



**New Cingular Wireless
PCS, LLC**
500 Enterprise Drive
Rocky Hill, Connecticut 06067

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ORIGINAL

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CONNECTICUT
SITING COUNCIL

February 11, 2013

Honorable Robert Stein, Chairman,
and Members of the Connecticut Siting Council
Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

Re: Notice of Exempt Modification – Existing Telecommunications Facility at 185 Fisk Road, Hampton CT 06247

Dear Chairman Stein and Members of the Council:

New Cingular Wireless PCS, LLC ("AT&T") intends to modify the existing telecommunications antennas and associated equipment at an existing multicarrier telecommunications tower at 185 Fisk Road, Hampton CT, 06247. AT&T operates under licenses issued by the Federal Communications Commission ("FCC") to provide cellular and PCS mobile telephone service in Windham County, which includes the area to be served by AT&T's proposed installation.

In order to accommodate technological changes, implement Long Term Evolution ("LTE") capabilities, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") plans to modify the equipment configurations at many of its existing cell sites. 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.

Please accept this letter as notification to the Council, 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 is being sent to Allan Cahill, First Selectman of the Town of Hampton.

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

Existing Facility

The Hampton facility is located at 185 Fisk Road, Hampton, CT 06247

The facility is owned by American Tower.

The existing facility consists of a 160 foot guyed tower with an existing chain link fence around the tower compound fenced in compound. AT&T currently operates wireless communications equipment at the facility and has six (6) antennas mounted at the tower centerline height of 130'.

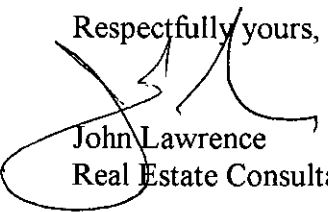
Statutory Considerations

The changes to the Hampton tower facility do not constitute a modification as defined in 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 in R.C.S.A. Section 16-50j-72(b)(2) because they will not result in any substantial adverse environmental effect.

1. The height of the overall structure will be unaffected.
2. The proposed changes will not affect the property boundaries. All new construction will take place inside the existing fenced compound.
3. The proposed additions will not increase the noise level at the existing facility by six decibels or more.
4. 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, New Cingular Wireless respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A Section §16-50j-72(b)(2).

Respectfully yours,



John Lawrence
Real Estate Consultant

Enclosures:
Allan Cahill, First Selectman of the Town of Hampton



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February 11, 2013

Allan Cahill, First Selectman
Town of Hampton
164 Main Street
Hampton CT 06247

Re: Notice of Exempt Modification – Existing Telecommunications Facility at 185 Fisk Road, Hampton CT 06247

Dear Mr. Cahill ,

New Cingular Wireless PCS, LLC ("AT&T") intends to replace telecommunications antennas and associated equipment at an existing telecommunications tower, owned and operated by American Tower.

A Notice of Exempt Modification has been filed with the Connecticut Siting Council as required by Regulations of Connecticut State Agencies ("R.C.S.A.") Section 16-50j-73. Please accept this letter as notification to the Town of Hampton under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The attached letter fully sets forth the AT&T proposal. However, if you have any questions or require any further information on the plans for the site or the Siting Council's procedures, please contact John Lawrence at (781) 715-5532 or Linda Roberts, Executive Director of the Connecticut Siting Council, at (860) 827-2935.

Sincerely,

John Lawrence
Real Estate Consultant

Enclosure

CC: Honorable Robert Stein, Chairmen of the Connecticut Siting Council

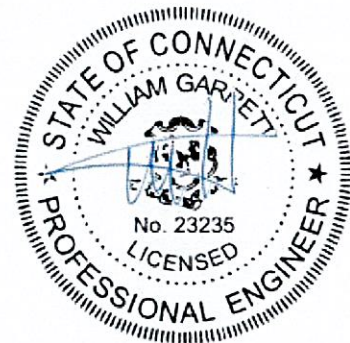


AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 160 ft Guyed Tower
ATC Site Name : Hampton CT, CT
ATC Site Number : 10029
Engineering Number : 50581823
Proposed Carrier : AT&T Mobility
Carrier Site Name : AWE-Hampton S Central
Carrier Site Number : 10071068
Site Location : Fisk Road
Hampton, CT 06247-1305
41.769943,-72.070641
County : Windham
Date : January 25, 2013
Max Usage : 67%
Result : Pass

Joseph R. Johnston
Project Engineer



Jan 25 2013 10:20 AM



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 160 ft guyed tower to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Fred A. Nudd Drawing #99-6606-1, dated February 17, 1999
Foundation Drawing	ATC Pier Measurements, dated January 3, 2013
Geotechnical Report	GEOservices Project #21-07254, dated February 16, 2008

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:	85 mph (Fastest Mile)
Basic Wind Speed w/ Ice:	74 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
156.0	9	Allgon 7120.16.05.00	Sector Frames	(9) 1 1/4" Coax	Sprint Nextel
150.0	9	Decibel DB980H90B-KL	Sector Frames	(9) 1 5/8" Coax	
142.0	3	Antel BXA-171085-8BF	Sector Frames	(12) 1 5/8" Coax	Verizon
	6	Antel LPA-80080-4CF			
	3	Antel BXA-70063-6CF			
	6	RFS FD9R6004/2C-3L			
130.0	1	KMW AM-X-CD-17-65-00T-RET	Sector Frames	(12) 1 1/4" Coax	AT&T Mobility
	6	Powerwave LGP13519			
	6	Powerwave LGP17201			
	6	Allgon 7770.00			
75.0	1	Lucent KS-24019	Side Arm	(1) 7/8" Coax	Verizon

Proposed Equipment

Elevation ¹ (ft)		Qty.	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
130.0	130.0	1	Raycap DC6-48-60-18-8F	Sector Frames	(2) 0.78" 8 AWG (1) 3" Conduit (1) 0.39" Cable	AT&T Mobility
		6	Ericsson RRUS-11			
		1	Powerwave P65-17-XLH-RR			
		1	KMW AM-X-CD-17-65-00T-RET			

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 alongside existing AT&T Mobility coax.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	64%	Pass
Diagonals	62%	Pass
Horizontals	38%	Pass
Guys	67%	Pass

Foundations

Reaction Component	Analysis Reactions
Base Axial (kips)	91.3
Anchor 1 Uplift (kips)	34.3
Anchor 1 Shear (kips)	45.1

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, Twist and Sway*

Antenna Elevation (ft)	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
130.0	0.113	0.005	0.054

*Deflection, Twist 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.

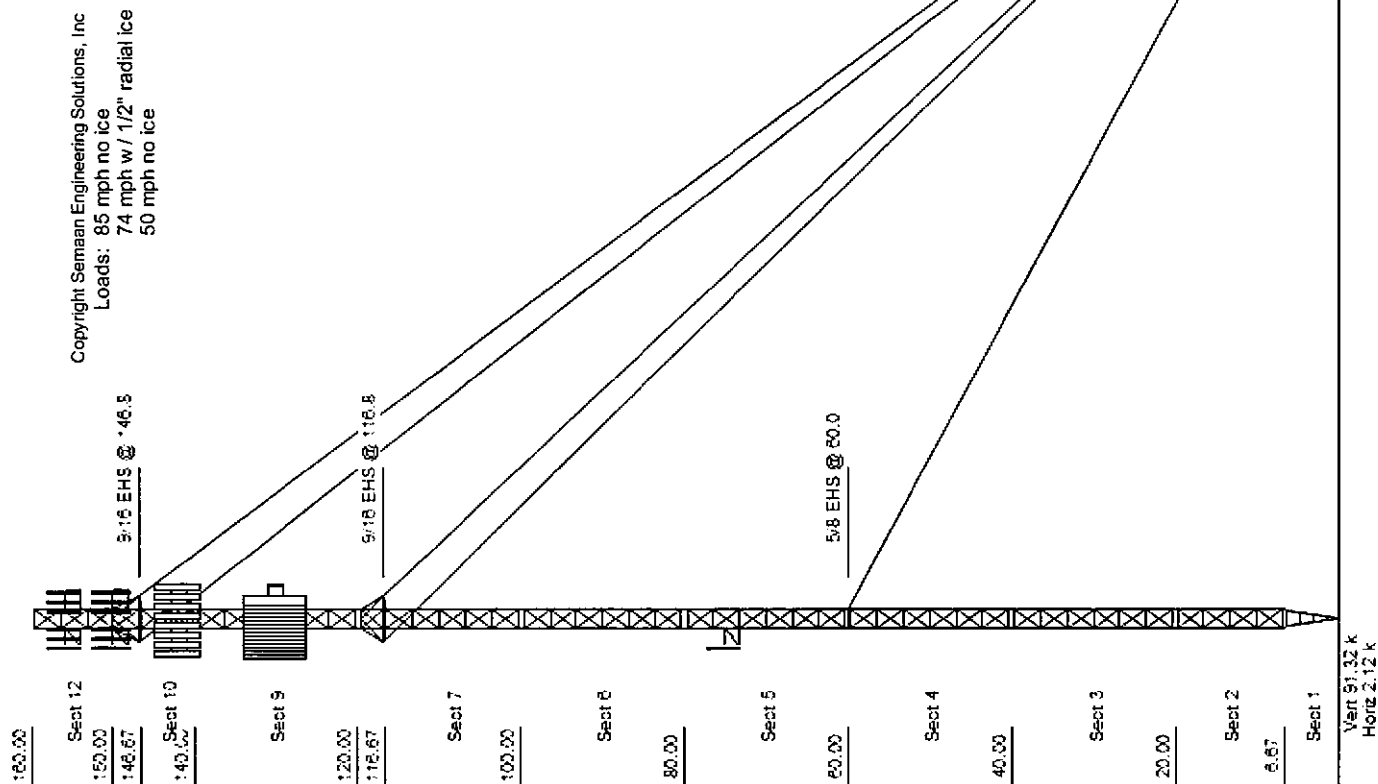
All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Engineering Services is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

Job Information		
Tower : 10029	Location : Hampton CT, CT	Base Width : 3.50 ft
Code : TIA/EIA-222 Rev F	Shape : Triangle	
Client : AT&T Mobility		

Sections Properties		
Section	Leg Members	Diagonal Members
1	PST 55 ksi 2-1/2" DIA PIPE	Horizontal Members
2 - 12	PST 55 ksi 2-1/2" DIA PIPE	SOL 36 ksi 5/8" SOLID
		SAE 36 ksi 2.5X2.5X0.25
		SAE 36 ksi 1.5X1.5X0.1875

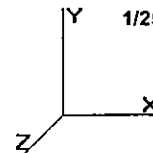
Discrete Appurtenance		
Elev (ft)	Type	Qty Description
156.00	Straight Arm	3 Delta Mount
156.00	Panel	9 Aligon 7120.16.05.00
156.00	Mounting Frame	3 Flat Light Sector Frames
150.00	Straight Arm	3 Delta Mount
150.00	Panel	9 Decibel DB980H90B-KL
150.00	Mounting Frame	3 Flat Light Sector Frames
147.00	Other	1 Torque Arms
142.00	Panel	3 Antel BXA-171085-8BF
142.00	Panel	6 Antel LPA-80080-4CF
142.00	Panel	3 Antel BXA-70063-8CF
142.00	Panel	6 RFS FD9R6004/2C-3L
142.00	Mounting Frame	3 Flat Light Sector Frames
130.00	Panel	1 KMW AM-X-CD-17-65-00T-RET
130.00	Panel	1 Raycap DC6-48-60-18-8F
130.00	Panel	6 Ericsson RRUS-11
130.00	Panel	1 Powerwave P65-17-XLH-RR
130.00	Panel	1 KMW AM-X-CD-17-65-00T-RET
130.00	Panel	6 Powerwave LGP13519
130.00	Panel	6 Powerwave LGP17201
130.00	Panel	6 Aligon 7770.00
130.00	Mounting Frame	3 Flat Light Sector Frames
117.00	Other	1 Torque Arms
75.00	Straight Arm	1 Flat Side Arm
75.00	Whip	1 Lucent KS-24019

Linear Appurtenance		
Elev (ft)	From	To Qty Description
10.000	156.00	9 1 1/4" Coax
10.000	150.00	9 1 5/8" Coax
10.000	142.00	6 1 5/8" Coax
10.000	142.00	6 1 5/8" Coax
10.000	142.00	1 3" Conduit
10.000	130.00	12 1 1/4" Coax
10.000	130.00	2 0.78" (19.7mm) 8 AWG
10.000	130.00	1 0.39" (10 mm) Cable
10.000	75.000	1 7/8" Coax



Site Number: 10029
Location: Hampton CT, CT

Code: TIA/EIA-222 Rev F



Gh: 1.13

Section Forces**LoadCase Normal No Ice**

85.00 mph Wind Normal To Face with No Ice

Allow Stress Inc: 1.333
Dead LF: 1.000
Wind LF: 1.000

Wind	Total	Total	Ice									Ice							
Sect	Height	qz	Flat	Round	Round	Sol				Eff	Linear	Linear	Total	Weight	Weight	Struct	Linear	Total	Eff
Seq	(ft)	(psf)	Area	Area	Area	Ratio	Cf	Df	Dr	Rr	Area	Area	Area	(lb)	Ice (lb)	(lb)	(lb)	(lb)	Face
			(sqft)	(sqft)	(sqft)						(sqft)	(sqft)	(sqft)						
12	155.0	28.78	1.22	13.18	0.00	0.41	2.04	1.00	1.00	0.66	9.87	0.00	0.00	353.6	0.0	654.66	0.00	654.66	3
11	148.3	28.42	0.00	5.94	0.00	0.51	1.89	1.00	1.00	0.70	4.17	0.00	0.00	131.2	0.0	252.82	0.00	252.82	3
10	143.3	28.14	0.82	11.87	0.00	0.54	1.85	1.00	1.00	0.72	9.37	3.96	0.00	319.2	0.0	550.77	150.98	701.75	3
9	130.0	27.37	2.85	35.65	0.00	0.55	1.84	1.00	1.00	0.72	28.67	51.89	0.00	1,279.8	0.0	1,632.89	1,923.6	3,556.51	3
8	118.3	26.64	0.00	5.92	0.00	0.51	1.89	1.00	1.00	0.70	4.15	10.70	0.00	217.1	0.0	235.95	386.02	621.97	3
7	108.3	25.98	2.04	29.73	0.00	0.54	1.85	1.00	1.00	0.72	23.48	53.48	0.00	1,188.4	0.0	1,272.77	1,882.0	3,154.80	3
6	90.00	24.64	2.85	35.65	0.00	0.55	1.84	1.00	1.00	0.72	28.67	64.18	0.00	1,443.7	0.0	1,470.04	2,141.9	3,611.98	3
5	70.00	22.93	2.85	35.65	0.00	0.55	1.84	1.00	1.00	0.72	28.67	64.18	0.00	1,448.6	0.0	1,368.19	1,993.5	3,361.72	3
4	50.00	20.83	3.29	35.65	0.00	0.56	1.84	1.00	1.00	0.73	29.24	64.18	0.00	1,469.2	0.0	1,263.16	1,810.8	3,073.97	3
3	30.00	18.50	2.85	35.65	0.00	0.55	1.84	1.00	1.00	0.72	28.67	64.18	0.00	1,450.3	0.0	1,103.66	1,608.1	2,711.77	3
2	13.33	18.50	2.04	19.89	0.00	0.47	1.94	1.00	1.00	0.68	15.62	32.09	0.00	841.1	0.0	633.25	804.04	1,437.29	3
1	3.33	18.50	1.52	3.34	0.00	0.42	2.03	1.00	1.00	0.66	3.72	0.00	0.00	222.6	0.0	157.79	0.00	157.79	1
														10,364.9	0.0				
																23,297.03			

LoadCase 60 deg No Ice

85.00 mph Wind at 60 deg From Face with No Ice

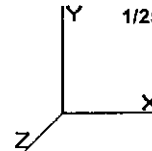
Allow Stress Inc: 1.333
Dead LF: 1.000
Wind LF: 1.000

Wind	Total	Total	Ice									Ice							
Sect	Height	qz	Flat	Round	Round	Sol				Eff	Linear	Linear	Total	Weight	Weight	Struct	Linear	Total	Eff
Seq	(ft)	(psf)	Area	Area	Area	Ratio	Cf	Df	Dr	Rr	Area	Area	Area	(lb)	Ice (lb)	(lb)	(lb)	(lb)	Face
			(sqft)	(sqft)	(sqft)						(sqft)	(sqft)	(sqft)						
12	155.0	28.78	1.22	13.18	0.00	0.41	2.04	0.80	1.00	0.66	9.63	0.00	0.00	353.6	0.0	638.44	0.00	638.44	3
11	148.3	28.42	0.00	5.94	0.00	0.51	1.89	0.80	1.00	0.70	4.17	0.00	0.00	131.2	0.0	252.82	0.00	252.82	3
10	143.3	28.14	0.82	11.87	0.00	0.54	1.85	0.80	1.00	0.72	9.21	3.96	0.00	319.2	0.0	541.19	150.98	692.17	3
9	130.0	27.37	2.85	35.65	0.00	0.55	1.84	0.80	1.00	0.72	28.10	51.89	0.00	1,279.8	0.0	1,600.40	1,923.6	3,524.02	3
8	118.3	26.64	0.00	5.92	0.00	0.51	1.89	0.80	1.00	0.70	4.15	10.70	0.00	217.1	0.0	235.95	386.02	621.97	3
7	108.3	25.98	2.04	29.73	0.00	0.54	1.85	0.80	1.00	0.72	23.07	53.48	0.00	1,188.4	0.0	1,250.67	1,882.0	3,132.71	3
6	90.00	24.64	2.85	35.65	0.00	0.55	1.84	0.80	1.00	0.72	28.10	64.18	0.00	1,443.7	0.0	1,440.79	2,141.9	3,582.73	3
5	70.00	22.93	2.85	35.65	0.00	0.55	1.84	0.80	1.00	0.72	28.10	64.18	0.00	1,448.6	0.0	1,340.96	1,993.5	3,334.50	3
4	50.00	20.83	3.29	35.65	0.00	0.56	1.84	0.80	1.00	0.73	28.58	64.18	0.00	1,469.2	0.0	1,234.73	1,810.8	3,045.54	3
3	30.00	18.50	2.85	35.65	0.00	0.55	1.84	0.80	1.00	0.72	28.10	64.18	0.00	1,450.3	0.0	1,081.70	1,608.1	2,689.80	3
2	13.33	18.50	2.04	19.89	0.00	0.47	1.94	0.80	1.00	0.68	15.21	32.09	0.00	841.1	0.0	616.73	804.04	1,420.76	3
1	3.33	18.50	1.52	3.34	0.00	0.42	2.03	0.80	1.00	0.66	3.41	0.00	0.00	222.6	0.0	144.89	0.00	144.89	1
														10,364.9	0.0				
																23,080.34			

Site Number: 10029
Location: Hampton CT, CT

1/25/2013 8:46:54 AM

Code: TIA/EIA-222 Rev F



Gh : 1.13

Section Forces**LoadCase 90 deg No Ice**

85.00 mph Wind at 90 deg From Face with No Ice

Allow Stress Inc: 1.333
Dead LF: 1.000
Wind LF: 1.000

Wind	Total	Total	Ice									Ice							
Sect	Height	qz	Flat	Round	Round	Sol	Cf	Df	Dr	Rr	Eff	Linear	Linear	Total	Weight	Struct	Linear	Total	Eff
Seq	(ft)	(psf)	Area	Area	Area	Ratio					Area	Area	Area	Weight	Ice	Force	Force	Force	Face
			(sqft)	(sqft)	(sqft)						(sqft)	(sqft)	(sqft)	(lb)	(lb)	(lb)	(lb)	(lb)	
12	155.0	28.78	1.22	13.18	0.00	0.41	2.04	0.85	1.00	0.66	9.69	0.00	0.00	353.6	0.0	642.50	0.00	642.50	3
11	148.3	28.42	0.00	5.94	0.00	0.51	1.89	0.85	1.00	0.70	4.17	0.00	0.00	131.2	0.0	252.82	0.00	252.82	3
10	143.3	28.14	0.82	11.87	0.00	0.54	1.85	0.85	1.00	0.72	9.25	3.96	0.00	319.2	0.0	543.59	150.98	694.57	3
9	130.0	27.37	2.85	35.65	0.00	0.55	1.84	0.85	1.00	0.72	28.25	51.89	0.00	1,279.8	0.0	1,608.53	1,923.6	3,532.14	3
8	118.3	26.64	0.00	5.92	0.00	0.51	1.89	0.85	1.00	0.70	4.15	10.70	0.00	217.1	0.0	235.95	386.02	621.97	3
7	108.3	25.98	2.04	29.73	0.00	0.54	1.85	0.85	1.00	0.72	23.17	53.48	0.00	1,188.4	0.0	1,256.19	1,882.0	3,138.23	3
6	90.00	24.64	2.85	35.65	0.00	0.55	1.84	0.85	1.00	0.72	28.25	64.18	0.00	1,443.7	0.0	1,448.10	2,141.9	3,590.04	3
5	70.00	22.93	2.85	35.65	0.00	0.55	1.84	0.85	1.00	0.72	28.25	64.18	0.00	1,448.6	0.0	1,347.77	1,993.5	3,341.30	3
4	50.00	20.83	3.29	35.65	0.00	0.56	1.84	0.85	1.00	0.73	28.74	64.18	0.00	1,469.2	0.0	1,241.84	1,810.8	3,052.64	3
3	30.00	18.50	2.85	35.65	0.00	0.55	1.84	0.85	1.00	0.72	28.25	64.18	0.00	1,450.3	0.0	1,087.19	1,608.1	2,695.29	3
2	13.33	18.50	2.04	19.89	0.00	0.47	1.94	0.85	1.00	0.68	15.31	32.09	0.00	841.1	0.0	620.86	804.04	1,424.89	3
1	3.33	18.50	1.52	3.34	0.00	0.42	2.03	0.85	1.00	0.66	3.49	0.00	0.00	222.6	0.0	148.11	0.00	148.11	1
														10,364.9	0.0	23,134.52			

LoadCase Normal Ice

73.61 mph Wind Normal To Face with Ice

Allow Stress Inc: 1.333
Dead LF: 1.000
Wind LF: 1.000

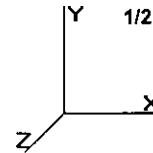
Wind	Total	Total	Ice									Ice							
Sect	Height	qz	Flat	Round	Round	Sol	Cf	Df	Dr	Rr	Eff	Linear	Linear	Total	Weight	Struct	Linear	Total	Eff
Seq	(ft)	(psf)	Area	Area	Area	Ratio					Area	Area	Area	Weight	Ice	Force	Force	Force	Face
			(sqft)	(sqft)	(sqft)						(sqft)	(sqft)	(sqft)	(lb)	(lb)	(lb)	(lb)	(lb)	
12	155.0	21.58	1.22	22.59	9.42	0.68	1.78	1.00	1.00	0.81	19.43	0.00	0.00	584.7	231.1	840.89	0.00	840.89	3
11	148.3	21.31	0.00	9.79	3.85	0.84	1.85	1.00	1.00	0.93	9.10	0.00	0.00	254.5	123.3	405.15	0.00	405.15	3
10	143.3	21.10	0.82	20.14	8.26	0.90	1.92	1.00	1.00	0.98	20.57	3.96	2.00	630.2	311.0	941.63	170.41	1,111.71	3 **
9	130.0	20.52	2.85	60.77	25.12	0.91	1.94	1.00	1.00	0.99	63.10	51.89	28.33	2,678.5	1,398.7	2,831.52	2,230.3	3,243.41	3 **
8	118.3	19.98	0.00	9.73	3.81	0.83	1.84	1.00	1.00	0.92	8.99	10.70	6.11	465.2	248.1	374.11	454.89	526.23	3 **
7	108.3	19.48	2.04	50.45	20.72	0.90	1.92	1.00	1.00	0.98	51.62	53.48	30.56	2,505.8	1,317.5	2,183.65	2,217.7	2,565.63	3 **
6	90.00	18.48	2.85	60.77	25.12	0.91	1.94	1.00	1.00	0.99	63.10	64.18	36.67	3,038.1	1,594.4	2,549.12	2,524.0	2,919.94	3 **
5	70.00	17.20	2.85	60.77	25.12	0.91	1.94	1.00	1.00	0.99	63.10	64.18	36.67	3,057.6	1,609.0	2,372.50	2,349.1	2,717.62	3 **
4	50.00	15.62	3.29	61.06	25.41	0.92	1.95	1.00	1.00	1.00	64.35	64.18	36.67	3,097.3	1,628.2	2,215.83	2,133.8	2,468.53	3 **
3	30.00	13.87	2.85	60.77	25.12	0.91	1.94	1.00	1.00	0.99	63.10	64.18	36.67	3,064.1	1,613.9	1,913.80	1,894.9	2,192.20	3 **
2	13.33	13.87	2.04	34.24	14.35	0.78	1.80	1.00	1.00	0.88	32.10	32.09	18.33	1,709.7	868.5	905.33	947.47	1,461.45	3 **
1	3.33	13.87	1.52	5.19	1.85	0.57	1.82	1.00	1.00	0.74	5.35	0.00	0.00	318.6	96.1	152.66	0.00	152.66	1
														21,404.6	11,039.7	20,605.43			

** = 2QzGhAg Controls

Site Number: 10029
Location: Hampton CT, CT

1/25/2013 8:46:54 AM

Code: TIA/EIA-222 Rev F



Gh : 1.13

Section Forces**LoadCase 60 deg Ice**

73.61 mph Wind at 60 deg From Face with Ice

Allow Stress Inc: 1.333
Dead LF: 1.000
Wind LF: 1.000

Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
12	155.0	21.58	1.22	22.59	9.42	0.68	1.78	0.80	1.00	0.81	19.19	0.00	0.00	584.7	231.1	830.31	0.00	830.31	3
11	148.3	21.31	0.00	9.79	3.85	0.84	1.85	0.80	1.00	0.93	9.10	0.00	0.00	254.5	123.3	405.15	0.00	405.15	3
10	143.3	21.10	0.82	20.14	8.26	0.90	1.92	0.80	1.00	0.98	20.41	3.96	2.00	630.2	311.0	934.17	170.41	1,104.58	3
9	130.0	20.52	2.85	60.77	25.12	0.91	1.94	0.80	1.00	0.99	62.53	51.89	28.33	2,678.5	1,398.7	2,805.92	2,230.3	3,243.41	3 **
8	118.3	19.98	0.00	9.73	3.81	0.83	1.84	0.80	1.00	0.92	8.99	10.70	6.11	465.2	248.1	374.11	454.89	526.23	3 **
7	108.3	19.48	2.04	50.45	20.72	0.90	1.92	0.80	1.00	0.98	51.21	53.48	30.56	2,505.8	1,317.5	2,166.41	2,217.7	2,565.63	3 **
6	90.00	18.48	2.85	60.77	25.12	0.91	1.94	0.80	1.00	0.99	62.53	64.18	36.67	3,038.1	1,594.4	2,526.07	2,524.0	2,919.94	3 **
5	70.00	17.20	2.85	60.77	25.12	0.91	1.94	0.80	1.00	0.99	62.53	64.18	36.67	3,057.6	1,609.0	2,351.05	2,349.1	2,717.62	3 **
4	50.00	15.62	3.29	61.06	25.41	0.92	1.95	0.80	1.00	1.00	63.70	64.18	36.67	3,097.3	1,628.2	2,193.18	2,133.8	2,468.53	3 **
3	30.00	13.87	2.85	60.77	25.12	0.91	1.94	0.80	1.00	0.99	62.53	64.18	36.67	3,064.1	1,613.9	1,896.50	1,894.9	2,192.20	3 **
2	13.33	13.87	2.04	34.24	14.35	0.78	1.80	0.80	1.00	0.88	31.70	32.09	18.33	1,709.7	868.5	893.84	947.47	1,461.45	3 **
1	3.33	13.87	1.52	5.19	1.85	0.57	1.82	0.80	1.00	0.74	5.05	0.00	0.00	318.6	96.1	143.99	0.00	143.99	1
														21,404.6	11,039.7			20,579.04	

** = 2QzGhAg Controls

LoadCase 90 deg Ice

73.61 mph Wind at 90 deg From Face with Ice

Allow Stress Inc: 1.333
Dead LF: 1.000
Wind LF: 1.000

Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
12	155.0	21.58	1.22	22.59	9.42	0.68	1.78	0.85	1.00	0.81	19.25	0.00	0.00	584.7	231.1	832.95	0.00	832.95	3
11	148.3	21.31	0.00	9.79	3.85	0.84	1.85	0.85	1.00	0.93	9.10	0.00	0.00	254.5	123.3	405.15	0.00	405.15	3
10	143.3	21.10	0.82	20.14	8.26	0.90	1.92	0.85	1.00	0.98	20.45	3.96	2.00	630.2	311.0	936.03	170.41	1,106.45	3
9	130.0	20.52	2.85	60.77	25.12	0.91	1.94	0.85	1.00	0.99	62.67	51.89	28.33	2,678.5	1,398.7	2,812.32	2,230.3	3,243.41	3 **
8	118.3	19.98	0.00	9.73	3.81	0.83	1.84	0.85	1.00	0.92	8.99	10.70	6.11	465.2	248.1	374.11	454.89	526.23	3 **
7	108.3	19.48	2.04	50.45	20.72	0.90	1.92	0.85	1.00	0.98	51.31	53.48	30.56	2,505.8	1,317.5	2,170.72	2,217.7	2,565.63	3 **
6	90.00	18.48	2.85	60.77	25.12	0.91	1.94	0.85	1.00	0.99	62.67	64.18	36.67	3,038.1	1,594.4	2,531.84	2,524.0	2,919.94	3 **
5	70.00	17.20	2.85	60.77	25.12	0.91	1.94	0.85	1.00	0.99	62.67	64.18	36.67	3,057.6	1,609.0	2,356.41	2,349.1	2,717.62	3 **
4	50.00	15.62	3.29	61.06	25.41	0.92	1.95	0.85	1.00	1.00	63.86	64.18	36.67	3,097.3	1,628.2	2,198.84	2,133.8	2,468.53	3 **
3	30.00	13.87	2.85	60.77	25.12	0.91	1.94	0.85	1.00	0.99	62.67	64.18	36.67	3,064.1	1,613.9	1,900.82	1,894.9	2,192.20	3 **
2	13.33	13.87	2.04	34.24	14.35	0.78	1.80	0.85	1.00	0.88	31.80	32.09	18.33	1,709.7	868.5	896.71	947.47	1,461.45	3 **
1	3.33	13.87	1.52	5.19	1.85	0.57	1.82	0.85	1.00	0.74	5.12	0.00	0.00	318.6	96.1	146.15	0.00	146.15	1
														21,404.6	11,039.7			20,585.72	

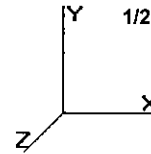
** = 2QzGhAg Controls

Site Number: 10029

Location: Hampton CT, CT

Code: TIA/EIA-222 Rev F

1/25/2013 8:46:54 AM



Gh : 1.13

Section Forces**LoadCase Normal**

50.00 mph Wind Normal To Face with No Ice

Allow Stress Inc: 1.333

Dead LF: 1.000

Wind LF: 1.000

Wind	Total	Total	Ice									Ice							
Sect	Height	qz	Flat	Round	Round	Sol				Eff	Linear	Linear	Total	Weight	Weight	Struct	Linear	Total	Eff
Seq	(ft)	(psf)	Area	Area	Area	Ratio	Cf	Df	Dr	Rr	Area	Area	Area	(lb)	Ice (lb)	Force	Force	Force	Face
			(sqft)	(sqft)	(sqft)						(sqft)	(sqft)	(sqft)			(lb)	(lb)	(lb)	
12	155.0	9.96	1.22	13.18	0.00	0.41	2.04	1.00	1.00	0.66	9.87	0.00	0.00	353.6	0.0	226.53	0.00	226.53	3
11	148.3	9.83	0.00	5.94	0.00	0.51	1.89	1.00	1.00	0.70	4.17	0.00	0.00	131.2	0.0	87.48	0.00	87.48	3
10	143.3	9.74	0.82	11.87	0.00	0.54	1.85	1.00	1.00	0.72	9.37	3.96	0.00	319.2	0.0	190.58	52.24	242.82	3
9	130.0	9.47	2.85	35.65	0.00	0.55	1.84	1.00	1.00	0.72	28.67	51.89	0.00	1,279.8	0.0	565.02	665.61	1,230.63	3
8	118.3	9.22	0.00	5.92	0.00	0.51	1.89	1.00	1.00	0.70	4.15	10.70	0.00	217.1	0.0	81.64	133.57	215.21	3
7	108.3	8.99	2.04	29.73	0.00	0.54	1.85	1.00	1.00	0.72	23.48	53.48	0.00	1,188.4	0.0	440.40	651.22	1,091.63	3
6	90.00	8.52	2.85	35.65	0.00	0.55	1.84	1.00	1.00	0.72	28.67	64.18	0.00	1,443.7	0.0	508.66	741.16	1,249.82	3
5	70.00	7.93	2.85	35.65	0.00	0.55	1.84	1.00	1.00	0.72	28.67	64.18	0.00	1,448.6	0.0	473.42	689.80	1,163.23	3
4	50.00	7.21	3.29	35.65	0.00	0.56	1.84	1.00	1.00	0.73	29.24	64.18	0.00	1,469.2	0.0	437.08	626.58	1,063.66	3
3	30.00	6.40	2.85	35.65	0.00	0.55	1.84	1.00	1.00	0.72	28.67	64.18	0.00	1,450.3	0.0	381.89	556.44	938.33	3
2	13.33	6.40	2.04	19.89	0.00	0.47	1.94	1.00	1.00	0.68	15.62	32.09	0.00	841.1	0.0	219.12	278.21	497.33	3
1	3.33	6.40	1.52	3.34	0.00	0.42	2.03	1.00	1.00	0.66	3.72	0.00	0.00	222.6	0.0	54.60	0.00	54.60	1
														10,364.9	0.0	8,061.26			

** = 2QzGhAg Controls

LoadCase 60 deg

50.00 mph Wind at 60 deg From Face with No Ice

Allow Stress Inc: 1.333

Dead LF: 1.000

Wind LF: 1.000

Wind	Total	Total	Ice									Ice							
Sect	Height	qz	Flat	Round	Round	Sol				Eff	Linear	Linear	Total	Weight	Weight	Struct	Linear	Total	Eff
Seq	(ft)	(psf)	Area	Area	Area	Ratio	Cf	Df	Dr	Rr	Area	Area	Area	(lb)	Ice (lb)	Force	Force	Force	Face
			(sqft)	(sqft)	(sqft)						(sqft)	(sqft)	(sqft)			(lb)	(lb)	(lb)	
12	155.0	9.96	1.22	13.18	0.00	0.41	2.04	0.80	1.00	0.66	9.63	0.00	0.00	353.6	0.0	220.91	0.00	220.91	3
11	148.3	9.83	0.00	5.94	0.00	0.51	1.89	0.80	1.00	0.70	4.17	0.00	0.00	131.2	0.0	87.48	0.00	87.48	3
10	143.3	9.74	0.82	11.87	0.00	0.54	1.85	0.80	1.00	0.72	9.21	3.96	0.00	319.2	0.0	187.26	52.24	239.51	3
9	130.0	9.47	2.85	35.65	0.00	0.55	1.84	0.80	1.00	0.72	28.10	51.89	0.00	1,279.8	0.0	553.77	665.61	1,219.38	3
8	118.3	9.22	0.00	5.92	0.00	0.51	1.89	0.80	1.00	0.70	4.15	10.70	0.00	217.1	0.0	81.64	133.57	215.21	3
7	108.3	8.99	2.04	29.73	0.00	0.54	1.85	0.80	1.00	0.72	23.07	53.48	0.00	1,188.4	0.0	432.76	651.22	1,083.98	3
6	90.00	8.52	2.85	35.65	0.00	0.55	1.84	0.80	1.00	0.72	28.10	64.18	0.00	1,443.7	0.0	498.54	741.16	1,239.70	3
5	70.00	7.93	2.85	35.65	0.00	0.55	1.84	0.80	1.00	0.72	28.10	64.18	0.00	1,448.6	0.0	464.00	689.80	1,153.80	3
4	50.00	7.21	3.29	35.65	0.00	0.56	1.84	0.80	1.00	0.73	28.58	64.18	0.00	1,469.2	0.0	427.24	626.58	1,053.82	3
3	30.00	6.40	2.85	35.65	0.00	0.55	1.84	0.80	1.00	0.72	28.10	64.18	0.00	1,450.3	0.0	374.29	556.44	930.73	3
2	13.33	6.40	2.04	19.89	0.00	0.47	1.94	0.80	1.00	0.68	15.21	32.09	0.00	841.1	0.0	213.40	278.21	491.61	3
1	3.33	6.40	1.52	3.34	0.00	0.42	2.03	0.80	1.00	0.66	3.41	0.00	0.00	222.6	0.0	50.13	0.00	50.13	1
														10,364.9	0.0	7,986.28			

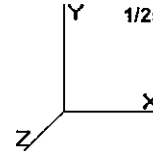
** = 2QzGhAg Controls

Site Number: 10029
Location: Hampton CT, CT

Code: TIA/EIA-222 Rev F

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1/25/2013 8:46:54 AM



Gh : 1.13

Section Forces

LoadCase 90 deg

50.00 mph Wind at 90 deg From Face with No Ice

Allow Stress Inc: 1.333
Dead LF: 1.000
Wind LF: 1.000

Sect Seq	Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Rr	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)	Eff Face
12	155.0	9.96	1.22	13.18	0.00	0.41	2.04	0.85	1.00	0.66	9.69	0.00	0.00	353.6	0.0	222.32	0.00	222.32	3
11	148.3	9.83	0.00	5.94	0.00	0.51	1.89	0.85	1.00	0.70	4.17	0.00	0.00	131.2	0.0	87.48	0.00	87.48	3
10	143.3	9.74	0.82	11.87	0.00	0.54	1.85	0.85	1.00	0.72	9.25	3.96	0.00	319.2	0.0	188.09	52.24	240.33	3
9	130.0	9.47	2.85	35.65	0.00	0.55	1.84	0.85	1.00	0.72	28.25	51.89	0.00	1,279.8	0.0	556.58	665.61	1,222.19	3
8	118.3	9.22	0.00	5.92	0.00	0.51	1.89	0.85	1.00	0.70	4.15	10.70	0.00	217.1	0.0	81.64	133.57	215.21	3
7	108.3	8.99	2.04	29.73	0.00	0.54	1.85	0.85	1.00	0.72	23.17	53.48	0.00	1,188.4	0.0	434.67	651.22	1,085.89	3
6	90.00	8.52	2.85	35.65	0.00	0.55	1.84	0.85	1.00	0.72	28.25	64.18	0.00	1,443.7	0.0	501.07	741.16	1,242.23	3
5	70.00	7.93	2.85	35.65	0.00	0.55	1.84	0.85	1.00	0.72	28.25	64.18	0.00	1,448.6	0.0	466.36	689.80	1,156.16	3
4	50.00	7.21	3.29	35.65	0.00	0.56	1.84	0.85	1.00	0.73	28.74	64.18	0.00	1,469.2	0.0	429.70	626.58	1,056.28	3
3	30.00	6.40	2.85	35.65	0.00	0.55	1.84	0.85	1.00	0.72	28.25	64.18	0.00	1,450.3	0.0	376.19	556.44	932.63	3
2	13.33	6.40	2.04	19.89	0.00	0.47	1.94	0.85	1.00	0.68	15.31	32.09	0.00	841.1	0.0	214.83	278.21	493.04	3
1	3.33	6.40	1.52	3.34	0.00	0.42	2.03	0.85	1.00	0.66	3.49	0.00	0.00	222.6	0.0	51.25	0.00	51.25	1
														10,364.9	0.0	8,005.02			

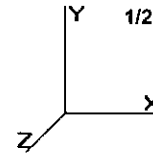
** = 2QzGhAg Controls

Site Number: 10029
Location: Hampton CT, CT

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Code: TIA/EIA-222 Rev F



Tower Loading

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)	X Angle (deg)	Vert Ecc (ft)
156.0	Delta Mount	3	150.00	6.300	0.67	230.00	7.000	0.67	0.000	0.00	0.000
156.0	Allgon 7120.16.05.00	9	15.40	5.320	0.85	53.00	4.586	0.87	0.000	0.00	0.000
156.0	Flat Light Sector Frames	3	400.00	17.900	0.67	510.00	22.200	0.67	0.000	0.00	0.000
150.0	Delta Mount	3	150.00	6.300	0.67	230.00	7.000	0.67	0.000	0.00	0.000
150.0	Decibel DB980H90B-KL	9	8.50	3.800	0.79	28.62	4.370	0.79	0.000	0.00	0.000
150.0	Flat Light Sector Frames	3	400.00	17.900	0.67	510.00	22.200	0.67	0.000	0.00	0.000
147.0	Torque Arms	1	500.00	15.000	1.00	650.00	20.250	1.00	0.000	0.00	0.000
142.0	Antel BXA-171085-8BF	3	10.50	2.940	0.87	29.80	3.370	0.87	0.000	0.00	0.000
142.0	Antel LPA-80080-4CF	6	12.00	5.400	0.74	45.12	6.650	0.74	0.000	0.00	0.000
142.0	Antel BXA-70063-6CF	3	17.00	7.570	0.77	58.00	8.540	0.77	0.000	0.00	0.000
142.0	RFS FD9R6004/2C-3L	6	3.10	0.370	0.50	5.40	0.500	0.50	0.000	0.00	0.000
142.0	Flat Light Sector Frames	3	400.00	17.900	0.67	510.00	22.200	0.67	0.000	0.00	0.000
130.0	KMW AM-X-CD-17-65-00T-	1	59.50	11.310	0.80	120.90	12.230	0.80	0.000	0.00	0.000
130.0	Raycap DC6-48-60-18-8F	1	31.80	1.470	1.00	49.50	1.670	1.00	0.000	0.00	0.000
130.0	Ericsson RRUS-11	6	55.00	4.420	0.67	80.70	4.850	0.67	0.000	0.00	0.000
130.0	Powerwave P65-17-XLH-RR	1	59.00	11.460	0.80	121.00	12.390	0.80	0.000	0.00	0.000
130.0	KMW AM-X-CD-17-65-00T-	1	59.50	11.310	0.80	120.90	12.230	0.80	0.000	0.00	0.000
130.0	Powerwave LGP13519	6	10.00	0.338	0.50	20.00	0.467	0.50	0.000	0.00	0.000
130.0	Powerwave LGP17201	6	31.00	2.000	0.50	50.00	2.300	0.50	0.000	0.00	0.000
130.0	Allgon 7770.00	6	35.00	5.510	0.77	68.00	6.530	0.77	0.000	0.00	0.000
130.0	Flat Light Sector Frames	3	400.00	17.900	0.67	510.00	22.200	0.67	0.000	0.00	0.000
117.0	Torque Arms	1	500.00	15.000	1.00	650.00	20.250	1.00	0.000	0.00	0.000
75.00	Flat Side Arm	1	50.00	3.000	1.00	75.00	5.000	1.00	0.000	0.00	0.000
75.00	Lucent KS-24019	1	4.00	0.910	1.00	11.20	1.200	1.00	0.000	0.00	1.104
Totals		86	8138.00			11911.80			Number of Appurtenances : 24		

Linear Appurtenance Properties

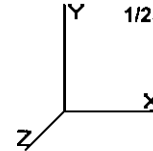
Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Wind	Spread On Faces	Bundling Arrangement
10.00	156.0	1 1/4" Coax	9	1.55	0.63	100.00	3	Separate
10.00	150.0	1 5/8" Coax	9	1.98	0.82	66.60	2	Separate
10.00	142.0	1 5/8" Coax	6	1.98	0.82	100.00	Lin App	Separate
10.00	142.0	1 5/8" Coax	6	1.98	0.82	100.00	Lin App	Separate
10.00	130.0	0.39" (10 mm)	1	0.39	0.07	100.00	Lin App	Separate
10.00	130.0	0.78" (19.7mm) 8	2	0.78	0.59	100.00	Lin App	Separate
10.00	130.0	1 1/4" Coax	12	1.55	0.63	50.00	Lin App	Separate
10.00	130.0	3" Conduit	1	3.50	7.58	100.00	Lin App	Separate
10.00	75.00	7/8" Coax	1	1.09	0.33	100.00	1	Separate

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Force/Stress Summary

Section: 1		Section 1		Bot Elev (ft): 0.00				Height (ft): 6.667							
		Force		Len	Bracing %			Fa	Member			Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Cap Num	Num	Cap	Cap	%	Controls
LEG	PST - 2-1/2" DIA PIP	-36.61	60 deg Ice	1.64	100	100	100	20.8	41.2	70.23	0	0	0.00	0.00	52 Member X
HORIZ	SAE - 2.5X2.5X0.25	-0.05	Normal No Ice	0.826	100	100	100	13.1	28.0	33.31	0	0	0.00	0.00	0 Member Z
DIAG		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	
Max Tension Member		Force		Fy	Cap Num	Num		Shear	Bear	Use					
		(kip)	Load Case	(ksi)	(kip) Bolts	Holes		Cap (kip)	Cap (kip)	%					Controls
LEG		0.00		0	0.00	0	0	0.00	0.00	0					
HORIZ	SAE - 2.5X2.5X0.25	3.16	Normal Ice	36	34.27	0	0	0.00	0.00	9				Member	
DIAG		0.00		0	0.00	0	0	0.00	0.00	0					

Section: 2		Section 2		Bot Elev (ft): 6.67				Height (ft): 13.333							
		Force		Len	Bracing %			Fa	Member			Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Cap Num	Num	Cap	Cap	%	Controls
LEG	PST - 2-1/2" DIA PIP	-41.17	60 deg Ice	3.21	100	100	100	40.7	37.3	63.61	0	0	0.00	0.00	64 Member X
HORIZ	SAE - 1.5X1.5X0.1875	-1.25	90 deg Ice	3.500	100	100	100	93.2	18.4	9.77	0	0	0.00	0.00	12 Member Z
DIAG	SOL - 5/8" SOLID	-2.06	Normal No Ice	4.748	50	50	50	164.3	7.4	2.26	0	0	0.00	0.00	
Max Tension Member		Force		Fy	Cap Num	Num		Shear	Bear	Use					
		(kip)	Load Case	(ksi)	(kip) Bolts	Holes		Cap (kip)	Cap (kip)	%					Controls
LEG		0.00		0	0.00	0	0	0.00	0.00	0					
HORIZ	SAE - 1.5X1.5X0.1875	4.04	Normal Ice	36	15.26	0	0	0.00	0.00	26				Member	
DIAG	SOL - 5/8" SOLID	1.81	90 deg Ice	36	8.83	0	0	0.00	0.00	20				Member	

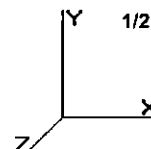
Section: 3		Section 3-9		Bot Elev (ft): 20.00				Height (ft): 20.000							
		Force		Len	Bracing %			Fa	Member			Shear	Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Cap Num	Num	Cap	Cap	%	Controls
LEG	PST - 2-1/2" DIA PIP	-38.93	60 deg Ice	3.21	100	100	100	40.7	37.3	63.61	0	0	0.00	0.00	61 Member X
HORIZ	SAE - 1.5X1.5X0.1875	-0.52	60 deg Ice	3.500	100	100	100	93.2	18.4	9.77	0	0	0.00	0.00	5 Member Z
DIAG	SOL - 5/8" SOLID	-1.54	Normal No Ice	4.748	50	50	50	164.3	7.4	2.26	0	0	0.00	0.00	
Max Tension Member		Force		Fy	Cap Num	Num		Shear	Bear	Use					
		(kip)	Load Case	(ksi)	(kip) Bolts	Holes		Cap (kip)	Cap (kip)	%					Controls
LEG		0.00		0	0.00	0	0	0.00	0.00	0					
HORIZ	SAE - 1.5X1.5X0.1875	2.98	Normal Ice	36	15.26	0	0	0.00	0.00	19				Member	
DIAG	SOL - 5/8" SOLID	1.30	90 deg Ice	36	8.83	0	0	0.00	0.00	14				Member	

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Force/Stress Summary

Section: 4		Section 3-9		Bot Elev (ft): 40.00				Height (ft): 20.000								
		Force		Len	Bracing %			Fa	Member			Shear	Bear	Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Cap Num	Num	Cap	Cap	%	Controls
LEG	PST - 2-1/2" DIA PIP	-36.39	60 deg Ice	3.21	100	100	100	40.7	37.3	63.61	0	0	0.00	0.00	57	Member X
HORIZ	SAE - 1.5X1.5X0.1875	-2.62	90 deg No Ice	3.500	100	100	100	93.2	18.4	9.77	0	0	0.00	0.00	26	Member Z
DIAG	SOL - 5/8" SOLID	-1.82	Normal No Ice	4.748	50	50	50	164.3	7.4	2.26	0	0	0.00	0.00		
Max Tension Member		(kip)	Load Case		Fy	Cap	Num	Num	Shear	Bear	Use					
		(kip)			(ksi)	(kip)	Bolts	Holes	Cap (kip)	Cap (kip)	%	Controls				
LEG		0.00			0	0.00	0	0	0.00	0.00	0					
HORIZ	SAE - 1.5X1.5X0.1875	2.77	Normal Ice		36	15.26	0	0	0.00	0.00	18	Member				
DIAG	SOL - 5/8" SOLID	3.55	90 deg No Ice		36	8.83	0	0	0.00	0.00	40	Member				

Section: 5		Section 3-9		Bot Elev (ft): 60.00				Height (ft): 20.000								
		Force		Len	Bracing %			Fa	Member			Shear	Bear	Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Cap Num	Num	Cap	Cap	%	Controls
LEG	PST - 2-1/2" DIA PIP	-35.63	90 deg Ice	3.21	100	100	100	40.7	37.3	63.61	0	0	0.00	0.00	56	Member X
HORIZ	SAE - 1.5X1.5X0.1875	-2.63	90 deg No Ice	3.500	100	100	100	93.2	18.4	9.77	0	0	0.00	0.00	26	Member Z
DIAG	SOL - 5/8" SOLID	-0.91	Normal No Ice	4.748	50	50	50	164.3	7.4	2.26	0	0	0.00	0.00		
Max Tension Member		(kip)	Load Case		Fy	Cap	Num	Num	Shear	Bear	Use					
		(kip)			(ksi)	(kip)	Bolts	Holes	Cap (kip)	Cap (kip)	%	Controls				
LEG		0.00			0	0.00	0	0	0.00	0.00	0					
HORIZ	SAE - 1.5X1.5X0.1875	2.53	60 deg Ice		36	15.26	0	0	0.00	0.00	16	Member				
DIAG	SOL - 5/8" SOLID	3.63	90 deg No Ice		36	8.83	0	0	0.00	0.00	41	Member				

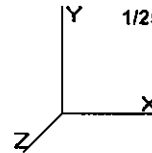
Section: 6		Section 3-9		Bot Elev (ft): 80.00				Height (ft): 20.000								
		Force		Len	Bracing %			Fa	Member			Shear	Bear	Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Cap Num	Num	Cap	Cap	%	Controls
LEG	PST - 2-1/2" DIA PIP	-26.12	90 deg No Ice	3.21	100	100	100	40.7	37.3	63.61	0	0	0.00	0.00	41	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SOL - 5/8" SOLID	-1.31	Normal No Ice	4.748	50	50	50	164.3	7.4	2.26	0	0	0.00	0.00		
Max Tension Member		(kip)	Load Case		Fy	Cap	Num	Num	Shear	Bear	Use					
		(kip)			(ksi)	(kip)	Bolts	Holes	Cap (kip)	Cap (kip)	%	Controls				
LEG		0.00			0	0.00	0	0	0.00	0.00	0					
HORIZ	SAE - 1.5X1.5X0.1875	2.21	Normal No Ice		36	15.26	0	0	0.00	0.00	14	Member				
DIAG		0.00			0	0.00	0	0	0.00	0.00	0					

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Force/Stress Summary

Section: 7		Section 8		Bot Elev (ft): 100.0				Height (ft): 16.667							
		Force		Len	Bracing %			Fa	Member		Shear		Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	% Controls
LEG	PST - 2-1/2" DIA PIP	-39.46	Normal Ice	3.26	100	100	100	41.3	37.2	63.37	0	0	0.00	0.00	62 Member X
HORIZ	SAE - 1.5X1.5X0.1875	-3.20	90 deg No Ice	3.500	100	100	100	93.2	18.4	9.77	0	0	0.00	0.00	32 Member Z
DIAG	SOL - 5/8" SOLID	-1.35	Normal No Ice	4.782	50	50	50	165.5	7.3	2.23	0	0	0.00	0.00	
Max Tension Member		Force		Fy	Cap	Num	Num		Shear	Bear		Use			
		(kip)	Load Case	(ksi)	(kip)	Bolts	Holes		Cap (kip)	Cap (kip)		%			Controls
LEG		0.00		0	0.00	0	0		0.00	0.00		0			
HORIZ	SAE - 1.5X1.5X0.1875	2.45	60 deg Ice	36	15.26	0	0		0.00	0.00		16		Member	
DIAG	SOL - 5/8" SOLID	4.61	90 deg No Ice	36	8.83	0	0		0.00	0.00		52		Member	

Section: 8		Section 8		Bot Elev (ft): 116.6				Height (ft): 3.333							
		Force		Len	Bracing %			Fa	Member		Shear		Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	% Controls
LEG	PST - 2-1/2" DIA PIP	-36.60	Normal Ice	2.86	100	100	100	36.2	38.3	65.25	0	0	0.00	0.00	56 Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0
DIAG	SOL - 5/8" SOLID	-1.79	Normal No Ice	4.519	50	50	50	156.4	8.1	2.50	0	0	0.00	0.00	
Max Tension Member		Force		Fy	Cap	Num	Num		Shear	Bear		Use			
		(kip)	Load Case	(ksi)	(kip)	Bolts	Holes		Cap (kip)	Cap (kip)		%			Controls
LEG	PST - 2-1/2" DIA PIP	7.14	60 deg No Ice	55	74.97	0	0		0.00	0.00		9		Member	
HORIZ		0.00		0	0.00	0	0		0.00	0.00		0			
DIAG		0.00		0	0.00	0	0		0.00	0.00		0			

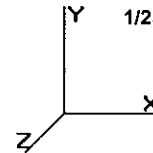
Section: 9		Section 3-9		Bot Elev (ft): 120.0				Height (ft): 20.000							
		Force		Len	Bracing %			Fa	Member		Shear		Bear	Use	
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	% Controls
LEG	PST - 2-1/2" DIA PIP	-32.88	Normal Ice	3.21	100	100	100	40.7	37.3	63.61	0	0	0.00	0.00	51 Member X
HORIZ	SAE - 1.5X1.5X0.1875	-3.72	90 deg No Ice	3.500	100	100	100	93.2	18.4	9.77	0	0	0.00	0.00	38 Member Z
DIAG	SOL - 5/8" SOLID	-0.48	Normal No Ice	4.748	50	50	50	164.3	7.4	2.26	0	0	0.00	0.00	
Max Tension Member		Force		Fy	Cap	Num	Num		Shear	Bear		Use			
		(kip)	Load Case	(ksi)	(kip)	Bolts	Holes		Cap (kip)	Cap (kip)		%			Controls
LEG	PST - 2-1/2" DIA PIP	7.16	60 deg No Ice	55	74.97	0	0		0.00	0.00		9		Member	
HORIZ	SAE - 1.5X1.5X0.1875	1.70	60 deg No Ice	36	15.26	0	0		0.00	0.00		11		Member	
DIAG	SOL - 5/8" SOLID	5.53	90 deg No Ice	36	8.83	0	0		0.00	0.00		62		Member	

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Force/Stress Summary

Section: 10		Section 9		Bot Elev (ft): 140.0				Height (ft): 6.667								
		Force		Len	Bracing %			Fa	Member			Shear	Bear	Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
LEG	PST - 2-1/2" DIA PIP	-13.02	90 deg Ice	3.15	100	100	100	39.9	37.5	63.91	0	0	0.00	0.00	20	Member X
HORIZ	SAE - 1.5X1.5X0.1875	-0.71	90 deg No Ice	3.500	100	100	100	93.2	18.4	9.77	0	0	0.00	0.00	7	Member Z
DIAG	SOL - 5/8" SOLID	-0.09	Normal No Ice	4.706	50	50	50	162.9	7.5	2.30	0	0	0.00	0.00		
Max Tension Member		Force		Fy	Cap	Num	Num		Shear	Bear		Use				
		(kip)	Load Case	(ksi)	(kip)	Bolts	Holes		Cap (kip)	Cap (kip)		%				
LEG		0.00		0	0.00	0	0		0.00	0.00		0				
HORIZ	SAE - 1.5X1.5X0.1875	1.41	Normal Ice	36	15.26	0	0		0.00	0.00		9		Member		
DIAG	SOL - 5/8" SOLID	3.49	90 deg No Ice	36	8.83	0	0		0.00	0.00		39		Member		

Section: 11		Section 9		Bot Elev (ft): 146.6				Height (ft): 3.333								
		Force		Len	Bracing %			Fa	Member			Shear	Bear	Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
LEG	PST - 2-1/2" DIA PIP	-13.98	Normal No Ice	3.23	100	100	100	41.0	37.3	63.49	0	0	0.00	0.00	22	Member X
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG	SOL - 5/8" SOLID	-0.61	Normal No Ice	4.765	50	50	50	164.9	7.3	2.25	0	0	0.00	0.00		
Max Tension Member		Force		Fy	Cap	Num	Num		Shear	Bear		Use				
		(kip)	Load Case	(ksi)	(kip)	Bolts	Holes		Cap (kip)	Cap (kip)		%				
LEG		0.00		0	0.00	0	0		0.00	0.00		0				
HORIZ		0.00		0	0.00	0	0		0.00	0.00		0				
DIAG		0.00		0	0.00	0	0		0.00	0.00		0				

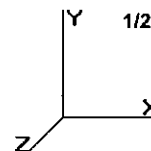
Section: 12		Section 9		Bot Elev (ft): 150.0				Height (ft): 10.000								
		Force		Len	Bracing %			Fa	Member			Shear	Bear	Use		
Max Compression Member		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	Cap (kip)	Num Bolts	Num Holes	Cap (kip)	Cap (kip)	%	Controls
LEG	PST - 2-1/2" DIA PIP	-6.42	Normal No Ice	3.21	100	100	100	40.7	37.3	63.61	0	0	0.00	0.00	10	Member X
HORIZ	SAE - 1.5X1.5X0.1875	-0.39	60 deg No Ice	3.500	100	100	100	93.2	18.4	9.77	0	0	0.00	0.00	3	Member Z
DIAG	SOL - 5/8" SOLID	-1.46	Normal No Ice	4.748	50	50	50	164.3	7.4	2.26	0	0	0.00	0.00		
Max Tension Member		Force		Fy	Cap	Num	Num		Shear	Bear		Use				
		(kip)	Load Case	(ksi)	(kip)	Bolts	Holes		Cap (kip)	Cap (kip)		%				
LEG	PST - 2-1/2" DIA PIP	5.04	60 deg No Ice	55	74.97	0	0		0.00	0.00		6		Member		
HORIZ	SAE - 1.5X1.5X0.1875	0.44	Normal No Ice	36	15.26	0	0		0.00	0.00		2		Member		
DIAG	SOL - 5/8" SOLID	1.59	90 deg No Ice	36	8.83	0	0		0.00	0.00		18		Member		

Site Number: 10029
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Support Forces Summary

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
90 deg	A1b	5.09	-4.31	-3.04	
	A1a	-17.21	-14.88	-9.83	
	A1	-0.24	-9.58	12.84	
	1	-0.78	49.13	0.01	
60 deg	A1b	7.61	-6.62	-4.61	
	A1a	-18.09	-15.73	-10.44	
	A1	-0.19	-6.62	8.89	
	1	-0.66	49.26	-0.38	
Normal	A1b	14.53	-12.61	-8.61	
	A1a	-14.53	-12.61	-8.61	
	A1	0.00	-3.44	4.85	
	1	0.00	49.06	-0.80	
90 deg Ice	A1b	3.72	-3.80	-2.73	
	A1a	-37.26	-32.42	-20.86	
	A1	-1.42	-18.11	23.60	
	1	-1.74	91.32	-0.01	
60 deg Ice	A1b	9.86	-9.50	-6.97	
	A1a	-39.05	-34.28	-22.55	
	A1	-1.11	-9.50	12.03	
	1	-1.49	89.93	-0.86	
Normal Ice	A1b	29.39	-26.18	-18.32	
	A1a	-29.39	-26.18	-18.32	
	A1	0.00	-1.42	1.82	
	1	0.00	91.14	-1.83	
90 deg No Ice	A1b	1.57	-1.64	-1.19	
	A1a	-36.95	-32.36	-20.94	
	A1	-0.74	-17.01	22.12	
	1	-2.09	71.36	0.00	
60 deg No Ice	A1b	5.66	-5.46	-3.89	
	A1a	-36.31	-31.99	-20.96	
	A1	-0.54	-5.46	6.85	
	1	-1.81	63.10	-1.05	
Normal No Ice	A1b	30.66	-27.23	-18.46	
	A1a	-30.66	-27.23	-18.46	
	A1	0.00	-0.55	0.71	
	1	0.00	75.53	-2.12	

Max Reactions (kip)

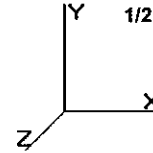
	<u>Base</u>	<u>Anch1</u>
Vertical	91.32	-34.28
Horizontal	2.12	45.09

Site Number: 10029
Location: Hampton CT, CT

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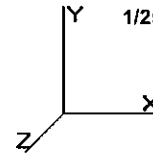
Cable Forces Summary

Load Case	Elevation (ft)	Cable	Node 1	Node 2	Allow Tension (kip)	Applied Tension (kip)	Use %
Normal No Ice	60.00	5/8 EHS	A1	28	21.20	0.43	2
		5/8 EHS	A1b	28a	21.20	10.87	51
		5/8 EHS	A1a	28b	21.20	10.87	51
	116.77	9/16 EHS	A1	T2	17.50	0.10	0
		9/16 EHS	A1a	T2b	17.50	8.82	50
		9/16 EHS	A1b	T2a	17.50	8.64	49
		9/16 EHS	A1b	T2	17.50	8.82	50
		9/16 EHS	A1a	T2a	17.50	8.64	49
		9/16 EHS	A1	T2b	17.50	0.10	0
	146.77	9/16 EHS	A1	T3	17.50	0.34	1
		9/16 EHS	A1a	T3b	17.50	8.80	50
		9/16 EHS	A1b	T3a	17.50	8.76	50
		9/16 EHS	A1b	T3	17.50	8.80	50
		9/16 EHS	A1a	T3a	17.50	8.76	50
		9/16 EHS	A1	T3b	17.50	0.34	1
60 deg No Ice	60.00	5/8 EHS	A1	28	21.20	1.79	8
		5/8 EHS	A1b	28a	21.20	1.79	8
		5/8 EHS	A1a	28b	21.20	12.54	59
	116.77	9/16 EHS	A1	T2	17.50	1.81	10
		9/16 EHS	A1a	T2b	17.50	10.18	58
		9/16 EHS	A1b	T2a	17.50	1.72	9
		9/16 EHS	A1b	T2	17.50	1.81	10
		9/16 EHS	A1a	T2a	17.50	10.18	58
		9/16 EHS	A1	T2b	17.50	1.72	9
	146.77	9/16 EHS	A1	T3	17.50	2.01	11
		9/16 EHS	A1a	T3b	17.50	10.42	59
		9/16 EHS	A1b	T3a	17.50	1.94	11
		9/16 EHS	A1b	T3	17.50	2.01	11
		9/16 EHS	A1a	T3a	17.50	10.42	59
		9/16 EHS	A1	T3b	17.50	1.94	11
90 deg No Ice	60.00	5/8 EHS	A1	28	21.20	6.51	30
		5/8 EHS	A1b	28a	21.20	0.55	2
		5/8 EHS	A1a	28b	21.20	12.78	60
	116.77	9/16 EHS	A1	T2	17.50	5.59	31
		9/16 EHS	A1a	T2b	17.50	10.34	59
		9/16 EHS	A1b	T2a	17.50	0.49	2
		9/16 EHS	A1b	T2	17.50	0.55	3
		9/16 EHS	A1a	T2a	17.50	10.38	59
		9/16 EHS	A1	T2b	17.50	5.37	30
	146.77	9/16 EHS	A1	T3	17.50	5.59	31
		9/16 EHS	A1a	T3b	17.50	10.44	59
		9/16 EHS	A1b	T3a	17.50	0.68	3
		9/16 EHS	A1b	T3	17.50	0.73	4
		9/16 EHS	A1a	T3a	17.50	10.47	59
		9/16 EHS	A1	T3b	17.50	5.57	31
Normal Ice	60.00	5/8 EHS	A1	28	21.20	1.06	4
		5/8 EHS	A1b	28a	21.20	9.77	46
		5/8 EHS	A1a	28b	21.20	9.77	46
	116.77	9/16 EHS	A1	T2	17.50	0.26	1

Site Number: 10029
Location: Hampton CT, CT

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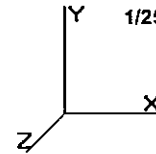


		9/16 EHS	A1a	T2b	17.50	8.38	47
		9/16 EHS	A1b	T2a	17.50	8.45	48
		9/16 EHS	A1b	T2	17.50	8.38	47
		9/16 EHS	A1a	T2a	17.50	8.45	48
		9/16 EHS	A1	T2b	17.50	0.26	1
146.77		9/16 EHS	A1	T3	17.50	0.79	4
		9/16 EHS	A1a	T3b	17.50	8.96	51
		9/16 EHS	A1b	T3a	17.50	9.12	52
		9/16 EHS	A1b	T3	17.50	8.96	51
		9/16 EHS	A1a	T3a	17.50	9.12	52
		9/16 EHS	A1	T3b	17.50	0.79	4
60 deg Ice	60.00	5/8 EHS	A1	28	21.20	3.33	15
		5/8 EHS	A1b	28a	21.20	3.33	15
		5/8 EHS	A1a	28b	21.20	12.51	59
116.77		9/16 EHS	A1	T2	17.50	3.17	18
		9/16 EHS	A1a	T2b	17.50	10.99	62
		9/16 EHS	A1b	T2a	17.50	3.06	17
		9/16 EHS	A1b	T2	17.50	3.17	18
		9/16 EHS	A1a	T2a	17.50	10.99	62
		9/16 EHS	A1	T2b	17.50	3.06	17
146.77		9/16 EHS	A1	T3	17.50	3.43	19
		9/16 EHS	A1a	T3b	17.50	11.77	67
		9/16 EHS	A1b	T3a	17.50	3.34	19
		9/16 EHS	A1b	T3	17.50	3.43	19
		9/16 EHS	A1a	T3a	17.50	11.77	67
		9/16 EHS	A1	T3b	17.50	3.34	19
90 deg Ice	60.00	5/8 EHS	A1	28	21.20	6.53	30
		5/8 EHS	A1b	28a	21.20	1.37	6
		5/8 EHS	A1a	28b	21.20	11.82	55
116.77		9/16 EHS	A1	T2	17.50	5.90	33
		9/16 EHS	A1a	T2b	17.50	10.49	59
		9/16 EHS	A1b	T2a	17.50	1.16	6
		9/16 EHS	A1b	T2	17.50	1.27	7
		9/16 EHS	A1a	T2a	17.50	10.31	58
		9/16 EHS	A1	T2b	17.50	5.86	33
146.77		9/16 EHS	A1	T3	17.50	6.29	35
		9/16 EHS	A1a	T3b	17.50	11.27	64
		9/16 EHS	A1b	T3a	17.50	1.47	8
		9/16 EHS	A1b	T3	17.50	1.58	9
		9/16 EHS	A1a	T3a	17.50	11.08	63
		9/16 EHS	A1	T3b	17.50	6.32	36
Normal	60.00	5/8 EHS	A1	28	21.20	1.79	8
		5/8 EHS	A1b	28a	21.20	5.42	25
		5/8 EHS	A1a	28b	21.20	5.42	25
116.77		9/16 EHS	A1	T2	17.50	1.22	6
		9/16 EHS	A1a	T2b	17.50	4.14	23
		9/16 EHS	A1b	T2a	17.50	4.07	23
		9/16 EHS	A1b	T2	17.50	4.14	23
		9/16 EHS	A1a	T2a	17.50	4.07	23
		9/16 EHS	A1	T2b	17.50	1.22	6
146.77		9/16 EHS	A1	T3	17.50	1.09	6
		9/16 EHS	A1a	T3b	17.50	4.06	23
		9/16 EHS	A1b	T3a	17.50	4.03	23
		9/16 EHS	A1b	T3	17.50	4.06	23
		9/16 EHS	A1a	T3a	17.50	4.03	23
		9/16 EHS	A1	T3b	17.50	1.09	6

Site Number: 10029
 Location: Hampton CT, CT

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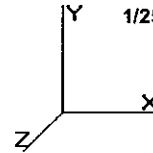
60 deg	60.00	5/8 EHS	A1	28	21.20	2.89	13
		5/8 EHS	A1b	28a	21.20	2.89	13
		5/8 EHS	A1a	28b	21.20	6.53	30
	116.77	9/16 EHS	A1	T2	17.50	2.22	12
		9/16 EHS	A1a	T2b	17.50	5.07	28
		9/16 EHS	A1b	T2a	17.50	2.17	12
		9/16 EHS	A1b	T2	17.50	2.22	12
	146.77	9/16 EHS	A1a	T2a	17.50	5.07	28
		9/16 EHS	A1	T2b	17.50	2.17	12
		9/16 EHS	A1	T3	17.50	2.18	12
		9/16 EHS	A1a	T3b	17.50	5.09	29
		9/16 EHS	A1b	T3a	17.50	2.15	12
		9/16 EHS	A1b	T3	17.50	2.18	12
		9/16 EHS	A1a	T3a	17.50	5.09	29
		9/16 EHS	A1	T3b	17.50	2.15	12
90 deg	60.00	5/8 EHS	A1	28	21.20	4.13	19
		5/8 EHS	A1b	28a	21.20	2.05	9
		5/8 EHS	A1a	28b	21.20	6.26	29
	116.77	9/16 EHS	A1	T2	17.50	3.18	18
		9/16 EHS	A1a	T2b	17.50	4.80	27
		9/16 EHS	A1b	T2a	17.50	1.46	8
		9/16 EHS	A1b	T2	17.50	1.49	8
	146.77	9/16 EHS	A1a	T2a	17.50	4.83	27
		9/16 EHS	A1	T2b	17.50	3.10	17
		9/16 EHS	A1	T3	17.50	3.12	17
		9/16 EHS	A1a	T3b	17.50	4.79	27
		9/16 EHS	A1b	T3a	17.50	1.39	7
		9/16 EHS	A1b	T3	17.50	1.42	8
		9/16 EHS	A1a	T3a	17.50	4.80	27
		9/16 EHS	A1	T3b	17.50	3.08	17

Site Number: 10029
Location: Hampton CT, CT

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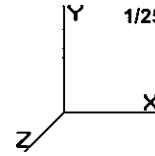
Deflections and Rotations

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
50.00 mph Wind at 60 deg From Face with No Ice	76.42	0.0881	0.0002	0.0491
	116.77	0.1007	0.0005	0.0079
	130.00	0.1126	0.0001	0.0537
	143.52	0.1237	0.0002	0.0434
	146.77	0.1258	0.0002	0.0412
	150.00	0.1286	0.0001	0.0567
	156.42	0.1355	0.0002	0.0599
50.00 mph Wind at 90 deg From Face with No Ice	76.42	0.0909	0.0067	0.0464
	116.77	0.0996	0.0050	0.0093
	130.00	0.1098	0.0052	0.0461
	143.52	0.1189	0.0059	0.0352
	146.77	0.1206	0.0058	0.0339
	150.00	0.1229	0.0058	0.0486
	156.42	0.1289	0.0060	0.0519
50.00 mph Wind Normal To Face with No Ice	76.42	0.0951	0.0003	0.0444
	116.77	0.0995	0.0004	0.0143
	130.00	0.1072	0.0002	0.0349
	143.52	0.1137	0.0002	0.0228
	146.77	0.1147	0.0002	0.0213
	150.00	0.1164	0.0001	0.0370
	156.42	0.1210	0.0002	0.0401
73.61 mph Wind at 60 deg From Face with Ice	76.42	0.2843	0.0046	0.2374
	116.77	0.3686	0.0084	0.1154
	130.00	0.4369	0.0032	0.2884
	143.52	0.4936	0.0007	0.2262
	146.77	0.5060	0.0006	0.2180
	150.00	0.5194	0.0005	0.2577
	156.42	0.5497	0.0007	0.2671
73.61 mph Wind at 90 deg From Face with Ice	76.42	0.3120	0.0432	0.2635
	116.77	0.4182	0.0289	0.1570
	130.00	0.4980	-0.0007	0.3507
	143.52	0.5699	-0.0009	0.2854
	146.77	0.5849	0.0068	0.2828
	150.00	0.6019	0.0145	0.3262
	156.42	0.6394	0.0252	0.3303
73.61 mph Wind Normal To Face with Ice	76.42	0.3360	0.0020	0.2128
	116.77	0.4340	0.0060	0.1524
	130.00	0.5184	0.0039	0.3670
	143.52	0.5941	0.0005	0.3049
	146.77	0.6109	0.0003	0.2990
	150.00	0.6288	0.0001	0.3374
	156.42	0.6682	0.0001	0.3470
85.00 mph Wind at 60 deg From Face with No Ice	76.42	0.3093	0.0007	0.1765
	116.77	0.3576	0.0082	0.0383
	130.00	0.4090	0.0031	0.2131
	143.52	0.4481	0.0005	0.1551
	146.77	0.4561	0.0005	0.1495
	150.00	0.4659	0.0004	0.1941

Site Number: 10029
Location: Hampton CT, CT

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85.00 mph Wind at 90 deg From Face with No Ice	156.42	0.4892	0.0006	0.2036
	76.42	0.4238	-0.0777	0.2865
	116.77	0.5083	0.0084	0.0866
	130.00	0.5727	-0.0368	0.2712
	143.52	0.6269	-0.0369	0.2161
	146.77	0.6365	-0.0283	0.2171
	150.00	0.6499	-0.0196	0.2649
85.00 mph Wind Normal To Face with No Ice	156.42	0.6805	-0.0073	0.2682
	76.42	0.4898	0.0025	0.2638
	116.77	0.5798	0.0064	0.0942
	130.00	0.6508	0.0041	0.3026
	143.52	0.7105	0.0006	0.2421
	146.77	0.7236	0.0004	0.2382
	150.00	0.7384	0.0002	0.2827
	156.42	0.7716	0.0003	0.2921
		0.0000	0.0000	0.0000

Site Name: Hampton St, CT
 Site Number: 10029
 Engineering Number: 50581823
 Engineer: J. Johnston
 Date: 01/25/13

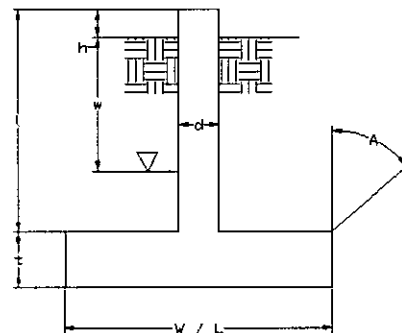
Program Last Updated: 7/25/2012
 American Tower Corporation

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

Foundation Mapped: Y
 Moment (M): 0.0 k-ft
 Shear / Leg (V): 2.1 k
 Compression / Leg (P): 91.3 k
 Uplift / Leg (U): 0.0 k
 Tower Type (GT / SST): GT
 Diameter of Prismatic Portion of Pier (d): 6.5 ft
 Depth to Base of Foundation: 6.0 ft
 Pier Height Above Ground (h): 2.00 ft
 Length / Width of Pad (w): 5.8 ft
 Thickness of Pad (t): 6.0 ft
 Depth Below Ground Surface to Water Table (w): 4.0 ft
 Unit Weight of Concrete: 150.0 pcf
 Unit Weight of Water: 62.4 pcf
 Unit Weight of Soil Above Water Table: 120.0 pcf
 Unit Weight of Soil Below Water Table: 65.0 pcf
 Friction Angle of Uplift from Top of Pad: 35 Degrees
 Friction Angle of Uplift from Base of Pad: 35 Degrees
 Uplift Angle Started at Top or Base of Pad (T/B): T
 Allowable Skin Friction: 0 psf
 Allowable Compressive Bearing Pressure: 5000 psf
 Capacity Increase (Due to Transient Loads): 1.33

Axial Capacities and Design Moment

Weight of Concrete (Bouyancy Considered): 35.6 k
 Weight of Soil (Bouyancy Considered): 0.0 k
 Allowable Skin Friction Resistance: 0.0 k
 Controlling Failure Mode (Top / Base): Top
 Allowable Uplift Capacity per Leg: 23.7 k
 Compressive Design Load: 106.7 k
 Allowable Compression Capacity per Leg: 219.9 k
 Uplift Design Load/Uplift Capacity: 0.00 Result: OK
 Compression Design Load/Compression Capacity: 0.49 Result: OK



Depth (ft)		Ultimate Lateral	Increment	γ_{Soil}	Cohesion	ϕ
Top	Bottom	Bearing Pressure (psf)	(psf/ft)	(pcf)	(psf)	(degree)
0.0	2.0	0.0	159.6	120	0	0
2.0	0.0	1177.9	589.0	120	0	35

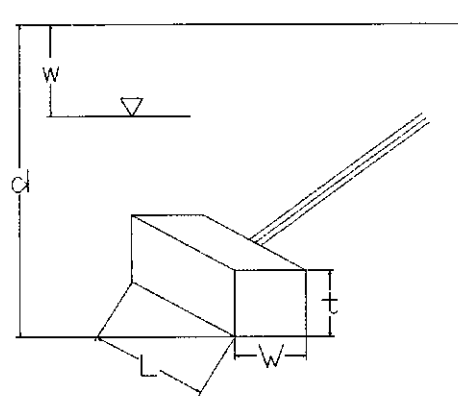
Inflection Point (Below Ground Surface): 0.0 ft
 Unfactored Design Moment At Inflection Point: -1.4 k-ft

Site Name: Hampton CT, CT
 Site Number: 10029
 Engineering Number: 50581823
 Engineer: J. Johnston
 Date: 01/25/13

Program Last Updated: 7/25/2012
 American Tower Corporation

Design Standard per TIA-222-F

Anchor Radius:	145.0 ft
Uplift (Unfactored):	34.3 k
Shear (Unfactored):	45.1 k
Berm Present:	N
Design Anchor Rod:	N
Mapped Foundation:	N
Anchor Base Depth (d):	8.0 ft
Width of Anchor (W):	5.0 ft
Length of Anchor (L):	11.5 ft
Thickness of Anchor (t):	2.0 ft
Depth Below Ground Surface to Water Table (w):	15.0 ft
Soil Uplift at Base / Top of Anchor (B/T):	T
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil Above Water Table:	120.0 pcf
Unit Weight of Water:	62.4 pcf
Submerged Soil Unit Weight:	65.0 pcf
Internal Angle of Friction:	35 Degrees
Cohesion:	0 psf
Allowable Skin Friction of Pad Sides to Soil:	162 psf
Ultimate Coefficient of Shear Friction:	0.30
Maximum Top Conical Failure Angle:	35 Degrees
Maximum Base Conical Failure Angle:	35 Degrees
Allowable Capacity Increase:	1.33 (Due to Transient Loads)



Uplift

Weight of Concrete (Buoyancy Effect Considered):	17.3 k
Weight of Soil (Buoyancy Effect Considered):	104.6 k
Uplift Resistance from Skin Friction:	9.3 k
Allowable Uplift Resistance (FS = 1.5 to 2):	66.1 k
Uplift Design Load/Allowable Uplift Resistance:	0.52 Result: OK

Shear

Ultimate Shear Friction Resistance Due to Normal Force - Uplift:	7.3 k
Passive Pressure:	3100 psf
Ultimate Passive Pressure Resistance:	94.8 k
Allowable Shear Resistance (FS = 1.5 to 2):	51.1 k
Shear Design Load/Allowable Shear Resistance:	0.88 Result: OK

2. Strength Analysis of Reinforced Concrete

Concrete Compressive Strength (f'_c):	4000 psi
Longitudinal Rebar Yield Strength:	60000 psi
# Longitudinal Rebar (Top):	8
# Longitudinal Rebar (1 Side):	5
Rebar Size:	4
Wind Load Factor:	1.3
Strength Reduction Factor for Shear (ϕ_v):	0.75
Strength Reduction Factor for Flexure (ϕ_b):	0.9
Compression Zone Factor (β_1):	0.85
Area of Single Rebar:	0.20 in ²
One Way Shear due to Shear Load (V_u):	17.4 k
Nominal One Way Shear Capacity for Shear Load ($\phi_c V_n$):	127.5 k
$V_u/\phi_v V_n$:	0.14 Result: OK
One Way Shear due to Uplift (V_u):	19.1 k
Nominal One Way Shear Capacity for Uplift ($\phi_c V_n$):	113.8 k
$V_u/\phi_v V_n$:	0.17 Result: OK
Pad Flexure due to Shear Load (M_u):	84.3 k-ft
Nominal Flexural Capacity for Shear Load ($\phi_b M_n$):	252.0 k-ft
Pad Flexure due to Uplift (M_u):	64.1 k-ft
Nominal Flexural Capacity for Uplift ($\phi_b M_n$):	143.9 k-ft
$M_u/\phi_b M_n$ (Max.):	0.45 Result: OK



C Squared Systems, LLC
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Auburn, NH 03032
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Calculated Radio Frequency Emissions



at&t

CT5707

(Hampton S Central)

185 Fisk Road, Hampton, CT 06247

February 8, 2013

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted on the guyed tower located at 185 Fisk Road in Hampton, CT. The coordinates of the tower are 41° 46' 11.74" N, 72° 04' 14.11" W.

AT&T is proposing the following modifications:

- 1) Install three multi-band (700/850/1900/2100 MHz) antennas for their LTE network (one per sector).

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm^2). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times EIRP}{4\pi \times R^2} \right) \times \text{Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

$R = \text{Radial Distance} = \sqrt{H^2 + V^2}$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower.

Please refer to Attachment C for the vertical patterns of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm ²)	Limit	%MPE
Cingular UMTS	130	880	1	500	0.0106	0.5867	1.81%
Cingular GSM	130	1900	2	427	0.0182	1.0000	1.82%
Cingular GSM	130	880	4	296	0.0252	0.5867	4.29%
Sprint	152.3	1950	11	122	0.0208	1.0000	2.08%
Nextel	159.5	851	9	100	0.0127	0.5673	2.24%
Verizon Cellular	142	869	9	257	0.0412	0.5793	7.12%
Verizon PCS	142	1970	11	250	0.0490	1.0000	4.90%
Verizon AWS	142	2145	1	664	0.0118	1.0000	1.18%
Verizon LTE	142	698	1	841	0.0150	0.4653	3.22%
T-Mobile	115	1935	8	135	0.0294	1.0000	2.94%
AT&T UMTS	130	880	2	565	0.0024	0.5867	0.41%
AT&T UMTS	130	1900	2	875	0.0037	1.0000	0.37%
AT&T LTE	130	734	1	1771	0.0038	0.4893	0.77%
AT&T GSM	130	880	1	283	0.0006	0.5867	0.10%
AT&T GSM	130	1900	4	525	0.0045	1.0000	0.45%
						Total	25.79%

Table 1: Carrier Information^{1 2 3}

¹ The existing CSC filing for Cingular should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for carriers other than AT&T was taken directly from the CSC database dated 1/14/2013. Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

² In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

³ Antenna height listed for AT&T is in reference to the American Tower Structural Analysis dated January 25, 2013.

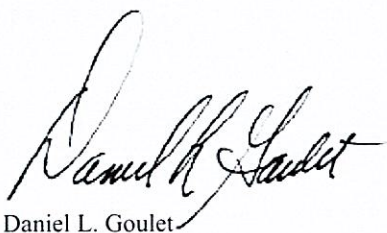
5. Conclusion

The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **25.79% of the FCC limit**.

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



Daniel L. Goulet
C Squared Systems, LLC

February 8, 2013

Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure⁴

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

(B) Limits for General Population/Uncontrolled Exposure⁵

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

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

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

⁴ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

⁵ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

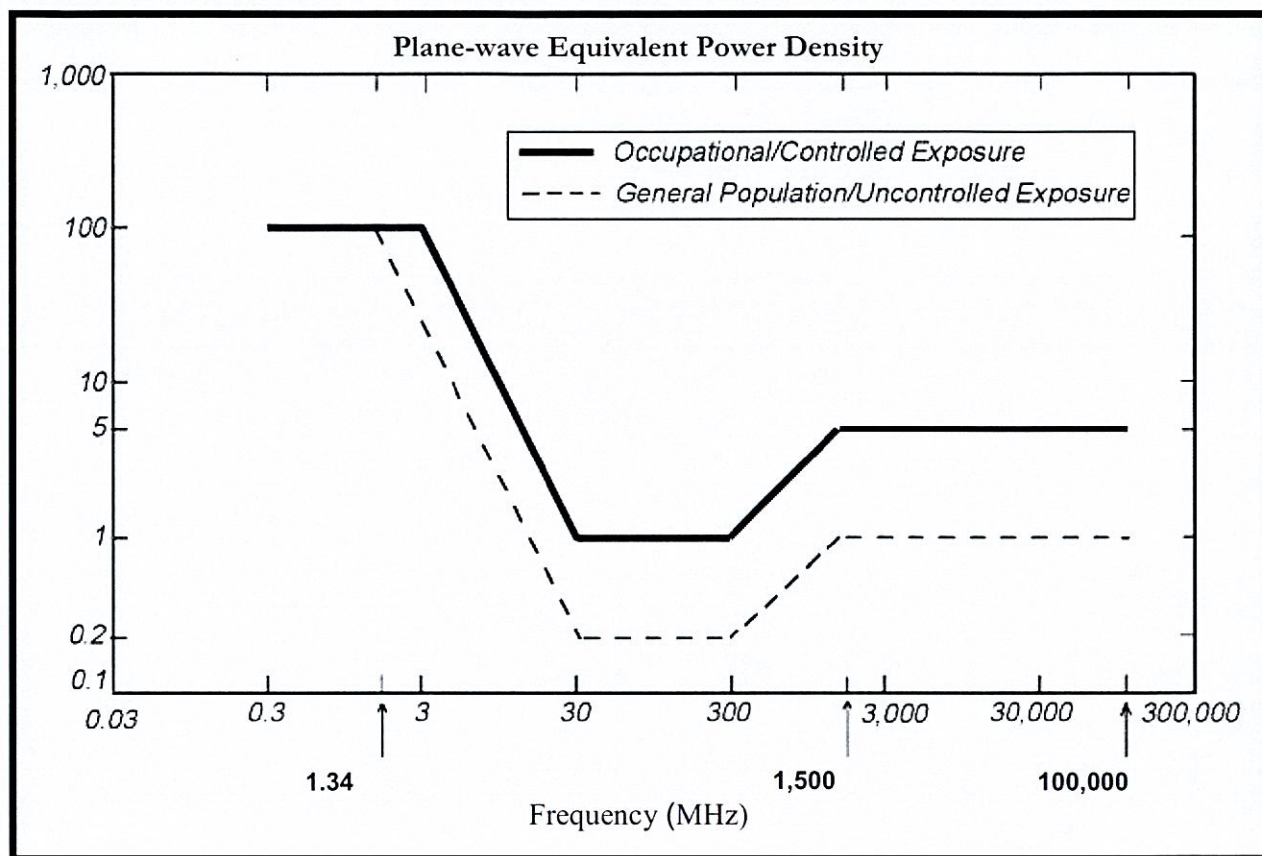
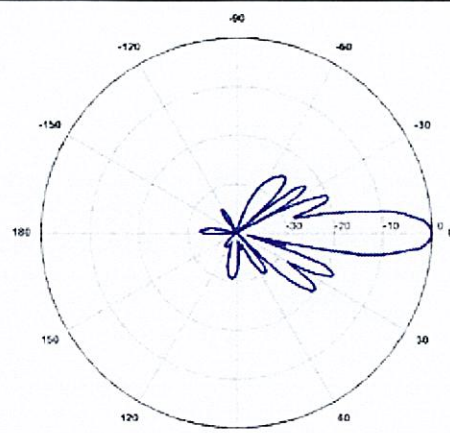
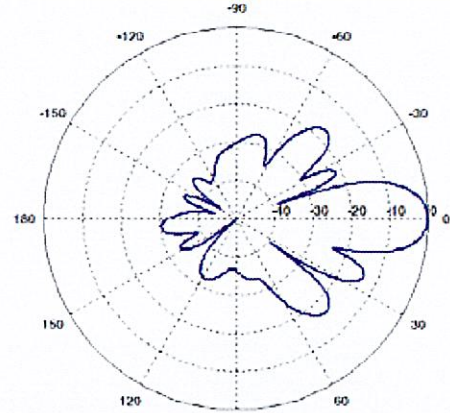
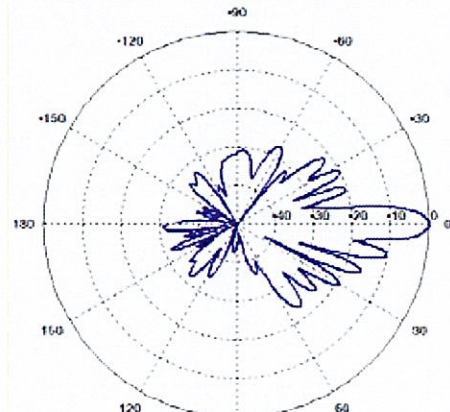
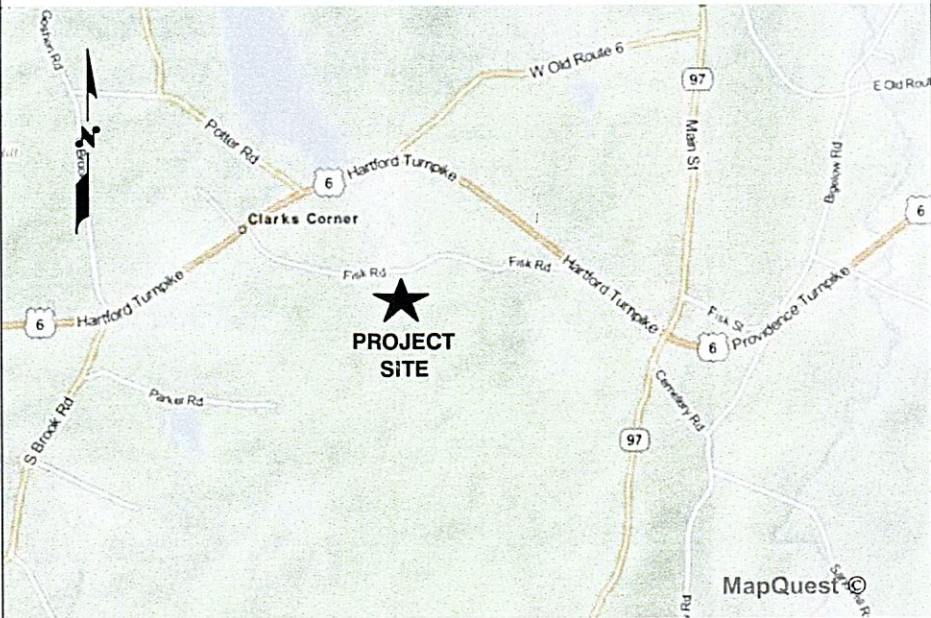
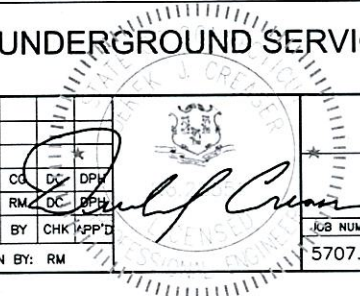


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

700 MHz Manufacturer: KMW Model #: AM-X-CD-17-65-00T-RET Frequency Band: 698-806 MHz Gain: 14.7 dBd Vertical Beamwidth: 10° Horizontal Beamwidth: 66° Polarization: Dual Slant $\pm 45^\circ$ Size L x W x D: 96.0" x 11.8" x 6.0"	
850 MHz Manufacturer: Powerwave Model #: 7770.00 Frequency Band: 824-896 MHz Gain: 11.5 dBd Vertical Beamwidth: 15° Horizontal Beamwidth: 82° Polarization: Dual Linear $\pm 45^\circ$ Size L x W x D: 55.0" x 11.0" x 5.0"	
1900 MHz Manufacturer: Powerwave Model #: 7770.00 Frequency Band: 1850-1990 MHz Gain: 13.4 dBd Vertical Beamwidth: 7° Horizontal Beamwidth: 86° Polarization: Dual Linear $\pm 45^\circ$ Size L x W x D: 55.0" x 11.0" x 5.0"	

PROJECT INFORMATION SCOPE OF WORK: TELECOMMUNICATIONS FACILITY UPGRADE (LTE): 1. INSTALL (3) NEW LTE ANTENNAS, (6) RRH'S, (1) SURGE ARRESTOR, (1) FIBER LINE, (2) DC POWER LINES & (1) GPS ANTENNA 2. INSTALL (1) LTE 6601 CABINET & (1) DC POWER PLANT SITE ADDRESS: 185 FISK ROAD HAMPTON, CT 06247 LATITUDE: 41.76989 N 41° 46' 11.6" N LONGITUDE: 72.07040 W 72° 04' 13.4" W CURRENT USE: TELECOMMUNICATIONS FACILITY PROPOSED USE: TELECOMMUNICATIONS FACILITY		 SITE NUMBER: CT5707 SITE NAME: HAMPTON S CENTRAL																					
DRAWING INDEX T-1 TITLE SHEET GN-1 GENERAL NOTES A-1 COMPOUND AND EQUIPMENT PLAN A-2 ELEVATION AND ANTENNA PLAN A-3 DETAILS A-4 DETAILS G-1 PLUMBING DIAGRAM & GROUNDING DETAILS		REV 1 1 1 1 1 1 1	VICINITY MAP DIRECTIONS TO SITE: START OUT GOING NORTHEAST ON ENTERPRISE DR TOWARD CAPITOL BLVD. TURN LEFT ONTO CAPITOL BLVD. TURN LEFT ONTO WEST ST. MERGE ONTO I-91 N VIA THE RAMP ON THE LEFT TOWARD HARTFORD 4.5 MILES. MERGE ONTO CT-3 N VIA EXIT 25 TOWARD GLASTONBURY. MERGE ONTO CT-2 E TOWARD NORWICH 10.9 MILES. TAKE THE CT-66 E EXIT, EXIT 13, TOWARD WILLIMANTIC/HEBRON. TURN LEFT ONTO HEBRON RD/CT-66. CONTINUE TO FOLLOW CT-66 FOR 11.8 MILES. CT-66 BECOMES US-6 E 12.0 MILES. TURN RIGHT ONTO FISK RD. 185 FISK RD IS ON THE RIGHT. 	GENERAL NOTES 1. THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF AT&T. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED. DUPLICATION AND USE BY GOVERNMENT AGENCIES FOR THE PURPOSES OF CONDUCTING THEIR LAWFULLY AUTHORIZED REGULATORY AND ADMINISTRATIVE FUNCTIONS IS SPECIFICALLY ALLOWED. 2. THE FACILITY IS AN UNMANNED PRIVATE AND SECURED EQUIPMENT INSTALLATION. IT IS ONLY ACCESSED BY TRAINED TECHNICIANS FOR PERIODIC ROUTINE MAINTENANCE AND THEREFORE DOES NOT REQUIRE ANY WATER OR SANITARY SEWER SERVICE. THE FACILITY IS NOT GOVERNED BY REGULATIONS REQUIRING PUBLIC ACCESS PER ADA REQUIREMENTS. 3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE AT&T REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME. CALL BEFORE YOU DIG CALL TOLL FREE 1-800-922-4455 OR DIAL 811 UNDERGROUND SERVICE ALERT																			
 1600 OSGOOD STREET BUILDING 20 NORTH, SUITE 3090 N. ANDOVER, MA 01845 TEL: (978) 557-5553 FAX: (978) 336-5586	 a UniTek GLOBAL SERVICES company 800 MARSHALL PHELPS ROAD UNIT#: 2A WINDSOR, CT 06095	SITE NUMBER: CT5707 SITE NAME: HAMTON S CENTRAL 185 FISK ROAD HAMPTON, CT 06247 WINDHAM COUNTY	 500 ENTERPRISE DRIVE, SUITE 3A ROCKY HILL, CT 06067	<table><tr><td>NO.</td><td>DATE</td><td>REVISIONS</td><td>BY</td><td>CHK'D</td><td>APP'D</td></tr><tr><td>1</td><td>10/30/12</td><td>ISSUED FOR PERMITTING</td><td>CD</td><td>DC</td><td>DPH</td></tr><tr><td>0</td><td>08/09/12</td><td>ISSUED FOR REVIEW</td><td>RM</td><td>DC</td><td>DPH</td></tr></table> SCALE: AS SHOWN DESIGNED BY: DC DRAWN BY: RM	NO.	DATE	REVISIONS	BY	CHK'D	APP'D	1	10/30/12	ISSUED FOR PERMITTING	CD	DC	DPH	0	08/09/12	ISSUED FOR REVIEW	RM	DC	DPH	 AT&T TITLE SHEET (LTE) JOB NUMBER: 5707.01 DRAWING NUMBER: T-1 REV: 1
NO.	DATE	REVISIONS	BY	CHK'D	APP'D																		
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GROUNDING NOTES

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OFF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
4. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
5. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
6. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
7. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
8. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
11. METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
12. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID TINNED COPPER GROUND WIRE, PER NEC 250.50

GENERAL NOTES

1. FOR THE PURPOSE OF THE SUBCONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
- CONTRACTOR - NEXLINK
SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
OWNER - AT&T MOBILITY
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
9. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
10. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
13. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
14. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
15. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 ($F_y = 36$ ksi) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E ($F_y = 36$ ksi). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
16. CONSTRUCTION SHALL COMPLY WITH UMTS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
17. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
18. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
19. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.
20. APPLICABLE BUILDING CODES:
- SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
- BUILDING CODE: 2003 IBC WITH 2005 CT SUPPLEMENT & 2009 CT AMENDMENTS
- ELECTRICAL CODE: REFER TO ELECTRICAL DRAWINGS
- LIGHTENING CODE: REFER TO ELECTRICAL DRAWINGS
- SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:
- AMERICAN CONCRETE INSTITUTE (ACI) 318; BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE;
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)
- MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION;
- TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARDS FOR STEEL
- ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS.
- FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS

AGL	ABOVE GRADE LEVEL	G.C.	GENERAL CONTRACTOR	RF	RADIO FREQUENCY
AWG	AMERICAN WIRE GAUGE	MGB	MASTER GROUND BUS		
BCW	BARE COPPER WIRE	MIN	MINIMUM	TBD	TO BE DETERMINED
BTS	BASE TRANSCEIVER STATION	PROPOSED	NEW	TBR	TO BE REMOVED
EXISTING	EXISTING	N.T.S.	NOT TO SCALE	TBRR	TO BE REMOVED AND REPLACED
EG	EQUIPMENT GROUND	REF	REFERENCE		
EGR	EQUIPMENT GROUND RING	REQ	REQUIRED	TYP	TYPICAL



SITE NUMBER: CT5707
SITE NAME: HAMTON
S CENTRAL
185 FISK ROAD
HAMPTON, CT 06247
WINDHAM COUNTY



500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

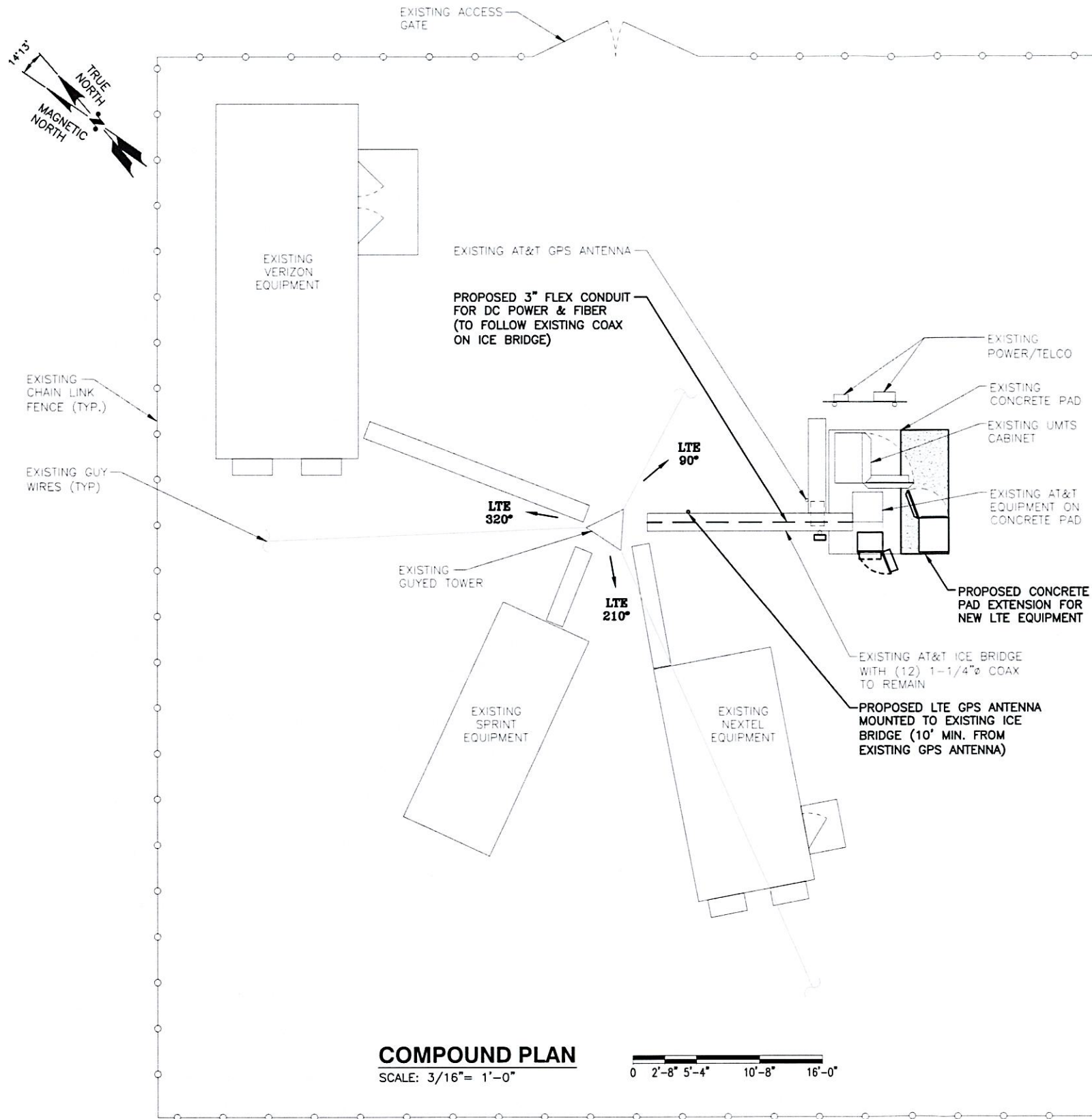
[illegible]

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

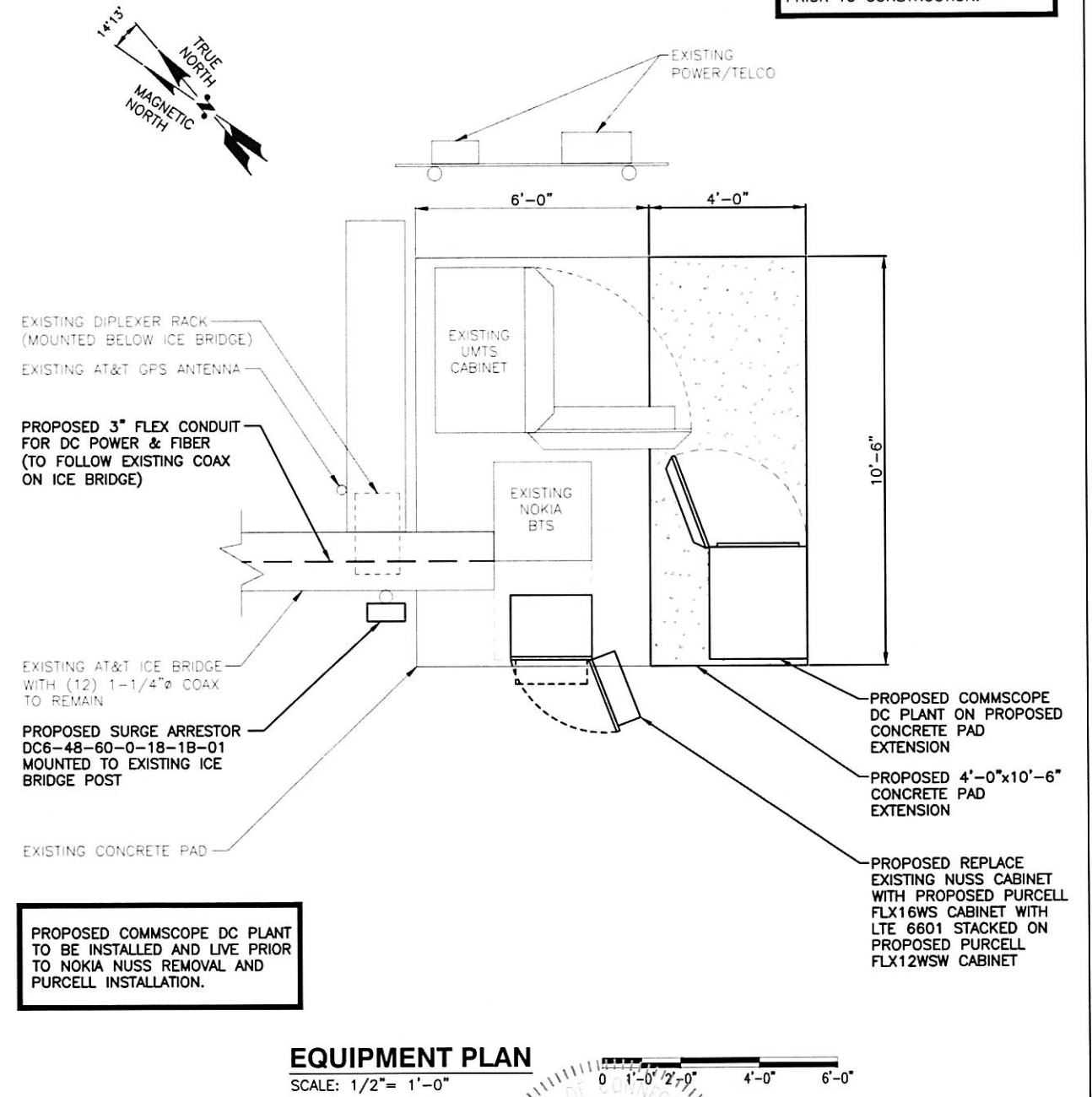
AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



COMPOUND PLAN

SCALE: 3/16" = 1'-0"

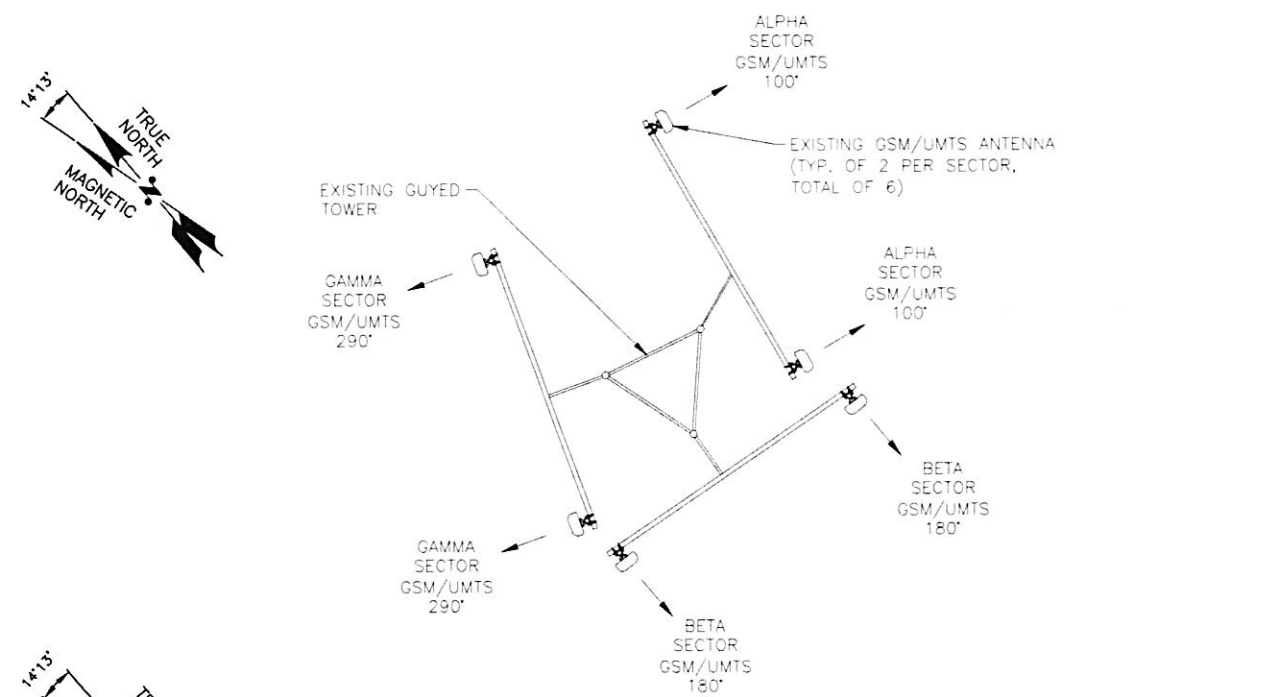
0 2'-8" 5'-4" 10'-8" 16'-0"



EQUIPMENT PLAN

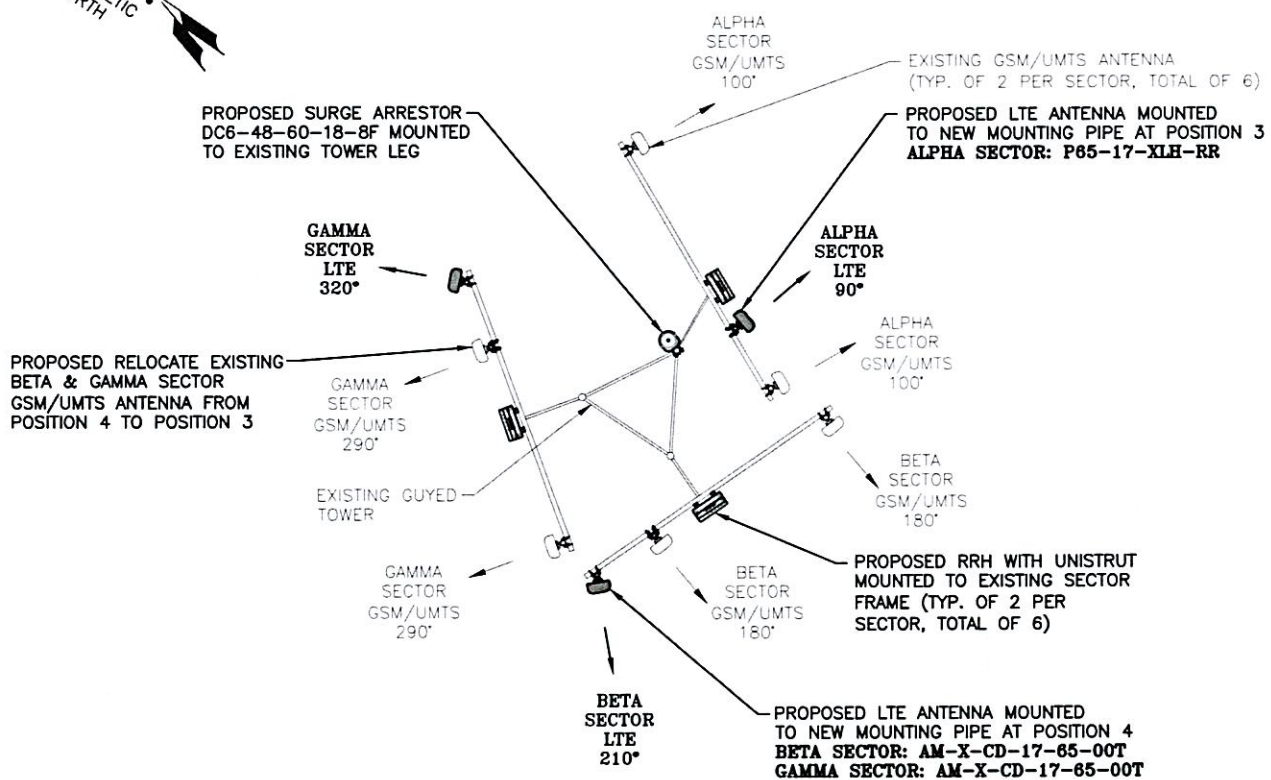
SCALE: 1/2" = 1'-0"

0 1'-0" 2'-0" 4'-0" 6'-0"



EXISTING GSM/UMTS ANTENNA PLAN

SCALE: N.T.S.



PROPOSED LTE ANTENNA PLAN

SCALE: N.T.S.

TOP OF EXISTING TOWER
ELEV. 160'-0"± (AGL)

CENTER OF PROPOSED AT&T LTE ANTENNAS,
RRHS & SURGE ARRESTOR
ELEV. 130'-0"± (AGL)

PROPOSED LTE ANTENNA MOUNTED
TO NEW MOUNTING PIPE
ALPHA SECTOR: P65-17-XLH-RR
BETA SECTOR: AM-X-CD-17-85-00T
GAMMA SECTOR: AM-X-CD-17-85-00T
(TYP. OF 1 PER SECTOR, TOTAL OF 3)

NOTE:

REFER TO THE FINAL RF DATA
SHEET FOR FINAL ANTENNA
SETTINGS.

NOTE:

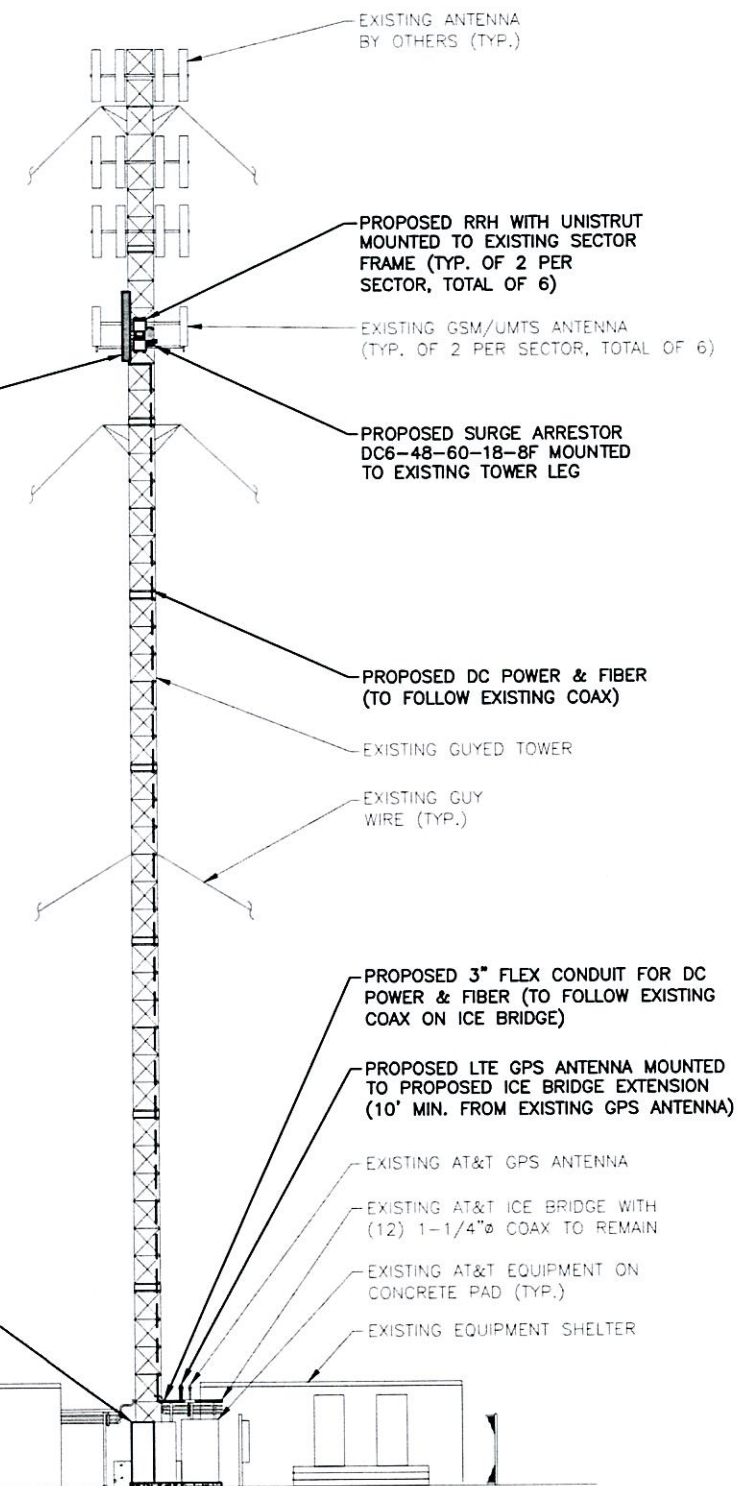
AN ANALYSIS FOR THE CAPACITY
OF THE EXISTING STRUCTURES
TO SUPPORT THE PROPOSED
EQUIPMENT SHALL BE DETERMINED
PRIOR TO CONSTRUCTION.

PROPOSED COMMSCOPE DC PLANT ON
PROPOSED CONCRETE PAD EXTENSION

EXISTING NEXTEL EQUIPMENT
SHELTER

EXISTING CHAIN
LINK FENCE (TYP.)

GROUND LEVEL
ELEV. 0'-0"± (AGL)



SOUTHEAST ELEVATION

SCALE: 3/32"=1'-0"

5'-4" 10'-8" 21'-4" 32'-0"

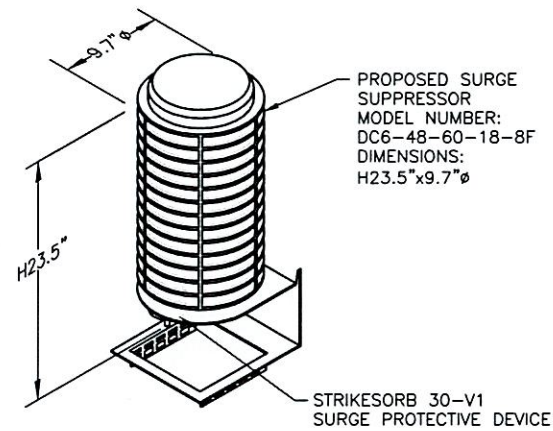
Hudson
Design Group, Inc.
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586

NEXLINK
GLOBAL SERVICES
a UniTek GLOBAL SERVICES company
800 MARSHALL PHELPS ROAD UNIT#: 2A
WINDSOR, CT 06095

SITE NUMBER: CT5707
SITE NAME: HAMTON
S CENTRAL
185 FISK ROAD
HAMPTON, CT 06247
WINDHAM COUNTY

at&t
500 ENTERPRISE DRIVE, SUITE 3A
ROCKY HILL, CT 06067

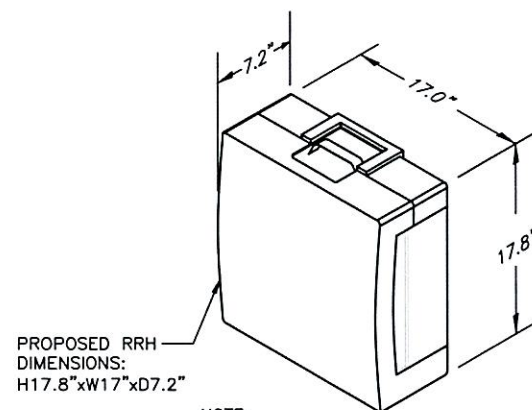
AT&T				ELEVATION & ANTENNA PLAN (LTE)		
1	10/30/12	ISSUED FOR PERMITTING	CO, DC, DPH	JOB NUMBER	DRAWING NUMBER	REV
0	08/09/12	ISSUED FOR REVIEW	RM, DC, DPH	5707.01	A-2	1
NO.		DATE	REVISIONS	BY	CHK	APP'D
SCALE:		AS SHOWN		DESIGNED BY:		DC
				DRAWN BY:		RM



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

DC SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

RRH DETAIL

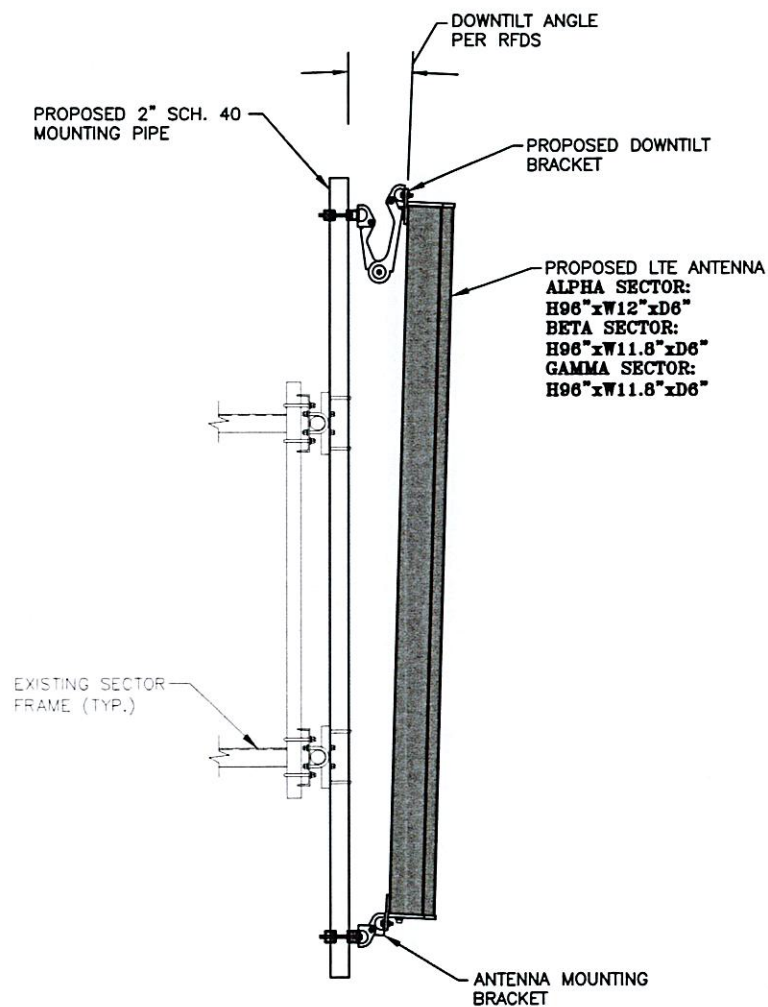
SCALE: N.T.S.

NOTE:

REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

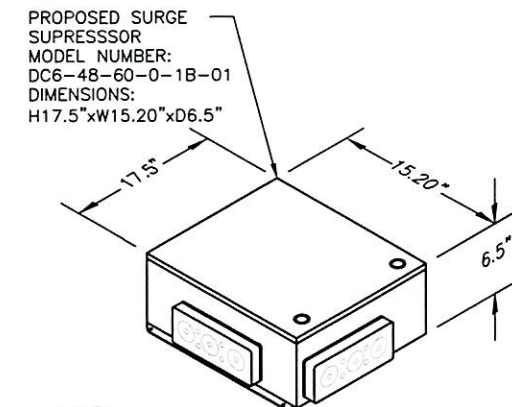
NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.



PROPOSED LTE ANTENNA DETAIL

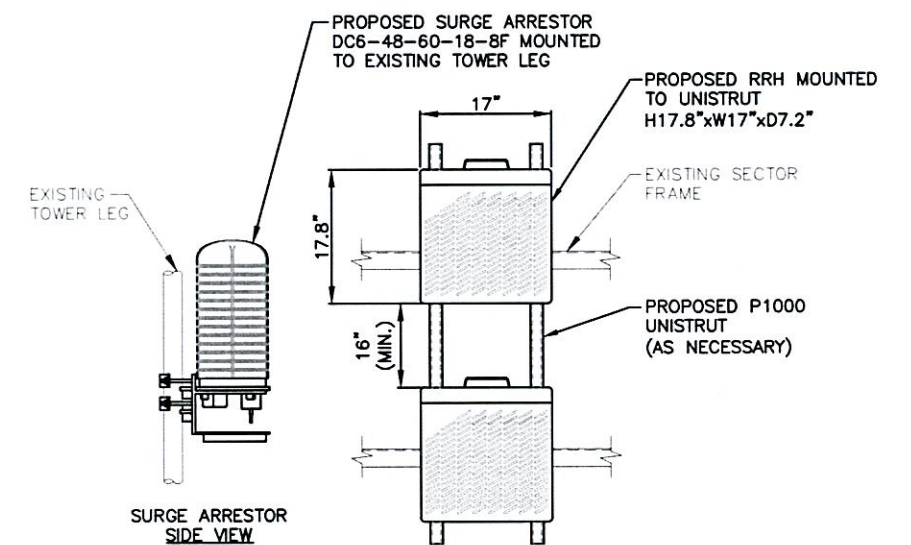
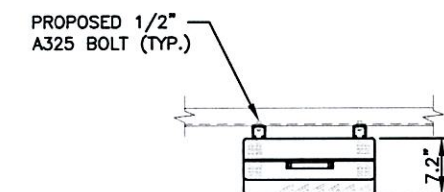
SCALE: N.T.S.



NOTE:
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

SURGE SUPPRESSOR DETAIL

SCALE: N.T.S.



PROPOSED RRH & SURGE ARRESTOR MOUNTING DETAIL

SCALE: N.T.S.



1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845
TEL: (978) 557-5553
FAX: (978) 336-5586



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800 MARSHALL PHELPS ROAD UNIT#: 2A
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SITE NUMBER: CT5707
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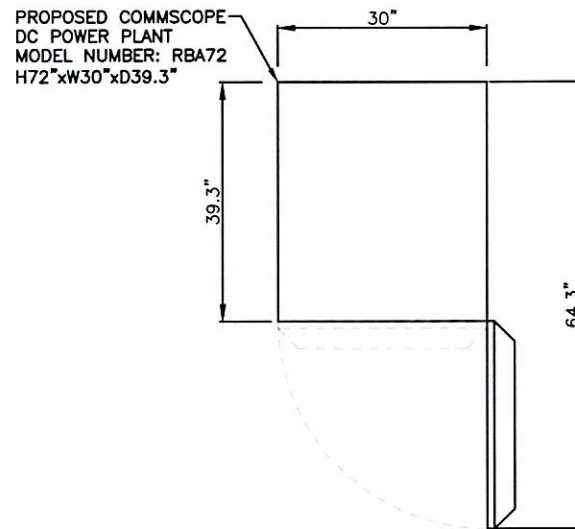
				AT&T			
				DETAILS (LTE)			
NO.	DATE	REVISIONS	BY	CHK	APP'D	JOB NUMBER	DRAWING NUMBER
1	10/30/12	ISSUED FOR PERMITTING	CO	DC	DPH	5707.01	A-3
0	08/09/12	ISSUED FOR REVIEW	RM	DC	DPH		
SCALE: AS SHOWN				DESIGNED BY: DC		DRAWN BY: RM	
						REV	
						1	

NOTE:

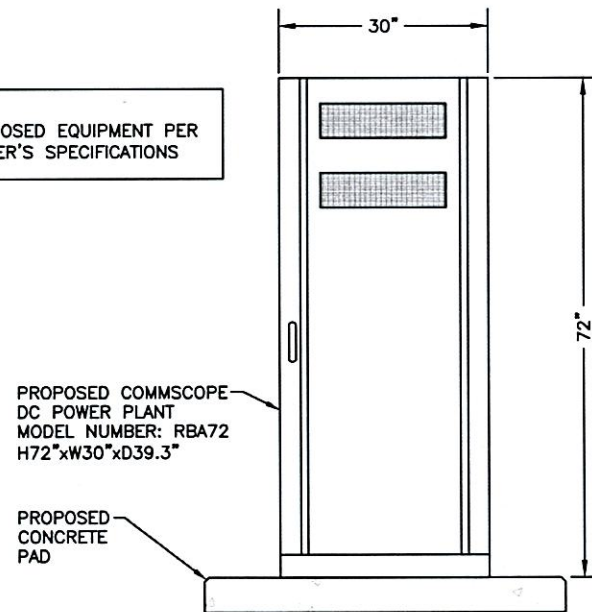
REFER TO THE FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.

NOTE:

AN ANALYSIS FOR THE CAPACITY OF THE EXISTING STRUCTURES TO SUPPORT THE PROPOSED EQUIPMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION.

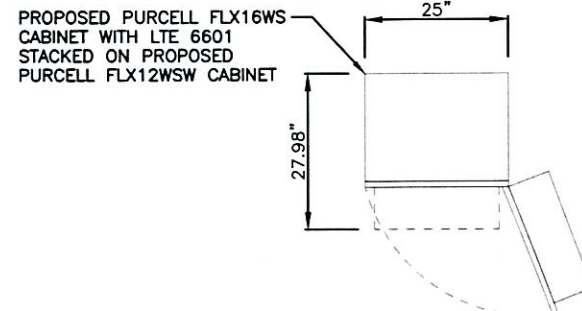


NOTE:
MOUNT PROPOSED EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS



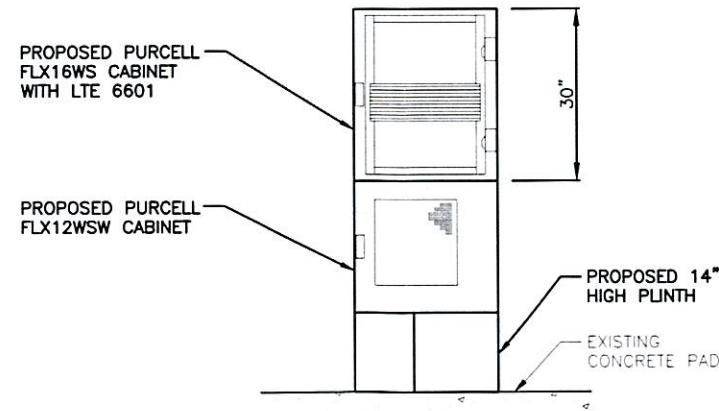
PROPOSED DC POWER PLANT DETAIL

SCALE: N.T.S.



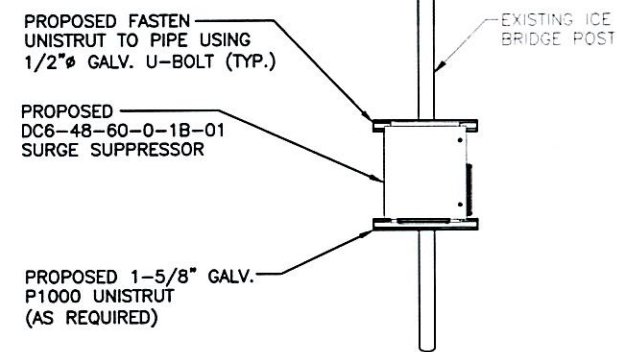
NOTE:

1. MOUNT PROPOSED EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS
2. CONTRACTOR TO PROVIDE MOUNTING HARDWARE.



PROPOSED EQUIPMENT MOUNTING DETAIL

SCALE: N.T.S.



NOTE:

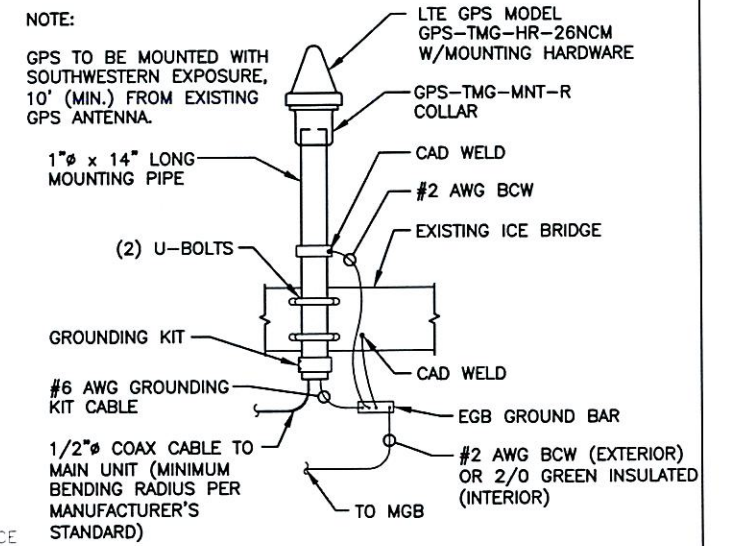
MOUNT PROPOSED EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS

PROPOSED SURGE SUPPRESSOR MOUNTING DETAIL

SCALE: N.T.S.

NOTE:

GPS TO BE MOUNTED WITH SOUTHWESTERN EXPOSURE, 10' (MIN.) FROM EXISTING GPS ANTENNA.



GPS MOUNTING DETAIL

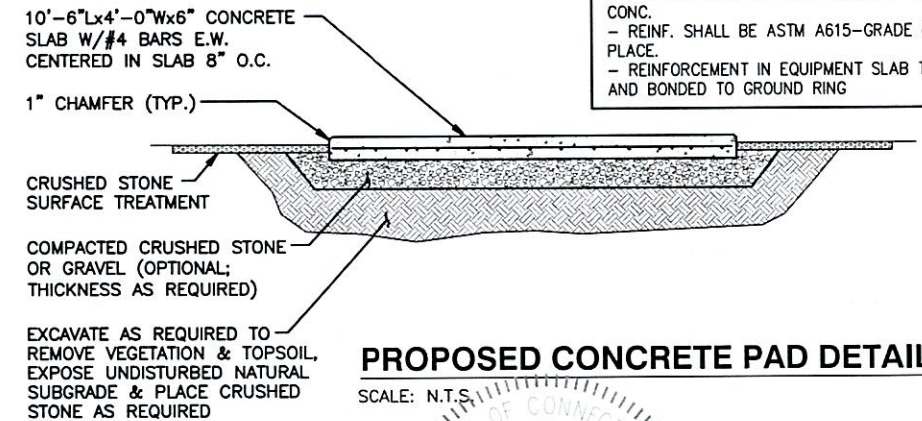
SCALE: N.T.S.

NOTE:

ATTACH EQUIPMENT TO CONCRETE PER MANUFACTURER'S SPECIFICATIONS.

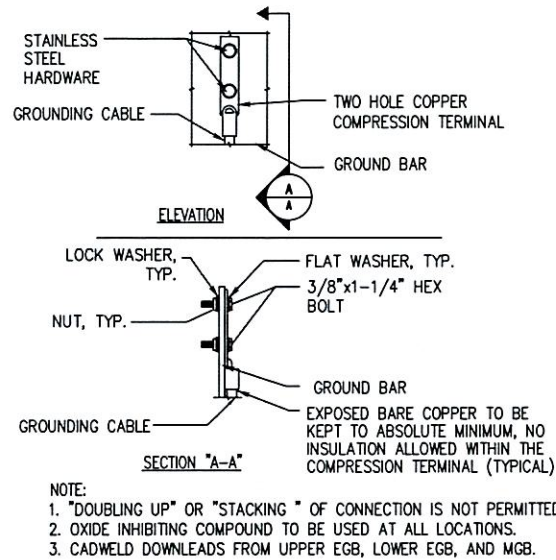
NEW CONC. PAD NOTES:

- REINF. W/ #4's @ 8" O.C. EA. WAY (MID-DEPTH).
- DOWEL NEW CONC. TO EXIST. W/ #4's @ 8" O.C. x 8" LONG. DRILL & EPOXY GROUT 4" INTO EXIST. CONC.
- REINF. SHALL BE ASTM A615-GRADE 60. SECURE IN PLACE.
- REINFORCEMENT IN EQUIPMENT SLAB TO BE WELDED AND BONDED TO GROUND RING



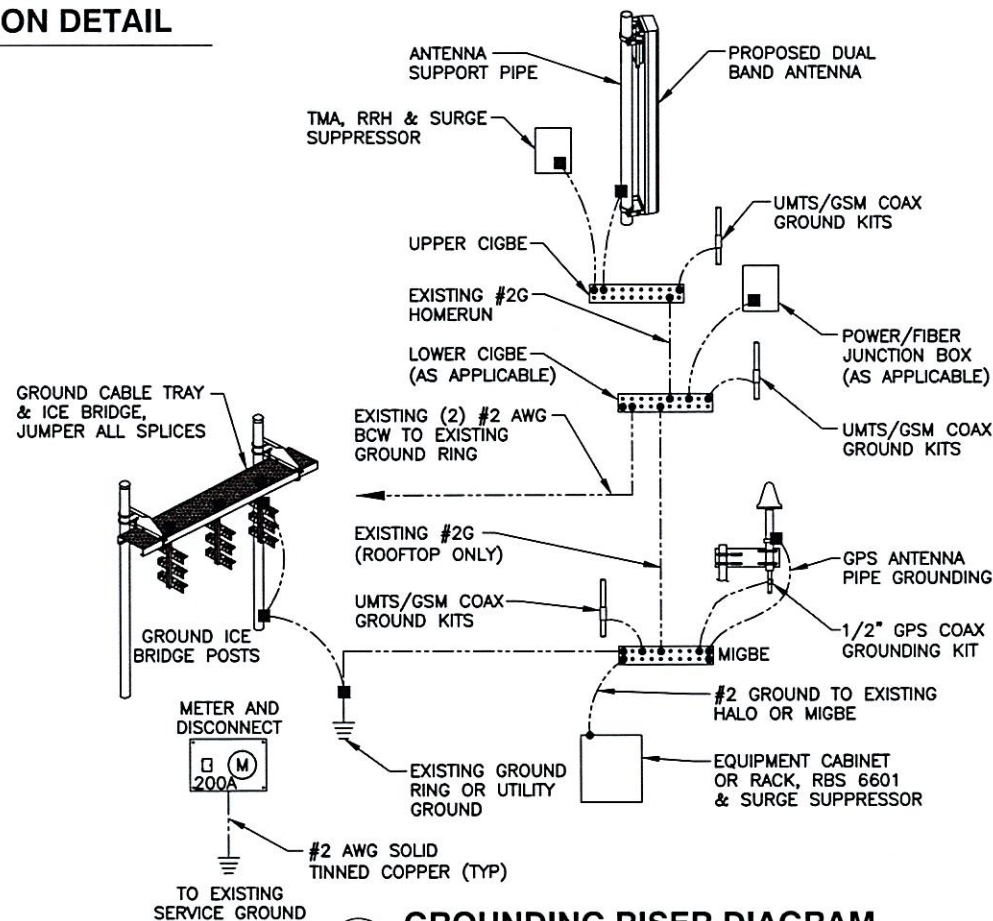
PROPOSED CONCRETE PAD DETAIL

SCALE: N.T.S.

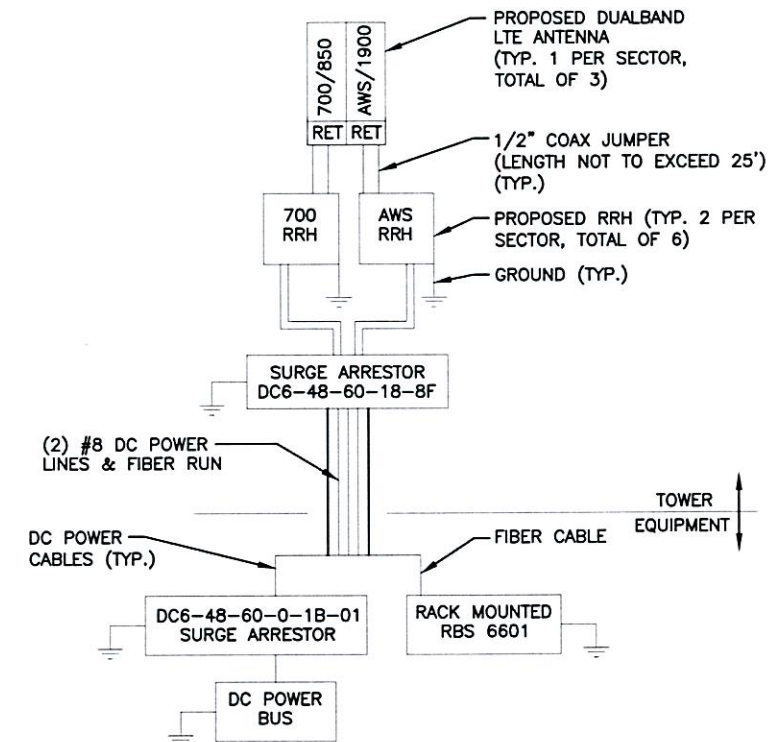


TYPICAL GROUND BAR CONNECTION DETAIL

1
—
N.T.S.



3
—
N.T.S. **GROUNDING RISER DIAGRAM**



NOTE:
CONTRACTOR TO CONFIRM ALL PARTS & INSTALL ALL EQUIPMENT TO MANUFACTURER'S RECOMMENDATIONS.

2
—
N.T.S. **PLUMBING DIAGRAM**

WIRELESS SOLUTIONS INC.			
NO.	REQ.	PART NO.	DESCRIPTION
①	1	HLGB-0420-IS	SOLID GND. BAR (20"x4"x1/4")
②	2	—	WALL MTG. BRKT.
③	2	—	INSULATORS
④	4	—	5/8"-11x1" H.H.C.S.
⑤	4	—	5/8 LOCKWASHER

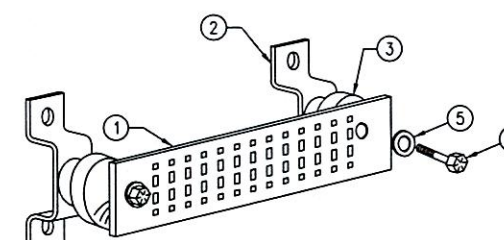
EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PRODUCERS

CABLE ENTRY PORTS (HATCH PLATES) (#2)
GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
TELCO GROUND BAR
COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
+24V POWER SUPPLY RETURN BAR (#2)
-48V POWER SUPPLY RETURN BAR (#2)
RECTIFIER FRAMES.

SECTION "A" - SURGE ABSORBERS

INTERIOR GROUND RING (#2)
EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
BUILDING STEEL (IF AVAILABLE) (#2)



4
—
N.T.S. **GROUND BAR DETAIL**