.7")	C	From Leg	4.00	0.0000	238.00	No Ice	1.05	0.35	0.019
			0.00			1/2" Ice	1.18	0.44	0.026
			0.00			1" Ice	1.32	0.54	0.035
4478 B14 (18.1"x13.4"x8.26")	A	From Leg	4.00	0.0000	238.00	No Ice	2.02	1.25	0.059
			0.00			1/2" Ice	2.20	1.40	0.077
			0.00			1" Ice	2.39	1.55	0.097
4478 B14	B	From Leg	4.00	0.0000	238.00	No Ice	2.02	1.25	0.059

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(18.1"x13.4"x8.26")			0.00			1/2" Ice	2.20	1.40	0.077
			0.00			1" Ice	2.39	1.55	0.097
4478 B14	C	From Leg	4.00	0.0000	238.00	No Ice	2.02	1.25	0.059
(18.1"x13.4"x8.26")			0.00			1/2" Ice	2.20	1.40	0.077
			0.00			1" Ice	2.39	1.55	0.097
8843 B2 B66A	A	From Leg	4.00	0.0000	238.00	No Ice	1.64	1.35	0.072
(14.9"x13.2"x10.9")			0.00			1/2" Ice	1.80	1.50	0.090
			0.00			1" Ice	1.97	1.65	0.110
8843 B2 B66A	B	From Leg	4.00	0.0000	238.00	No Ice	1.64	1.35	0.072
(14.9"x13.2"x10.9")			0.00			1/2" Ice	1.80	1.50	0.090
			0.00			1" Ice	1.97	1.65	0.110
8843 B2 B66A	C	From Leg	4.00	0.0000	238.00	No Ice	1.64	1.35	0.072
(14.9"x13.2"x10.9")			0.00			1/2" Ice	1.80	1.50	0.090
			0.00			1" Ice	1.97	1.65	0.110
4449 B5/B12	A	From Leg	4.00	0.0000	238.00	No Ice	1.64	1.30	0.073
(14.96"x13.19"x10.43")			0.00			1/2" Ice	1.80	1.45	0.090
			0.00			1" Ice	1.97	1.60	0.110
4449 B5/B12	B	From Leg	4.00	0.0000	238.00	No Ice	1.64	1.30	0.073
(14.96"x13.19"x10.43")			0.00			1/2" Ice	1.80	1.45	0.090
			0.00			1" Ice	1.97	1.60	0.110
4449 B5/B12	C	From Leg	4.00	0.0000	238.00	No Ice	1.64	1.30	0.073
(14.96"x13.19"x10.43")			0.00			1/2" Ice	1.80	1.45	0.090
			0.00			1" Ice	1.97	1.60	0.110
DC6-48-60-18-8F	A	From Leg	4.00	0.0000	238.00	No Ice	2.20	2.20	0.033
(24"x11"x11")			0.00			1/2" Ice	2.40	2.40	0.055
			0.00			1" Ice	2.60	2.60	0.081
DC6-48-60-18-8F	B	From Leg	4.00	0.0000	238.00	No Ice	2.20	2.20	0.033
(24"x11"x11")			0.00			1/2" Ice	2.40	2.40	0.055
			0.00			1" Ice	2.60	2.60	0.081
DC6-48-60-18-8F	C	From Leg	4.00	0.0000	238.00	No Ice	2.20	2.20	0.033
(24"x11"x11")			0.00			1/2" Ice	2.40	2.40	0.055
			0.00			1" Ice	2.60	2.60	0.081
**									
**									
(1) T-Frame	A	From Leg	4.00	0.0000	228.00	No Ice	9.76	7.05	0.095
			0.00			1/2" Ice	13.67	10.13	0.137
			0.00			1" Ice	17.58	13.21	0.179
(1) T-Frame	B	From Leg	4.00	0.0000	228.00	No Ice	9.76	7.05	0.095
			0.00			1/2" Ice	13.67	10.13	0.137
			0.00			1" Ice	17.58	13.21	0.179
(1) T-Frame	C	From Leg	4.00	0.0000	228.00	No Ice	9.76	7.05	0.095
			0.00			1/2" Ice	13.67	10.13	0.137
			0.00			1" Ice	17.58	13.21	0.179
**									
(2) LPA-80080/6CF	A	From Leg	4.00	0.0000	228.00	No Ice	4.82	10.53	0.050
(70.9"x5.5"x13.2") w/mount			0.00			1/2" Ice	5.47	11.81	0.120
pipe			0.00			1" Ice	6.10	12.95	0.197
(2) LPA-80080/6CF	B	From Leg	4.00	0.0000	228.00	No Ice	4.82	10.53	0.050
(70.9"x5.5"x13.2") w/mount			0.00			1/2" Ice	5.47	11.81	0.120
pipe			0.00			1" Ice	6.10	12.95	0.197
(2) LPA-80080/6CF	C	From Leg	4.00	0.0000	228.00	No Ice	4.82	10.53	0.050
(70.9"x5.5"x13.2") w/mount			0.00			1/2" Ice	5.47	11.81	0.120
pipe			0.00			1" Ice	6.10	12.95	0.197
BXA-171085-12BF	A	From Leg	4.00	0.0000	228.00	No Ice	8.14	6.11	0.044
(71.7"x11.2"5.2") w/mount			0.00			1/2" Ice	8.80	7.38	0.108
pipe			0.00			1" Ice	9.43	8.50	0.180
BXA-171085-12BF	B	From Leg	4.00	0.0000	228.00	No Ice	8.14	6.11	0.044

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(71.7"x11.2"5.2") w/mount pipe			0.00			1/2" Ice	8.80	7.38	0.108
			0.00			1" Ice	9.43	8.50	0.180
BXA-171085-12BF	C	From Leg	4.00	0.0000	228.00	No Ice	8.14	6.11	0.044
(71.7"x11.2"5.2") w/mount pipe			0.00			1/2" Ice	8.80	7.38	0.108
			0.00			1" Ice	9.43	8.50	0.180
BXA-70063/6CF	A	From Leg	4.00	0.0000	228.00	No Ice	8.12	6.52	0.046
(71"x11.3"x6") w/mount pipe			0.00			1/2" Ice	8.78	7.79	0.112
			0.00			1" Ice	9.41	8.91	0.186
BXA-70063/6CF	B	From Leg	4.00	0.0000	228.00	No Ice	8.12	6.52	0.046
(71"x11.3"x6") w/mount pipe			0.00			1/2" Ice	8.78	7.79	0.112
			0.00			1" Ice	9.41	8.91	0.186
BXA-70063/6CF	C	From Leg	4.00	0.0000	228.00	No Ice	8.12	6.52	0.046
(71"x11.3"x6") w/mount pipe			0.00			1/2" Ice	8.78	7.79	0.112
			0.00			1" Ice	9.41	8.91	0.186
**									

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft^2	Weight K
**										

Truss-Leg Properties

Section Designation	Area in^2	Area Ice in^2	Self Weight K	Ice Weight K	Equiv. Diameter in	Equiv. Diameter Ice in	Leg Area in^2
#12 - 1.25" - 1.00" conn. (Pirod 105244)	999.6067	2976.5040	0.588	1.057	6.9417	20.6702	3.6816
#12 - 1.50" - 1.00" conn. (Pirod 105217)	1915.9060	7139.2772	0.666	1.960	6.6525	24.7892	5.3014
#12 - 1.75" - 1.00" conn. (Pirod 105218)	2029.7828	7187.9803	0.797	1.953	7.0479	24.9583	7.2158
#12 - 2.00" - 1.25" conn. (Pirod 105219)	2441.3011	7234.0721	0.944	1.987	8.4767	25.1183	9.4248
#12 - 2.00" - 1.25" conn. (Pirod 105219)	2260.7557	7204.8454	1.026	1.850	7.8498	25.0168	9.4248
#12 - 2.25" - 1.25" conn. (Pirod 105220)	2387.7320	7243.2516	1.203	1.824	8.2907	25.1502	11.9282
#12 - 2.25" - 1.25" conn. (Pirod 105220	2387.7320	7203.6326	1.203	1.764	8.2907	25.0126	11.9282

Section Designation	Area	Area Ice	Self Weight	Ice Weight	Equiv. Diameter	Equiv. Diameter Ice	Leg Area
	in^2	in^2	K	K	in	in	in^2
)							
#18 - 2.50" (Pirod 112743)	3726.9434	8798.3423	1.820	2.743	12.9408	30.5498	14.7262
#18 - 2.50" (Pirod 112743)	3726.9434	8747.5936	1.820	2.595	12.9408	30.3736	14.7262
#18 - 2.75" (Pirod 112744)	3857.6504	8745.7392	2.038	2.411	13.3946	30.3672	17.8187
#18 - 2.75" (Pirod 112739) BASE ONLY	3850.6770	8599.1268	2.038	2.049	13.3704	29.8581	17.8187

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 30 deg - No Ice
5	0.9 Dead+1.6 Wind 30 deg - No Ice
6	1.2 Dead+1.6 Wind 60 deg - No Ice
7	0.9 Dead+1.6 Wind 60 deg - No Ice
8	1.2 Dead+1.6 Wind 90 deg - No Ice
9	0.9 Dead+1.6 Wind 90 deg - No Ice
10	1.2 Dead+1.6 Wind 120 deg - No Ice
11	0.9 Dead+1.6 Wind 120 deg - No Ice
12	1.2 Dead+1.6 Wind 150 deg - No Ice
13	0.9 Dead+1.6 Wind 150 deg - No Ice
14	1.2 Dead+1.6 Wind 180 deg - No Ice
15	0.9 Dead+1.6 Wind 180 deg - No Ice
16	1.2 Dead+1.6 Wind 210 deg - No Ice
17	0.9 Dead+1.6 Wind 210 deg - No Ice
18	1.2 Dead+1.6 Wind 240 deg - No Ice
19	0.9 Dead+1.6 Wind 240 deg - No Ice
20	1.2 Dead+1.6 Wind 270 deg - No Ice
21	0.9 Dead+1.6 Wind 270 deg - No Ice
22	1.2 Dead+1.6 Wind 300 deg - No Ice
23	0.9 Dead+1.6 Wind 300 deg - No Ice
24	1.2 Dead+1.6 Wind 330 deg - No Ice
25	0.9 Dead+1.6 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service

Comb. No.	Description
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	240 - 230	Leg	Max Tension	7	13.146	0.94	-0.48
			Max. Compression	18	-16.329	-0.14	0.07
			Max. Mx	20	8.467	-1.02	-0.04
			Max. My	2	-13.278	-0.00	-1.02
			Max. Vy	8	2.589	0.16	-0.00
			Max. Vx	2	-2.596	-0.00	-0.15
		Diagonal	Max Tension	21	3.369	0.00	0.00
			Max. Compression	20	-3.387	0.00	0.00
			Max. Mx	27	0.027	-0.01	-0.00
			Max. My	8	-2.742	-0.00	0.00
			Max. Vy	27	0.016	-0.01	-0.00
			Max. Vx	8	-0.000	-0.00	0.00
		Top Girt	Max Tension	7	0.052	0.00	0.00
			Max. Compression	18	-0.068	0.00	0.00
			Max. Mx	26	-0.045	0.03	0.00
			Max. Vy	26	0.031	0.00	0.00
		Bottom Girt	Max Tension	6	1.675	0.00	0.00
			Max. Compression	19	-1.668	0.00	0.00
			Max. Mx	26	0.030	0.03	0.00
			Max. Vy	26	0.031	0.00	0.00
T2	230 - 210	Leg	Max Tension	7	67.392	-0.07	-0.02
			Max. Compression	18	-73.161	1.07	0.10
			Max. Mx	6	15.858	-1.78	-0.10
			Max. My	4	-1.847	-0.00	-1.63
			Max. Vy	14	5.005	-1.11	-0.06
			Max. Vx	16	-3.964	-0.02	0.92
		Diagonal	Max Tension	8	4.925	0.00	0.00
			Max. Compression	8	-4.946	0.00	0.00
			Max. Mx	35	1.346	-0.01	0.00
			Max. My	20	-4.423	-0.00	-0.00
			Max. Vy	35	0.021	-0.01	0.00
			Max. Vx	20	0.000	0.00	0.00
		Top Girt	Max Tension	19	1.641	0.00	0.00
			Max. Compression	6	-1.647	0.00	0.00
			Max. Mx	26	-0.017	0.03	0.00
			Max. Vy	26	0.030	0.00	0.00
		Bottom Girt	Max Tension	6	1.874	0.00	0.00
			Max. Compression	19	-1.750	0.00	0.00
			Max. Mx	26	0.445	0.04	0.00
			Max. Vy	26	-0.034	0.00	0.00
T3	210 - 200	Leg	Max Tension	7	70.844	1.04	0.48
			Max. Compression	18	-76.343	9.19	0.63
			Max. Mx	14	69.899	-9.36	-0.37
			Max. My	16	-3.120	-0.09	8.27
			Max. Vy	14	1.194	-9.36	-0.37

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vx	12	1.425	-0.09	-8.12
		Diagonal	Max Tension	7	7.585	0.14	-0.04
			Max. Compression	18	-8.189	0.00	0.00
			Max. Mx	18	-6.363	-0.15	-0.01
			Max. My	18	-8.050	-0.11	0.05
			Max. Vy	16	-0.036	0.14	-0.02
			Max. Vx	18	-0.011	0.00	0.00
T4	200 - 180	Leg	Max Tension	15	108.661	-0.23	0.24
			Max. Compression	18	-117.224	9.04	0.55
			Max. Mx	2	-98.244	10.32	0.38
			Max. My	20	-3.476	-0.54	-7.87
			Max. Vy	2	-1.641	10.32	0.38
			Max. Vx	24	-0.456	0.07	5.03
		Diagonal	Max Tension	8	6.112	0.09	-0.00
			Max. Compression	8	-6.093	0.00	0.00
			Max. Mx	16	3.232	0.16	-0.00
			Max. My	18	3.924	0.14	0.03
			Max. Vy	34	-0.055	0.12	-0.01
			Max. Vx	18	-0.006	0.00	0.00
T5	180 - 160	Leg	Max Tension	15	139.351	-0.72	0.24
			Max. Compression	2	-150.336	9.27	0.48
			Max. Mx	2	-150.336	9.27	0.48
			Max. My	16	-6.594	0.05	6.63
			Max. Vy	2	-1.036	9.27	0.48
			Max. Vx	24	-0.712	-0.06	6.37
		Diagonal	Max Tension	7	6.166	0.00	0.00
			Max. Compression	18	-6.443	0.00	0.00
			Max. Mx	35	1.499	0.11	-0.01
			Max. My	35	1.029	0.10	0.02
			Max. Vy	35	-0.062	0.11	-0.01
			Max. Vx	35	-0.004	0.00	0.00
T6	160 - 140	Leg	Max Tension	15	169.731	-0.65	0.28
			Max. Compression	2	-184.766	8.99	0.34
			Max. Mx	2	-167.917	9.02	0.34
			Max. My	16	-7.571	0.03	6.05
			Max. Vy	2	-1.036	8.99	0.34
			Max. Vx	24	-0.595	0.07	5.82
		Diagonal	Max Tension	6	6.609	0.00	0.00
			Max. Compression	18	-6.931	0.00	0.00
			Max. Mx	35	1.743	0.14	-0.01
			Max. My	29	1.503	0.12	-0.02
			Max. Vy	33	0.082	0.12	-0.02
			Max. Vx	29	0.005	0.00	0.00
T7	140 - 120	Leg	Max Tension	15	199.138	-1.12	0.21
			Max. Compression	2	-218.696	8.37	0.32
			Max. Mx	2	-218.696	8.37	0.32
			Max. My	16	-9.600	-0.02	6.71
			Max. Vy	2	-0.921	8.37	0.32
			Max. Vx	24	-0.587	-0.02	6.37
		Diagonal	Max Tension	6	7.395	0.00	0.00
			Max. Compression	18	-7.793	0.00	0.00
			Max. Mx	35	1.965	0.17	-0.02
			Max. My	35	1.268	0.17	0.02
			Max. Vy	33	0.097	0.15	-0.02
			Max. Vx	35	-0.006	0.00	0.00
T8	120 - 100	Leg	Max Tension	15	228.521	-2.03	0.18
			Max. Compression	2	-253.425	6.87	0.23
			Max. Mx	2	-236.352	8.09	0.23
			Max. My	16	-13.071	-0.18	7.49
			Max. Vy	2	-0.844	8.09	0.23
			Max. Vx	12	0.673	-0.19	-7.03

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Diagonal	Max Tension	18	8.029	0.00	0.00
			Max. Compression	18	-8.369	0.00	0.00
			Max. Mx	35	2.483	0.23	-0.03
			Max. My	35	-2.239	0.20	0.03
			Max. Vy	33	0.126	0.21	-0.03
			Max. Vx	35	-0.007	0.00	0.00
T9	100 - 80	Leg	Max Tension	15	258.602	-2.13	0.20
			Max. Compression	2	-289.332	12.33	0.63
			Max. Mx	2	-289.332	12.33	0.63
			Max. My	16	-15.663	0.12	11.05
			Max. Vy	3	-1.177	12.29	0.63
			Max. Vx	12	1.319	0.12	-10.63
		Diagonal	Max Tension	18	9.379	0.00	0.00
			Max. Compression	18	-9.745	0.00	0.00
			Max. Mx	35	2.621	0.26	0.03
			Max. My	35	-1.270	0.23	0.04
			Max. Vy	34	0.140	0.26	-0.03
			Max. Vx	35	-0.008	0.00	0.00
T10	80 - 60	Leg	Max Tension	15	276.491	-1.33	0.24
			Max. Compression	2	-311.750	20.09	0.87
			Max. Mx	14	271.087	-20.80	-0.90
			Max. My	16	-18.353	-0.88	23.61
			Max. Vy	14	1.472	-20.80	-0.90
			Max. Vx	12	1.509	-0.89	-22.28
		Diagonal	Max Tension	6	13.233	0.00	0.00
			Max. Compression	18	-14.399	0.00	0.00
			Max. Mx	33	1.575	-0.63	0.09
			Max. My	35	-5.340	-0.50	-0.12
			Max. Vy	33	-0.234	-0.63	0.09
			Max. Vx	35	0.017	0.00	0.00
T11	60 - 40	Leg	Max Tension	15	307.616	1.20	0.50
			Max. Compression	2	-350.784	27.02	0.83
			Max. Mx	2	-350.784	27.02	0.83
			Max. My	16	-19.750	-1.72	17.09
			Max. Vy	2	-1.986	27.02	0.83
			Max. Vx	16	1.120	-1.72	17.09
		Diagonal	Max Tension	8	13.253	0.00	0.00
			Max. Compression	18	-14.126	0.00	0.00
			Max. Mx	33	3.838	-0.70	0.12
			Max. My	35	3.729	-0.68	-0.12
			Max. Vy	33	-0.254	-0.70	0.12
			Max. Vx	35	0.017	0.00	0.00
T12	40 - 20	Leg	Max Tension	15	337.385	-3.71	0.41
			Max. Compression	2	-389.260	16.84	0.69
			Max. Mx	14	329.907	-18.97	-0.73
			Max. My	16	-26.337	-1.56	29.88
			Max. Vy	14	1.227	-18.97	-0.73
			Max. Vx	16	-2.045	-1.56	29.88
		Diagonal	Max Tension	18	14.367	0.00	0.00
			Max. Compression	6	-13.431	0.00	0.00
			Max. Mx	33	0.378	-0.83	0.11
			Max. My	35	-4.933	-0.70	-0.13
			Max. Vy	33	-0.274	-0.83	0.11
			Max. Vx	35	0.017	0.00	0.00
T13	20 - 0	Leg	Max Tension	15	361.535	-3.98	0.36
			Max. Compression	2	-420.014	12.03	0.50
			Max. Mx	2	-420.014	12.03	0.50
			Max. My	16	-26.766	-1.84	20.42
			Max. Vy	2	-0.884	12.03	0.50
			Max. Vx	16	1.331	-1.84	20.42
		Diagonal	Max Tension	7	16.429	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	18	-18.238	0.00	0.00
			Max. Mx	34	5.191	-0.81	-0.14
			Max. My	34	5.810	-0.74	-0.14
			Max. Vy	34	-0.273	-0.81	-0.14
			Max. Vx	34	0.017	0.00	0.00

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Leg C	Max. Vert	18	430.084	40.939	-21.701
	Max. H_x	18	430.084	40.939	-21.701
	Max. H_z	5	-331.201	-31.531	18.390
	Min. Vert	7	-361.234	-35.064	18.383
	Min. H_x	7	-361.234	-35.064	18.383
	Min. H_z	18	430.084	40.939	-21.701
Leg B	Max. Vert	10	397.544	-37.543	-20.562
	Max. H_x	23	-329.618	31.681	17.266
	Max. H_z	23	-329.618	31.681	17.266
	Min. Vert	23	-329.618	31.681	17.266
	Min. H_x	10	397.544	-37.543	-20.562
	Min. H_z	10	397.544	-37.543	-20.562
Leg A	Max. Vert	2	441.252	-0.989	47.955
	Max. H_x	15	-377.837	0.976	-41.342
	Max. H_z	2	441.252	-0.989	47.955
	Min. Vert	15	-377.837	0.976	-41.342
	Min. H_x	2	441.252	-0.989	47.955
	Min. H_z	15	-377.837	0.976	-41.342

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	74.550	-0.000	0.000	35.55	5.73	0.00
1.2 Dead+1.6 Wind 0 deg - No Ice	89.460	-0.000	-70.642	-9264.08	6.87	-44.23
0.9 Dead+1.6 Wind 0 deg - No Ice	67.095	-0.000	-70.642	-9274.74	5.15	-44.23
1.2 Dead+1.6 Wind 30 deg - No Ice	89.460	34.661	-60.034	-7938.92	-4601.29	31.97
0.9 Dead+1.6 Wind 30 deg - No Ice	67.095	34.661	-60.034	-7949.58	-4603.01	31.97
1.2 Dead+1.6 Wind 60 deg - No Ice	89.460	56.028	-32.348	-4286.25	-7491.02	73.86
0.9 Dead+1.6 Wind 60 deg - No Ice	67.095	56.028	-32.348	-4296.92	-7492.74	73.86
1.2 Dead+1.6 Wind 90 deg - No Ice	89.460	61.097	0.000	42.66	-8167.26	53.23
0.9 Dead+1.6 Wind 90 deg - No Ice	67.095	61.097	0.000	31.99	-8168.97	53.23
1.2 Dead+1.6 Wind 120 deg -	89.460	54.055	31.209	4174.92	-7150.42	41.48

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
No Ice						
0.9 Dead+1.6 Wind 120 deg - No Ice	67.095	54.055	31.209	4164.26	-7152.14	41.48
1.2 Dead+1.6 Wind 150 deg - No Ice	89.460	31.409	54.403	7280.20	-4171.72	65.82
0.9 Dead+1.6 Wind 150 deg - No Ice	67.095	31.409	54.403	7269.53	-4173.44	65.82
1.2 Dead+1.6 Wind 180 deg - No Ice	89.460	0.000	67.464	9021.88	6.87	44.23
0.9 Dead+1.6 Wind 180 deg - No Ice	67.095	0.000	67.464	9011.22	5.15	44.23
1.2 Dead+1.6 Wind 210 deg - No Ice	89.460	-34.661	60.034	8024.24	4615.04	-31.97
0.9 Dead+1.6 Wind 210 deg - No Ice	67.095	-34.661	60.034	8013.57	4613.32	-31.97
1.2 Dead+1.6 Wind 240 deg - No Ice	89.460	-58.780	33.937	4535.33	7788.40	-73.86
0.9 Dead+1.6 Wind 240 deg - No Ice	67.095	-58.780	33.937	4524.66	7786.68	-73.86
1.2 Dead+1.6 Wind 270 deg - No Ice	89.460	-61.097	0.000	42.66	8181.00	-53.23
0.9 Dead+1.6 Wind 270 deg - No Ice	67.095	-61.097	0.000	31.99	8179.28	-53.23
1.2 Dead+1.6 Wind 300 deg - No Ice	89.460	-51.303	-29.620	-3925.85	6880.53	-41.48
0.9 Dead+1.6 Wind 300 deg - No Ice	67.095	-51.303	-29.620	-3936.52	6878.82	-41.48
1.2 Dead+1.6 Wind 330 deg - No Ice	89.460	-31.409	-54.403	-7194.88	4185.47	-65.82
0.9 Dead+1.6 Wind 330 deg - No Ice	67.095	-31.409	-54.403	-7205.55	4183.75	-65.82
1.2 Dead+1.0 Ice+1.0 Temp	247.755	0.000	0.000	166.94	-0.28	0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	247.755	0.000	-19.728	-2497.03	-0.28	-2.23
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	247.755	9.894	-17.137	-2152.50	-1339.41	12.99
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	247.755	16.734	-9.661	-1146.66	-2275.50	20.64
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	247.755	18.704	0.000	166.94	-2552.92	15.37
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	247.755	16.146	9.322	1436.11	-2198.56	10.08
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	247.755	9.370	16.229	2377.45	-1276.52	9.47
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	247.755	0.000	19.357	2793.99	-0.28	2.23
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	247.755	-9.894	17.137	2486.37	1338.85	-12.99
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	247.755	-17.055	9.846	1499.00	2306.92	-20.64
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	247.755	-18.704	0.000	166.94	2552.36	-15.37
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	247.755	-15.825	-9.137	-1083.78	2166.02	-10.08
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	247.755	-9.370	-16.229	-2043.57	1275.96	-9.47
Dead+Wind 0 deg - Service	74.550	-0.000	-15.581	-2017.21	5.73	-9.76
Dead+Wind 30 deg - Service	74.550	7.645	-13.242	-1724.92	-1010.68	7.05
Dead+Wind 60 deg - Service	74.550	12.358	-7.135	-919.26	-1648.06	16.29
Dead+Wind 90 deg - Service	74.550	13.476	0.000	35.55	-1797.21	11.74
Dead+Wind 120 deg - Service	74.550	11.923	6.884	946.99	-1572.93	9.15

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 150 deg - Service	74.550	6.928	11.999	1631.91	-915.93	14.52
Dead+Wind 180 deg - Service	74.550	0.000	14.880	2016.07	5.73	9.76
Dead+Wind 210 deg - Service	74.550	-7.645	13.242	1796.02	1022.13	-7.05
Dead+Wind 240 deg - Service	74.550	-12.965	7.485	1026.48	1722.07	-16.29
Dead+Wind 270 deg - Service	74.550	-13.476	0.000	35.55	1808.67	-11.74
Dead+Wind 300 deg - Service	74.550	-11.316	-6.533	-839.77	1521.83	-9.15
Dead+Wind 330 deg - Service	74.550	-6.928	-11.999	-1560.81	927.39	-14.52

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.000	-74.550	0.000	0.000	74.550	-0.000	0.000%
2	0.000	-89.460	-70.642	0.000	89.460	70.642	0.000%
3	0.000	-67.095	-70.642	0.000	67.095	70.642	0.000%
4	34.661	-89.460	-60.034	-34.661	89.460	60.034	0.000%
5	34.661	-67.095	-60.034	-34.661	67.095	60.034	0.000%
6	56.028	-89.460	-32.348	-56.028	89.460	32.348	0.000%
7	56.028	-67.095	-32.348	-56.028	67.095	32.348	0.000%
8	61.097	-89.460	0.000	-61.097	89.460	-0.000	0.000%
9	61.097	-67.095	0.000	-61.097	67.095	-0.000	0.000%
10	54.055	-89.460	31.209	-54.055	89.460	-31.209	0.000%
11	54.055	-67.095	31.209	-54.055	67.095	-31.209	0.000%
12	31.409	-89.460	54.403	-31.409	89.460	-54.403	0.000%
13	31.409	-67.095	54.403	-31.409	67.095	-54.403	0.000%
14	0.000	-89.460	67.464	0.000	89.460	-67.464	0.000%
15	0.000	-67.095	67.464	0.000	67.095	-67.464	0.000%
16	-34.661	-89.460	60.034	34.661	89.460	-60.034	0.000%
17	-34.661	-67.095	60.034	34.661	67.095	-60.034	0.000%
18	-58.780	-89.460	33.937	58.780	89.460	-33.937	0.000%
19	-58.780	-67.095	33.937	58.780	67.095	-33.937	0.000%
20	-61.097	-89.460	0.000	61.097	89.460	-0.000	0.000%
21	-61.097	-67.095	0.000	61.097	67.095	-0.000	0.000%
22	-51.303	-89.460	-29.620	51.303	89.460	29.620	0.000%
23	-51.303	-67.095	-29.620	51.303	67.095	29.620	0.000%
24	-31.409	-89.460	-54.403	31.409	89.460	54.403	0.000%
25	-31.409	-67.095	-54.403	31.409	67.095	54.403	0.000%
26	0.000	-247.755	0.000	0.000	247.755	-0.000	0.000%
27	0.000	-247.755	-19.728	0.000	247.755	19.728	0.000%
28	9.894	-247.755	-17.137	-9.894	247.755	17.137	0.000%
29	16.734	-247.755	-9.661	-16.734	247.755	9.661	0.000%
30	18.704	-247.755	0.000	-18.704	247.755	-0.000	0.000%
31	16.146	-247.755	9.322	-16.146	247.755	-9.322	0.000%
32	9.370	-247.755	16.229	-9.370	247.755	-16.229	0.000%
33	0.000	-247.755	19.357	0.000	247.755	-19.357	0.000%
34	-9.894	-247.755	17.137	9.894	247.755	-17.137	0.000%
35	-17.055	-247.755	9.846	17.055	247.755	-9.846	0.000%
36	-18.704	-247.755	0.000	18.704	247.755	-0.000	0.000%
37	-15.825	-247.755	-9.137	15.825	247.755	9.137	0.000%
38	-9.370	-247.755	-16.229	9.370	247.755	16.229	0.000%
39	0.000	-74.550	-15.581	0.000	74.550	15.581	0.000%
40	7.645	-74.550	-13.242	-7.645	74.550	13.242	0.000%
41	12.358	-74.550	-7.135	-12.358	74.550	7.135	0.000%
42	13.476	-74.550	0.000	-13.476	74.550	-0.000	0.000%
43	11.923	-74.550	6.884	-11.923	74.550	-6.884	0.000%
44	6.928	-74.550	11.999	-6.928	74.550	-11.999	0.000%
45	0.000	-74.550	14.880	0.000	74.550	-14.880	0.000%

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
46	-7.645	-74.550	13.242	7.645	74.550	-13.242	0.000%
47	-12.965	-74.550	7.485	12.965	74.550	-7.485	0.000%
48	-13.476	-74.550	0.000	13.476	74.550	-0.000	0.000%
49	-11.316	-74.550	-6.533	11.316	74.550	6.533	0.000%
50	-6.928	-74.550	-11.999	6.928	74.550	11.999	0.000%

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	240 - 230	6.147	46	0.2955	0.0434
T2	230 - 210	5.524	46	0.2913	0.0405
T3	210 - 200	4.327	46	0.2503	0.0319
T4	200 - 180	3.817	46	0.2226	0.0270
T5	180 - 160	2.955	46	0.1805	0.0203
T6	160 - 140	2.250	46	0.1485	0.0152
T7	140 - 120	1.670	46	0.1236	0.0123
T8	120 - 100	1.193	46	0.0986	0.0096
T9	100 - 80	0.809	46	0.0788	0.0073
T10	80 - 60	0.505	46	0.0589	0.0049
T11	60 - 40	0.279	46	0.0427	0.0035
T12	40 - 20	0.127	46	0.0266	0.0023
T13	20 - 0	0.032	39	0.0131	0.0011

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
240.00	Flash Beacon Lighting	46	6.147	0.2955	0.0434	820817
238.00	(1) Site Pro VFA10-HD3L5NP	46	6.022	0.2951	0.0429	820817
228.00	(1) T-Frame	46	5.399	0.2891	0.0398	165685

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	240 - 230	27.516	16	1.3205	0.1968
T2	230 - 210	24.729	16	1.3020	0.1836
T3	210 - 200	19.374	16	1.1194	0.1447
T4	200 - 180	17.091	16	0.9958	0.1226
T5	180 - 160	13.235	16	0.8074	0.0922
T6	160 - 140	10.080	16	0.6644	0.0689
T7	140 - 120	7.482	16	0.5530	0.0560
T8	120 - 100	5.345	16	0.4410	0.0436
T9	100 - 80	3.630	3	0.3524	0.0329

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T10	80 - 60	2.268	3	0.2633	0.0222
T11	60 - 40	1.258	3	0.1913	0.0160
T12	40 - 20	0.576	3	0.1192	0.0103
T13	20 - 0	0.144	3	0.0588	0.0050

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
240.00	Flash Beacon Lighting	16	27.516	1.3205	0.1968	218180
238.00	(1) Site Pro VFA10-HD3L5NP	16	26.959	1.3190	0.1944	218180
228.00	(1) T-Frame	16	24.171	1.2924	0.1804	38493

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	240	Leg	A325N	0.6250	5	3.266	24.851	0.131 ✔	1	Bolt DS
T2	230	Leg	A325N	1.0000	6	11.232	53.014	0.212 ✔	1	Bolt Tension
T3	210	Leg	A325N	1.0000	6	11.807	53.014	0.223 ✔	1	Bolt Tension
		Diagonal	A325N	1.0000	1	7.585	11.682	0.649 ✔	1	Member Block Shear
T4	200	Leg	A325N	1.0000	6	18.110	53.014	0.342 ✔	1	Bolt Tension
		Diagonal	A325N	1.0000	1	6.112	11.682	0.523 ✔	1	Member Block Shear
T5	180	Leg	A325N	1.0000	6	23.225	53.014	0.438 ✔	1	Bolt Tension
		Diagonal	A325N	1.0000	1	6.166	11.682	0.528 ✔	1	Member Block Shear
T6	160	Leg	A325N	1.2500	6	28.288	82.835	0.342 ✔	1	Bolt Tension
		Diagonal	A325N	1.2500	1	6.609	20.303	0.326 ✔	1	Member Block Shear
T7	140	Leg	A325N	1.2500	6	33.190	82.835	0.401 ✔	1	Bolt Tension
		Diagonal	A325N	1.2500	1	7.395	20.303	0.364 ✔	1	Member Block Shear
T8	120	Leg	A325N	1.2500	6	38.087	82.835	0.460 ✔	1	Bolt Tension
		Diagonal	A325N	1.2500	1	8.029	23.701	0.339 ✔	1	Member Block Shear
T9	100	Leg	A325N	1.2500	6	43.100	82.835	0.520 ✔	1	Bolt Tension
		Diagonal	A325N	1.2500	1	9.379	17.672	0.531 ✔	1	Member Block Shear
T10	80	Leg	A325N	1.2500	12	23.041	82.835	0.278 ✔	1	Bolt Tension
		Diagonal	A325N	1.0000	2	6.617	35.525	0.186 ✔	1	Member Block Shear
T11	60	Leg	A325N	1.2500	12	25.635	82.835	0.309 ✔	1	Bolt Tension

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Diagonal	A325N	1.0000	2	6.626	35.525	0.187 ✔	1	Member Block Shear
T12	40	Leg	A325N	1.2500	12	28.115	82.835	0.339 ✔	1	Bolt Tension
		Diagonal	A325N	1.0000	2	7.184	35.525	0.202 ✔	1	Member Block Shear
T13	20	Diagonal	A325N	1.0000	2	8.214	35.525	0.231 ✔	1	Member Block Shear

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 230	1 3/4	10.00	2.17	59.4 K=1.00	2.4053	-13.665	83.605	0.163 [1] ✔
T2	230 - 210	2	20.00	2.38	57.0 K=1.00	3.1416	-69.479	111.473	0.623 [1] ✔
T3	210 - 200	#12 - 1.25" - 1.00" conn. (Pirod 105244)	10.02	10.02	45.4 K=1.00	3.6816	-76.343	142.493	0.536 [1] ✔
T4	200 - 180	#12 - 1.50" - 1.00" conn. (Pirod 105217)	20.03	10.02	37.8 K=1.00	5.3014	-117.224	214.859	0.546 [1] ✔
T5	180 - 160	#12 - 1.75" - 1.00" conn. (Pirod 105218)	20.03	10.02	32.4 K=1.00	7.2158	-150.336	300.681	0.500 [1] ✔
T6	160 - 140	#12 - 2.00" - 1.25" conn. (Pirod 105219)	20.03	10.02	28.4 K=1.00	9.4248	-184.766	399.868	0.462 [1] ✔
T7	140 - 120	#12 - 2.00" - 1.25" conn. (Pirod 105219)	20.03	10.02	28.4 K=1.00	9.4248	-218.696	399.868	0.547 [1] ✔
T8	120 - 100	#12 - 2.25" - 1.25" conn. (Pirod 105220)	20.03	10.02	25.2 K=1.00	11.9282	-253.425	512.375	0.495 [1] ✔
T9	100 - 80	#12 - 2.25" - 1.25" conn. (Pirod 105220)	20.03	10.02	25.2 K=1.00	11.9282	-289.332	512.375	0.565 [1] ✔
T10	80 - 60	#18 - 2.50" (Pirod 112743)	20.03	20.03	32.6 K=1.00	14.7262	-311.750	613.145	0.508 [1] ✔
T11	60 - 40	#18 - 2.50" (Pirod 112743)	20.03	20.03	32.6 K=1.00	14.7262	-350.784	613.145	0.572 [1] ✔
T12	40 - 20	#18 - 2.75" (Pirod 112744)	20.03	20.03	32.6 K=1.00	17.8187	-389.260	741.993	0.525 [1] ✔
T13	20 - 0	#18 - 2.75" (Pirod 112739) BASE ONLY	20.03	20.03	32.6 K=1.00	17.8187	-420.014	741.993	0.566 [1] ✔

[1] P_u / ϕP_n controls

Truss-Leg Diagonal Data

Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	ϕP_n K	A in^2	V_u K	ϕV_n K	Stress Ratio
T3	210 - 200	0.5	1.48	121.0	165.670	0.1963	1.476	3.292	0.449 ✔
T4	200 - 180	0.5	1.47	120.0	238.565	0.1963	1.645	3.335	0.493 ✔
T5	180 - 160	0.5	1.46	119.0	324.713	0.1963	1.044	3.378	0.309 ✔
T6	160 - 140	0.625	1.45	94.4	424.115	0.3068	1.042	6.958	0.150 ✔
T7	140 - 120	0.625	1.45	94.4	424.115	0.3068	0.926	6.958	0.133 ✔
T8	120 - 100	0.625	1.43	93.6	536.771	0.3068	0.848	7.011	0.121 ✔
T9	100 - 80	0.625	1.43	93.6	536.771	0.3068	1.398	7.011	0.200 ✔
T10	80 - 60	0.75	1.76	112.5	662.680	0.4418	1.658	10.686	0.156 ✔
T11	60 - 40	0.75	1.76	112.5	662.680	0.4418	1.991	10.686	0.186 ✔
T12	40 - 20	0.75	1.74	111.5	801.842	0.4418	2.053	10.858	0.190 ✔
T13	20 - 0	0.75	1.74	111.5	801.842	0.4418	1.346	10.858	0.124 ✔

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 230	3/4	4.99	2.42	139.2 K=0.90	0.4418	-3.387	5.152	0.657 [1] ✔
T2	230 - 210	1	5.50	2.68	115.6 K=0.90	0.7854	-4.946	13.276	0.373 [1] ✔
T3	210 - 200	L3x3x3/16	9.89	5.19	108.3 K=1.04	1.0900	-8.189	18.783	0.436 [1] ✔
T4	200 - 180	L3x3x3/16	10.80	5.55	113.9 K=1.02	1.0900	-6.093	17.648	0.345 [1] ✔
T5	180 - 160	L3x3x3/16	11.98	6.10	122.8 K=1.00	1.0900	-6.443	15.854	0.406 [1] ✔
T6	160 - 140	L3x3x5/16	13.17	6.62	134.9 K=1.00	1.7800	-6.931	22.082	0.314 [1] ✔
T7	140 - 120	L3x3x5/16	14.68	7.36	149.9 K=1.00	1.7800	-7.793	17.884	0.436 [1] ✔
T8	120 - 100	L3 1/2x3 1/2x5/16	16.29	8.16	141.8 K=1.00	2.0900	-8.369	23.470	0.357 [1] ✔
T9	100 - 80	L3 1/2x3 1/2x5/16	17.12	8.62	150.0 K=1.00	2.0900	-9.745	20.998	0.464 [1] ✔
T10	80 - 60	2L3 1/2x3 1/2x5/16x3/8	25.08	12.91	148.2 K=1.00	4.1800	-14.399	42.976	0.335 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T11	60 - 40	2L 'a' > 71.3596 in - 193 2L3 1/2x3 1/2x5/16x3/8	26.44	13.56	155.7 K=1.00	4.1800	-14.126	38.971	0.362 [1] ✔
T12	40 - 20	2L 'a' > 74.1952 in - 202 2L3 1/2x3 1/2x5/16x3/8	27.87	14.25	163.6 K=1.00	4.1800	-13.431	35.272	0.381 [1] ✔
T13	20 - 0	2L 'a' > 77.2318 in - 212 2L3 1/2x3 1/2x5/16x3/8 2L 'a' > 80.4361 in - 220	29.37	14.98	172.0 K=1.00	4.1800	-18.238	31.912	0.572 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 230	1	4.50	4.35	146.3 K=0.70	0.7854	-0.068	8.290	0.008 [1] ✔
T2	230 - 210	1	4.52	4.35	146.3 K=0.70	0.7854	-1.647	8.294	0.199 [1] ✔

[1] P_u / ϕP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 230	1	4.50	4.35	146.3 K=0.70	0.7854	-1.668	8.290	0.201 [1] ✔
T2	230 - 210	1	4.99	4.83	162.2 K=0.70	0.7854	-1.750	6.742	0.260 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 230	1 3/4	10.00	0.33	9.1	1.7942	13.146	87.466	0.150 [1] [#] ✔
T2	230 - 210	2	20.00	0.21	5.0	3.1416	67.392	141.372	0.477 [1] ✔
T3	210 - 200	#12 - 1.25" - 1.00" conn. (Pirod 105244)	10.02	10.02	45.4	3.6816	70.844	165.670	0.428 [1] ✔
T4	200 - 180	#12 - 1.50" - 1.00" conn. (Pirod 105217)	20.03	10.02	37.8	5.3014	108.661	238.565	0.455 [1] ✔
T5	180 - 160	#12 - 1.75" - 1.00" conn. (Pirod 105218)	20.03	10.02	32.4	7.2158	139.351	324.713	0.429 [1] ✔
T6	160 - 140	#12 - 2.00" - 1.25" conn. (Pirod 105219)	20.03	10.02	28.4	9.4248	169.731	424.115	0.400 [1] ✔
T7	140 - 120	#12 - 2.00" - 1.25" conn. (Pirod 105219)	20.03	10.02	28.4	9.4248	199.138	424.115	0.470 [1] ✔
T8	120 - 100	#12 - 2.25" - 1.25" conn. (Pirod 105220)	20.03	10.02	25.2	11.9282	228.521	536.771	0.426 [1] ✔
T9	100 - 80	#12 - 2.25" - 1.25" conn. (Pirod 105220)	20.03	10.02	25.2	11.9282	258.602	536.771	0.482 [1] ✔
T10	80 - 60	#18 - 2.50" (Pirod 112743)	20.03	20.03	32.6	14.7262	276.491	662.680	0.417 [1] ✔
T11	60 - 40	#18 - 2.50" (Pirod 112743)	20.03	20.03	32.6	14.7262	307.616	662.680	0.464 [1] ✔
T12	40 - 20	#18 - 2.75" (Pirod 112744)	20.03	20.03	32.6	17.8187	337.385	801.842	0.421 [1] ✔
T13	20 - 0	#18 - 2.75" (Pirod 112739) BASE ONLY	20.03	20.03	32.6	17.8187	361.535	801.842	0.451 [1] ✔

[1] P_u / ϕP_n controls
[#] Based on net area of leg in section below

Truss-Leg Diagonal Data

Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	ϕP_n K	A in^2	V_u K	ϕV_n K	Stress Ratio
T3	210 - 200	0.5	1.48	121.0	165.670	0.1963	1.476	3.292	0.449 ✔
T4	200 - 180	0.5	1.47	120.0	238.565	0.1963	1.645	3.335	0.493 ✔
T5	180 - 160	0.5	1.46	119.0	324.713	0.1963	1.044	3.378	0.309 ✔
T6	160 - 140	0.625	1.45	94.4	424.115	0.3068	1.042	6.958	0.150 ✔
T7	140 - 120	0.625	1.45	94.4	424.115	0.3068	0.926	6.958	0.133 ✔
T8	120 - 100	0.625	1.43	93.6	536.771	0.3068	0.848	7.011	0.121 ✔
T9	100 - 80	0.625	1.43	93.6	536.771	0.3068	1.398	7.011	0.200 ✔
T10	80 - 60	0.75	1.76	112.5	662.680	0.4418	1.658	10.686	0.156 ✔

Section No.	Elevation ft	Diagonal Size	L_d ft	Kl/r	ϕP_n K	A in^2	V_u K	ϕV_n K	Stress Ratio
T11	60 - 40	0.75	1.76	112.5	662.680	0.4418	1.991	10.686	0.186
T12	40 - 20	0.75	1.74	111.5	801.842	0.4418	2.053	10.858	0.190
T13	20 - 0	0.75	1.74	111.5	801.842	0.4418	1.346	10.858	0.124

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 230	3/4	4.99	2.42	154.6	0.4418	3.369	19.880	0.169 [1]
T2	230 - 210	1	5.50	2.68	128.4	0.7854	4.925	35.343	0.139 [1]
T3	210 - 200	L3x3x3/16	9.89	5.19	69.0	0.6593	7.585	28.679	0.264 [1]
T4	200 - 180	L3x3x3/16	10.31	5.34	70.9	0.6593	6.112	28.679	0.213 [1]
T5	180 - 160	L3x3x3/16	11.98	6.10	80.6	0.6593	6.166	28.679	0.215 [1]
T6	160 - 140	L3x3x5/16	13.17	6.62	89.5	1.0127	6.609	44.054	0.150 [1]
T7	140 - 120	L3x3x5/16	14.68	7.36	99.0	1.0127	7.395	44.054	0.168 [1]
T8	120 - 100	L3 1/2x3 1/2x5/16	16.29	8.16	93.4	1.2452	8.029	54.168	0.148 [1]
T9	100 - 80	L3 1/2x3 1/2x5/16	17.97	9.05	102.7	1.2452	9.379	54.168	0.173 [1]
T10	80 - 60	2L3 1/2x3 1/2x5/16x3/8	25.08	12.91	146.7	2.6077	13.233	113.433	0.117 [1]
T11	60 - 40	2L 'a' > 71.3596 in - 193 2L3 1/2x3 1/2x5/16x3/8	26.44	13.56	153.9	2.6077	13.253	113.433	0.117 [1]
T12	40 - 20	2L 'a' > 74.1952 in - 202 2L3 1/2x3 1/2x5/16x3/8	27.87	14.25	161.6	2.6077	14.367	113.433	0.127 [1]
T13	20 - 0	2L 'a' > 77.2318 in - 212 2L3 1/2x3 1/2x5/16x3/8 2L 'a' > 80.4361 in - 220	29.37	14.98	169.7	2.6077	16.429	113.433	0.145 [1]

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 230	1	4.50	4.35	209.0	0.7854	0.052	35.343	0.001 [1] ✔
T2	230 - 210	1	4.52	4.35	208.9	0.7854	1.641	35.343	0.046 [1] ✔

[1] $P_u / \phi P_n$ controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	240 - 230	1	4.50	4.35	209.0	0.7854	1.675	35.343	0.047 [1] ✔
T2	230 - 210	1	4.99	4.83	231.8	0.7854	1.874	35.343	0.053 [1] ✔

[1] $P_u / \phi P_n$ controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	240 - 230	Leg	1 3/4	1	-13.665	83.605	16.3	Pass
T2	230 - 210	Leg	2	34	-69.479	111.473	62.3	Pass
T3	210 - 200	Leg	#12 - 1.25" - 1.00" conn. (Pirod 105244)	91	-76.343	142.493	53.6	Pass
T4	200 - 180	Leg	#12 - 1.50" - 1.00" conn. (Pirod 105217)	100	-117.224	214.859	54.6	Pass
T5	180 - 160	Leg	#12 - 1.75" - 1.00" conn. (Pirod 105218)	117	-150.336	300.681	50.0	Pass
T6	160 - 140	Leg	#12 - 2.00" - 1.25" conn. (Pirod 105219)	132	-184.766	399.868	46.2	Pass
T7	140 - 120	Leg	#12 - 2.00" - 1.25" conn. (Pirod 105219)	147	-218.696	399.868	54.7	Pass
T8	120 - 100	Leg	#12 - 2.25" - 1.25" conn. (Pirod 105220)	162	-253.425	512.375	49.5	Pass
T9	100 - 80	Leg	#12 - 2.25" - 1.25" conn. (Pirod 105220)	177	-289.332	512.375	56.5	Pass
T10	80 - 60	Leg	#18 - 2.50" (Pirod 112743)	192	-311.750	613.145	50.8	Pass
T11	60 - 40	Leg	#18 - 2.50" (Pirod 112743)	201	-350.784	613.145	57.2	Pass
T12	40 - 20	Leg	#18 - 2.75" (Pirod 112744)	210	-389.260	741.993	52.5	Pass
T13	20 - 0	Leg	#18 - 2.75" (Pirod 112739) BASE ONLY	219	-420.014	741.993	56.6	Pass
T1	240 - 230	Diagonal	3/4	10	-3.387	5.152	65.7	Pass
T2	230 - 210	Diagonal	1	44	-4.946	13.276	37.3	Pass
T3	210 - 200	Diagonal	L3x3x3/16	94	-8.189	18.783	43.6 64.9 (b)	Pass
T4	200 - 180	Diagonal	L3x3x3/16	104	-6.093	17.648	34.5 52.3 (b)	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T5	180 - 160	Diagonal	L3x3x3/16	118	-6.443	15.854	40.6 52.8 (b)	Pass
T6	160 - 140	Diagonal	L3x3x5/16	133	-6.931	22.082	31.4 32.6 (b)	Pass
T7	140 - 120	Diagonal	L3x3x5/16	148	-7.793	17.884	43.6	Pass
T8	120 - 100	Diagonal	L3 1/2x3 1/2x5/16	163	-8.369	23.470	35.7	Pass
T9	100 - 80	Diagonal	L3 1/2x3 1/2x5/16	184	-9.745	20.998	46.4 53.1 (b)	Pass
T10	80 - 60	Diagonal	2L3 1/2x3 1/2x5/16x3/8	193	-14.399	42.976	33.5	Pass
T11	60 - 40	Diagonal	2L3 1/2x3 1/2x5/16x3/8	202	-14.126	38.971	36.2	Pass
T12	40 - 20	Diagonal	2L3 1/2x3 1/2x5/16x3/8	212	-13.431	35.272	38.1	Pass
T13	20 - 0	Diagonal	2L3 1/2x3 1/2x5/16x3/8	220	-18.238	31.912	57.2	Pass
T1	240 - 230	Top Girt	1	5	-0.068	8.290	0.8	Pass
T2	230 - 210	Top Girt	1	38	-1.647	8.294	19.9	Pass
T1	240 - 230	Bottom Girt	1	8	-1.668	8.290	20.1	Pass
T2	230 - 210	Bottom Girt	1	41	-1.750	6.742	26.0	Pass
							Summary	
						Leg (T2)	62.3	Pass
						Diagonal (T1)	65.7	Pass
						Top Girt (T2)	19.9	Pass
						Bottom Girt (T2)	26.0	Pass
						Bolt Checks	64.9	Pass
						RATING =	**65.7**	**Pass**

V2.1 - 04/25/2018

Self Support Anchor Bolt Check

Project Information	
SBA Project # :	CT00990-ATT-092419
Code :	G

Leg Reaction	
Anchor bolt detail type:	C
Uplift(kips):	378
Shear (kips) :	41

Strength Reduction Factors	
Tension :	0.8
Shear :	0.75
Flexure :	0.9

Bolt Information	
Quantity :	6
Diameter (in) :	2
Assumed ungrouted gap (in) :	0
Bolt Fy (ksi) :	105
Bolt Fu (AISC Table 2-6) (ksi):	150
Anchor bolt detail factor:	0.55
# of threads (AISC Table 7-17) :	4.5

Safety Factors	
Factor (Ω) :	2

Bolt Capacity : 25.1% ***Pass***

Mat Foundation Analysis - SST

Last revised 6/14/2019

Input

Project Data

SBA Project #	CT00990-ATT-092419
Code (F or G)	G

Load Data

Leg	Uplift (Kips)	378
	Uplift Shear (Kips)	41
	Compression (Kips)	441
	Compression Shear (Kips)	48
Base	Moment (Kip-ft)	9275
	Compression (Kips)	89
	Shear (Kips)	71

Strength reduction factors (Rev G)

Concrete weight	0.9
Bearin / Soil weight	0.75
Compression	0.65
Shear	0.75
Flexure / Tension	0.9

Factor of safety (Rev F)

Soil weight	2
Soil friction	2
Passive Pressure	2
Concrete weight	1.25
Dead weight	1.5

Foundation Data

Pier diameter (ft)	4.5
Pier height above grade (ft)	0.5
Pad width (ft)	34
Pad Thickness (ft)	2.5
Pad bearing depth (ft)	7
Tower base width (ft)	26
Tower to pad center distance (ft)	3.75

Reinforcement Data ☐ Use Minimum

Pier reinforcement	size	9
	quantity	21
Pad Top reinforcement	Size	9
	quantity	50
Bottom reinforcement	Size	9
	quantity	50

Material Data

Concrete strength (psi)	4000
Concrete unit weight (pcf)	150
rebar yield strength (Ksi)	60
clear cover (in)	3

Geotechnical Data

Depth to neglect (ft)	3.33
Water table depth (ft)	99
Soil cone failure angle - δ	30
Coefficient of sliding friction	0.2
Ultimate bearing capacity (ksf)	16

Soil Layers ☑ ☑ Net

Layer	From	To	Cohesion	Internal Friction Angle	Moist Soil Unit Weight	Effective Soil Unit Weight	Ultimate Passive Pressure
#	(ft)	(ft)	(ksf)	(deg)	(pcf)	(pcf)	(ksf)
1	0.0	3.33	0.00	0.00	125	125	
2	3.3	4.50	0.00	0.00	125	125	
3	4.5	7.00	0.00	0.00	125	125	
4	7.0						

☐ Use Passive pressure and soil wedge for overturning analysis

Mat Foundation Analysis - SST

Analysis Result

Geotechnical failure checks					
			% Capacity		
1. Compression failure	Applied Compression (ksf)	2.4			
	Compression Capacity (ksf)	12.0	20.3%		
	Compression failure		Check=	Pass	√
2. Overturning failure	Overturning moment (kips-ft)	9807.5			
	Resisting Moment (kips-ft)	17897.5	54.8%		
	Factor of Safety		Check=	Pass	√
	Overturning failure				
Pier					
3. Compresion failure	Applied Compression (kips)	441.0			
	Pier Compression Capacity (kips)	4049.1	10.9%		
	Compression failure			Pass	√
4. Tension failure	Applied Tension (kips)	378.0			
	Pier Tension Capacity (kips)	1133.2	33.4%		
	Tension failure			Pass	√
5. Compression + Flexure	Applied Moment (kip-ft)	240.0			
	Pier Moment Capacity (kips-ft	2590.2	9.3%		
	P+M failure			Pass	√
6. Tension + Flexure	Applied Moment (kip-ft)	205.0			
	Pier Moment Capacity (kips-ft	1349.6	15.2%		
	T+M failure			Pass	√
Pad					
7. one way shear	Applied Shear (kips)	280.4			
	Pier Shear Capacity (kips)	914.0	30.7%		
	Shear failure			Pass	√
8. two way shear	Applied Shear (kips)	392.1			
	Pad Shear Capacity (kips)	1114.8	35.2%		
	Shear failure			Pass	√
9. Bottom Flexure	Applied Moment (kip-ft)	2096.3			
	Pad Moment Capacity (kips-ft	5897.7	35.5%		
	Flexure failure			Pass	√
10. Top Flexure	Applied Moment (kip-ft)	1376.1			
	Pad Moment Capacity (kips-ft	4923.6	27.9%		
	Flexure failure			Pass	√
	Total Foundation		54.8%		
				Pass	√

INFINIGY

THE SOLUTIONS ARE ENDLESS

Non-Ionizing Radiation Report

Compiled For: Smartlink on behalf of AT&T

Site Name: Scotland-Huntington Road

Site FA: 10050915

Site ID: CTL01242

165 Huntington Road, Scotland, CT 06264

Latitude: 41.696061 Longitude: -72.0965881

Structure Type: Monopole

Report Date: October 7, 2019

Status: AT&T will be compliant with FCC rules on RF Exposure with the signage recommendation in section 4 of this report.

Table of Contents

1. Executive Summary:

Smartlink on behalf of AT&T has contracted Infinigy Solutions, LLC to determine whether the site Scotland-Huntington Road located at 165 Huntington Road in Scotland, CT Will Be Compliant with all Federal Communications Commission (FCC) rules and regulations for radio frequency (RF) exposure as indicated in **47CFR§1.1310**.

The report incorporates a theoretical RF field analysis in accordance with the FCC Rules and Regulations for all individuals classified as "Occupational or Controlled" and "General Public or Uncontrolled" (see Appendix A and B).

This document and the conclusions herein are based on information provided by Smartlink on behalf of AT&T.

As a result of the analysis, **AT&T Will Be Compliant with FCC rules with the installation of signage recommended in section 4.**

Engineering assumptions were made regarding the collation operator(s). The assumptions were made based upon typical deployment configurations and practices of the operator(s).

All Carriers, All Bands Cumulative Exposure %		
Uncontrolled / General Population	Exposure values at the site (mW/cm^2)	0.0064
	% Exposure	0.91%
Controlled / Occupational	Exposure values at the site (mW/cm^2)	0.0064
	% Exposure	0.19%

2. Site Summary:

Site Information	
Site Name: Scotland-Huntington Road	
Site Address: 165 Huntington Road, Scotland, CT 06264	
Site Type: Monopole	
Compliance Status	Will Be Compliant
Mitigation Required	No
Signage Required	Yes
Barriers Required	No
Access Locked	No
Area Controlled or Uncontrolled	Uncontrolled

3. Site Compliance

This report also incorporates overview of the site information:

- Antenna Inventory Table
- Calculation Tables showing exposure for each carrier transmit frequency
- Total exposure for all carriers existing and proposed at ground level considering the centerline of all antennas and horizontal distance from the tower.
- Maximum Effective Radiated Power Assumed as Worst Case for Calculations used in this study
- Calculations based on flat ground around base of the structure

4. Site Compliance Recommendations

Infinigy recommends the following upon the installation of antennas at the site:

Base of tower

Caution 2 sign.

Note: The above signage recommendation is moot if there is an existing caution 2 sign at the base of the tower.

5. Antenna Inventory Table

Ant ID	Sector	Operator	Antenna manufacturer	Antenna Model	Operating Frequency	Rad Ctr (Ft)	Total ERP Power (Watts)
1	Alpha	AT&T	Powerwave	7770	850	238	1115
2a	Alpha	AT&T	CCI	DMP65R-BU8D	700	238	2951
2b	Alpha	AT&T	CCI	DMP65R-BU8D	2100	238	3837
3a	Alpha	AT&T	CCI	DMP65R-BU8D	700	238	1476
3b	Alpha	AT&T	CCI	DMP65R-BU8D	1900	238	3664
3c	Alpha	AT&T	CCI	DMP65R-BU8D	850	238	1000
3d	Alpha	AT&T	CCI	DMP65R-BU8D	850	238	1000
4	Beta	AT&T	Powerwave	7770	850	238	1115
5a	Beta	AT&T	CCI	DMP65R-BU8D	700	238	2951
5a	Beta	AT&T	CCI	DMP65R-BU8D	700	238	2951
5b	Beta	AT&T	CCI	DMP65R-BU8D	2100	238	3837
6a	Beta	AT&T	CCI	DMP65R-BU8D	700	238	1476
6b	Beta	AT&T	CCI	DMP65R-BU8D	1900	238	3664
6c	Beta	AT&T	CCI	DMP65R-BU8D	850	238	1000
6d	Beta	AT&T	CCI	DMP65R-BU8D	850	238	1000
7	Gamma	AT&T	Powerwave	7770	850	238	1115
8a	Gamma	AT&T	CCI	DMP65R-BU8D	700	238	2951
8a	Gamma	AT&T	CCI	DMP65R-BU8D	700	238	2951
8b	Gamma	AT&T	CCI	DMP65R-BU8D	2100	238	3837
9a	Gamma	AT&T	CCI	DMP65R-BU8D	700	238	1476
9b	Gamma	AT&T	CCI	DMP65R-BU8D	1900	238	3664
9c	Gamma	AT&T	CCI	DMP65R-BU8D	850	238	1000
9d	Gamma	AT&T	CCI	DMP65R-BU8D	850	238	1000
10	Alpha	Verizon Wireless	Commscope	NNH-65C-R2B	700	228	1361
11	Alpha	Verizon Wireless	Commscope	NNH-65C-R2B	2100	228	1654

Ant ID	Sector	Operator	Antenna manufacturer	Antenna Model	Operating Frequency	Rad Ctr (Ft)	Total ERP Power (Watts)
12	Alpha	Verizon Wireless	Commscope	NNH-65C-R2B	1900	228	1515
13	Alpha	Verizon Wireless	Commscope	NNH-65C-R2B	850	228	1344
14	Beta	Verizon Wireless	Commscope	NNH-65C-R2B	700	228	1361
17	Beta	Verizon Wireless	Commscope	NNH-65C-R2B	850	228	1344
18	Gamma	Verizon Wireless	Commscope	NNH-65C-R2B	700	228	1361
19	Gamma	Verizon Wireless	Commscope	NNH-65C-R2B	2100	228	1654
20	Gamma	Verizon Wireless	Commscope	NNH-65C-R2B	1900	228	1515
21	Gamma	Verizon Wireless	Commscope	NNH-65C-R2B	850	228	1344

6. RF Guidelines

To ensure safety of company workers, the following points need to be taken into consideration and implemented at wireless sites in accordance with the Carriers policies:

a) Worksite: Any employee at the site should avoid working directly in front of the antenna or in areas predicted to exceed general population exposure limits by 100%. Workers should insist that the transmitters be switched off during the work period.

b) RF Safety Training and Awareness: All employees working in areas exceeding the general population limits should have a basic awareness of RF safety measures. Videos, classroom lectures and online courses are all appropriate training methods on these topics.

c) Site Access: Restricting access to transmitting antenna locations is one of the most important elements of RF safety. This can be done with:
   - Locked doors/gates/ladder access
   - Alarmed doors
   - Restrictive barriers

d) Three-foot Buffer: There is an inverse relationship between the strength of the field and the distance from the antenna. The RF field diminishes with distance from the antenna. Workers should maintain a three-foot distance from the antennas.

e) Antennas: Workers should always assume that the antenna is transmitting and should never stop right in front of the antenna. If someone must pass by an antenna, he/she should move quickly, thus reducing RF exposure.

Attachment 1: AT&T Exposure Analysis

AT&T 700 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.5**
	Exposure values at the site (mW/cm^2)	**0.0013**
	% Exposure	**0.27%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.3**
	Exposure values at the site (mW/cm^2)	**0.0013**
	% Exposure	**0.06%**

AT&T 850 MHz UMTS		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.6**
	Exposure values at the site (mW/cm^2)	**0.0003**
	% Exposure	**0.05%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.8**
	Exposure values at the site (mW/cm^2)	**0.0003**
	% Exposure	**0.01%**

AT&T 850 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.6**
	Exposure values at the site (mW/cm^2)	**0.0003**
	% Exposure	**0.05%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.8**
	Exposure values at the site (mW/cm^2)	**0.0003**
	% Exposure	**0.01%**

AT&T 850 MHz 5G		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.6**
	Exposure values at the site (mW/cm^2)	**0.0003**
	% Exposure	**0.05%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.8**
	Exposure values at the site (mW/cm^2)	**0.0003**
	% Exposure	**0.01%**

AT&T 1900 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0011**
	% Exposure	**0.11%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0011**
	% Exposure	**0.02%**

AT&T 2100 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0011**
	% Exposure	**0.11%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0011**
	% Exposure	**0.02%**

Attachment 2: Verizon Wireless Exposure Analysis

Verizon Wireless 700 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.5**
	Exposure values at the site (mW/cm^2)	**0.0004**
	% Exposure	**0.09%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.3**
	Exposure values at the site (mW/cm^2)	**0.0004**
	% Exposure	**0.02%**

Verizon Wireless 850 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**0.6**
	Exposure values at the site (mW/cm^2)	**0.0004**
	% Exposure	**0.07%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**2.8**
	Exposure values at the site (mW/cm^2)	**0.0004**
	% Exposure	**0.02%**

Verizon Wireless 1900 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0005**
	% Exposure	**0.05%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0005**
	% Exposure	**0.01%**

Verizon Wireless 2100 MHz LTE		
Uncontrolled / General Population	FCC's exposure limits (mW/cm^2)	**1.0**
	Exposure values at the site (mW/cm^2)	**0.0005**
	% Exposure	**0.05%**
Controlled / Occupational	FCC's Exposure limits(mW/cm^2)	**5.0**
	Exposure values at the site (mW/cm^2)	**0.0005**
	% Exposure	**0.01%**

Attachment 3: Combined Exposure Analysis for each Carrier

AT&T All Bands		
Uncontrolled / General Population	Exposure values at the site (mW/cm^2)	0.0045
	% Exposure	0.65%
Controlled / Occupational	Exposure values at the site (mW/cm^2)	0.0045
	% Exposure	0.14%

Verizon Wireless All Bands		
Uncontrolled / General Population	Exposure values at the site (mW/cm^2)	0.0019
	% Exposure	0.26%
Controlled / Occupational	Exposure values at the site (mW/cm^2)	0.0019
	% Exposure	0.06%

7. Appendix A: FCC Guidelines

FCC Policies

The Federal Communications Commission (FCC) in 1996 implemented regulations and policies for analysis of RF propagation to evaluate RF emissions. All the analysis and results of this report are compared with FCC's (Federal Communications Commission) rules to determine whether a site is compliant for Occupational/Controlled or General Public/Uncontrolled exposure. All the analysis of RF propagation is done in terms of a percentage. The limits primarily indicate the power density and are generally expressed in terms of milliwatts per centimeter square, mW/cm^2.

FCC guidelines incorporate two separate tiers of exposure limits that are dependent on the scenario/ situation in which that exposure takes place or the status of the individuals who are subjected to that exposure. The decision as to which tier is applied to a scenario is based on the following definitions:

Occupational / Controlled

These limits apply in situations when someone is exposed to RF energy through his/her occupation, is fully aware of the harmful effects of the RF exposure and has an ability to exercise control over this exposure. Occupational / controlled exposure limits also apply when 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. limits for Occupational/Controlled exposure can be found on Table 1(A).

General Population / Uncontrolled

These limits apply to situations in which the general public may be exposed or in which persons who are exposed because of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure to RF. Therefore, members of the general public would always be considered under this category, for example, in the case of a telecommunications tower that exposes people in a nearby residential area. Exposure limits for General Population/Uncontrolled can be found on Table 1(B).

Table 1. LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

(A) Limits for Occupational/Controlled Exposure

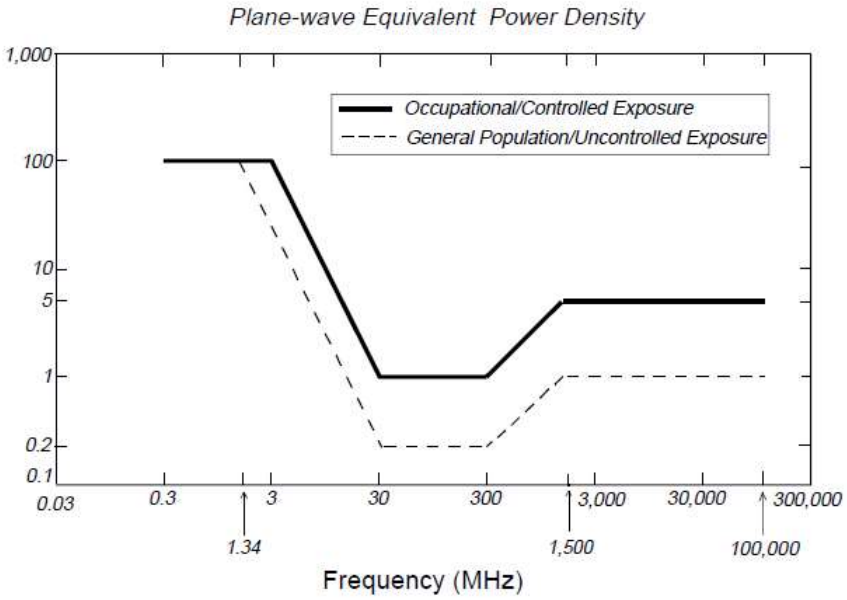
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $|E|^2$, $|H|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $|E|^2$, $|H|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

Figure 1. *FCC Limits for Maximum Permissible Exposure (MPE)*



OSHA Statement:

The objective of the OSHA Act is to ensure the safety and health of the working men and women by enforcing certain standards. The act also assists and encourages the states in their efforts to ensure safe and healthy working conditions through means of research, information, education and training in the field of occupational safety and health and for other purposes.

According to OSHA Act section 5, important duties to be considered are:

(a) Each employer

1) Shall furnish to each of his employees' employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious harm to his employees
2) Shall comply with occupational safety and health standards promulgated under this act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

8. Appendix B: Preparer Certification

I, Tim Harris, preparer of this report, certify that I am fully trained and aware of the rules and regulations of both the Federal Communications Commission and the Occupational Safety and Heath Administration regarding Human Exposure to Radio Frequency Radiation. In addition, I have been trained in 1) RF safety and 2) RF modeling using RoofView modeling software.

I certify that the information contained in this report is true and correct to the best of my knowledge.

Timothy A. Harris *10/7/2019*

Signature Date

UNITED STATES POSTAL SERVICE

October 22, 2019

Dear Kristina Cottone:

The following is in response to your request for proof of delivery on your item with the tracking number: **9510 8100 1967 9290 2627 88**.

Item Details

Status:	Delivered
Status Date / Time:	October 21, 2019, 12:01 pm
Location:	SCOTLAND, CT 06264
Postal Product:	Priority Mail®
Extra Services:	Insured
	Signature Confirmation™
Actual Recipient Name:	E WILSVN

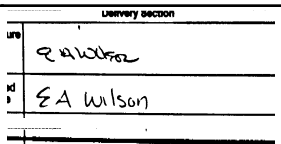
Note: Actual Recipient Name may vary if the intended recipient is not available at the time of delivery.

Shipment Details

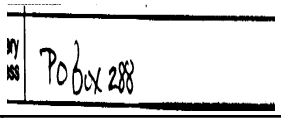
Weight:	1lb, 0.0oz

Recipient Signature

Signature of Recipient:



Address of Recipient:



Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

UNITED STATES POSTAL SERVICE

October 22, 2019

Dear Kristina Cottone:

The following is in response to your request for proof of delivery on your item with the tracking number: **9510 8100 1967 9290 2627 71**.

Item Details

Status:	Delivered
Status Date / Time:	October 21, 2019, 12:01 pm
Location:	SCOTLAND, CT 06264
Postal Product:	Priority Mail®
Extra Services:	Insured
	Signature Confirmation™
Actual Recipient Name:	E WILSVN

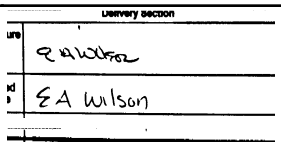
Note: Actual Recipient Name may vary if the intended recipient is not available at the time of delivery.

Shipment Details

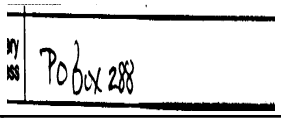
Weight:	1lb, 0.0oz

Recipient Signature

Signature of Recipient:



Address of Recipient:



Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

UNITED STATES POSTAL SERVICE

October 22, 2019

Dear Kristina Cottone:

The following is in response to your request for proof of delivery on your item with the tracking number: **9510 8100 1967 9290 2627 95**.

Item Details

Status:	Delivered
Status Date / Time:	October 21, 2019, 3:22 pm
Location:	SCOTLAND, CT 06264
Postal Product:	Priority Mail®
Extra Services:	Insured
	Signature Confirmation™
Actual Recipient Name:	P PASSARELLO

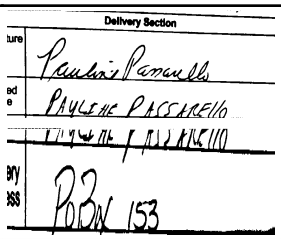
Note: Actual Recipient Name may vary if the intended recipient is not available at the time of delivery.

Shipment Details

Weight:	15.0oz

Recipient Signature

Signature of Recipient:



Address of Recipient:

Note: Scanned image may reflect a different destination address due to Intended Recipient's delivery instructions on file.

Thank you for selecting the United States Postal Service® for your mailing needs. If you require additional assistance, please contact your local Post Office™ or a Postal representative at 1-800-222-1811.

Sincerely,
United States Postal Service®
475 L'Enfant Plaza SW
Washington, D.C. 20260-0004

Kristina Cottone

From: TrackingUpdates@fedex.com
Sent: Tuesday, October 22, 2019 5:30 PM
To: Kristina Cottone
Subject: FedEx Shipment 776640878698 Delivered

Your package has been delivered

Tracking # 776640878698

Ship date:
Fri, 10/18/2019

Smartlink LLC
NORTH BILLERICA, MA 01862
US

Delivered

Delivery date:
Tue, 10/22/2019 5:26 pm

Carla Shorter
SBA COMMUNICATIONS CORP.
8051 CONGRESS AVE
BOCA RATON, FL
33487131099
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	776640878698
Status:	Delivered: 10/22/2019 5:26 PM Signed for By: JMETZ
Reference:	CTL01242 - Scotland
Signed for by:	JMETZ
Delivery location:	Boca Raton, FL
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	10/23/2019

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 4:30 PM CDT on 10/22/2019.

All weights are estimated.

SHEET INDEX

NO.	DESCRIPTION
T1	TITLE SHEET
C1	GENERAL NOTES
C2	OVERALL SITE PLAN
C2A	ENLARGED SITE PLAN
C3	ELEVATION VIEW
C4	ANTENNA ORIENTATION PLAN
C5	EQUIPMENT DETAILS
C6	PLUMBING DIAGRAM
C7	GROUNDING DETAILS
S1-S2	MODIFICATION DETAILS

DRIVING DIRECTIONS

FROM 550 COCHITUATE RD.:

GET ON I-90 WEST/MASSACHUETTS TURNPIKE. HEAD NORTHEAST TOWARD LEGGATT MCCALL CONN. TURN LEFT ONTO LEGGATT MCCALL CONN. CONTINUE ONTO BURR STREET. TURN LEFT ONTO COCHITUATE ROAD. USE THE RIGHT LANE TO TAKE THE RAMP TO I-90 EAST/MASSPIKE WEST/SPRINGFIELD/BOSTON. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR I-90 WEST/MASSACHUETTS TURNPIKE/WORCESTER/SPRINGFIELD AND MERGE ONTO I-90 WEST/MASSACHUETTS TURNPIKE. FOLLOW I-90 WEST/MASSACHUETTS TURNPIKE AND I-395 SOUTH TO CT-14 WEST IN PLAINFIELD. TAKE EXIT 32 FROM I-395 SOUTH. MERGE ONTO I-90 WEST/MASSACHUETTS TURNPIKE. TAKE EXIT 10 TOWARD MA-12 NORTH/AUBURN/WORCESTER. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR I-395 SOUTH/US-20 EAST/NORWICH CT AND MERGE ONTO I-395 SOUTH. TAKE EXIT 32 FOR CT-14 TOWARD STERLING/MOSSUP. DRIVE TO CT-14 WEST IN SCOTLAND. TURN RIGHT ONTO CT-14 WEST. TURN RIGHT ONTO CT-12 NORTH/CT-14 WEST. SLIGHT LEFT ONTO CT-14 WEST. TURN RIGHT TO STAY ON CT-14 WEST.

LOCATION MAP

at&t

PROJECT

LTE 2C/3C/4C/5C/RETROFIT

SITE NAME

SCOTLAND-HUNTINGTON ROAD

CELL SITE ID

CTL01242

FA SITE NUMBER

10050915

PACE ID

MRCTB041459/MRCTB041363/MRCTB041579
MRCTB041512/MRCTB041755

SITE ADDRESS

165 HUNTINGTON ROAD
SCOTLAND, CT 06264

STRUCTURE TYPE

SELF SUPPORT

PROJECT TEAM

smartlink

PROJECT MANAGER

INFINIGY

1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

ENGINEER

SCOPE OF WORK (PER LTE RFDS, DATED 08/21/2019 V1.00):

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- FACILITY HAS NO PLUMBING OR REFRIGERANTS.
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

TOWER
- REMOVE (6) PANEL ANTENNAS
- INSTALL (6) PANEL ANTENNAS
- REMOVE (3) RRUS-11 B12
- INSTALL (3) B14 4478
- INSTALL (3) 4449 B5/B12
- INSTALL (3) 8843 B2/B66A
- INSTALL (2) DC6 SQUID WITH (1) FIBER AND (4) DC CABLES

GROUND
- SWAP BB WITH 6630
- ADD XMU
- ADD 6630
- ADD IDLe CABLE

PROJECT SUMMARY

SITE NAME:	SCOTLAND-HUNTINGTON ROAD	
CELL SITE ID:	CTL01242	
FA SITE #:	10050915	
SITE ADDRESS:	165 HUNTINGTON ROAD SCOTLAND, CT 06264	
COUNTY:	WINDHAM	
SITE COORDINATES: LATITUDE: LONGITUDE:	 41.6960061° N 72.0965881° W	 (NAD 83) (NAD 83)
RAD CENTER	±238'	(AGL)
LANDLORD:	SBA COMMUNICATIONS	
APPLICANT:	AT&T MOBILITY 550 COCHITUATE RD. FRAMINGHAM, MA 01701	
CLIENT REPRESENTATIVE:	SMARTLINK, LLC 85 RANGEWAY RD., BUILDING 3, SUITE 102 NORTH BILLERICA, MA 01862	
CONTACT:	SHARON KEEFE (978) 930-3918	
ENGINEER:	INFINIGY 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205	
CONTACT:	ALEX WELLER (518) 690-0790	
BUILDING CODE:	2018 CT STATE BUILDING CODE 2015 INTERNATIONAL BUILDING CODE ANSI/TIA-222 G 2015 INTERNATIONAL PLUMBING CODE 2015 INTERNATIONAL MECHANICAL CODE 2015 INTERNATIONAL ENERGY CONSERVATION CODE 2017 NFPA 70	
ELECTRICAL CODE:	NATIONAL ELECTRICAL CODE (LATEST EDITION)	

811 Know what's below. Call before you dig.

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN CONNECTICUT, CONTACT CALL BEFORE YOU DIG
TOLL FREE: 1-800-922-4455 OR www.cbyd.com
CONNECTICUT STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

INFINIGY
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

at&t

STATE OF CONNECTICUT
JOHN S. STEVENS
10/04/2019
24705
LICENSED PROFESSIONAL ENGINEER

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
1	ISSUED FOR PERMIT	ASW	10/04/19
0	ISSUED FOR REVIEW	BMM	09/18/19

Drawn: BMM Date: 09/18/19
Designed: ASW Date: 09/18/19
Checked: AJD Date: 09/18/19

Project Number: 499-006

Project Title:
SCOTLAND
-HUNTINGTON ROAD
CTL01242
FA# 10050915
165 HUNTINGTON ROAD
SCOTLAND, CT 06264

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 10/04/19

CD

Drawing Title
TITLE PAGE

Drawing Number
T1

GENERAL NOTES

PART 1 – GENERAL REQUIREMENTS

1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
- A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
- B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
- C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
- D. AND NFPA 101 (LIFE SAFETY CODE).
- E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
- F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).

1.2 DEFINITIONS:
A: WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
B: COMPANY: AT&T CORPORATION
C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
D: CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
E: THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.

1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

1.7 NOTICE TO PROCEED:
A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE AT&T WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – EXECUTION

2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE, POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY AT&T TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.

2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

3.1 RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR AT&T PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
- A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
- B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
- C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
- D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO AT&T OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
- E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
- F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.

4.4 CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.

4.5 CONDUCT TESTING AS REQUIRED HEREIN.

PART 5 – TESTS AND INSPECTIONS

5.1 TESTS AND INSPECTIONS:
- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
- C. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
- D. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
- E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
- F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
- G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 – TRENCHING AND BACKFILLING

6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.

A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.

B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.

C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.

E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.

F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.

G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
F	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
T	TRANSFORMER
M	KILOWATT HOUR METER
JB	JUNCTION BOX
PB	PULL BOX TO NEC/TELCO STANDARDS
----------	UNDERGROUND UTILITIES
●	EXOTHERMIC WELD CONNECTION
■	MECHANICAL CONNECTION
OR ⊗	GROUND ROD
OR ⊠	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	120AC DUPLEX RECEPTACLE
G	GROUND CONDUCTOR
	DC POWER AND FIBER OPTIC TRUNK CABLES
	DC POWER CABLES
# / #	REPRESENTS DETAIL NUMBER / REF. DRAWING NUMBER

ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL

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Project Number: 499-006

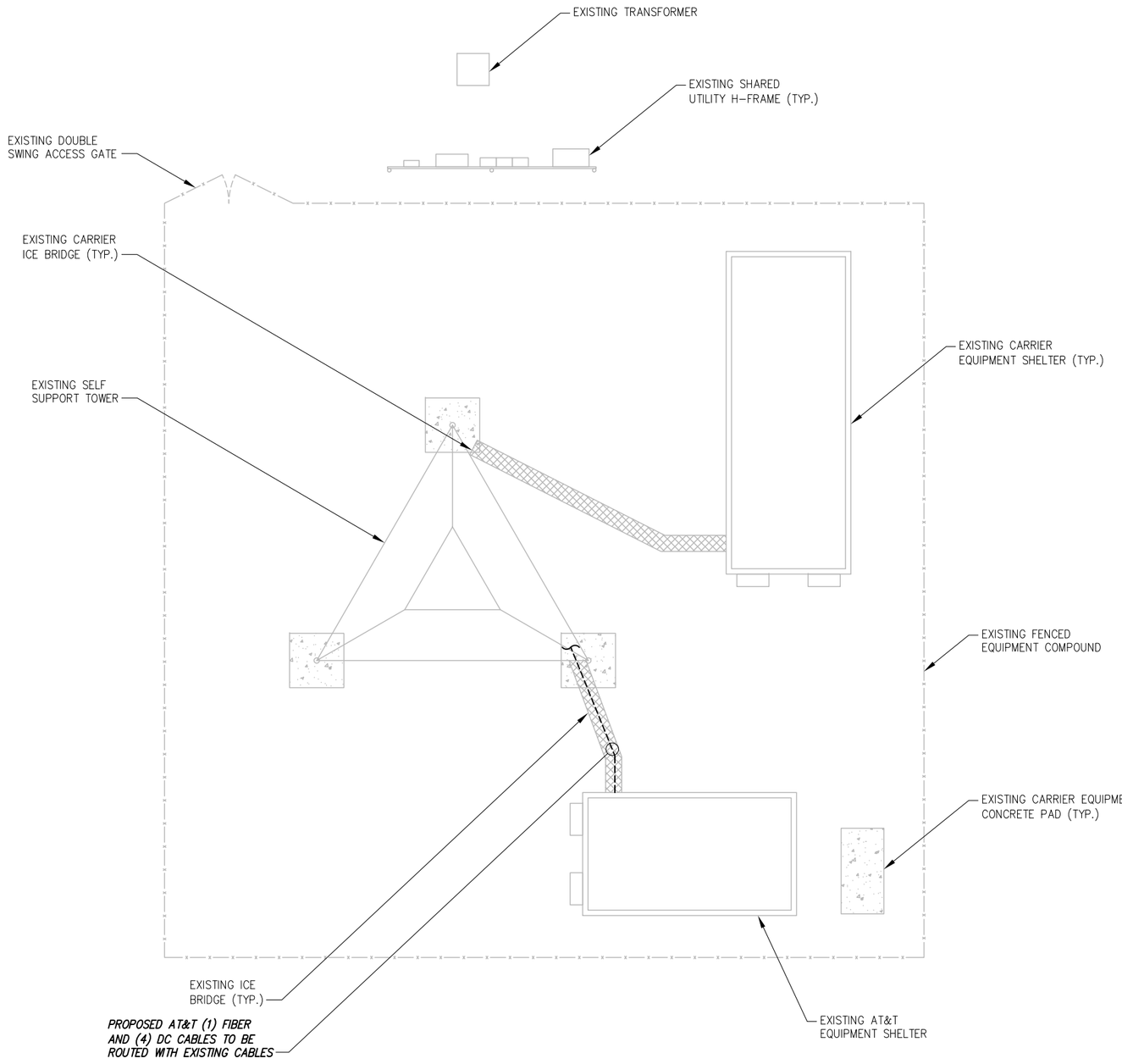
Project Title:
SCOTLAND
-HUNTINGTON ROAD
CTL01242
FA# 10050915
165 HUNTINGTON ROAD
SCOTLAND, CT 06264

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 10/04/19
CD

Drawing Title
GENERAL NOTES

Drawing Number
C1



TRUE NORTH

1 SITE PLAN
SCALE: AS NOTED

GRAPHIC SCALE:
10' 5' 0 5' 10'
SCALE (11x17): 1" = 10'-0"
SCALE (22x34): 1" = 5'-0"

BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.

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SCOTLAND, CT 06264

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smartlink

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Date:
10/04/19

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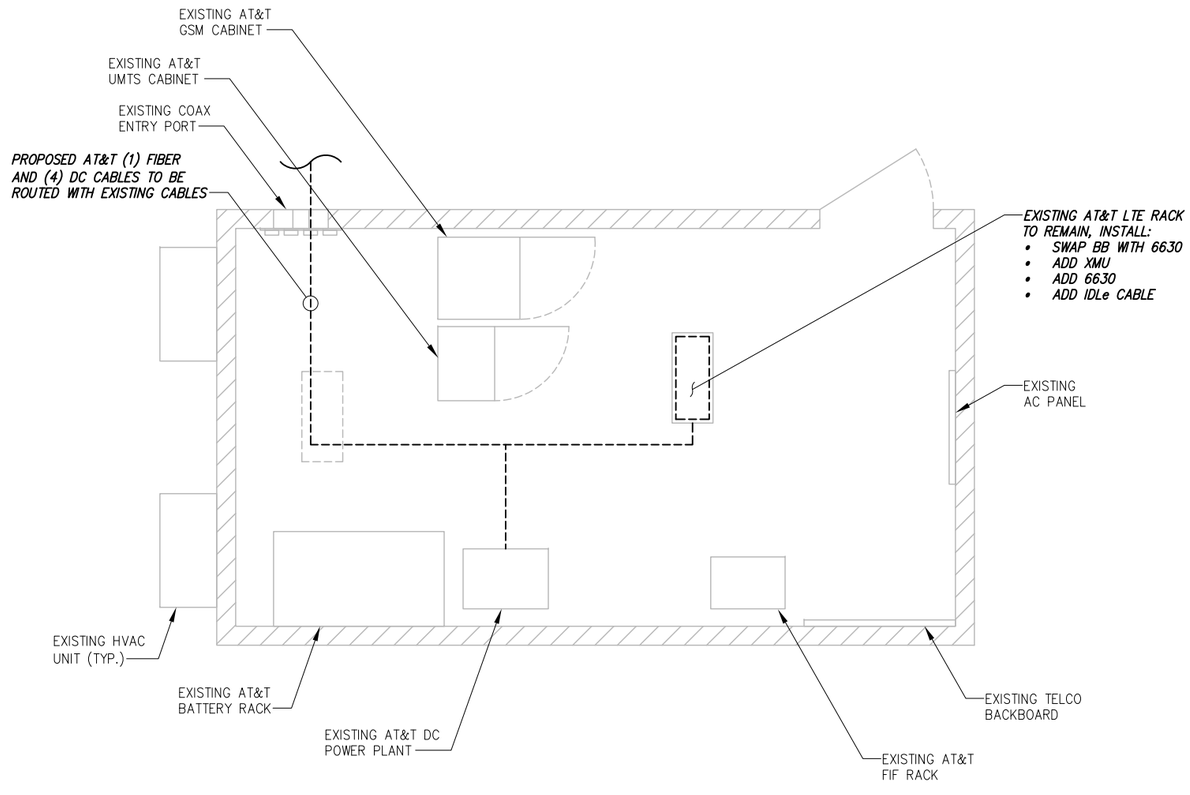
Drawing Title
OVERALL SITE PLAN

Drawing Number
C2



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TRUE NORTH

2 ENLARGED EQUIPMENT PLAN
SCALE: AS NOTED

GRAPHIC SCALE:

4' 2' 0 2' 4'

SCALE (11x17): 1" = 4'-0"
SCALE (22x34): 1" = 2'-0"

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Date:
10/04/19

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Drawing Title
ENLARGED SITE PLAN

Drawing Number
C2A

NOTE:
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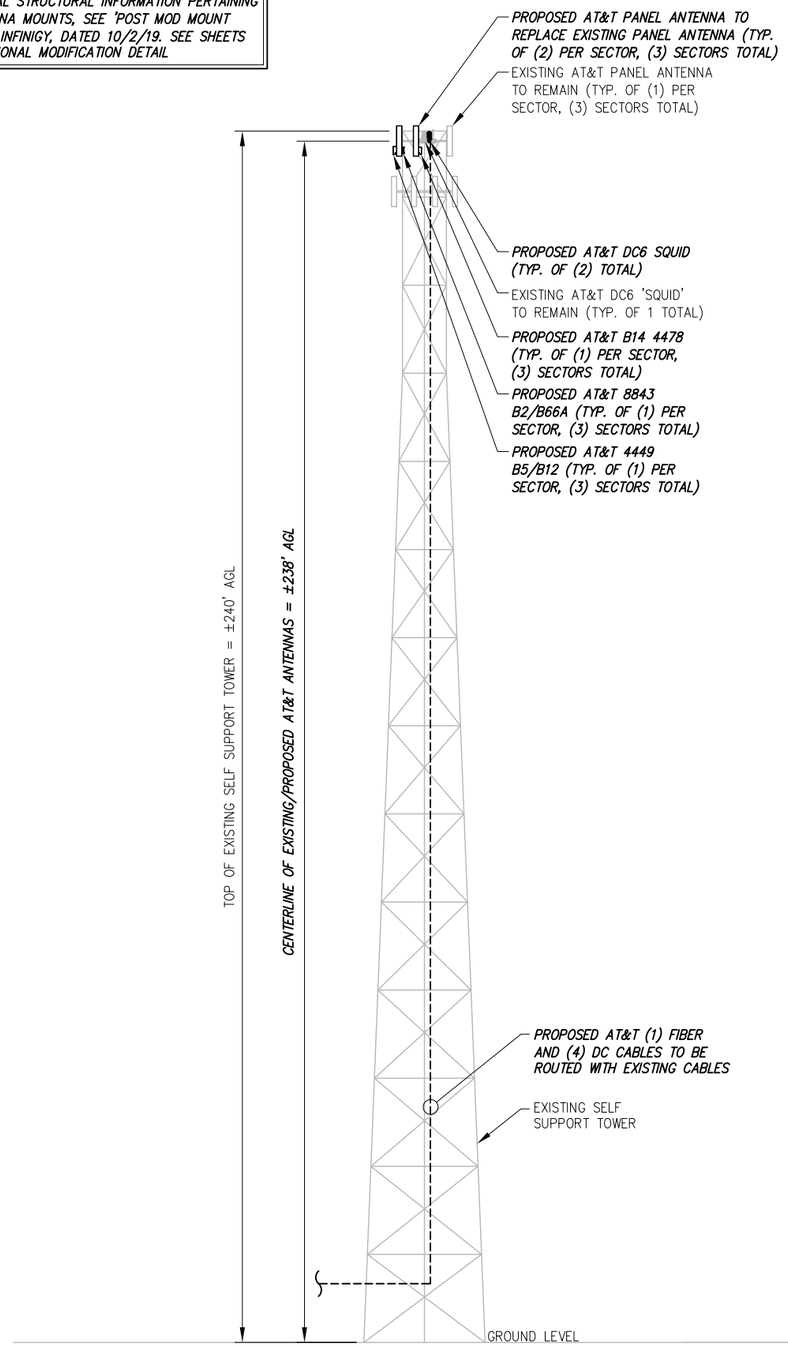
- *FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNTS, SEE 'POST MOD MOUNT ANALYSIS' BY INFINIGY, DATED 10/2/19. SEE SHEETS S2 FOR ADDITIONAL MODIFICATION DETAIL*

NOTE:
- 3' MINIMUM SEPARATION BETWEEN ALL LTE ANTENNAS
- 6' MINIMUM SEPARATION BETWEEN 700 BC/700 DE ANTENNAS



1 ELEVATION VIEW
NOT TO SCALE

FINAL ANTENNA CONFIGURATION & CABLE SCHEDULE BASED ON LTE RFDS DATED 08/21/19, V 1.00

SECTOR	ANTENNA POSITION	ANTENNA STATUS & TECHNOLOGY	ANTENNA MANF/MODEL	TMA/ DIPLEXER	RRUS	AZIMUTH	ANTENNA ℄ HEIGHT	CABLE FEEDER TYPE	CABLE FEEDER LENGTH	RAYCAP UNIT
ALPHA	A-1	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	153°	±238'	(2) (E) 1-5/8" COAX CABLES	±269'	(1) (E) DC6 'SQUID', (2) (P) DC6 'SQUID'
	A-2	--	--	--	--	--	--	(2) (E) 1-5/8" COAX CABLES	±269'	
	A-3	*(P) LTE 700/AWS*	*CCI DMP65R-BU8DA*	--	*(1) (P) B14 4478*	*50°*	*±238'*	(1) (E) FIBER CABLE (2) (E) DC CABLES	--	
	A-4	*(P) LTE 700 /850/1900 /5G 850*	*CCI DMP65R-BU8DA*	--	*(1) (P) 4449 B5/B12 (1) (P) 8843 B2/B66A*	*50°*	*±238'*	SEE A-3 FOR CABLE INFORMATION	--	
BETA	B-1	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	273°	±238'	(2) (E) 1-5/8" COAX CABLES	±269'	
	B-2	--	--	--	--	--	--	(2) (E) 1-5/8" COAX CABLES	±269'	
	B-3	*(P) LTE 700/AWS*	*CCI DMP65R-BU8DA*	--	*(1) (P) B14 4478*	*160°*	*±238'*	*(1) (P) FIBER CABLE (4) (P) DC CABLES*	--	
	B-4	*(P) LTE 700 /850/1900 /5G 850*	*CCI DMP65R-BU8DA*	--	*(1) (P) 4449 B5/B12 (1) (P) 8843 B2/B66A*	*160°*	*±238'*	SEE A-3 FOR CABLE INFORMATION	--	
GAMMA	G-1	(E) UMTS 850	POWERWAVE 7770	(2) (E) LGP21401	--	33°	±238'	(2) (E) 1-5/8" COAX CABLES	±269'	
	G-2	--	--	--	--	--	--	(2) (E) 1-5/8" COAX CABLES	±269'	
	G-3	*(P) LTE 700/AWS*	*CCI DMP65R-BU8DA*	--	*(1) (P) B14 4478*	*290°*	*±238'*	SEE A-3 FOR CABLE INFORMATION	--	
	G-4	*(P) LTE 700 /850/1900 /5G 850*	*CCI DMP65R-BU8DA*	--	*(1) (P) 4449 B5/B12 (1) (P) 8843 B2/B66A*	*290°*	*±238'*	SEE A-3 FOR CABLE INFORMATION	--	

2 AT&T ANTENNA SCHEDULE
NOT TO SCALE

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SCOTLAND, CT 06264

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 10/04/19
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Drawing Title
ELEVATION VIEW

Drawing Number
C3

NOTE:

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NOTE:

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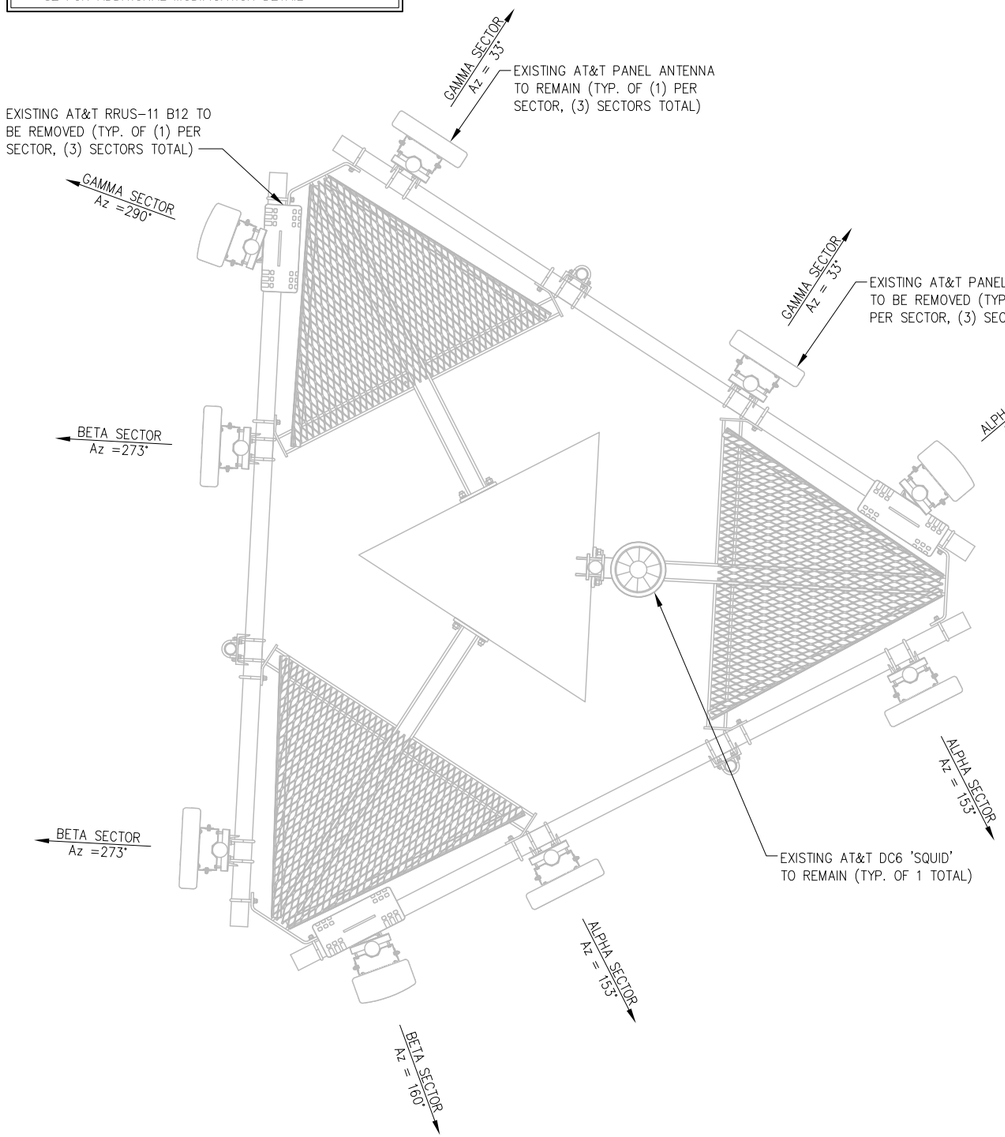
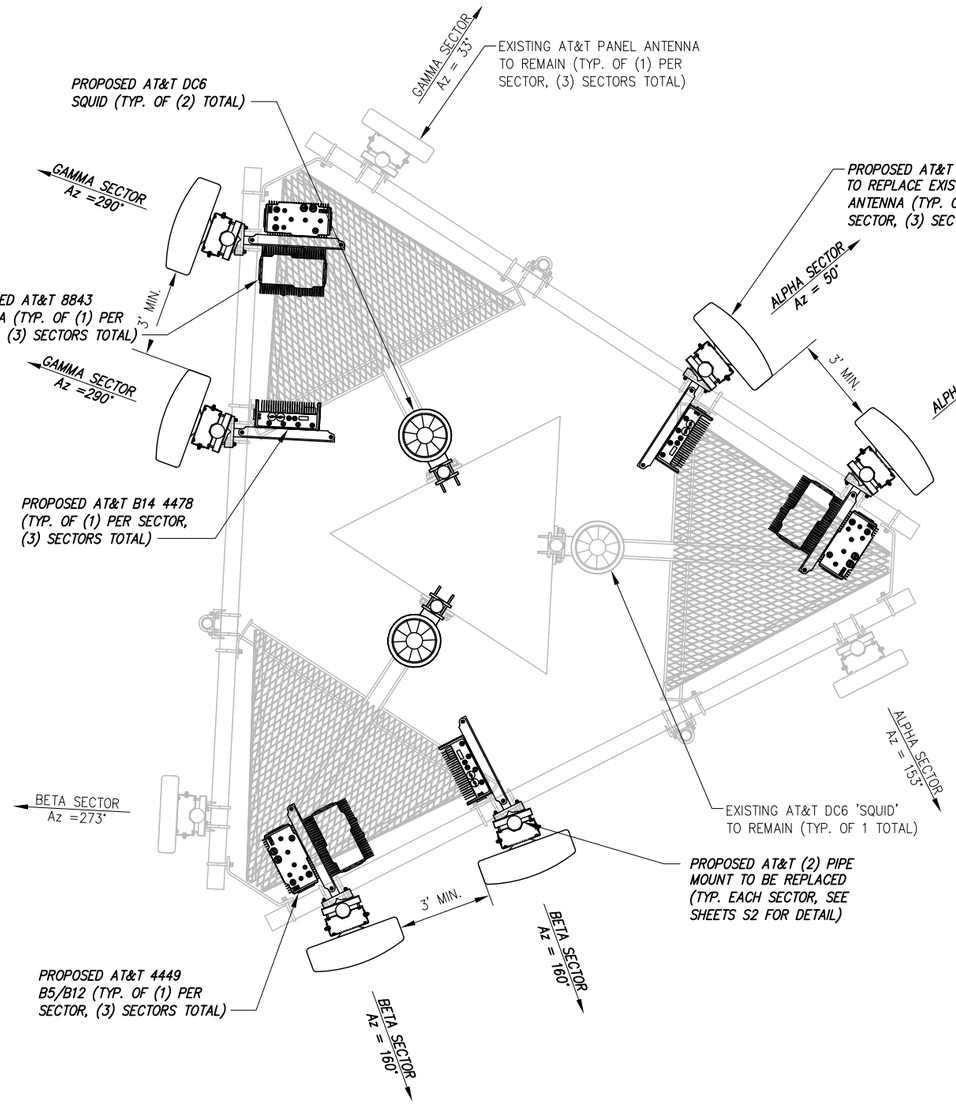
- 6' MINIMUM SEPARATION BETWEEN 700 BC/700 DE ANTENNAS



1 EXISTING ANTENNA ORIENTATION PLAN
NOT TO SCALE



2 PROPOSED ANTENNA ORIENTATION PLAN
NOT TO SCALE

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Project Number:
499-006

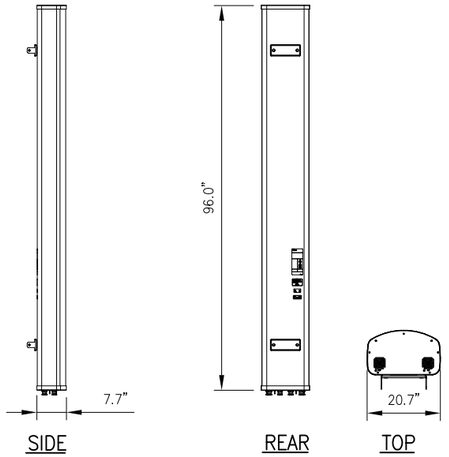
Project Title:
SCOTLAND
-HUNTINGTON ROAD
CTL01242
FA# 10050915
165 HUNTINGTON ROAD
SCOTLAND, CT 06264

Prepared For:
smartlink

Drawing Scale: AS NOTED
Date: 10/04/19
CD

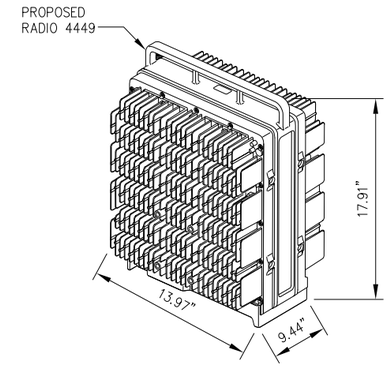
Drawing Title
ANTENNA ORIENTATION PLAN

Drawing Number
C4



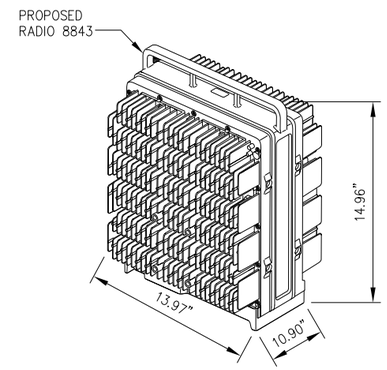
CCI MODEL NO.:	DMP65R-BU8DA
RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	96.0"x20.7"x7.7"
WEIGHT, W/ PRE-MOUNTED BRACKETS:	95.7 LBS
CONNECTOR:	7-16 DIN FEMALE

1 ANTENNA DETAIL
NOT TO SCALE



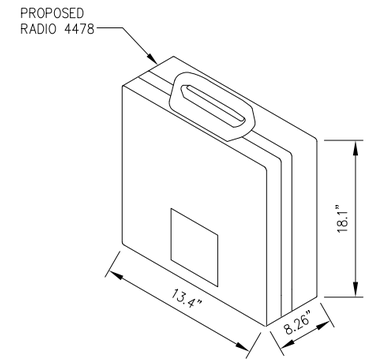
RADIO 4449 SPECIFICATIONS
- HxWxD, (INCHES) : 17.91"x13.97"x9.44"
- WEIGHT (LBS) : 70.54
- COLOR : GRAY

2 ERICSSON RADIO 4449 DETAIL
NOT TO SCALE



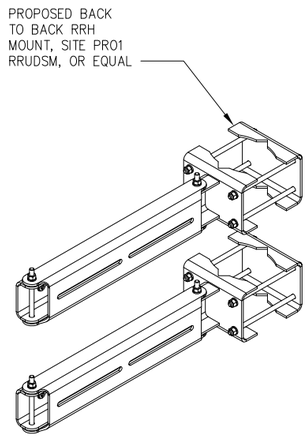
RADIO 8843 SPECIFICATIONS
- HxWxD, (INCHES) : 14.96"x13.97"x10.90"
- WEIGHT (LBS) : 71.87
- COLOR : GRAY

3 ERICSSON RADIO 8843 DETAIL
NOT TO SCALE

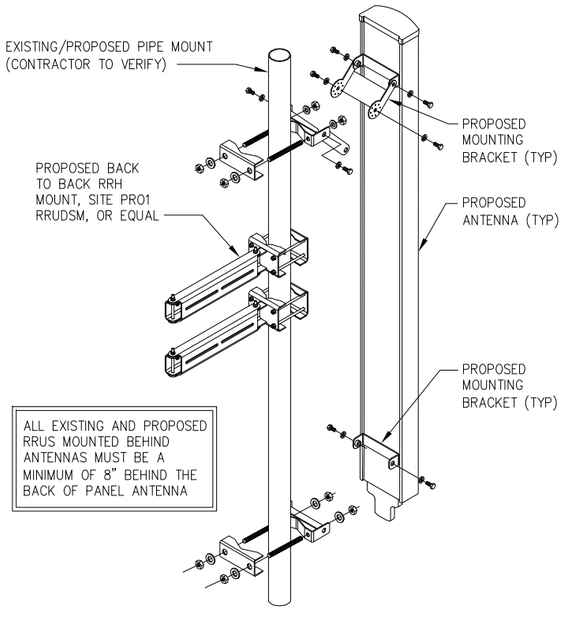


RADIO 4478-B14 SPECIFICATIONS
- HxWxD, (INCHES) : 18.1"x13.4"x8.26"
- WEIGHT (LBS) : 59.5
- COLOR : GRAY
- MOUNTING BRACKET: SXK1250244/1

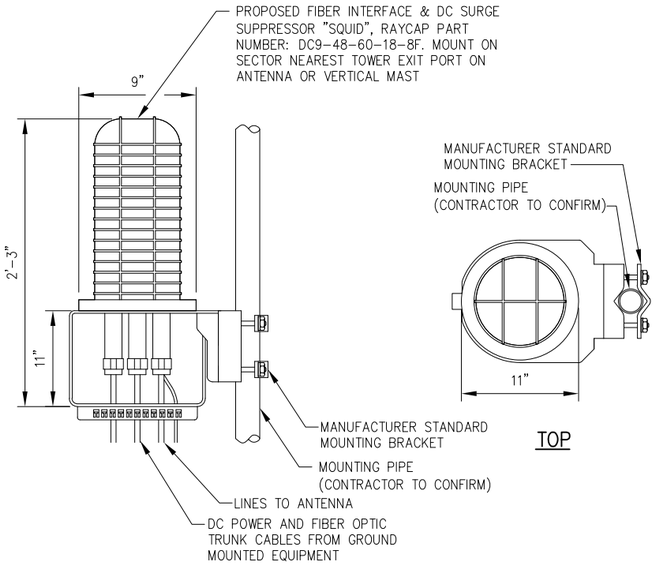
4 ERICSSON RADIO 4478-B14 DETAIL
NOT TO SCALE



5 BACK TO BACK PIPE MOUNT DETAIL
NOT TO SCALE



6 ANTENNA MOUNTING DETAIL
NOT TO SCALE



7 SQUID DETAIL
NOT TO SCALE

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No.	Submittal / Revision	App'd	Date
1	ISSUED FOR PERMIT	ASW	10/04/19
0	ISSUED FOR REVIEW	BMM	09/18/19

Drawn: BMM Date: 09/18/19
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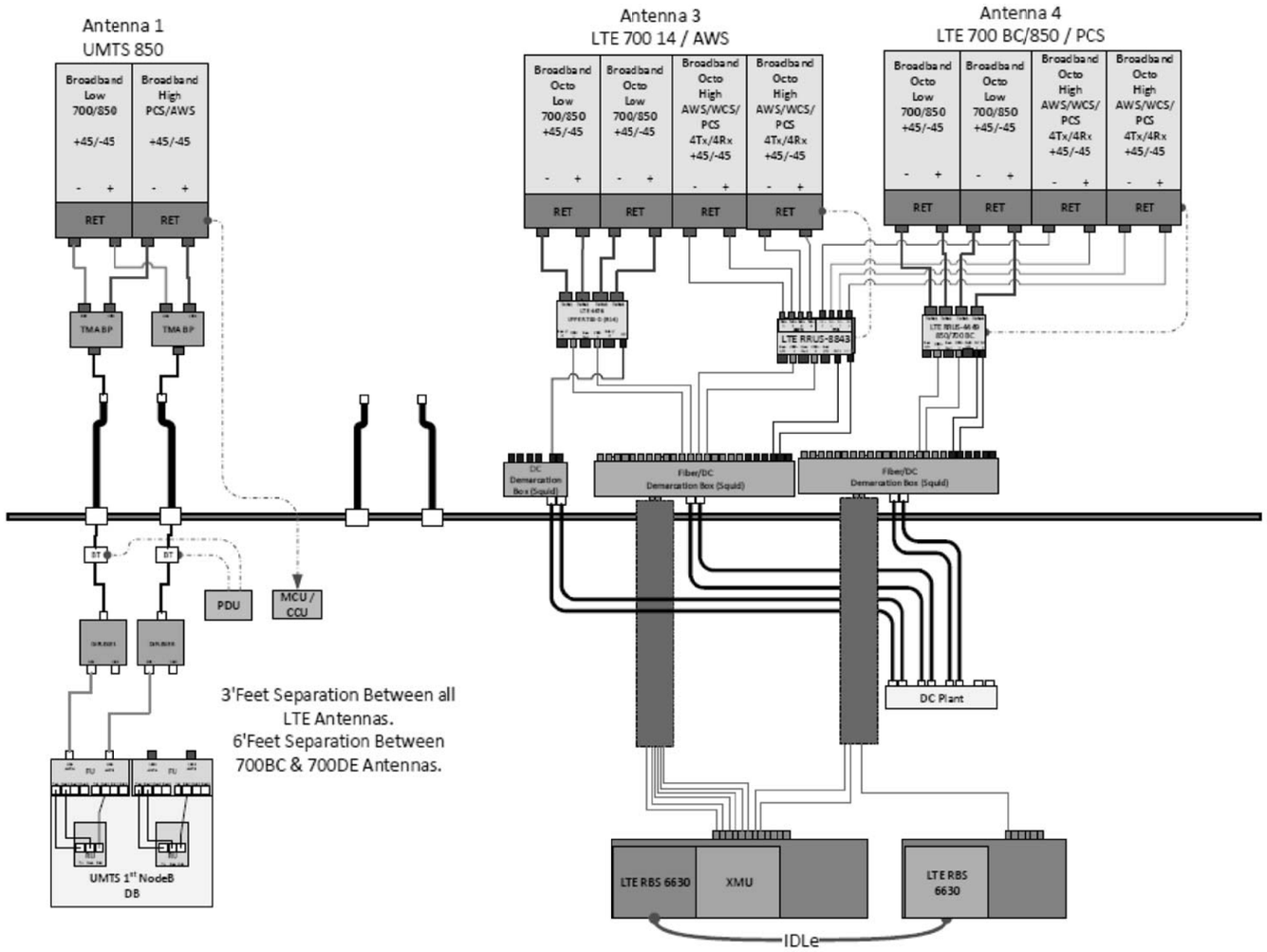
Drawing Title
EQUIPMENT DETAILS

Drawing Number
C5



ALPHA/BETA/GAMMA

1 PLUMBING DIAGRAM (FINAL CONFIGURATION)
NOT TO SCALE

*BASED ON LTE RFDS, DATED 08/21/2019, V1.00

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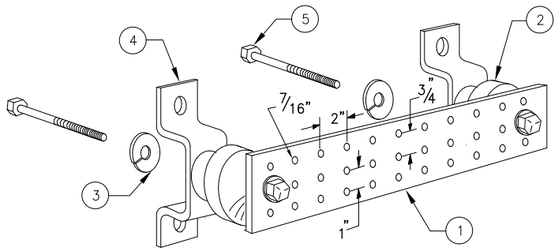
Drawing Title
PLUMBING DIAGRAM

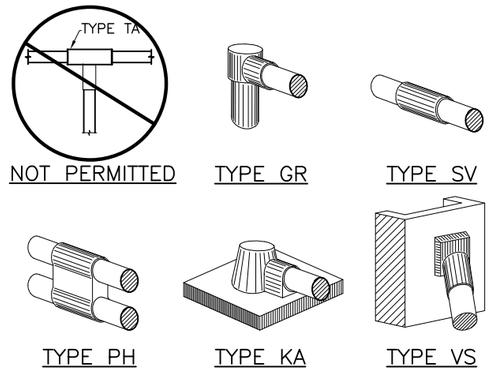
Drawing Number
C6



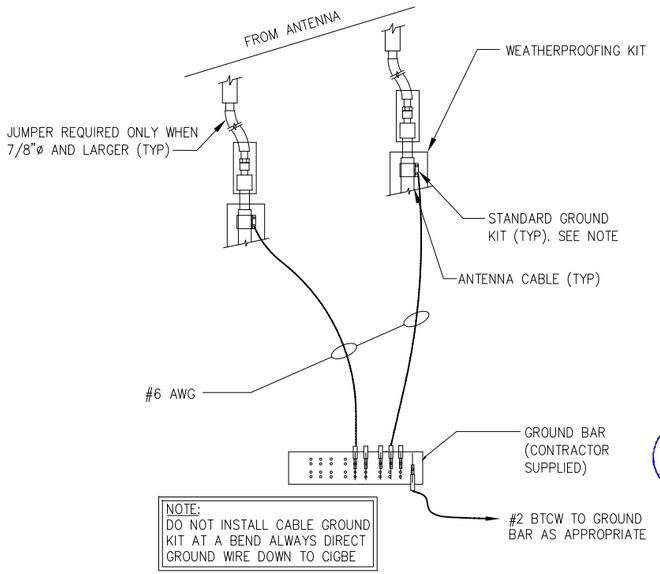
LEGEND

1 – SOLID TINNED COPPER GROUND BAR, 1/4"x 4"x 20" MIN., NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2 – INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061–4
3 – 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015–8
4 – WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A–6056
5 – 5/8–11 X 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012–1
6 – GROUND BAR SHALL BE SIZED TO ACCOMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY
7 – GROUND BARS SHALL NEITHER BE FIELD FABRICATED NOR NEW HOLES DRILLED
8 – GROUND LUGS SHALL MATCH THE HOLE SPACING ON THE BAR
9 – HARDWARE DIAMETER SHALL BE MINIMUM 3/8"

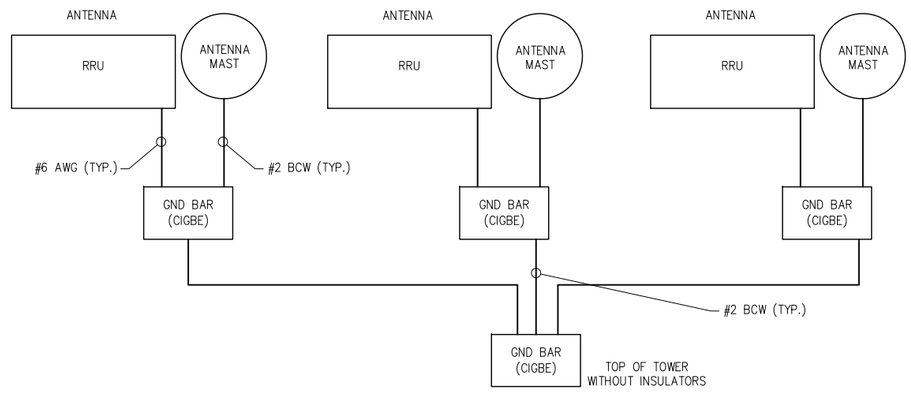
1 — GROUND BAR
NOT TO SCALE



2 — CADWELDS (TYPICAL)
NOT TO SCALE



3 — CONNECTION OF GROUND WIRES TO GROUNDING BARS @ ANTENNAS
NOT TO SCALE



4 — SCHEMATIC DIAGRAM GROUNDING SYSTEM
NOT TO SCALE

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Drawing Title
GROUNDING DETAILS

Drawing Number
C7

GENERAL NOTES:

1. THESE DOCUMENTS WERE DESIGNED IN ACCORDANCE WITH THE LATEST VERSION OF APPLICABLE LOCAL/STATE/COUNTY/CITY BUILDING CODES, AS WELL AS ANSI/TIA-222 STANDARD, AWWA-D100 STANDARD, NDS, NEC, MSJC, AND/OR THE LATEST VERSION OF THE INTERNATIONAL BUILDING CODE, UNLESS NOTED OTHERWISE IN THE CORRESPONDING STRUCTURAL REPORT.
2. ALL CONSTRUCTION METHODS SHOULD FOLLOW STANDARDS OF GOOD CONSTRUCTION PRACTICE.
3. ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN SIMILAR CONSTRUCTION.
4. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. IF OBSTRUCTIONS ARE FOUND, CONTRACTOR SHALL NOTIFY ENGINEER OF RECORD PRIOR TO CONTINUING WORK.
5. ANY CHANGES OR ADDITIONS MUST CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL CHANGES OR ADDITIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND/OR CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY TO PROVIDE A COMPLETE AND STABLE STRUCTURE DURING CONSTRUCTION. TIA-1019-A-2011 IS AN APPROPRIATE REFERENCE FOR THOSE DESIGNS MEETING TIA STANDARDS. THE ENGINEER OF RECORD MAY PROVIDE FORMAL RIGGING PLANS AT THE REQUEST AND EXPENSE OF THE CONTRACTOR.
7. INSTALLATION SHALL NOT INTERFERE NOR DENY ADEQUATE ACCESS TO OR FROM ANY EXISTING OR PROPOSED OPERATIONAL AND SAFETY EQUIPMENT.
8. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO ANY FABRICATION. CONTACT INFINIGY ENGINEERING IF ANY DISCREPANCIES EXIST.

STEEL CONSTRUCTION NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE AISC MANUAL OF STEEL CONSTRUCTION 14TH EDITION, FOR THE DESIGN AND FABRICATION OF STEEL COMPONENTS.
2. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES, AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS' RECOMMENDATIONS.
3. ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.
4. ALL EXTERIOR STEEL WORK SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123.
5. ALL STEEL MEMBERS AND CONNECTIONS SHALL MEET THE FOLLOWING GRADES:
   - ANGLES, CHANNELS, PLATES AND BARS TO BE A36. Fy=36 KSI, U.N.O.
   - W SHAPES TO BE A992. Fy=50 KSI, U.N.O.
   - RECTANGULAR HSS TO BE A500, GRADE B. FY=46 KSI, U.N.O.
   - ROUND HSS TO BE A500, GRADE B. FY=42 KSI, U.N.O.
   - STEEL PIPE TO BE A53, GRADE B. Fy=35 KSI, U.N.O.
   - BOLTS TO BE A325-X. Fu=120 KSI, U.N.O.
   - U-BOLTS AND LAG SCREWS TO BE A307 GR A. Fu=60 KSI, U.N.O.
6. ALL WELDING SHALL BE DONE USING E70XX ELECTRODES, U.N.O.
7. ALL WELDING SHALL CONFORM TO AISC AND AWS D1.1 LATEST EDITION.
8. ALL HILTI ANCHORS TO BE CARBON STEEL, U.N.O.
   - MECHANICAL ANCHORS: KWIK BOLT-TZ, U.N.O.
   - CMU BLOCK ANCHORS: ADHESIVE - HY120, U.N.O.
   - CONCRETE ANCHORS: ADHESIVE - HY150, U.N.O.
   - CONCRETE REBAR: ADHESIVE - RE500, U.N.O.
9. ALL STUDS TO BE NELSON CAPACITOR DISCHARGE 1/4"-20 LOW CARBON STEEL COPPER-FLASH AT 55 KSI ULT/50 KSI YIELD, U.N.O.
10. BOLTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC.
11. MINIMUM EDGE DISTANCES SHALL CONFORM TO AISC TABLE J3.4.
12. REMOVAL/REPLACEMENT OF STRUCTURAL MEMBERS SHALL BE DONE ONE MEMBER AT A TIME. CONTRACTOR IS RESPONSIBLE FOR ENSURING THE STRUCTURAL INTEGRITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION.

CONCRETE CONSTRUCTION NOTES:

1. CONCRETE TO BE 4000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR IS NOT PERMITTED.
2. EXISTING CONCRETE SURFACES THAT ARE TO BE IN CONTACT WITH NEW PROPOSED CONCRETE SHOULD BE WIRE BRUSHED CLEAN AND TREATED WITH APPROPRIATE MECHANICAL SCRATCH COAT AND REPAIR MATERIALS OR APPROPRIATE CHEMICAL METHODS SUCH AS THE APPLICATION OF A BONDING AGENT, EX. SAKRETE OR EQUIVALENT, TO ENSURE A QUALITY BOND BETWEEN EXISTING AND PROPOSED CONCRETE SURFACES.

FIBER REINFORCED POLYMER (FRP) NOTES:

1. FRP PLATES, SHAPES, BOLTS AND NUTS (STUD/NUT ASSEMBLIES) SHALL CONFORM TO ASTM D638, 695, 790. PLATES AND SHAPES TO BE FY = 5.35 KSI LW (SAFETY FACTOR OF 8), .945 KSI CW (SAFETY FACTOR OF 8) MIN.
2. IF FIELD FABRICATION IS REQUIRED, ALL CUT EDGES AND DRILLED HOLES TO BE SEALED USING VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
3. ALL FASTENERS TO BE 1/2" DIA FRP THREADED ROD WITH FIBER REINFORCED THERMOPLASTIC NUT, SPACED AT 12 INCHES ON CENTER MAXIMUM, U.N.O., FOR PANELS AND AS DESIGNED FOR STRUCTURAL MEMBERS.
4. THE COLOR AND SURFACE PATTERN OF EXPOSED FRP PANELS SHALL MATCH THE EXTERIOR OF THE EXISTING BUILDING, U.N.O.
5. STUD/NUT ASSEMBLIES SHOULD BE LUBRICATED FOR INSTALLATION
6. ENSURE BEARING SURFACES OF THE NUTS ARE PARALLEL TO THE SURFACES BEING FASTENED.
7. TORQUE BOLTS ACCORDING TO THE FOLLOWING TABLE:

INSTALLATION TORQUE TABLE

SIZE	ULTIMATE TORQUE STRENGTH	RECOMMENDED MAXIMUM INSTALLATION TORQUE
3/8-16 UNC	8 FT-LBS	4 FT-LBS
1/2-13 UNC	18 FT-LBS	8 FT-LBS
5/8-11 UNC	35 FT-LBS	16 FT-LBS
3/4-10 UNC	50 FT-LBS	24 FT-LBS
1-8 UNC	110 FT-LBS	50 FT-LBS

8. WHEN TIGHTENING FRP STUD/NUT ASSEMBLIES, WRENCHES MUST MAKE FULL CONTACT WITH ALL NUT EDGES. A STANDARD SIX POINT SOCKET IS RECOMMENDED.
9. STUD/NUT ASSEMBLIES SHOULD BE BONDED BY APPLYING BONDING AGENT TO ENTIRE NUT AND EXPOSED STUD.
10. ALL FRP MATERIALS TO BE PROVIDED BY FIBERGRATE COMPOSITE STRUCTURES, DALLAS TX, OR APPROVED EQUAL.
11. ALL FRP SHAPES TO BE DYNAFORM PULTRUDED STRUCTURAL SHAPES.
12. ALL FRP PLATES TO BE FIBERPLATE MOLDED FRP PLATE.
13. ALL FRP PANELS TO BE FIBERPLATE CLADDING PANEL.
14. EACH FRP PANEL TO BE IDENTIFIED WITH LARR#25536 AND FIBERGRATE COMPOSITE STRUCTURAL LABEL.
15. FRP MATERIAL TO BE CLASSIFIED AS CC1 OR BETTER, AND HAVE MAXIMUM FLAME SPREAD OF 50.
16. ALL DESIGN AND CONSTRUCTION TO BE COMPLETED IN ACCORDANCE WITH LOS ANGELES RESEARCH REPORT RR25536, DATED FEBRUARY 1, 2016.
17. SPECIAL INSPECTIONS MUST BE PROVIDED FOR ALL FRP INSTALLMENTS. SEE SPECIAL INSPECTION SECTION, THIS SHEET.

RATIO OF EDGE DISTANCE TO FRP FASTENER DIAMETER

	RANGE	RECOMMENDED
EDGE DISTANCE - CL* BOLT TO END	2.0-4.0	3.0
EDGE DISTANCE - CL* BOLT TO SIDE	1.5-3.5	2.5
BOLT PITCH - CL* TO CL*	4.0-5.0	5.0

WOOD CONSTRUCTION NOTES:

1. ALL EXISTING WOOD SHAPES ARE ASSUMED TO BE DOUGLAS FIR-LARCH WITH A REFERENCE DESIGN BENDING VALUE OF 1000 PSI MIN.
2. ALL PROPOSED WOOD SHAPES ARE TO BE DOUGLAS FIR-LARCH WITH A REFERENCE DESIGN BENDING VALUE OF 1000 PSI MIN. U.N.O.
3. ALL EXISTING AND PROPOSED GLUED LAMINATED TIMBERS ARE TO BE 24F-1.8C DOUGLAS FIR BALANCED WITH A REFERENCE DESIGN BENDING VALUE OF 2400 PSI MIN. U.N.O.

MASONRY CONSTRUCTION NOTES:

1. ALL BRICK TO BE 1500 PSI MIN. REINFORCING BAR (IF APPLICABLE) TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. ALL MORTAR TO BE 2000 PSI MIN.
   - FOR INTERIOR/ABOVE GRADE APPLICATIONS TYPE N MORTAR HAVING MINIMUM MODULUS OF RUPTURE OF 100 PSI SHALL BE USED. FOR EXTERIOR/BELOW GRADE APPLICATIONS TYPE M OR S MORTAR HAVING A MINIMUM MODULUS OF RUPTURE OF 133 PSI.
   - BRICK AND MORTAR INSTALLATION TO CONFORM TO MSJC BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.
2. ALL CMU TO BE 1500 PSI MIN. REINFORCING BAR (IF APPLICABLE) TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. ALL MORTAR TO BE 2000 PSI MIN.
   - FOR INTERIOR/ABOVE GRADE APPLICATIONS, TYPE N MORTAR HAVING MINIMUM MODULUS OF RUPTURE OF 64 PSI SHALL BE USED FOR UNGROUTED BLOCKS, AND 158 PSI FOR FULLY GROUTED BLOCKS.
   - FOR EXTERIOR/BELOW GRADE APPLICATIONS TYPE M OR S MORTAR HAVING A MINIMUM MODULUS OF RUPTURE OF 84 PSI SHALL BE USED FOR UNGROUTED BLOCKS, AND 163 PSI FOR FULLY GROUTED BLOCKS.
   - BRICK AND MORTAR INSTALLATION TO CONFORM TO MSJC BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.

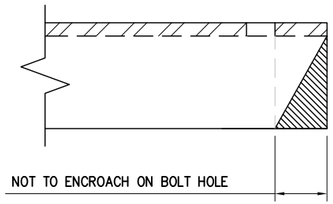
TOWER PLUMB & TENSION NOTES:

1. PLUMB AND TENSION TOWER UPON COMPLETION OF STRUCTURAL MODIFICATIONS DETAILED IN THESE DRAWINGS.
2. RETENSIONING OF EXISTING GUY WIRES SHALL BE PERFORMED AT A TIME WHEN THE WIND VELOCITY IS LESS THAN 10 MPH AT GROUND LEVEL AND WITH NO ICE ON THE STRUCTURE AND GUY WIRES.
3. PLUMB THE TOWER WHILE RETENSIONING THE EXISTING GUY WIRES. THE HORIZONTAL DISTANCE BETWEEN THE VERTICAL CENTERLINES AT ANY TWO ELEVATIONS SHALL NOT EXCEED 0.25% OF THE VERTICAL DISTANCE BETWEEN TWO ELEVATIONS FOR LATTICED STRUCTURES.
4. THE TWIST BETWEEN ANY TWO ELEVATIONS THROUGHOUT THE HEIGHT OF A LATTICE STRUCTURE SHALL NOT EXCEED 0.5 DEGREES IN 10 FEET. THE MAXIMUM TWIST OVER THE LATTICE STRUCTURE HEIGHT SHALL NOT EXCEED 5 DEGREES.

SPECIAL INSPECTIONS NOTES:

1. A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER AND APPROVED BY THE JURISDICTION, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH THE THE GOVERNING BUILDING CODE, APPLICABLE SECTION(S) AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:
   a. STRUCTURAL WELDING (CONTINUOUS INSPECTION OF FIELD WELDS ONLY).
   b. HIGH STRENGTH BOLTS (PERIODIC INSPECTION OF A325 AND/OR A490 BOLTS) TO BE TIGHTENED PER "TURN-OF-THE-NUT" METHOD.
   c. MECHANICAL AND EPOXIED ANCHORAGES.
   d. FIBER REINFORCED POLYMER.
      - THE SPECIAL INSPECTOR MUST VERIFY THAT THE FRP MATERIAL SPECIFIED ON THE APPROVED DESIGN DOCUMENTS IS BEING INSTALLED.
      - THE SPECIAL INSPECTOR MUST VERIFY THAT ALL CUT EDGES AND DRILLED HOLES ARE PROPERLY SEALED USING A VINYL ESTER SEALING KIT SUPPLIED BY THE MANUFACTURER.
      - THE SPECIAL INSPECTOR MUST VERIFY THAT THE STRUCTURE IS BUILT IN ACCORDANCE WITH THE APPROVED DESIGN DOCUMENTS.
2. THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM WORK WITHOUT THE SPECIAL INSPECTIONS.

MAXIMUM ALLOWABLE ANGLE CLIP



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10-02-19

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Checked: BDA Date: 09/30/19

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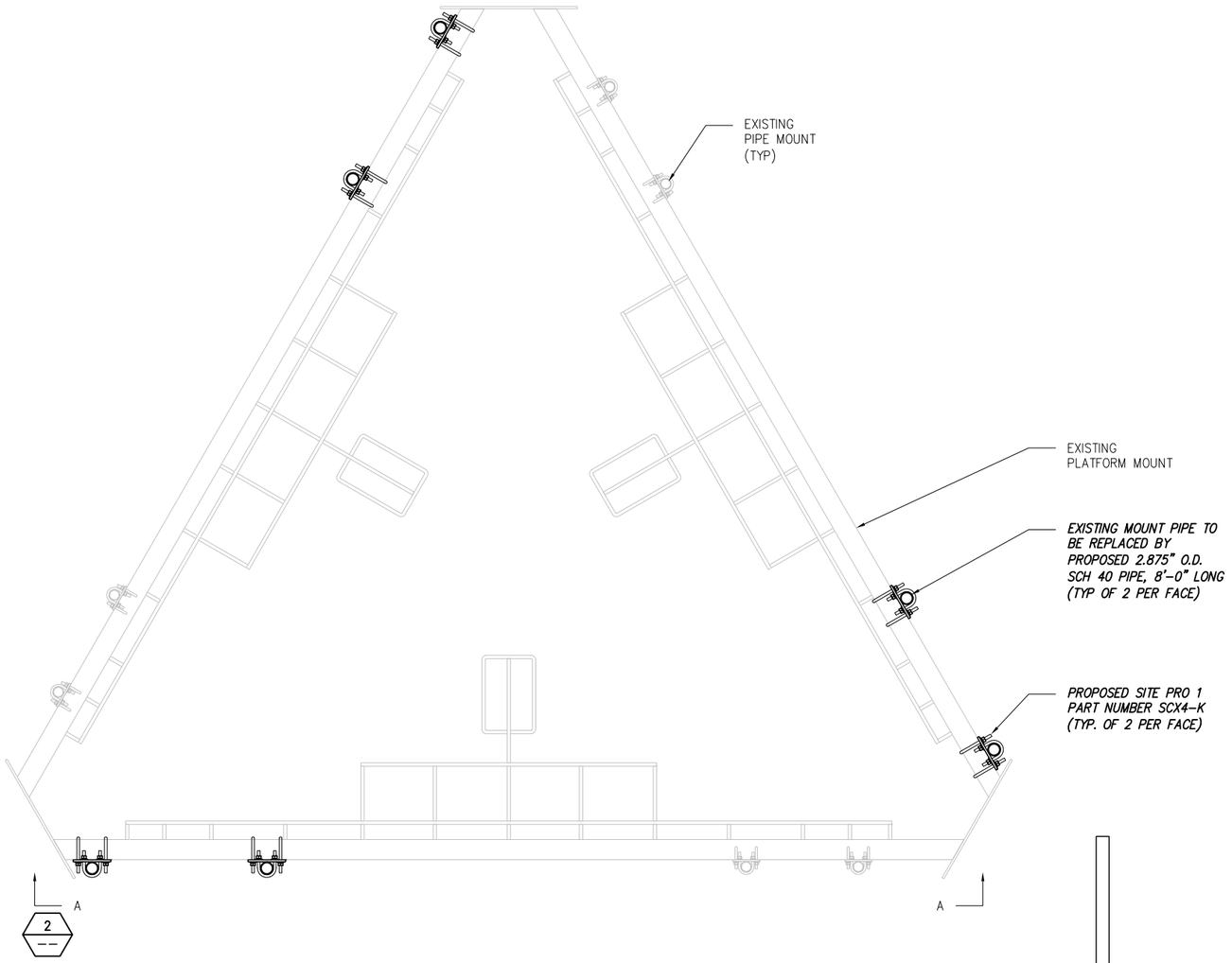
CTL01242
FA# 10050915
165 HUNTINGTON ROAD
SCOTLAND, CT 06264

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 09/30/19
0

Drawing Title
GENERAL NOTES

Drawing Number
S1



2

1 PLAN VIEW
SCALE: NOT TO SCALE

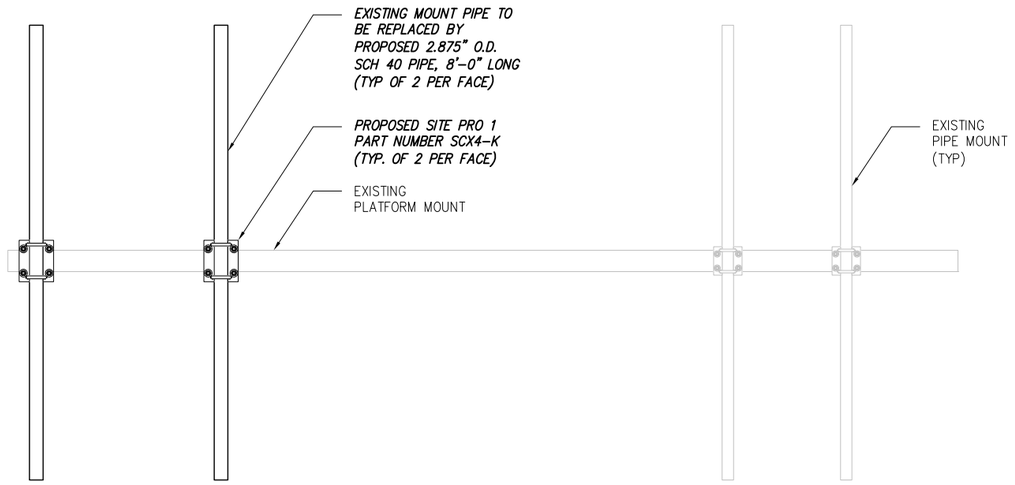
NOTES:

1. VARIOUS EXISITNG CONDITIONS AND PROPOSED MODIFICATIONS NOT SHOWN FOR CLARITY.

2. ALL DESIGNATED PARTS / PART NUMBERS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

3. MODIFICATIONS SHOWN ARE FOR ENTIRE PLATFORM MOUNT.

4. REMOVAL/REPLACEMENT OF STRUCTURAL MEMBERS SHALL BE DONE ONE MEMBER AT A TIME. CONTRACTOR IS RESPONSIBLE FOR ENSURING THE STRUCTURAL INTEGRITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION.



2 SECTION A-A
SCALE: NOT TO SCALE

INFINIGY
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10-02-19

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No.	Submittal / Revision	App'd	Date
0	ISSUED FOR REVIEW	WJD	09/30/19

Drawn: WJD Date: 09/30/19
Designed: TM Date: 09/26/19
Checked: BDA Date: 09/30/19

Project Number:
1106-A0001-B

Project Title:
SCOTLAND
-HUNTINGTON ROAD
CTL01242
FA# 10050915
165 HUNTINGTON ROAD
SCOTLAND, CT 06264

Prepared For:
smartlink

Drawing Scale:
AS NOTED
Date:
09/30/19

0

Drawing Title
MOUNT MODIFICATION DETAILS

Drawing Number
S2