



May 8th, 2017

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

**RE: Notice of Exempt Modification – Antenna Swap &
Additional Ground Based Equipment for wireless facility located
at 1 PUBLIC WORKS DRIVE, EAST HAMPTON, CONNECTICUT –
CT33XC018 (41° 33' 53.135" N, -72° 32' 35.196" W)**

Dear Ms. Bachman:

Sprint Spectrum, LP ("Sprint") currently maintains wireless telecommunications antennas at the (177-foot level) on an existing (180-foot tower) at the above-referenced address. The tower is owned by Crown Castle, and the property is owned by the Town of East Hampton.

Sprint's proposed work involves antenna replacement and tower work. Sprint intends to replace three (3) antennas and add six (6) RET Cables, (3) Diplexers on the tower. Sprint is also proposing to add three (3) ground based remote radio heads (RRH's) and (3) Diplexers to an existing H frame. All the proposed work is contained within the existing fenced area. Please refer to the attached drawings for site plans prepared by Infinigy Engineering.

Please accept this letter 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). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to MICHAEL MANISCALCO, TOWN MANAGER of the Town of East Hampton.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b).

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The antennas work is a one-for-one replacement of facility components.
3. The proposed modifications will include the addition of ground base equipment as depicted on the attached drawings; however, the proposed equipment will not require an extension of the site boundaries.



4. The proposed modifications will not increase noise levels at the facility by six decibels or more.
5. The additional ground based equipment will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) adopted safety standard.

For the foregoing reasons, Sprint 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).

If you have any questions or require any additional information regarding this request, please do not hesitate to give me a call at (518) 306-1711 or email me to aperkowski@airosmithdevelopment.com

Kind Regards,

Arthur Perkowski
Airosmith Development Inc.
32 Clinton Street
Saratoga Springs, NY 12866
518-306-1711 desk & fax
518-871-3707 cell
aperkowski@airosmithdevelopment.com

Attachment

CC: MICHAEL MANISCALCO (Town Manager, Land Owner, East Hampton, CT)
Maryellen Perrotta, Crown Castle (tower Owner)

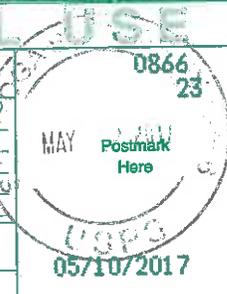
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Sent To
 St Michael Maniscalco, Town Manager
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 East Hampton, CT 06424 CT33XC018
 PS See Reverse for Instructions

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<input type="checkbox"/> Adult Signature Restricted Delivery	\$0.00
Postage	\$1.61
Total Postage and Fees	\$7.71



Sent To
 Str Crown Castle
 Attn: Maryellen Perrotta
 Cit 12 Gill Street, Suite 5800
 Woburn, MA 01801
 PS See Reverse for Instructions



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

SPRINT Existing Facility

Site ID: CT33XC018

Yankee Lake/East Hampton/Town
1 Public Works Drive
East Hampton, CT 06024

April 25, 2017

EBI Project Number: 6217001786

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	5.87 %



April 25, 2017

SPRINT

Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Emissions Analysis for Site: **CT33XC018 – Yankee Lake/East Hampton/Town**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **1 Public Works Drive, East Hampton, CT**, for the purpose of determining whether the emissions from the Proposed SPRINT Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The general population exposure limits for the 850 MHz Band is approximately $567 \mu\text{W}/\text{cm}^2$. The general population exposure limit for the 1900 MHz (PCS) band is $1000 \mu\text{W}/\text{cm}^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed SPRINT Wireless antenna facility located at **1 Public Works Drive, East Hampton, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since SPRINT is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

- 1) 2 CDMA channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 2 CDMA channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 4) Since the Remote Radio Heads (RRH) radios are ground mounted there are additional cabling losses accounted for. For each ground mounted RF path the following losses were calculated. 1.41 dB of additional cable loss for all ground mounted 850 MHz Channels and 2.37 dB of additional cable loss for all ground mounted 1900 MHz channels were factored into the calculations used for this analysis. This is based on manufacturers Specifications for 230 feet of 1-5/8" coax cable on each path



- 5) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
- 6) For the following calculations the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 7) The antennas used in this modeling are the **RFS APXVSP18-C-A20** for transmission in the 850 MHz and 1900 MHz (PCS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
- 8) The antenna mounting height centerlines of the proposed antennas are **177 feet** above ground level (AGL) for **Sector A**, **177 feet** above ground level (AGL) for **Sector B** and **177 feet** above ground level (AGL) for Sector C.
- 9) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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



SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXVSPPI8-C-A20	Make / Model:	RFS APXVSPPI8-C-A20	Make / Model:	RFS APXVSPPI8-C-A20
Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd
Height (AGL):	177 feet	Height (AGL):	177 feet	Height (AGL):	177 feet
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	6	Channel Count	6	Channel Count	6
Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts	Total TX Power(W):	240 Watts
ERP (W):	5,006.38	ERP (W):	5,006.38	ERP (W):	5,006.38
Antenna A1 MPE%	0.70 %	Antenna B1 MPE%	0.70 %	Antenna C1 MPE%	0.70 %

Site Composite MPE%	
Carrier	MPE%
SPRINT – Max per sector	0.70 %
Town (PD-455)	0.00 %
Town (Austin APC)	0.14 %
AT&T	1.20 %
Verizon Wireless	3.47 %
Nextel	0.36 %
Site Total MPE %:	5.87 %

SPRINT Sector A Total:	0.70 %
SPRINT Sector B Total:	0.70 %
SPRINT Sector C Total:	0.70 %
Site Total:	5.87 %

SPRINT _ Max Values per Frequency Band / Technology	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
Sprint 850 MHz CDMA	2	474.37	177	1.17	850 MHz	567	0.21%
Sprint 1900 MHz (PCS) CDMA	2	676.27	177	1.66	1900 MHz (PCS)	1000	0.17%
Sprint 1900 MHz (PCS) LTE	2	1,352.54	177	3.33	1900 MHz (PCS)	1000	0.33%
						Total*:	0.70%

* NOTE: Totals may vary by 0.01% due to summing of remainders



Summary

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

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

SPRINT Sector	Power Density Value (%)
Sector A:	0.70 %
Sector B:	0.70 %
Sector C:	0.70 %
SPRINT Maximum Total (per sector):	0.70 %
Site Total:	5.87 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **5.87 %** of the allowable FCC established general public limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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



January 09, 2017

Kevin Morrow
Crown Castle
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Charlotte, NC 28277
(704) 405-6619

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

Subject: Structural Analysis Report

Carrier Designation: **Sprint PCS Co-Locate**
Carrier Site Number: CT33XC018
Carrier Site Name: East Hampton

Crown Castle Designation: **Crown Castle BU Number:** 876368
Crown Castle Site Name: Yankee Lake/East Hampton/Town
Crown Castle JDE Job Number: 414995
Crown Castle Work Order Number: 1346642
Crown Castle Application Number: 372626 Rev. 0

Engineering Firm Designation: **B+T Group Project Number:** 79761.002.01

Site Data: **1 Public Works Dr., East Hampton, Middlesex County, CT**
Latitude 41° 33' 53.14", Longitude -72° 32' 35.18"
180 Foot - Monopole Tower

Dear Kevin Morrow,

B+T Group is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 988278, in accordance with application 372626, revision 0.

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

LC5: Existing + Proposed Equipment

Sufficient Capacity

Note: See Table 1 and Table 2 for the proposed and existing loading, respectively.

This analysis has been performed in accordance with the 2016 Connecticut State Building Code based upon an ultimate 3-second gust wind speed of 130 mph converted to a nominal 3-second gust wind speed of 101 mph per Section 1609.3 and Appendix N as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category B and Risk Category II were used in this analysis.

All equipment proposed in this report shall be installed in accordance with the attached drawings for the determined available structural capacity to be effective.

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

Respectfully submitted by:
B+T Engineering, Inc.

Krista M. Murphy, E.I.T.
Project Engineer

Scott S. Vance, P.E.
Engineer of Record
COA: PEC.0001564 Expires: 02/10/2017



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1) INTRODUCTION

This tower is a 180 ft. Monopole tower designed by Valmont in December of 1999. The tower was originally designed for a wind speed of 100 mph per TIA/EIA-222-F.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA-222-G Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a 3-second gust wind speed of 101 mph with no ice, 50 mph with 0.75 inch ice thickness and 60 mph under service loads, exposure category B with topographic category 1 and crest height of 0 feet.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
177.0	178.0	3	Rfs Celwave	APXVSP18-C-A20	6	5/16	--
		3	Rfs Celwave	FD9R6004/1C-3L			

Table 2 - Existing Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
177.0	178.0	6	Decibel	DB950F85E-M	--	--	2
	177.0	1	--	Platform Mount [LP 601-1]	6	1-5/8	1
168.0	170.0	3	Ericsson	RRUS 11 B12	12 2 1	1-5/8 3/4 3/8	1
		3	KMW	AM-X-CD-16-65-00T-RET			
		6	Powerwave Tech.	7770.00			
		6	Powerwave Tech.	LGP21401			
		6	Powerwave Tech.	LGP21901			
	1	Raycap	DC6-48-60-18-8F				
	168.0	1	--	Platform Mount [LP 303-1]			
154.0	157.0	3	Alcatel Lucent	RRH2X40-07-U	2	1-5/8	1
		3	Alcatel Lucent	RRH2X60-AWS			
		3	Alcatel Lucent	RRH2X60-PCS			
		6	Commscope	HBXX-6517DS-A2M			
		6	Commscope	LNX-6515DS-A1M			
	2	Rfs Celwave	DB-T1-6Z-8AB-0Z				
	154.0	1	--	Platform Mount [LP 304-1]			
119.0	131.0	5	Decibel	DB264-A	9	1-1/4	1
	128.0	1	Decibel	DB420			
	124.0	1	Decibel	DB225-K			
	122.0	1	Decibel	DB230-E			
	120.0	1	Decibel	DB230-E			
	119.0	1	--	Platform Mount [LP 304-1]			
77.0	78.0	1	Lucent	KS24019-L112A	1	1/2	1
	77.0	1	--	Side Arm Mount [SO 701-1]			

Notes:

- 1) Existing Equipment
- 2) **Equipment To Be Removed; Not Considered in This Analysis**

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
177	177	12	Dapa	48000	--	--
		1	Valmont	Platform W/ Rails		
167	167	12	Dapa	48000	--	--
		1	Valmont	Platform W/ Rails		
157	157	12	Dapa	48000	--	--
		1	Valmont	Platform W/ Rails		
147	147	12	Dapa	48000	--	--
		1	Valmont	Platform W/ Rails		
127	127	1	Generic	Whip Antenna	--	--
125	125	1	Generic	Low Profile Platform	--	--
75	75	1	Generic	GPS	--	--

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Online Application	Sprint/Nextel Property Services Co-Locate Revision # 0	372626	CCI Sites
Tower Manufacturer Drawing	Valmont, Order No. 19739-83	1531979	CCI Sites
Foundation Drawing	Valmont, Order No. 19739-83	2069183	CCI Sites
Geotech Report	Dr. Clarence Welti, P.E., P.C., Date: 01/06/2003	1441254	CCI Sites
Antenna Configuration	Crown CAD Package	Date: 01/06/2017	CCI Sites

3.1) Analysis Method

tnxTower (version 7.0.5.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) Mount areas and weights are assumed based on photographs provided.

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

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	180 - 140.083	Pole	TP31.67x24.16x0.219	1	-9.645	1402.890	38.0	Pass
L2	140.083 - 92.5	Pole	TP40.17x30.307x0.344	2	-20.907	3026.680	54.2	Pass
L3	92.5 - 45.5833	Pole	TP48.31x38.355x0.438	3	-35.170	4716.500	56.4	Pass
L4	45.5833 - 0	Pole	TP56x46.134x0.5	4	-56.921	6342.060	58.3	Pass
							Summary	
						Pole (L4)	58.3	Pass
						Rating =	58.3	Pass

Table 6 - Tower Component Stresses vs. Capacity – LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	Base	51.3	Pass
1	Base Plate	Base	37.5	Pass
1	Base Foundation(Structure)	Base	46.4	Pass
1	Base Foundation (Soil Interaction)	Base	46.8	Pass

Structure Rating (max from all components) =	58.3%
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Notes:

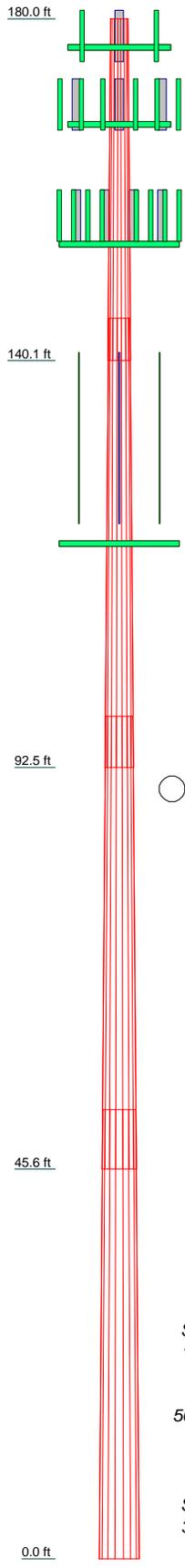
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.

4.1) Recommendations

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

APPENDIX A
TNXTOWER OUTPUT

Section	1	2	3	4
Length (ft)	39'11"	52'6"	52'11"	52'6"
Number of Sides	16	16	16	16
Thickness (in)	0.219	0.344	0.438	0.500
Socket Length (ft)	4'11"	6'	6'11"	6'11"
Top Dia (in)	24.160	30.307	38.355	46.134
Bot Dia (in)	31.870	40.170	48.310	56.000
Grade	A572-65	A572-65	A572-65	A572-65
Weight (K)	2.6	6.8	10.8	14.4



DESIGNED APPURTENANCE LOADING

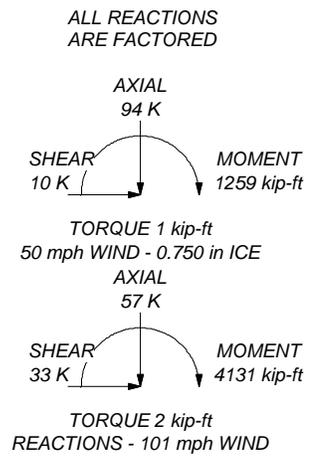
TYPE	ELEVATION	TYPE	ELEVATION
APXVSP18-C-A20 w/ Mount Pipe (P)	177	(2) LNX-6515DS-A1M w/ Mount Pipe (E)	154
APXVSP18-C-A20 w/ Mount Pipe (P)	177	(2) LNX-6515DS-A1M w/ Mount Pipe (E)	154
APXVSP18-C-A20 w/ Mount Pipe (P)	177	(2) LNX-6515DS-A1M w/ Mount Pipe (E)	154
FD9R6004/1C-3L (P)	177	(2) HBXX-6517DS-A2M w/ Mount Pipe (E)	154
FD9R6004/1C-3L (P)	177	(2) HBXX-6517DS-A2M w/ Mount Pipe (E)	154
FD9R6004/1C-3L (P)	177	(2) HBXX-6517DS-A2M w/ Mount Pipe (E)	154
(2) 7' x 2" Pipe Mount (E)	177	(2) HBXX-6517DS-A2M w/ Mount Pipe (E)	154
(2) 7' x 2" Pipe Mount (E)	177	(2) HBXX-6517DS-A2M w/ Mount Pipe (E)	154
(2) 7' x 2" Pipe Mount (E)	177	(2) HBXX-6517DS-A2M w/ Mount Pipe (E)	154
Platform Mount [LP 601-1] (E)	177	RRH2X40-07-U (E)	154
(2) 7770.00 w/ Mount Pipe (E)	168	RRH2X40-07-U (E)	154
(2) 7770.00 w/ Mount Pipe (E)	168	RRH2X40-07-U (E)	154
(2) 7770.00 w/ Mount Pipe (E)	168	(2) DB-T1-6Z-8AB-0Z (E)	154
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	168	RRH2X60-PCS (E)	154
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	168	RRH2X60-PCS (E)	154
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	168	RRH2X60-PCS (E)	154
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	168	RRH2X60-AWS (E)	154
(2) LGP21401 (E)	168	RRH2X60-AWS (E)	154
(2) LGP21401 (E)	168	RRH2X60-AWS (E)	154
(2) LGP21401 (E)	168	Platform Mount [LP 304-1] (E)	154
DC6-48-60-18-8F (E)	168	DB225-K (E)	119
RRUS 11 B12 (E)	168	(2) DB264-A (E)	119
RRUS 11 B12 (E)	168	DB264-A (E)	119
RRUS 11 B12 (E)	168	(2) DB264-A (E)	119
(2) LGP21901 (E)	168	DB230-E (E)	119
(2) LGP21901 (E)	168	DB230-E (E)	119
(2) LGP21901 (E)	168	DB420 (E)	119
8' x 2" Pipe Mount (E)	168	(3) 5' x 2" Pipe Mount (E)	119
8' x 2" Pipe Mount (E)	168	(4) 5' x 2" Pipe Mount (E)	119
8' x 2" Pipe Mount (E)	168	(3) 5' x 2" Pipe Mount (E)	119
8' x 2" Pipe Mount (E)	168	Platform Mount [LP 304-1] (E)	119
4' x 2" Pipe Mount (E)	168	KS24019-L112A (E)	77
Platform Mount [LP 303-1] (E)	168	Side Arm Mount [SO 701-1] (E)	77
(2) LNX-6515DS-A1M w/ Mount Pipe (E)	154		

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Middlesex County, Connecticut.
2. Tower designed for Exposure B 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 0.75 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'
8. TOWER RATING: 58.3%



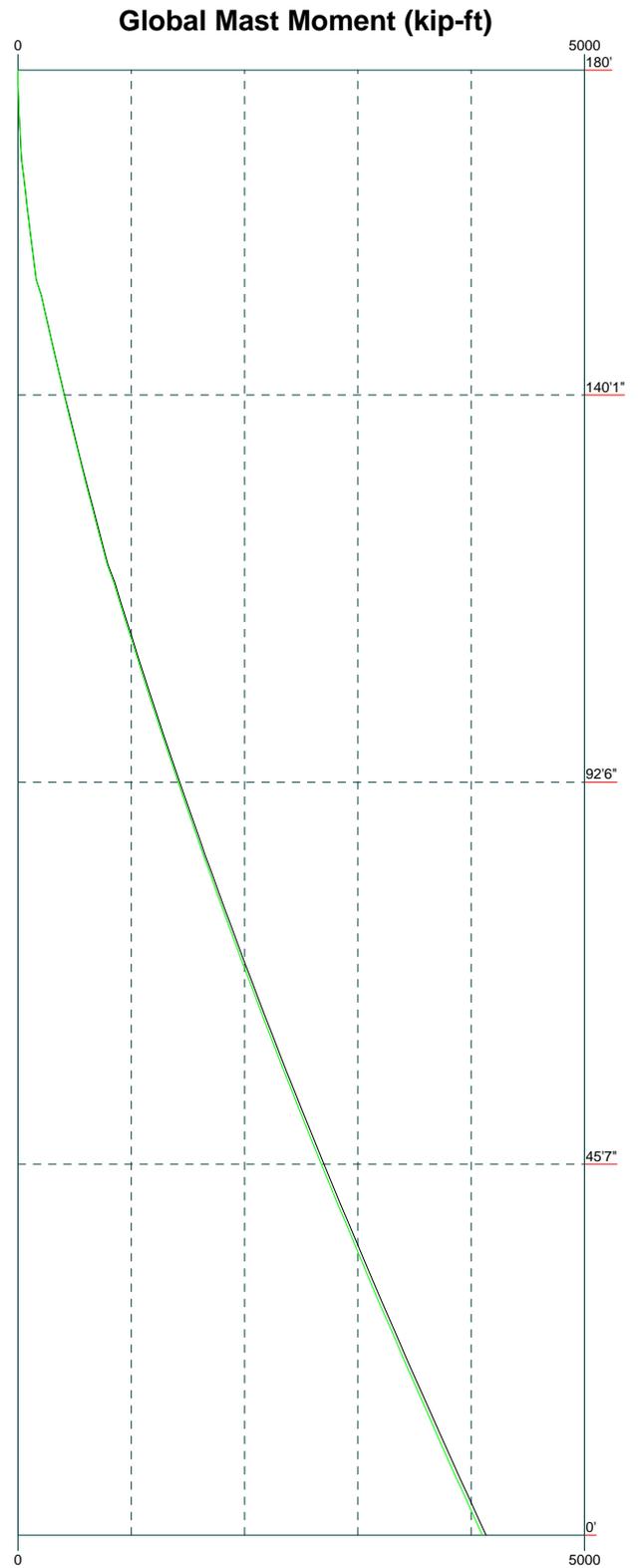
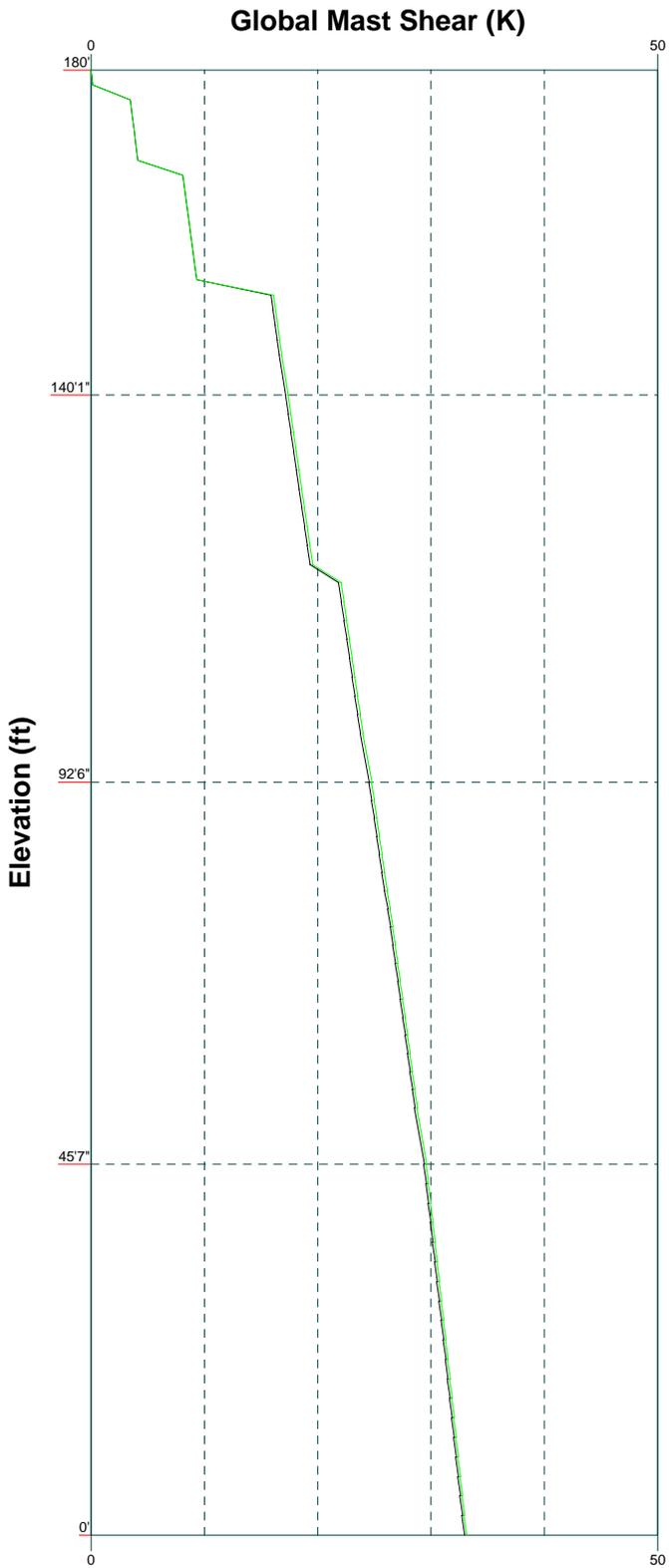
 B+T Group 1717 S.Boulder, Suite 300 Tulsa, OK 74119 Phone: (918) 587-4630 FAX: (918) 295-0265	Job: 79761.002.01 - YANKEE LAKE EAST HAMPTONTOWN, CT (BU# 87636)		
	Project:		
	Client: Crown Castle	Drawn by: Pavan Pai	App'd:
	Code: TIA-222-G	Date: 01/07/17	Scale: NTS
Path:	Dwg No. E-1		

Vx

Vz

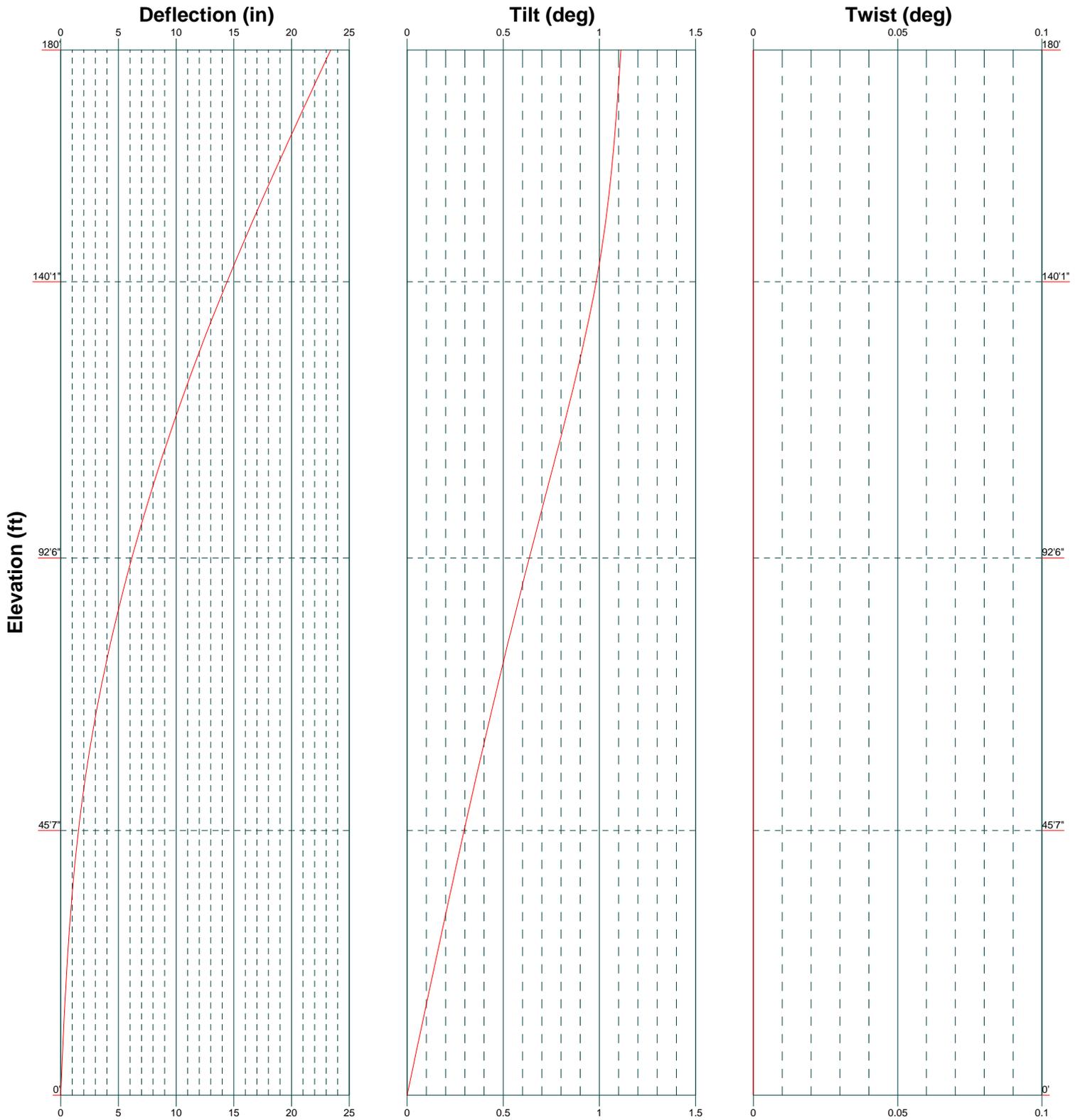
Mx

Mz



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 Tulsa, OK 74119
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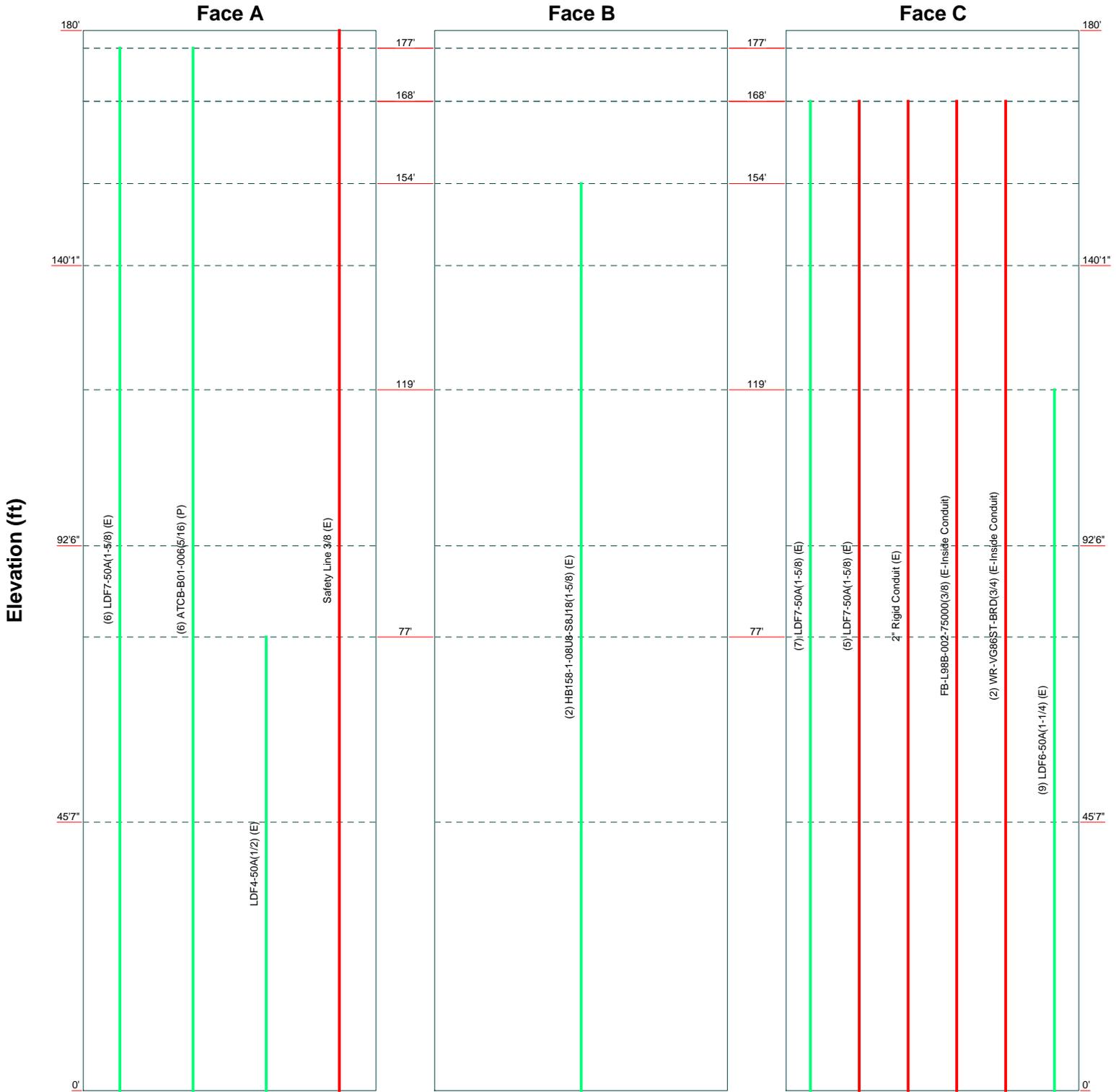
Job: 79761.002.01 - YANKEE LAKEEAST HAMPTONTOWN, CT (BU# 87636)		
Project:		
Client: Crown Castle	Drawn by: Pavan Pai	App'd:
Code: TIA-222-G	Date: 01/07/17	Scale: NTS
Path:	Dwg No. E-4	



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	Project:		
	Client: Crown Castle	Drawn by: Pavan Pai	App'd:
	Code: TIA-222-G	Date: 01/07/17	Scale: NTS
	Path:	Dwg No. E-5	

Feed Line Distribution Chart 0' - 180'

— Round
 — Flat
 — App In Face
 — App Out Face
 — Truss Leg



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	Project:		
	Client: Crown Castle	Drawn by: Pavan Pai	App'd:
	Code: TIA-222-G	Date: 01/07/17	Scale: NTS
	Path:	Dwg No. E-7	

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	Project	Date 19:21:17 01/07/17
	Client Crown Castle	Designed by Pavan Pai

Tower Input Data

There is a pole section.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Tower is located in Middlesex County, Connecticut.

Basic wind speed of 101 mph.

Structure Class II.

Exposure Category B.

Topographic Category 1.

Crest Height 0'.

Nominal ice thickness of 0.750 in.

Ice thickness is considered to increase with height.

Ice density of 56.000 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50.000 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

<ul style="list-style-type: none"> Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification √ Use Code Stress Ratios √ Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric 	<ul style="list-style-type: none"> Distribute Leg Loads As Uniform Assume Legs Pinned √ Assume Rigid Index Plate √ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension √ Bypass Mast Stability Checks √ Use Azimuth Dish Coefficients √ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder 	<ul style="list-style-type: none"> Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation √ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-G Bracing Resist. Exemption Use TIA-222-G Tension Splice Exemption <li style="background-color: #e0e0e0;">Poles √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets
--	--	--

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	180'-140'1"	39'11"	4'11"	16	24.160	31.670	0.219	0.875	A572-65 (65 ksi)
L2	140'1"-92'6"	52'6"	6'	16	30.307	40.170	0.344	1.375	A572-65 (65 ksi)

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Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L3	92'6"-45'7"	52'11"	6'11"	16	38.355	48.310	0.438	1.750	A572-65 (65 ksi)
L4	45'7"-0'	52'6"		16	46.134	56.000	0.500	2.000	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L1	24.633	16.707	1209.744	8.523	12.322	98.181	2437.806	8.260	4.373	19.989
	32.290	21.947	2742.628	11.197	16.152	169.804	5526.782	10.852	5.867	26.821
L2	31.843	32.857	3726.790	10.667	15.457	241.110	7510.008	16.246	5.347	15.555
	40.957	43.672	8750.966	14.178	20.487	427.154	17634.432	21.593	7.310	21.265
L3	40.258	52.919	9612.013	13.499	19.561	491.381	19369.564	26.166	6.762	15.456
	49.256	66.812	19343.784	17.043	24.638	785.117	38980.456	33.035	8.743	19.984
L4	48.363	72.786	19148.561	16.246	23.528	813.854	38587.056	35.989	8.186	16.371
	57.097	88.522	34447.206	19.758	28.560	1206.135	69415.984	43.770	10.149	20.298

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 180'-140'1"				1	1	1			
L2 140'1"-92'6"				1	1	1			
L3 92'6"-45'7"				1	1	1			
L4 45'7"-0'				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter in	Perimeter in	Weight klf
LDF7-50A(1-5/8) (E)	C	Surface Ar (CaAa)	168' - 0'	5	5	0.150 0.400	1.980		0.001
2" Rigid Conduit (E)	C	Surface Ar (CaAa)	168' - 0'	1	1	0.410 0.450	2.000		0.003
FB-L98B-002-75000(3/8) (E-Inside Conduit)	C	Surface Ar (CaAa)	168' - 0'	1	1	0.410 0.450	0.000		0.000
WR-VG86ST-BRD(3/4) (E-Inside Conduit) **/>***	C	Surface Ar (CaAa)	168' - 0'	2	2	0.410 0.450	0.000		0.001
Safety Line 3/8 (E) **/>***	A	Surface Ar (CaAa)	180' - 0'	1	1	-0.310 -0.300	0.375		0.000

Feed Line/Linear Appurtenances - Entered As Area

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Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total		C _{AA} ft ² /ft	Weight klf
					Number			
LDF7-50A(1-5/8) (E)	A	No	Inside Pole	177' - 0'	6	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
ATCB-B01-006(5/16) (P)	A	No	Inside Pole	177' - 0'	6	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
/>*								
LDF7-50A(1-5/8) (E)	C	No	Inside Pole	168' - 0'	7	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
/>*								
HB158-1-08U8-S8J18(1-5/8) (E)	B	No	Inside Pole	154' - 0'	2	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
/>*								
LDF6-50A(1-1/4) (E)	C	No	Inside Pole	119' - 0'	9	No Ice	0.000	0.001
						1/2" Ice	0.000	0.001
						1" Ice	0.000	0.001
/>*								
LDF4-50A(1/2) (E)	A	No	Inside Pole	77' - 0'	1	No Ice	0.000	0.000
						1/2" Ice	0.000	0.000
						1" Ice	0.000	0.000
/>*								

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R	A _F	C _{AA} In Face	C _{AA} Out Face	Weight K
			ft ²	ft ²	ft ²	ft ²	
L1	180'-140'1"	A	0.000	0.000	1.497	0.000	0.205
		B	0.000	0.000	0.000	0.000	0.036
		C	0.000	0.000	33.221	0.000	0.387
L2	140'1"-92'6"	A	0.000	0.000	1.784	0.000	0.264
		B	0.000	0.000	0.000	0.000	0.124
		C	0.000	0.000	56.624	0.000	0.803
L3	92'6"-45'7"	A	0.000	0.000	1.759	0.000	0.265
		B	0.000	0.000	0.000	0.000	0.122
		C	0.000	0.000	55.831	0.000	0.904
L4	45'7"-0'	A	0.000	0.000	1.709	0.000	0.260
		B	0.000	0.000	0.000	0.000	0.119
		C	0.000	0.000	54.244	0.000	0.878

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness	A _R	A _F	C _{AA} In Face	C _{AA} Out Face	Weight K
			in	ft ²	ft ²	ft ²	ft ²	
L1	180'-140'1"	A	1.756	0.000	0.000	15.514	0.000	0.388
		B		0.000	0.000	0.000	0.000	0.036
		C		0.000	0.000	84.244	0.000	1.384
L2	140'1"-92'6"	A	1.700	0.000	0.000	18.493	0.000	0.481
		B		0.000	0.000	0.000	0.000	0.124
		C		0.000	0.000	143.592	0.000	2.503
L3	92'6"-45'7"	A	1.614	0.000	0.000	17.715	0.000	0.467
		B		0.000	0.000	0.000	0.000	0.122

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Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L4	45'7"-0'	C	1.443	0.000	0.000	139.242	0.000	2.508
		A		0.000	0.000	16.428	0.000	0.439
		B		0.000	0.000	0.000	0.000	0.119
		C		0.000	0.000	131.758	0.000	2.330

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	180'-140'1"	-0.623	0.803	-1.107	1.033
L2	140'1"-92'6"	-0.809	1.060	-1.380	1.352
L3	92'6"-45'7"	-0.847	1.109	-1.536	1.510
L4	45'7"-0'	-0.874	1.145	-1.646	1.629

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L1	5	LDF7-50A(1-5/8)	140.08 - 168.00	1.0000	1.0000
L1	6	2" Rigid Conduit	140.08 - 168.00	1.0000	1.0000
L1	7	FB-L98B-002-75000(3/8)	140.08 - 168.00	1.0000	1.0000
L1	8	WR-VG86ST-BRD(3/4)	140.08 - 168.00	1.0000	1.0000
L1	16	Safety Line 3/8	140.08 - 180.00	1.0000	1.0000
L2	5	LDF7-50A(1-5/8)	92.50 - 140.08	1.0000	1.0000
L2	6	2" Rigid Conduit	92.50 - 140.08	1.0000	1.0000
L2	7	FB-L98B-002-75000(3/8)	92.50 - 140.08	1.0000	1.0000
L2	8	WR-VG86ST-BRD(3/4)	92.50 - 140.08	1.0000	1.0000
L2	16	Safety Line 3/8	92.50 - 140.08	1.0000	1.0000
L3	5	LDF7-50A(1-5/8)	45.58 - 92.50	1.0000	1.0000
L3	6	2" Rigid Conduit	45.58 - 92.50	1.0000	1.0000
L3	7	FB-L98B-002-75000(3/8)	45.58 - 92.50	1.0000	1.0000
L3	8	WR-VG86ST-BRD(3/4)	45.58 - 92.50	1.0000	1.0000
L3	16	Safety Line 3/8	45.58 - 92.50	1.0000	1.0000

Discrete Tower Loads

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz	Vert						
			ft	ft	°	ft	ft ²	ft ²	K	
/>										
APXVSPP18-C-A20 w/ Mount Pipe (P)	A	From Leg	4.000	0'	0.000	177'	No Ice	8.262	6.946	0.083
			0'				1/2" Ice	8.822	8.127	0.151
			1'				1" Ice	9.346	9.021	0.227
APXVSPP18-C-A20 w/ Mount Pipe (P)	B	From Leg	4.000	0'	0.000	177'	No Ice	8.262	6.946	0.083
			0'				1/2" Ice	8.822	8.127	0.151
			1'				1" Ice	9.346	9.021	0.227
APXVSPP18-C-A20 w/ Mount Pipe (P)	C	From Leg	4.000	0'	0.000	177'	No Ice	8.262	6.946	0.083
			0'				1/2" Ice	8.822	8.127	0.151
			1'				1" Ice	9.346	9.021	0.227
FD9R6004/1C-3L (P)	A	From Leg	4.000	0'	0.000	177'	No Ice	0.314	0.076	0.003
			0'				1/2" Ice	0.386	0.119	0.005
			1'				1" Ice	0.466	0.169	0.008
FD9R6004/1C-3L (P)	B	From Leg	4.000	0'	0.000	177'	No Ice	0.314	0.076	0.003
			0'				1/2" Ice	0.386	0.119	0.005
			1'				1" Ice	0.466	0.169	0.008
FD9R6004/1C-3L (P)	C	From Leg	4.000	0'	0.000	177'	No Ice	0.314	0.076	0.003
			0'				1/2" Ice	0.386	0.119	0.005
			1'				1" Ice	0.466	0.169	0.008
(2) 7' x 2" Pipe Mount (E)	A	From Leg	4.000	0'	0.000	177'	No Ice	1.663	1.663	0.026
			0'				1/2" Ice	2.391	2.391	0.038
			0'				1" Ice	2.825	2.825	0.055
(2) 7' x 2" Pipe Mount (E)	B	From Leg	4.000	0'	0.000	177'	No Ice	1.663	1.663	0.026
			0'				1/2" Ice	2.391	2.391	0.038
			0'				1" Ice	2.825	2.825	0.055
(2) 7' x 2" Pipe Mount (E)	C	From Leg	4.000	0'	0.000	177'	No Ice	1.663	1.663	0.026
			0'				1/2" Ice	2.391	2.391	0.038
			0'				1" Ice	2.825	2.825	0.055
Platform Mount [LP 601-1] (E)	C	None			0.000	177'	No Ice	28.470	28.470	1.122
							1/2" Ice	33.590	33.590	1.514
							1" Ice	38.710	38.710	1.905
/>										
(2) 7770.00 w/ Mount Pipe (E)	A	From Leg	4.000	0'	0.000	168'	No Ice	5.746	4.254	0.055
			0'				1/2" Ice	6.179	5.014	0.103
			2'				1" Ice	6.607	5.711	0.157
(2) 7770.00 w/ Mount Pipe (E)	B	From Leg	4.000	0'	0.000	168'	No Ice	5.746	4.254	0.055
			0'				1/2" Ice	6.179	5.014	0.103
			2'				1" Ice	6.607	5.711	0.157
(2) 7770.00 w/ Mount Pipe (E)	C	From Leg	4.000	0'	0.000	168'	No Ice	5.746	4.254	0.055
			0'				1/2" Ice	6.179	5.014	0.103
			2'				1" Ice	6.607	5.711	0.157
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	A	From Leg	4.000	0'	0.000	168'	No Ice	8.262	6.304	0.074
			0'				1/2" Ice	8.822	7.479	0.139
			2'				1" Ice	9.346	8.368	0.212
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	B	From Leg	4.000	0'	0.000	168'	No Ice	8.262	6.304	0.074
			0'				1/2" Ice	8.822	7.479	0.139
			2'				1" Ice	9.346	8.368	0.212
AM-X-CD-16-65-00T-RET w/ Mount Pipe (E)	C	From Leg	4.000	0'	0.000	168'	No Ice	8.262	6.304	0.074
			0'				1/2" Ice	8.822	7.479	0.139
			2'				1" Ice	9.346	8.368	0.212
(2) LGP21401 (E)	A	From Leg	4.000	0'	0.000	168'	No Ice	1.104	0.207	0.014
			0'				1/2" Ice	1.239	0.274	0.021
			2'				1" Ice	1.381	0.348	0.030
(2) LGP21401 (E)	B	From Leg	4.000	0'	0.000	168'	No Ice	1.104	0.207	0.014
			0'				1/2" Ice	1.239	0.274	0.021
			2'				1" Ice	1.381	0.348	0.030
(2) LGP21401 (E)	C	From Leg	4.000	0'	0.000	168'	No Ice	1.104	0.207	0.014

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
			ft	ft	°	ft	ft ²	ft ²	K
(E)			0'			1/2" Ice	1.239	0.274	0.021
			2'			1" Ice	1.381	0.348	0.030
DC6-48-60-18-8F	A	From Leg	4.000	0.000	168'	No Ice	0.917	0.917	0.019
(E)			0'			1/2" Ice	1.458	1.458	0.037
			2'			1" Ice	1.643	1.643	0.057
RRUS 11 B12	A	From Leg	4.000	0.000	168'	No Ice	2.833	1.182	0.051
(E)			0'			1/2" Ice	3.043	1.330	0.072
			2'			1" Ice	3.259	1.485	0.095
RRUS 11 B12	B	From Leg	4.000	0.000	168'	No Ice	2.833	1.182	0.051
(E)			0'			1/2" Ice	3.043	1.330	0.072
			2'			1" Ice	3.259	1.485	0.095
RRUS 11 B12	C	From Leg	4.000	0.000	168'	No Ice	2.833	1.182	0.051
(E)			0'			1/2" Ice	3.043	1.330	0.072
			2'			1" Ice	3.259	1.485	0.095
(2) LGP21901	A	From Leg	4.000	0.000	168'	No Ice	0.231	0.158	0.006
(E)			0'			1/2" Ice	0.294	0.213	0.008
			2'			1" Ice	0.365	0.276	0.011
(2) LGP21901	B	From Leg	4.000	0.000	168'	No Ice	0.231	0.158	0.006
(E)			0'			1/2" Ice	0.294	0.213	0.008
			2'			1" Ice	0.365	0.276	0.011
(2) LGP21901	C	From Leg	4.000	0.000	168'	No Ice	0.231	0.158	0.006
(E)			0'			1/2" Ice	0.294	0.213	0.008
			2'			1" Ice	0.365	0.276	0.011
8' x 2" Pipe Mount	A	From Leg	4.000	0.000	168'	No Ice	1.900	1.900	0.029
(E)			0'			1/2" Ice	2.728	2.728	0.044
			2'			1" Ice	3.401	3.401	0.063
8' x 2" Pipe Mount	B	From Leg	4.000	0.000	168'	No Ice	1.900	1.900	0.029
(E)			0'			1/2" Ice	2.728	2.728	0.044
			2'			1" Ice	3.401	3.401	0.063
8' x 2" Pipe Mount	C	From Leg	4.000	0.000	168'	No Ice	1.900	1.900	0.029
(E)			0'			1/2" Ice	2.728	2.728	0.044
			2'			1" Ice	3.401	3.401	0.063
4' x 2" Pipe Mount	A	From Leg	4.000	0.000	168'	No Ice	0.785	0.785	0.029
(E)			0'			1/2" Ice	1.028	1.028	0.035
			2'			1" Ice	1.281	1.281	0.044
Platform Mount [LP 303-1]	C	None		0.000	168'	No Ice	14.660	14.660	1.250
(E)						1/2" Ice	18.870	18.870	1.481
						1" Ice	23.080	23.080	1.713
/>*									
(2) LNX-6515DS-A1M w/	A	From Leg	4.000	0.000	154'	No Ice	11.683	9.842	0.083
Mount Pipe			0'			1/2" Ice	12.404	11.366	0.173
(E)			3'			1" Ice	13.135	12.914	0.273
(2) LNX-6515DS-A1M w/	B	From Leg	4.000	0.000	154'	No Ice	11.683	9.842	0.083
Mount Pipe			0'			1/2" Ice	12.404	11.366	0.173
(E)			3'			1" Ice	13.135	12.914	0.273
(2) LNX-6515DS-A1M w/	C	From Leg	4.000	0.000	154'	No Ice	11.683	9.842	0.083
Mount Pipe			0'			1/2" Ice	12.404	11.366	0.173
(E)			3'			1" Ice	13.135	12.914	0.273
(2) HBXX-6517DS-A2M w/	A	From Leg	4.000	0.000	154'	No Ice	8.765	6.963	0.067
Mount Pipe			0'			1/2" Ice	9.342	8.182	0.137
(E)			3'			1" Ice	9.889	9.144	0.215
(2) HBXX-6517DS-A2M w/	B	From Leg	4.000	0.000	154'	No Ice	8.765	6.963	0.067
Mount Pipe			0'			1/2" Ice	9.342	8.182	0.137
(E)			3'			1" Ice	9.889	9.144	0.215
(2) HBXX-6517DS-A2M w/	C	From Leg	4.000	0.000	154'	No Ice	8.765	6.963	0.067
Mount Pipe			0'			1/2" Ice	9.342	8.182	0.137
(E)			3'			1" Ice	9.889	9.144	0.215

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight
			Horz	Lateral					
RRH2X40-07-U (E)	A	From Leg	4.000	0' 0'	0.000	154'	No Ice 1.925	1.052	0.010
				0'			1/2" Ice 2.098	1.187	0.027
				3'			1" Ice 2.278	1.329	0.046
RRH2X40-07-U (E)	B	From Leg	4.000	0' 0'	0.000	154'	No Ice 1.925	1.052	0.010
				0'			1/2" Ice 2.098	1.187	0.027
				3'			1" Ice 2.278	1.329	0.046
RRH2X40-07-U (E)	C	From Leg	4.000	0' 0'	0.000	154'	No Ice 1.925	1.052	0.010
				0'			1/2" Ice 2.098	1.187	0.027
				3'			1" Ice 2.278	1.329	0.046
(2) DB-T1-6Z-8AB-0Z (E)	A	From Leg	4.000	0' 0'	0.000	154'	No Ice 4.800	2.000	0.044
				0'			1/2" Ice 5.070	2.193	0.080
				3'			1" Ice 5.348	2.393	0.120
RRH2X60-PCS (E)	A	From Leg	4.000	0' 0'	0.000	154'	No Ice 2.200	1.723	0.055
				0'			1/2" Ice 2.393	1.901	0.075
				3'			1" Ice 2.593	2.087	0.099
RRH2X60-PCS (E)	B	From Leg	4.000	0' 0'	0.000	154'	No Ice 2.200	1.723	0.055
				0'			1/2" Ice 2.393	1.901	0.075
				3'			1" Ice 2.593	2.087	0.099
RRH2X60-PCS (E)	C	From Leg	4.000	0' 0'	0.000	154'	No Ice 2.200	1.723	0.055
				0'			1/2" Ice 2.393	1.901	0.075
				3'			1" Ice 2.593	2.087	0.099
RRH2X60-AWS (E)	A	From Leg	4.000	0' 0'	0.000	154'	No Ice 3.500	1.816	0.060
				0'			1/2" Ice 3.761	2.052	0.083
				3'			1" Ice 4.029	2.289	0.109
RRH2X60-AWS (E)	B	From Leg	4.000	0' 0'	0.000	154'	No Ice 3.500	1.816	0.060
				0'			1/2" Ice 3.761	2.052	0.083
				3'			1" Ice 4.029	2.289	0.109
RRH2X60-AWS (E)	C	From Leg	4.000	0' 0'	0.000	154'	No Ice 3.500	1.816	0.060
				0'			1/2" Ice 3.761	2.052	0.083
				3'			1" Ice 4.029	2.289	0.109
Platform Mount [LP 304-1] (E)	C	None			0.000	154'	No Ice 17.460	17.460	1.349
							1/2" Ice 22.440	22.440	1.625
							1" Ice 27.420	27.420	1.900
/>*									
DB225-K (E)	A	From Leg	4.000	0' 0'	0.000	119'	No Ice 0.450	0.450	0.003
				0'			1/2" Ice 0.810	0.810	0.004
				5'			1" Ice 1.170	1.170	0.005
(2) DB264-A (E)	A	From Leg	4.000	0' 0'	0.000	119'	No Ice 3.160	3.160	0.036
				0'			1/2" Ice 5.688	5.688	0.047
				12'			1" Ice 8.216	8.216	0.058
DB264-A (E)	B	From Leg	4.000	0' 0'	0.000	119'	No Ice 3.160	3.160	0.036
				0'			1/2" Ice 5.688	5.688	0.047
				12'			1" Ice 8.216	8.216	0.058
(2) DB264-A (E)	C	From Leg	4.000	0' 0'	0.000	119'	No Ice 3.160	3.160	0.036
				0'			1/2" Ice 5.688	5.688	0.047
				12'			1" Ice 8.216	8.216	0.058
DB230-E (E)	A	From Leg	4.000	0' 0'	0.000	119'	No Ice 0.500	0.500	0.027
				0'			1/2" Ice 0.900	0.900	0.035
				1'			1" Ice 1.300	1.300	0.043
DB230-E (E)	A	From Leg	4.000	0' 0'	0.000	119'	No Ice 0.500	0.500	0.027
				0'			1/2" Ice 0.900	0.900	0.035
				3'			1" Ice 1.300	1.300	0.043
DB420 (E)	B	From Leg	4.000	0' 0'	0.000	119'	No Ice 3.330	3.330	0.034
				0'			1/2" Ice 5.994	5.994	0.044
				9'			1" Ice 8.658	8.658	0.054
(3) 5' x 2" Pipe Mount (E)	A	From Leg	4.000	0' 0'	0.000	119'	No Ice 1.000	1.000	0.029
				0'			1/2" Ice 1.393	1.393	0.037

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Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA} Front	C _{AA} Side	Weight	
			Horz Lateral	Vert						
			ft	ft	°	ft	ft ²	ft ²	K	
(4) 5' x 2" Pipe Mount (E)	B	From Leg	0'	4.000	0.000	119'	1" Ice	1.703	1.703	0.048
			No Ice	1.000	1.000	0.029				
			1/2" Ice	1.393	1.393	0.037				
(3) 5' x 2" Pipe Mount (E)	C	From Leg	0'	4.000	0.000	119'	1" Ice	1.703	1.703	0.048
			No Ice	1.000	1.000	0.029				
			1/2" Ice	1.393	1.393	0.037				
Platform Mount [LP 304-1] (E)	C	None	0'		0.000	119'	1" Ice	1.703	1.703	0.048
			No Ice	17.460	17.460	1.349				
			1/2" Ice	22.440	22.440	1.625				
/>*										
KS24019-L112A (E)	A	From Leg	0'	3.000	0.000	77'	No Ice	0.141	0.141	0.005
			1/2" Ice	0.198	0.198	0.007				
			1" Ice	0.262	0.262	0.009				
Side Arm Mount [SO 701-1] (E)	A	From Leg	1'	1.500	0.000	77'	No Ice	0.850	1.670	0.065
			0'			1/2" Ice	1.140	2.340	0.079	
			0'			1" Ice	1.430	3.010	0.093	
/>*										

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

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Comb. No.	Description
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	180 - 140.083	Pole	Max Tension	2	0.000	0.000	-0.000
			Max. Compression	26	-26.766	1.259	1.858
			Max. Mx	20	-9.679	324.071	0.557
			Max. My	2	-9.645	0.219	327.261
			Max. Vy	20	-16.608	324.071	0.557
			Max. Vx	2	-16.836	0.219	327.261
			Max. Torque	8			1.168
			L2	140.083 - 92.5	Pole	Max Tension	1
Max. Compression	26	-45.434				3.630	-0.100
Max. Mx	20	-20.933				1267.988	0.394
Max. My	2	-20.907				0.564	1281.339
Max. Vy	20	-23.781				1267.988	0.394
Max. Vx	2	-24.012				0.564	1281.339
Max. Torque	8						1.416
L3	92.5 - 45.5833	Pole				Max Tension	1
			Max. Compression	26	-65.651	6.723	-2.571
			Max. Mx	20	-35.183	2476.805	0.079
			Max. My	2	-35.170	1.162	2499.059
			Max. Vy	20	-28.600	2476.805	0.079
			Max. Vx	14	28.796	1.162	-2498.877
			Max. Torque	8			1.668
			L4	45.5833 - 0	Pole	Max Tension	1
Max. Compression	26	-94.061				10.302	-6.186
Max. Mx	20	-56.921				4099.011	-0.747
Max. My	14	-56.921				1.948	-4131.248
Max. Vy	20	-32.967				4099.011	-0.747
Max. Vx	14	33.154				1.948	-4131.248
Max. Torque	8						1.666

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Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	38	94.061	4.886	8.484
	Max. H _x	20	56.945	32.926	0.000
	Max. H _z	2	56.945	-0.000	33.113
	Max. M _x	2	4129.779	-0.000	33.113
	Max. M _z	8	4095.129	-32.926	0.000
	Max. Torsion	8	1.664	-32.926	0.000
	Min. Vert	7	42.709	-28.515	16.557
	Min. H _x	8	56.945	-32.926	0.000
	Min. H _z	14	56.945	-0.000	-33.113
	Min. M _x	14	-4131.248	-0.000	-33.113
	Min. M _z	20	-4099.011	32.926	0.000
	Min. Torsion	20	-1.664	32.926	0.000

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	47.454	0.000	0.000	0.617	1.556	0.000
1.2 Dead+1.6 Wind 0 deg - No Ice	56.945	0.000	-33.113	-4129.779	1.948	0.207
0.9 Dead+1.6 Wind 0 deg - No Ice	42.709	0.000	-33.113	-4084.335	1.445	0.206
1.2 Dead+1.6 Wind 30 deg - No Ice	56.945	16.463	-28.677	-3576.438	-2046.563	-0.660
0.9 Dead+1.6 Wind 30 deg - No Ice	42.709	16.463	-28.677	-3537.092	-2024.451	-0.658
1.2 Dead+1.6 Wind 60 deg - No Ice	56.945	28.515	-16.557	-2064.569	-3546.223	-1.345
0.9 Dead+1.6 Wind 60 deg - No Ice	42.709	28.515	-16.557	-2041.930	-3507.555	-1.340
1.2 Dead+1.6 Wind 90 deg - No Ice	56.945	32.926	-0.000	0.747	-4095.129	-1.664
0.9 Dead+1.6 Wind 90 deg - No Ice	42.709	32.926	-0.000	0.562	-4050.416	-1.658
1.2 Dead+1.6 Wind 120 deg - No Ice	56.945	28.515	16.557	2066.057	-3546.212	-1.537
0.9 Dead+1.6 Wind 120 deg - No Ice	42.709	28.515	16.557	2043.048	-3507.547	-1.532
1.2 Dead+1.6 Wind 150 deg - No Ice	56.945	16.463	28.677	3577.913	-2046.551	-1.004
0.9 Dead+1.6 Wind 150 deg - No Ice	42.709	16.463	28.677	3538.201	-2024.443	-1.000
1.2 Dead+1.6 Wind 180 deg - No Ice	56.945	0.000	33.113	4131.248	1.948	-0.207
0.9 Dead+1.6 Wind 180 deg - No Ice	42.709	0.000	33.113	4085.439	1.445	-0.206
1.2 Dead+1.6 Wind 210 deg - No Ice	56.945	-16.463	28.677	3577.907	2050.444	0.646
0.9 Dead+1.6 Wind 210 deg - No Ice	42.709	-16.463	28.677	3538.197	2027.331	0.644
1.2 Dead+1.6 Wind 240 deg - No Ice	56.945	-28.515	16.557	2066.051	3550.098	1.330

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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
0.9 Dead+1.6 Wind 240 deg - No Ice	42.709	-28.515	16.557	2043.044	3510.430	1.326
1.2 Dead+1.6 Wind 270 deg - No Ice	56.945	-32.926	-0.000	0.747	4099.011	1.664
0.9 Dead+1.6 Wind 270 deg - No Ice	42.709	-32.926	-0.000	0.562	4053.296	1.658
1.2 Dead+1.6 Wind 300 deg - No Ice	56.945	-28.515	-16.557	-2064.563	3550.109	1.552
0.9 Dead+1.6 Wind 300 deg - No Ice	42.709	-28.515	-16.557	-2041.925	3510.438	1.546
1.2 Dead+1.6 Wind 330 deg - No Ice	56.945	-16.463	-28.677	-3576.432	2050.456	1.018
0.9 Dead+1.6 Wind 330 deg - No Ice	42.709	-16.463	-28.677	-3537.087	2027.339	1.014
1.2 Dead+1.0 Ice+1.0 Temp	94.061	-0.000	0.000	6.186	10.302	0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	94.061	-0.000	-8.731	-1124.548	10.512	0.079
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	94.061	4.353	-7.561	-973.045	-552.220	-0.209
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	94.061	7.540	-4.366	-559.125	-964.168	-0.440
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	94.061	8.707	0.000	6.301	-1114.951	-0.553
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	94.061	7.540	4.366	571.725	-964.165	-0.518
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	94.061	4.886	8.484	1097.119	-616.578	-0.345
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	94.061	-0.000	8.731	1137.144	10.512	-0.078
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	94.061	-4.353	7.561	985.639	573.240	0.208
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	94.061	-7.540	4.366	571.723	985.186	0.440
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	94.061	-8.707	0.000	6.301	1135.970	0.553
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	94.061	-7.540	-4.366	-559.122	985.189	0.519
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	94.061	-4.886	-8.484	-1084.519	637.604	0.346
Dead+Wind 0 deg - Service	47.454	0.000	-6.535	-809.619	1.613	0.041
Dead+Wind 30 deg - Service	47.454	3.249	-5.659	-701.069	-400.214	-0.130
Dead+Wind 60 deg - Service	47.454	5.627	-3.267	-404.504	-694.371	-0.266
Dead+Wind 90 deg - Service	47.454	6.498	0.000	0.611	-802.041	-0.331
Dead+Wind 120 deg - Service	47.454	5.627	3.267	405.727	-694.371	-0.307
Dead+Wind 150 deg - Service	47.454	3.249	5.659	702.291	-400.213	-0.201
Dead+Wind 180 deg - Service	47.454	0.000	6.535	810.841	1.613	-0.041
Dead+Wind 210 deg - Service	47.454	-3.249	5.659	702.291	403.439	0.130
Dead+Wind 240 deg - Service	47.454	-5.627	3.267	405.726	697.596	0.266
Dead+Wind 270 deg - Service	47.454	-6.498	0.000	0.611	805.266	0.331
Dead+Wind 300 deg - Service	47.454	-5.627	-3.267	-404.504	697.597	0.307
Dead+Wind 330 deg - Service	47.454	-3.249	-5.659	-701.069	403.439	0.201

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-47.454	0.000	0.000	47.454	0.000	0.000%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
2	0.000	-56.945	-33.113	-0.000	56.945	33.113	0.000%
3	0.000	-42.709	-33.113	-0.000	42.709	33.113	0.000%
4	16.463	-56.945	-28.677	-16.463	56.945	28.677	0.000%
5	16.463	-42.709	-28.677	-16.463	42.709	28.677	0.000%
6	28.515	-56.945	-16.557	-28.515	56.945	16.557	0.000%
7	28.515	-42.709	-16.557	-28.515	42.709	16.557	0.000%
8	32.926	-56.945	0.000	-32.926	56.945	0.000	0.000%
9	32.926	-42.709	0.000	-32.926	42.709	0.000	0.000%
10	28.515	-56.945	16.557	-28.515	56.945	-16.557	0.000%
11	28.515	-42.709	-16.557	-28.515	42.709	-16.557	0.000%
12	16.463	-56.945	28.677	-16.463	56.945	-28.677	0.000%
13	16.463	-42.709	28.677	-16.463	42.709	-28.677	0.000%
14	0.000	-56.945	33.113	-0.000	56.945	-33.113	0.000%
15	0.000	-42.709	33.113	-0.000	42.709	-33.113	0.000%
16	-16.463	-56.945	28.677	16.463	56.945	-28.677	0.000%
17	-16.463	-42.709	28.677	16.463	42.709	-28.677	0.000%
18	-28.515	-56.945	16.557	28.515	56.945	-16.557	0.000%
19	-28.515	-42.709	16.557	28.515	42.709	-16.557	0.000%
20	-32.926	-56.945	0.000	32.926	56.945	0.000	0.000%
21	-32.926	-42.709	0.000	32.926	42.709	0.000	0.000%
22	-28.515	-56.945	-16.557	28.515	56.945	16.557	0.000%
23	-28.515	-42.709	-16.557	28.515	42.709	16.557	0.000%
24	-16.463	-56.945	-28.677	16.463	56.945	28.677	0.000%
25	-16.463	-42.709	-28.677	16.463	42.709	28.677	0.000%
26	0.000	-94.061	0.000	0.000	94.061	-0.000	0.000%
27	0.000	-94.061	-8.731	0.000	94.061	8.731	0.000%
28	4.353	-94.061	-7.561	-4.353	94.061	7.561	0.000%
29	7.540	-94.061	-4.366	-7.540	94.061	4.366	0.000%
30	8.707	-94.061	0.000	-8.707	94.061	-0.000	0.000%
31	7.540	-94.061	4.366	-7.540	94.061	-4.366	0.000%
32	4.886	-94.061	8.483	-4.886	94.061	-8.484	0.000%
33	0.000	-94.061	8.731	0.000	94.061	-8.731	0.000%
34	-4.353	-94.061	7.561	4.353	94.061	-7.561	0.000%
35	-7.540	-94.061	4.366	7.540	94.061	-4.366	0.000%
36	-8.707	-94.061	0.000	8.707	94.061	-0.000	0.000%
37	-7.540	-94.061	-4.366	7.540	94.061	4.366	0.000%
38	-4.886	-94.061	-8.483	4.886	94.061	8.484	0.000%
39	0.000	-47.454	-6.535	0.000	47.454	6.535	0.000%
40	3.249	-47.454	-5.659	-3.249	47.454	5.659	0.000%
41	5.627	-47.454	-3.267	-5.627	47.454	3.267	0.000%
42	6.498	-47.454	0.000	-6.498	47.454	0.000	0.000%
43	5.627	-47.454	3.267	-5.627	47.454	-3.267	0.000%
44	3.249	-47.454	5.659	-3.249	47.454	-5.659	0.000%
45	0.000	-47.454	6.535	0.000	47.454	-6.535	0.000%
46	-3.249	-47.454	5.659	3.249	47.454	-5.659	0.000%
47	-5.627	-47.454	3.267	5.627	47.454	-3.267	0.000%
48	-6.498	-47.454	0.000	6.498	47.454	0.000	0.000%
49	-5.627	-47.454	-3.267	5.627	47.454	3.267	0.000%
50	-3.249	-47.454	-5.659	3.249	47.454	5.659	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00037358

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3	Yes	4	0.00000001	0.00012853
4	Yes	6	0.00000001	0.00005198
5	Yes	5	0.00000001	0.00048042
6	Yes	6	0.00000001	0.00005336
7	Yes	5	0.00000001	0.00049377
8	Yes	4	0.00000001	0.00092518
9	Yes	4	0.00000001	0.00056413
10	Yes	6	0.00000001	0.00005131
11	Yes	5	0.00000001	0.00047427
12	Yes	6	0.00000001	0.00005318
13	Yes	5	0.00000001	0.00049186
14	Yes	4	0.00000001	0.00037353
15	Yes	4	0.00000001	0.00012853
16	Yes	6	0.00000001	0.00005305
17	Yes	5	0.00000001	0.00049042
18	Yes	6	0.00000001	0.00005149
19	Yes	5	0.00000001	0.00047581
20	Yes	4	0.00000001	0.00092593
21	Yes	4	0.00000001	0.00056441
22	Yes	6	0.00000001	0.00005356
23	Yes	5	0.00000001	0.00049547
24	Yes	6	0.00000001	0.00005187
25	Yes	5	0.00000001	0.00047913
26	Yes	4	0.00000001	0.00003781
27	Yes	5	0.00000001	0.00040058
28	Yes	5	0.00000001	0.00052889
29	Yes	5	0.00000001	0.00053342
30	Yes	5	0.00000001	0.00039582
31	Yes	5	0.00000001	0.00052962
32	Yes	5	0.00000001	0.00062013
33	Yes	5	0.00000001	0.00040244
34	Yes	5	0.00000001	0.00054786
35	Yes	5	0.00000001	0.00054157
36	Yes	5	0.00000001	0.00040384
37	Yes	5	0.00000001	0.00054610
38	Yes	5	0.00000001	0.00062642
39	Yes	4	0.00000001	0.00002944
40	Yes	4	0.00000001	0.00021564
41	Yes	4	0.00000001	0.00023751
42	Yes	4	0.00000001	0.00004764
43	Yes	4	0.00000001	0.00020778
44	Yes	4	0.00000001	0.00023320
45	Yes	4	0.00000001	0.00002941
46	Yes	4	0.00000001	0.00023184
47	Yes	4	0.00000001	0.00021056
48	Yes	4	0.00000001	0.00004784
49	Yes	4	0.00000001	0.00024149
50	Yes	4	0.00000001	0.00021530

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	180 - 140.083	23.388	39	1.114	0.002
L2	145 - 92.5	15.437	39	1.011	0.001
L3	98.5 - 45.5833	7.015	45	0.680	0.001
L4	52.5 - 0	1.981	45	0.344	0.000

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Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
177'	APXVSPP18-C-A20 w/ Mount Pipe	39	22.685	1.108	0.002	67365
168'	(2) 7770.00 w/ Mount Pipe	39	20.585	1.088	0.002	28068
154'	(2) LNX-6515DS-A1M w/ Mount Pipe	39	17.397	1.048	0.001	12954
119'	DB225-K	45	10.352	0.842	0.001	8436
77'	KS24019-L112A	45	4.218	0.517	0.000	7134

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	180 - 140.083	119.185	2	5.676	0.009
L2	145 - 92.5	78.718	2	5.153	0.007
L3	98.5 - 45.5833	35.782	14	3.471	0.003
L4	52.5 - 0	10.100	14	1.757	0.001

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
177'	APXVSPP18-C-A20 w/ Mount Pipe	2	115.607	5.646	0.009	13528
168'	(2) 7770.00 w/ Mount Pipe	2	104.922	5.548	0.008	5635
154'	(2) LNX-6515DS-A1M w/ Mount Pipe	2	88.696	5.344	0.007	2598
119'	DB225-K	14	52.803	4.298	0.004	1676
77'	KS24019-L112A	14	21.513	2.639	0.002	1404

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	180 - 140.083 (1)	TP31.67x24.16x0.219	39'11"	0'	0.0	21.302	-9.645	1402.890	0.007
L2	140.083 - 92.5 (2)	TP40.17x30.307x0.344	52'6"	0'	0.0	42.436	-20.907	3026.680	0.007

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L3	92.5 - 45.5833 (3)	TP48.31x38.355x0.438	52'11"	0'	0.0	64.996	-35.170	4716.500	0.007
L4	45.5833 - 0 (4)	TP56x46.134x0.5	52'6"	0'	0.0	88.522	-56.921	6342.060	0.009

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M _{uy} kip-ft	φM _{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	180 - 140.083 (1)	TP31.67x24.16x0.219	327.261	877.725	0.373	0.000	877.725	0.000
L2	140.083 - 92.5 (2)	TP40.17x30.307x0.344	1281.342	2396.567	0.535	0.000	2396.567	0.000
L3	92.5 - 45.5833 (3)	TP48.31x38.355x0.438	2499.058	4492.008	0.556	0.000	4492.008	0.000
L4	45.5833 - 0 (4)	TP56x46.134x0.5	4131.250	7200.975	0.574	0.000	7200.975	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _u K	φV _n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T _u kip-ft	φT _n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	180 - 140.083 (1)	TP31.67x24.16x0.219	16.836	701.444	0.024	0.000	1769.450	0.000
L2	140.083 - 92.5 (2)	TP40.17x30.307x0.344	24.012	1513.340	0.016	0.208	4831.367	0.000
L3	92.5 - 45.5833 (3)	TP48.31x38.355x0.438	28.796	2358.250	0.012	0.207	9055.667	0.000
L4	45.5833 - 0 (4)	TP56x46.134x0.5	33.154	3171.030	0.010	0.207	14516.833	0.000

Pole Interaction Design Data

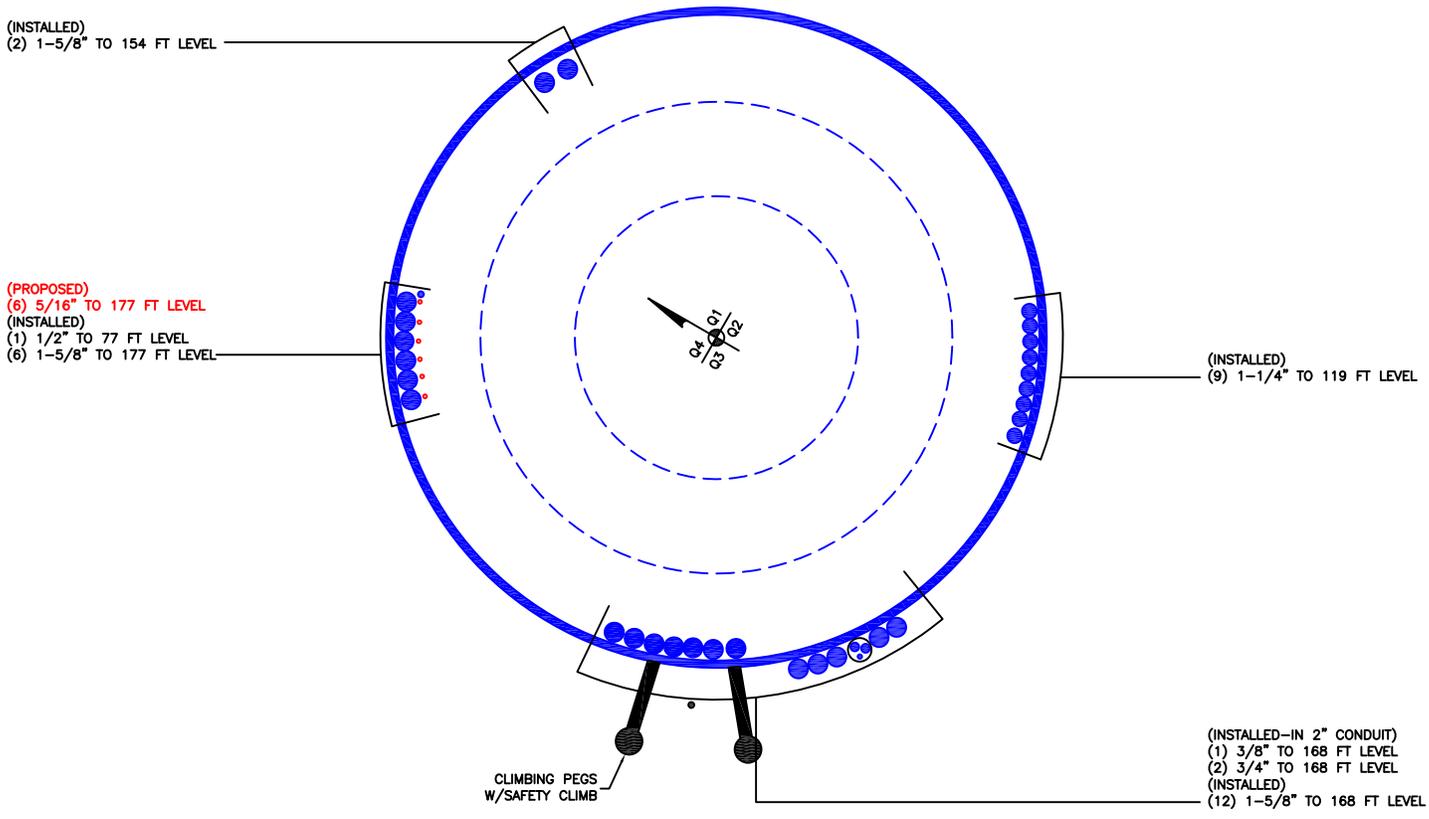
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	180 - 140.083 (1)	0.007	0.373	0.000	0.024	0.000	0.380	1.000	4.8.2 ✓
L2	140.083 - 92.5 (2)	0.007	0.535	0.000	0.016	0.000	0.542	1.000	4.8.2 ✓
L3	92.5 - 45.5833 (3)	0.007	0.556	0.000	0.012	0.000	0.564	1.000	4.8.2 ✓
L4	45.5833 - 0 (4)	0.009	0.574	0.000	0.010	0.000	0.583	1.000	4.8.2 ✓

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Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail	
L1	180 - 140.083	Pole	TP31.67x24.16x0.219	1	-9.645	1402.890	38.0	Pass	
L2	140.083 - 92.5	Pole	TP40.17x30.307x0.344	2	-20.907	3026.680	54.2	Pass	
L3	92.5 - 45.5833	Pole	TP48.31x38.355x0.438	3	-35.170	4716.500	56.4	Pass	
L4	45.5833 - 0	Pole	TP56x46.134x0.5	4	-56.921	6342.060	58.3	Pass	
							Summary		
							Pole (L4)	58.3	Pass
							RATING =	58.3	Pass

APPENDIX B
BASE LEVEL DRAWING



BUSINESS UNIT: 876368

APPENDIX C
ADDITIONAL CALCULATIONS

Stiffened or Unstiffened, UngROUTed, Circular Base Plate - Any Rod Material

TIA Rev G

Assumption: Clear space between bottom of leveling nut and top of concrete **not** exceeding (1)*(Rod Diameter)

Site Data

BU#: 876368
Site Name: YANKEE LAKE/EAST HAMPTON/T
App #: 372626 Revision # 0
Pole Manufacturer: <i>Other</i>

Anchor Rod Data

Qty:	24	
Diam:	2.25	in
Rod Material:	A615-J	
Strength (Fu):	100	ksi
Yield (Fy):	75	ksi
Bolt Circle:	64.48	in

Plate Data

Diam:	70.48	in
Thick:	3	in
Grade:	60	ksi
Single-Rod B-eff:	7.43	in

Stiffener Data (Welding at both sides)

Config:	0	*
Weld Type:		
Groove Depth:		<-- Disregard
Groove Angle:		<-- Disregard
Fillet H. Weld:		in
Fillet V. Weld:		in
Width:		in
Height:		in
Thick:		in
Notch:		in
Grade:		ksi
Weld str.:		ksi

Pole Data

Diam:	56	in
Thick:	0.5	in
Grade:	65	ksi
# of Sides:	16	"0" IF Round
Fu	80	ksi
Reinf. Fillet Weld	0	"0" if None

Reactions

Mu:	4131	ft-kips
Axial, Pu:	57	kips
Shear, Vu:	33	kips
Eta Factor, η	0.5	TIA G (Fig. 4-4)

If No stiffeners, Criteria: **AISC LRFD** <-Only Applicable to Unstiffened Cases

Anchor Rod Results

Max Rod (Cu+ Vu/η): 133.3 Kips
 Allowable Axial, $\Phi \cdot Fu \cdot Anet$: 260.0 Kips
 Anchor Rod Stress Ratio: 51.3% **Pass**

Rigid
AISC LRFD
$\phi \cdot Tn$

Base Plate Results

Base Plate Stress: 20.3 ksi
 Allowable Plate Stress: 54.0 ksi
 Base Plate Stress Ratio: 37.5% **Pass**

Flexural Check

Rigid
AISC LRFD
$\phi \cdot Fy$
Y.L. Length: 31.96

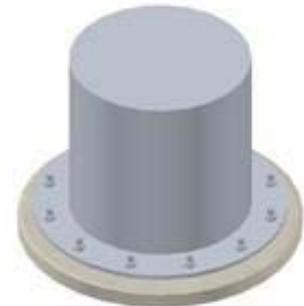
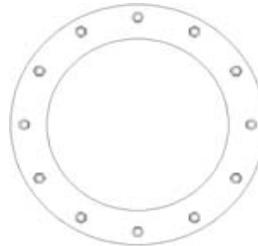
n/a

Stiffener Results

Horizontal Weld : n/a
 Vertical Weld: n/a
 Plate Flex+Shear, $fb/Fb+(fv/Fv)^2$: n/a
 Plate Tension+Shear, $ft/Ft+(fv/Fv)^2$: n/a
 Plate Comp. (AISC Bracket): n/a

Pole Results

Pole Punching Shear Check: n/a



* 0 = none, 1 = every bolt, 2 = every 2 bolts, 3 = 2 per bolt

** Note: for complete joint penetration groove welds the groove depth must be exactly 1/2 the stiffener thickness for calculation purposes

PROJECT	876368 - YANKEE LAKE/EAST HAMPTON/TOWN, CT		
SUBJECT	Foundation Analysis		
DATE	01-07-17	PAGE	1 OF 1



Monopole Pad & Pier Foundation Analysis

Rev. Type: **G**

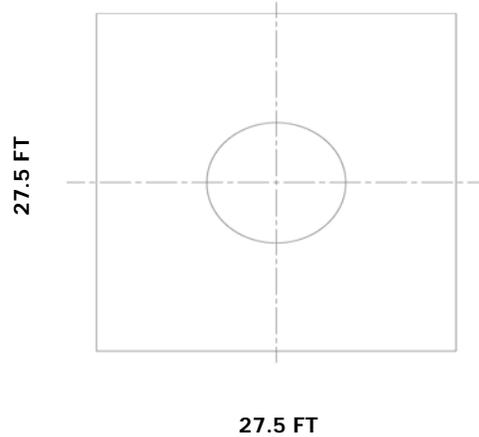
Design Loads:

Input factored loads

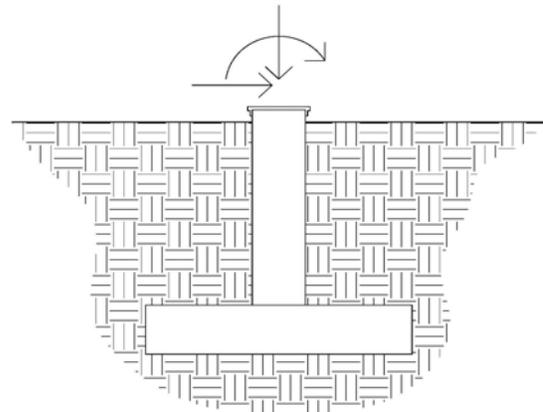
Shear:	<u>33.0</u>	kips
Moment:	<u>4,131.0</u>	ft-kips
Tower Height:	<u>190.0</u>	ft
Tower Weight:	<u>57.0</u>	kips

Pad & Pier Dimensions / Properties:

Pole Diameter at Base:	<u>56.00</u>	in
Bearing Depth:	<u>7.0</u>	ft
Pad Width:	<u>27.5</u>	ft
Neglected Depth:	<u>4.0</u>	ft
Thickness:	<u>3.0</u>	ft
Pier Diameter:	<u>8.0</u>	ft
Pier Height Above Grade:	<u>0.5</u>	ft
BP Dist. Above Pier:	<u>3.0</u>	in
Clear Cover:	<u>3.0</u>	in
Pier Rebar Size:	<u>11</u>	
Pier Rebar Quantity:	<u>36</u>	
Pad Rebar Size:	<u>9</u>	
Pad Rebar Quantity:	<u>36</u>	
Pier Tie Size:	<u>4</u>	
Tie Quantity:	<u>8</u>	
Rebar Yield Strength:	<u>60000</u>	psi
Concrete Strength:	<u>3000</u>	psi
Concrete Unit Weight:	<u>0.15</u>	kcf



Elevation Overview



Soil Data:

Allowable Values

Soil Unit Weight:	<u>0.130</u>	kcf
Ult. Bearing Capacity:	<u>8.000</u>	ksf
Angle of Friction:	<u>34.000</u>	deg
Cohesion:	<u>0.000</u>	ksf
Passive Pressure:	<u>0.000</u>	ksf
Base Friction:	<u>0.300</u>	

** Notes:

Summary of Results

Req'd Pier Diam.	OK
Overturning	46.8%
Shear Capacity	16.7%
Bearing	35.7%
Pad Shear - 1-way	46.4%
Pad Shear - 2-way	5.3%
Pad Moment Capacity	27.0%
Pier Moment Capacity	42.6%

1 PUBLIC WORKS DR #CELL

Location 1 PUBLIC WORKS DR #CELL

Mblu 06/ 5A/ 8B/ /

Acct# R07102

Owner EAST HAMPTON TOWN OF

Assessment \$210,000

Appraisal \$300,000

PID 5538

Building Count 1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2015	\$100,000	\$200,000	\$300,000

Assessment			
Valuation Year	Improvements	Land	Total
2015	\$70,000	\$140,000	\$210,000

Owner of Record

Owner EAST HAMPTON TOWN OF
Co-Owner %SPRINT SPECTRUM LP-PROPTY TAX
Address PO BOX 8430 (CT33XC018);
KANSAS CITY, MO 64114

Sale Price \$0
Certificate
Book & Page 000/0000
Sale Date 01/01/1900
Instrument 29

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
EAST HAMPTON TOWN OF	\$0		000/0000	29	01/01/1900

Building Information

Building 1 : Section 1

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

Building Attributes	
Field	Description

Style	Outbuildings
Model	
Grade:	
Story Height	
Foundation	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure:	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
# Extra Fixtures	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Fireplace	
Fin Basement	
Fin Bsmt Qual	
Bsmt. Garages	
Gas Fireplace	

Building Photo



(<http://images.vgsi.com/photos/EastHamptonCTPhotos//default>)

Building Layout



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

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	200
Description	Commercial Vacant
Zone	C
Neighborhood	COM

Land Line Valuation

Size (Acres)	1
Frontage	
Depth	
Assessed Value	\$140,000

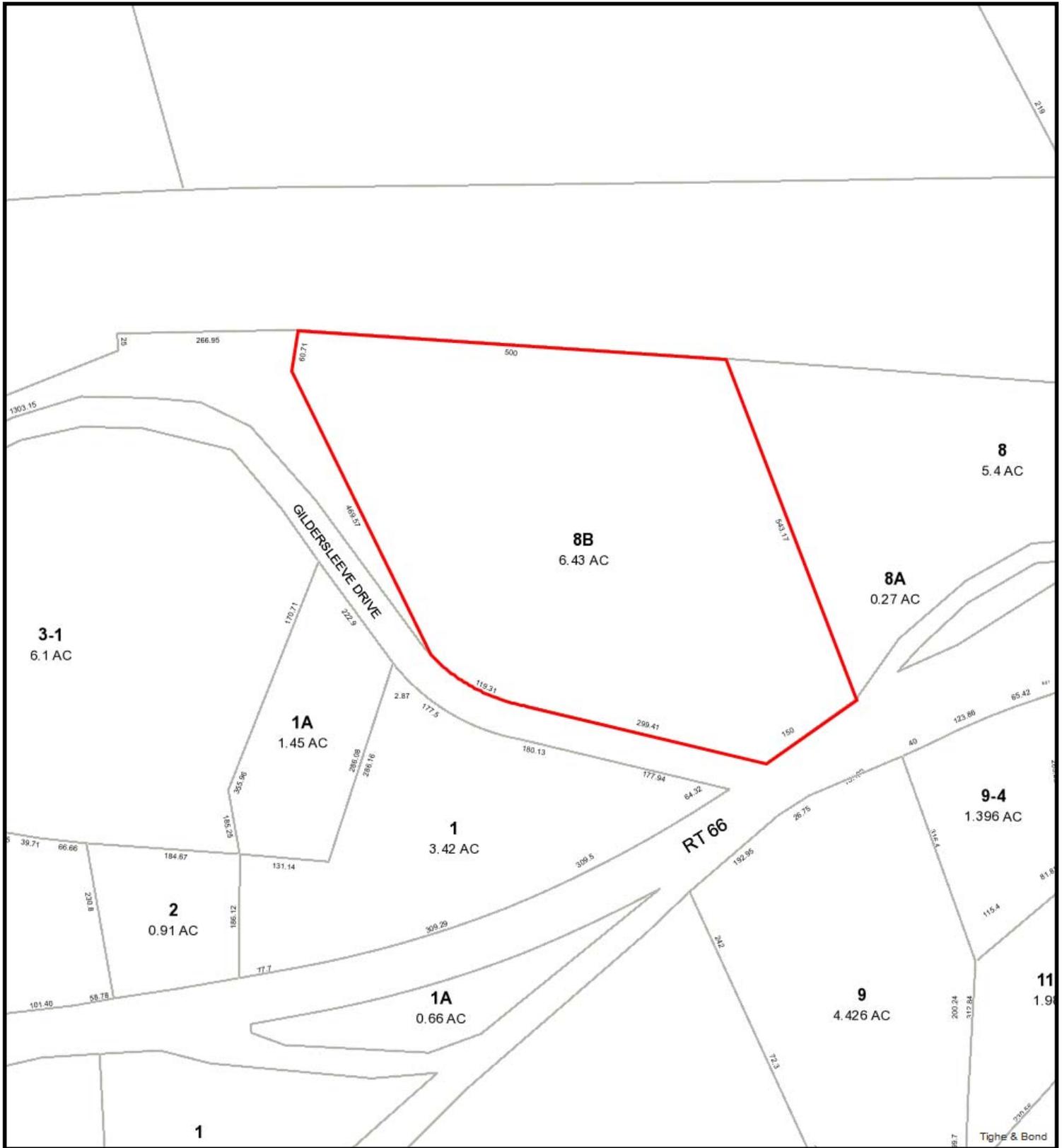
Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
CEL	Cell Tower			1 UNITS	\$100,000	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2016	\$100,000	\$200,000	\$300,000
2014	\$100,000	\$200,000	\$300,000
2012	\$100,000	\$200,000	\$300,000

Assessment			
Valuation Year	Improvements	Land	Total
2016	\$70,000	\$140,000	\$210,000
2014	\$70,000	\$140,000	\$210,000
2012	\$70,000	\$140,000	\$210,000



1 Public Works Drive - East

5/10/2017 10:16:25 AM

Scale: 1"=200'

Scale is approximate

The information depicted on this map is for planning purposes only. It is not adequate for legal boundary definition, regulatory interpretation, or parcel-level analyses.



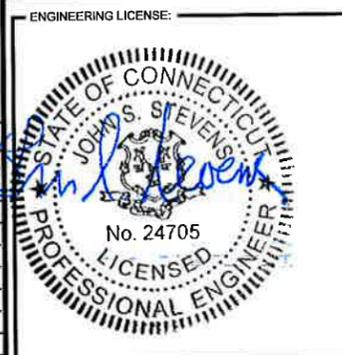


PROJECT: DO ESS GROUND MOUNT OPTION 2
 SITE NAME: YANKEE LAKE/EAST HAMPTON/TOWN GARAGE
 SITE CASCADE: CT33XC018
 SITE ADDRESS: 1 PUBLIC WORKS DRIVE
 EAST HAMPTON, CT 06024
 SITE TYPE: MONOPOLE TOWER
 MARKET: NORTHERN CONNECTICUT



PLANS PREPARED BY:
INFINIGY
 FROM ZERO TO INFINIGY
 the solutions are endless
 1033 Watervillet Shaker Rd | Albany, NY 12205
 Phone: 518-690-0790 | Fax: 518-690-0793
 www.infinigy.com
 JOB NUMBER 514-000

PROJECT MANAGER:
AIROSMITH
 DEVELOPMENT
 32 CLINTON ST.
 SARATOGA SPRINGS, NY 12866
 OFFICE: (518) 306-3740



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REVISIONS:	DESCRIPTION	DATE	BY	REV
ISSUED FOR PERMIT		1/25/17	JLM	0
ISSUED FOR REVIEW		1/19/17	JLM	A

SITE NAME:
YANKEE LAKE/EAST HAMPTON/TOWN GARAGE

SITE NUMBER:
CT33XC018

SITE ADDRESS:
**1 PUBLIC WORKS DRIVE
 EAST HAMPTON, CT 06024**

SHEET DESCRIPTION:
TITLE SHEET & PROJECT DATA

SHEET NUMBER:
T-1

SITE INFORMATION

TOWER OWNER:
 CROWN ATLANTIC COMPANY LLC.
 2000 CORPORATE DRIVE
 CANONSBURG, PA 15317
 (704) 405-8555

LATITUDE (NAD83):
 41° 33' 53.136" N
 41.56478000°

LONGITUDE (NAD83):
 72° 32' 35.198" W
 -72.54311000°

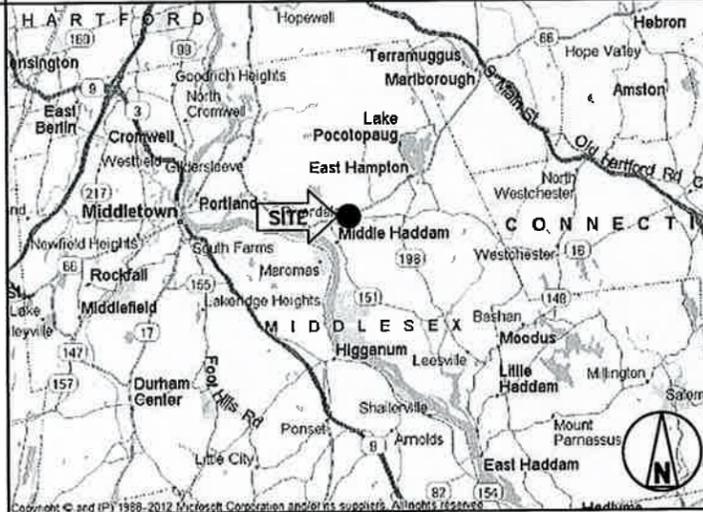
COUNTY:
 MIDDLESEX

ZONING JURISDICTION:
 CONNECTICUT SITING COUNCIL

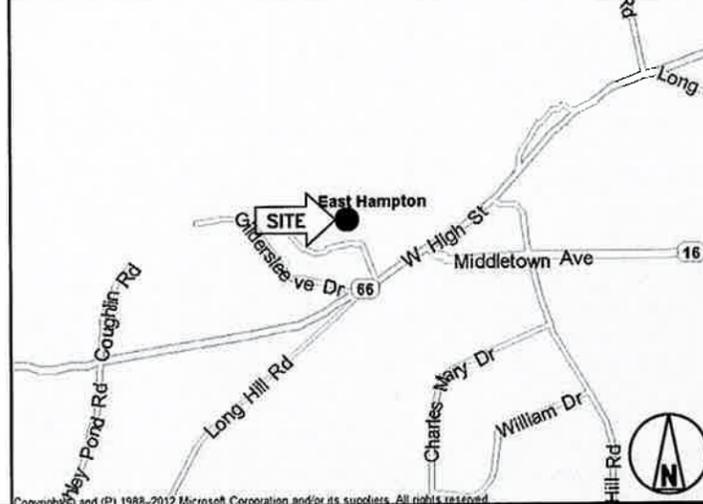
ZONING DISTRICT:
 R-2

PROJECT MANAGER:
 AIROSMITH DEVELOPMENT
 TERRI BURKHOLDER
 (315) 719-2928
 TBURKHOLDER@AIROSMITHDEVELOPMENT.COM

AREA MAP



LOCATION MAP



PROJECT DESCRIPTION

SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY.

- REMOVE (6) PANEL ANTENNAS
- INSTALL (3) PANEL ANTENNAS
- INSTALL (3) DIPLEXERS TO TOWER TOP
- INSTALL (3) DIPLEXERS TO EXISTING H-FRAME
- INSTALL (3) RRH'S TO EXISTING H-FRAME
- INSTALL (6) RET CABLES

THESE PLANS HAVE BEEN DEVELOPED FOR THE MODIFICATION OF AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY OWNED OR LEASED BY SPRINT IN ACCORDANCE WITH THE SCOPE OF WORK PROVIDED BY SPRINT. INFINIGY HAS INCORPORATED THIS SCOPE OF WORK IN THE PLANS. THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS ACCOMPANIED BY A PASSING STRUCTURAL STABILITY ANALYSIS PREPARED BY A LICENSED STRUCTURAL ENGINEER. STRUCTURAL ANALYSIS MUST INCLUDE BOTH TOWER AND MOUNT.

APPLICABLE CODES

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

- INTERNATIONAL BUILDING CODE (2012 IBC)
- TIA-EIA-222-F OR LATEST EDITION
- NFPA 780 - LIGHTNING PROTECTION CODE
- 2011 NATIONAL ELECTRIC CODE OR LATEST EDITION
- ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES, MOST RECENT EDITIONS
- CT BUILDING CODE
- CITY/COUNTY ORDINANCES



DRAWING INDEX

SHEET NO:	SHEET TITLE	REV
T-1	TITLE SHEET & PROJECT DATA	0
SP-1	SPRINT SPECIFICATIONS	0
SP-2	SPRINT SPECIFICATIONS	0
SP-3	SPRINT SPECIFICATIONS	0
A-1	OVERALL SITE PLAN	0
A-2	SITE PLAN	0
A-3	TOWER ELEVATION & ANTENNA LAYOUT	0
A-4	ANTENNA LOADING AND COLOR CODING CHART	0
A-5	EQUIPMENT & MOUNTING DETAILS	0
A-6	SCENARIO 354 V2.5 SPECIFICATIONS	0
A-7	SCENARIO 354 V2.5 SPECIFICATIONS	0
E-1	ELECTRICAL & GROUNDING PLAN	0

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 - SCOPE OF WORK

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT CONSTRUCTION STANDARDS FOR WIRELESS SITES, CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.
- 1.3 PRECEDENCE: SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.
- 1.4 NATIONALLY RECOGNIZED CODES AND STANDARDS:
 - A. THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
 1. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
 5. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
 3. GR-1089 CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY -GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
 4. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE - "NEC") AND NFPA 101 (LIFE SAFETY CODE).
 5. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
 6. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
 7. AMERICAN CONCRETE INSTITUTE (ACI)
 8. AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
 9. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
 10. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
 11. PORTLAND CEMENT ASSOCIATION (PCA)
 12. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
 13. BRICK INDUSTRY ASSOCIATION (BIA)
 14. AMERICAN WELDING SOCIETY (AWS)
 15. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
 16. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
 17. DOOR AND HARDWARE INSTITUTE (DHI)
 18. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
 19. APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.

1.5 DEFINITIONS:

- A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
- B. COMPANY: SPRINT 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.
- F. OFCI: OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.
- G. CONSTRUCTION MANAGER - ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT...

- 1.6 SITE FAMILIARITY: CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.
- 1.7 POINT OF CONTACT: COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.
- 1.8 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.
- 1.9 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 RED 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.
 - B. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK.
 - C. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.
- 1.10 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.
- 1.11 UTILITIES SERVICES: WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED:
- 1.12 PERMITS / FEES: WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 1.13 CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.
- 1.14 METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION: CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS.

NOTE: IN SHORT-FORM SPECIFICATIONS ON THE DRAWINGS, A/E TO INSERT LIST OF APPLICABLE MOPS INCLUDING EN-2012-001, EN-2013-002, EL-0568, AND TS-0193
- 1.15 USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 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.
- 3.2 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.
- 3.3 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.
- 3.4 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

3.5 EXISTING CONDITIONS: NOTIFY THE SPRINT CONSTRUCTION MANAGER 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.

SECTION 01 200 - COMPANY FURNISHED MATERIAL AND EQUIPMENT

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 RECEIPT OF MATERIAL AND EQUIPMENT:
 - A. A COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.
 - B. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
 1. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
 2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
 3. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
 4. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
 5. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
 6. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.
- 3.2 DELIVERABLES:
 - A. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.
 - B. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.
 - C. UPLOAD DOCUMENTATION INTO SPRINT SITE MANAGEMENT SYSTEM (SMS) AND/OR PROVIDE HARD COPY DOCUMENTATION AS REQUESTED.

SECTION 01 300 - CELL SITE CONSTRUCTION CO.

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.
- 1.3 NOTICE TO PROCEED
 - A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF THE WORK ORDER.
 - B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

TOWER OWNER NOTIFICATION
 ONCE THE CONTRACTOR HAS RECEIVED AND ACCEPTED THE NOTICE TO PROCEED, CONTRACTOR WILL CONTACT THE CROWN CASTLE CONSTRUCTION MANAGER OF RECORD (NOTED ON THE FIRST PAGE ON THIS CONSTRUCTION DRAWING) A MINIMUM OF 48 HOURS PRIOR TO WORK START. UPON ARRIVAL TO THE JOB SITE, CONTRACTOR CREW IS REQUIRED CALL 1-800-788-7011 TO NOTIFY THE CROWN CASTLE NOC WORK HAS BEGUN.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 FUNCTIONAL REQUIREMENTS:
 - A. THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. THE ACTIVITIES DESCRIBED ARE NOT EXHAUSTIVE, AND CONTRACTOR SHALL TAKE ANY AND ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.
 - B. SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.
 - C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES
 - D. PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

PLANS PREPARED FOR:



PLANS PREPARED BY:

INFINIGY
 FROM ZERO TO INFINIGY
 the solutions are endless
 1033 Waterville Shaker Rd | Albany, NY 12205
 Phone: 518-690-0790 | Fax: 518-690-0793
 www.infinigy.com
 JOB NUMBER: 514-000

PROJECT MANAGER:

AIRSMITH
 DEVELOPMENT
 32 CLINTON ST.
 SARATOGA SPRINGS, NY 12866
 OFFICE: (518) 306-3740

ENGINEERING LICENSE:



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REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR PERMIT	1/25/17	JM	0
ISSUED FOR REVIEW	1/19/17	JM	A

SITE NAME:

YANKEE LAKE/EAST HAMPTON/TOWN GARAGE

SITE NUMBER:

CT33XC018

SITE ADDRESS:

1 PUBLIC WORKS DRIVE EAST HAMPTON, CT 06024

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-1

CONTINUE FROM SP-1

1. PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
2. PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
3. MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND TELCO BACKHAUL.
4. INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
5. INSTALL ABOVE GROUND GROUNDING SYSTEMS.
6. PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
7. INSTALL "H-FRAMES", CABINETS AND SHELTERS AS INDICATED.
8. INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
9. ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
10. PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
11. PROVIDE SLABS AND EQUIPMENT PLATFORMS.
12. INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
13. PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
14. CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER.
15. INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
16. INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
17. INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
18. PERFORM, DOCUMENT, AND CLOSE OUT ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
19. PERFORM ANTENNA AND COAX SWEEP TESTING AND MAKE ANY AND ALL NECESSARY CORRECTIONS.
20. REMAIN ON SITE MOBILIZED THROUGHOUT HAND-OFF AND INTEGRATION TO ASSIST AS NEEDED UNTIL SITE IS DEEMED SUBSTANTIALLY COMPLETE AND PLACED "ON AIR."

3.2 GENERAL REQUIREMENTS FOR CIVL CONSTRUCTION:

- A. 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.
- B. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.
- C. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
 1. 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.
 2. 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.
- D. 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
- E. CONDUCT TESTING AS REQUIRED HEREIN.

3.3 DELIVERABLES:

- A. CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO SPRINT SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND SIMILAR SUBMITTALS AS REQUIRED HEREINAFTER
- B. PROVIDE DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.
 1. ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
 2. PROJECT PROGRESS REPORTS.
 3. CIVL CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
 4. ELECTRICAL SERVICE COMPLETION DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).

5. LINES AND ANTENNA INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
6. POWER INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
7. TELCO READY DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
8. PPC (OR SHELTER) INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
9. TOWER CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
10. TOWER CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
11. BTS AND RADIO EQUIPMENT DELIVERED AT SITE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
12. NETWORK OPERATIONS HANDOFF CHECKLIST (HOC WALK) COMPLETE (UPLOAD FORM IN SMS)
13. CIVL CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
14. SITE CONSTRUCTION PROGRESS PHOTOS UNLOADED INTO SMS.

SECTION 01 400 - SUBMITTALS & TESTS

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.
- 1.3 SUBMITTALS:
 - A. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.
 - B. SUBMIT THE FOLLOWING TO COMPANY REPRESENTATIVE FOR APPROVAL.
 1. CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
 2. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
 3. SPECIAL FINISHES FOR INTERIOR SPACES, IF ANY.
 4. ALL EQUIPMENT AND MATERIALS SO IDENTIFIED ON THE CONSTRUCTION DRAWINGS.
 5. CHEMICAL GROUNDING DESIGN
 - D. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

1.4 TESTS AND INSPECTIONS:

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 1. COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 4 ANTENNA LINE ACCEPTANCE STANDARDS.
 2. AGL, AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL.
 3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.
- C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
 1. AZIMUTH, DOWNTILT, AGL - UPLOAD REPORT FROM ANTENNA ALIGNMENT TOOL TO SITERRA TASK 465. INSTALLED AZIMUTH, DOWNTILT, AND AGL MUST CONFORM TO THE RF DATA SHEETS. SWEEP AND FIBER TESTS
 2. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
 3. ALL AVAILABLE JURISDICTIONAL INFORMATION
 4. PDF SCAN OF REDLINES PRODUCED IN FIELD

5. ELECTRONIC AS-BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS. ANY FIELD CHANGE MUST BE REFLECTED BY MODIFYING THE PLANS, ELEVATIONS, AND DETAILS IN THE DRAWING SETS. GENERAL NOTES INDICATING MODIFICATIONS WILL NOT BE ACCEPTED. CHANGES SHALL BE HIGHLIGHTED AS "CLOUDS" IDENTIFIED AS THE "AS-BUILT" CONDITION.
6. LIEN WAIVERS
7. FINAL PAYMENT APPLICATION
8. REQUIRED FINAL CONSTRUCTION PHOTOS
9. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
10. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).

1.5 COMMISSIONING: PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPS

1.6 INTEGRATION: PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPS

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 REQUIREMENTS FOR TESTING:

A. THIRD PARTY TESTING AGENCY:

1. 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.
2. 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.
3. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASHTO, AND OTHER METHODS IS NEEDED.
4. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASHTO, AND OTHER METHODS IS NEEDED.

3.2 REQUIRED TESTS:

- A. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 1. CONCRETE CYLINDER BREAK TESTS FOR THE TOWER AND ANCHOR FOUNDATIONS AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
 2. ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED IN SECTION: HOT MIX ASPHALT PAVING.
 3. FIELD QUALITY CONTROL TESTING AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
 4. TESTING REQUIRED UNDER SECTION: AGGREGATE BASE FOR ACCESS ROADS, PADS AND ANCHOR LOCATIONS
 5. STRUCTURAL BACKFILL COMPACTION TESTS FOR THE TOWER FOUNDATION.
 6. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
 7. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
 8. GROUNDING AT ANTENNA MASTS FOR GPS AND ANTENNAS
 9. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

3.3 REQUIRED INSPECTIONS

- A. SCHEDULE INSPECTIONS WITH COMPANY REPRESENTATIVE.
- B. CONDUCT INSPECTIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 1. GROUNDING SYSTEM INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
 2. FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
 3. COMPACTION OF BACKFILL MATERIALS; AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS; ASPHALT PAVING; AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
 4. PRE- AND POST-CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES.
 5. TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
 6. ANTENNA AZIMUTH, DOWN TILT AND PER SUNLIGHT TOOL SUNSIGHT INSTRUMENTS - ANTENNA ALIGNMENT TOOL (AAT)

PLANS PREPARED FOR:



PLANS PREPARED BY:



PROJECT MANAGER:



ENGINEERING LICENSE:



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ISSUED FOR REVIEW		1/19/17	JJM	A

SITE NAME:
YANKEE LAKE/EAST HAMPTON/TOWN GARAGE

SITE NUMBER:
CT33XC018

SITE ADDRESS:
1 PUBLIC WORKS DRIVE
EAST HAMPTON, CT 06024

SHEET DESCRIPTION:
SPRINT SPECIFICATIONS

SHEET NUMBER:
SP-2

CONTINUE FROM SP-2

7. VERIFICATION DOCUMENTED WITH THE ANTENNA CHECKLIST REPORT, BY A&E, SITE DEVELOPMENT REP, OR RF REP.
 8. FINAL INSPECTION CHECKLIST AND HANDOFF WALK (HOC). SIGNED FORM SHOWING ACCEPTANCE BY FIELD OPS IS TO BE UPLOADED INTO SMS.
 9. COAX SWEEP AND FIBER TESTING DOCUMENTS SUBMITTED VIA SMS FOR RF APPROVAL.
 10. SCAN-ABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
 11. ALL AVAILABLE JURISDICTIONAL INFORMATION
 12. PDF SCAN OF REDLINES PRODUCED IN FIELD
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.
- D. CONSTRUCTION INSPECTIONS AND CORRECTIVE MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR WITH WRITTEN REPORTS AND PHOTOGRAPHS. PHOTOGRAPHS MUST BE DIGITAL AND OF SUFFICIENT QUALITY TO CLEARLY SHOW THE SITE CONSTRUCTION. PHOTOGRAPHS MUST CLEARLY IDENTIFY THE PHOTOGRAPHED ITEM AND BE LABELED WITH THE SITE CASCADE NUMBER, SITE NAME, DESCRIPTION, AND DATE.
- 3.4 DELIVERABLES: TEST AND INSPECTION REPORTS AND CLOSEOUT DOCUMENTATION SHALL BE UPLOADED TO THE SMS AND/OR FORWARDED TO SPRINT FOR INCLUSION INTO THE PERMANENT SITE FILES.
- A. THE FOLLOWING TEST AND INSPECTION REPORTS SHALL BE PROVIDED AS APPLICABLE.
1. CONCRETE MIX AND CYLINDER BREAK REPORTS.
 2. STRUCTURAL BACKFILL COMPACTION REPORTS.
 3. SITE RESISTANCE TO EARTH TEST.
 4. ANTENNA AZIMUTH AND DOWN TILT VERIFICATION
 5. TOWER ERECTION INSPECTIONS AND MEASUREMENTS DOCUMENTING TOWER INSTALLED PER SUPPLIER'S REQUIREMENTS AND THE APPLICABLE SECTIONS HEREIN.
 6. COAX CABLE SWEEP TESTS PER COMPANY'S "ANTENNA LINE ACCEPTANCE STANDARDS".
- B. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES THE FOLLOWING;
1. TEST WELLS AND TRENCHES: PHOTOGRAPHS OF ALL TEST WELLS; PHOTOGRAPHS SHOWING ALL OPEN EXCAVATIONS AND TRENCHING PRIOR TO BACKFILLING SHOWING A TAPE MEASURE VISIBLE IN THE EXCAVATIONS INDICATING DEPTH.
 2. CONDUITS, CONDUCTORS AND GROUNDING: PHOTOGRAPHS SHOWING TYPICAL INSTALLATION OF CONDUCTORS AND CONNECTORS; PHOTOGRAPHS SHOWING TYPICAL BEND RADIUS OF INSTALLED GROUND WIRES AND GROUND ROD SPACING;
 3. CONCRETE FORMS AND REINFORCING: CONCRETE FORMING AT TOWER AND EQUIPMENT/SHELTER PAD/FOUNDATIONS - PHOTOGRAPHS SHOWING ALL REINFORCING STEEL, UTILITY AND CONDUIT STUB OUTS; PHOTOGRAPHS SHOWING CONCRETE POUR OF SHELTER SLAB/FOUNDATION, TOWER FOUNDATION AND GUY ANCHORS WITH VIBRATOR IN USE; PHOTOGRAPHS SHOWING EACH ANCHOR ON GUYED TOWERS, BEFORE CONCRETE POUR.
 4. TOWER, ANTENNAS AND MAINLINE: INSPECTION AND PHOTOGRAPHS OF SECTION STACKING; INSPECTION AND PHOTOGRAPHS OF PLATFORM COMPONENT ATTACHMENT POINTS; PHOTOGRAPHS OF TOWER TOP GROUNDING; PHOTOS OF TOWER COAX LINE COLOR CODING AT THE TOP AND AT GROUND LEVEL; INSPECTION AND PHOTOGRAPHS OF OPERATIONAL OF TOWER LIGHTING, AND PLACEMENT OF FAA REGISTRATION SIGN; PHOTOGRAPHS SHOWING ADDITIONAL GROUNDING POINTS FOR TOWERS GREATER THAN 200 FEET.; PHOTOS OF ANTENNA GROUND BAR, EQUIPMENT GROUND BAR, AND MASTER GROUND BAR; PHOTOS OF GPS ANTENNA(S); PHOTOS OF EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA; PHOTOS OF COAX WEATHERPROOFING - TOP AND BOTTOM; PHOTOS OF COAX GROUNDING--TOP AND BOTTOM; PHOTOS OF ANTENNA AND MAST GROUNDING; PHOTOS OF COAX CABLE ENTRY INTO SHELTER; PHOTOS OF PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
 5. ROOF TOPS: PRE-CONSTRUCTION AND POST-CONSTRUCTION VISUAL INSPECTION AND PHOTOGRAPHS OF THE ROOF AND INTERIOR TO DETERMINE AND DOCUMENT CONDITIONS; ROOF TOP CONSTRUCTION INSPECTIONS AS REQUIRED BY THE JURISDICTION; PHOTOGRAPHS OF CABLE TRAY AND/OR ICE BRIDGE; PHOTOGRAPHS OF DOGHOUSE/CABLE EXIT FROM ROOF;
 6. SITE LAYOUT - PHOTOGRAPHS OF THE OVERALL COMPOUND, INCLUDING EQUIPMENT PLATFORM FROM ALL FOUR CORNERS.
 7. FINISHED UTILITIES: CLOSE-UP PHOTOGRAPHS OF THE PPC BREAKER PANEL; CLOSE-UP PHOTOGRAPH OF THE INSIDE OF THE TELCO PANEL AND NIU; CLOSE-UP PHOTOGRAPH OF THE POWER METER AND DISCONNECT; PHOTOS OF POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE; PHOTOGRAPHS AT METER BOX AND/OR FACILITY DISTRIBUTION PANEL.
 8. REQUIRED MATERIALS CERTIFICATIONS: CONCRETE MIX DESIGNS; MILL CERTIFICATION FOR ALL REINFORCING AND STRUCTURAL STEEL; AND ASPHALT PAVING MIX DESIGN.
 9. ANY AND ALL SUBMITTALS BY THE JURISDICTION OR COMPANY.

SECTION 01 400 - SUBMITTALS & TESTS

PART 1 - GENERAL

- 1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.
- 1.2 RELATED DOCUMENTS:
 - A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.
 - B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

- 3.1 WEEKLY REPORTS:
 - A. CONTRACTOR SHALL PROVIDE SPRINT WITH WEEKLY REPORTS SHOWING PROJECT STATUS. THIS STATUS REPORT FORMAT WILL BE PROVIDED TO THE CONTRACTOR BY SPRINT. THE REPORT WILL CONTAIN SITE ID NUMBER, THE MILESTONES FOR EACH SITE, INCLUDING THE BASELINE DATE, ESTIMATED COMPLETION DATE AND ACTUAL COMPLETION DATE.
 - B. REPORT INFORMATION WILL BE TRANSMITTED TO SPRINT VIA ELECTRONIC MEANS AS REQUIRED. THIS INFORMATION WILL PROVIDE A BASIS FOR PROGRESS MONITORING AND PAYMENT.
- 3.2 PROJECT CONFERENCE CALLS:
 - A. SPRINT MAY HOLD WEEKLY PROJECT CONFERENCE CALLS. CONTRACTOR WILL BE REQUIRED TO COMMUNICATE SITE STATUS, MILESTONE COMPLETIONS AND UPCOMING MILESTONE PROJECTIONS, AND ANSWER ANY OTHER SITE STATUS QUESTIONS AS NECESSARY.
- 3.3 PROJECT TRACKING IN SMS:
 - A. CONTRACTOR SHALL PROVIDE SCHEDULE UPDATES AND PROJECTIONS IN THE SMS SYSTEM ON A WEEKLY BASIS.
- 3.4 ADDITIONAL REPORTING:
 - A. ADDITIONAL OR ALTERNATE REPORTING REQUIREMENTS MAY BE ADDED TO THE REPORT AS DETERMINED TO BE REASONABLY NECESSARY BY COMPANY.
- 3.5 PROJECT PHOTOGRAPHS:
 - A. FILE DIGITAL PHOTOGRAPHS OF COMPLETED SITE IN JPEG FORMAT IN THE SMS PHOTO LIBRARY FOR THE RESPECTIVE SITE. PHOTOGRAPHS SHALL BE CLEARLY LABELED WITH SITE NUMBER, NAME AND DESCRIPTION, AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING AS APPLICABLE:
 1. SHELTER AND TOWER OVERVIEW.
 2. TOWER FOUNDATION(S) - FORMS AND STEEL BEFORE POUR (EACH ANCHOR ON GUYED TOWERS).
 3. TOWER FOUNDATION(S) POUR WITH VIBRATOR IN USE (EACH ANCHOR ON GUYED TOWERS).
 4. TOWER STEEL AS BEING INSTALLED INTO HOLE (SHOW ANCHOR STEEL ON GUYED TOWERS).
 5. PHOTOS OF TOWER SECTION STACKING.
 6. CONCRETE TESTING / SAMPLES.
 7. PLACING OF ANCHOR BOLTS IN TOWER FOUNDATION.
 8. BUILDING/WATER TANK FROM ROAD FOR TENANT IMPROVEMENTS OR COMMENTS.
 9. SHELTER FOUNDATION--FORMS AND STEEL BEFORE POURING.
 10. SHELTER FOUNDATION POUR WITH VIBRATOR IN USE.
 11. COAX CABLE ENTRY INTO SHELTER.
 12. PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
 13. ROOFTOP PRE AND POST CONSTRUCTION PHOTOS TO INCLUDE PENETRATIONS AND INTERIOR CEILING.
 14. PHOTOS OF TOWER TOP COAX LINE COLOR CODING AND COLOR CODING AT GROUND LEVEL.
 15. PHOTOS OF ALL APPROPRIATE COMPANY OR REGULATORY SIGNAGE.
 16. PHOTOS OF EQUIPMENT BOLT DOWN INSIDE SHELTER.
 17. POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE AND POWER AND TELCO SUPPLY LOCATIONS INCLUDING METER/DISCONNECT.
 18. ELECTRICAL TRENCH(S) WITH ELECTRICAL / CONDUIT BEFORE BACKFILL.
 19. ELECTRICAL TRENCH(S) WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
 20. TELCO TRENCH WITH TELEPHONE / CONDUIT BEFORE BACKFILL.
 21. TELCO TRENCH WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
 22. SHELTER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADI).
 23. TOWER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADI).

24. FENCE GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADI).
 25. ALL BTS GROUND CONNECTIONS.
 26. ALL GROUND TEST WELLS.
 27. ANTENNA GROUND BAR AND EQUIPMENT GROUND BAR.
 28. ADDITIONAL GROUNDING POINTS ON TOWERS ABOVE 200'.
 29. HVAC UNITS INCLUDING CONDENSERS ON SPLIT SYSTEMS.
 30. GPS ANTENNAS.
 31. CABLE TRAY AND/OR WAVEGUIDE BRIDGE.
 32. DOGHOUSE/CABLE EXIT FROM ROOF.
 33. EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA.
 34. MASTER BUS BAR.
 35. TELCO BOARD AND NIU.
 36. ELECTRICAL DISTRIBUTION WALL.
 37. CABLE ENTRY WITH SURGE SUPPRESSION.
 38. ENTRANCE TO EQUIPMENT ROOM.
 39. COAX WEATHERPROOFING--TOP AND BOTTOM OF TOWER.
 40. COAX GROUNDING -TOP AND BOTTOM OF TOWER.
 41. ANTENNA AND MAST GROUNDING.
 42. LANDSCAPING - WHERE APPLICABLE.
- 3.6 FINAL PROJECT ACCEPTANCE: COMPLETE ALL REQUIRED REPORTING TASKS PER CONTRACT, CONTRACT DOCUMENTS OR THE SPRINT INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES AND UPLOAD INTO SITERRA.

PLANS PREPARED FOR:



PLANS PREPARED BY:

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1033 Watervliet Shaker Rd | Albany, NY 12205
Phone: 518-690-0790 | Fax: 518-690-0793
www.infinigy.com
JOB NUMBER 514-000

PROJECT MANAGER:

AIRSMITH
DEVELOPMENT
32 CLINTON ST.
SARATOGA SPRINGS, NY 12866
OFFICE# (518) 306-3740

ENGINEERING LICENSE:



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REVISIONS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR PERMIT	1/25/17	J.M	0
ISSUED FOR REVIEW	1/19/17	J.M	A

SITE NAME:

YANKEE LAKE/EAST HAMPTON/TOWN GARAGE

SITE NUMBER:

CT33XC018

SITE ADDRESS:

1 PUBLIC WORKS DRIVE EAST HAMPTON, CT 06024

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-3

INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION AND ARE NOT THE RESULT OF A FIELD SURVEY.

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REVISIONS:

DESCRIPTION	DATE	BY	REV
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ISSUED FOR REVIEW	1/19/17	J.M.	A

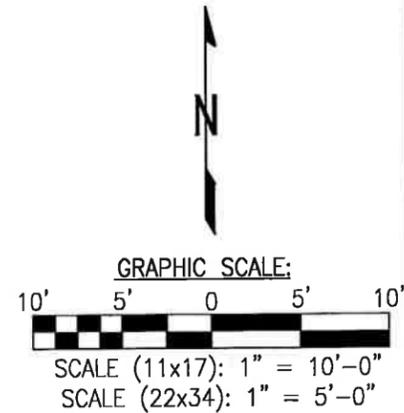
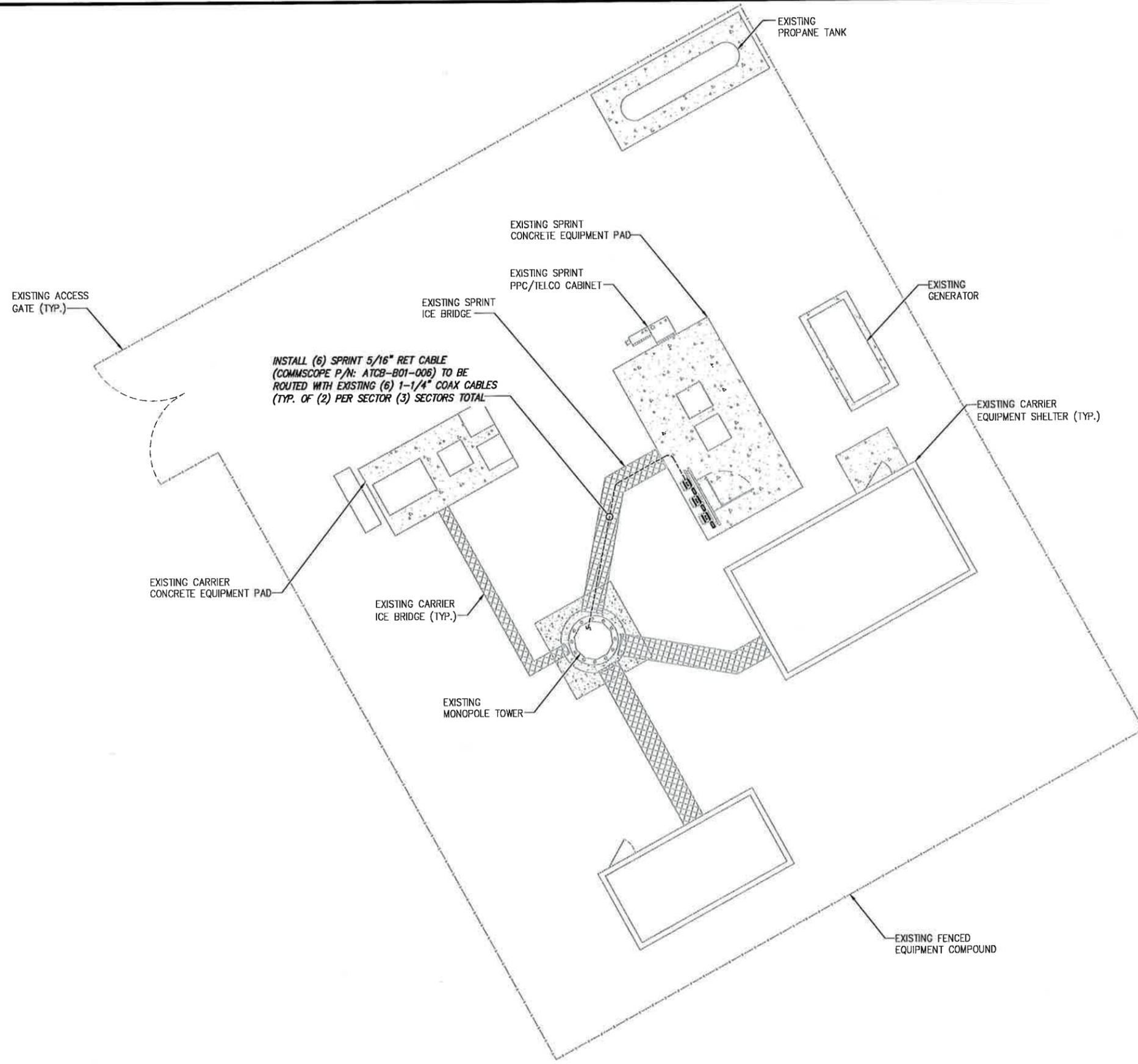
SITE NAME:
YANKEE LAKE/EAST HAMPTON/TOWN GARAGE

SITE NUMBER:
CT33XC018

SITE ADDRESS:
1 PUBLIC WORKS DRIVE EAST HAMPTON, CT 06024

SHEET DESCRIPTION:
OVERALL SITE PLAN

SHEET NUMBER:
A-1



INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION AND ARE NOT THE RESULT OF A FIELD SURVEY.

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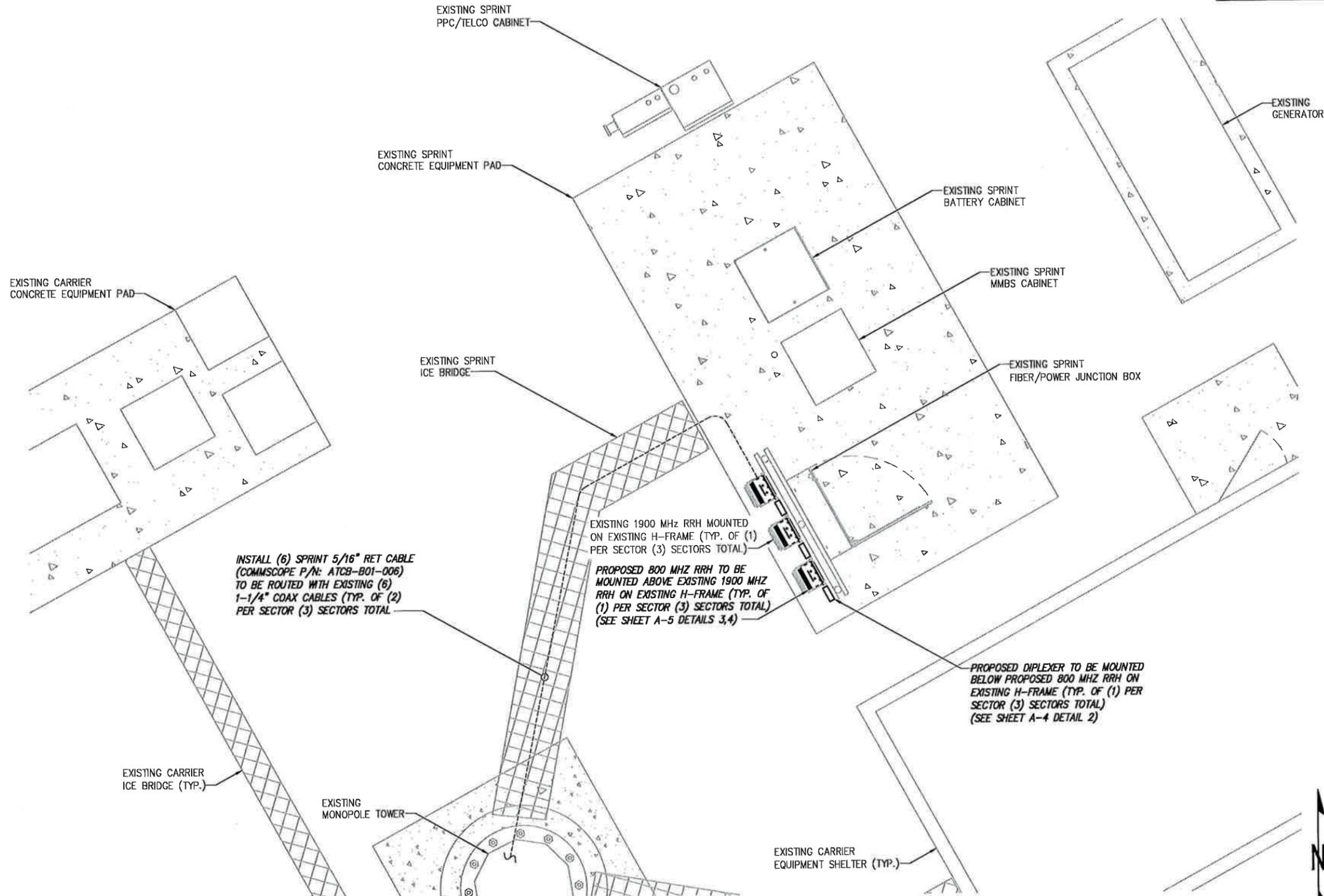
SITE NAME:
YANKEE LAKE/EAST HAMPTON/TOWN GARAGE

SITE NUMBER:
CT33XC018

SITE ADDRESS:
**1 PUBLIC WORKS DRIVE
EAST HAMPTON, CT 06024**

SHEET DESCRIPTION:
SITE PLAN

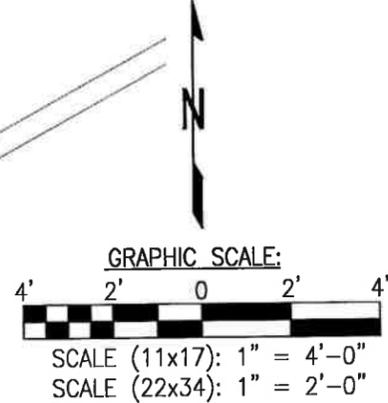
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A-2



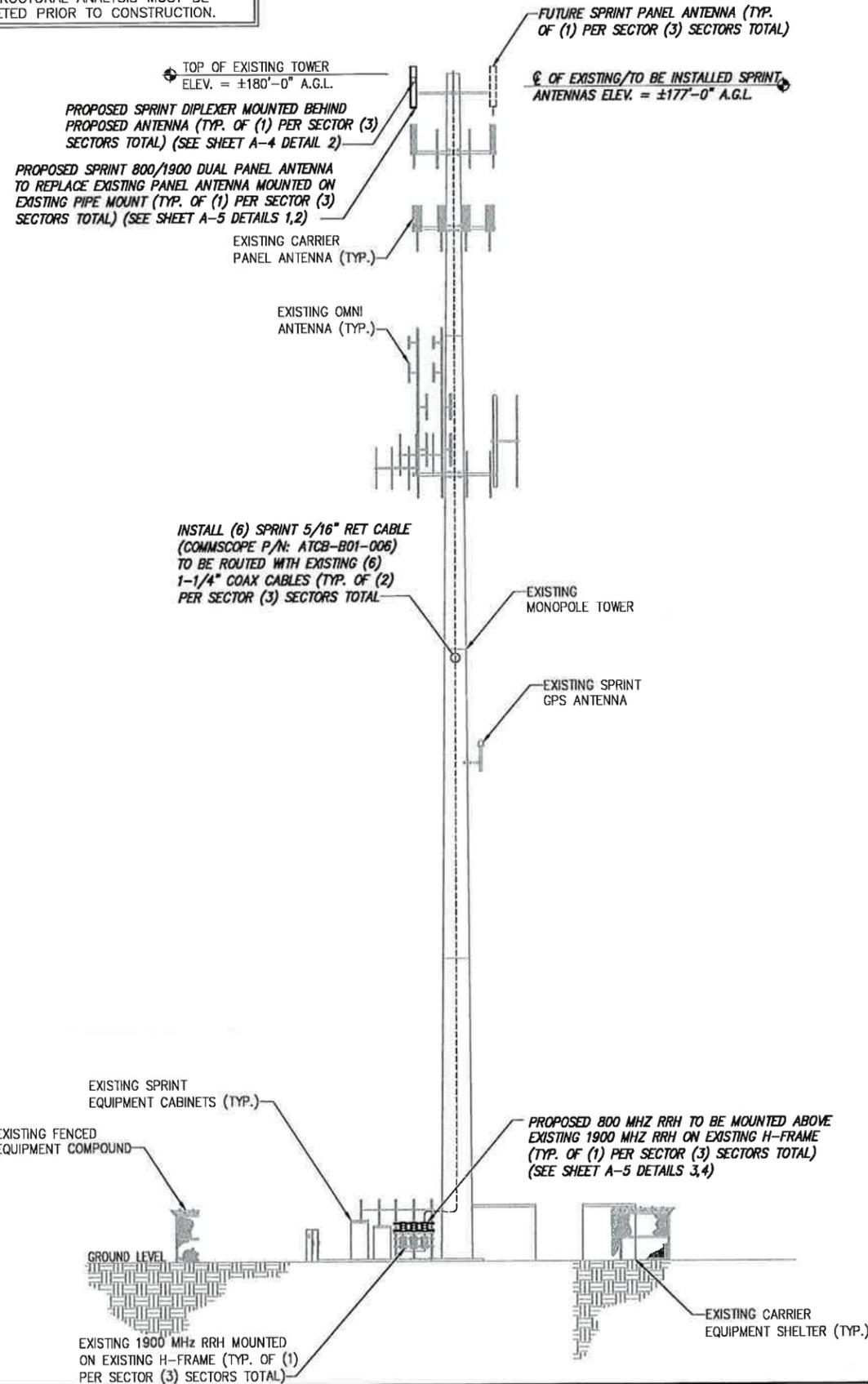
INSTALL (6) SPRINT 5/16" RET CABLE (COMMSCOPE P/N: ATCB-B01-006) TO BE ROUTED WITH EXISTING (6) 1-1/4" COAX CABLES (TYP. OF (2) PER SECTOR (3) SECTORS TOTAL)

EXISTING 1900 MHz RRH MOUNTED ON EXISTING H-FRAME (TYP. OF (1) PER SECTOR (3) SECTORS TOTAL)
PROPOSED 800 MHz RRH TO BE MOUNTED ABOVE EXISTING 1900 MHz RRH ON EXISTING H-FRAME (TYP. OF (1) PER SECTOR (3) SECTORS TOTAL) (SEE SHEET A-5 DETAILS 3,4)

PROPOSED DIPLEXER TO BE MOUNTED BELOW PROPOSED 800 MHz RRH ON EXISTING H-FRAME (TYP. OF (1) PER SECTOR (3) SECTORS TOTAL) (SEE SHEET A-4 DETAIL 2)



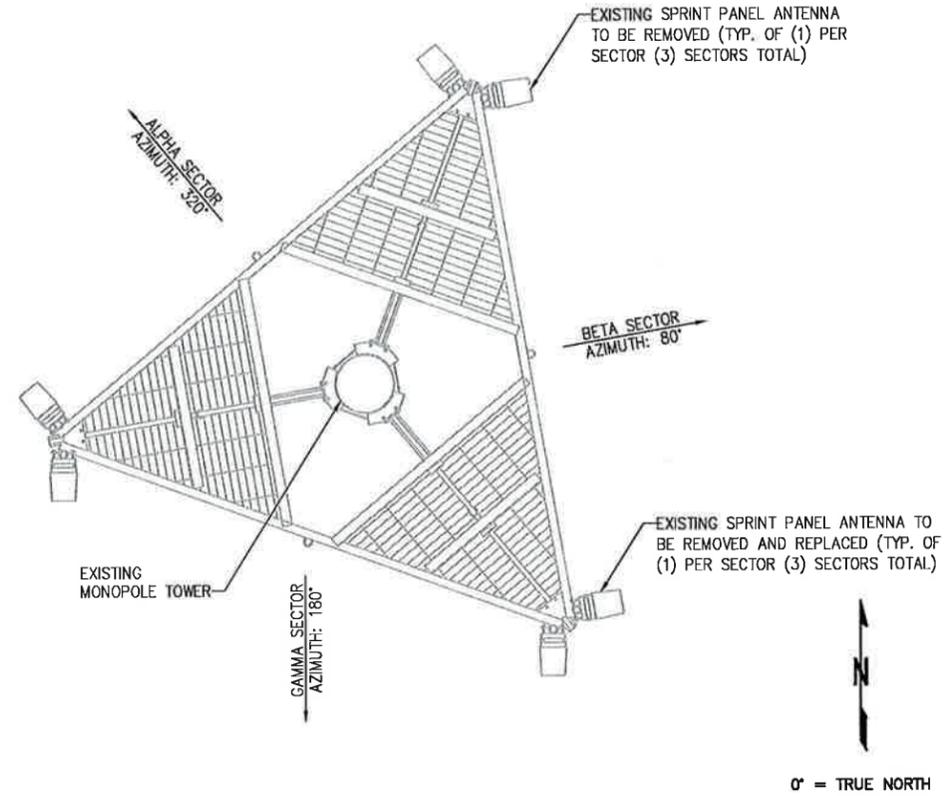
STRUCTURAL ANALYSIS NOT COMPLETED AT TIME OF ISSUANCE OF THESE DRAWINGS. THE STRUCTURAL ANALYSIS MUST BE COMPLETED PRIOR TO CONSTRUCTION.



TOWER ELEVATION

NO SCALE

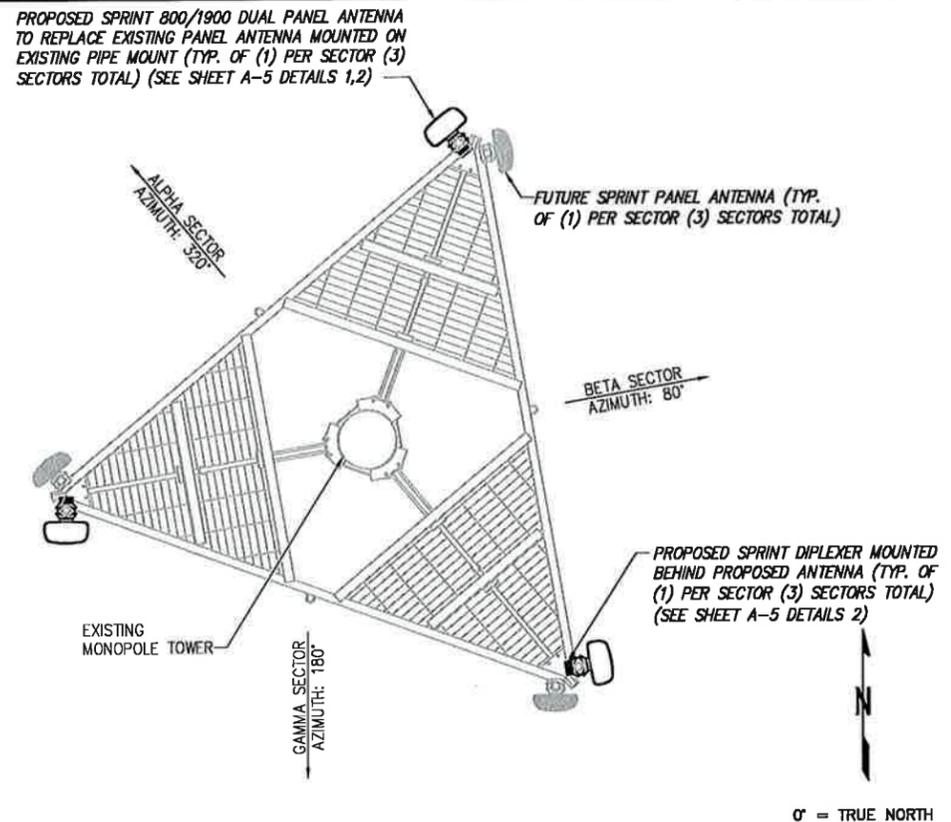
1



EXISTING ANTENNA LAYOUT

NO SCALE

2



PROPOSED ANTENNA LAYOUT

NO SCALE

3

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SITE NAME:
YANKEE LAKE/EAST HAMPTON/TOWN GARAGE

SITE NUMBER:
CT33XC018

SITE ADDRESS:
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EAST HAMPTON, CT 06024**

SHEET DESCRIPTION:
TOWER ELEVATION & ANTENNA LAYOUT

SHEET NUMBER:
A-3



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SITE ADDRESS:
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SHEET DESCRIPTION:
ANTENNA LOADING & COLOR CODING CHARTS

SHEET NUMBER:
A-4

EXISTING AND PROPOSED ANTENNA AND RRH MODEL NUMBERS

SECTOR	EXISTING/PROPOSED	BAND	ANTENNA	ANTENNA Ø HEIGHT	AZIMUTH	RRH	JUNCTION CYLINDERS	CABLE	CABLE LENGTH
ALPHA	FUTURE	---	---	---	---	---	---	---	---
	PROPOSED	800MHZ / 1900MHZ	RFS/CELWAVE APXVSP18-C-A20	177'-0"	320°	(P) GROUND MOUNTED 800 MHZ RRH (E) GROUND MOUNTED 1900 MHZ RRH	---	(2) (P) RET CABLES (2) (E) 1-1/4" COAX	±230' EXISTING
BETA	FUTURE	---	---	---	---	---	---	---	---
	PROPOSED	800MHZ / 1900MHZ	RFS/CELWAVE APXVSP18-C-A20	177'-0"	80°	(P) GROUND MOUNTED 800 MHZ RRH (E) GROUND MOUNTED 1900 MHZ RRH	---	(2) (P) RET CABLES (2) (E) 1-1/4" COAX	±230' EXISTING
GAMMA	FUTURE	---	---	---	---	---	---	---	---
	PROPOSED	800MHZ / 1900MHZ	RFS/CELWAVE APXVSP18-C-A20	177'-0"	180°	(P) GROUND MOUNTED 800 MHZ RRH (E) GROUND MOUNTED 1900 MHZ RRH	---	(2) (P) RET CABLES (2) (E) 1-1/4" COAX	±230' EXISTING

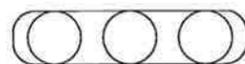
SECTOR	CABLE	FIRST RING	SECOND RING	THIRD RING
1 ALPHA	1	GREEN	NO TAPE	NO TAPE
1	2	BLUE	NO TAPE	NO TAPE
1	3	BROWN	NO TAPE	NO TAPE
1	4	WHITE	NO TAPE	NO TAPE
1	5		NO TAPE	NO TAPE
1	6	SLATE	NO TAPE	NO TAPE
1	7	PURPLE	NO TAPE	NO TAPE
1	8	ORANGE	NO TAPE	NO TAPE
2 BETA	1	GREEN	GREEN	NO TAPE
2	2	BLUE	BLUE	NO TAPE
2	3	BROWN	BROWN	NO TAPE
2	4			NO TAPE
2	5			NO TAPE
2	6	SLATE	SLATE	NO TAPE
2	7	PURPLE	PURPLE	NO TAPE
2	8	ORANGE	ORANGE	NO TAPE
3 GAMMA	1	GREEN	GREEN	GREEN
3	2	BLUE	BLUE	BLUE
3	3	BROWN	BROWN	BROWN
3	4			
3	5			
3	6	SLATE	SLATE	SLATE
3	7	PURPLE	PURPLE	PURPLE
3	8	ORANGE	ORANGE	ORANGE

ANTENNA LOADING CHART

NO SCALE 1

DIPLEXER: RFS/CELWAVE FD9R6004/1C-3L

HOUSING: ALUMINUM
 DIMENSIONS, HxWxD.in(mim): 5.8"x6.5"x1.5" (147x164x37mm)
 WEIGHT, kg (lb) 1.2 (2.6 lb)
 CONNECTORS: in-line long-neck 7-16-female



TOP VIEW



FRONT VIEW



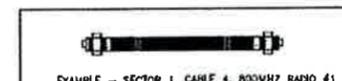
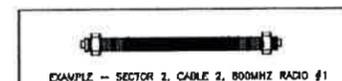
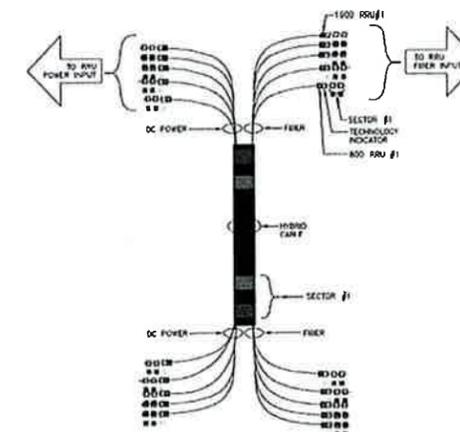
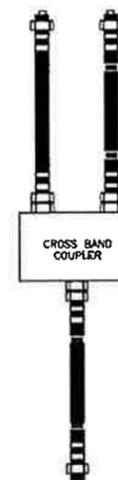
SIDE VIEW

DIPLEXER DETAIL

NO SCALE 2

FREQUENCY COLOR CODE

FREQUENCY	INDICATOR	ID
800#1	YELLOW	
1900#1	YELLOW	RED
1900#2	YELLOW	
RESERVED	YELLOW	WHITE
1600#1	YELLOW	

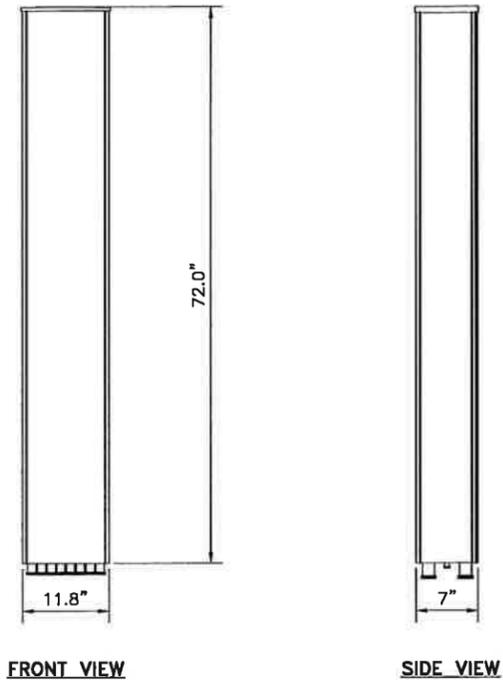


COLOR CODING CHARTS

NO SCALE 3

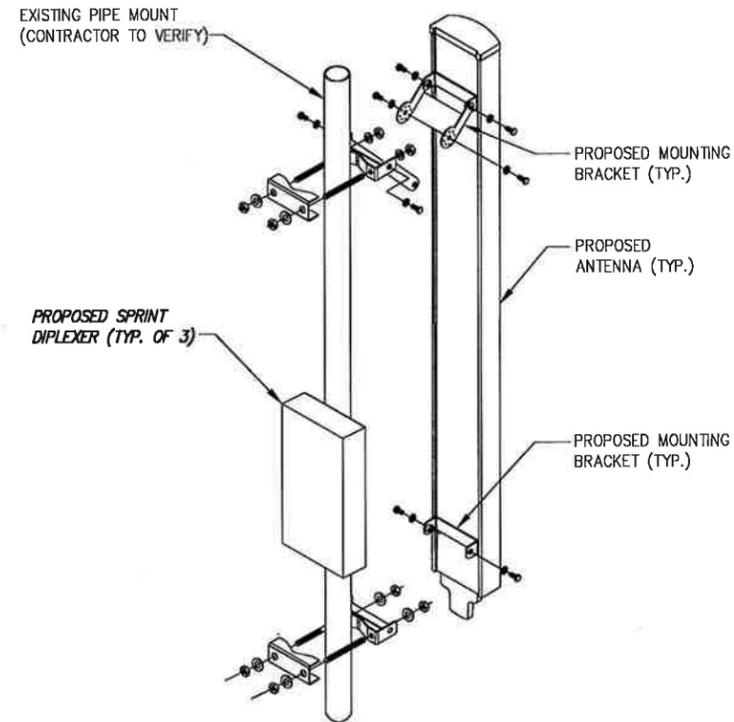
ANTENNA: RFS/CELWAVE APXVSPP18-C-A20

RADOME MATERIAL: ASA
 RADOME COLOR: LIGHT GRAY
 DIMENSIONS, HxWxD.In.(mm): 72.0"x11.8"x7" (1829x302x178mm)
 WEIGHT: 25.8 lbs
 CONNECTORS: (6) 7/16" DIN FEMALE/BOTTOM



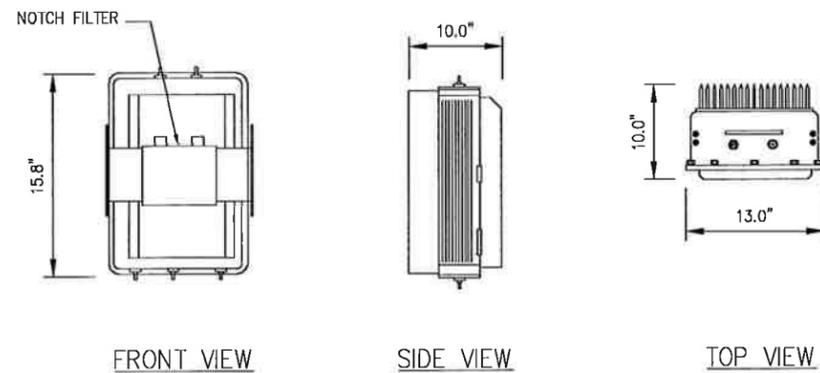
PANEL ANTENNA DETAIL

NO SCALE 1



PANEL ANTENNA MOUNTING DETAIL

NO SCALE 2

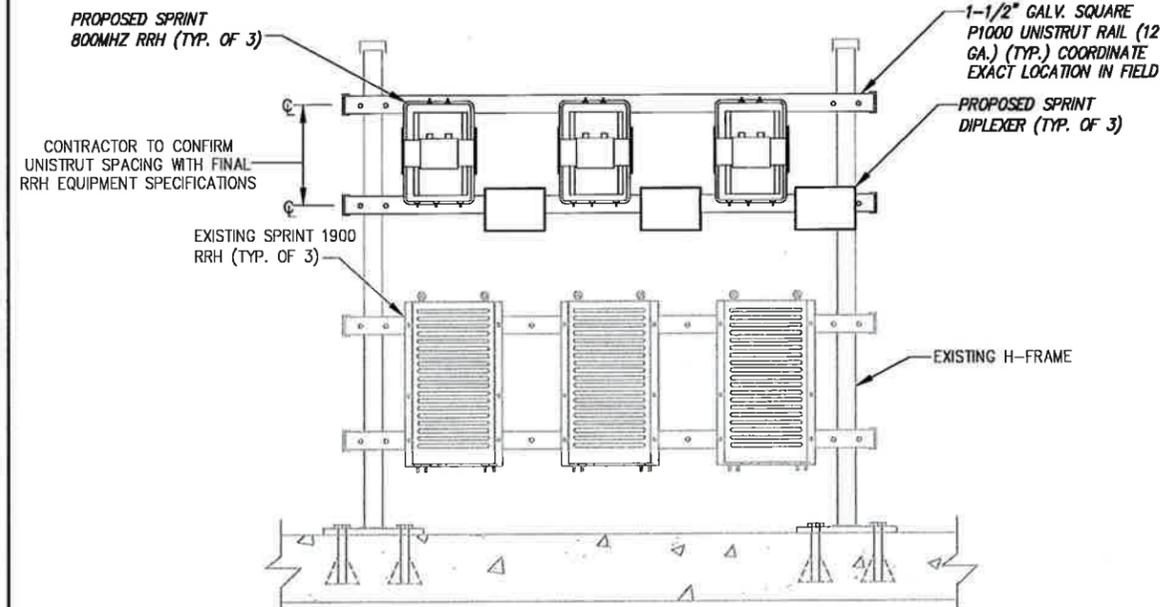


800 MHz RRH (ALU)
 WEIGHT = 53 LBS.

NOTE:
 REFER TO R.F. SYSTEM SCHEDULE FOR EXACT RRH SPECIFICATIONS AND QUANTITIES.

RRH DETAIL

NO SCALE 3



RRH MOUNTING DETAILS

NO SCALE 4

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SITE NUMBER:
CT33XC018

SITE ADDRESS:
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SHEET DESCRIPTION:
EQUIPMENT & MOUNTING DETAILS

SHEET NUMBER:
A-5



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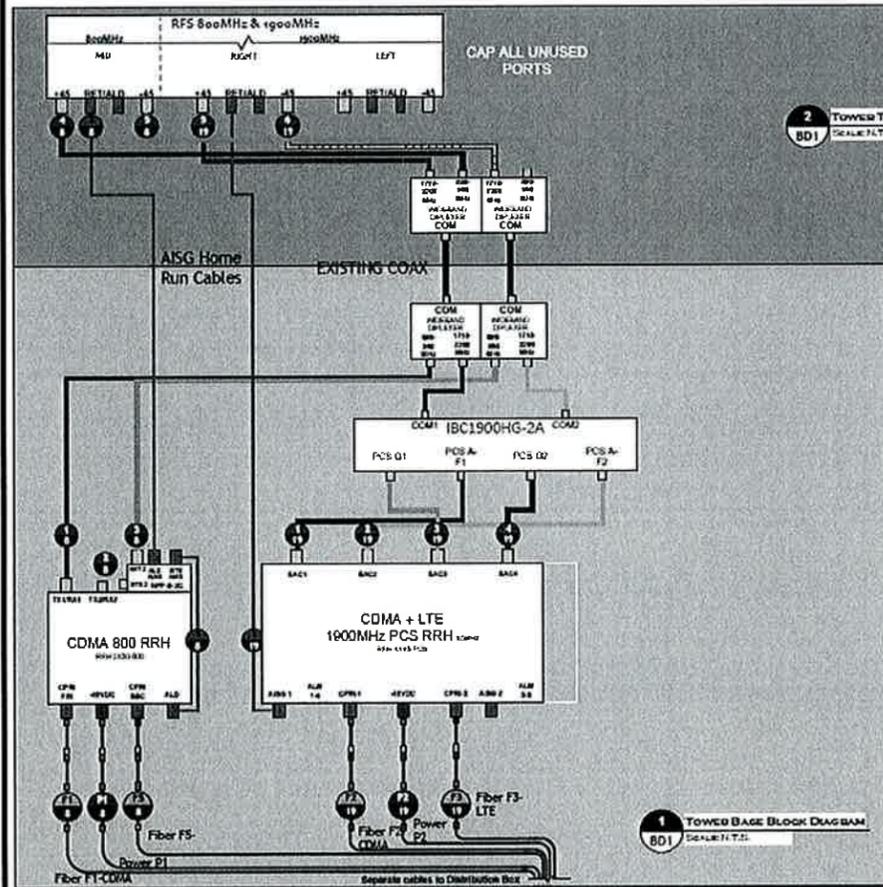
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SHEET DESCRIPTION:
SCENARIO 354 V2.5 SPECIFICATIONS

SHEET NUMBER:
A-6



2 TOWER TOP BLOCK DIAGRAM
SCALE: 1:1

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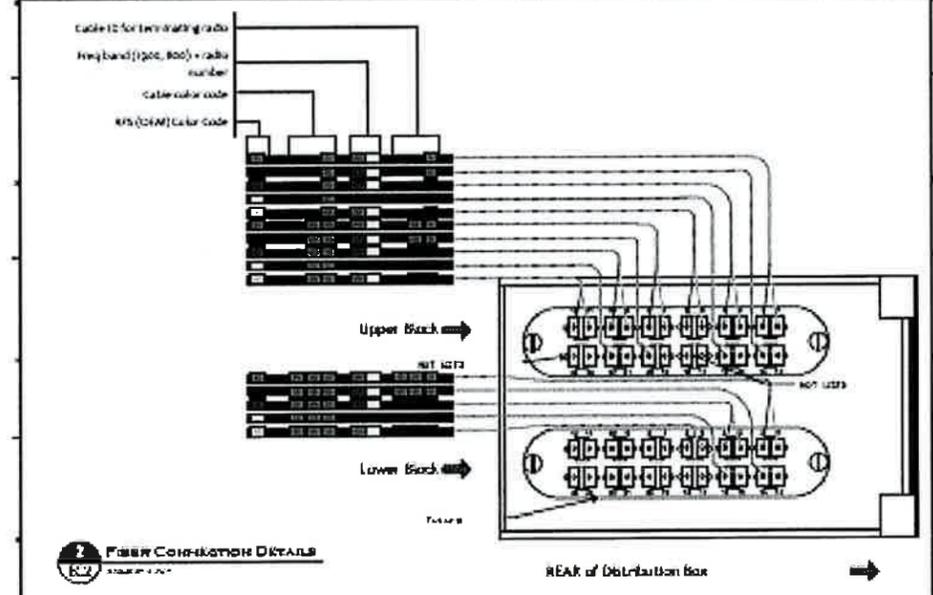
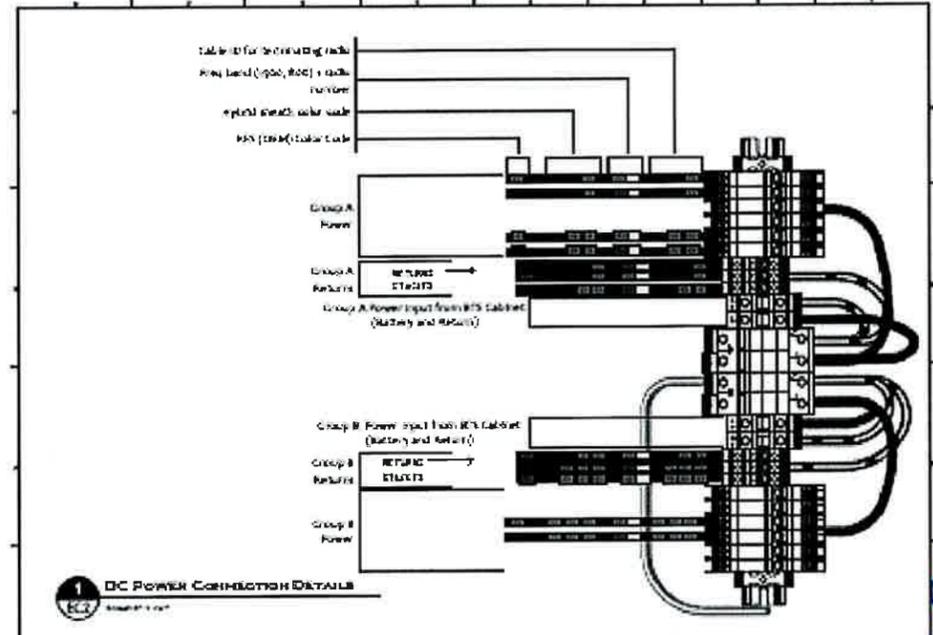
LEGEND:
1 COAX
2 FIBER
3 POWER
4 NOTES

3 DIAGRAM LEGEND
BD1

BACK TO TITLE SHEET

SCENARIO 354_V2.5_V00

SHEET DESCRIPTION:
GROUND MOUNTED BLOCK DIAGRAM
SHEET 1A/788R
BD1

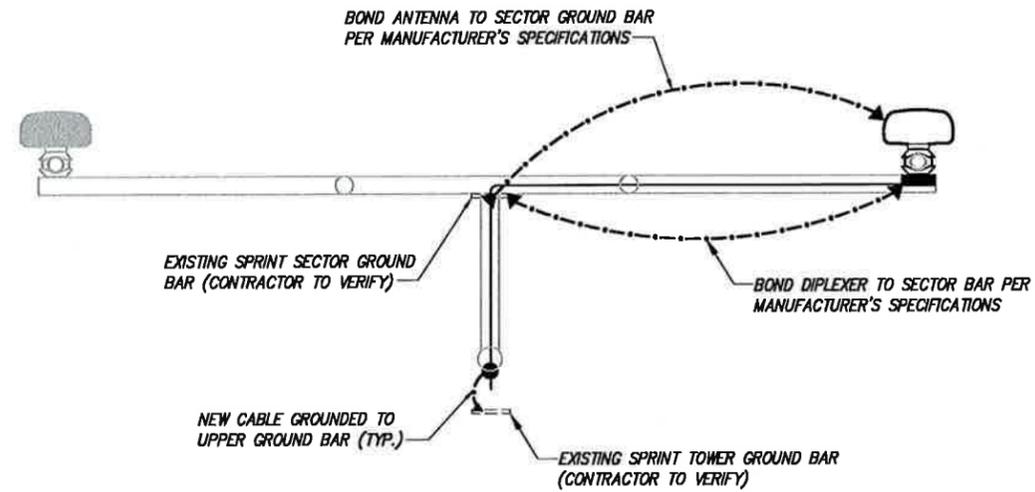


SCENARIO 354 V2.5 V00

BACK TO TITLE SHEET

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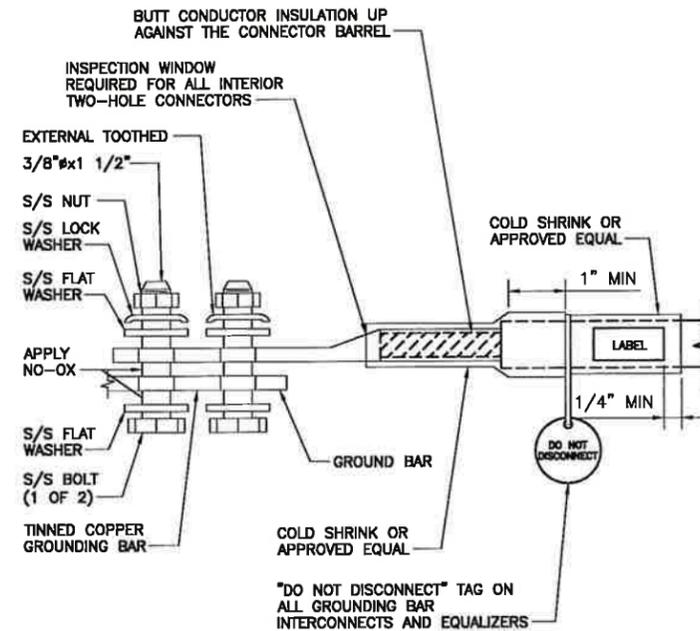
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TYPICAL ANTENNA TOP GROUNDING PLAN

NO SCALE

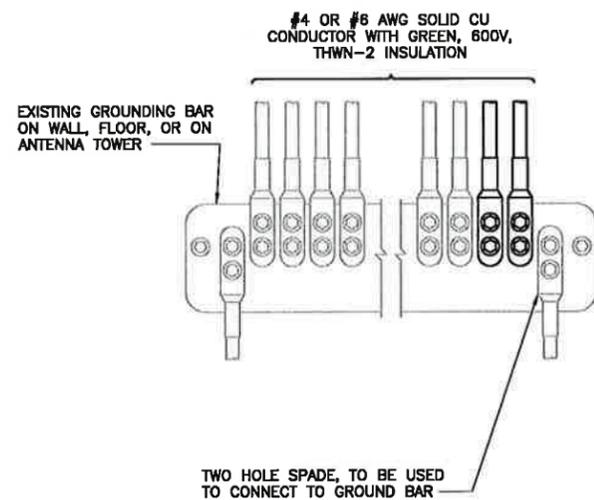
1



TWO HOLE LUG

NO SCALE

2



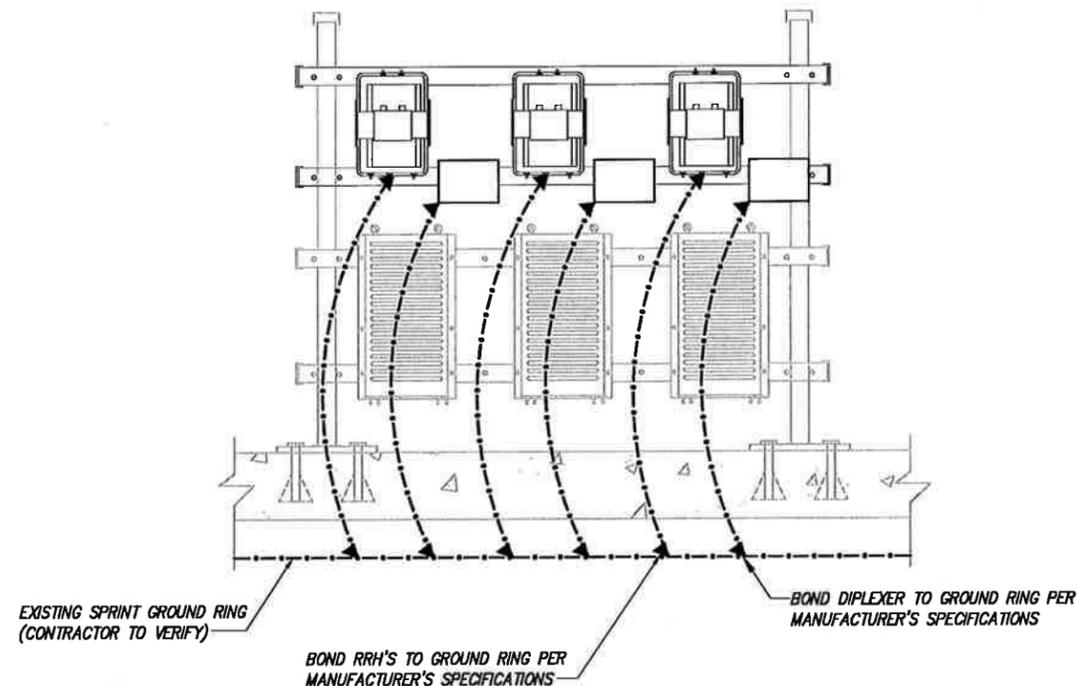
NOTES

1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR

NO SCALE

3



TYPICAL RRH GROUNDING PLAN

NO SCALE

4

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EAST HAMPTON, CT 06024

SHEET DESCRIPTION:

ELECTRICAL & GROUNDING PLAN

SHEET NUMBER:

E-1