

EM-SPRINT-064-130311

99 Meadow Street

Hartford



RECEIVED
JUL 10 2014

1 Robbins Road
Westford, MA 01886

July 9, 2014

State of Connecticut
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

CONNECTICUT
SITING COUNCIL

RE: Notification of Construction Completion on telecommunication facilities

To whom it may concern:

Alcatel Lucent hereby acknowledges that the list of attached sites have completed construction per the approval granted on the specified date. Please advise if further information is needed..

Very truly yours,

Martha Powers

Martha Powers
Lead Development Manager
Alcatel-Lucent
Sprint Vision Project
1 Robbins Road
Westford, MA 01886

Cc: FST, Siterra

EM/TS #	Address	Town	Sprint ID	Decision Date
EM-SPRINT-062-130912	1065 Wintergreen Avenue	Hamden	CT03XC003	10/15/2013
EM-SPRINT-NEXTEL-060-130118	10 Tanner Marsh Road	Guilford	CT03XC022	2/14/2013
EM-SPRINT-004-130822	181 Montevideo Road	Avon	CT03XC053	9/6/2013
EM-SPRINT-NEXTEL-155-130214	1358 New Britain Ave.	West Hartford	CT03XC057	3/1/2013
EM-SPRINT-NEXTEL-164-130201	440 Hayden Station Road	Windsor	CT03XC065	3/8/2013
EM-SPRINT-NEXTEL-132-130201	59 McGuire Road	South Windsor	CT03XC066	3/1/2013
EM-SPRINT-NEXTEL-054-130201	299 Paxton Way	Glastonbury	CT03XC081	3/1/2013
EM-SPRINT-NEXTEL-094-130214	36 Prospect Street	Newington	CT03XC084	3/1/2013
EM-SPRINT-110-130725	10 Sparks Street	Plainville	CT03XC086	8/8/2013
EM-SPRINT-007-130314	260 Beckley Road	Kensington	CT03XC088	4/5/2013
EM-SPRINT-NEXTEL-155-130201	570 New Park Avenue	West Hartford	CT03XC091	3/1/2013
EM-SPRINT-NEXTEL-106-130201	430 Middlesex Turnpike	Old Saybrook	CT03XC102	3/1/2013
EM-SPRINT-NEXTEL-105-130201	30 Short Hills Road	Old Lyme	CT03XC104	3/1/2013
EM-SPRINT-NEXTEL-152-130201	41 Manitock Hill Road	Waterford	CT03XC105	3/1/2013
EM-SPRINT-NEXTEL-045-130201	93 Roxbury Road	East Lyme	CT03XC110	3/1/2013
EM-SPRINT-152-130114	45R Fargo Road	Waterford	CT03XC112	2/14/2013
EM-SPRINT-NEXTEL-027-130201	48 Cow Hill Road	Clinton	CT03XC156	3/1/2013
EM-SPRINT-NEXTEL-082-130201	238 Meridan Road	Middlefield	CT03XC160	3/8/2013
EM-SPRINT-047-130109	160 Plantation Road	East Windsor	CT03XC202	2/7/2013
EM-SPRINT-NEXTEL-077-130214	53 Slater Street	Manchester	CT03XC211	3/1/2013
EM-SPRINT-142-130109	497 Old Post Road	Tolland	CT03XC212	2/7/2013
EM-SPRINT-NEXTEL-042-130222	94 East High Street	East Hampton	CT03XC335	3/8/2013
EM-SPRINT-057-121226	Butternut Hollow Road	Greenwich	CT03XC343	1/11/2013
EM-SPRINT-158-130213	515 Boston Post Road	Westport	CT03XC355	3/1/2013
EM-SPRINT-046-130402	206 Everett Road	Easton	CT03XC362	4/19/2013
EM-SPRINT-085-130322	474 MAIN STREET	MONROE	CT03XC365	4/5/2013
EM-SPRINT-086-131011	57 Cook Drive	Montville	CT03XC365	10/25/2013
EM-SPRINT-118-130322	76 EAST RIDGE	RIDGEFIELD	CT03XC370	4/5/2013
EM-SPRINT-097-131230	20 Barnabas Road	Newtown	CT03XC383	1/21/2014
EM-SPRINT-051-130207	3965 Congress Street	Fairfield	CT03XC385	3/1/2013
EM-SPRINT-NEXTEL-094-130214	123 Costello Road	Newington	CT23XC555	3/1/2013
EM-SPRINT-119-131008	699 Old Main Street	Rocky Hill	CT23XC556	10/25/2013
EM-SPRINT-077-131008	60 Adams Street	Manchester	CT23XC557	10/25/2013
EM-SPRINT-NEXTEL-080-130123	462 West Main Street	Meriden	CT25XC840	2/14/2013
EM-SPRINT-096-130920	18 Hilltop View Lane	New Milford	CT33XC095	10/4/2013
EM-SPRINT-157-130213	237 Godfrey Road	Weston	CT33XC522	3/1/2013
EM-SPRINT-018-131008	20 Vale Road	Brookfield	CT33XC525	10/25/2013
EM-SPRINT-077-130528	595 Keeney Street	Manchester	CT33XC538	6/14/2013
EM-SPRINT-NEXTEL-129-130214	400 Main Street	Somers	CT33XC554	3/1/2013
EM-SPRINT-047-130322	15 CHAMBERLAIN	BROADBROOK	CT33XC565	4/5/2013
EM-SPRINT-004-130502	277 Huckleberry Road	Avon	CT33XC589	5/17/2013

EM-SPRINT-143-130604	218 Wheeler Road	Torrington	CT33XC592	6/28/2013
EM-SPRINT-140-130724	583 Chapel Street	Thomaston	CT33XC603	8/8/2013
EM-SPRINT-103-130920	Charles Marshall Drive	Norwalk	CT33XC802	10/4/2013
EM-SPRINT-NEXTEL-064-130214	439-455 Homestead Ave.	Hartford	CT43XC805	3/1/2013
EM-SPRINT-064-130311	99 Meadow Street	Hartford	CT43XC806	4/5/2013
EM-SPRINT-083-131127	290 Preston Ave.	Middletown	CT43XC816	12/16/2013
EM-SPRINT-128-130920	530 Bushy Hill Road	Simsbury	CT43XC825	10/4/2013
EM-SPRINT-164-130405A	340 Bloomfield Avenue	Windsor	CT43XC826	4/19/2013
EM-SPRINT-077-130109	239 Middle Turnpike	Manchester	CT43XC827	2/13/2013
EM-SPRINT-165-130118	2-4 Volunteer Drive	Windsor Locks	CT43XC828	2/14/2013
EM-SPRINT-NEXTEL-139-130214	44 Fyler Place	Suffield	CT43XC829	3/8/2013
EM-SPRINT-111-130712	171 Town Hill Road	Plymouth	CT54XC712	7/26/2013
EM-SPRINT-009-130322	38 Spring Hill Road	Bethel	CT54XC749	4/5/2013
EM-SPRINT-154-131011	315 Spencer Plains Road	Westbrook	CT54XC758	10/25/2013
EM-SPRINT-023-130405	14 Canton Springs Road	Canton	CT54XC760	4/19/2013
EM-SPRINT-104-130606	153 Old Salem Road	Norwich	CT54XC775	6/28/2013
EM-SPRINT-164-130405B	99 Day Hill Road	Windsor	CT54XC787	4/19/2013
EM-SPRINT-132-130920	300 Governor's Highway	South Windsor	CT60XC014	10/4/2013
EM-SPRINT-094-130108	605 Willard Avenue	Newington	CT60XC018	1/25/2013
EM-SPRINT-146-130506	197 South Street	Vernon	CT60XC935	5/24/2013
EM-SPRINT-146-130311	777 Talcottville Road	Vernon	CT70XC147	4/5/2013
EM-SPRINT-126-130531	62 Birdseye Road	Shelton	CT73XC004	6/21/2013



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

April 5, 2013

Brian Mckay
Sprint
48 Spruce Street
Oakland, NJ 07436

RE: **EM-SPRINT-064-130311** – Sprint Spectrum notice of intent to modify an existing telecommunications facility located at 99 Meadow Street, Hartford, Connecticut.

Dear Mr. Mckay:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

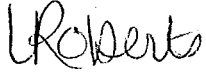
- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated March 1, 2013. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the

closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

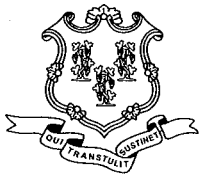
Very truly yours,



Linda Roberts
Executive Director

LR/CDM/cm

c: The Honorable Pedro E. Segarra, Mayor, City of Hartford
Sandra Kee Borges, Acting Chief Operating Officer, City of Hartford



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

March 13, 2013

The Honorable Pedro E. Segarra
Mayor
Hartford Municipal Building
550 Main Street
Hartford, CT 06103

RE: **EM-SPRINT-064-130311** – Sprint Spectrum notice of intent to modify an existing telecommunications facility located at 99 Meadow Street, Hartford, Connecticut.

Dear Mayor Segarra:

The Connecticut Siting Council (Council) received a request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72, a copy of which has already been provided to you.

If you have any questions or comments regarding the proposal, please call me or inform the Council by March 27, 2013.

Thank you for your cooperation and consideration.

Very truly yours,

A handwritten signature in black ink that reads "L. Roberts".

Linda Roberts
Executive Director

LR/CDM/laf

c: Sandra Kee Borges, Acting Chief Operating Officer, City of Hartford



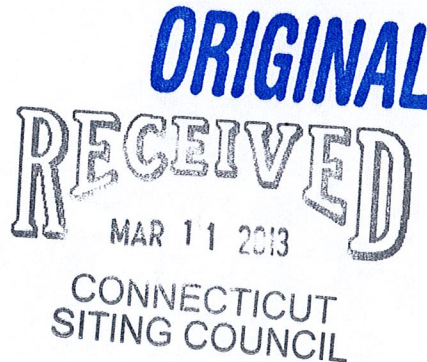
Together with Nextel

48 Spruce Street
Oakland, NJ 07436
Phone: (973)-652-6824
Brian McKay
Real Estate Consultant

March 1st 2013

Hand Delivered

Ms. Linda Roberts
Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051



RE: Sprint Spectrum L.P. notice of intent to modify an existing telecommunications facility located at 99 Meadow Street Hartford, CT. Known to Sprint Spectrum L.P. as site CT43XC806.

Dear Ms. Roberts:

In order to accommodate technological changes, implement Code Division Multiple Access ("CDMA") and/or Long Term Evolution ("LTE") capabilities, and enhance system performance in the state of Connecticut, Sprint Spectrum L.P. plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and its attachments is being sent to the chief elected official of the municipality in which affected cell site is located.

CDMA employs Spread-Spectrum technology and special coding scheme to allow multiple users to be multiplexed over the same physical channel. LTE is a new high-performance air interface for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

As part of the project the new multi-mode 800/1900 antenna will replace existing antennas. These antennas will provide more flexibility for optimization by allowing fast and easy electrical tilt adjustment from remote location and will enable the transmission of multiple technologies from a single antenna. As Sprint Nextel's network evolves to meet the demands of its customers, it is essential for Sprint Nextel to install modern

equipment and antennas in order to provide reliable wireless voice and data services. The proposed equipment will include multi-mode radios that will allow Sprint Nextel to transmit at different frequencies using different technologies, including LTE technology. Likewise, the proposed antennas are quad-pole multi-band high gain antennas that will allow Sprint to operate using its multiple frequency bands and technologies, including LTE technology. The proposed equipment and antennas will improve the reliability, coverage and capacity of Sprint Nextel's voice and data networks across Sprint Nextel's various FCC licensed frequency bands and significantly increase the data speeds of Sprint Nextel's network by utilizing the latest LTE technology. Without the proposed modifications Sprint Nextel will be unable to provide reliable wireless voice and data service using the latest technologies.

Sprint Spectrum L.P. will have an interim (testing) period during the modification/installation prior to the final configuration. This antenna configuration is shown on the attached drawings of the planned modifications. Also included is the power density calculation reflecting the change in Sprint's operations at the site and documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

The changes to the facility do not constitute modification as defined Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed or altered. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for the R.C.S.A. Section 16-50j-72(b)(2).

1. The height of the overall structure will not be affected.
2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound.
3. The proposed changes will not increase the noise level at the existing facility by 6 decibels or more.
4. Radio Frequency power density may increase due to the use of one or more CDMA transmissions. Moreover, LTE will utilize additional radio frequencies newly licensed by the FCC for cellular mobile communications. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons Sprint Spectrum L.P. respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at 973-652-6824 or email Bmckay@Transcendwireless.com with questions concerning this matter. Thank you for your consideration.

Sincerely,

Brian Mckay
Real Estate Consultant



EBI Consulting

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

Sprint Existing Facility

Site ID: CT43XC806

Hartford Spectrasite
99 Meadow Street
Hartford, CT 06114

November 3, 2012



EBI Consulting

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November 3, 2012

Sprint

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

Re: Emissions Values for Site: **CT43XC806 – Hartford Spectrasite**

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 99 Meadow Street, Hartford, CT, for the purpose of determining whether the emissions from the proposed Sprint equipment upgrades 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 limit for the cellular band is approximately $567 \mu\text{W}/\text{cm}^2$, and the general population exposure limit for the 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.



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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 upgrades to the existing Sprint Wireless antenna facility located at 99 Meadow Street, Hartford, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario. Actual values seen from this site will be dramatically less than those shown in this report. 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 emissions were calculated using the following assumptions:

- 1) 5 CDMA Carriers (1900 MHz) were considered for each sector of the proposed installation.
- 2) 1 CDMA Carrier (850 MHz) was considered for each sector of the proposed installation
- 3) 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.
- 4) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
- 5) The antenna used in this modeling is the APXVSPP18-C-A20. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario.



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- 6) The antenna mounting height centerline of the proposed antennas is **98 feet** above ground level (AGL)
- 7) 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 calculation were done with respect to uncontrolled / general public threshold limits

Site ID		CT43XC806 - Hartford Spectrasite															
Site Address		99 Meadow Street, Hartford, CT, 06114															
Site Type		Monopole															
Sector 1																	
Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	RFS	APXVSP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	5	100	15.9	98	92	1/2"	0.5	0	3467.3685	147.2754	14.72754%
1a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	98	92	1/2"	0.5	0	389.96892	16.56381	2.92131%
															Sector total Power Density Value:		17.649%
Sector 2																	
Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
2a	RFS	APXVSP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	5	100	15.9	98	92	1/2"	0.5	0	3467.3685	147.2754	14.72754%
2a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	98	92	1/2"	0.5	0	389.96892	16.56381	2.92131%
															Sector total Power Density Value:		17.649%
Sector 3																	
Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
3a	RFS	APXVSP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	5	100	15.9	98	92	1/2"	0.5	0	3467.3685	147.2754	14.72754%
3a	RFS	APXVSP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	98	92	1/2"	0.5	0	389.96892	16.56381	2.92131%
															Sector total Power Density Value:		17.649%

Site Composite MPE %	
Carrier	MPE %
Sprint	52.947%
T-Mobile	6.730%
Pocket	5.330%
AT&T	21.810%
Nextel	2.370%
Clearwire	2.350%
Total Site MPE %	91.537%



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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 are **52.947% (17.649% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **91.537%** 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

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 147.9 ft Monopole
ATC Site Name : Petro Lock, CT
ATC Site Number : 302468
Engineering Number : 51434521
Proposed Carrier : Sprint Nextel
Carrier Site Name : N/A
Carrier Site Number : CT43XC806
Site Location : 99 Meadow St
Hartford, CT 06114-1598
41.743197,-72.667500
County : Hartford
Date : December 3, 2012
Max Usage : 74%
Result : Pass

Joseph R. Johnston
Project Engineer

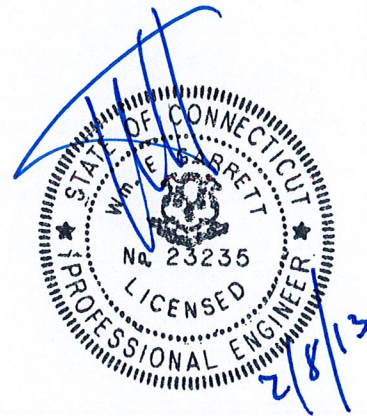
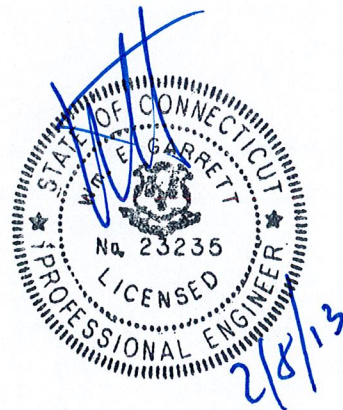




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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 147.9 ft monopole to reflect the change in loading by Sprint Nextel.

Supporting Documents

Tower Drawings	FWT Job #21719000 Rev. 1, dated July 18, 2000
Foundation Drawing	FWT Job #21719000 Rev. 1, dated July 18, 2000
Geotechnical Report	Osprey Environmental Engineering Job ID #98083-01, dated August 28, 1998

Analysis

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

Basic Wind Speed:	80 mph (Fastest Mile)
Basic Wind Speed w/ Ice:	69 mph (Fastest Mile)w/ 1/2" radial ice concurrent
Code:	ANSI/TIA/EIA-222-F / 2003 IBC , Sec. 1609.1.1, Exception (4) & Sec. 3108.4 w/ 2005 CT Supplement & 2009 CT Amendment

Conclusion

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

If you have any questions or require additional information, please contact me via email at joseph.johnston@americantower.com or call 919-466-5030.



Existing and Reserved Equipment

Mount Elev. ¹ (ft)	Qty.	Antenna	Mount Type	Lines	Carrier
147.9	1	Flash Technology FTB 324-2	Flush	-	--
147.0	9	48" x 12" Panels	Platform w/ Handrails	(12) 1 5/8" Coax	Sprint Nextel
	3	72" x 12" Panels			
135.0	1	Andrew SBNH-1D6565C	Platform w/ Handrails	(12) 1 5/8" Coax (2) 0.78" 8 AWG (1) 0.39" Cable (1) 3" Conduit	AT&T Mobility
	6	Ericsson RRUS 11			
	2	KMW AM-X-CD-16-65-00T-RET			
	6	Powerwave 7750.00			
	6	Powerwave LGP21401			
	6	Powerwave LGP21903			
	1	Raycap DC6-48-60-18-8F			
123.0	3	RFS APX16DWV-16DWVL-C	T-Arms	(18) 1 5/8" Coax	T-Mobile
	6	RFS APXV18-206516L-C			
	3	RFS ATMAA1412D-1A20			
	3	RFS ATMPP1412D-1CWA			
113.0	3	RFS APXV18-206517	Flush	(6) 1 5/8" Coax	Youghiogheny
98.0	6	Decibel 980G90T4E-M	Low Profile Platform	(12) 1 1/4" Coax	Sprint Nextel
89.0	3	Argus LLPX310R	Side Arms	(6) 5/16" (0.31", 7.9mm) (2) 1/2" Coax (1) 3" Conduit	Clearwire
	1	DragonWave A-ANT-11G-2.5-C			
	1	DragonWave A-ANT-18G-2-C			
	2	DragonWave Horizon Compact			
	3	NextNet BTS-2500			
76.0	2	Side Markers	Flush	-	--
20.0	1	Lucent KS-24019	Flush	(1) 1/2" Coax	Sprint Nextel

Proposed Equipment

Elevation ¹ (ft)		Qty.	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
98.0	98.0	3	Alcatel-Lucent 4x40W RRH	Low Profile Platform	(3) 1 1/4" Hybriflex	Sprint Nextel
		3	Alcatel-Lucent 800 MHz 2X50W R			
		3	RFS APXVSP18-C-A20			
		3	RFS IBC1900BB-1			
		3	RFS IBC1900HG-2A			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax inside the pole shaft.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	74%	Pass
Shaft	74%	Pass
Base Plate	66%	Pass

Foundations

Reaction Component	Analysis Reactions
Moment (Kips-Ft)	2943.0
Axial (Kips)	51.6
Shear (Kips)	28.4

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

Deflection and Sway*

Antenna Elevation (ft)	Deflection (ft)	Sway (Rotation) (°)
98.0	1.004	1.120

*Deflection and Sway was evaluated considering a design wind speed of 50 mph (Fastest Mile) per ANSI/TIA/EIA-222-F.



Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

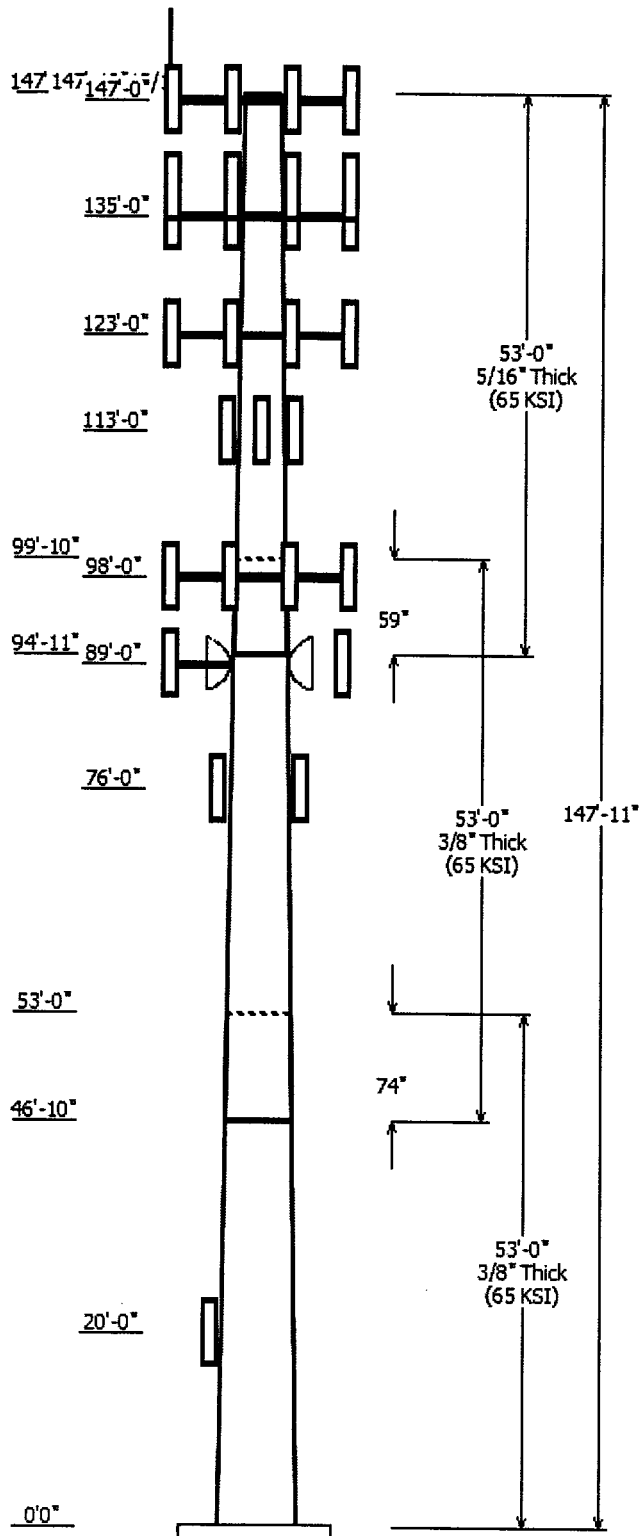
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to ATC Engineering Services and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Engineering Services is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

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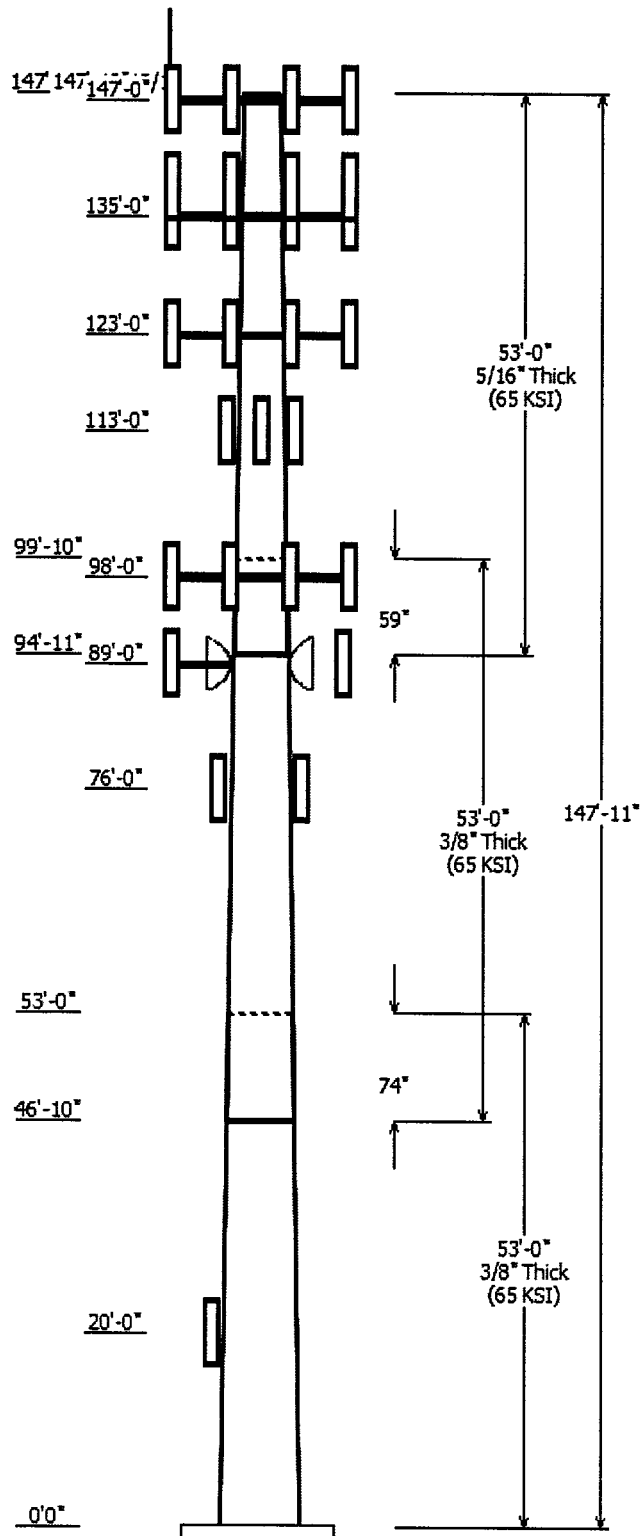


Job Information	
Pole :	302468
Code:	TIA/EIA-222 Rev F
Description :	148' FWT Monopole
Client :	Sprint Nextel
Location :	Petro Lock, CT
Shape :	18 Sides
Height :	147.92 (ft)
Base Elev (ft):	0.00
Taper:	0.21456(in/ft)

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Type	Overlap		Steel Grade (ksi)
		Across Top	Flats Bottom			Length (in)	Taper (in/ft)	
1	53.000	45.20	56.58	0.375		0.000	0.214568	65
2	53.000	35.90	47.28	0.375	Slip Joint	74.000	0.214568	65
3	53.000	26.21	37.58	0.313	Slip Joint	59.000	0.214568	65

Discrete Appurtenance			
Attach Elev (ft)	Force Elev (ft)	Qty	Description
147.900	149.610	1	Flash Technology FTB 324-2
147.000	147.000	1	Flat Platform w/ Handrails
147.000	147.000	9	48" x 12" Panels
147.000	147.000	3	72" x 12" Panels
135.000	136.000	1	Raycap DC6-48-60-18-8F
135.000	136.000	6	Ericsson RRUS 11
135.000	135.000	1	Andrew SBNH-1D6565C
135.000	135.000	2	KMW AM-X-CD-16-65-00T-RET
135.000	136.000	6	Powerwave LGP21903
135.000	136.000	6	Powerwave LGP21401
135.000	135.000	1	Flat Platform w/ Handrails
135.000	135.000	6	Powerwave 7750.00
123.000	123.000	6	RFS APXV18-206516L-C
123.000	123.000	3	RFS APX16DWV-16DWVL-C
123.000	123.000	3	Round T-Arms
123.000	123.000	3	RFS ATMAA1412D-1A20
123.000	123.000	3	RFS ATMPP1412D-1CWA
113.000	113.000	3	RFS APXV18-206517
98.000	98.000	3	RFS IBC1900HG-2A
98.000	98.000	3	RFS IBC1900BB-1
98.000	98.000	3	Alcatel-Lucent 800 MHz 2X50W
98.000	98.000	3	Alcatel-Lucent 4x40W RRH
98.000	98.000	3	RFS APXVSP18-C-A20
98.000	98.000	6	Decibel 980G90T4E-M
98.000	98.000	1	Round Low Profile Platform
89.000	89.000	1	DragonWave A-ANT-11G-2.5-C
89.000	89.000	1	Side Arms
89.000	89.000	3	NextNet BTS-2500
89.000	89.000	3	Argus LLPX310R
89.000	89.000	2	DragonWave Horizon Compact
89.000	89.000	1	DragonWave A-ANT-18G-2-C
76.000	76.000	2	Side Markers
20.000	20.000	1	Lucent KS-24019

Linear Appurtenance			
Elev (ft)		Description	Exposed To Wind
From	To		
5.000	20.000	1/2" Coax	Yes
5.000	89.000	1/2" Coax	Yes
5.000	89.000	3" Conduit	Yes
5.000	89.000	5/16" (0.31")	Yes
5.000	98.000	1 1/4" Coax	No



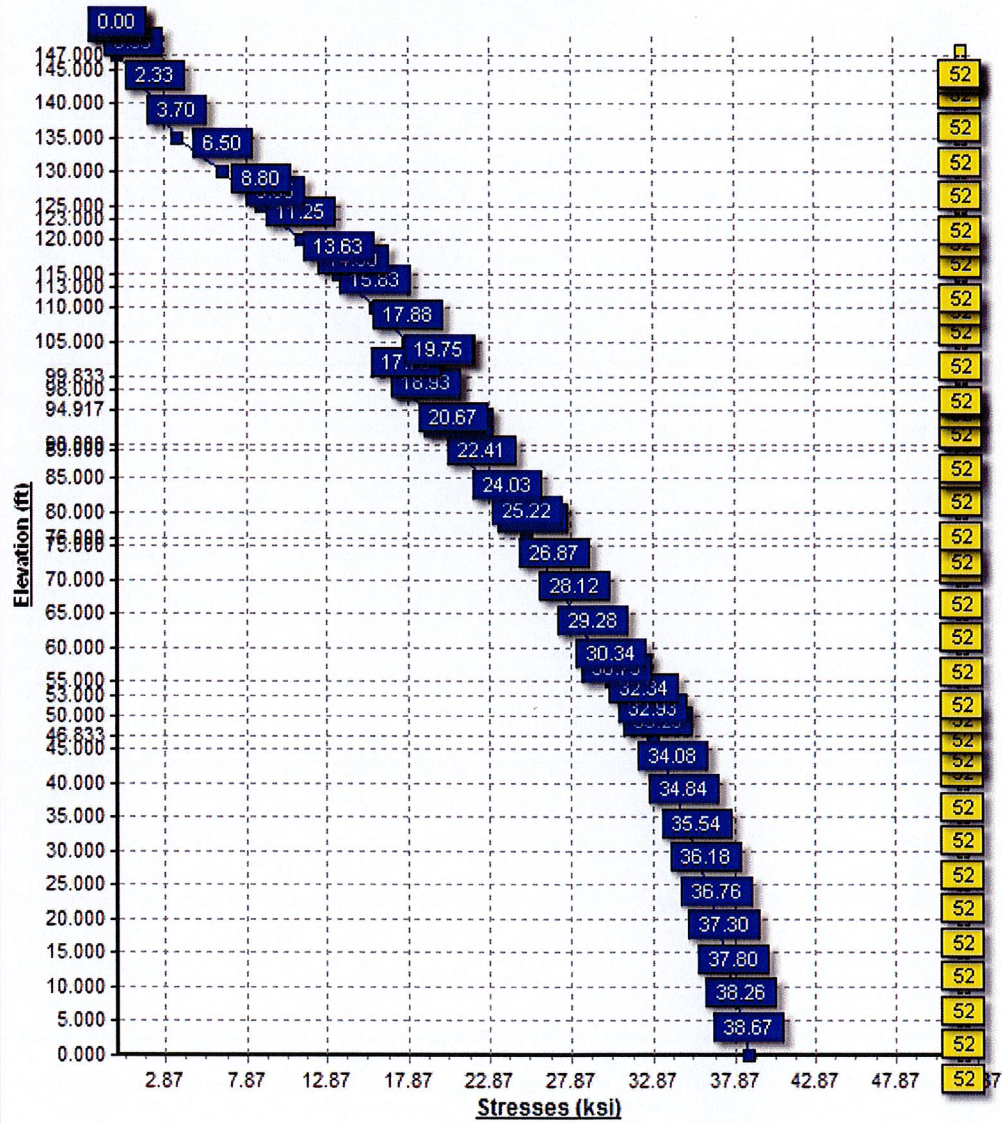
5.000	98.000	1 1/4" Hybriflex	No
5.000	113.0	1 5/8" Coax	No
5.000	123.0	1 5/8" Coax	No
5.000	123.0	1 5/8" Coax	Yes
5.000	135.0	0.39" (10 mm)	No
5.000	135.0	0.78" (19.7mm) 8	No
5.000	135.0	1 5/8" Coax	No
5.000	135.0	3" Conduit	No
5.000	147.0	1 5/8" Coax	No

Load Cases	
No Ice	80.00 mph Wind with No Ice
Ice	69.28 mph Wind with Ice
Twist/Sway	50.00 mph Wind with No Ice

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
No Ice	2943.02	28.40	43.34
Ice	2475.33	23.50	51.57
Twist/Sway	1150.13	11.09	43.37

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
Twist/Sway	89.00	10.008	1.039
Twist/Sway	89.00	10.008	1.039

Load Case : No Ice
Max Stress 0.0% at 0.0ft

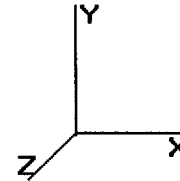


Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

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Base Elev : 0.000 (ft)



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Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Len (in)	Weight (lb)	Bottom				Top				Taper (in/ft)				
							Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)		Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio
1-18	53.000	0.3750	65		0.00	10,844	56.58	0.00	66.90	26698.9	24.84	150.88	45.20	53.00	53.36	13550.6	19.49	120.55	0.214568
2-18	53.000	0.3750	65	Slip	74.00	8,848	47.28	46.83	55.83	15518.7	20.47	126.08	35.90	99.83	42.29	6746.8	15.12	95.76	0.214568
3-18	53.000	0.3125	65	Slip	59.00	5,651	37.58	94.92	36.97	6490.6	19.45	120.28	26.21	147.92	25.69	2178.2	13.03	83.89	0.214568
Shaft Weight						25,342													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Weight (lb)	No Ice CaAa (sf)	CaAa Factor	Weight (lb)	Ice CaAa (sf)	CaAa Factor	Distance From Face (ft)	Vert Ecc (ft)
147.90	Flash Technology FTB 324-2	1	28.00	3.700	1.00	72.30	4.010	1.00	0.000	1.710
147.00	48" x 12" Panels	9	30.00	5.600	0.67	63.00	6.190	0.67	0.000	0.000
147.00	72" x 12" Panels	3	40.00	8.400	0.67	87.00	9.230	0.67	0.000	0.000
147.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	2,450.00	48.400	1.00	0.000	0.000
135.00	Andrew SBNH-1D6565C	1	66.10	11.440	1.00	132.00	12.370	1.00	0.000	0.000
135.00	Ericsson RRUS 11	6	55.00	2.940	0.67	74.30	3.290	0.67	0.000	1.000
135.00	Flat Platform w/ Handrails	1	2000.00	42.400	1.00	2,450.00	48.400	1.00	0.000	0.000
135.00	KMW AM-X-CD-16-65-00T-	2	48.50	8.020	0.79	95.00	9.080	0.79	0.000	0.000
135.00	Powerwave 7750.00	6	35.00	5.880	0.75	65.67	6.540	0.75	0.000	0.000
135.00	Powerwave LGP21401	6	14.10	1.290	0.50	21.26	1.530	0.50	0.000	1.000
135.00	Powerwave LGP21903	6	5.50	0.270	0.50	7.90	0.380	0.50	0.000	1.000
135.00	Raycap DC6-48-60-18-8F	1	20.00	1.260	1.00	35.10	1.460	1.00	0.000	1.000
123.00	RFS APX16DWV-16DWVL-C	3	39.60	6.700	0.65	69.38	7.350	0.65	0.000	0.000
123.00	RFS APXV18-206516L-C	6	18.70	3.570	0.78	38.66	4.070	0.80	0.000	0.000
123.00	RFS ATMAA1412D-1A20	3	13.00	1.170	0.50	20.60	1.390	0.50	0.000	0.000
123.00	RFS ATMPP1412D-1CWA	3	12.00	1.170	0.50	19.50	1.400	0.50	0.000	0.000
123.00	Round T-Arms	3	250.00	9.700	0.67	314.00	12.100	0.67	0.000	0.000
113.00	RFS APXV18-206517	3	22.00	5.050	0.80	48.13	5.700	0.80	0.000	0.000
98.00	Alcatel-Lucent 4x40W RRH	3	91.00	2.910	0.67	122.40	4.230	0.67	0.000	0.000
98.00	Alcatel-Lucent 800 MHz	3	64.00	2.400	0.67	86.10	2.720	0.67	0.000	0.000
98.00	Decibel 980G90T4E-M	6	9.50	3.750	0.81	29.85	4.320	0.81	0.000	0.000
98.00	RFS APXVSP18-C-A20	3	57.00	8.020	0.83	106.50	9.080	0.83	0.000	0.000
98.00	RFS IBC1900BB-1	3	22.00	1.130	0.50	59.80	1.360	0.50	0.000	0.000
98.00	RFS IBC1900HG-2A	3	22.00	1.130	0.50	59.80	1.360	0.50	0.000	0.000
98.00	Round Low Profile Platform	1	1500.00	21.700	1.00	1,700.00	27.200	1.00	0.000	0.000
89.00	Argus LLPX310R	3	28.60	4.830	0.72	54.50	5.360	0.72	0.000	0.000
89.00	DragonWave A-ANT-11G-2.5-	1	66.10	8.670	0.90	117.00	9.170	0.90	0.000	0.000
89.00	DragonWave A-ANT-18G-2-C	1	27.10	4.690	0.90	55.10	5.050	0.90	0.000	0.000
89.00	DragonWave Horizon	2	10.60	0.430	0.50	17.00	0.580	0.50	0.000	0.000
89.00	NextNet BTS-2500	3	35.00	2.120	0.50	48.30	2.430	0.50	0.000	0.000
89.00	Side Arms	1	560.00	8.500	1.00	680.00	10.500	1.00	0.000	0.000
76.00	Side Markers	2	20.00	0.800	1.00	31.90	0.940	1.00	0.000	0.000
20.00	Lucent KS-24019	1	7.00	1.000	1.00	15.00	1.300	1.00	0.000	0.000
Totals		100	9617.90			13,275.16			Number of Loadings :	33

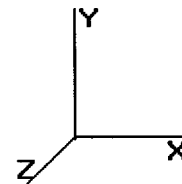
Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	No Ice Weight (lb/ft)	No Ice CaAa (sf/ft)	Ice Weight (lb/ft)	Ice CaAa (sf/ft)	Exposed To Wind
5.00	147.00	(12) 1 5/8" Coax	9.84	0.00	0.00	0.00	N
5.00	135.00	0.39" (10 mm) Cable	0.07	0.00	0.00	0.00	N
5.00	135.00	0.78" (19.7mm) 8 AWG	0.59	0.00	0.00	0.00	N

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)



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5.00	135.00	(12) 1 5/8" Coax	9.84	0.00	0.00	0.00	N
5.00	135.00	(1) 3" Conduit	7.58	0.00	0.00	0.00	N
5.00	123.00	(12) 1 5/8" Coax	14.76	0.00	0.00	0.00	N
5.00	123.00	(6) 1 5/8" Coax	4.92	0.20	9.46	0.25	Y
5.00	113.00	(6) 1 5/8" Coax	4.92	0.00	0.00	0.00	N
5.00	98.00	(12) 1 1/4" Coax	11.34	0.00	0.00	0.00	N
5.00	98.00	(3) 1 1/4" Hybriflex	1.00	0.00	0.00	0.00	N
5.00	89.00	(2) 1/2" Coax	0.15	0.00	0.00	0.00	Y
5.00	89.00	(1) 3" Conduit	7.58	0.35	8.80	0.40	Y
5.00	89.00	5/16" (0.31", 7.9mm)	0.24	0.00	1.80	0.00	Y
5.00	20.00	(1) 1/2" Coax	0.15	0.06	0.99	0.16	Y
Total Weight			8,420.63 (lb)	2,021.53 (lb)			

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

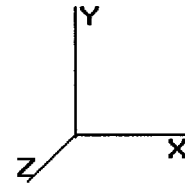
Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Segment Properties (Max Len : 5 ft)

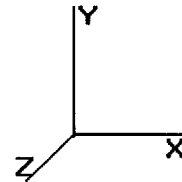
Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Weight (lb)
0.00		0.3750	56.580	66.895	26,698.9	24.84	150.88	65	52	0.0
5.00		0.3750	55.507	65.618	25,199.0	24.34	148.02	65	52	1,127.3
10.00		0.3750	54.434	64.341	23,756.4	23.83	145.16	65	52	1,105.6
15.00		0.3750	53.361	63.065	22,369.9	23.33	142.30	65	52	1,083.8
20.00		0.3750	52.288	61.788	21,038.4	22.82	139.44	65	52	1,062.1
25.00		0.3750	51.216	60.511	19,760.8	22.32	136.57	65	52	1,040.4
30.00		0.3750	50.143	59.234	18,536.1	21.81	133.71	65	52	1,018.7
35.00		0.3750	49.070	57.957	17,363.0	21.31	130.85	65	52	996.9
40.00		0.3750	47.997	56.680	16,240.5	20.81	127.99	65	52	975.2
45.00		0.3750	46.924	55.403	15,167.4	20.30	125.13	65	52	953.5
46.83	Bot - Section 2	0.3750	46.531	54.935	14,786.1	20.12	124.08	65	52	344.2
50.00		0.3750	45.851	54.126	14,142.7	19.80	122.27	65	52	1,184.8
53.00	Top - Section 1	0.3750	45.958	54.253	14,242.1	19.85	122.55	65	52	1,106.4
55.00		0.3750	45.528	53.742	13,843.6	19.64	121.41	65	52	367.5
60.00		0.3750	44.456	52.465	12,880.1	19.14	118.55	65	52	903.5
65.00		0.3750	43.383	51.188	11,962.4	18.64	115.69	65	52	881.8
70.00		0.3750	42.310	49.911	11,089.3	18.13	112.83	65	52	860.0
75.00		0.3750	41.237	48.634	10,259.8	17.63	109.97	65	52	838.3
76.00		0.3750	41.023	48.379	10,099.0	17.53	109.39	65	52	165.1
80.00		0.3750	40.164	47.357	9,472.7	17.12	107.10	65	52	651.5
85.00		0.3750	39.091	46.081	8,726.9	16.62	104.24	65	52	794.9
89.00		0.3750	38.233	45.059	8,159.3	16.21	101.96	65	52	620.3
90.00		0.3750	38.019	44.804	8,021.4	16.11	101.38	65	52	152.9
94.92	Bot - Section 3	0.3750	36.964	43.548	7,365.7	15.62	98.57	65	52	739.1
95.00		0.3750	36.946	43.527	7,354.9	15.61	98.52	65	52	22.8
98.00		0.3750	36.302	42.761	6,973.3	15.31	96.81	65	52	814.4
99.83	Top - Section 2	0.3125	36.534	35.926	5,955.0	18.85	116.91	65	52	490.6
100.0		0.3125	36.498	35.890	5,937.4	18.83	116.79	65	52	20.4
105.0		0.3125	35.425	34.826	5,424.8	18.23	113.36	65	52	601.6
110.0		0.3125	34.352	33.762	4,942.6	17.62	109.93	65	52	583.5
113.0		0.3125	33.709	33.124	4,667.5	17.26	107.87	65	52	341.4
115.0		0.3125	33.279	32.698	4,489.8	17.01	106.49	65	52	224.0
120.0		0.3125	32.207	31.634	4,065.6	16.41	103.06	65	52	547.3
123.0		0.3125	31.563	30.995	3,824.4	16.05	101.00	65	52	319.7
125.0		0.3125	31.134	30.570	3,669.0	15.80	99.63	65	52	209.5
130.0		0.3125	30.061	29.506	3,299.0	15.20	96.19	65	52	511.1
135.0		0.3125	28.988	28.442	2,954.8	14.59	92.76	65	52	493.0
140.0		0.3125	27.915	27.377	2,635.4	13.99	89.33	65	52	474.8
145.0		0.3125	26.842	26.313	2,339.9	13.38	85.90	65	52	456.7
147.0		0.3125	26.413	25.888	2,228.2	13.14	84.52	65	52	177.6
147.9		0.3125	26.220	25.696	2,179.1	13.03	83.90	65	52	79.0
147.9		0.3125	26.216	25.693	2,178.2	13.03	83.89	65	52	1.5
										25,342.4

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: No Ice	80.00 mph Wind with No Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Shaft Segment Forces

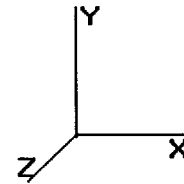
Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)	
0.00		0.00	1.00	16.384	27.68	377.19	0.650	0.000	0.00	0.000	0.00	0.0	0.0	
5.00		0.00	1.00	16.384	27.68	370.04	0.650	0.000	5.00	23.351	15.18	420.3	0.0	1,127.3
10.00		0.00	1.00	16.384	27.68	362.89	0.650	0.000	5.00	22.904	14.89	412.2	0.0	1,105.6
15.00		0.00	1.00	16.384	27.68	355.74	0.650	0.000	5.00	22.457	14.60	404.2	0.0	1,083.8
20.00	Appertunance(s)	0.00	1.00	16.384	27.68	348.58	0.650	0.000	5.00	22.010	14.31	396.1	0.0	1,062.1
25.00		0.00	1.00	16.384	27.68	341.43	0.650	0.000	5.00	21.563	14.02	388.1	0.0	1,040.4
30.00		0.00	1.00	16.384	27.68	334.28	0.650	0.000	5.00	21.116	13.73	380.0	0.0	1,018.7
35.00		0.00	1.01	16.662	28.15	329.89	0.650	0.000	5.00	20.669	13.44	378.3	0.0	996.9
40.00		0.00	1.05	17.310	29.25	328.89	0.650	0.000	5.00	20.222	13.14	384.5	0.0	975.2
45.00		0.00	1.09	17.902	30.25	327.00	0.650	0.000	5.00	19.775	12.85	388.9	0.0	953.5
46.83	Bot - Section 2	0.00	1.10	18.108	30.60	326.11	0.650	0.000	1.83	7.139	4.64	142.0	0.0	344.2
50.00		0.00	1.12	18.449	31.17	324.37	0.650	0.000	3.17	12.387	8.05	251.0	0.0	1,184.8
53.00	Top - Section 1	0.00	1.14	18.759	31.70	322.48	0.650	0.000	3.00	11.570	7.52	238.4	0.0	1,106.4
55.00		0.00	1.15	18.959	32.04	326.50	0.650	0.000	2.00	7.624	4.96	158.8	0.0	367.5
60.00		0.00	1.18	19.436	32.84	322.79	0.650	0.000	5.00	18.747	12.19	400.2	0.0	903.5
65.00		0.00	1.21	19.885	33.60	318.62	0.650	0.000	5.00	18.300	11.89	399.7	0.0	881.8
70.00		0.00	1.24	20.311	34.32	314.05	0.650	0.000	5.00	17.853	11.60	398.3	0.0	860.0
75.00		0.00	1.26	20.715	35.00	309.12	0.650	0.000	5.00	17.406	11.31	396.1	0.0	838.3
76.00	Appertunance(s)	0.00	1.26	20.794	35.14	308.09	0.650	0.000	1.00	3.427	2.23	78.3	0.0	165.1
80.00		0.00	1.28	21.101	35.66	303.87	0.650	0.000	4.00	13.531	8.80	313.6	0.0	651.5
85.00		0.00	1.31	21.469	36.28	298.32	0.650	0.000	5.00	16.512	10.73	389.4	0.0	794.9
89.00	Appertunance(s)	0.00	1.32	21.753	36.76	293.69	0.650	0.000	4.00	12.887	8.38	308.0	0.0	620.3
90.00		0.00	1.33	21.823	36.88	292.51	0.650	0.000	1.00	3.177	2.07	76.2	0.0	152.9
94.92	Bot - Section 3	0.00	1.35	22.157	37.44	286.57	0.650	0.000	4.92	15.361	9.98	373.9	0.0	739.1
95.00		0.00	1.35	22.163	37.45	286.46	0.650	0.000	0.08	0.261	0.17	6.4	0.0	22.8
98.00	Appertunance(s)	0.00	1.36	22.360	37.78	282.72	0.650	0.000	3.00	9.312	6.05	228.7	0.0	814.4
99.83	Top - Section 2	0.00	1.37	22.479	37.99	280.40	0.650	0.000	1.83	5.612	3.65	138.6	0.0	490.6
100.0		0.00	1.37	22.490	38.00	285.07	0.650	0.000	0.17	0.507	0.33	12.5	0.0	20.4
105.0		0.00	1.39	22.806	38.54	278.63	0.650	0.000	5.00	14.984	9.74	375.4	0.0	601.6
110.0		0.00	1.41	23.111	39.05	271.99	0.650	0.000	5.00	14.537	9.45	369.1	0.0	583.5
113.0	Appertunance(s)	0.00	1.42	23.289	39.35	267.92	0.650	0.000	3.00	8.508	5.53	217.7	0.0	341.4
115.0		0.00	1.42	23.406	39.55	265.17	0.650	0.000	2.00	5.582	3.63	143.5	0.0	224.0
120.0		0.00	1.44	23.692	40.04	258.19	0.650	0.000	5.00	13.643	8.87	355.1	0.0	547.3
123.0	Appertunance(s)	0.00	1.45	23.860	40.32	253.92	0.650	0.000	3.00	7.971	5.18	208.9	0.0	319.7
125.0		0.00	1.46	23.970	40.51	251.05	0.650	0.000	2.00	5.225	3.40	137.6	0.0	209.5
130.0		0.00	1.48	24.241	40.96	243.76	0.650	0.000	5.00	12.749	8.29	339.5	0.0	511.1
135.0	Appertunance(s)	0.00	1.49	24.503	41.41	236.33	0.650	0.000	5.00	12.302	8.00	331.1	0.0	493.0
140.0		0.00	1.51	24.759	41.84	228.77	0.650	0.000	5.00	11.855	7.71	322.4	0.0	474.8
145.0		0.00	1.52	25.009	42.26	221.08	0.650	0.000	5.00	11.408	7.42	313.4	0.0	456.7
147.0	Appertunance(s)	0.00	1.53	25.107	42.43	217.98	0.650	0.000	2.00	4.438	2.88	122.4	0.0	177.6
147.9	Appertunance(s)	0.00	1.53	25.151	42.50	216.57	0.650	0.000	0.90	1.974	1.28	54.5	0.0	79.0
147.9		0.00	1.53	25.152	42.50	216.54	0.650	0.000	0.02	0.037	0.02	1.0	0.0	1.5
Totals:								147.92			11,154.4	0.0	25,342.4	

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: No Ice	80.00 mph Wind with No Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Discrete Appurtenance Segment Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
20.00	Lucent KS-24019	1	16.384	27.689	1.00	1.00	0.000	0.000	27.69	0.00	0.00	7.00
76.00	Side Markers	2	20.794	35.142	1.00	1.60	0.000	0.000	56.23	0.00	0.00	40.00
89.00	Argus LLPX310R	3	21.753	36.763	0.72	10.43	0.000	0.000	383.54	0.00	0.00	85.80
89.00	DragonWave A-ANT-	1	21.753	36.763	0.90	7.80	0.000	0.000	286.86	0.00	0.00	66.10
89.00	DragonWave A-ANT-	1	21.753	36.763	0.90	4.22	0.000	0.000	155.18	0.00	0.00	27.10
89.00	DragonWave Horizon	2	21.753	36.763	0.50	0.43	0.000	0.000	15.81	0.00	0.00	21.20
89.00	NextNet BTS-2500	3	21.753	36.763	0.50	3.18	0.000	0.000	116.91	0.00	0.00	105.00
89.00	Side Arms	1	21.753	36.763	1.00	8.50	0.000	0.000	312.49	0.00	0.00	560.00
98.00	Alcatel-Lucent 4x40W	3	22.360	37.789	0.67	5.85	0.000	0.000	221.03	0.00	0.00	273.00
98.00	Alcatel-Lucent 800 M	3	22.360	37.789	0.67	4.82	0.000	0.000	182.29	0.00	0.00	192.00
98.00	Decibel 980G90T4E-M	6	22.360	37.789	0.81	18.23	0.000	0.000	688.71	0.00	0.00	57.00
98.00	RFS APXVSP18-C-	3	22.360	37.789	0.83	19.97	0.000	0.000	754.64	0.00	0.00	171.00
98.00	RFS IBC1900BB-1	3	22.360	37.789	0.50	1.69	0.000	0.000	64.05	0.00	0.00	66.00
98.00	RFS IBC1900HG-2A	3	22.360	37.789	0.50	1.69	0.000	0.000	64.05	0.00	0.00	66.00
98.00	Round Low Profile PI	1	22.360	37.789	1.00	21.70	0.000	0.000	820.02	0.00	0.00	1,500.00
113.0	RFS APXV18-206517	3	23.289	39.359	0.80	12.12	0.000	0.000	477.03	0.00	0.00	66.00
123.0	RFS APX16DWV-	3	23.860	40.324	0.65	13.06	0.000	0.000	526.83	0.00	0.00	118.80
123.0	RFS APXV18-206516L-	6	23.860	40.324	0.78	16.71	0.000	0.000	673.71	0.00	0.00	112.20
123.0	RFS ATMAA1412D-	3	23.860	40.324	0.50	1.75	0.000	0.000	70.77	0.00	0.00	39.00
123.0	RFS ATMPP1412D-	3	23.860	40.324	0.50	1.75	0.000	0.000	70.77	0.00	0.00	36.00
123.0	Round T-Arms	3	23.860	40.324	0.67	19.50	0.000	0.000	786.18	0.00	0.00	750.00
135.0	Andrew SBNH-	1	24.503	41.411	1.00	11.44	0.000	0.000	473.74	0.00	0.00	66.10
135.0	Ericsson RRUS 11	6	24.555	41.498	0.67	11.82	0.000	1.000	490.46	0.00	490.46	330.00
135.0	Flat Platform w/ Han	1	24.503	41.411	1.00	42.40	0.000	0.000	1,755.81	0.00	0.00	2,000.00
135.0	KMW AM-X-CD-16-65-	2	24.503	41.411	0.79	12.67	0.000	0.000	524.74	0.00	0.00	97.00
135.0	Powerwave 7750.00	6	24.503	41.411	0.75	26.46	0.000	0.000	1,095.73	0.00	0.00	210.00
135.0	Powerwave LCP21401	6	24.555	41.498	0.50	3.87	0.000	1.000	160.60	0.00	160.60	84.60
135.0	Powerwave LCP21903	6	24.555	41.498	0.50	0.81	0.000	1.000	33.61	0.00	33.61	33.00
135.0	Raycap DC6-48-60-18-	1	24.555	41.498	1.00	1.26	0.000	1.000	52.29	0.00	52.29	20.00
147.0	48" x 12" Panels	9	25.107	42.431	0.67	33.77	0.000	0.000	1,432.80	0.00	0.00	270.00
147.0	72" x 12" Panels	3	25.107	42.431	0.67	16.88	0.000	0.000	716.40	0.00	0.00	120.00
147.0	Flat Platform w/ Han	1	25.107	42.431	1.00	42.40	0.000	0.000	1,799.05	0.00	0.00	2,000.00
147.9	Flash Technology FTB	1	25.233	42.644	1.00	3.70	0.000	1.710	157.78	0.00	269.81	28.00
									15,447.80			9,617.90

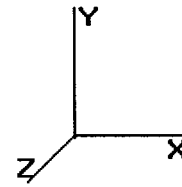
Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

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Base Elev : 0.000 (ft)



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Load Case: No Ice	80.00 mph Wind with No Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Linear Appurtenance Segment Forces

Seg Top Elev (ft)	Description	Exposed To Wind	Length (ft)	Weight (lb/ft)	CaAa (sf/ft)	qz (psf)	FX (lb)	Dead Load (lb)
10.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	16.384	27.69	24.60
10.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	16.384	0.00	0.75
10.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	16.384	48.46	37.90
10.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	16.384	0.00	1.20
10.00	(1) 1/2" Coax	Yes	5.00	0.15	0.06	16.384	8.72	0.75
15.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	16.384	27.69	24.60
15.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	16.384	0.00	0.75
15.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	16.384	48.46	37.90
15.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	16.384	0.00	1.20
15.00	(1) 1/2" Coax	Yes	5.00	0.15	0.06	16.384	8.72	0.75
20.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	16.384	27.69	24.60
20.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	16.384	0.00	0.75
20.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	16.384	48.46	37.90
20.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	16.384	0.00	1.20
20.00	(1) 1/2" Coax	Yes	5.00	0.15	0.06	16.384	8.72	0.75
25.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	16.384	27.69	24.60
25.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	16.384	0.00	0.75
25.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	16.384	48.46	37.90
25.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	16.384	0.00	1.20
30.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	16.384	27.69	24.60
30.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	16.384	0.00	0.75
30.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	16.384	48.46	37.90
30.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	16.384	0.00	1.20
35.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	16.662	28.16	24.60
35.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	16.662	0.00	0.75
35.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	16.662	49.28	37.90
35.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	16.662	0.00	1.20
40.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	17.310	29.25	24.60
40.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	17.310	0.00	0.75
40.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	17.310	51.19	37.90
40.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	17.310	0.00	1.20
45.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	17.902	30.25	24.60
45.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	17.902	0.00	0.75
45.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	17.902	52.95	37.90
45.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	17.902	0.00	1.20
46.83	(6) 1 5/8" Coax	Yes	1.83	4.92	0.20	18.108	11.22	9.02
46.83	(2) 1/2" Coax	Yes	1.83	0.15	0.00	18.108	0.00	0.28
46.83	(1) 3" Conduit	Yes	1.83	7.58	0.35	18.108	19.64	13.90
46.83	(6) 5/16" (0.31", 7.9mm)	Yes	1.83	0.24	0.00	18.108	0.00	0.44
50.00	(6) 1 5/8" Coax	Yes	3.17	4.92	0.20	18.449	19.75	15.58
50.00	(2) 1/2" Coax	Yes	3.17	0.15	0.00	18.449	0.00	0.47
50.00	(1) 3" Conduit	Yes	3.17	7.58	0.35	18.449	34.56	24.00
50.00	(6) 5/16" (0.31", 7.9mm)	Yes	3.17	0.24	0.00	18.449	0.00	0.76
53.00	(6) 1 5/8" Coax	Yes	3.00	4.92	0.20	18.759	19.02	14.76
53.00	(2) 1/2" Coax	Yes	3.00	0.15	0.00	18.759	0.00	0.45
53.00	(1) 3" Conduit	Yes	3.00	7.58	0.35	18.759	33.29	22.74
53.00	(6) 5/16" (0.31", 7.9mm)	Yes	3.00	0.24	0.00	18.759	0.00	0.72
55.00	(6) 1 5/8" Coax	Yes	2.00	4.92	0.20	18.959	12.82	9.84
55.00	(2) 1/2" Coax	Yes	2.00	0.15	0.00	18.959	0.00	0.30
55.00	(1) 3" Conduit	Yes	2.00	7.58	0.35	18.959	22.43	15.16
55.00	(6) 5/16" (0.31", 7.9mm)	Yes	2.00	0.24	0.00	18.959	0.00	0.48

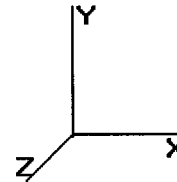
Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev: 0.000 (ft)

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Load Case: No Ice	80.00 mph Wind with No Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

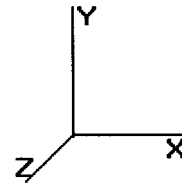
60.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	19.436	32.85	24.60
60.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	19.436	0.00	0.75
60.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	19.436	57.48	37.90
60.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	19.436	0.00	1.20
65.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	19.885	33.61	24.60
65.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	19.885	0.00	0.75
65.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	19.885	58.81	37.90
65.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	19.885	0.00	1.20
70.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	20.311	34.33	24.60
70.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	20.311	0.00	0.75
70.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	20.311	60.07	37.90
70.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	20.311	0.00	1.20
75.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	20.715	35.01	24.60
75.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	20.715	0.00	0.75
75.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	20.715	61.27	37.90
75.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	20.715	0.00	1.20
76.00	(6) 1 5/8" Coax	Yes	1.00	4.92	0.20	20.794	7.03	4.92
76.00	(2) 1/2" Coax	Yes	1.00	0.15	0.00	20.794	0.00	0.15
76.00	(1) 3" Conduit	Yes	1.00	7.58	0.35	20.794	12.30	7.58
76.00	(6) 5/16" (0.31", 7.9mm)	Yes	1.00	0.24	0.00	20.794	0.00	0.24
80.00	(6) 1 5/8" Coax	Yes	4.00	4.92	0.20	21.101	28.53	19.68
80.00	(2) 1/2" Coax	Yes	4.00	0.15	0.00	21.101	0.00	0.60
80.00	(1) 3" Conduit	Yes	4.00	7.58	0.35	21.101	49.92	30.32
80.00	(6) 5/16" (0.31", 7.9mm)	Yes	4.00	0.24	0.00	21.101	0.00	0.96
85.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	21.469	36.28	24.60
85.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	21.469	0.00	0.75
85.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	21.469	63.50	37.90
85.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	21.469	0.00	1.20
89.00	(6) 1 5/8" Coax	Yes	4.00	4.92	0.20	21.753	29.41	19.68
89.00	(2) 1/2" Coax	Yes	4.00	0.15	0.00	21.753	0.00	0.60
89.00	(1) 3" Conduit	Yes	4.00	7.58	0.35	21.753	51.47	30.32
89.00	(6) 5/16" (0.31", 7.9mm)	Yes	4.00	0.24	0.00	21.753	0.00	0.96
90.00	(6) 1 5/8" Coax	Yes	1.00	4.92	0.20	21.823	7.38	4.92
94.92	(6) 1 5/8" Coax	Yes	4.92	4.92	0.20	22.157	36.82	24.19
95.00	(6) 1 5/8" Coax	Yes	0.08	4.92	0.20	22.163	0.62	0.41
98.00	(6) 1 5/8" Coax	Yes	3.00	4.92	0.20	22.360	22.67	14.76
99.83	(6) 1 5/8" Coax	Yes	1.83	4.92	0.20	22.479	13.93	9.02
100.0	(6) 1 5/8" Coax	Yes	0.17	4.92	0.20	22.490	1.27	0.82
105.0	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	22.806	38.54	24.60
110.0	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	23.111	39.06	24.60
113.0	(6) 1 5/8" Coax	Yes	3.00	4.92	0.20	23.289	23.62	14.76
115.0	(6) 1 5/8" Coax	Yes	2.00	4.92	0.20	23.406	15.82	9.84
120.0	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	23.692	40.04	24.60
123.0	(6) 1 5/8" Coax	Yes	3.00	4.92	0.20	23.860	24.19	14.76
Totals:							1,736.50	1,252.29

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: No Ice	80.00 mph Wind with No Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	420.27	1,127.29	0.00	0.00
10.00	497.10	1,470.46	0.00	0.00
15.00	489.05	1,448.74	0.00	0.00
20.00	508.69	1,434.01	0.00	0.00
25.00	464.24	1,404.54	0.00	0.00
30.00	456.19	1,382.81	0.00	0.00
35.00	455.74	1,361.09	0.00	0.00
40.00	464.97	1,339.36	0.00	0.00
45.00	472.09	1,317.64	0.00	0.00
46.83	172.86	477.69	0.00	0.00
50.00	305.35	1,415.43	0.00	0.00
53.00	290.73	1,324.86	0.00	0.00
55.00	194.02	513.14	0.00	0.00
60.00	490.57	1,267.65	0.00	0.00
65.00	492.16	1,245.92	0.00	0.00
70.00	492.72	1,224.20	0.00	0.00
75.00	492.35	1,202.47	0.00	0.00
76.00	153.84	277.89	0.00	0.00
80.00	392.09	942.86	0.00	0.00
85.00	489.19	1,159.02	0.00	0.00
89.00	1,659.63	1,776.78	0.00	0.00
90.00	83.54	217.75	0.00	0.00
94.92	410.70	1,057.97	0.00	0.00
95.00	6.98	28.23	0.00	0.00
98.00	3,046.21	3,333.99	0.00	0.00
99.83	152.50	586.92	0.00	0.00
100.0	13.80	29.12	0.00	0.00
105.0	413.92	864.18	0.00	0.00
110.0	408.11	846.07	0.00	0.00
113.0	718.29	564.95	0.00	0.00
115.0	159.35	319.18	0.00	0.00
120.0	395.11	785.27	0.00	0.00
123.0	2,361.39	1,518.47	0.00	0.00
125.0	137.57	265.33	0.00	0.00
130.0	339.48	650.66	0.00	0.00
135.0	4,918.10	3,473.25	0.00	736.96
140.0	322.43	524.05	0.00	0.00
145.0	313.40	505.95	0.00	0.00
147.0	4,070.65	2,587.31	0.00	0.00
147.9	212.32	106.99	0.00	269.81
147.9	1.03	1.49	0.00	0.00
Totals:	28,338.72	43,380.95	0.00	1,006.77

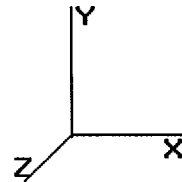
Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

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Base Elev : 0.000 (ft)



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Load Case: No Ice	80.00 mph Wind with No Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Calculated Shaft Forces and Deflections

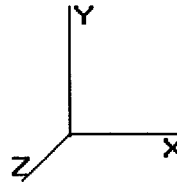
Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-28.397	-43.342	0.000	0.000	0.000	-2,943.021	0.000	0.000	0.000	0.000
5.00	-28.089	-42.140	0.000	0.000	0.000	-2,801.037	-0.083	0.000	0.083	-0.153
10.00	-27.695	-40.597	0.000	0.000	0.000	-2,660.597	-0.326	0.000	0.326	-0.307
15.00	-27.303	-39.078	0.000	0.000	0.000	-2,522.123	-0.731	0.000	0.731	-0.462
20.00	-26.883	-37.575	0.000	0.000	0.000	-2,385.612	-1.300	0.000	1.300	-0.618
25.00	-26.501	-36.104	0.000	0.000	0.000	-2,251.199	-2.032	0.000	2.032	-0.775
30.00	-26.120	-34.656	0.000	0.000	0.000	-2,118.697	-2.929	0.000	2.929	-0.932
35.00	-25.731	-33.233	0.000	0.000	0.000	-1,988.102	-3.990	0.000	3.990	-1.090
40.00	-25.327	-31.834	0.000	0.000	0.000	-1,859.448	-5.217	0.000	5.217	-1.248
45.00	-24.881	-30.481	0.000	0.000	0.000	-1,732.817	-6.608	0.000	6.608	-1.405
46.83	-24.738	-29.973	0.000	0.000	0.000	-1,687.202	-7.160	0.000	7.160	-1.464
50.00	-24.444	-28.525	0.000	0.000	0.000	-1,608.865	-8.165	0.000	8.165	-1.564
53.00	-24.154	-27.175	0.000	0.000	0.000	-1,535.534	-9.179	0.000	9.179	-1.659
55.00	-23.994	-26.624	0.000	0.000	0.000	-1,487.227	-9.888	0.000	9.888	-1.723
60.00	-23.528	-25.313	0.000	0.000	0.000	-1,367.259	-11.771	0.000	11.771	-1.869
65.00	-23.054	-24.027	0.000	0.000	0.000	-1,249.620	-13.807	0.000	13.807	-2.014
70.00	-22.573	-22.766	0.000	0.000	0.000	-1,134.350	-15.992	0.000	15.992	-2.155
75.00	-22.065	-21.552	0.000	0.000	0.000	-1,021.486	-18.324	0.000	18.324	-2.294
76.00	-21.926	-21.254	0.000	0.000	0.000	-999.421	-18.808	0.000	18.808	-2.322
80.00	-21.537	-20.284	0.000	0.000	0.000	-911.720	-20.800	0.000	20.800	-2.429
85.00	-21.036	-19.106	0.000	0.000	0.000	-804.036	-23.414	0.000	23.414	-2.558
89.00	-19.316	-17.386	0.000	0.000	0.000	-719.894	-25.600	0.000	25.600	-2.658
90.00	-19.243	-17.148	0.000	0.000	0.000	-700.579	-26.159	0.000	26.159	-2.682
94.92	-18.798	-16.093	0.000	0.000	0.000	-605.968	-28.982	0.000	28.982	-2.796
95.00	-18.800	-16.053	0.000	0.000	0.000	-604.402	-29.031	0.000	29.031	-2.798
98.00	-15.604	-12.860	0.000	0.000	0.000	-548.004	-30.811	0.000	30.811	-2.865
99.83	-15.427	-12.275	0.000	0.000	0.000	-519.396	-31.919	0.000	31.919	-2.905
100.0	-15.425	-12.231	0.000	0.000	0.000	-516.825	-32.020	0.000	32.020	-2.909
105.0	-14.989	-11.360	0.000	0.000	0.000	-439.702	-35.128	0.000	35.128	-3.023
110.0	-14.551	-10.517	0.000	0.000	0.000	-364.760	-38.351	0.000	38.351	-3.129
113.0	-13.811	-9.981	0.000	0.000	0.000	-321.109	-40.336	0.000	40.336	-3.188
115.0	-13.644	-9.656	0.000	0.000	0.000	-293.488	-41.679	0.000	41.679	-3.225
120.0	-13.214	-8.881	0.000	0.000	0.000	-225.269	-45.102	0.000	45.102	-3.308
123.0	-10.773	-7.496	0.000	0.000	0.000	-185.626	-47.194	0.000	47.194	-3.351
125.0	-10.625	-7.231	0.000	0.000	0.000	-164.080	-48.603	0.000	48.603	-3.377
130.0	-10.253	-6.594	0.000	0.000	0.000	-110.953	-52.168	0.000	52.168	-3.430
135.0	-5.137	-3.420	0.000	0.000	0.000	-58.951	-55.780	0.000	55.780	-3.467
140.0	-4.784	-2.915	0.000	0.000	0.000	-33.268	-59.422	0.000	59.422	-3.489
145.0	-4.441	-2.429	0.000	0.000	0.000	-9.348	-63.081	0.000	63.081	-3.501
147.0	-0.219	-0.095	0.000	0.000	0.000	-0.467	-64.547	0.000	64.547	-3.502
147.9	-0.001	-0.001	0.000	0.000	0.000	0.000	-65.207	0.000	65.207	-3.502
147.9	-0.001	0.000	0.000	0.000	0.000	0.000	-65.219	0.000	65.219	-3.502

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

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Base Elev : 0.000 (ft)



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Load Case: No Ice	80.00 mph Wind with No Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Calculated Stresses

Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Stress Ratio	
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)			
0.00	0.65	0.86	0.00	0.00	0.00	38.00	38.67	52.0	0.0	0.744
5.00	0.64	0.86	0.00	0.00	0.00	37.59	38.26	52.0	0.0	0.736
10.00	0.63	0.87	0.00	0.00	0.00	37.14	37.80	52.0	0.0	0.727
15.00	0.62	0.87	0.00	0.00	0.00	36.65	37.30	52.0	0.0	0.718
20.00	0.61	0.88	0.00	0.00	0.00	36.12	36.76	52.0	0.0	0.707
25.00	0.60	0.88	0.00	0.00	0.00	35.55	36.18	52.0	0.0	0.696
30.00	0.59	0.89	0.00	0.00	0.00	34.92	35.54	52.0	0.0	0.684
35.00	0.57	0.89	0.00	0.00	0.00	34.23	34.84	52.0	0.0	0.670
40.00	0.56	0.90	0.00	0.00	0.00	33.48	34.08	52.0	0.0	0.656
45.00	0.55	0.91	0.00	0.00	0.00	32.66	33.25	52.0	0.0	0.640
46.83	0.55	0.91	0.00	0.00	0.00	32.35	32.93	52.0	0.0	0.634
50.00	0.53	0.91	0.00	0.00	0.00	31.78	32.34	52.0	0.0	0.622
53.00	0.50	0.90	0.00	0.00	0.00	30.19	30.73	52.0	0.0	0.591
55.00	0.50	0.90	0.00	0.00	0.00	29.80	30.34	52.0	0.0	0.584
60.00	0.48	0.90	0.00	0.00	0.00	28.75	29.28	52.0	0.0	0.563
65.00	0.47	0.91	0.00	0.00	0.00	27.61	28.12	52.0	0.0	0.541
70.00	0.46	0.91	0.00	0.00	0.00	26.37	26.87	52.0	0.0	0.517
75.00	0.44	0.91	0.00	0.00	0.00	25.01	25.51	52.0	0.0	0.491
76.00	0.44	0.91	0.00	0.00	0.00	24.73	25.22	52.0	0.0	0.485
80.00	0.43	0.92	0.00	0.00	0.00	23.55	24.03	52.0	0.0	0.462
85.00	0.41	0.92	0.00	0.00	0.00	21.94	22.41	52.0	0.0	0.431
89.00	0.39	0.86	0.00	0.00	0.00	20.55	20.99	52.0	0.0	0.404
90.00	0.38	0.87	0.00	0.00	0.00	20.23	20.67	52.0	0.0	0.398
94.92	0.37	0.87	0.00	0.00	0.00	18.53	18.96	52.0	0.0	0.365
95.00	0.37	0.87	0.00	0.00	0.00	18.50	18.93	52.0	0.0	0.364
98.00	0.30	0.74	0.00	0.00	0.00	17.38	17.73	52.0	0.0	0.341
99.83	0.34	0.87	0.00	0.00	0.00	19.41	19.81	52.0	0.0	0.381
100.00	0.34	0.87	0.00	0.00	0.00	19.36	19.75	52.0	0.0	0.380
105.00	0.33	0.87	0.00	0.00	0.00	17.49	17.88	52.0	0.0	0.344
110.00	0.31	0.87	0.00	0.00	0.00	15.45	15.83	52.0	0.0	0.305
113.00	0.30	0.84	0.00	0.00	0.00	14.13	14.50	52.0	0.0	0.279
115.00	0.30	0.84	0.00	0.00	0.00	13.25	13.63	52.0	0.0	0.262
120.00	0.28	0.84	0.00	0.00	0.00	10.87	11.25	52.0	0.0	0.216
123.00	0.24	0.70	0.00	0.00	0.00	9.33	9.65	52.0	0.0	0.186
125.00	0.24	0.70	0.00	0.00	0.00	8.48	8.80	52.0	0.0	0.169
130.00	0.22	0.70	0.00	0.00	0.00	6.16	6.50	52.0	0.0	0.125
135.00	0.12	0.36	0.00	0.00	0.00	3.52	3.70	52.0	0.0	0.071
140.00	0.11	0.35	0.00	0.00	0.00	2.15	2.33	52.0	0.0	0.045
145.00	0.09	0.34	0.00	0.00	0.00	0.65	0.95	52.0	0.0	0.018
147.00	0.00	0.02	0.00	0.00	0.00	0.03	0.05	52.0	0.0	0.001
147.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.0	0.0	0.000
147.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.0	0.0	0.000

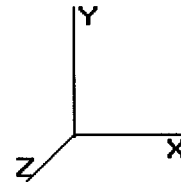
Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Ice	69.28 mph Wind with Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Shaft Segment Forces

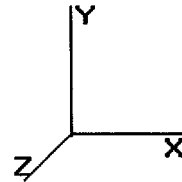
Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)	
0.00		0.00	1.00	12.287	20.76	326.65	0.650	0.500	0.00	0.000	0.00	0.0	0.0	
5.00		0.00	1.00	12.287	20.76	320.46	0.650	0.500	5.00	23.768	15.45	320.8	172.8	1,300.1
10.00		0.00	1.00	12.287	20.76	314.26	0.650	0.500	5.00	23.321	15.16	314.8	169.5	1,275.1
15.00		0.00	1.00	12.287	20.76	308.07	0.650	0.500	5.00	22.874	14.87	308.7	166.2	1,250.0
20.00	Appertunance(s)	0.00	1.00	12.287	20.76	301.87	0.650	0.500	5.00	22.427	14.58	302.7	162.9	1,225.0
25.00		0.00	1.00	12.287	20.76	295.68	0.650	0.500	5.00	21.980	14.29	296.7	159.6	1,200.0
30.00		0.00	1.00	12.287	20.76	289.49	0.650	0.500	5.00	21.533	14.00	290.6	156.3	1,174.9
35.00		0.00	1.01	12.496	21.11	285.68	0.650	0.500	5.00	21.086	13.71	289.4	153.0	1,149.9
40.00		0.00	1.05	12.982	21.93	284.82	0.650	0.500	5.00	20.639	13.42	294.3	149.6	1,124.9
45.00		0.00	1.09	13.426	22.69	283.18	0.650	0.500	5.00	20.192	13.12	297.8	146.3	1,099.8
46.83	Bot - Section 2	0.00	1.10	13.580	22.95	282.41	0.650	0.500	1.83	7.292	4.74	108.8	53.2	397.4
50.00		0.00	1.12	13.836	23.38	280.90	0.650	0.500	3.17	12.651	8.22	192.3	92.0	1,276.9
53.00	Top - Section 1	0.00	1.14	14.068	23.77	279.27	0.650	0.500	3.00	11.820	7.68	182.7	86.0	1,192.4
55.00		0.00	1.15	14.218	24.02	282.75	0.650	0.500	2.00	7.791	5.06	121.7	56.8	424.3
60.00		0.00	1.18	14.576	24.63	279.54	0.650	0.500	5.00	19.163	12.46	306.8	138.7	1,042.2
65.00		0.00	1.21	14.913	25.20	275.93	0.650	0.500	5.00	18.716	12.17	306.6	135.4	1,017.2
70.00		0.00	1.24	15.232	25.74	271.97	0.650	0.500	5.00	18.269	11.88	305.7	132.1	992.1
75.00		0.00	1.26	15.536	26.25	267.70	0.650	0.500	5.00	17.822	11.58	304.2	128.8	967.1
76.00	Appertunance(s)	0.00	1.26	15.594	26.35	266.81	0.650	0.500	1.00	3.511	2.28	60.1	25.6	190.7
80.00		0.00	1.28	15.825	26.74	263.15	0.650	0.500	4.00	13.864	9.01	241.0	100.4	751.9
85.00		0.00	1.31	16.101	27.21	258.35	0.650	0.500	5.00	16.928	11.00	299.4	122.2	917.0
89.00	Appertunance(s)	0.00	1.32	16.314	27.57	254.34	0.650	0.500	4.00	13.221	8.59	236.9	95.6	715.9
90.00		0.00	1.33	16.366	27.65	253.32	0.650	0.500	1.00	3.260	2.12	58.6	23.8	176.7
94.92	Bot - Section 3	0.00	1.35	16.617	28.08	248.16	0.650	0.500	4.92	15.771	10.25	287.9	113.7	852.8
95.00		0.00	1.35	16.621	28.09	248.08	0.650	0.500	0.08	0.268	0.17	4.9	2.0	24.8
98.00	Appertunance(s)	0.00	1.36	16.769	28.34	244.84	0.650	0.500	3.00	9.562	6.22	176.1	69.3	883.7
99.83	Top - Section 2	0.00	1.37	16.858	28.49	242.83	0.650	0.500	1.83	5.764	3.75	106.8	41.9	532.5
100.00		0.00	1.37	16.866	28.50	246.87	0.650	0.500	0.17	0.521	0.34	9.7	3.8	24.2
105.00		0.00	1.39	17.103	28.90	241.29	0.650	0.500	5.00	15.401	10.01	289.3	110.9	712.4
110.00		0.00	1.41	17.332	29.29	235.54	0.650	0.500	5.00	14.954	9.72	284.7	107.5	691.0
113.00	Appertunance(s)	0.00	1.42	17.466	29.51	232.02	0.650	0.500	3.00	8.758	5.69	168.0	63.3	404.7
115.00		0.00	1.42	17.554	29.66	229.64	0.650	0.500	2.00	5.749	3.74	110.9	41.7	265.7
120.00		0.00	1.44	17.768	30.02	223.59	0.650	0.500	5.00	14.060	9.14	274.4	100.9	648.2
123.00	Appertunance(s)	0.00	1.45	17.894	30.24	219.90	0.650	0.500	3.00	8.221	5.34	161.6	59.4	379.0
125.00		0.00	1.46	17.977	30.38	217.41	0.650	0.500	2.00	5.391	3.50	106.5	39.0	248.5
130.00		0.00	1.48	18.179	30.72	211.10	0.650	0.500	5.00	13.166	8.56	262.9	94.3	605.4
135.00	Appertunance(s)	0.00	1.49	18.376	31.05	204.66	0.650	0.500	5.00	12.719	8.27	256.7	91.0	583.9
140.00		0.00	1.51	18.568	31.38	198.11	0.650	0.500	5.00	12.272	7.98	250.3	87.7	562.5
145.00		0.00	1.52	18.755	31.69	191.46	0.650	0.500	5.00	11.825	7.69	243.6	84.4	541.1
147.00	Appertunance(s)	0.00	1.53	18.829	31.82	188.77	0.650	0.500	2.00	4.605	2.99	95.2	33.2	210.8
147.90	Appertunance(s)	0.00	1.53	18.862	31.87	187.55	0.650	0.500	0.90	2.049	1.33	42.4	14.8	93.8
147.90		0.00	1.53	18.863	31.87	187.53	0.650	0.500	0.02	0.039	0.03	0.8	0.3	1.8
Totals:								147.92			8,573.5	3,786.0	29,128.4	

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Ice	69.28 mph Wind with Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Discrete Appurtenance Segment Forces

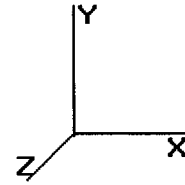
Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
20.00	Lucent KS-24019	1	12.287	20.766	1.00	1.30	0.000	0.000	27.00	0.00	0.00	15.00
76.00	Side Markers	2	15.594	26.355	1.00	1.88	0.000	0.000	49.55	0.00	0.00	63.80
89.00	Argus LLPX310R	3	16.314	27.571	0.72	11.58	0.000	0.000	319.20	0.00	0.00	163.50
89.00	DragonWave A-ANT-	1	16.314	27.571	0.90	8.25	0.000	0.000	227.54	0.00	0.00	117.00
89.00	DragonWave A-ANT-	1	16.314	27.571	0.90	4.55	0.000	0.000	125.31	0.00	0.00	55.10
89.00	DragonWave Horizon	2	16.314	27.571	0.50	0.58	0.000	0.000	15.99	0.00	0.00	34.00
89.00	NextNet BTS-2500	3	16.314	27.571	0.50	3.64	0.000	0.000	100.50	0.00	0.00	144.90
89.00	Side Arms	1	16.314	27.571	1.00	10.50	0.000	0.000	289.49	0.00	0.00	680.00
98.00	Alcatel-Lucent 4x40W	3	16.769	28.340	0.67	8.50	0.000	0.000	240.96	0.00	0.00	367.20
98.00	Alcatel-Lucent 800 M	3	16.769	28.340	0.67	5.47	0.000	0.000	154.94	0.00	0.00	258.30
98.00	Decibel 980G90T4E-M	6	16.769	28.340	0.81	21.00	0.000	0.000	595.01	0.00	0.00	179.10
98.00	RFS APXVSP18-C-	3	16.769	28.340	0.83	22.61	0.000	0.000	640.75	0.00	0.00	319.50
98.00	RFS IBC1900BB-1	3	16.769	28.340	0.50	2.04	0.000	0.000	57.81	0.00	0.00	179.40
98.00	RFS IBC1900HG-2A	3	16.769	28.340	0.50	2.04	0.000	0.000	57.81	0.00	0.00	179.40
98.00	Round Low Profile PI	1	16.769	28.340	1.00	27.20	0.000	0.000	770.85	0.00	0.00	1,700.00
113.0	RFS APXV18-206517	3	17.466	29.517	0.80	13.68	0.000	0.000	403.80	0.00	0.00	144.39
123.0	RFS APX16DWV-	3	17.894	30.241	0.65	14.33	0.000	0.000	433.43	0.00	0.00	208.14
123.0	RFS APXV18-206516L-	6	17.894	30.241	0.80	19.54	0.000	0.000	590.79	0.00	0.00	231.96
123.0	RFS ATMAA1412D-	3	17.894	30.241	0.50	2.09	0.000	0.000	63.05	0.00	0.00	61.80
123.0	RFS ATMPP1412D-	3	17.894	30.241	0.50	2.10	0.000	0.000	63.51	0.00	0.00	58.50
123.0	Round T-Arms	3	17.894	30.241	0.67	24.32	0.000	0.000	735.49	0.00	0.00	942.00
135.0	Andrew SBNH-	1	18.376	31.056	1.00	12.37	0.000	0.000	384.16	0.00	0.00	132.00
135.0	Ericsson RRUS 11	6	18.415	31.122	0.67	13.23	0.000	1.000	411.61	0.00	411.61	445.80
135.0	Flat Platform w/ Han	1	18.376	31.056	1.00	48.40	0.000	0.000	1,503.12	0.00	0.00	2,450.00
135.0	KMW AM-X-CD-16-65-	2	18.376	31.056	0.79	14.35	0.000	0.000	445.54	0.00	0.00	190.00
135.0	Powerwave 7750.00	6	18.376	31.056	0.75	29.43	0.000	0.000	913.98	0.00	0.00	394.02
135.0	Powerwave LGP21401	6	18.415	31.122	0.50	4.59	0.000	1.000	142.85	0.00	142.85	127.56
135.0	Powerwave LGP21903	6	18.415	31.122	0.50	1.14	0.000	1.000	35.48	0.00	35.48	47.40
135.0	Raycap DC6-48-60-18-	1	18.415	31.122	1.00	1.46	0.000	1.000	45.44	0.00	45.44	35.10
147.0	48" x 12" Panels	9	18.829	31.821	0.67	37.33	0.000	0.000	1,187.74	0.00	0.00	567.00
147.0	72" x 12" Panels	3	18.829	31.821	0.67	18.55	0.000	0.000	590.35	0.00	0.00	261.00
147.0	Flat Platform w/ Han	1	18.829	31.821	1.00	48.40	0.000	0.000	1,540.14	0.00	0.00	2,450.00
147.9	Flash Technology FTB	1	18.924	31.981	1.00	4.01	0.000	1.710	128.25	0.00	219.30	72.30
									13,291.44			13,275.16

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Ice	69.28 mph Wind with Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Linear Appurtenance Segment Forces

Seg Top Elev (ft)	Description	Exposed To Wind	Length (ft)	Weight (lb/ft)	CaAa (sf/ft)	qz (psf)	FX (lb)	Dead Load (lb)
10.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	12.287	25.96	47.30
10.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	12.287	0.00	0.00
10.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	12.287	41.53	44.00
10.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	12.287	0.00	9.00
10.00	(1) 1/2" Coax	Yes	5.00	0.99	0.16	12.287	16.61	4.95
15.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	12.287	25.96	47.30
15.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	12.287	0.00	0.00
15.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	12.287	41.53	44.00
15.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	12.287	0.00	9.00
15.00	(1) 1/2" Coax	Yes	5.00	0.99	0.16	12.287	16.61	4.95
20.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	12.287	25.96	47.30
20.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	12.287	0.00	0.00
20.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	12.287	41.53	44.00
20.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	12.287	0.00	9.00
20.00	(1) 1/2" Coax	Yes	5.00	0.99	0.16	12.287	16.61	4.95
25.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	12.287	25.96	47.30
25.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	12.287	0.00	0.00
25.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	12.287	41.53	44.00
25.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	12.287	0.00	9.00
30.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	12.287	25.96	47.30
30.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	12.287	0.00	0.00
30.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	12.287	41.53	44.00
30.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	12.287	0.00	9.00
35.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	12.496	26.40	47.30
35.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	12.496	0.00	0.00
35.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	12.496	42.24	44.00
35.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	12.496	0.00	9.00
40.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	12.982	27.42	47.30
40.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	12.982	0.00	0.00
40.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	12.982	43.88	44.00
40.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	12.982	0.00	9.00
45.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	13.426	28.36	47.30
45.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	13.426	0.00	0.00
45.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	13.426	45.38	44.00
45.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	13.426	0.00	9.00
46.83	(6) 1 5/8" Coax	Yes	1.83	9.46	0.25	13.580	10.52	17.34
46.83	(2) 1/2" Coax	Yes	1.83	0.00	0.00	13.580	0.00	0.00
46.83	(1) 3" Conduit	Yes	1.83	8.80	0.40	13.580	16.83	16.13
46.83	(6) 5/16" (0.31", 7.9mm)	Yes	1.83	1.80	0.00	13.580	0.00	3.30
50.00	(6) 1 5/8" Coax	Yes	3.17	9.46	0.25	13.836	18.51	29.96
50.00	(2) 1/2" Coax	Yes	3.17	0.00	0.00	13.836	0.00	0.00
50.00	(1) 3" Conduit	Yes	3.17	8.80	0.40	13.836	29.62	27.87
50.00	(6) 5/16" (0.31", 7.9mm)	Yes	3.17	1.80	0.00	13.836	0.00	5.70
53.00	(6) 1 5/8" Coax	Yes	3.00	9.46	0.25	14.068	17.83	28.38
53.00	(2) 1/2" Coax	Yes	3.00	0.00	0.00	14.068	0.00	0.00
53.00	(1) 3" Conduit	Yes	3.00	8.80	0.40	14.068	28.53	26.40
53.00	(6) 5/16" (0.31", 7.9mm)	Yes	3.00	1.80	0.00	14.068	0.00	5.40
55.00	(6) 1 5/8" Coax	Yes	2.00	9.46	0.25	14.218	12.01	18.92
55.00	(2) 1/2" Coax	Yes	2.00	0.00	0.00	14.218	0.00	0.00
55.00	(1) 3" Conduit	Yes	2.00	8.80	0.40	14.218	19.22	17.60
55.00	(6) 5/16" (0.31", 7.9mm)	Yes	2.00	1.80	0.00	14.218	0.00	3.60

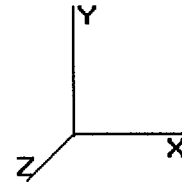
Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Ice	69.28 mph Wind with Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

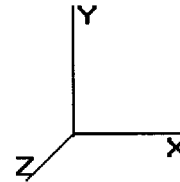
60.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	14.576	30.79	47.30	
60.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	14.576	0.00	0.00	
60.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	14.576	49.27	44.00	
60.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	14.576	0.00	9.00	
65.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	14.913	31.50	47.30	
65.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	14.913	0.00	0.00	
65.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	14.913	50.41	44.00	
65.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	14.913	0.00	9.00	
70.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	15.232	32.18	47.30	
70.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	15.232	0.00	0.00	
70.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	15.232	51.49	44.00	
70.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	15.232	0.00	9.00	
75.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	15.536	32.82	47.30	
75.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	15.536	0.00	0.00	
75.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	15.536	52.51	44.00	
75.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	15.536	0.00	9.00	
76.00	(6) 1 5/8" Coax	Yes	1.00	9.46	0.25	15.594	6.59	9.46	
76.00	(2) 1/2" Coax	Yes	1.00	0.00	0.00	15.594	0.00	0.00	
76.00	(1) 3" Conduit	Yes	1.00	8.80	0.40	15.594	10.54	8.80	
76.00	(6) 5/16" (0.31", 7.9mm)	Yes	1.00	1.80	0.00	15.594	0.00	1.80	
80.00	(6) 1 5/8" Coax	Yes	4.00	9.46	0.25	15.825	26.74	37.84	
80.00	(2) 1/2" Coax	Yes	4.00	0.00	0.00	15.825	0.00	0.00	
80.00	(1) 3" Conduit	Yes	4.00	8.80	0.40	15.825	42.79	35.20	
80.00	(6) 5/16" (0.31", 7.9mm)	Yes	4.00	1.80	0.00	15.825	0.00	7.20	
85.00	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	16.101	34.01	47.30	
85.00	(2) 1/2" Coax	Yes	5.00	0.00	0.00	16.101	0.00	0.00	
85.00	(1) 3" Conduit	Yes	5.00	8.80	0.40	16.101	54.42	44.00	
85.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	1.80	0.00	16.101	0.00	9.00	
89.00	(6) 1 5/8" Coax	Yes	4.00	9.46	0.25	16.314	27.57	37.84	
89.00	(2) 1/2" Coax	Yes	4.00	0.00	0.00	16.314	0.00	0.00	
89.00	(1) 3" Conduit	Yes	4.00	8.80	0.40	16.314	44.11	35.20	
89.00	(6) 5/16" (0.31", 7.9mm)	Yes	4.00	1.80	0.00	16.314	0.00	7.20	
90.00	(6) 1 5/8" Coax	Yes	1.00	9.46	0.25	16.366	6.91	9.46	
94.92	(6) 1 5/8" Coax	Yes	4.92	9.46	0.25	16.617	34.52	46.51	
95.00	(6) 1 5/8" Coax	Yes	0.08	9.46	0.25	16.621	0.59	0.79	
98.00	(6) 1 5/8" Coax	Yes	3.00	9.46	0.25	16.769	21.26	28.38	
99.83	(6) 1 5/8" Coax	Yes	1.83	9.46	0.25	16.858	13.06	17.34	
100.0	(6) 1 5/8" Coax	Yes	0.17	9.46	0.25	16.866	1.19	1.58	
105.0	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	17.103	36.13	47.30	
110.0	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	17.332	36.61	47.30	
113.0	(6) 1 5/8" Coax	Yes	3.00	9.46	0.25	17.466	22.14	28.38	
115.0	(6) 1 5/8" Coax	Yes	2.00	9.46	0.25	17.554	14.83	18.92	
120.0	(6) 1 5/8" Coax	Yes	5.00	9.46	0.25	17.768	37.54	47.30	
123.0	(6) 1 5/8" Coax	Yes	3.00	9.46	0.25	17.894	22.68	28.38	
							Totals:	1,579.23	2,021.53

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Ice	69.28 mph Wind with Ice	23 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Applied Segment Forces Summary

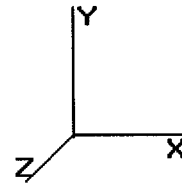
Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	320.81	1,300.11	0.00	0.00
10.00	398.88	1,680.02	0.00	0.00
15.00	392.84	1,654.99	0.00	0.00
20.00	413.81	1,644.95	0.00	0.00
25.00	364.16	1,599.97	0.00	0.00
30.00	358.13	1,574.93	0.00	0.00
35.00	358.07	1,549.89	0.00	0.00
40.00	365.62	1,524.86	0.00	0.00
45.00	371.54	1,499.82	0.00	0.00
46.83	136.12	544.05	0.00	0.00
50.00	240.41	1,530.19	0.00	0.00
53.00	229.03	1,432.38	0.00	0.00
55.00	152.91	584.29	0.00	0.00
60.00	386.90	1,442.22	0.00	0.00
65.00	388.52	1,417.18	0.00	0.00
70.00	389.36	1,392.15	0.00	0.00
75.00	389.48	1,367.11	0.00	0.00
76.00	126.82	334.48	0.00	0.00
80.00	310.55	1,071.92	0.00	0.00
85.00	387.85	1,317.04	0.00	0.00
89.00	1,386.65	2,230.37	0.00	0.00
90.00	65.53	246.06	0.00	0.00
94.92	322.39	1,193.97	0.00	0.00
95.00	5.48	30.57	0.00	0.00
98.00	2,715.54	4,274.80	0.00	0.00
99.83	119.81	637.15	0.00	0.00
100.0	10.84	33.68	0.00	0.00
105.0	325.48	997.73	0.00	0.00
110.0	321.32	976.32	0.00	0.00
113.0	593.96	720.30	0.00	0.00
115.0	125.69	369.95	0.00	0.00
120.0	311.96	908.89	0.00	0.00
123.0	2,070.55	2,037.85	0.00	0.00
125.0	106.47	304.38	0.00	0.00
130.0	262.92	744.96	0.00	0.00
135.0	4,138.92	4,545.43	0.00	635.38
140.0	250.31	611.73	0.00	0.00
145.0	243.62	590.32	0.00	0.00
147.0	3,413.48	3,508.53	0.00	0.00
147.9	170.70	166.13	0.00	219.30
147.9	0.80	1.77	0.00	0.00
Totals:	23,444.20	51,593.42	0.00	854.68

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Ice

69.28 mph Wind with Ice

23 Iterations

Gust Response Factor : 1.69
 Dead Load Factor : 1.00
 Wind Load Factor : 1.00

Calculated Stresses

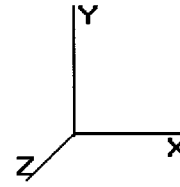
Seg Elev (ft)	Applied Stresses							Combined (ksi)	Allowable Stress (Fb) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)				
0.00	0.77	0.71	0.00	0.00	0.00	31.96	32.75	52.0	0.0	0.630
5.00	0.77	0.72	0.00	0.00	0.00	31.64	32.43	52.0	0.0	0.624
10.00	0.75	0.72	0.00	0.00	0.00	31.29	32.07	52.0	0.0	0.617
15.00	0.74	0.73	0.00	0.00	0.00	30.90	31.67	52.0	0.0	0.609
20.00	0.73	0.73	0.00	0.00	0.00	30.48	31.23	52.0	0.0	0.601
25.00	0.72	0.74	0.00	0.00	0.00	30.02	30.76	52.0	0.0	0.592
30.00	0.71	0.74	0.00	0.00	0.00	29.51	30.24	52.0	0.0	0.582
35.00	0.69	0.75	0.00	0.00	0.00	28.95	29.67	52.0	0.0	0.571
40.00	0.68	0.75	0.00	0.00	0.00	28.34	29.05	52.0	0.0	0.559
45.00	0.67	0.76	0.00	0.00	0.00	27.66	28.36	52.0	0.0	0.546
46.83	0.67	0.76	0.00	0.00	0.00	27.40	28.10	52.0	0.0	0.541
50.00	0.65	0.77	0.00	0.00	0.00	26.93	27.61	52.0	0.0	0.531
53.00	0.62	0.76	0.00	0.00	0.00	25.59	26.24	52.0	0.0	0.505
55.00	0.61	0.76	0.00	0.00	0.00	25.27	25.91	52.0	0.0	0.499
60.00	0.60	0.76	0.00	0.00	0.00	24.39	25.03	52.0	0.0	0.481
65.00	0.59	0.77	0.00	0.00	0.00	23.43	24.06	52.0	0.0	0.463
70.00	0.57	0.77	0.00	0.00	0.00	22.39	23.00	52.0	0.0	0.442
75.00	0.56	0.78	0.00	0.00	0.00	21.24	21.84	52.0	0.0	0.420
76.00	0.56	0.78	0.00	0.00	0.00	21.00	21.60	52.0	0.0	0.416
80.00	0.54	0.78	0.00	0.00	0.00	20.00	20.59	52.0	0.0	0.396
85.00	0.53	0.78	0.00	0.00	0.00	18.63	19.21	52.0	0.0	0.370
89.00	0.49	0.74	0.00	0.00	0.00	17.44	17.98	52.0	0.0	0.346
90.00	0.49	0.74	0.00	0.00	0.00	17.17	17.71	52.0	0.0	0.341
94.92	0.48	0.74	0.00	0.00	0.00	15.71	16.24	52.0	0.0	0.312
95.00	0.48	0.74	0.00	0.00	0.00	15.69	16.21	52.0	0.0	0.312
98.00	0.39	0.62	0.00	0.00	0.00	14.73	15.15	52.0	0.0	0.292
99.83	0.44	0.73	0.00	0.00	0.00	16.45	16.94	52.0	0.0	0.326
100.00	0.44	0.73	0.00	0.00	0.00	16.40	16.90	52.0	0.0	0.325
105.00	0.43	0.74	0.00	0.00	0.00	14.83	15.31	52.0	0.0	0.295
110.00	0.41	0.74	0.00	0.00	0.00	13.10	13.57	52.0	0.0	0.261
113.00	0.40	0.71	0.00	0.00	0.00	11.98	12.44	52.0	0.0	0.239
115.00	0.39	0.72	0.00	0.00	0.00	11.23	11.69	52.0	0.0	0.225
120.00	0.38	0.72	0.00	0.00	0.00	9.20	9.66	52.0	0.0	0.186
123.00	0.32	0.59	0.00	0.00	0.00	7.89	8.28	52.0	0.0	0.159
125.00	0.32	0.59	0.00	0.00	0.00	7.17	7.56	52.0	0.0	0.145
130.00	0.30	0.59	0.00	0.00	0.00	5.21	5.61	52.0	0.0	0.108
135.00	0.16	0.31	0.00	0.00	0.00	2.97	3.18	52.0	0.0	0.061
140.00	0.15	0.30	0.00	0.00	0.00	1.82	2.03	52.0	0.0	0.039
145.00	0.13	0.29	0.00	0.00	0.00	0.55	0.85	52.0	0.0	0.016
147.00	0.01	0.01	0.00	0.00	0.00	0.03	0.04	52.0	0.0	0.001
147.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.0	0.0	0.000
147.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.0	0.0	0.000

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Twist/Sway	50.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Shaft Segment Forces

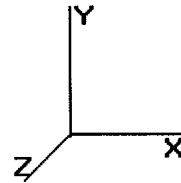
Seg Top Elev (ft)	Description	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load (lb)	Tot Dead Load (lb)			
0.00		0.00	1.00	6.400	10.81	235.74	0.650	0.000	0.00	0.000	0.00	0.0	0.0			
5.00		0.00	1.00	6.400	10.81	231.27	0.650	0.000	5.00	23.351	15.18	164.2	0.0	1,127.3		
10.00		0.00	1.00	6.400	10.81	226.80	0.650	0.000	5.00	22.904	14.89	161.0	0.0	1,105.6		
15.00		0.00	1.00	6.400	10.81	222.33	0.650	0.000	5.00	22.457	14.60	157.9	0.0	1,083.8		
20.00	Appertunance(s)	0.00	1.00	6.400	10.81	217.86	0.650	0.000	5.00	22.010	14.31	154.7	0.0	1,062.1		
25.00		0.00	1.00	6.400	10.81	213.39	0.650	0.000	5.00	21.563	14.02	151.6	0.0	1,040.4		
30.00		0.00	1.00	6.400	10.81	208.92	0.650	0.000	5.00	21.116	13.73	148.5	0.0	1,018.7		
35.00		0.00	1.01	6.509	10.99	206.18	0.650	0.000	5.00	20.669	13.44	147.8	0.0	996.9		
40.00		0.00	1.05	6.762	11.42	205.56	0.650	0.000	5.00	20.222	13.14	150.2	0.0	975.2		
45.00		0.00	1.09	6.993	11.81	204.37	0.650	0.000	5.00	19.775	12.85	151.9	0.0	953.5		
46.83	Bot - Section 2	0.00	1.10	7.073	11.95	203.82	0.650	0.000	1.83	7.139	4.64	55.5	0.0	344.2		
50.00		0.00	1.12	7.207	12.17	202.73	0.650	0.000	3.17	12.387	8.05	98.1	0.0	1,184.8		
53.00	Top - Section 1	0.00	1.14	7.328	12.38	201.55	0.650	0.000	3.00	11.570	7.52	93.1	0.0	1,106.4		
55.00		0.00	1.15	7.406	12.51	204.06	0.650	0.000	2.00	7.624	4.96	62.0	0.0	367.5		
60.00		0.00	1.18	7.592	12.83	201.74	0.650	0.000	5.00	18.747	12.19	156.3	0.0	903.5		
65.00		0.00	1.21	7.768	13.12	199.14	0.650	0.000	5.00	18.300	11.89	156.1	0.0	881.8		
70.00		0.00	1.24	7.934	13.40	196.28	0.650	0.000	5.00	17.853	11.60	155.6	0.0	860.0		
75.00		0.00	1.26	8.092	13.67	193.20	0.650	0.000	5.00	17.406	11.31	154.7	0.0	838.3		
76.00	Appertunance(s)	0.00	1.26	8.123	13.72	192.56	0.650	0.000	1.00	3.427	2.23	30.6	0.0	165.1		
80.00		0.00	1.28	8.242	13.93	189.91	0.650	0.000	4.00	13.531	8.80	122.5	0.0	651.5		
85.00		0.00	1.31	8.387	14.17	186.45	0.650	0.000	5.00	16.512	10.73	152.1	0.0	794.9		
89.00	Appertunance(s)	0.00	1.32	8.497	14.36	183.56	0.650	0.000	4.00	12.887	8.38	120.3	0.0	620.3		
90.00		0.00	1.33	8.525	14.40	182.82	0.650	0.000	1.00	3.177	2.07	29.8	0.0	152.9		
94.92	Bot - Section 3	0.00	1.35	8.655	14.62	179.10	0.650	0.000	4.92	15.361	9.98	146.0	0.0	739.1		
95.00		0.00	1.35	8.657	14.63	179.04	0.650	0.000	0.08	0.261	0.17	2.5	0.0	22.8		
98.00	Appertunance(s)	0.00	1.36	8.735	14.76	176.70	0.650	0.000	3.00	9.312	6.05	89.3	0.0	814.4		
99.83	Top - Section 2	0.00	1.37	8.781	14.84	175.25	0.650	0.000	1.83	5.612	3.65	54.1	0.0	490.6		
100.0		0.00	1.37	8.785	14.84	178.17	0.650	0.000	0.17	0.507	0.33	4.9	0.0	20.4		
105.0		0.00	1.39	8.908	15.05	174.14	0.650	0.000	5.00	14.984	9.74	146.6	0.0	601.6		
110.0		0.00	1.41	9.028	15.25	169.99	0.650	0.000	5.00	14.537	9.45	144.2	0.0	583.5		
113.0	Appertunance(s)	0.00	1.42	9.097	15.37	167.45	0.650	0.000	3.00	8.508	5.53	85.0	0.0	341.4		
115.0		0.00	1.42	9.143	15.45	165.73	0.650	0.000	2.00	5.582	3.63	56.1	0.0	224.0		
120.0		0.00	1.44	9.255	15.64	161.37	0.650	0.000	5.00	13.643	8.87	138.7	0.0	547.3		
123.0	Appertunance(s)	0.00	1.45	9.320	15.75	158.70	0.650	0.000	3.00	7.971	5.18	81.6	0.0	319.7		
125.0		0.00	1.46	9.363	15.82	156.90	0.650	0.000	2.00	5.225	3.40	53.7	0.0	209.5		
130.0		0.00	1.48	9.469	16.00	152.35	0.650	0.000	5.00	12.749	8.29	132.6	0.0	511.1		
135.0	Appertunance(s)	0.00	1.49	9.572	16.17	147.71	0.650	0.000	5.00	12.302	8.00	129.3	0.0	493.0		
140.0		0.00	1.51	9.672	16.34	142.98	0.650	0.000	5.00	11.855	7.71	125.9	0.0	474.8		
145.0		0.00	1.52	9.769	16.51	138.18	0.650	0.000	5.00	11.408	7.42	122.4	0.0	456.7		
147.0	Appertunance(s)	0.00	1.53	9.807	16.57	136.23	0.650	0.000	2.00	4.438	2.88	47.8	0.0	177.6		
147.9	Appertunance(s)	0.00	1.53	9.824	16.60	135.35	0.650	0.000	0.90	1.974	1.28	21.3	0.0	79.0		
147.9		0.00	1.53	9.825	16.60	135.34	0.650	0.000	0.02	0.037	0.02	0.4	0.0	1.5		
Totals:								147.92						4,357.2	0.0	25,342.4

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Twist/Sway	50.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Discrete Appurtenance Segment Forces

Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	CaAa Factor	Total CaAa (sf)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)	Dead Load (lb)
20.00	Lucent KS-24019	1	6.400	10.816	1.00	1.00	0.000	0.000	10.82	0.00	0.00	7.00
76.00	Side Markers	2	8.123	13.727	1.00	1.60	0.000	0.000	21.96	0.00	0.00	40.00
89.00	Argus LLPX310R	3	8.497	14.361	0.72	10.43	0.000	0.000	149.82	0.00	0.00	85.80
89.00	DragonWave A-ANT-	1	8.497	14.361	0.90	7.80	0.000	0.000	112.06	0.00	0.00	66.10
89.00	DragonWave A-ANT-	1	8.497	14.361	0.90	4.22	0.000	0.000	60.62	0.00	0.00	27.10
89.00	DragonWave Horizon	2	8.497	14.361	0.50	0.43	0.000	0.000	6.18	0.00	0.00	21.20
89.00	NextNet BTS-2500	3	8.497	14.361	0.50	3.18	0.000	0.000	45.67	0.00	0.00	105.00
89.00	Side Arms	1	8.497	14.361	1.00	8.50	0.000	0.000	122.07	0.00	0.00	560.00
98.00	Alcatel-Lucent 4x40W	3	8.735	14.761	0.67	5.85	0.000	0.000	86.34	0.00	0.00	273.00
98.00	Alcatel-Lucent 800 M	3	8.735	14.761	0.67	4.82	0.000	0.000	71.21	0.00	0.00	192.00
98.00	Decibel 980G90T4E-M	6	8.735	14.761	0.81	18.23	0.000	0.000	269.03	0.00	0.00	57.00
98.00	RFS APXVSP18-C-	3	8.735	14.761	0.83	19.97	0.000	0.000	294.78	0.00	0.00	171.00
98.00	RFS IBC1900BB-1	3	8.735	14.761	0.50	1.69	0.000	0.000	25.02	0.00	0.00	66.00
98.00	RFS IBC1900HG-2A	3	8.735	14.761	0.50	1.69	0.000	0.000	25.02	0.00	0.00	66.00
98.00	Round Low Profile Pl	1	8.735	14.761	1.00	21.70	0.000	0.000	320.32	0.00	0.00	1,500.00
113.0	RFS APXV18-206517	3	9.097	15.374	0.80	12.12	0.000	0.000	186.34	0.00	0.00	66.00
123.0	RFS APX16DWV-	3	9.320	15.751	0.65	13.06	0.000	0.000	205.79	0.00	0.00	118.80
123.0	RFS APXV18-206516L-	6	9.320	15.751	0.78	16.71	0.000	0.000	263.17	0.00	0.00	112.20
123.0	RFS ATMAA1412D-	3	9.320	15.751	0.50	1.75	0.000	0.000	27.64	0.00	0.00	39.00
123.0	RFS ATMPP1412D-	3	9.320	15.751	0.50	1.75	0.000	0.000	27.64	0.00	0.00	36.00
123.0	Round T-Arms	3	9.320	15.751	0.67	19.50	0.000	0.000	307.10	0.00	0.00	750.00
135.0	Andrew SBNH-	1	9.572	16.176	1.00	11.44	0.000	0.000	185.05	0.00	0.00	66.10
135.0	Ericsson RRUS 11	6	9.592	16.210	0.67	11.82	0.000	1.000	191.58	0.00	191.58	330.00
135.0	Flat Platform w/ Han	1	9.572	16.176	1.00	42.40	0.000	0.000	685.86	0.00	0.00	2,000.00
135.0	KMW AM-X-CD-16-65-	2	9.572	16.176	0.79	12.67	0.000	0.000	204.98	0.00	0.00	97.00
135.0	Powerwave 7750.00	6	9.572	16.176	0.75	26.46	0.000	0.000	428.02	0.00	0.00	210.00
135.0	Powerwave LCP21401	6	9.592	16.210	0.50	3.87	0.000	1.000	62.73	0.00	62.73	84.60
135.0	Powerwave LCP21903	6	9.592	16.210	0.50	0.81	0.000	1.000	13.13	0.00	13.13	33.00
135.0	Raycap DC6-48-60-18-	1	9.592	16.210	1.00	1.26	0.000	1.000	20.42	0.00	20.42	20.00
147.0	48" x 12" Panels	9	9.807	16.574	0.67	33.77	0.000	0.000	559.69	0.00	0.00	270.00
147.0	72" x 12" Panels	3	9.807	16.574	0.67	16.88	0.000	0.000	279.84	0.00	0.00	120.00
147.0	Flat Platform w/ Han	1	9.807	16.574	1.00	42.40	0.000	0.000	702.75	0.00	0.00	2,000.00
147.9	Flash Technology FTB	1	9.857	16.658	1.00	3.70	0.000	1.710	61.63	0.00	105.40	28.00
									6,034.30			9,617.90

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

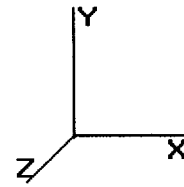
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Base Elev : 0.000 (ft)

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Load Case: Twist/Sway	50.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

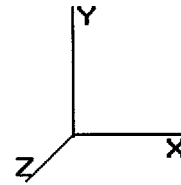
Linear Appurtenance Segment Forces

Seg Top Elev (ft)	Description	Exposed To Wind	Length (ft)	Weight (lb/ft)	CaAa (sf/ft)	qz (psf)	FX (lb)	Dead Load (lb)
10.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	6.400	10.82	24.60
10.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	6.400	0.00	0.75
10.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	6.400	18.93	37.90
10.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	6.400	0.00	1.20
10.00	(1) 1/2" Coax	Yes	5.00	0.15	0.06	6.400	3.41	0.75
15.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	6.400	10.82	24.60
15.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	6.400	0.00	0.75
15.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	6.400	18.93	37.90
15.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	6.400	0.00	1.20
15.00	(1) 1/2" Coax	Yes	5.00	0.15	0.06	6.400	3.41	0.75
20.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	6.400	10.82	24.60
20.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	6.400	0.00	0.75
20.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	6.400	18.93	37.90
20.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	6.400	0.00	1.20
20.00	(1) 1/2" Coax	Yes	5.00	0.15	0.06	6.400	3.41	0.75
25.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	6.400	10.82	24.60
25.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	6.400	0.00	0.75
25.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	6.400	18.93	37.90
25.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	6.400	0.00	1.20
30.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	6.400	10.82	24.60
30.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	6.400	0.00	0.75
30.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	6.400	18.93	37.90
30.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	6.400	0.00	1.20
35.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	6.509	11.00	24.60
35.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	6.509	0.00	0.75
35.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	6.509	19.25	37.90
35.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	6.509	0.00	1.20
40.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	6.762	11.43	24.60
40.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	6.762	0.00	0.75
40.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	6.762	20.00	37.90
40.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	6.762	0.00	1.20
45.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	6.993	11.82	24.60
45.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	6.993	0.00	0.75
45.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	6.993	20.68	37.90
45.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	6.993	0.00	1.20
46.83	(6) 1 5/8" Coax	Yes	1.83	4.92	0.20	7.073	4.38	9.02
46.83	(2) 1/2" Coax	Yes	1.83	0.15	0.00	7.073	0.00	0.28
46.83	(1) 3" Conduit	Yes	1.83	7.58	0.35	7.073	7.67	13.90
46.83	(6) 5/16" (0.31", 7.9mm)	Yes	1.83	0.24	0.00	7.073	0.00	0.44
50.00	(6) 1 5/8" Coax	Yes	3.17	4.92	0.20	7.207	7.71	15.58
50.00	(2) 1/2" Coax	Yes	3.17	0.15	0.00	7.207	0.00	0.47
50.00	(1) 3" Conduit	Yes	3.17	7.58	0.35	7.207	13.50	24.00
50.00	(6) 5/16" (0.31", 7.9mm)	Yes	3.17	0.24	0.00	7.207	0.00	0.76
53.00	(6) 1 5/8" Coax	Yes	3.00	4.92	0.20	7.328	7.43	14.76
53.00	(2) 1/2" Coax	Yes	3.00	0.15	0.00	7.328	0.00	0.45
53.00	(1) 3" Conduit	Yes	3.00	7.58	0.35	7.328	13.00	22.74
53.00	(6) 5/16" (0.31", 7.9mm)	Yes	3.00	0.24	0.00	7.328	0.00	0.72
55.00	(6) 1 5/8" Coax	Yes	2.00	4.92	0.20	7.406	5.01	9.84
55.00	(2) 1/2" Coax	Yes	2.00	0.15	0.00	7.406	0.00	0.30
55.00	(1) 3" Conduit	Yes	2.00	7.58	0.35	7.406	8.76	15.16
55.00	(6) 5/16" (0.31", 7.9mm)	Yes	2.00	0.24	0.00	7.406	0.00	0.48

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
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 Shape : 18 Sides
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Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)



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Load Case: Twist/Sway	50.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
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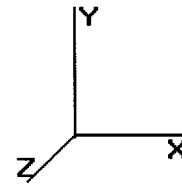
60.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	7.592	12.83	24.60
60.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	7.592	0.00	0.75
60.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	7.592	22.45	37.90
60.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	7.592	0.00	1.20
65.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	7.768	13.13	24.60
65.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	7.768	0.00	0.75
65.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	7.768	22.97	37.90
65.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	7.768	0.00	1.20
70.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	7.934	13.41	24.60
70.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	7.934	0.00	0.75
70.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	7.934	23.46	37.90
70.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	7.934	0.00	1.20
75.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	8.092	13.68	24.60
75.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	8.092	0.00	0.75
75.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	8.092	23.93	37.90
75.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	8.092	0.00	1.20
76.00	(6) 1 5/8" Coax	Yes	1.00	4.92	0.20	8.123	2.75	4.92
76.00	(2) 1/2" Coax	Yes	1.00	0.15	0.00	8.123	0.00	0.15
76.00	(1) 3" Conduit	Yes	1.00	7.58	0.35	8.123	4.80	7.58
76.00	(6) 5/16" (0.31", 7.9mm)	Yes	1.00	0.24	0.00	8.123	0.00	0.24
80.00	(6) 1 5/8" Coax	Yes	4.00	4.92	0.20	8.242	11.14	19.68
80.00	(2) 1/2" Coax	Yes	4.00	0.15	0.00	8.242	0.00	0.60
80.00	(1) 3" Conduit	Yes	4.00	7.58	0.35	8.242	19.50	30.32
80.00	(6) 5/16" (0.31", 7.9mm)	Yes	4.00	0.24	0.00	8.242	0.00	0.96
85.00	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	8.387	14.17	24.60
85.00	(2) 1/2" Coax	Yes	5.00	0.15	0.00	8.387	0.00	0.75
85.00	(1) 3" Conduit	Yes	5.00	7.58	0.35	8.387	24.80	37.90
85.00	(6) 5/16" (0.31", 7.9mm)	Yes	5.00	0.24	0.00	8.387	0.00	1.20
89.00	(6) 1 5/8" Coax	Yes	4.00	4.92	0.20	8.497	11.49	19.68
89.00	(2) 1/2" Coax	Yes	4.00	0.15	0.00	8.497	0.00	0.60
89.00	(1) 3" Conduit	Yes	4.00	7.58	0.35	8.497	20.10	30.32
89.00	(6) 5/16" (0.31", 7.9mm)	Yes	4.00	0.24	0.00	8.497	0.00	0.96
90.00	(6) 1 5/8" Coax	Yes	1.00	4.92	0.20	8.525	2.88	4.92
94.92	(6) 1 5/8" Coax	Yes	4.92	4.92	0.20	8.655	14.38	24.19
95.00	(6) 1 5/8" Coax	Yes	0.08	4.92	0.20	8.657	0.24	0.41
98.00	(6) 1 5/8" Coax	Yes	3.00	4.92	0.20	8.735	8.86	14.76
99.83	(6) 1 5/8" Coax	Yes	1.83	4.92	0.20	8.781	5.44	9.02
100.0	(6) 1 5/8" Coax	Yes	0.17	4.92	0.20	8.785	0.49	0.82
105.0	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	8.908	15.06	24.60
110.0	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	9.028	15.26	24.60
113.0	(6) 1 5/8" Coax	Yes	3.00	4.92	0.20	9.097	9.22	14.76
115.0	(6) 1 5/8" Coax	Yes	2.00	4.92	0.20	9.143	6.18	9.84
120.0	(6) 1 5/8" Coax	Yes	5.00	4.92	0.20	9.255	15.64	24.60
123.0	(6) 1 5/8" Coax	Yes	3.00	4.92	0.20	9.320	9.45	14.76
Totals:							678.32	1,252.29

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Load Case: Twist/Sway	50.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Applied Segment Forces Summary

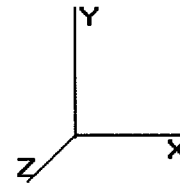
Seg Elev (ft)	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00	0.00	0.00	0.00	0.00
5.00	164.17	1,127.29	0.00	0.00
10.00	194.18	1,470.46	0.00	0.00
15.00	191.04	1,448.74	0.00	0.00
20.00	198.71	1,434.01	0.00	0.00
25.00	181.34	1,404.54	0.00	0.00
30.00	178.20	1,382.81	0.00	0.00
35.00	178.03	1,361.09	0.00	0.00
40.00	181.63	1,339.36	0.00	0.00
45.00	184.41	1,317.64	0.00	0.00
46.83	67.52	477.69	0.00	0.00
50.00	119.28	1,415.43	0.00	0.00
53.00	113.57	1,324.86	0.00	0.00
55.00	75.79	513.14	0.00	0.00
60.00	191.63	1,267.65	0.00	0.00
65.00	192.25	1,245.92	0.00	0.00
70.00	192.47	1,224.20	0.00	0.00
75.00	192.33	1,202.47	0.00	0.00
76.00	60.10	277.89	0.00	0.00
80.00	153.16	942.86	0.00	0.00
85.00	191.09	1,159.02	0.00	0.00
89.00	648.29	1,776.78	0.00	0.00
90.00	32.63	217.75	0.00	0.00
94.92	160.43	1,057.97	0.00	0.00
95.00	2.73	28.23	0.00	0.00
98.00	1,189.93	3,333.99	0.00	0.00
99.83	59.57	586.92	0.00	0.00
100.0	5.39	29.12	0.00	0.00
105.0	161.69	864.18	0.00	0.00
110.0	159.42	846.07	0.00	0.00
113.0	280.58	564.95	0.00	0.00
115.0	62.25	319.18	0.00	0.00
120.0	154.34	785.27	0.00	0.00
123.0	922.42	1,518.47	0.00	0.00
125.0	53.74	265.33	0.00	0.00
130.0	132.61	650.66	0.00	0.00
135.0	1,921.13	3,473.25	0.00	287.87
140.0	125.95	524.05	0.00	0.00
145.0	122.42	505.95	0.00	0.00
147.0	1,590.10	2,587.31	0.00	0.00
147.9	82.94	106.99	0.00	105.40
147.9	0.40	1.49	0.00	0.00
Totals:	11,069.81	43,380.95	0.00	393.27

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

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Base Elev : 0.000 (ft)



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Load Case: Twist/Sway	50.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-11.092	-43.375	0.000	0.000	0.000	-1,150.131	0.000	0.000	0.000	0.000
5.00	-10.971	-42.236	0.000	0.000	0.000	-1,094.673	-0.032	0.000	0.032	-0.060
10.00	-10.818	-40.755	0.000	0.000	0.000	-1,039.818	-0.127	0.000	0.127	-0.120
15.00	-10.665	-39.295	0.000	0.000	0.000	-985.730	-0.286	0.000	0.286	-0.181
20.00	-10.501	-37.851	0.000	0.000	0.000	-932.407	-0.508	0.000	0.508	-0.242
25.00	-10.352	-36.436	0.000	0.000	0.000	-879.903	-0.794	0.000	0.794	-0.303
30.00	-10.204	-35.043	0.000	0.000	0.000	-828.144	-1.145	0.000	1.145	-0.364
35.00	-10.052	-33.673	0.000	0.000	0.000	-777.127	-1.560	0.000	1.560	-0.426
40.00	-9.895	-32.324	0.000	0.000	0.000	-726.867	-2.039	0.000	2.039	-0.488
45.00	-9.721	-31.001	0.000	0.000	0.000	-677.394	-2.583	0.000	2.583	-0.549
46.83	-9.666	-30.519	0.000	0.000	0.000	-659.573	-2.798	0.000	2.798	-0.572
50.00	-9.551	-29.099	0.000	0.000	0.000	-628.966	-3.191	0.000	3.191	-0.611
53.00	-9.438	-27.770	0.000	0.000	0.000	-600.314	-3.588	0.000	3.588	-0.648
55.00	-9.376	-27.251	0.000	0.000	0.000	-581.438	-3.865	0.000	3.865	-0.673
60.00	-9.195	-25.977	0.000	0.000	0.000	-534.560	-4.601	0.000	4.601	-0.731
65.00	-9.010	-24.725	0.000	0.000	0.000	-488.589	-5.397	0.000	5.397	-0.787
70.00	-8.823	-23.495	0.000	0.000	0.000	-443.540	-6.251	0.000	6.251	-0.843
75.00	-8.624	-22.291	0.000	0.000	0.000	-399.428	-7.163	0.000	7.163	-0.897
76.00	-8.570	-22.010	0.000	0.000	0.000	-390.804	-7.352	0.000	7.352	-0.908
80.00	-8.419	-21.063	0.000	0.000	0.000	-356.524	-8.131	0.000	8.131	-0.950
85.00	-8.224	-19.901	0.000	0.000	0.000	-314.430	-9.153	0.000	9.153	-1.000
89.00	-7.551	-18.132	0.000	0.000	0.000	-281.536	-10.008	0.000	10.008	-1.039
90.00	-7.523	-17.912	0.000	0.000	0.000	-273.984	-10.227	0.000	10.227	-1.049
94.92	-7.350	-16.854	0.000	0.000	0.000	-236.995	-11.331	0.000	11.331	-1.093
95.00	-7.351	-16.824	0.000	0.000	0.000	-236.382	-11.350	0.000	11.350	-1.094
98.00	-6.101	-13.512	0.000	0.000	0.000	-214.331	-12.046	0.000	12.046	-1.120
99.83	-6.032	-12.925	0.000	0.000	0.000	-203.145	-12.479	0.000	12.479	-1.136
100.00	-6.032	-12.894	0.000	0.000	0.000	-202.140	-12.519	0.000	12.519	-1.137
105.00	-5.861	-12.028	0.000	0.000	0.000	-171.983	-13.734	0.000	13.734	-1.182
110.00	-5.691	-11.183	0.000	0.000	0.000	-142.676	-14.995	0.000	14.995	-1.223
113.00	-5.401	-10.622	0.000	0.000	0.000	-125.604	-15.771	0.000	15.771	-1.246
115.00	-5.337	-10.302	0.000	0.000	0.000	-114.801	-16.297	0.000	16.297	-1.261
120.00	-5.169	-9.518	0.000	0.000	0.000	-88.119	-17.635	0.000	17.635	-1.293
123.00	-4.214	-8.020	0.000	0.000	0.000	-72.613	-18.453	0.000	18.453	-1.310
125.00	-4.156	-7.755	0.000	0.000	0.000	-64.185	-19.005	0.000	19.005	-1.320
130.00	-4.011	-7.107	0.000	0.000	0.000	-43.403	-20.399	0.000	20.399	-1.341
135.00	-2.009	-3.679	0.000	0.000	0.000	-23.061	-21.812	0.000	21.812	-1.355
140.00	-1.871	-3.158	0.000	0.000	0.000	-13.014	-23.237	0.000	23.237	-1.364
145.00	-1.737	-2.655	0.000	0.000	0.000	-3.657	-24.668	0.000	24.668	-1.369
147.00	-0.086	-0.106	0.000	0.000	0.000	-0.183	-25.242	0.000	25.242	-1.369
147.90	0.000	-0.001	0.000	0.000	0.000	0.000	-25.500	0.000	25.500	-1.369
147.90	0.000	0.000	0.000	0.000	0.000	0.000	-25.504	0.000	25.504	-1.369

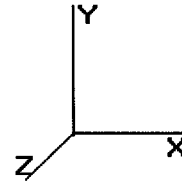
Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
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Base Elev : 0.000 (ft)



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Load Case: Twist/Sway	50.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Calculated Stresses

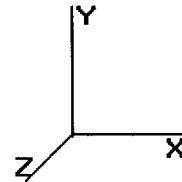
Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Stress Ratio	
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)			
0.00	0.65	0.33	0.00	0.00	0.00	14.85	15.51	52.0	0.0	0.299
5.00	0.64	0.34	0.00	0.00	0.00	14.69	15.35	52.0	0.0	0.295
10.00	0.63	0.34	0.00	0.00	0.00	14.52	15.16	52.0	0.0	0.292
15.00	0.62	0.34	0.00	0.00	0.00	14.33	14.96	52.0	0.0	0.288
20.00	0.61	0.34	0.00	0.00	0.00	14.12	14.74	52.0	0.0	0.284
25.00	0.60	0.34	0.00	0.00	0.00	13.89	14.51	52.0	0.0	0.279
30.00	0.59	0.35	0.00	0.00	0.00	13.65	14.25	52.0	0.0	0.274
35.00	0.58	0.35	0.00	0.00	0.00	13.38	13.97	52.0	0.0	0.269
40.00	0.57	0.35	0.00	0.00	0.00	13.09	13.67	52.0	0.0	0.263
45.00	0.56	0.35	0.00	0.00	0.00	12.77	13.34	52.0	0.0	0.257
46.83	0.56	0.35	0.00	0.00	0.00	12.65	13.22	52.0	0.0	0.254
50.00	0.54	0.36	0.00	0.00	0.00	12.42	12.98	52.0	0.0	0.250
53.00	0.51	0.35	0.00	0.00	0.00	11.80	12.33	52.0	0.0	0.237
55.00	0.51	0.35	0.00	0.00	0.00	11.65	12.17	52.0	0.0	0.234
60.00	0.50	0.35	0.00	0.00	0.00	11.24	11.75	52.0	0.0	0.226
65.00	0.48	0.35	0.00	0.00	0.00	10.80	11.30	52.0	0.0	0.217
70.00	0.47	0.36	0.00	0.00	0.00	10.31	10.80	52.0	0.0	0.208
75.00	0.46	0.36	0.00	0.00	0.00	9.78	10.26	52.0	0.0	0.197
76.00	0.45	0.36	0.00	0.00	0.00	9.67	10.15	52.0	0.0	0.195
80.00	0.44	0.36	0.00	0.00	0.00	9.21	9.67	52.0	0.0	0.186
85.00	0.43	0.36	0.00	0.00	0.00	8.58	9.03	52.0	0.0	0.174
89.00	0.40	0.34	0.00	0.00	0.00	8.04	8.46	52.0	0.0	0.163
90.00	0.40	0.34	0.00	0.00	0.00	7.91	8.33	52.0	0.0	0.160
94.92	0.39	0.34	0.00	0.00	0.00	7.25	7.66	52.0	0.0	0.147
95.00	0.39	0.34	0.00	0.00	0.00	7.23	7.64	52.0	0.0	0.147
98.00	0.32	0.29	0.00	0.00	0.00	6.80	7.13	52.0	0.0	0.137
99.83	0.36	0.34	0.00	0.00	0.00	7.59	7.97	52.0	0.0	0.153
100.00	0.36	0.34	0.00	0.00	0.00	7.57	7.95	52.0	0.0	0.153
105.00	0.35	0.34	0.00	0.00	0.00	6.84	7.21	52.0	0.0	0.139
110.00	0.33	0.34	0.00	0.00	0.00	6.04	6.40	52.0	0.0	0.123
113.00	0.32	0.33	0.00	0.00	0.00	5.53	5.88	52.0	0.0	0.113
115.00	0.32	0.33	0.00	0.00	0.00	5.18	5.53	52.0	0.0	0.106
120.00	0.30	0.33	0.00	0.00	0.00	4.25	4.59	52.0	0.0	0.088
123.00	0.26	0.27	0.00	0.00	0.00	3.65	3.94	52.0	0.0	0.076
125.00	0.25	0.27	0.00	0.00	0.00	3.32	3.60	52.0	0.0	0.069
130.00	0.24	0.27	0.00	0.00	0.00	2.41	2.69	52.0	0.0	0.052
135.00	0.13	0.14	0.00	0.00	0.00	1.38	1.53	52.0	0.0	0.029
140.00	0.12	0.14	0.00	0.00	0.00	0.84	0.98	52.0	0.0	0.019
145.00	0.10	0.13	0.00	0.00	0.00	0.26	0.42	52.0	0.0	0.008
147.00	0.00	0.01	0.00	0.00	0.00	0.01	0.02	52.0	0.0	0.000
147.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.0	0.0	0.000
147.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.0	0.0	0.000

Pole : 302468
 Location : Petro Lock, CT
 Height : 147.9 (ft)
 Base Dia : 56.58 (in)
 Top Dia : 26.21 (in)
 Shape : 18 Sides
 Taper : 0.214568 (in/ft)

Code: TIA/EIA-222 Rev F

Base Elev : 0.000 (ft)

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Analysis Summary

Load Case	Reactions						Max Stresses			
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Combined Stress (ksi)	Allowable Stress (ksi)	Elev (ft)	Stress Ratio
No Ice	28.4	0.00	43.34	0.00	0.00	2943.02	38.67	52.0	0.00	0.744
Ice	23.5	0.00	51.57	0.00	0.00	2475.33	32.75	52.0	0.00	0.630
Twist/Sway	11.1	0.00	43.37	0.00	0.00	1150.13	15.51	52.0	0.00	0.299

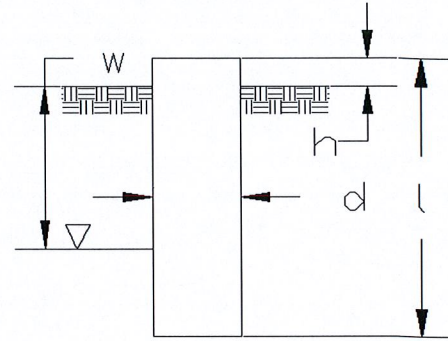
Site Name: Petro Lock, CT
 Site Number: 302468
 Engineer: J. Johnston
 Engineering Number: 51434521
 Date: 12/03/12

Program Last 8/3/2011
 American Tower Corporation

Design Base Loads (Unfactored) - Analysis per TIA-222-F Standards

Analyze or Design a Foundation? Analyze
 Foundation Mapped: N
 Moment (M): 2943.0 k-ft
 Shear/Leg (V): 28.4 k
 Axial Load (P): 51.6 k
 Uplift/Leg (U): 0.0 k
 Tower Type (GT / SST / MP): MP

Diameter of Caisson (d): 7.0 ft
 Caisson Embedment (L-h): 34.0 ft
 Caisson Height Above Ground (h): 0.5 ft
 Depth Below Ground Surface to Water Table (w): 7.5 ft
 Unit Weight of Concrete: 150.0 pcf
 Unit Weight of Water: 62.4 pcf
 Tension Skin Friction/Compression Skin Friction: 1.00
 Pullout Angle: 30.0 degrees



Soil Mechanical Properties

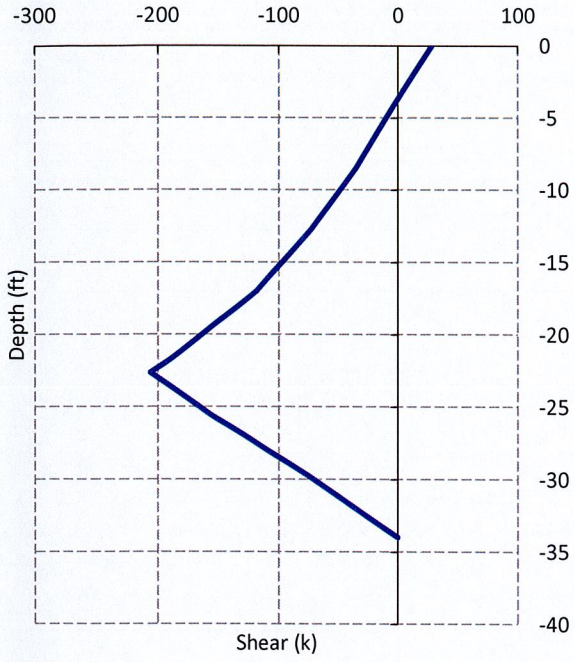
Depth (ft)		γ_{Soil}	Cohesion	ϕ	Allowable Skin	Allowable Bearing
Top	Bottom	(pcf)	(psf)	(degree)	Friction (psf)	Pressure (psf)
0.0	2.0	110	0	0	0	0
2.0	7.0	110	0	25	0	0
7.0	10.0	110	0	20	0	0
10.0	14.0	110	0	20	0	0
14.0	17.0	110	0	20	0	0
17.0	26.0	110	0	25	0	0
26.0	30.0	110	0	20	0	0
30.0	35.0	110	0	20	0	20000

Required Embedment: 30.3 ft - OK, Caisson Embedment Satisfactory
 Volume of Concrete: 1327.7 ft³ = 49.2 yd³
 Weight of Concrete (Buoyancy Effect Considered): 135.5 k
 Average Soil Unit Weight: 61.4 pcf
 Skin Friction Resistance: 0.0 k
 Compressive Bearing Resistance: 769.7 k
 Pullout Weight (Minus Concrete Weight): 1292.2 k
 Allowable Uplift Capacity (U_{Allow}): 90.3 k
 Allowable Compressive Capacity (P_{Allow}): 769.7 k
 Compressive Design Load (P): 103.9 k
 U / U_{Allow} : 0.00 Result: OK
 P / P_{Allow} : 0.14 Result: OK
 Total Lateral Resistance: 1636.6 k
 Inflection Point (Below Ground Surface): 22.6 ft
 Design Overturning Moment At Inflection Point (M_D): 3599.8 k-ft
 Nominal Moment Capacity (M_{Allow}): 11169.3 k-ft
 M_{Allow} / M_D Factor of Safety: 3.10 Result: OK

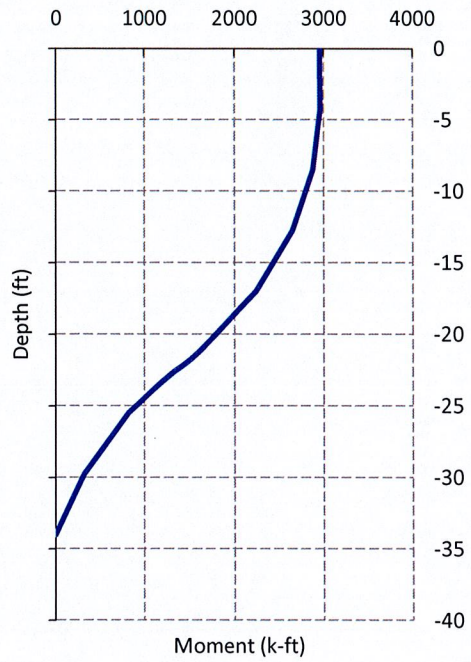
Caisson Strength Capacity

Concrete Compressive Strength (f'_c):	3000 psi
Vertical Steel Rebar Size #:	11
Vertical Steel Rebar Area:	1.56 in ²
Design # of Vertical Steel Rebars:	21
Vertical Steel Rebar Yield Strength (F_y):	60 ksi
Horizontal Tie / Stirrup Size #:	5
Horizontal Tie / Stirrup Area:	0.31 in ²
Design Horizontal Tie / Stirrup Spacing:	18.0 in
Horizontal Tie / Stirrup Steel Yield Strength (F_y):	40 ksi
Rebar Cage Diameter:	76.0 in
Strength Bending/Tension Reduction Factor (ϕ_B):	0.90 ACI318-05 - 9.3.2.1
Strength Shear Reduction Factor (ϕ_V):	0.75 ACI318-05 - 9.3.2.3
Strength Compression Reduction Factor (ϕ_P):	0.65 ACI318-05 - 9.3.2.2
Wind Design Factor:	1.30 ACI318-05 - 9.2.1
Steel Elastic Modulus:	29000 ksi
Design Moment (M_u):	3852.5 k-ft
Nominal Moment Capacity ($\phi_B M_n$):	4963.4 k-ft - ACI318-005 - 10.2
$M_u / \phi_B M_n$:	0.78 Result: OK
Design Shear (V_u):	267.9 k
Nominal Shear Capacity ($\phi_V V_n$):	457.4 k - ACI318-05 - 11.3.1.1 or 11.5.7.2
$V_u / \phi_V V_n$:	0.59 Result: OK
Design Tension (T_u):	0.0 k
Nominal Tension Capacity ($\phi_T T_n$):	1769.0 k - ACI318-05 - 10.2
$T_u / \phi_T T_n$:	0.00 Result: OK
Design Compression (P_u):	135.1 k
Nominal Compression Capacity ($\phi_P P_n$):	7304.9 k - ACI318-05 - 10.3.6.2
$P_u / \phi_P P_n$:	0.02 Result: OK
$M_u / \phi_B M_n + T_u / \phi_T T_n$:	0.78 Result: OK

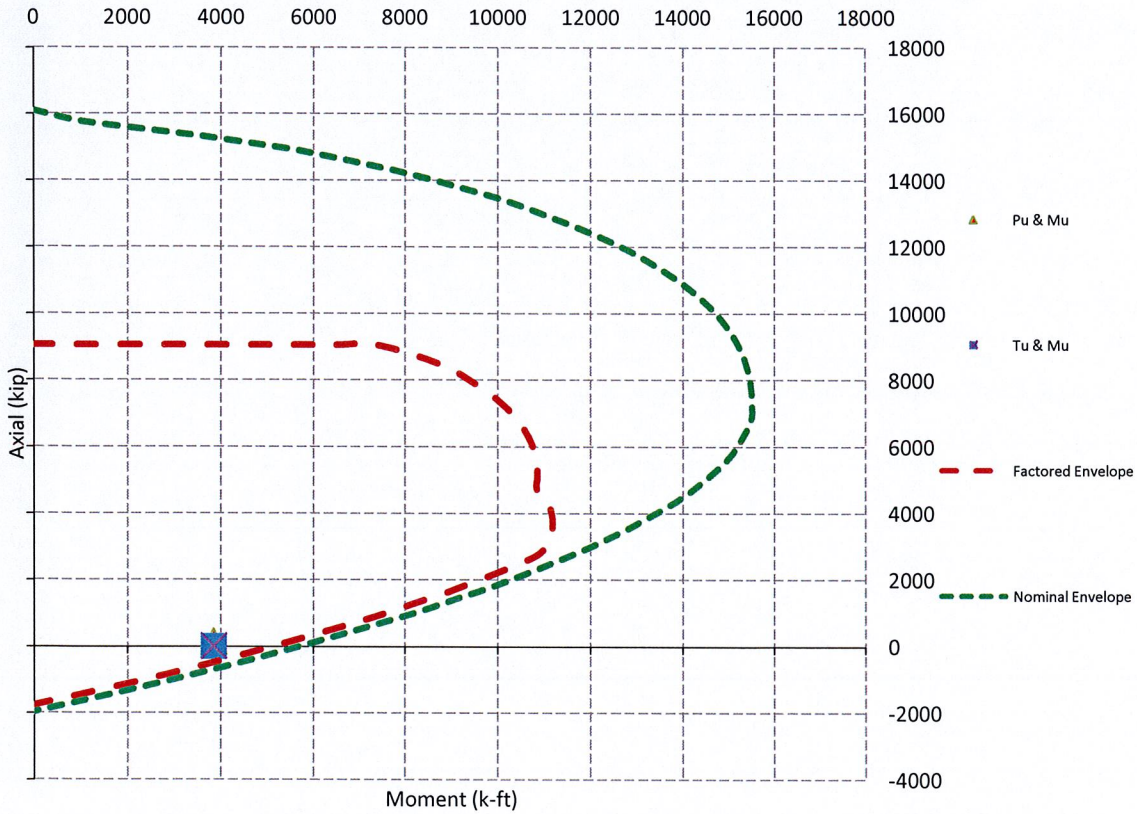
Design Unfactored Shear / Depth



Design Unfactored Moment / Depth



Nominal and Factored Moment Capacity and Factored Design Loads



1.0 GENERAL REQUIREMENTS (AS REQUIRED)

1) GENERAL SPECIFICATIONS

- a) ALL REFERENCES TO THE OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED CUSTOMER OR ITS DESIGNATED REPRESENTATIVE
- b) WORK SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. ALL NECESSARY LICENSES, CERTIFICATES, PERMITS, ETC., REQUIRED BY AUTHORITY HAVING JURISDICTION SHALL BE PROCURED AND PAID FOR BY THE CONTRACTOR
- c) ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO DO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS AGREEMENT, THE CONTRACTOR ATTESTS THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY TO COMPLETE THE WORK, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK.
- d) THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND CONDITIONS AT THE JOB SITE WHICH COULD AFFECT THE WORK UNDER THIS CONTRACT. ALL MANUFACTURES RECOMMENDED SPECIFICATIONS, EXCEPT THOSE SPECIFICATIONS HEREIN, WHERE MOST STRINGENT SHALL BE COMPLIED WITH.
- e) DO NOT SCALE THE DRAWINGS. DIMENSIONS ARE EITHER TO THE FACE OF FINISHED ELEMENTS OR TO THE CENTER LINE OF ELEMENTS, UNLESS NOTED OTHERWISE. CRITICAL DIMENSIONS SHALL BE CONFIRMED WITH SITE MEASUREMENTS. VERIFY WITH ATC AS APPLICABLE.
- f) WHERE ONE DETAIL IS SHOWN FOR ONE CONDITION, UNLESS NOTED OTHERWISE, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS, EVEN THOUGH NOT SPECIFICALLY MARKED ON THE DRAWINGS.
- g) DRAWINGS FORMING THIS SET ARE COMPLIMENTARY AND MUST BE READ AS ONE TOTAL DOCUMENT. DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY OF ATC. THESE DRAWINGS WERE PREPARED TO BE SUBMITTED TO GOVERNMENTAL BUILDING AUTHORITIES FOR REVIEW FOR COMPLIANCE WITH APPLICABLE CODES. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO EXECUTE CONSTRUCTION INDICATED HEREIN ACCORDING TO THE APPLICABLE BUILDING CODES.
- h) THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT DESCRIBED HEREIN.
- i) THE CONTRACTOR SHALL OBTAIN AUTHORIZATION FROM ATC TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.

2) MATERIALS

- a) WHERE PAVING, CONCRETE SIDEWALKS OR PATHS MEET EXISTING CONSTRUCTION, THE CONTRACTOR SHALL MATCH THE EXISTING PITCH, GRADE, AND ELEVATION SO THE ENTIRE STRUCTURE SHALL HAVE A SMOOTH TRANSITION.
- b) THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT AND MAINTAIN EXISTING CONDITIONS, EASEMENTS, PAVEMENTS, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGES THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY
- c) ALL MATERIALS FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM DEFECTS AND FAULTS AND IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION.
 - i) THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUANTITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED AND SHALL ONLY INSTALL SAID SUBSTITUTIONS AFTER APPROVAL BY THE OWNER OR THE OWNER'S ENGINEER.
 - ii) ALL MATERIAL FURNISHED UNDER THIS CONTRACT SHALL BE NEW UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF (1) YEAR FOLLOWING SUBSEQUENT COMPLETION OF PROJECT OR AS SPECIFIED. THE CONTRACTOR SHALL REPAIR OR REPLACE AT HIS EXPENSE ALL WORK THAT MAY DEVELOP DEFECTS IN MATERIAL OR WORKMANSHIP WITHIN THE WARRANTY PERIOD.
 - iii) THE GENERAL CONTRACTOR AND EACH SUBCONTRACTOR ARE TO BE RESPONSIBLE FOR VERIFYING EXISTING SITE CONDITIONS AND DIMENSIONS AND THE LOCATION OF BURIED UTILITIES AT THE JOB SITE PRIOR TO THE COMMENCEMENT OF WORK.
 - iv) CONFLICTS AND OMISSIONS WHICH COULD HAVE BEEN DISCOVERED BY FILED VERIFICATION AND INSPECTION, WHETHER INDICATED ON THE CONTRACT DOCUMENT OR NOT, WILL NOT BE ENTERTAINED OR PAID.
- d) MINIMUM BEND RADIUS OF ANTENNAS CABLES SHALL BE IN ACCORDANCE WITH CABLE MANUFACTURER RECOMMENDATIONS.
- e) CABLE ROUTING SHOWN IS DIAGRAMMATIC. ACTUAL ROUTE OF ANTENNA CABLES SHALL BE DETERMINED IN THE FIELD.

3) VERIFICATION

- a. THE CONTRACTOR SHALL VERIFY THAT NO CONFLICTS EXIST BETWEEN THE LOCATIONS OF ANY AND ALL MECHANICAL, ELECTRICAL, PLUMBING, OR STRUCTURAL ELEMENTS, AND THAT ALL REQUIRED CLEARANCES FOR INSTALLATION AND MAINTENANCE ARE MET. NOTIFY THE ATC OF ANY CONFLICTS, THE ATC HAS THE RIGHT TO MAKE MINOR MODIFICATIONS IN THE DESIGN OF THE CONTRACT WITHOUT THE CONTRACTOR GETTING ADDITIONAL COMPENSATION.
- b. THE ENGINEER SHALL BE NOTIFIED IN WRITING OF ANY CONDITIONS THAT VARY FROM THOSE SHOWN ON THE PLANS. THE CONTRACTOR'S WORK SHALL NOT VARY FROM THE PLANS WITHOUT THE EXPRESSED APPROVAL OF THE ENGINEER.
- c. THE GENERAL CONTRACTOR SHALL COORDINATE WITH THE LOCAL POWER AND TELEPHONE UTILITIES AND THE CONSTRUCTION MANAGER TO CONFIRM THE SOURCE OF SERVICE PRIOR TO CONDUIT INSTALLATION. THE GENERAL CONTRACTOR SHALL OBTAIN WRITTEN CONFIRMATION OF EXPECTED DATE OF COMPLETION OF THE POWER CONNECTION FROM THE POWER COMPANY.

- d. ACCESS TO PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
- e. THE ENGINEER HAS NOT CONDUCTED, NOR DOES IT INTEND TO CONDUCT ANY INVESTIGATION TO DETERMINE THE PRESENCE OF ANY HAZARDOUS MATERIAL INCLUDING BUT NOT LIMITED TO ASBESTOS, LEAD PAINT, AND PCB'S WITHIN THE CONFINES OF THE PROJECT. THE ENGINEER WILL NOT ACCEPT ANY RESPONSIBILITY FOR THE ABATEMENT OR RESULTING CLAIMS FOR DAMAGES OR LOSSES AS RESULT OF THE PRESENCE OF HAZARDOUS MATERIALS. IF EVIDENCE OF HAZARDOUS MATERIAL IS DISCOVERED, SUSPEND WORK AS REQUIRED BY GOVERNING STATUES, AND NOTIFY ATC (AMERICAN TOWER CORPORATION). DO NOT PROCEED WITH WORK UNTIL INSTRUCTED BY ATC.

4) CLEAN-UP

- a) THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEAN UP OF ALL TRADES AND REMOVE ALL DEBRIS FROM THE CONSTRUCTION SITE. AT THE COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL THOROUGHLY CLEAN THE BUILDING, SITE, AND ANY OTHER SURROUNDING AREAS TO A BETTER THAN NEW CONDITION WHILE MEETING THE APPROVAL OF ATC AND THE LANDLORD

5) SAFETY

- a) THE CONTRACTOR IS RESPONSIBLE FOR ADEQUATELY BRACING AND PROTECTING ALL WORK DURING CONSTRUCTION AGAINST DAMAGE, BREAKAGE, COLLAPSE, ETC. ACCORDING TO APPLICABLE CODES, STANDARDS, AND PRACTICES. THIS INCLUDES, BUT IS NOT LIMITED TO THE ADDITION OF TEMPORARY BRACING, GÜYS, OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.
- b) THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- c) THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE OSHA, LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
- d) THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR DAMAGES TO THE EXISTING FACILITY AND INSTALLATION RESULTING FROM CONSTRUCTION AND GENERAL NEGLIGENCE. REPAIR ALL DAMAGES AND RESTORE FACILITY AND INSTALLATIONS TO THE SATISFACTION OF ATC AND THE LANDLORD AT NO EXTRA CHARGE. NOTIFY ATC OF ANY SUCH DAMAGES PROMPTLY AND REPAIR TO 100% SATISFACTION IMMEDIATELY.
- e) CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA. ADJACENT AREAS AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS.

STRUCTURAL STEEL NOTES

6) STRUCTURAL STEEL SPECIFICATIONS

- a) THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST AISC SPECIFICATIONS.
- b) UNLESS NOTED OTHERWISE, ALL STRUCTURAL STEEL SHALL MEET THE REQUIREMENTS OF ASTM A36. ALL BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 HIGH STRENGTH BOLTS.
- c) ALL WELDING SHALL BE IN ACCORDANCE WITH THE LATEST AWS STRUCTURAL WELDING CODE. ALL WELDERS SHALL PROVIDE PROPER CERTIFICATION OF QUALIFICATION TO THE LANDLORD OR ATC PRIOR TO COMMENCING WORK AT THE SITE.
- d) ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATIONS.
- e) HOLES SHALL NOT BE FLAME CUT THROUGH STEEL UNLESS APPROVED BY THE ENGINEER.
- f) WELDS SHALL BE MADE WITH E-70XX ELECTRODES UNLESS NOTED OTHERWISE.
- g) HOT-DIP GALVANIZE ALL ITEMS AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING SHALL BE DONE IN ACCORDANCE WITH ASTM A123, A153A, A153M, A653A, A653M AND ASTM G90, AS APPLICABLE.
- h) REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO A TEMPERATURE SUFFICIENT TO MELT THE METALLIC IN STICK OR PASTE: SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF ANY EXCESS MATERIAL.
- i) A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
- j) ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
- k) ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. A BOLT THAT ENDS BELOW THE FACE OF THE NUT AFTER TIGHTENING WILL NOT BE PERMITTED.



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NYSE AMT

SPRINT CASCADE NUMBER:
CT43XC806

SPRINT SITE NAME:
(F) HARTFORD / SPECTRASITE

ATC SITE NUMBER:
302468

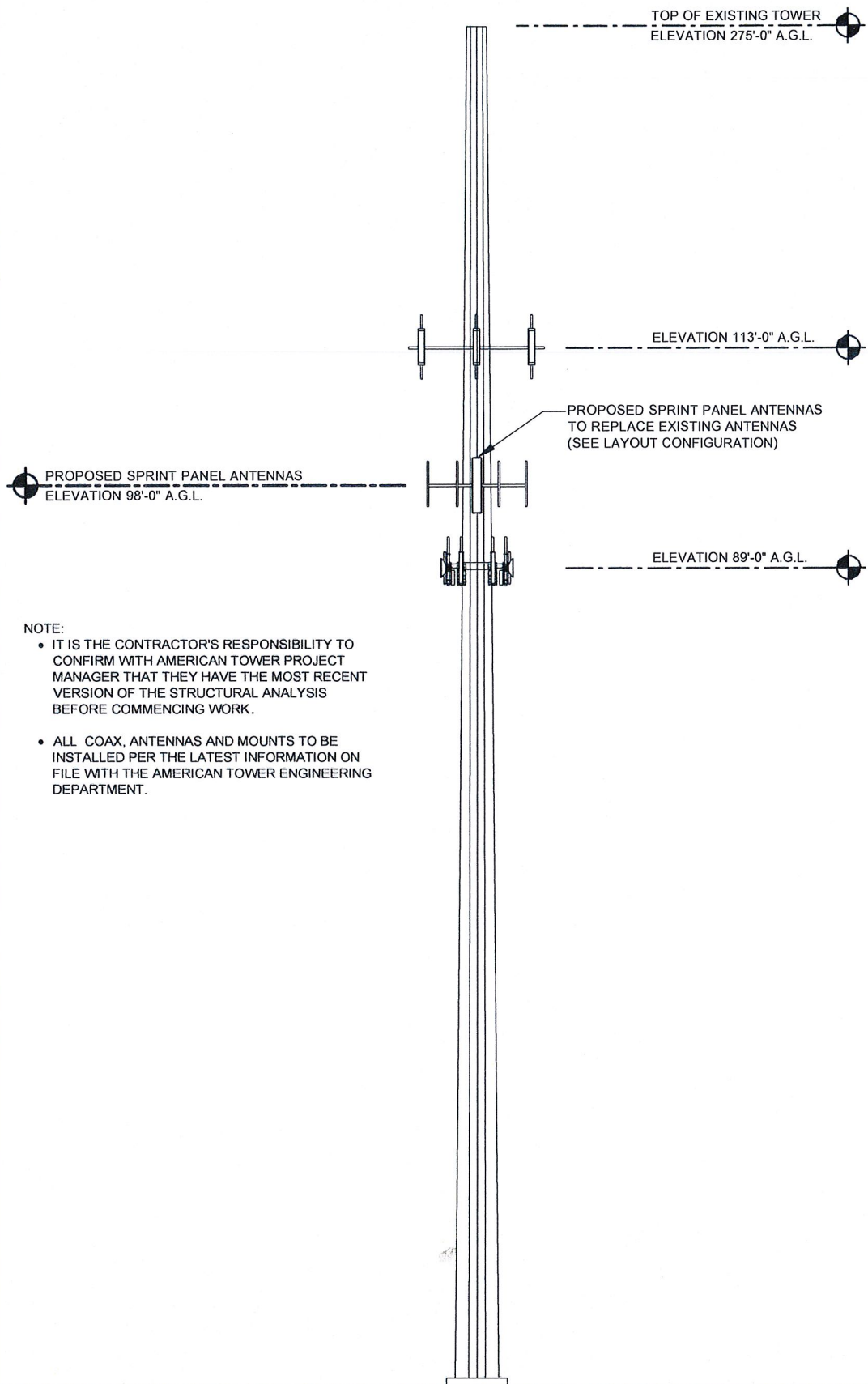


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CHECKED BY:	SAE
DATE DRAWN:	11-30-12
JOB NO:	514345K2

SHEET TITLE:
GENERAL NOTES

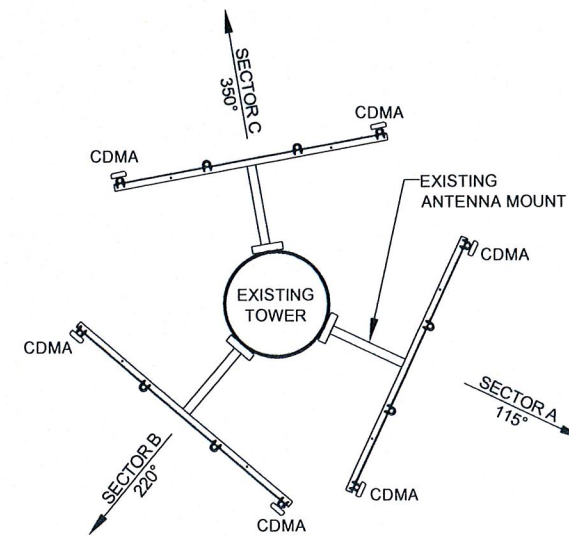
SHEET NUMBER:	REV. #
GN-1	0



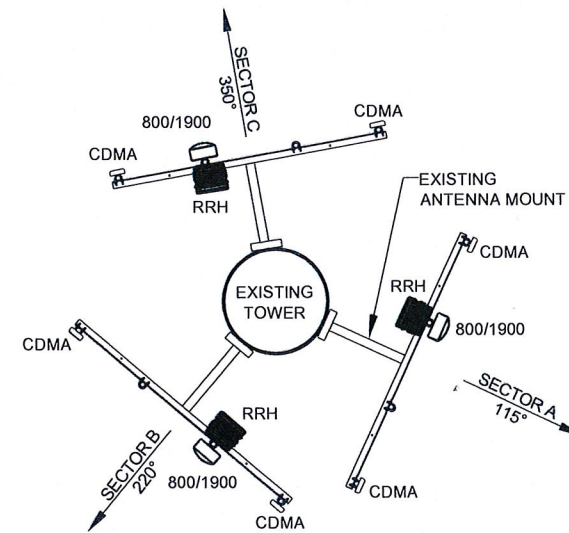
1 TOWER ELEVATION
SCALE: NOT TO SCALE

NOTE:

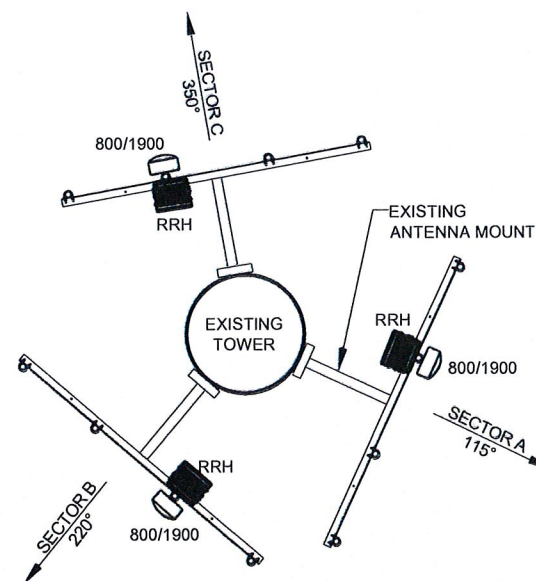
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH AMERICAN TOWER PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK.
- ALL COAX, ANTENNAS AND MOUNTS TO BE INSTALLED PER THE LATEST INFORMATION ON FILE WITH THE AMERICAN TOWER ENGINEERING DEPARTMENT.



2 EXISTING CONFIGURATION
SCALE: NOT TO SCALE



3 INTERIM CONFIGURATION
SCALE: NOT TO SCALE



4 FINAL CONFIGURATION
SCALE: NOT TO SCALE



Sprint
NETWORK VISION
MMBTS LAUNCH
6391 SPRINT PKWY
OVERLAND PARK, KS 66251

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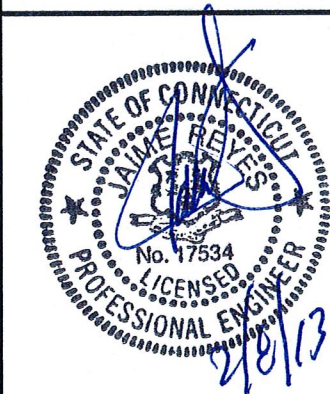


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ATC SITE NUMBER:
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CHECKED BY:	SAE
DATE DRAWN:	11-30-12
JOB NO.:	514345K2

SHEET TITLE:
TOWER ELEVATION AND ANTENNA ORIENTATION

SHEET NUMBER:	REV. #
A-2	2

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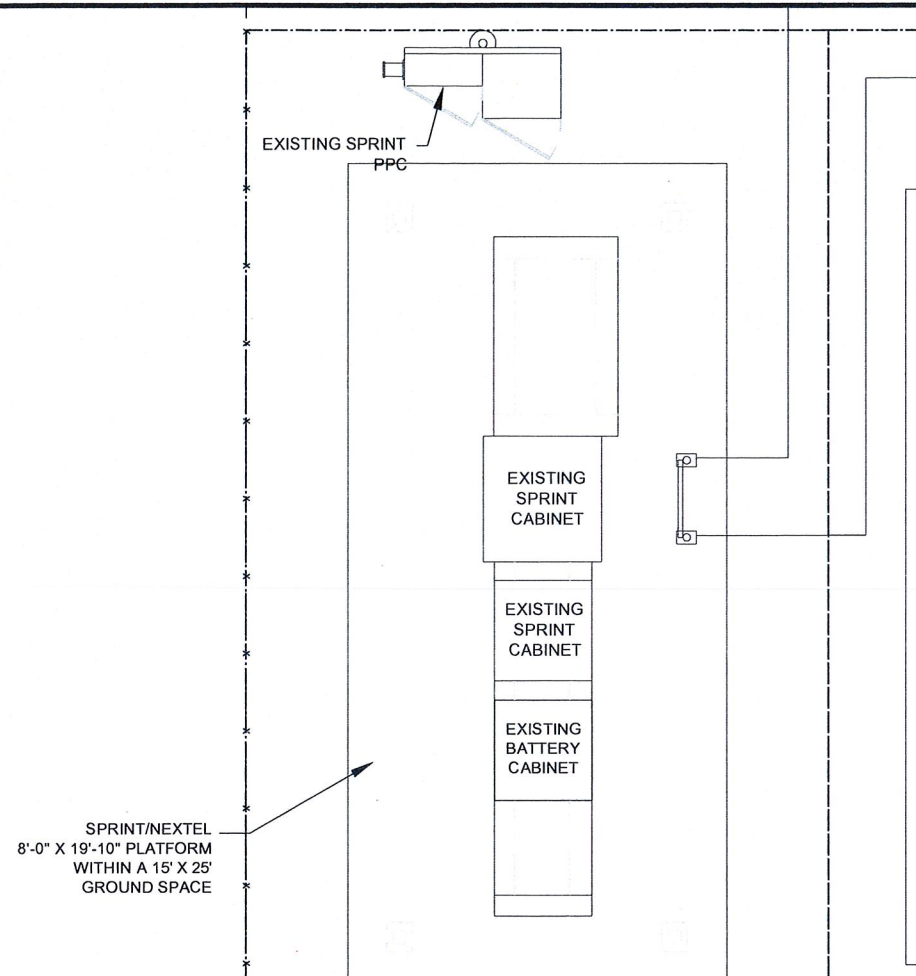


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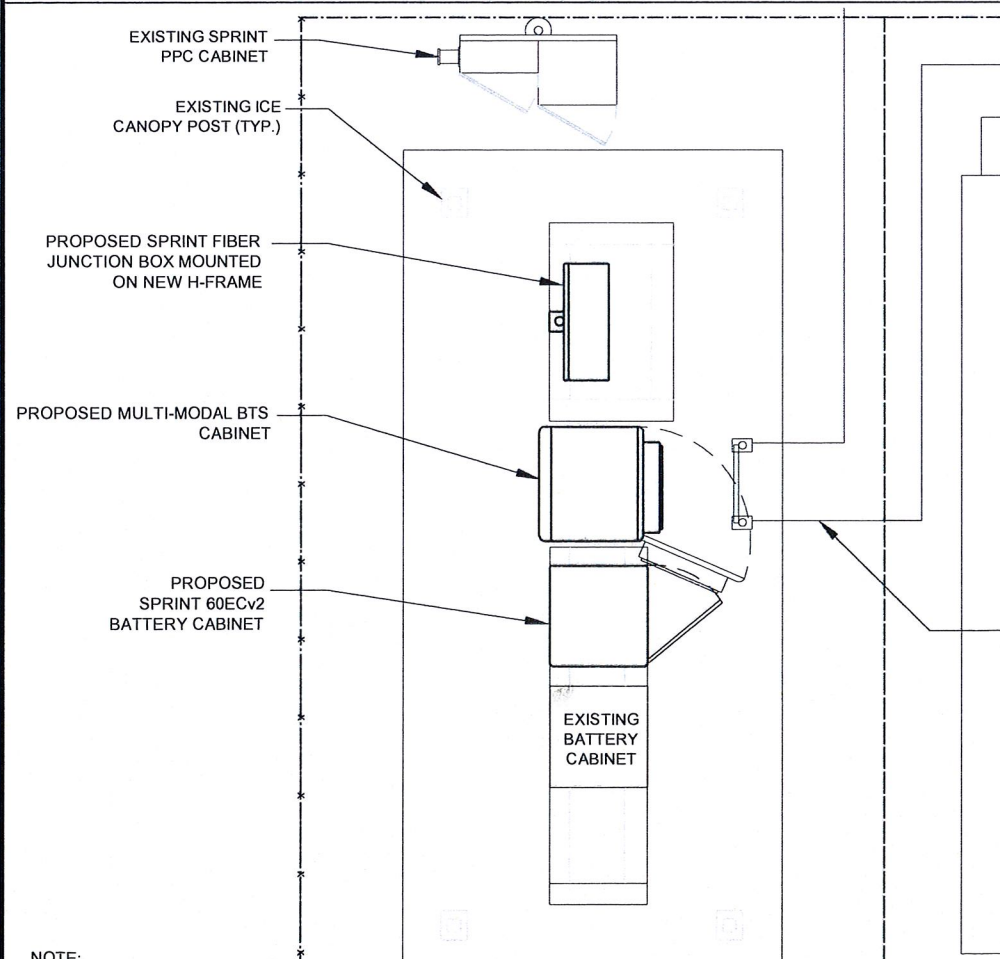
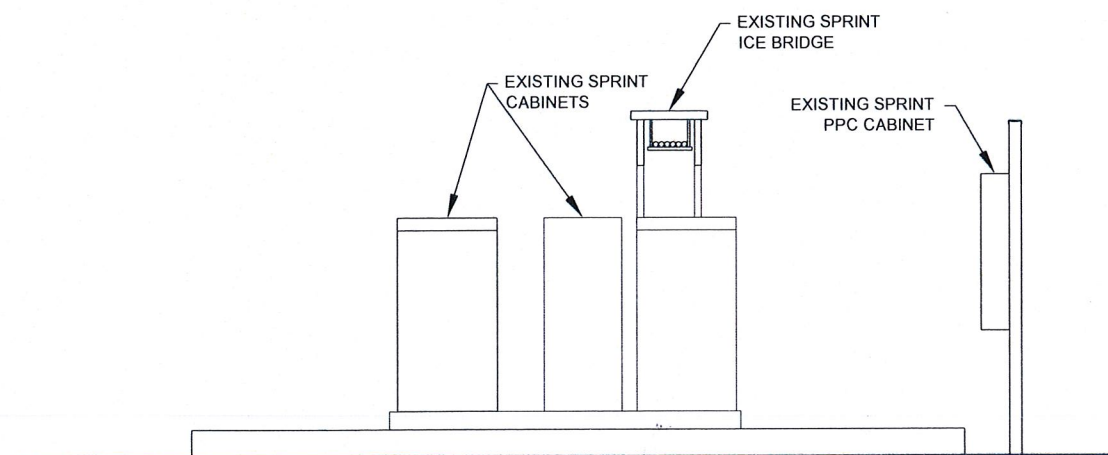
DRAWN BY:	CHLE
CHECKED BY:	SAE
DATE DRAWN:	11-30-12
JOB NO.:	514345K2

EQUIPMENT LAYOUT

SHEET NUMBER:	REV. #
A-3	0

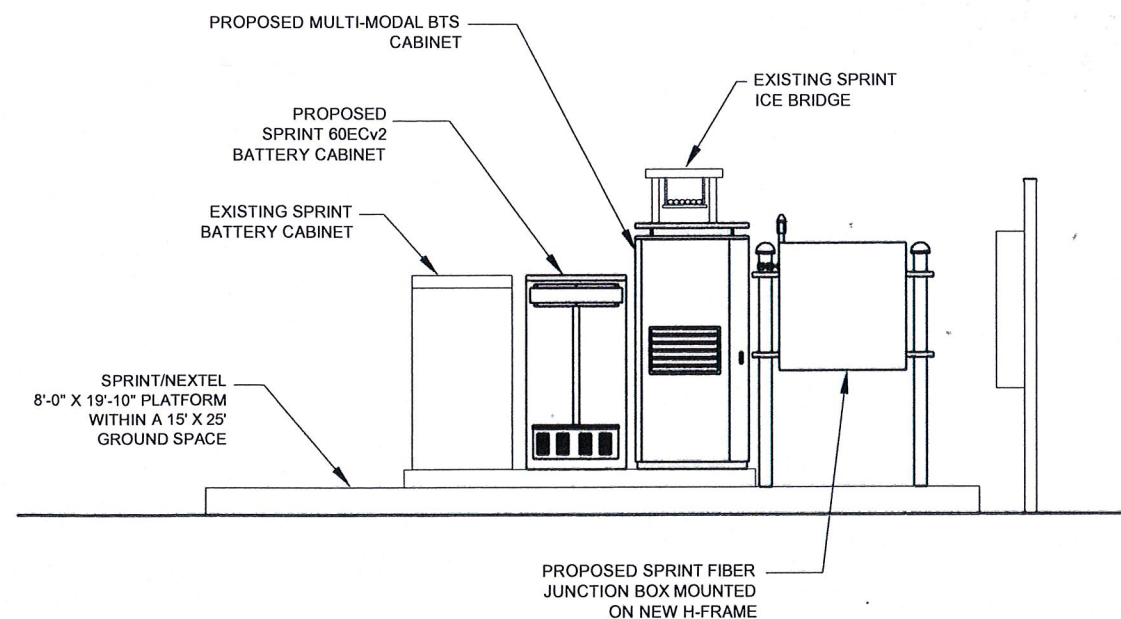


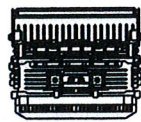
1 EXISTING CABINETS PLAN
 SCALE : 1" = 5'-0" (11 X 17)
 1" = 2'-6" (24 X 36)



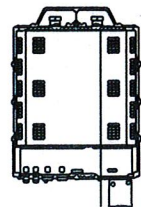
NOTE:
 EXISTING GPS ANTENNA TO BE REPLACED WITH NEW GPS ANTENNA.
 COORDINATE IN FIELD WITH SPRINT CONSTRUCTION MANAGER

2 FINAL CABINETS PLAN
 SCALE : 1" = 5'-0" (11 X 17)
 1" = 2'-6" (24 X 36)

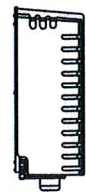




TOP VIEW

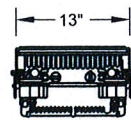


FRONT VIEW

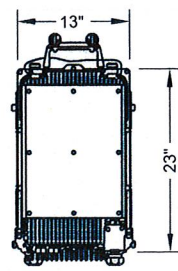


SIDE VIEW

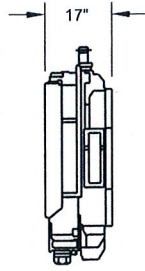
1 800 mhz REMOTE RADIO HEAD
SCALE: NOT TO SCALE



TOP VIEW

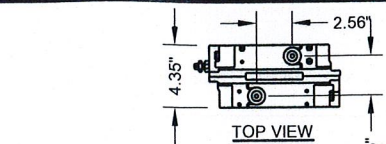


FRONT VIEW

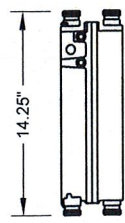


SIDE VIEW

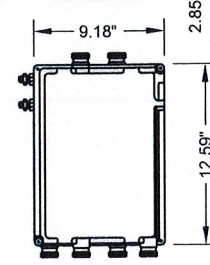
2 1900 mhz REMOTE RADIO HEAD
SCALE: NOT TO SCALE



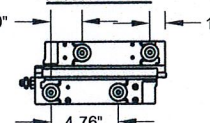
TOP VIEW



SIDE VIEW

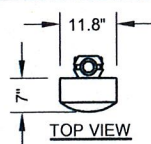


FRONT VIEW

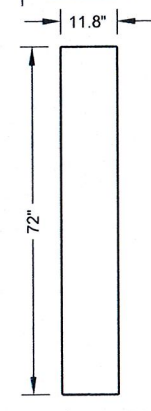


BOTTOM VIEW

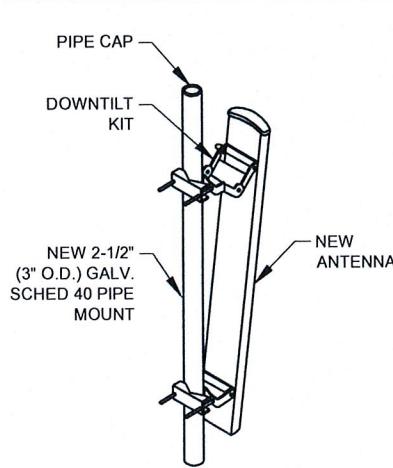
3 IBC1900HG-2A/IBC1900BB-1 DETAILS
SCALE: NOT TO SCALE



TOP VIEW



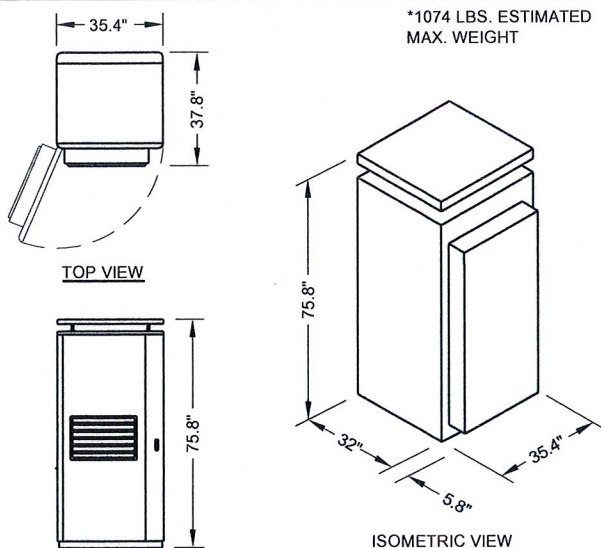
FRONT VIEW



ISOMETRIC VIEW

APXVSP18-C

4 800/1900 ANTENNA DETAILS
SCALE: NOT TO SCALE



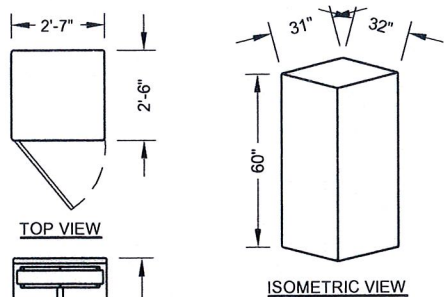
TOP VIEW

FRONT VIEW

ISOMETRIC VIEW

*1074 LBS. ESTIMATED
MAX. WEIGHT

5 ALCATEL-LUCENT 9928 DETAILS
SCALE: NOT TO SCALE



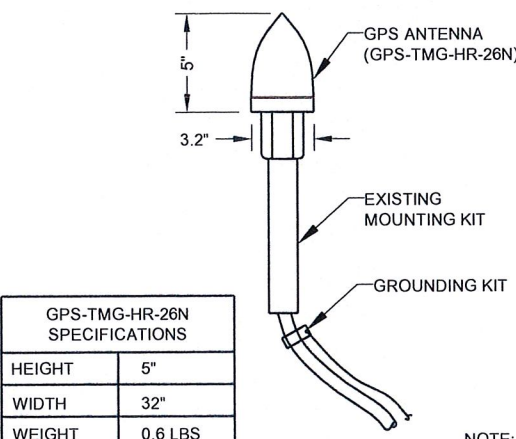
TOP VIEW

FRONT VIEW

ISOMETRIC VIEW

60ECv2 CABINET SPECIFICATIONS	
HEIGHT	60"
WIDTH	31"
DEPTH	30"
WEIGHT W/ BATTERIES	2830 LBS

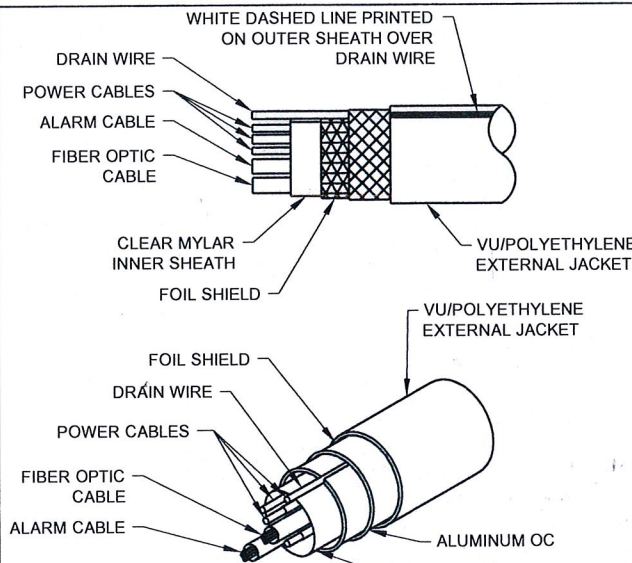
6 BATTERY CABINET DETAILS
SCALE: NOT TO SCALE



GPS-TMG-HR-26N SPECIFICATIONS	
HEIGHT	5"
WIDTH	32"
WEIGHT	0.6 LBS

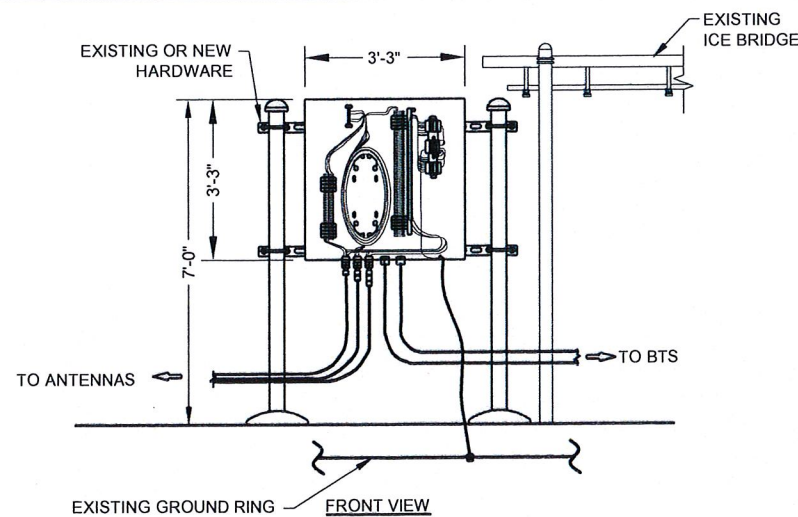
NOTE:
INCLUDE SURGE
ARRESTOR KS-24577

7 GPS DETAIL
SCALE: NOT TO SCALE

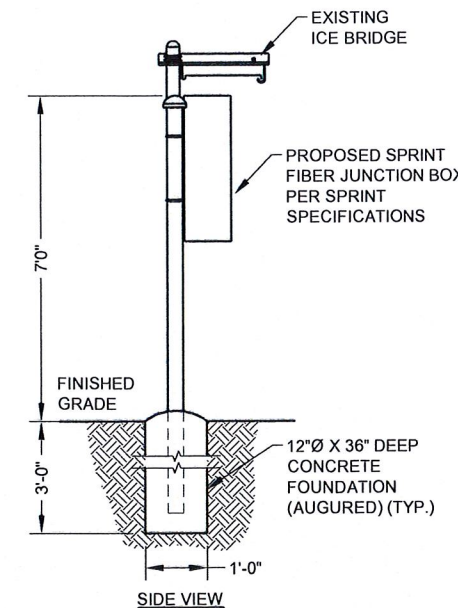


8 HYBRID CABLE DETAIL
SCALE: NOT TO SCALE

*FRONT VIEW-DOOR
REMOVED TO SHOW
DETAIL



FRONT VIEW



SIDE VIEW

9 FIBER JUNCTION BOX DETAILS
SCALE: NOT TO SCALE

FIBER DISTRIBUTION BOX SPECIFICATIONS	
HEIGHT	3'-3"
WIDTH	3'-3"
DEPTH	1'-0"

Sprint
NETWORK VISION
MMBTS LAUNCH
6391 SPRINT PKWY
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SHEET TITLE:	

**EQUIPMENT
DETAILS**

SHEET NUMBER:	REV. #
A-4	1

NOTE TO GC:
REFER TO FST FOR MOST RECENT RFDS
PRIOR TO TOWER TOP CONSTRUCTION
START.

		Market	Northern Connecticut			
		Cascade ID	CT43XC806			
			SECTOR 1	SECTOR 2	SECTOR 3	
	Split sector present		No	No	No	
1900	1900MHz_Azimuth		350	115	220	
	1900MHz_No_of_Antennas		1	1	1	
	1900MHz_RADCenter(ft)		98	98	98	
	1900MHz_Antenna Make		RFS	RFS	RFS	
	1900MHz_Antenna Model		APXVSP18-C-A20	APXVSP18-C-A20	APXVSP18-C-A20	
	1900MHz_Horizontal_Beamwidth		65	65	65	
	1900MHz_Vertical_Beamwidth		5.5	5.5	5.5	
	1900MHz_AntennaHeight (ft)		6	6	6	
	1900MHz_AntennaGain(dBd)		15.9	15.9	15.9	
	1900MHz_E_Tilt		-4	-6	-1	
	1900MHz_M_Tilt		0	0	0	
	1900MHz_Carrier_Forecast_Year_2013		6	6	6	
	1900MHz_RRH Manufacturer		ALU	ALU	ALU	
	1900MHz_RRH Model		RRH 1900 4X45 65MHz	RRH 1900 4X45 65MHz	RRH 1900 4X45 65MHz	
	1900MHz_RRH Count		2	2	2	
	1900MHz_RRH Location		Top of the Pole/Tower	Top of the Pole/Tower	Top of the Pole/Tower	
	1900MHz_Combiner Model		IBC1900BB-1 and IBC1900HG-2A	IBC1900BB-1 and IBC1900HG-2A	IBC1900BB-1 and IBC1900HG-2A	
	1900MHz_Top_Jumper #1_Length (RRH or Combiner-to-Antenna for TT or Main Coax to		10	10	10	
	1900MHz_Top_Jumper #1_Cable_Model (RRH or Combiner-to-Antenna for TT or Main Coax		LCF12-50J	LCF12-50J	LCF12-50J	
	1900MHz_Top_Jumper #2_Length (RRH to Combiner for TT if applicable, ft)		6	6	6	
	1900MHz_Top_Jumper #2_Cable_Model (RRH to Combiner for TT if applicable)		LCF12-50J	LCF12-50J	LCF12-50J	
	1900MHz_Main_Coax_Cable_Length (ft)		N/A	N/A	N/A	
	1900MHz_Main_Coax_Cable_Model		N/A	N/A	N/A	
	1900MHz_Bottom_Jumper #1_Length (Ground based RRH to Combiner-OR-Main Coax, ft)		N/A	N/A	N/A	
1900MHz_Bottom_Jumper #1_Cable_Model (Ground based RRH to Combiner-OR-Main Coax)		N/A	N/A	N/A		
1900MHz_Bottom_Jumper #2_Length (Ground based-Combiner to Main Coax, ft)		N/A	N/A	N/A		
1900MHz_Bottom_Jumper #2_Cable_Model (Ground based-Combiner to Main Coax)		N/A	N/A	N/A		
800	800MHz_Azimuth		350	115	220	
	800MHz_No_of_Antennas		0	0	0	
	800MHz_RADCenter(ft)		98	98	98	
	800MHz_AntennaMake		RFS	RFS	RFS	
	800MHz_AntennaModel		APXVSP18-C-A20 (Shared w/1900)	APXVSP18-C-A20 (Shared w/1900)	APXVSP18-C-A20 (Shared w/1900)	
	800MHz_Horizontal_Beamwidth		65	65	65	
	800MHz_Vertical_Beamwidth		11.5	11.5	11.5	
	800MHz_AntennaHeight (ft)		6	6	6	
	800MHz_AntennaGain (dBd)		13.4	13.4	13.4	
	800MHz_E_Tilt		-8	-8	-8	
	800MHz_M_Tilt		0	0	0	
	800MHz_RRH Manufacturer		ALU	ALU	ALU	
	800MHz_RRH Model		800 MHz RRH 2x50W	800 MHz RRH 2x50W	800 MHz RRH 2x50W	
	800MHz_RRH Count		1	1	1	
	800MHz_RRH Location		Top of the Pole/Tower	Top of the Pole/Tower	Top of the Pole/Tower	
	800_Top_Jumper #1_Length (RRH to Antenna for TT or Main Coax to Antenna for GM)		10	10	10	
	800_Top_Jumper_Cable_Model (RRH to Antenna for TT or Main Coax to Antenna for GM)		LCF12-50J	LCF12-50J	LCF12-50J	
	800MHz_Main_Coax_Cable_Length (ft)		N/A	N/A	N/A	
	800MHz_Main_Coax_Cable_Model		N/A	N/A	N/A	
	800_Bottom_Jumper #1_Length (Ground based RRH to Main Coax)		N/A	N/A	N/A	
	800_Bottom_Jumper #1_Cable_Model (Ground based RRH to Main Coax)		N/A	N/A	N/A	
		Plumbing Scenario *		128	128	128
	Comments	* If plumbing scenario does not match the material received, please contact your Construction Manager				
		11/9/2012				

NOTE:
THE INFORMATION ON THIS SHEET WAS
PROVIDED BY SPRINT FOR REFERENCE
PURPOSE ONLY.

1 FINAL RADIO FREQUENCY DATA SHEET CONFIGURATION
SCALE: NOT TO SCALE

NOTE:
COORDINATE RF ANTENNA
INSTALLATION WITH FINAL
SPRINT RFDS.



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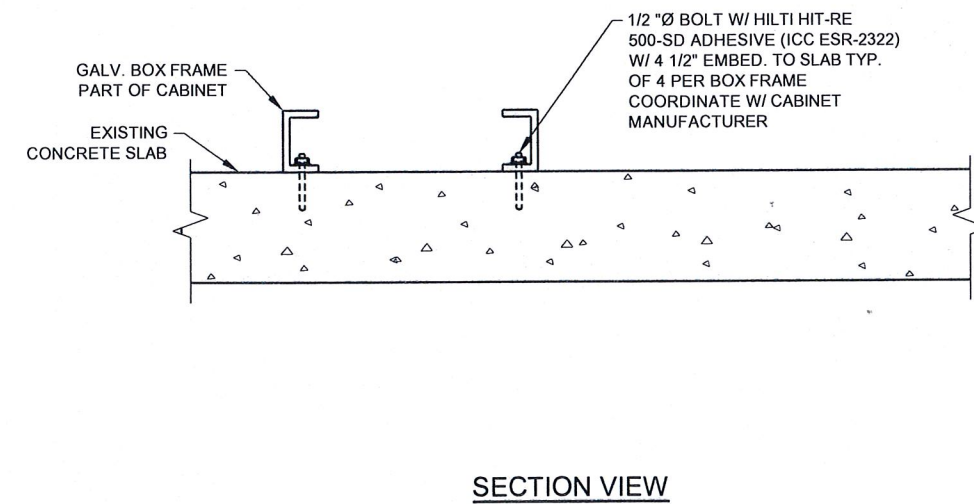
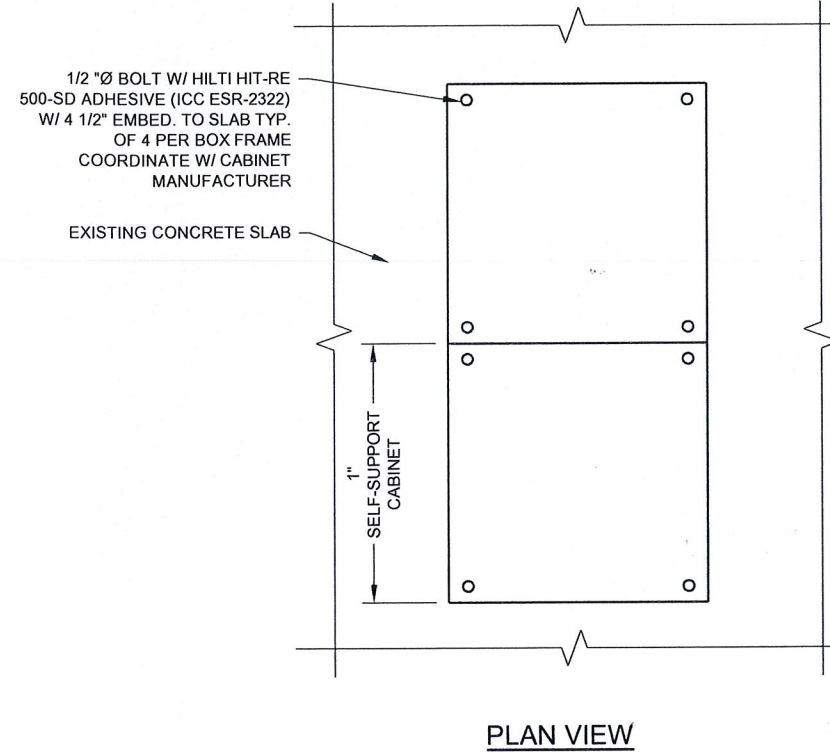
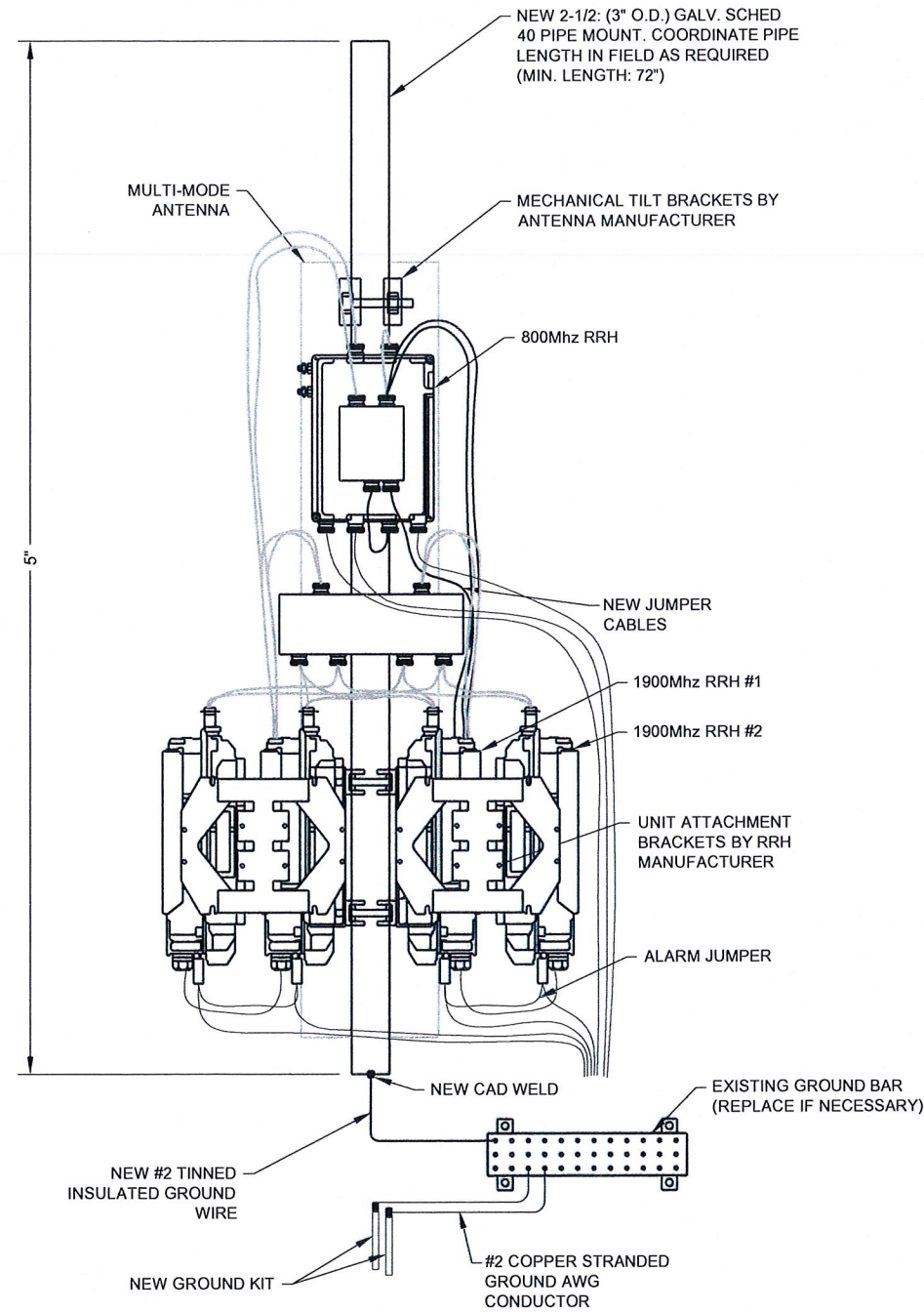


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SPRINT RADIO FREQUENCY DATA SHEET

SHEET NUMBER: **A-5** REV. # **1**

NOTE:
THIS PAGE FOR REFERENCE
ONLY. REFER TO RF SYSTEM
SCHEDULE FOR RRH SPECS
AND QUANTITIES.



1 ANTENNA/REMOTE RADIO HEAD MOUNTING DETAILS
SCALE: NOT TO SCALE

3 EXISTING CONCRETE SLAB
SCALE: NOT TO SCALE

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SHEET TITLE:
MOUNTING DETAILS

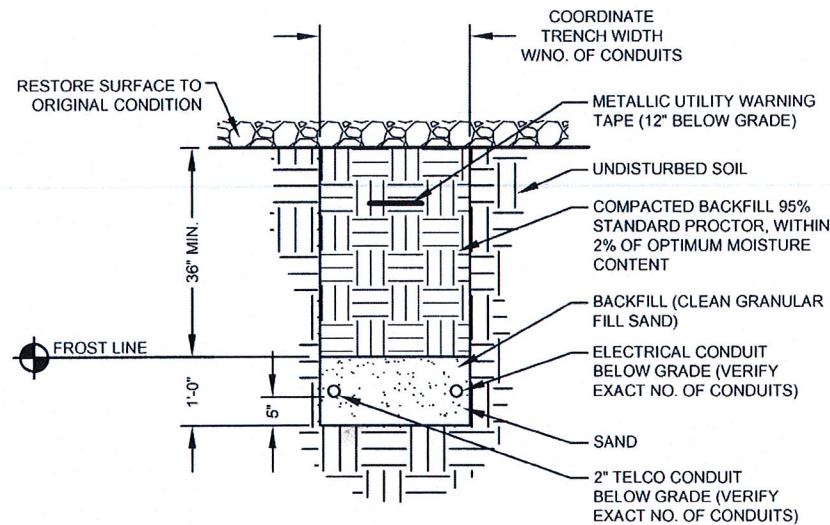
SHEET NUMBER:	REV. #
A-6	0

GENERAL NOTES:

- ALL WIRING SHALL BE STRANDED COPPER WITH THHN OR EQUIVALENT INSULATION. #12 AWG MINIMUM INSTALLED IN 1/2" MINIMUM CONDUIT. SIGNAL WIRING SHALL BE INSULATED #22 AWG. NO BX OR ROMEX CABLE IS PERMITTED. CONDUITS SHALL BE SURFACE MOUNTED.
- WIRING DEVICES AND EQUIPMENT SHALL BE UL LISTED SPECIFICATIONS GRADE.
- MATERIALS SHALL BE NEW AND CONFORM TO THE APPLICABLE STANDARDS ESTABLISHED FOR EACH ITEM BY THE ORGANIZATIONS LISTED BELOW.
 - AMERICAN SOCIETY FOR TESTING MATERIALS (ASTM)
 - UNDERWRITER'S LABORATORY (UL)
 - NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)
 - AMERICAN STANDARDS ASSOCIATION (ASA)
 - NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
- INSTALLATION SHALL COMPLY WITH APPLICABLE VERSIONS OF:
 - THE NATIONAL ELECTRIC CODE (NFPA 70)
 - THE NATIONAL ELECTRICAL SAFETY CODE (ANSI C-2)
 - LOCAL BUILDING CODES.
- THE ENTIRE SYSTEM SHALL BE SOLIDLY GROUNDED USING LOCKNUTS AND BONDING NUTS ON CONDUITS AND PROPERLY BONDED GROUND CONDUCTOR. ALL FEEDER AND BRANCH CIRCUITS SHALL HAVE AN EQUIPMENT GROUNDING CONDUCTOR SIZED PER NEC 250 RUN WITH THE CIRCUIT WIRING.
- DEVICE AND JUNCTION BOXES SHALL BE ZINC-COATED OR CADMIUM PLATED STEEL NOT LESS THAN 4" SQUARE AND SUITABLE FOR THE APPLICATION AND SERVICE AND DEVICE. DEVICE AND JUNCTION BOXES SHALL BE SURFACE MOUNTED AND LABELED WITH BRANCH CIRCUIT PANEL DESIGNATION AND CIRCUIT NUMBER.
- LABEL ALL EQUIPMENT SERVED WITH PHENOLIC LABELS SIZED IN RELATION TO USAGE TO INDICATE PANEL AND CIRCUIT SUPPLY.
- INDOOR CONDUCTORS SHALL BE INSTALLED IN EMT UNLESS NOTED OTHERWISE. OUTDOOR CONDUCTORS SHALL BE INSTALLED IN RIGID GALVANIZED STEEL UNLESS NOTED OTHERWISE. WHERE EMT IS USED, IT SHALL BE WITH ONLY LISTED STEEL COMPRESSION FITTINGS. NO SET SCREW FITTINGS SHALL BE ALLOWED.
- CONTRACTOR TO PROVIDE AND INSTALL ENGRAVED LABEL WITH CARRIER NAME ON THE METER SOCKET ENCLOSURE.

NOTES:

- SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS WHERE APPLICABLE.
- COORDINATE UTILITY, LOCATE BEFORE DIGGING

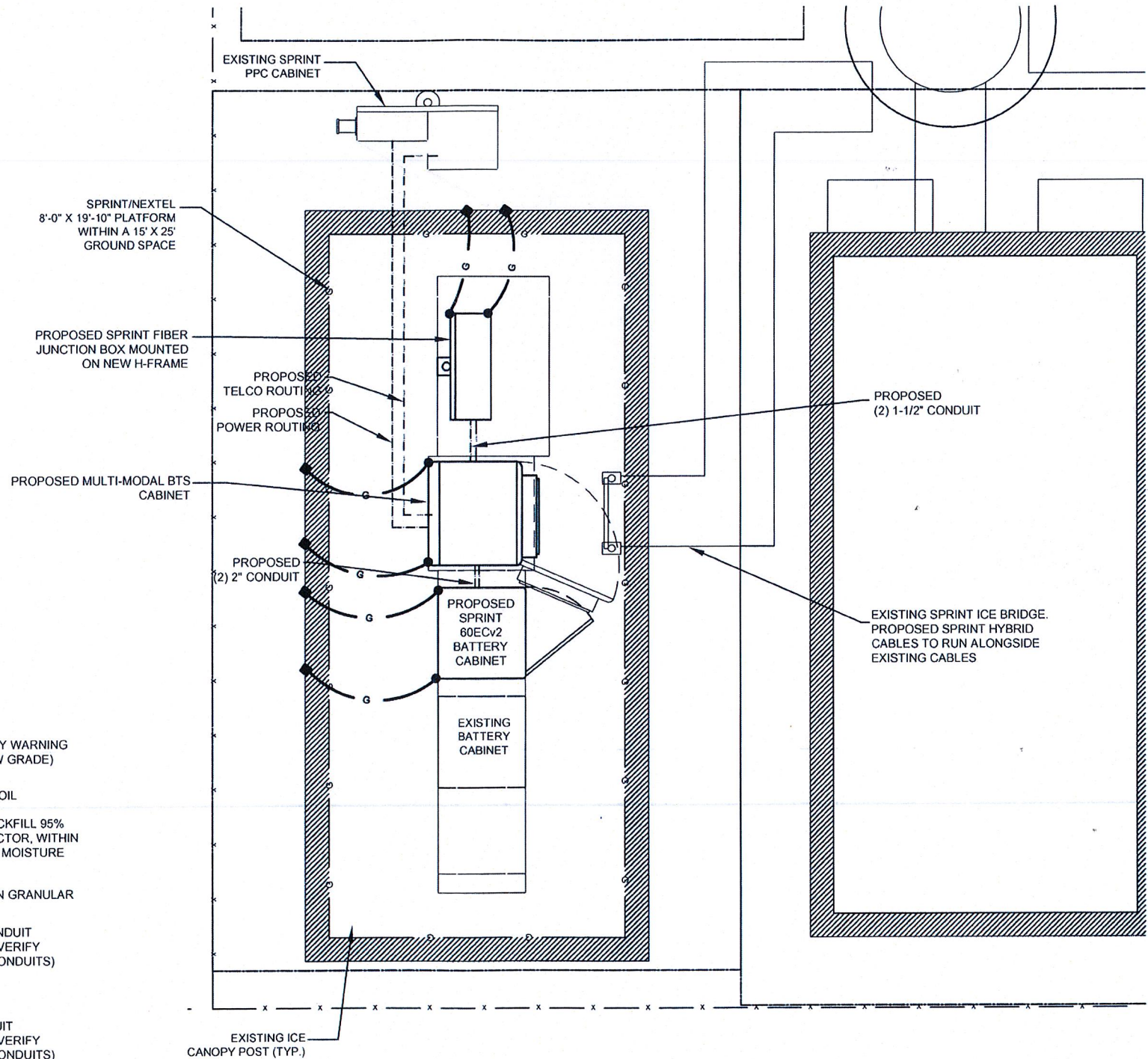


NOTE:
CONDUIT TRENCHING (36" OR 6" BELOW FROST LINE, WHICH EVER IS GREATER)

② TRENCH DETAIL
SCALE: NOT TO SCALE

LEGEND

—X—X—	CHAIN LINK FENCE
----	PROPERTY LINE
- - - -	LEASE AREA
----	UNDERGROUND UTILITY LINES
----	UTILITY EASEMENT
	GRAVEL
	BUILDING



① ELECTRICAL SITE PLAN
SCALE: NOT TO SCALE

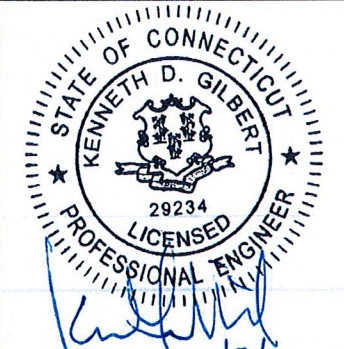
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SHEET TITLE:
**ELECTRICAL
PLAN**

SHEET NUMBER: E-1	REV. # 0
-----------------------------	--------------------

PANEL DESIGNATION: <u>PP-1</u>		TYPE: <u>LIGHTING & APPLIANCE</u>	SYSTEM: <u>120/240V, 1Ø, 3W, 32 CKT</u>	LOCATION: <u>EXISTING H-FRAME</u>
MOUNTING: <u>SURFACE</u>		ENCLOSURE: <u>NEMA 3R</u>	MAIN BREAKER (MB): <u>200A</u>	PANEL NOTES: <u>EXISTING</u>
			MAIN BUS RATING: <u>200A</u>	
			SCCR RATING: <u>VERIFY RATING MEETS OR EXCEEDS AVAIL UTILITY FAULT CURRENT</u>	

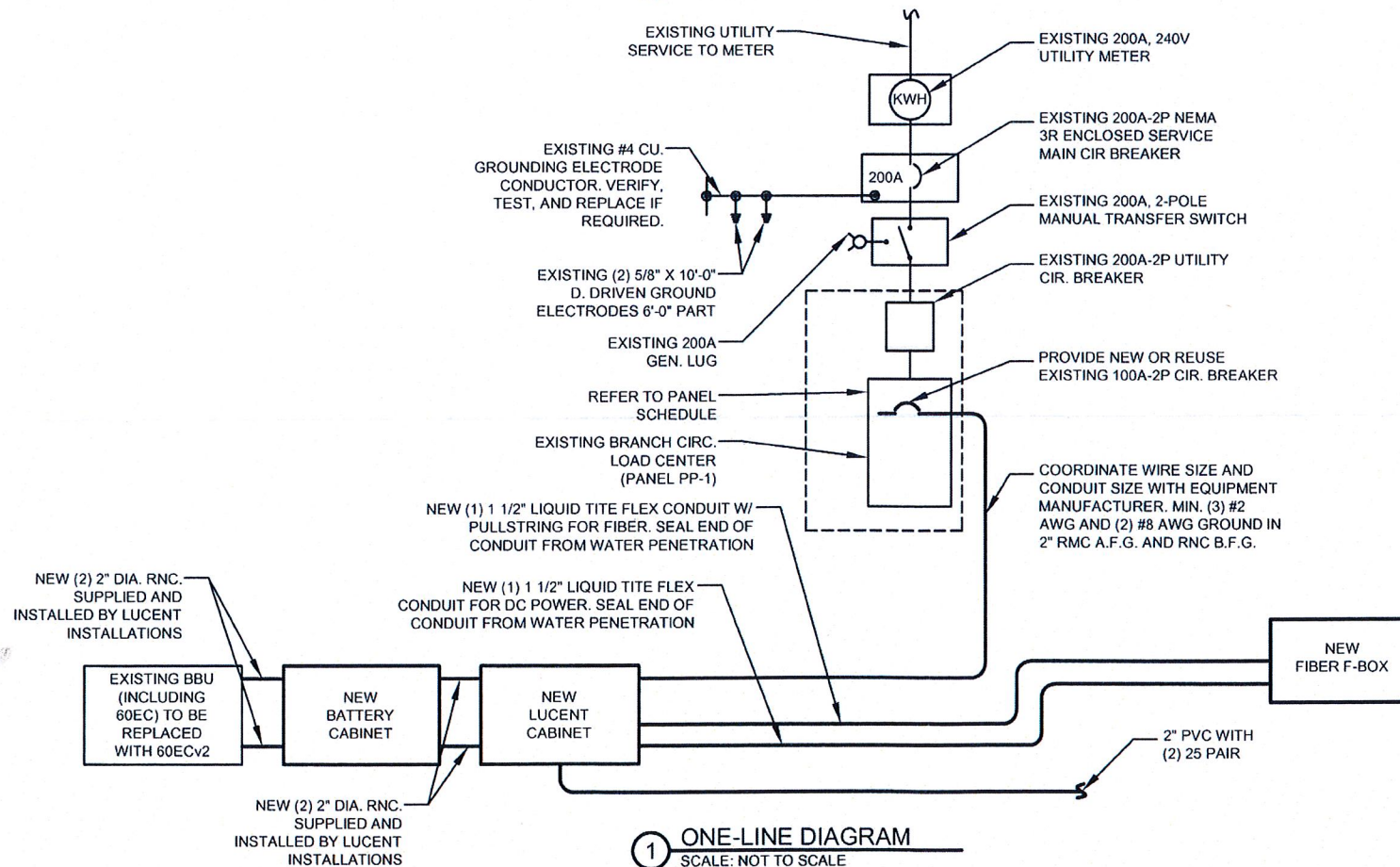
CONNECTED LOAD (kVA)	BRIEF DESCRIPTION	FEEDER OR BRANCH CIRCUIT					CIR. NO.	CIR. NOTES	FEEDER OR BRANCH CIRCUIT					CIR. NO.	CIR. NOTES	CONNECTED LOAD (kVA)	
		BREAKER	CIRCUIT	POLE	COND.	WIRE			BREAKER	CIRCUIT	POLE	COND.	WIRE			A	B
0.00	SPARE	100	2				1					2			0.00		
0.18	EXISTING GFI RECEPTACLE	20	1	2-#12	#12	3/4"	3					4					
0.40	EXISTING LIGHT	20	1	2-#12	#12	3/4"	5					6					
0.18	EXISTING GFI RECEPTACLE	20	1	2-#12	#12	3/4"	7					8					
6.00	PROPOSED LUCENT CABINET	100	2	3-#1	#8	2"	9					10					
							11					12					
							13					14					
							15					16					
							17					18					
							19					20					
							29					30					
							31					32					
							33					34					
							35					36					
							37					38					
							39					40					
6.4	6.4														0.0	0.0	
							A	B	TOTAL								
							6.4	6.4	12.8								
							6.4	6.4	12.8								

DERATING FACTOR (100%)
DEMAND LOAD SIZING: 53.2 AMPS

NOTE:

- ALL WIRES AND CONDUIT SIZES SHOWN TO BE COORDINATED WITH THE EQUIPMENT CABINET MANUFACTURER SPECS PRIOR TO INSTALLATION.
- PANEL SCHEDULE IS FOR REFERENCE ONLY. EXACT BREAKER POSITIONS MAY VARY ON-SITE.

2 PANEL SCHEDULE PP-1
SCALE: NOT TO SCALE



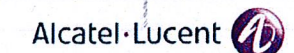
1 ONE-LINE DIAGRAM
SCALE: NOT TO SCALE

NOTE: (APPLY TO SINGLE LINE DIAGRAM)

- CONTRACTOR SHALL PROVIDE 100A, 240V, 2P CIRCUIT BREAKER AS NECESSARY IN THE EXISTING PANEL PP1. BREAKER SHALL MATCH EXISTING BREAKERS WHERE POSSIBLE AND SHALL BE LISTED FOR THE APPLICATION.
- CONTRACTOR SHALL FIELD VERIFY THE ACTUAL VOLTAGE AND ORDER THE SPRINT EQUIPMENT WITH CORRECT VOLTAGE SETTINGS.

GROUNDING NOTE:

IN ADDITION TO POWER SERVICE GROUNDING AS REQUIRED BY NEC, CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE AND INSTALL ALL SURGE AND LIGHTNING PROTECTION GROUNDING AS REQUIRED AND SPECIFIED BY SPRINT.



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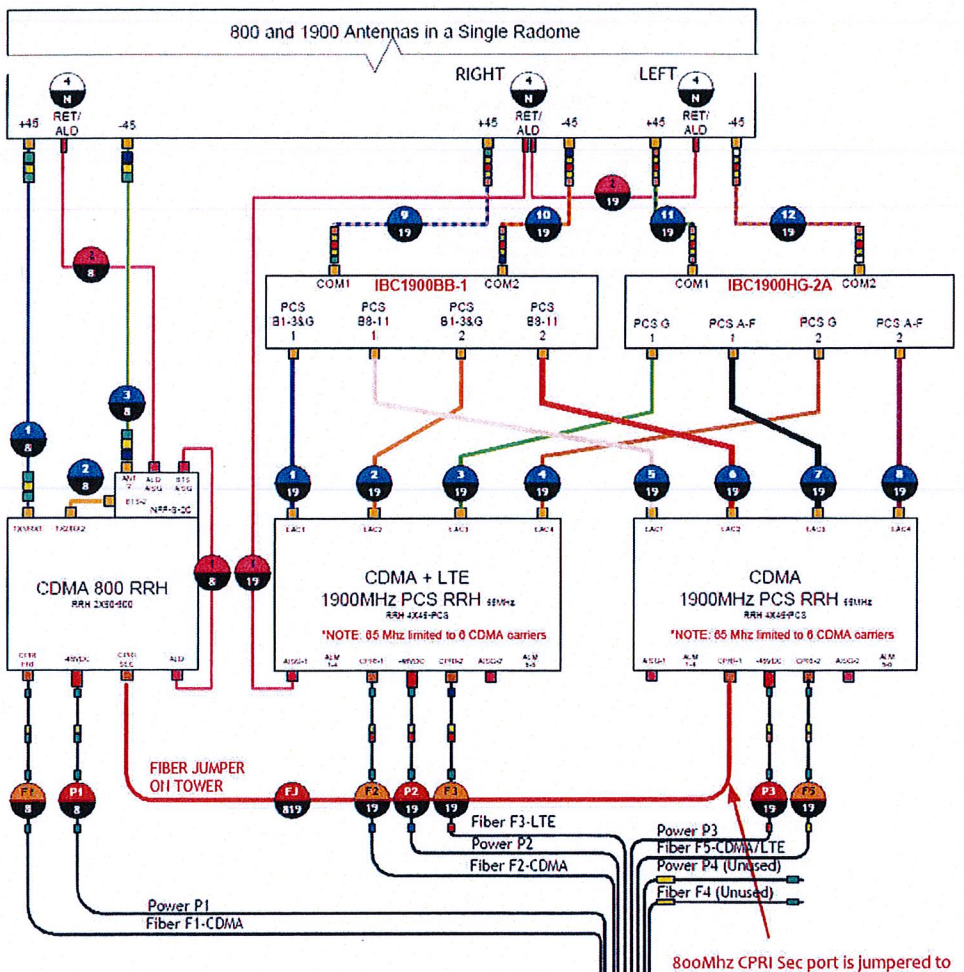
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SHEET TITLE:
ONE-LINE DIAGRAM AND PANEL SCHEDULE
SHEET NUMBER: E-2
REV. # 1



1 TOWER TOP BLOCK DIAGRAM
BD1 SCALE: N.T.S.

1 ANTENNA PLUMBING DIAGRAM
SCALE: NOT TO SCALE

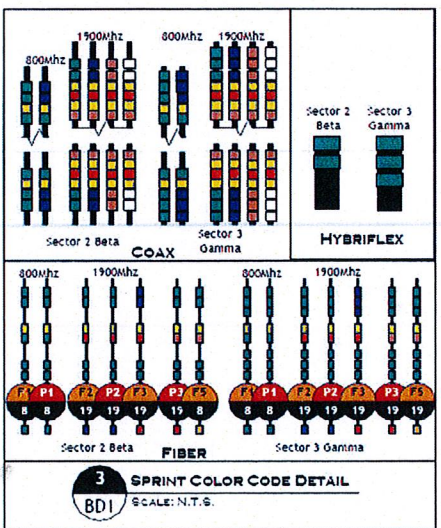
Power Feed Polarity Definition:
IF WIRES ARE BLACK AND BLACK/WHITE STRIPE:
 - Black = -48VDC Feed (Battery)
 - Black/White Stripe = Return

IF WIRES ARE RED AND BLACK:
 - Red = -48VDC Feed (Battery)
 - Black = Return

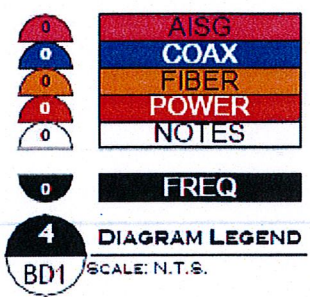
NOTE: For power feed use the same Hybriflex OEM color designator as the fiber.

- MM Pair 1 = F1 = Green = P1 (Green)
 - MM Pair 2 = F2 = Blue = P2 (Blue)
 - MM Pair 3 = F3 = Red = P3 (Red)
 - MM Pair 4 = F4 = Yellow = P4 (Yellow)
 - MM Pair 5 = F5 = Orange = (No P5 power feed)

2 HYBRIFLEX OEM COLOR CODE
BD1 SCALE: N.T.S.

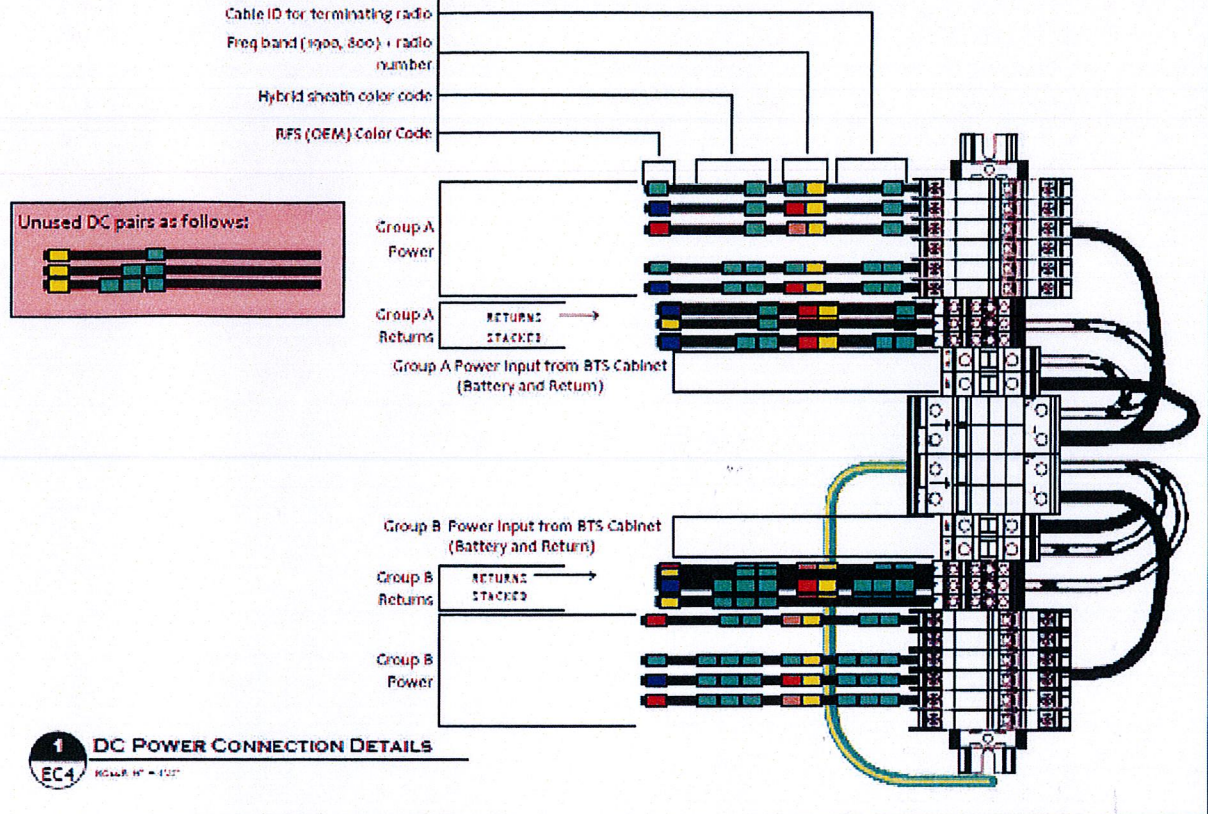


3 SPRINT COLOR CODE DETAIL
BD1 SCALE: N.T.S.

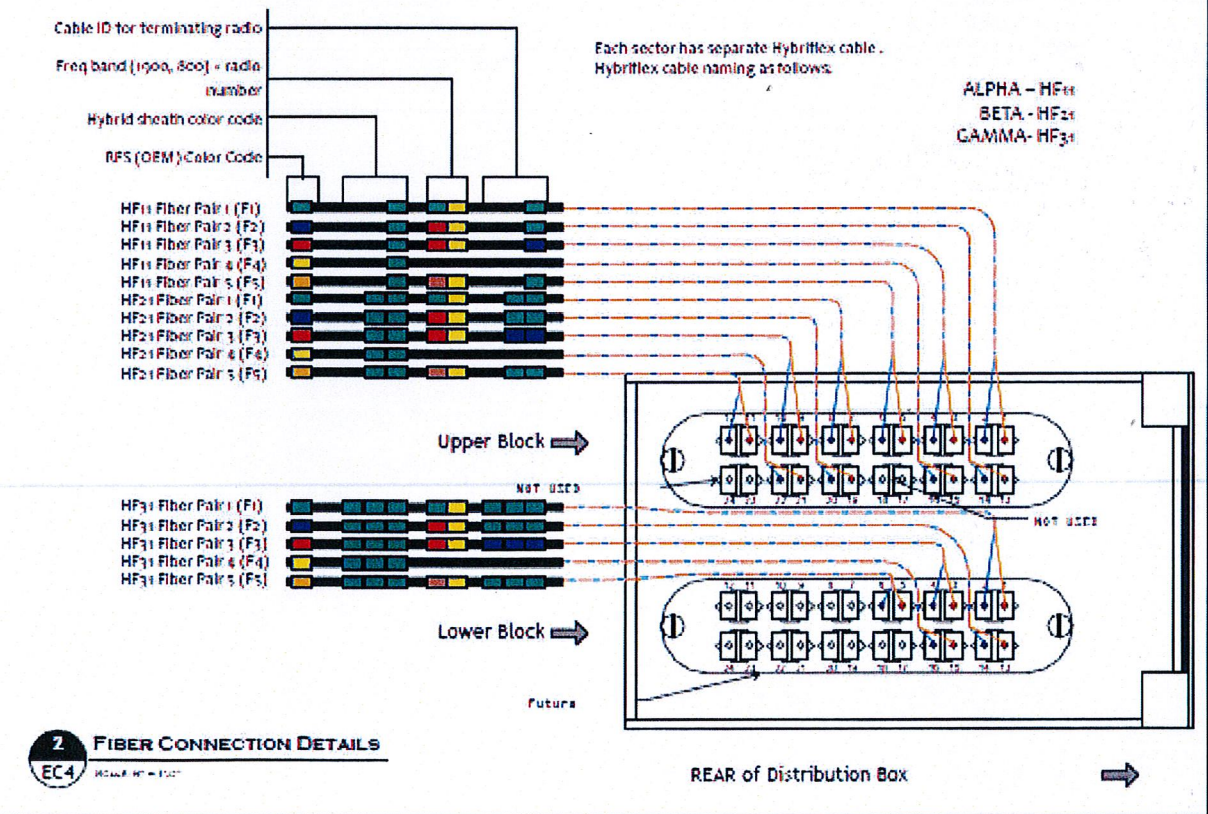


4 DIAGRAM LEGEND
BD1 SCALE: N.T.S.

OPTION 128
TOWER



1 DC POWER CONNECTION DETAILS
EC4 SCALE: N.T.S.



2 FIBER CONNECTION DETAILS
EC4 SCALE: N.T.S.

2 DISTRIBUTION BOX CONNECTION DETAILS
SCALE: NOT TO SCALE

NOTE:
GC TO REFER TO MOST RECENT
DIAGRAM SCENARIO PRIOR TO
STARTING CONSTRUCTION.

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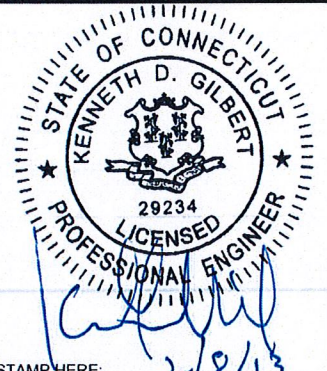
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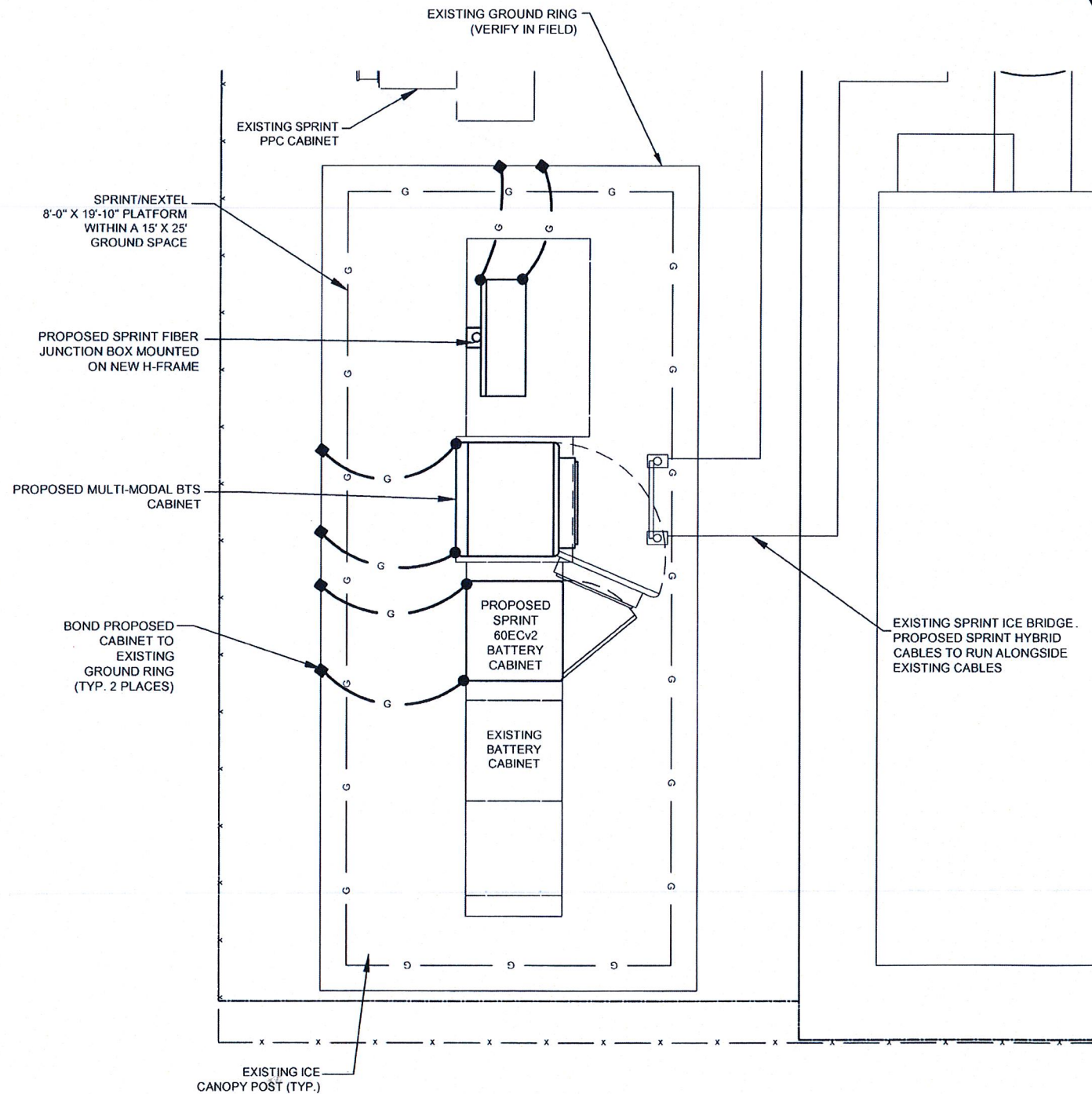
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ANTENNA
PLUMBING
DIAGRAM

SHEET NUMBER: **E-3** REV. # **1**

LEGEND:

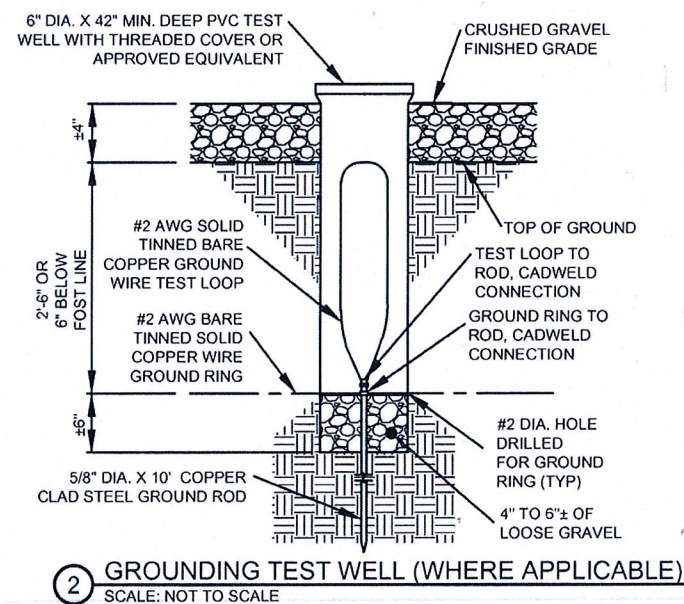
- CADWELD
- ⊗ PROPOSED GROUND ROD BONDED TO GROUND RING



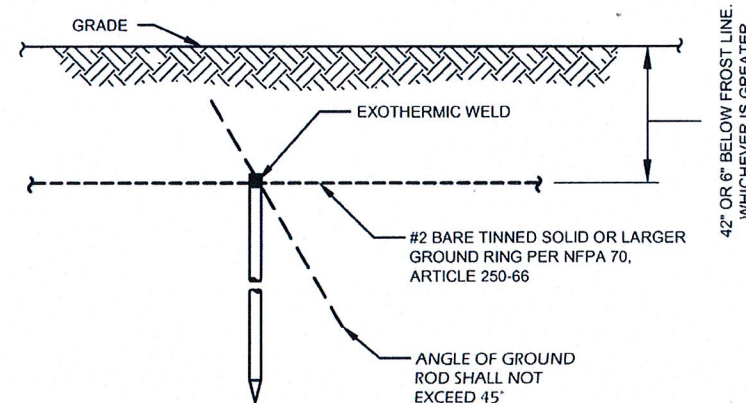
1 GROUNDING PLAN
SCALE: NOT TO SCALE

GROUNDING NOTES:

1. GROUNDING SHALL COMPLY WITH NEC ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
2. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED AND LISTED FOR THEIR INTENDED USE.
3. GROUND WIRES SHALL BE TINNED #2 AWG BARE SOLID CU UNLESS NOTED OTHERWISE.
4. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC (CADWELD) UNLESS NOTED OTHERWISE. CLEAN SURFACES TO BARE METAL. WHERE GROUND WIRES ARE CADWELD TO GALVANIZED SURFACE. SPRAY COMPLETED CADWELD WITH GALVANIZING PAINT.
5. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 8" RADIUS.
6. PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUB INC.). PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY KOPR-SHIELD OR EQUAL.
7. GROUNDING WIRE CONNECTIONS SHALL BE 3-CRIMP C-TAP COMPRESSION TYPE. SPLIT BOLTS ARE NOT ACCEPTABLE. CONNECTORS SHALL BE CRIMPED USING HYDRAULIC CRIMPING TOOLS.
8. GROUND RODS SHALL BE COPPER CLAD STEEL 5/8" X 10' SPACE NOT LESS THAN 10' O.C.
9. SURFACE CONNECTIONS SHALL BE MADE TO BARE METAL. PAINTED SURFACES SHALL BE FILED TO ENSURE PROPER CONTACT. APPLY NON-OXIDIZING AGENT TO CONNECTIONS.
10. COPPER BUSES SHALL BE CLEANED, POLISHED AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.
11. HARDWARE (I.E. NUTS, BOLTS, WASHER, ETC.) SHALL BE STAINLESS STEEL.
12. EXOTHERMIC WELDS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND RECOMMENDATIONS.



2 GROUNDING TEST WELL (WHERE APPLICABLE)
SCALE: NOT TO SCALE



3 GROUNDING ROD (WHERE APPLICABLE)
SCALE: NOT TO SCALE

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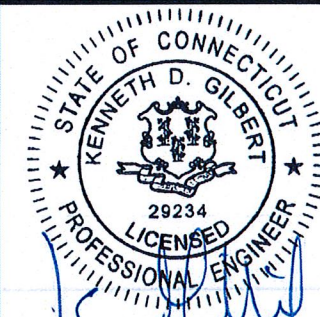


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SPRINT SITE NAME:
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ATC SITE NUMBER:
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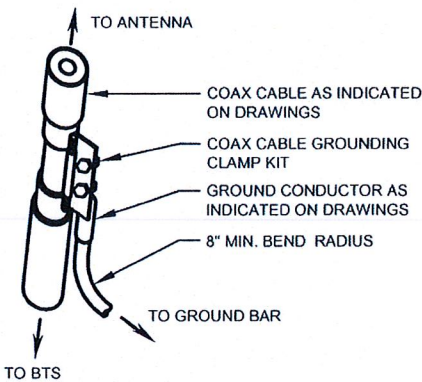
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DRAWN BY:	CHLE
CHECKED BY:	SAE
DATE DRAWN:	11-30-12
JOB NO:	514345K2

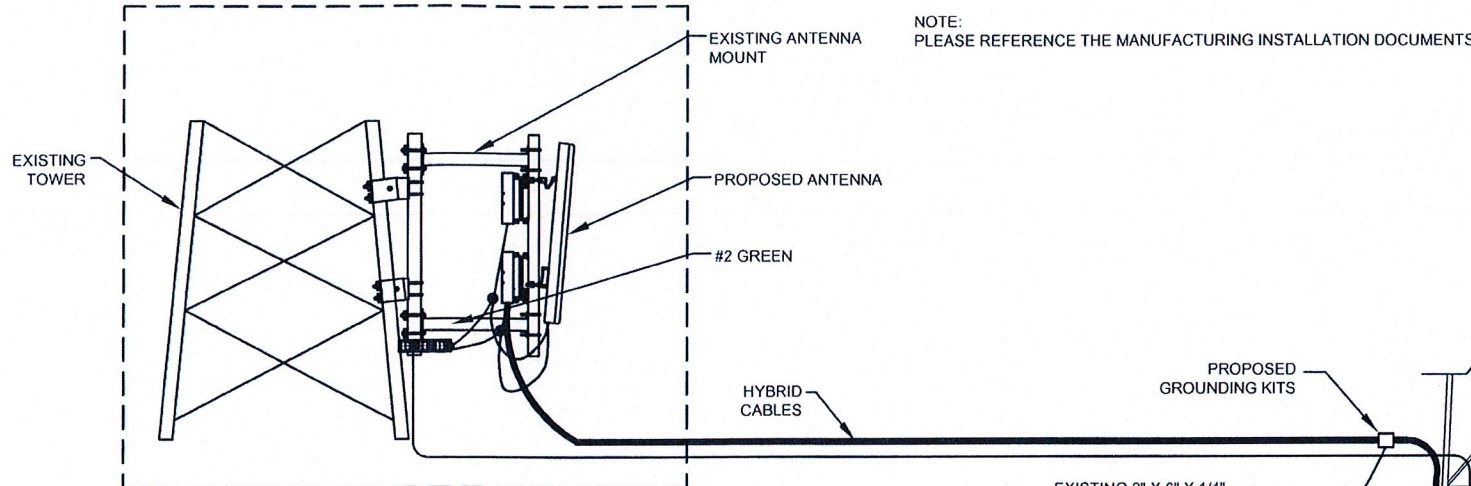
SHEET TITLE:

GROUNDING PLAN

SHEET NUMBER:	REV. #
G-1	0



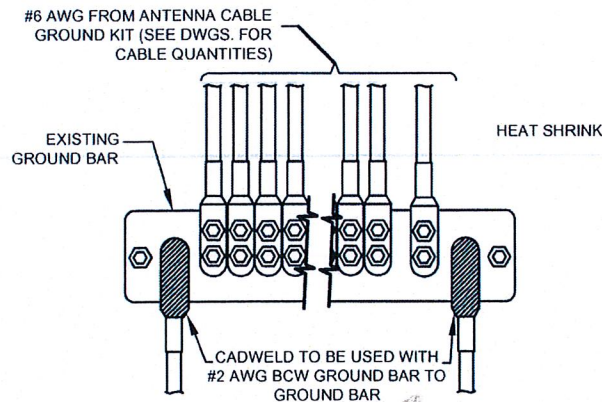
3 HYBRIFLEX GROUNDING DETAIL
SCALE: NOT TO SCALE



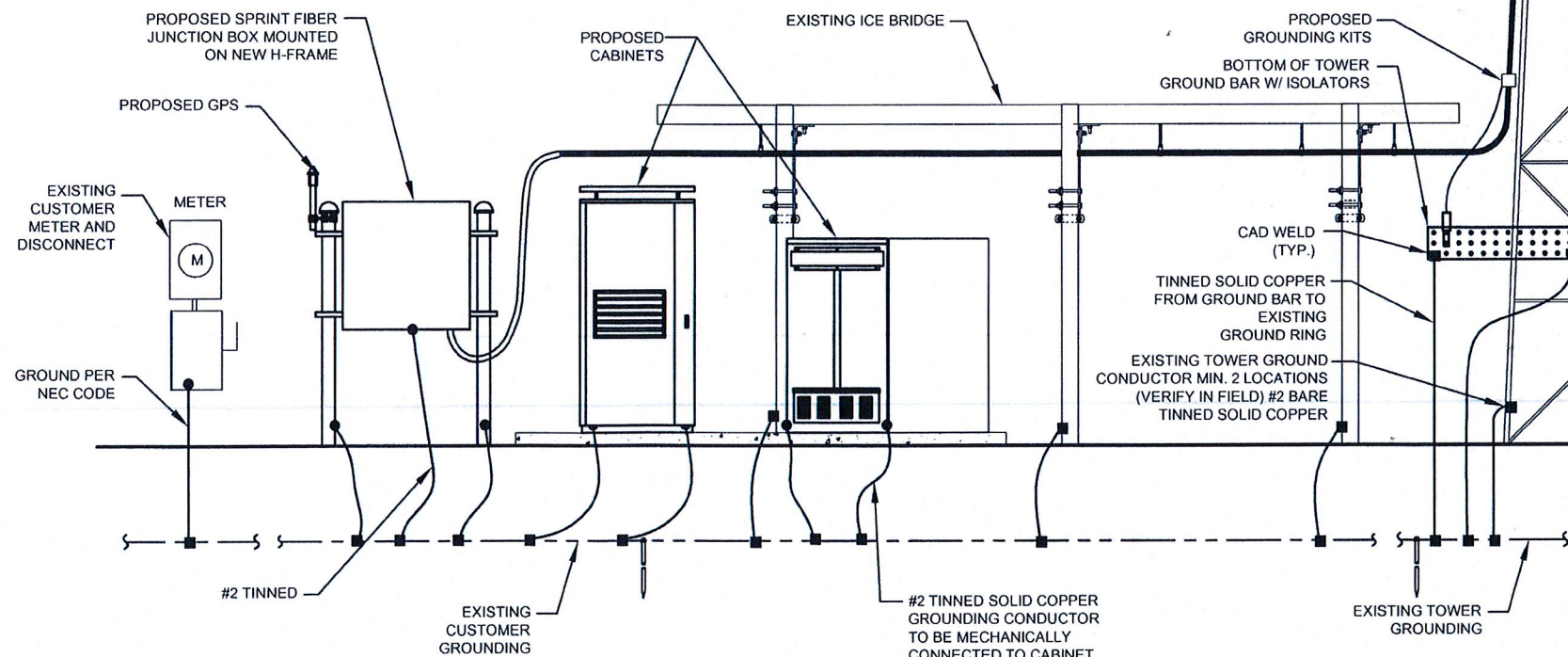
NOTE:
PLEASE REFERENCE THE MANUFACTURING INSTALLATION DOCUMENTS.

NOTE:
HAND DIG AS REQUIRED TO PROTECT ALL EXISTING UNDERGROUND UTILITIES (VERIFY IN FIELD)

NOTE:
THIS DETAIL IS FOR GROUNDING REPRESENTATION ONLY, THE NUMBER OF DISHES AND COAX SHOULD BE DETERMINED BY REFERENCING THE FINAL RF CONFIGURATION CHART ON PAGE A-5.



2 GROUNDING BAR DETAIL
SCALE: NOT TO SCALE



LEGEND
 ■ = EXOTHERMIC WELD CONNECTION
 ● = MECHANICAL CONNECTION

1 GROUNDING SCHEMATIC DIAGRAM
SCALE: NOT TO SCALE

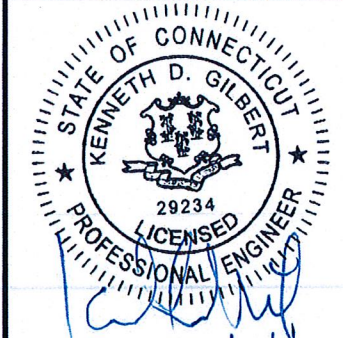
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 NETWORK VISION
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 6391 SPRINT PKWY
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GROUNDING DETAILS

SHEET NUMBER: **G-2** REV. # **1**