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July 28, 2009

Via Federal Express

ORIGINAL

S. Derek Phelps, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: EM- POCKET-004-081028
Crown Castle USA, Inc. Telecommunications Facility
Deercliff Road, Avon, Connecticut

Dear Mr. Phelps:

Pursuant to your letter dated November 20, 2008 (a copy of which is attached), I have enclosed the new structural for the site indicating that it is below 100%, and signed by a professional engineer.

If you should need anything further, please feel free to contact me.

Respectfully Submitted,

Carrie L. Larson

Enclosure

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

Internet: ct.gov/csc

Daniel F. Caruso
Chairman

November 20, 2008

Carrie L. Larson, Esq.
Pullman & Comley, LLC
90 State House Square
Hartford, CT 06103-3702

RE: **EM-POCKET-004-081028** – Youghiogheny Communications-Northeast, LLC d/b/a Pocket Communications notice of intent to modify an existing telecommunications facility located at 376 Deercliff Road, Avon, Connecticut.

Dear Attorney Larson:

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:

- The modifications recommended on page 9 of the structural analysis report dated October 22, 2008 and sealed by David B. Grainger, P.E. are performed prior to the antenna installation;
- A post-construction tower rating of not more than 100 percent is achieved; and
- A signed letter from a Professional Engineer duly licensed in the State of Connecticut is submitted to the Council to certify that the modifications have been properly completed and a post-construction tower rating of not more than 100 percent has been achieved.

The proposed modifications are to be implemented as specified here and in your notice dated October 27, 2008, including the placement of all necessary equipment and shelters within the tower compound. 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. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps

S. Derek Phelps
Executive Director

SDP/MP/laf

c: The Honorable John F. Carlson, Chairman Town Council, Town of Avon
Philip K. Schenck, Jr., Town Manager, Town of Avon
Steven V. Kushner, Town Planner, Town of Avon
Crown Castle USA, Inc.

Date: December 19, 2008

Ben Goodhart
Crown Castle USA Inc.
9105 Monroe Rd. Suite 150
Charlotte, NC 28270
(704) 321-3845

GPD ASSOCIATES

GPD Associates
520 South Main St.; Suite 2531
Akron, OH 44311
(330) 572-2184
kjoy@gpdgroup.com

Subject: **Structural Analysis Report**

Carrier Designation: ***Youghiogheny Communications* Co-Locate**
Carrier Site Number: CT-0022
Carrier Site Name: CCI 870800

Crown Castle Designation: **Crown Castle BU Number:** 870800
Crown Castle Site Name: Avon (Deercliff Rd.)
Crown Castle Work Order Number: 245510

Engineering Firm Designation: **GPD Associates Project Number:** 2008284.22

Site Data: **376 Deercliff Rd., Avon, CT 06001, Hartford County**
Latitude *41° 46' 29.95"*, Longitude *-72° 48' 2.07"*
560 Foot – Modified Guyed Tower

Dear Mr. Ben Goodhart,

GPD Associates is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 314690.

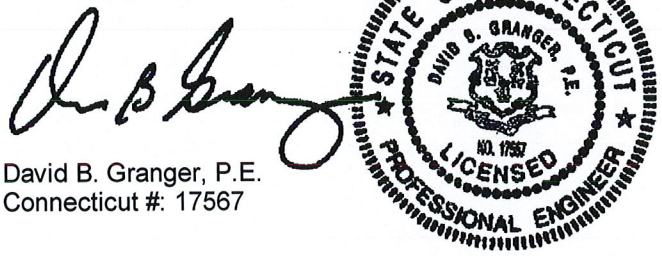
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC1: Existing + Reserved + Proposed Equipment **Sufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

The analysis has been performed in accordance with the TIA/EIA-222-F standard and the Connecticut Building Code based upon a wind speed of 80 mph fastest mile.

We at *GPD Associates* appreciate the opportunity of providing our continuing professional services to you and Crown Castle USA Inc. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:



David B. Granger, P.E.
Connecticut #: 17567

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1) INTRODUCTION

This tower is a 560 ft Guyed tower designed by Stainless, Inc. in November of 1986. The tower was originally designed for a wind load of 60 psf 0" of radial ice and a wind load of 20 psf with 2" of radial ice per EIA-222-C.

The existing tower is supported on a tapered base and has twenty-two major sections. It has a triangular cross section made of bolted connections, with an "X" frame configuration. The tower is fabricated with solid round legs and diagonals and angle horizontals. It has three guy elevations for a total of nine guy wires. A 60' pipe mast is mounted to the top of the tower.

All modifications designed by GPD Associates (Project #: 2007282.88, dated 10/11/07) were considered in the analysis.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 69.3 mph with 0.5 inch ice thickness and 60 mph under service loads.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
214	214	3	Kathrein	742-213	6	1-5/8	
		3		2'-0" - STANDOFFs			

Notes:
1) See Appendix B for the proposed coax layout.

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
557	586	1	Harris	TWS-30-18	1	WR-1500	3
518	528	1	Telewave	ANT150F6	1	1-1/4	
		1		4' Side Mount Standoff			
515	515	1	Andrew	PG1NOF-0093-8	1	1-5/8	
		1		4' Side Mount Standoff			
505	505	1	Telewave	ANT150F2	1	1-1/4	
		1		4' Side Mount Standoff			
500	508	1	Tx Rx systems	101-68-10-0-03N	1	1-1/4	
	500	1		6' Side Mount Standoff			
495	495	1	Andrew	ATW25HS3-HSO-46H	1	4-1/16	1
470	480	1	Telewave	ANT150F6	1	7/8	
	470	1		4' Side Mount Standoff			
445	452	1	Tx Rx systems	101-68-10-0-03N	1	1-1/4	
	445	1		6' Side Mount Standoff			
442	452	2	Telewave	ANT150F6	1	7/8	

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
	442	1		2'-0" - STANDOFF	1	1-1/4	
		1		4' Side Mount Standoff			
422	427	1	Swedcom	800/1850 COMBNR	1	1-1/4	
		1	Tx Rx systems	101D-90-06-0-03	1	1/2	
	422	1		6' Side Mount Standoff			
395	402	1	Sinclair	SC233	1	1-1/4	
	395	1		2'-0" - STANDOFF			
330	335	2	Decibel	DB636-C	2	1-1/4	
	330	2		2'-0" - STANDOFF			
303	308	1	Decibel	DB636-C	1	1-1/4	
	303	1		2'-0" - STANDOFF			
300	305	1	Decibel	DB636-C	1	1-1/4	
	300	1	Radiowaves	SPD2-5.8 Dish	1	1/2	
		2		2'-0" - STANDOFF			
289	294	1	Decibel	DB636-C	1	1-1/4	
	289	1		2'-0" - STANDOFF			
254	259	1	Decibel	DB810M-XC			
	254	1		4' Side Mount Standoff			
250	260	4	Celwave	AP859012-42T0	8	1-5/8	1
		4	Decibel	844G65VTZASX			
	250	2		6'x12' Boom Gates			
240	242	2	EMS Wireless	FR90-16-02DP	4	7/8	1
		4	Ericsson	KRY 112 71 TMAs			
	240	2		12' T-Frame			
219	219	1	Telewave	ANT150F6	1	7/8	
		1		2'-0" - STANDOFF			
177	187	1	Telewave	ANT150F6	1	7/8	
	177	1		4' Side Mount Standoff			
145	145	1		2'-0" - STANDOFF	1	EW52	2
140	140	1	Radiowaves	SPD2-5.8 Dish	1	1/2	
		1		2'-0" - STANDOFF			
135	135	1	Radiowaves	SPD2-5.8 Dish	1	1/2	
		1		2'-0" - STANDOFF			
116	120	1	Celwave	201-8	1	3/8	
91	94	1	Telewave	ANT150F2	1	1/4	
	91	1		2'-0" - STANDOFF			
79	80	1	Trimble	Acutime 2000	1	1/2	

Notes:
1) Both the existing and SLA loading were considered. In this case, the SLA loading controls.
2) Abandoned
3) All mounts, antennas, and coax to be removed.

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
560	560	1	Andrew	Ch. 18 Wavestar	1	6-1/8
		1	Harris	Ch. 18 Wavestar	1	WR1800
550	550	6		2-Way Antennas	6	7/8
490	490	1		8' Microwave Parabolic Antenna	1	EW64
480	480	6		2-Way Antennas	6	7/8
320	320	1		8' Microwave Parabolic Antenna	1	EW64
315	315	1		4' Microwave Parabolic Antenna	1	EW64
300	300	1		2-Bay FM Antenna	1	3
200	200	1		PR450	1	7/8

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Tower Manufacturer Drawings	Report #: 3290, dated 11/5/86	Doc ID # 1579694	Crown DMZ
Tower Mapping	Pinnacle Acquisition #: 0236-001, dated 4/14/99	Doc ID # 1579694	Crown DMZ
Geotechnical Report	United Consulting Project #: 20004476-01, dated 2/8/01	Doc ID # 1579662	Crown DMZ
Modification Drawings	GPD Associates Project #: 2007282.88, dated 10/11/07	Doc ID # 2124272	Crown DMZ
Previous Analysis	GPD Associates Project #: 2008280.61, dated 10/22/2008	Doc ID # 2334179	Crown DMZ

3.1) Analysis Method

RISATower (version 5.3.0.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) When applicable, transmission cables are considered as structural components for calculating wind loads as allowed by TIA/EIA-222-F.

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

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	560 - 535	Leg	4	2	-6.56	335.71	2.0	Pass
		Diagonal	1	12	2.05	22.61	9.1	Pass
		Horizontal	L2 1/2x2 1/2x1/4	17	-1.30	17.19	7.6	Pass
		Top Girt	L2 1/2x2 1/2x1/4	4	-0.11	17.19	0.7	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	8	-0.90	17.19	5.2	Pass
T2	535 - 510	Leg	4	45	-23.19	336.52	6.9	Pass
		Diagonal	1	56	4.63	22.61	20.5	Pass
		Horizontal	L2 1/2x2 1/2x1/4	60	-3.14	17.19	18.3	Pass
		Top Girt	L2 1/2x2 1/2x1/4	47	-0.92	17.19	5.3	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	51	-1.98	17.19	11.5	Pass
T3	510 - 485	Leg	4 1/2	87	-51.23	458.51	11.2 14.0 (b)	Pass
		Diagonal	1 1/4	107	7.96	35.33	22.5 32.2 (b)	Pass
		Horizontal	L2 1/2x2 1/2x1/4	111	-5.32	17.26	30.8	Pass
		Top Girt	L2 1/2x2 1/2x1/4	90	-2.00	17.26	11.6	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	91	-2.75	17.26	15.9	Pass
		Guy A@491.292	1 1/4	936	62.01	96.00	64.6	Pass
		Guy B@491.292	1 1/4	935	61.90	96.00	64.5	Pass
		Guy C@491.292	1 1/4	934	61.85	96.00	64.4	Pass
		Top Guy Pull-Off@491.292	L2 1/2x2 1/2x1/4	101	10.37	34.26	36.5	Pass
T4	485 - 460	Leg	4 1/2	129	-52.92	458.51	11.5	Pass
		Diagonal	1	163	7.02	22.61	31.0	Pass
		Horizontal	L2 1/2x2 1/2x1/4	160	-5.26	17.39	30.2	Pass
		Top Girt	L2 1/2x2 1/2x1/4	130	-2.92	17.39	16.8	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	133	-2.15	17.39	12.4	Pass
T5	460 - 435	Leg	4 1/4	171	-61.00	395.53	15.4	Pass
		Diagonal	5/8	205	3.76	8.83	42.6	Pass
		Horizontal	L2x2x3/16	202	-2.78	8.18	34.0	Pass
		Top Girt	L2x2x3/16	172	-1.31	8.18	16.0	Pass
		Bottom Girt	L2x2x3/16	177	-0.99	8.18	12.1	Pass
T6	435 - 410	Leg	4 1/4	213	-61.27	395.53	15.5	Pass
		Diagonal	5/8	225	4.90	8.83	55.4	Pass
		Horizontal	L2x2x3/16	228	-3.44	8.00	43.0	Pass
		Top Girt	L2x2x3/16	216	-1.01	8.00	12.6	Pass
		Bottom Girt	L2x2x3/16	219	-2.10	8.00	26.2	Pass
T7	410 - 385	Leg	4 1/4	253	-66.96	395.53	16.9	Pass
		Diagonal	5/8	267	7.38	8.83	83.6	Pass
		Horizontal	L2x2x3/16	270	-5.51	8.00	69.0	Pass
		Top Girt	L2x2x3/16	258	-2.12	8.00	26.5	Pass
		Bottom Girt	L2x2x3/16	261	-3.16	8.00	39.5	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T8	385 - 360	Leg	4 1/4	295	-105.82	395.53	26.8	Pass
		Diagonal	3/4	309	9.83	12.72	77.3	Pass
		Horizontal	L2x2x1/4	312	-7.53	10.31	73.0	Pass
		Top Girt	L2x2x3/16	300	-3.16	8.00	39.5	Pass
		Bottom Girt	L2x2x3/16	303	-3.18	8.00	39.8	Pass
T9	360 - 335	Leg	4 3/4	337	-157.84	525.46	30.0	Pass
		Diagonal	1	351	12.50	22.61	55.3 72.8 (b)	Pass
		Horizontal	L2 1/2x2 1/2x1/4	354	-9.52	17.08	55.7	Pass
		Top Girt	L2 1/2x2 1/2x1/4	342	-5.26	17.08	30.8 47.8 (b)	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	345	-5.29	17.08	31.0 48.1 (b)	Pass
T10	335 - 310	Leg	5 1/4	379	-208.80	671.27	31.1	Pass
		Diagonal	1 1/4	411	14.00	35.33	39.6 56.6 (b)	Pass
		Horizontal	L2 1/2x2 1/2x1/4	414	-11.03	17.37	63.5	Pass
		Top Girt	L2 1/2x2 1/2x1/4	384	-5.34	17.37	30.7	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	385	-4.31	17.37	24.8	Pass
		Guy A@316.292	1 1/2	939	73.46	138.00	53.2	Pass
		Guy B@316.292	1 1/2	938	73.49	138.00	53.3	Pass
		Guy C@316.292	1 1/2	937	73.43	138.00	53.2	Pass
		Top Guy Pull-Off@316.292	L2 1/2x2 1/2x1/4	396	15.63	34.26	51.8	Pass
T11	310 - 285	Leg	4 3/4	421	-197.79	525.46	37.6	Pass
		Diagonal	1	458	11.53	22.61	51.0	Pass
		Horizontal	L2 1/2x2 1/2x1/4	454	-8.73	17.55	49.8	Pass
		Top Girt	L2 1/2x2 1/2x1/4	424	-4.60	17.55	26.2	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	427	-4.09	17.55	23.3	Pass
T12	285 - 260	Leg	4 3/4	463	-158.20	525.46	30.1	Pass
		Diagonal	5/8	500	7.53	8.83	85.2	Pass
		Horizontal	L2x2 1/2x3/16	496	-5.73	8.78	65.3	Pass
		Top Girt	L2x2 1/2x3/16	466	-2.80	8.78	31.9	Pass
		Bottom Girt	L2x2 1/2x3/16	470	-2.22	8.78	25.3	Pass
T13	260 - 235	Leg	4 3/4	505	-131.92	525.46	25.1	Pass
		Diagonal	5/8	543	5.12	8.83	57.9	Pass
		Horizontal	L2x2 1/2x3/16	539	-3.37	8.78	38.4	Pass
		Top Girt	L2x2 1/2x3/16	509	-2.20	8.78	25.0	Pass
		Bottom Girt	L2x2 1/2x3/16	511	-0.51	8.78	5.8	Pass
T14	235 - 210	Leg	4 3/4	547	-137.22	525.46	26.1	Pass
		Diagonal	5/8	557	4.58	8.83	51.8	Pass
		Horizontal	L2x2 1/2x3/16	562	-3.13	8.78	35.7	Pass
		Top Girt	L2x2 1/2x3/16	550	-0.52	8.78	5.9	Pass
		Bottom Girt	L2x2 1/2x3/16	553	-2.19	8.78	25.0	Pass
T15	210 - 185	Leg	5	589	-168.21	596.38	28.2	Pass
		Diagonal	7/8	599	8.89	17.31	51.3	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
							80.9 (b)	
		Horizontal	L2x2 1/2x3/16	604	-6.47	8.82	73.4	Pass
		Top Girt	L2x2 1/2x3/16	592	-2.24	8.82	25.4	Pass
		Bottom Girt	L2x2 1/2x3/16	595	-3.16	8.82	35.9	Pass
T16	185 - 160	Leg	5 1/4	632	-217.81	671.27	32.4	Pass
		Diagonal	1	640	13.03	22.61	57.6 75.9 (b)	Pass
		Horizontal	L2 1/2x2 1/2x1/4	646	-10.11	17.28	58.5 58.9 (b)	Pass
		Top Girt	L2 1/2x2 1/2x1/4	634	-4.62	17.28	26.8 26.9 (b)	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	637	-5.28	17.28	30.6 30.7 (b)	Pass
T17	160 - 135	Leg	5 1/2	674	-244.64	750.12	32.6	Pass
		Diagonal	1 1/4	702	14.75	35.33	41.7 59.6 (b)	Pass
		Horizontal	L2 1/2x2 1/2x1/4	689	-11.66	17.41	67.0	Pass
		Top Girt	L2 1/2x2 1/2x1/4	676	-4.78	17.41	27.4	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	680	-5.51	17.41	31.6	Pass
		Guy A@153.708	1 3/4	942	76.18	188.00	40.5	Pass
		Guy B@153.708	1 3/4	941	76.26	188.00	40.6	Pass
		Guy C@153.708	1 3/4	940	76.24	188.00	40.6	Pass
		Top Guy Pull-Off@153.708	L2 1/2x2 1/2x1/4	706	17.91	25.70	78.0	Pass
T18	135 - 110	Leg	5 1/4	716	-198.63	671.27	29.6	Pass
		Diagonal	1	753	12.74	22.61	56.3	Pass
		Horizontal	L2 1/2x2 1/2x1/4	750	-9.55	17.62	54.2	Pass
		Top Girt	L2 1/2x2 1/2x1/4	719	-5.48	17.62	31.1	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	722	-4.88	17.62	27.7	Pass
T19	110 - 85	Leg	5 1/4	757	-124.99	503.58	24.8	Pass
		Diagonal	7/8	795	9.02	17.31	52.1	Pass
		Horizontal	L2x2x3/16	792	-6.56	8.30	79.0	Pass
		Top Girt	L2x2x3/16	761	-2.98	8.30	35.9	Pass
		Bottom Girt	L2x2x3/16	764	-2.36	8.30	28.5	Pass
T20	85 - 60	Leg	5 1/4	801	-176.27	671.27	26.3	Pass
		Diagonal	7/8	837	5.27	17.31	30.5	Pass
		Horizontal	L2x2x3/16	833	-3.63	8.30	43.7	Pass
		Top Girt	L2x2x3/16	803	-2.34	8.30	28.2	Pass
		Bottom Girt	L2x2x3/16	807	-0.97	8.30	11.7	Pass
T21	60 - 35	Leg	5 1/4	842	-178.13	671.27	26.5	Pass
		Diagonal	7/8	851	3.68	17.31	21.3	Pass
		Horizontal	L2x2x3/16	856	-2.42	8.30	29.1	Pass
		Top Girt	L2x2x3/16	846	-0.96	8.30	11.5	Pass
		Bottom Girt	L2x2x3/16	847	-1.67	8.30	20.1	Pass
T22	35 - 10	Leg	5 1/4	883	-134.93	503.58	26.8	Pass
		Diagonal	7/8	893	7.33	17.31	42.4	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
		Horizontal	L2x2x3/16	907	-4.84	8.30	58.3	Pass
		Top Girt	L2x2x3/16	886	-1.69	8.30	20.4	Pass
		Bottom Girt	L2x2x3/16	891	5.91	11.98	49.3	Pass
T23	10 - 0	Leg	5 1/4	926	-149.73	527.35	28.4	Pass
		Horizontal	L3x5x1/2	929	29.64	81.00	36.6	Pass
							Summary	
						Leg (T11)	37.6	Pass
						Diagonal (T12)	85.2	Pass
						Horizontal (T19)	79.0	Pass
						Top Girt (T9)	47.8	Pass
						Bottom Girt (T22)	49.3	Pass
						Guy A (T3)	64.6	Pass
						Guy B (T3)	64.5	Pass
						Guy C (T3)	64.4	Pass
						Top Guy Pull-Off (T17)	78.0	Pass
						Bolt Checks	80.9	Pass
						RATING =	**85.2**	**Pass**

Table 6 - Tower Component Stresses vs. Capacity - LC1

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Base Foundation Soil Interaction	0	27.4 %	Pass
2	Guy Anchor Foundation (Comp. w/ Design Loads)	0	68.3 %	Pass
Structure Rating (max from all components) =				**85.2%**

Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
2) Foundation capacity determined by comparing analysis reactions to original design reactions.

4.1) Recommendations

The design of the modified tower and its foundation are adequate for the proposed loading and do not require further modifications.

5) DISCLAIMER OF WARRANTIES

GPD ASSOCIATES has not performed a site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD ASSOCIATES in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

GPD ASSOCIATES does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD ASSOCIATES provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation, if any, that should be considered in the structural analysis.

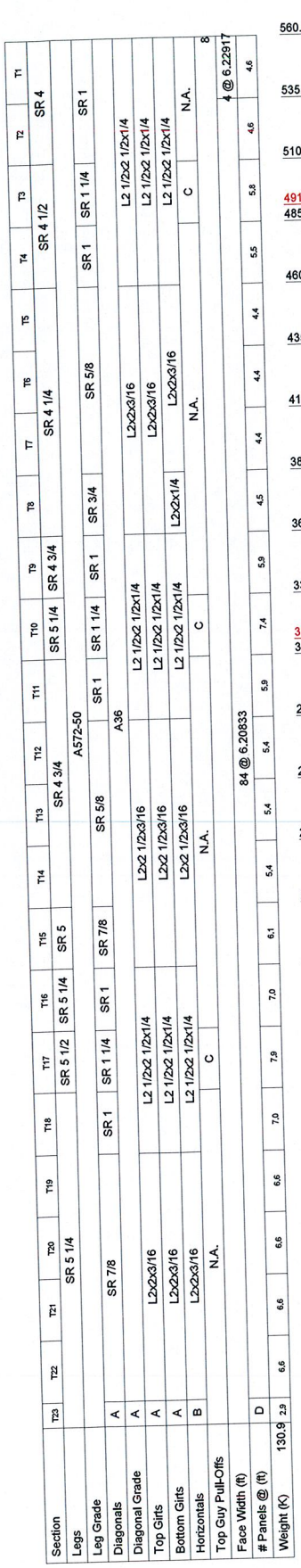
The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD ASSOCIATES, but are beyond the scope of this report.

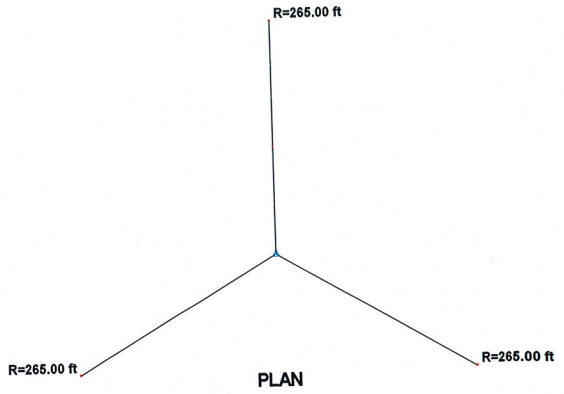
Miscellaneous items such as antenna mounts, etc. have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

GPD ASSOCIATES makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD ASSOCIATES will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD ASSOCIATES pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

RISA TOWER OUTPUT





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Man Platform	545	DB636-C	289
Man Platform	541	Pirod 4' Side Mount Standoff (1)	254
Pirod 4' Side Mount Standoff (1)	518	DB810M-XC	254
ANT150F6	518	(4) AP859012-42T0	250
Pirod 4' Side Mount Standoff (1)	515	(4) 844G65VTZASX	250
PG1NOF-0093-8	515	Rohn 6'x12' Boom Gate (1)	250
Pirod 4' Side Mount Standoff (1)	505	Rohn 6'x12' Boom Gate (1)	250
ANT150F2	505	FR90-16-02DP	240
Pirod 6' Side Mount Standoff (1)	500	FR90-16-02DP	240
101-68-10-0-03N	500	(2) KRY 112 71	240
ATW25HS3-HSO-46H	495	(2) KRY 112 71	240
Flash Beacon Lighting	476	PiROD 12' Lightweight T-Frame (GPD)	240
Flash Beacon Lighting	476	PiROD 12' Lightweight T-Frame (GPD)	240
ANT150F6	470	2'-0" - STANDOFF	219
Pirod 4' Side Mount Standoff (1)	470	ANT150F6	219
101-68-10-0-03N	445	2'-0" - STANDOFF	214
Pirod 6' Side Mount Standoff (1)	445	742-213 w/Mount Pipe	214
ANT150F6	442	742-213 w/Mount Pipe	214
2'-0" - STANDOFF	442	742-213 w/Mount Pipe	214
ANT150F6	442	2'-0" - STANDOFF	214
Pirod 4' Side Mount Standoff (1)	442	2'-0" - STANDOFF	214
101D-90-06-0-03 w/Mount Pipe	422	Pirod 4' Side Mount Standoff (1)	177
SFCP 800/1850 TMA	422	ANT150F6	177
Pirod 6' Side Mount Standoff (1)	422	Side Light	157
SC233	395	Side Light	157
2'-0" - STANDOFF	395	Side Light	157
DB636-C	330	Side Light	157
2'-0" - STANDOFF	330	2'-0" - STANDOFF	145
DB636-C	330	2'-0" - STANDOFF	140
2'-0" - STANDOFF	330	SPD2-5.8	140
Flash Beacon Lighting	312	SPD2-5.8	135
Flash Beacon Lighting	312	201-8 W/ Pipe Mount	116
DB636-C	303	ANT150F2	91
2'-0" - STANDOFF	303	2'-0" - STANDOFF	91
DB636-C	300	Acutime 2000	79
2'-0" - STANDOFF	300	Side Light	16
2'-0" - STANDOFF	300		
SPD2-5.8	300		
2'-0" - STANDOFF	289		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	N.A.	C	L2 1/2x2 1/2x1/4
B	L3x5x1/2	D	2 @ 4.95833

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

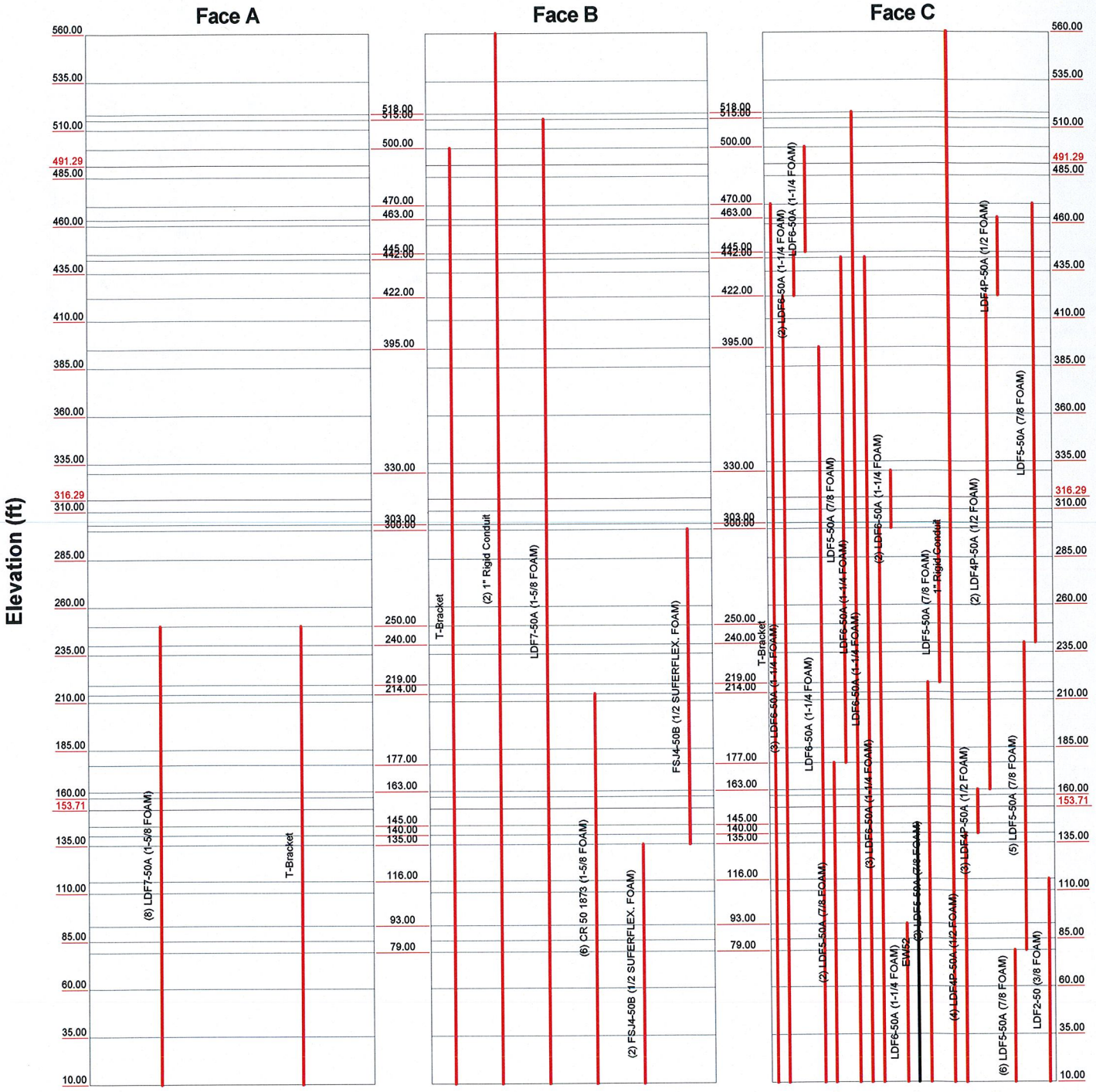
1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 69 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 60 mph wind.
5. TOWER RATING: 85.2%

GPD GROUP
Consulting Engineers
GPD Associates
520 S. Main Street
Akron, OH
Phone: (330) 572-2100
FAX: (330) 572-2102

Job: *Avon (Deercliff Rd.), BU#: 870800*			
Project: *2008284.22*			
Client: Crown Castle	Drawn by: kjoy	App'd:	
Code: TIA/EIA-222-F	Date: 12/19/08	Scale: NTS	
Path: G:\Telecom\2008284\22\RISA Model\870800 FM Removed.er		Dwg No. E-1	

Feedline Distribution Chart
10' - 560'

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



GPD GROUP Consulting Engineers	*GPD Associates* 520 S. Main Street Akron, OH Phone: (330) 572-2100 FAX: (330) 572-2102	Job: ***Avon (Deercliff Rd.), BU#: 870800***	
		Project: ***2008284.22***	
		Client: Crown Castle	Drawn by: kjoy / App'd:
		Code: TIA/EIA-222-F	Date: 12/19/08 / Scale: NTS
		Path: G:\Telecom\2008284\22\RISA Model\870800 FM Removed.eri	Dwg No. E-7

Tower Input Data

The main tower is a 3x guyed tower with an overall height of 560.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 8.00 ft at the top and tapered at the base.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Hartford County, Connecticut.
Basic wind speed of 80 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 69 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Pressures are calculated at each section.
Safety factor used in guy design is 2.
Stress ratio used in tower member design is 1.333.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF7-50A (1-5/8 FOAM)	A	No	Ar (Leg)	250.00 - 8.00	0.0000	0.1	8	4	0.2500	1.9800		0.82
T-Bracket	A	No	Ar (Leg)	250.00 - 8.00	0.0000	0.1	1	1	0.2500	0.0000		10.00
T-Bracket	B	No	Ar (Leg)	500.00 - 8.00	0.0000	0.1	1	1	0.2500	0.0000		10.00
T-Bracket	C	No	Ar (Leg)	470.00 - 8.00	0.0000	0.1	1	1	0.2500	0.0000		10.00
1" Rigid Conduit	B	No	Ar (CfAe)	560.00 - 8.00	-4.0000	0.1	2	1	1.0000	1.0000		0.50
LDF7-50A (1-5/8 FOAM)	B	No	Ar (CfAe)	515.00 - 8.00	-8.0000	0.12	1	1	1.0000	1.9800		0.82
CR 50 1873 (1-5/8 FOAM)	B	No	Ar (Leg)	214.00 - 8.00	0.0000	0.1	6	3	1.0000	1.9800		0.83
FSJ4-50B (1/2 SUFERFLEX. FOAM)	B	No	Ar (Leg)	135.00 - 8.00	0.0000	0.16	2	2	0.5200	0.5200		0.14
FSJ4-50B (1/2 SUFERFLEX. FOAM)	B	No	Ar (Leg)	300.00 - 135.00	0.0000	0.16	1	1	0.5200	0.5200		0.14
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	422.00 - 8.00	-1.0000	-0.33	3	3	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	445.00 - 422.00	-1.0000	-0.33	2	2	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	500.00 - 445.00	-1.0000	-0.33	1	1	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	395.00 - 8.00	-1.0000	-0.15	1	1	1.0000	1.5500		0.66
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	177.00 - 8.00	-1.0000	-0.1	2	2	1.0000	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	442.00 - 177.00	-1.0000	-0.1	1	1	1.0000	1.0900		0.33
LDF6-50A (1-1/4 FOAM)	C	No	Ar (CfAe)	518.00 - 8.00	-8.0000	-0.1	1	1	1.5500	1.5500		0.66

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	442.00 - 8.00	-6.0000	-0.08	1	1	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	300.00 - 8.00	-5.0000	-0.02	3	1	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	330.00 - 300.00	-5.0000	-0.02	2	2	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	93.00 - 8.00	-2.0000	0.02	1	1	1.0000	1.5500		0.66
EW52	C	Yes	Af (CfAe)	145.00 - 8.00	-4.0000	0.04	1	1	1.7426	1.7426	5.5505	0.59
LDF5-50A	C	Yes	Ar (CfAe)	219.00 - 8.00	-2.0000	0.15	2	1	1.0000	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	303.00 - 219.00	-1.0000	0.15	1	1	1.0000	1.0900		0.33
1" Rigid Conduit	C	Yes	Ar (CfAe)	560.00 - 8.00	-1.0000	0.18	1	1	1.0000	1.0000		0.50
LDF4P-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	140.00 - 8.00	-4.0000	0.16	4	4	0.6300	0.6300		0.15
LDF4P-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	163.00 - 140.00	-4.0000	0.16	3	3	0.6300	0.6300		0.15
LDF4P-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	422.00 - 163.00	-4.0000	0.16	2	2	0.6300	0.6300		0.15
LDF4P-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	463.00 - 422.00	-4.0000	0.16	1	1	0.6300	0.6300		0.15
LDF5-50A (7/8 FOAM)	C	No	Ar (Leg)	79.00 - 8.00	0.0000	0.1	6	6	1.0000	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	No	Ar (Leg)	240.00 - 79.00	0.0000	0.1	5	5	1.0000	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	No	Ar (Leg)	470.00 - 240.00	0.0000	0.1	1	1	1.0000	1.0900		0.33
LDF2-50 (3/8 FOAM)	C	No	Ar (Leg)	116.00 - 8.00	0.0000	0.1	1	1	0.4400	0.4400		0.08

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Man Platform	C	None		0.0000	541.00	No Ice	3.77	3.77	0.13
						1/2" Ice	4.83	4.83	0.17
Man Platform	B	From Face	0.00 0.00 0.00	0.0000	545.00	No Ice	3.77	3.77	0.13
						1/2" Ice	4.83	4.83	0.17
Pirod 4' Side Mount Standoff (1)	A	From Leg	1.97 0.35 0.00	10.0000	518.00	No Ice	2.72	2.72	0.05
						1/2" Ice	4.91	4.91	0.09
ANT150F6	A	From Leg	3.94 0.69 10.00	10.0000	518.00	No Ice	4.80	4.80	0.03
						1/2" Ice	6.83	6.83	0.07
Pirod 4' Side Mount Standoff (1)	C	From Leg	2.00 0.00 0.00	0.0000	515.00	No Ice	2.72	2.72	0.05
						1/2" Ice	4.91	4.91	0.09
PG1NOF-0093-8	C	From Leg	4.00 0.00 0.00	0.0000	515.00	No Ice	2.98	2.98	0.03
						1/2" Ice	4.01	4.01	0.05
Pirod 4' Side Mount Standoff	A	From Leg	1.00	60.0000	505.00	No Ice	2.72	2.72	0.05

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement		C_AA_A Front	C_AA_A Side	Weight
			ft ft ft	°	ft		ft^2	ft^2	K
(1)			1.73 0.00			1/2" Ice	4.91	4.91	0.09
ANT150F2	A	From Leg	2.00 3.46 0.00	60.0000	505.00	No Ice 1/2" Ice	1.29 1.60	1.29 1.60	0.01 0.02
Pirod 6' Side Mount Standoff (1)	C	From Leg	2.96 0.53 0.00	10.0000	500.00	No Ice 1/2" Ice	4.97 6.12	4.97 6.12	0.07 0.13
101-68-10-0-03N	C	From Leg	5.91 1.04 8.00	10.0000	500.00	No Ice 1/2" Ice	5.48 7.09	5.48 7.09	0.07 0.11
Flash Beacon Lighting	B	From Leg	0.00 0.00 0.00	0.0000	476.00	No Ice 1/2" Ice	2.70 3.10	2.70 3.10	0.05 0.07
Flash Beacon Lighting	C	From Leg	0.00 0.00 0.00	0.0000	476.00	No Ice 1/2" Ice	2.70 3.10	2.70 3.10	0.05 0.07
Pirod 4' Side Mount Standoff (1)	C	From Leg	1.97 0.35 0.00	10.0000	470.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
ANT150F6	C	From Leg	3.94 0.69 10.00	10.0000	470.00	No Ice 1/2" Ice	4.80 6.83	4.80 6.83	0.03 0.07
Pirod 6' Side Mount Standoff (1)	C	From Leg	2.46 0.53 0.00	10.0000	445.00	No Ice 1/2" Ice	4.97 6.12	4.97 6.12	0.07 0.13
101-68-10-0-03N	C	From Leg	5.91 1.04 7.00	10.0000	445.00	No Ice 1/2" Ice	5.48 7.09	5.48 7.09	0.07 0.11
Pirod 4' Side Mount Standoff (1)	A	From Leg	1.97 0.35 0.00	10.0000	442.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
ANT150F6	A	From Leg	3.94 0.69 10.00	10.0000	442.00	No Ice 1/2" Ice	4.80 6.83	4.80 6.83	0.03 0.07
2'-0" - STANDOFF	B	From Leg	0.87 0.50 0.00	30.0000	442.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
ANT150F6	B	From Leg	1.73 1.00 10.00	30.0000	442.00	No Ice 1/2" Ice	4.80 6.83	4.80 6.83	0.03 0.07
Pirod 6' Side Mount Standoff (1)	C	From Leg	2.96 0.53 0.00	10.0000	422.00	No Ice 1/2" Ice	4.97 6.12	4.97 6.12	0.07 0.13
101D-90-06-0-03 w/Mount Pipe	C	From Leg	5.91 1.04 5.00	10.0000	422.00	No Ice 1/2" Ice	5.83 6.98	7.50 9.37	0.07 0.12
SFCP 800/1850 TMA	C	From Leg	5.91 1.04 5.00	10.0000	422.00	No Ice 1/2" Ice	1.02 1.16	0.29 0.39	0.00 0.01
2'-0" - STANDOFF	B	From Leg	0.99 0.18 0.00	10.0000	395.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
SC233	B	From Leg	1.97 0.35 7.00	10.0000	395.00	No Ice 1/2" Ice	1.81 3.04	1.81 3.04	0.00 0.02
2'-0" - STANDOFF	B	From Leg	0.99	10.0000	330.00	No Ice	1.36	1.36	0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.18			1/2" Ice	2.45	2.45	0.04
DB636-C	B	From Leg	0.00 1.97 0.65	10.0000	330.00	No Ice 1/2" Ice	2.51 3.59	2.51 3.59	0.03 0.05
2'-0" - STANDOFF	C	From Leg	5.00 0.99 0.18	10.0000	330.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
DB636-C	C	From Leg	0.00 1.97 0.65	10.0000	330.00	No Ice 1/2" Ice	2.51 3.59	2.51 3.59	0.03 0.05
Flash Beacon Lighting	B	From Leg	5.00 0.00 0.00	0.0000	312.00	No Ice 1/2" Ice	2.70 3.10	2.70 3.10	0.05 0.07
Flash Beacon Lighting	C	From Leg	0.00 0.00 0.00	0.0000	312.00	No Ice 1/2" Ice	2.70 3.10	2.70 3.10	0.05 0.07
2'-0" - STANDOFF	C	From Leg	0.00 0.99 0.18	10.0000	303.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
DB636-C	C	From Leg	0.00 1.97 0.65	10.0000	303.00	No Ice 1/2" Ice	2.51 3.59	2.51 3.59	0.03 0.05
2'-0" - STANDOFF	A	From Leg	5.00 0.99 0.18	10.0000	300.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
DB636-C	A	From Leg	0.00 1.97 0.65	10.0000	300.00	No Ice 1/2" Ice	2.51 3.59	2.51 3.59	0.03 0.05
2'-0" - STANDOFF	C	From Leg	5.00 0.99 0.18	10.0000	300.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
2'-0" - STANDOFF	C	From Leg	0.00 0.99 0.18	10.0000	289.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
DB636-C	C	From Leg	0.00 1.97 0.65	10.0000	289.00	No Ice 1/2" Ice	2.51 3.59	2.51 3.59	0.03 0.05
Pirod 4' Side Mount Standoff (1)	A	From Leg	5.00 1.97 -0.35	-10.0000	254.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
DB810M-XC	A	From Leg	0.00 3.94 -0.69	-10.0000	254.00	No Ice 1/2" Ice	2.12 3.14	2.12 3.14	0.03 0.05
Rohn 6'x12' Boom Gate (1)	B	From Leg	5.00 1.97 0.35	10.0000	250.00	No Ice 1/2" Ice	19.15 25.12	5.01 8.12	0.56 0.70
Rohn 6'x12' Boom Gate (1)	C	From Leg	0.00 1.97 0.35	10.0000	250.00	No Ice 1/2" Ice	19.15 25.12	5.01 8.12	0.56 0.70
(4) AP859012-42T0	C	From Leg	0.00 3.94 0.69	10.0000	250.00	No Ice 1/2" Ice	2.87 3.18	3.73 4.10	0.01 0.03
(4) 844G65VTZASX	B	From Leg	10.00 3.94 0.69	10.0000	250.00	No Ice 1/2" Ice	5.83 6.23	3.97 4.34	0.02 0.05
PiROD 12' Lightweight	A	From Leg	10.00 1.97	-10.0000	240.00	No Ice	10.20	2.94	0.25

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
T-Frame (GPD)			-0.35 0.00			1/2" Ice	16.20	4.96	0.35
PiROD 12' Lightweight	C	From Leg	1.97	-10.0000	240.00	No Ice	10.20	2.94	0.25
T-Frame (GPD)			-0.35 0.00			1/2" Ice	16.20	4.96	0.35
FR90-16-02DP	A	From Leg	3.94 -0.69 2.00	-10.0000	240.00	No Ice 1/2" Ice	4.36 4.77	1.97 2.31	0.02 0.04
FR90-16-02DP	C	From Leg	3.94 -0.69 2.00	-10.0000	240.00	No Ice 1/2" Ice	4.36 4.77	1.97 2.31	0.02 0.04
(2) KRY 112 71	A	From Leg	3.94 -0.69 2.00	-10.0000	240.00	No Ice 1/2" Ice	0.73 0.86	0.43 0.54	0.01 0.02
(2) KRY 112 71	C	From Leg	3.94 -0.69 2.00	-10.0000	240.00	No Ice 1/2" Ice	0.73 0.86	0.43 0.54	0.01 0.02
2'-0" - STANDOFF	C	From Leg	0.82 0.55 0.00	35.0000	219.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
ANT150F6	C	From Leg	1.64 1.14 0.00	35.0000	219.00	No Ice 1/2" Ice	4.80 6.83	4.80 6.83	0.03 0.07
2'-0" - STANDOFF	A	From Leg	0.98 0.17 0.00	10.0000	214.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
2'-0" - STANDOFF	B	From Leg	0.82 -0.57 0.00	-35.0000	214.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
2'-0" - STANDOFF	C	From Leg	0.91 0.42 0.00	25.0000	214.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
742-213 w/Mount Pipe	A	From Leg	1.97 0.35 0.00	10.0000	214.00	No Ice 1/2" Ice	5.42 5.95	4.63 6.02	0.05 0.09
742-213 w/Mount Pipe	B	From Leg	1.64 -1.15 0.00	-35.0000	214.00	No Ice 1/2" Ice	5.42 5.95	4.63 6.02	0.05 0.09
742-213 w/Mount Pipe	C	From Leg	1.81 0.85 0.00	25.0000	214.00	No Ice 1/2" Ice	5.42 5.95	4.63 6.02	0.05 0.09
Pirod 4' Side Mount Standoff (1)	B	From Leg	1.88 0.68 0.00	20.0000	177.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
ANT150F6	B	From Leg	3.76 1.37 10.00	20.0000	177.00	No Ice 1/2" Ice	4.80 6.83	4.80 6.83	0.03 0.07
2'-0" - STANDOFF	B	From Leg	1.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
2'-0" - STANDOFF	A	From Leg	0.77 -0.64 0.00	-40.0000	140.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
201-8 W/ Pipe Mount	C	From Leg	0.00 0.00 4.00	0.0000	116.00	No Ice 1/2" Ice	2.72 4.28	2.72 4.28	0.03 0.05
2'-0" - STANDOFF	C	From Leg	0.98	10.0000	91.00	No Ice	1.36	1.36	0.02

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.17			1/2" Ice	2.45	2.45	0.04
ANT150F2	C	From Leg	0.00 1.97 0.34	10.0000	91.00	No Ice 1/2" Ice	1.29 1.60	1.29 1.60	0.01 0.02
Acutime 2000	C	From Leg	3.00 0.00 0.00	0.0000	79.00	No Ice 1/2" Ice	0.17 0.24	0.17 0.24	0.00 0.00
Side Light	A	From Face	1.00 0.00 0.00	0.0000	16.00	No Ice 1/2" Ice	0.33 0.47	0.33 0.47	0.01 0.01
Side Light	A	From Leg	0.00 0.00 0.00	0.0000	157.00	No Ice 1/2" Ice	0.33 0.47	0.33 0.47	0.01 0.01
Side Light	B	From Leg	0.00 0.00 0.00	0.0000	157.00	No Ice 1/2" Ice	0.33 0.47	0.33 0.47	0.01 0.01
Side Light	C	From Leg	0.00 0.00 0.00	0.0000	157.00	No Ice 1/2" Ice	0.33 0.47	0.33 0.47	0.01 0.01
Side Light	C	From Leg	0.00 0.00 0.00	0.0000	157.00	No Ice 1/2" Ice	0.33 0.47	0.33 0.47	0.01 0.01
ATW25HS3-HSO-46H	A	From Leg	0.00 2.00 0.00 0.00	0.0000	495.00	No Ice 1/2" Ice	36.16 40.42	36.16 40.42	0.48 0.72

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
SPD2-5.8	A	Paraboloid w/Shroud (HP)	From Leg	1.53 -1.29 0.00	-40.0000		135.00	2.04	No Ice 1/2" Ice	3.27 3.55	0.03 0.05
SPD2-5.8	C	Paraboloid w/Shroud (HP)	From Leg	1.97 0.65 0.00	10.0000		300.00	2.00	No Ice 1/2" Ice	3.14 3.41	0.02 0.04
SPD2-5.8	A	Paraboloid w/Shroud (HP)	From Leg	1.53 -1.29 0.00	-40.0000		140.00	2.04	No Ice 1/2" Ice	3.27 3.55	0.03 0.05

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	560	Diagonal	A325N	0.7500	2	1.03	9.28	0.111 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	0.65	9.28	0.070 ✔	1.333	Bolt Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Top Girt	A325N	0.7500	2	0.06	9.28	0.006 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	0.45	9.28	0.048 ✓	1.333	Bolt Shear
T2	535	Leg	A325N	0.6250	6	0.47	13.49	0.035 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	2.31	9.28	0.249 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	1.57	9.28	0.169 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	0.46	9.28	0.050 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	0.99	9.28	0.107 ✓	1.333	Bolt Shear
T3	510	Leg	A325N	0.6250	6	2.52	13.47	0.187 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	3.98	9.28	0.429 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	2.66	9.28	0.287 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	1.00	9.28	0.108 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	1.37	9.28	0.148 ✓	1.333	Bolt Shear
T4	485	Leg	A325N	0.6250	6	0.00	13.45	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.8750	2	3.51	12.63	0.278 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.8750	2	2.63	12.63	0.208 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.8750	2	1.46	12.63	0.116 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.8750	2	1.08	12.63	0.085 ✓	1.333	Bolt Shear
T5	460	Leg	A325N	0.6250	6	0.00	13.48	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	1.88	9.28	0.203 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	1.39	9.28	0.150 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	0.65	9.28	0.070 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	0.50	9.28	0.054 ✓	1.333	Bolt Shear
T6	435	Leg	A325N	0.6250	6	0.00	13.50	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	2	2.45	4.12	0.594 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	1.72	4.12	0.417 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	0.50	4.12	0.122 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	1.05	4.12	0.255 ✓	1.333	Bolt Shear
T7	410	Leg	A325N	0.6250	6	0.00	13.47	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	2	3.69	4.12	0.895 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	2.76	4.12	0.669 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	1.06	4.12	0.257 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	1.58	4.12	0.383 ✓	1.333	Bolt Shear
T8	385	Leg	A325N	0.6250	6	0.00	13.40	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.6250	2	4.92	6.44	0.763 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	3.76	4.12	0.913 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	1.58	4.12	0.383 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	1.59	4.12	0.386 ✓	1.333	Bolt Shear
T9	360	Leg	A325N	0.6250	6	0.00	13.32	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.6250	2	6.25	6.44	0.970 ✓	1.333	Bolt Shear
		Horizontal	SAEGR-8	0.5000	2	4.76	7.85	0.606 ✓	1.333	Bolt Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Top Girt	A325N	0.5000	2	2.63	4.12	0.638 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	2.64	4.12	0.641 ✓	1.333	Bolt Shear
T10	335	Leg	A325N	1.0000	6	6.25	34.48	0.181 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	7.00	9.28	0.754 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	5.51	9.28	0.594 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	2.67	9.28	0.288 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	2.15	9.28	0.232 ✓	1.333	Bolt Shear
T11	310	Leg	A325N	1.0000	6	1.65	34.51	0.048 ✓	1.333	Bolt Tension
		Diagonal	A325N	1.0000	2	5.76	16.49	0.349 ✓	1.333	Bolt Shear
		Horizontal	A325N	1.0000	2	4.37	16.49	0.265 ✓	1.333	Bolt Shear
		Top Girt	A325N	1.0000	2	2.30	16.49	0.139 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	1.0000	2	2.04	16.49	0.124 ✓	1.333	Bolt Shear
T12	285	Leg	A325N	0.6250	6	0.00	13.39	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	2	3.76	4.12	0.913 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	2.87	4.12	0.695 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	1.40	4.12	0.340 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	1.11	4.12	0.269 ✓	1.333	Bolt Shear
T13	260	Leg	A325N	0.6250	6	0.00	13.45	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	2	2.56	4.12	0.620 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	1.69	4.12	0.409 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	1.10	4.12	0.266 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	0.25	4.12	0.062 ✓	1.333	Bolt Shear
T14	235	Leg	A325N	0.6250	6	0.00	13.50	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	2	2.29	4.12	0.555 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	1.57	4.12	0.380 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	0.26	4.12	0.063 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	1.10	4.12	0.266 ✓	1.333	Bolt Shear
T15	210	Leg	A325N	0.6250	6	0.00	13.45	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	2	4.44	4.12	1.078 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	3.24	4.12	0.785 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	1.12	4.12	0.271 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	1.58	4.12	0.384 ✓	1.333	Bolt Shear
T16	185	Leg	A325N	1.0000	6	0.00	34.50	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.6250	2	6.52	6.44	1.011 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.6250	2	5.06	6.44	0.785 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.6250	2	2.31	6.44	0.359 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.6250	2	2.64	6.44	0.410 ✓	1.333	Bolt Shear
T17	160	Leg	A325N	1.0000	6	0.00	34.45	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	7.37	9.28	0.795 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	5.83	9.28	0.628 ✓	1.333	Bolt Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Top Girt	A325N	0.7500	2	2.39	9.28	0.257 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	2.75	9.28	0.297 ✓	1.333	Bolt Shear
T18	135	Leg	A325N	1.0000	6	0.00	34.42	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	1.0000	2	6.37	16.49	0.386 ✓	1.333	Bolt Shear
		Horizontal	A325N	1.0000	2	4.77	16.49	0.289 ✓	1.333	Bolt Shear
		Top Girt	A325N	1.0000	2	2.74	16.49	0.166 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	1.0000	2	2.44	16.49	0.148 ✓	1.333	Bolt Shear
T19	110	Leg	A325N	1.0000	6	0.00	34.49	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	4.51	9.28	0.486 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	3.28	9.28	0.353 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	1.49	9.28	0.161 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	1.18	9.28	0.127 ✓	1.333	Bolt Shear
T20	85	Leg	A325N	1.0000	6	0.00	34.53	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	2.64	9.28	0.284 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	1.81	9.28	0.195 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	1.17	9.28	0.126 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	0.49	9.28	0.052 ✓	1.333	Bolt Shear
T21	60	Leg	A325N	1.0000	6	0.00	34.56	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	1.84	9.28	0.199 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	1.21	9.28	0.130 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	0.48	9.28	0.052 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	0.83	9.28	0.090 ✓	1.333	Bolt Shear
T22	35	Leg	A325N	1.0000	6	0.00	34.55	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	3.67	9.28	0.395 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	2.42	9.28	0.261 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	0.85	9.28	0.091 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	3.47	9.28	0.374 ✓	1.333	Bolt Shear
T23	10	Leg	A325N	0.6250	6	0.00	0.00	0.167 ✓	1.333	Bolt Tension

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T1	560 - 535	Leg	4	2	-6.56	335.71	2.0	Pass
		Diagonal	1	12	2.05	22.61	9.1	Pass
		Horizontal	L2 1/2x2 1/2x1/4	17	-1.30	17.19	7.6	Pass
		Top Girt	L2 1/2x2 1/2x1/4	4	-0.11	17.19	0.7	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	8	-0.90	17.19	5.2	Pass
T2	535 - 510	Leg	4	45	-23.19	336.52	6.9	Pass
		Diagonal	1	56	4.63	22.61	20.5	Pass
		Horizontal	L2 1/2x2 1/2x1/4	60	-3.14	17.19	18.3	Pass
		Top Girt	L2 1/2x2 1/2x1/4	47	-0.92	17.19	5.3	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	51	-1.98	17.19	11.5	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P_{allow} K	% Capacity	Pass Fail
T3	510 - 485	Leg	4 1/2	87	-51.23	458.51	11.2	Pass
							14.0 (b)	
		Diagonal	1 1/4	107	7.96	35.33	22.5	Pass
							32.2 (b)	
		Horizontal	L2 1/2x2 1/2x1/4	111	-5.32	17.26	30.8	Pass
		Top Girt	L2 1/2x2 1/2x1/4	90	-2.00	17.26	11.6	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	91	-2.75	17.26	15.9	Pass
		Guy A@491.292	1 1/4	936	62.01	96.00	64.6	Pass
		Guy B@491.292	1 1/4	935	61.90	96.00	64.5	Pass
		Guy C@491.292	1 1/4	934	61.85	96.00	64.4	Pass
		Top Guy	L2 1/2x2 1/2x1/4	101	10.37	34.26	36.5	Pass
		Pull-Off@491.292						
T4	485 - 460	Leg	4 1/2	129	-52.92	458.51	11.5	Pass
		Diagonal	1	163	7.02	22.61	31.0	Pass
		Horizontal	L2 1/2x2 1/2x1/4	160	-5.26	17.39	30.2	Pass
		Top Girt	L2 1/2x2 1/2x1/4	130	-2.92	17.39	16.8	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	133	-2.15	17.39	12.4	Pass
T5	460 - 435	Leg	4 1/4	171	-61.00	395.53	15.4	Pass
		Diagonal	5/8	205	3.76	8.83	42.6	Pass
		Horizontal	L2x2x3/16	202	-2.78	8.18	34.0	Pass
		Top Girt	L2x2x3/16	172	-1.31	8.18	16.0	Pass
		Bottom Girt	L2x2x3/16	177	-0.99	8.18	12.1	Pass
T6	435 - 410	Leg	4 1/4	213	-61.27	395.53	15.5	Pass
		Diagonal	5/8	225	4.90	8.83	55.4	Pass
		Horizontal	L2x2x3/16	228	-3.44	8.00	43.0	Pass
		Top Girt	L2x2x3/16	216	-1.01	8.00	12.6	Pass
		Bottom Girt	L2x2x3/16	219	-2.10	8.00	26.2	Pass
T7	410 - 385	Leg	4 1/4	253	-66.96	395.53	16.9	Pass
		Diagonal	5/8	267	7.38	8.83	83.6	Pass
		Horizontal	L2x2x3/16	270	-5.51	8.00	69.0	Pass
		Top Girt	L2x2x3/16	258	-2.12	8.00	26.5	Pass
		Bottom Girt	L2x2x3/16	261	-3.16	8.00	39.5	Pass
T8	385 - 360	Leg	4 1/4	295	-105.82	395.53	26.8	Pass
		Diagonal	3/4	309	9.83	12.72	77.3	Pass
		Horizontal	L2x2x1/4	312	-7.53	10.31	73.0	Pass
		Top Girt	L2x2x3/16	300	-3.16	8.00	39.5	Pass
		Bottom Girt	L2x2x3/16	303	-3.18	8.00	39.8	Pass
T9	360 - 335	Leg	4 3/4	337	-157.84	525.46	30.0	Pass
		Diagonal	1	351	12.50	22.61	55.3	Pass
							72.8 (b)	
		Horizontal	L2 1/2x2 1/2x1/4	354	-9.52	17.08	55.7	Pass
		Top Girt	L2 1/2x2 1/2x1/4	342	-5.26	17.08	30.8	Pass
							47.8 (b)	
		Bottom Girt	L2 1/2x2 1/2x1/4	345	-5.29	17.08	31.0	Pass
							48.1 (b)	
T10	335 - 310	Leg	5 1/4	379	-208.80	671.27	31.1	Pass
		Diagonal	1 1/4	411	14.00	35.33	39.6	Pass
							56.6 (b)	
		Horizontal	L2 1/2x2 1/2x1/4	414	-11.03	17.37	63.5	Pass
		Top Girt	L2 1/2x2 1/2x1/4	384	-5.34	17.37	30.7	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	385	-4.31	17.37	24.8	Pass
		Guy A@316.292	1 1/2	939	73.46	138.00	53.2	Pass
		Guy B@316.292	1 1/2	938	73.49	138.00	53.3	Pass
		Guy C@316.292	1 1/2	937	73.43	138.00	53.2	Pass
		Top Guy	L2 1/2x2 1/2x1/4	396	15.63	34.26	51.8	Pass
		Pull-Off@316.292						
T11	310 - 285	Leg	4 3/4	421	-197.79	525.46	37.6	Pass
		Diagonal	1	458	11.53	22.61	51.0	Pass
		Horizontal	L2 1/2x2 1/2x1/4	454	-8.73	17.55	49.8	Pass
		Top Girt	L2 1/2x2 1/2x1/4	424	-4.60	17.55	26.2	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	427	-4.09	17.55	23.3	Pass

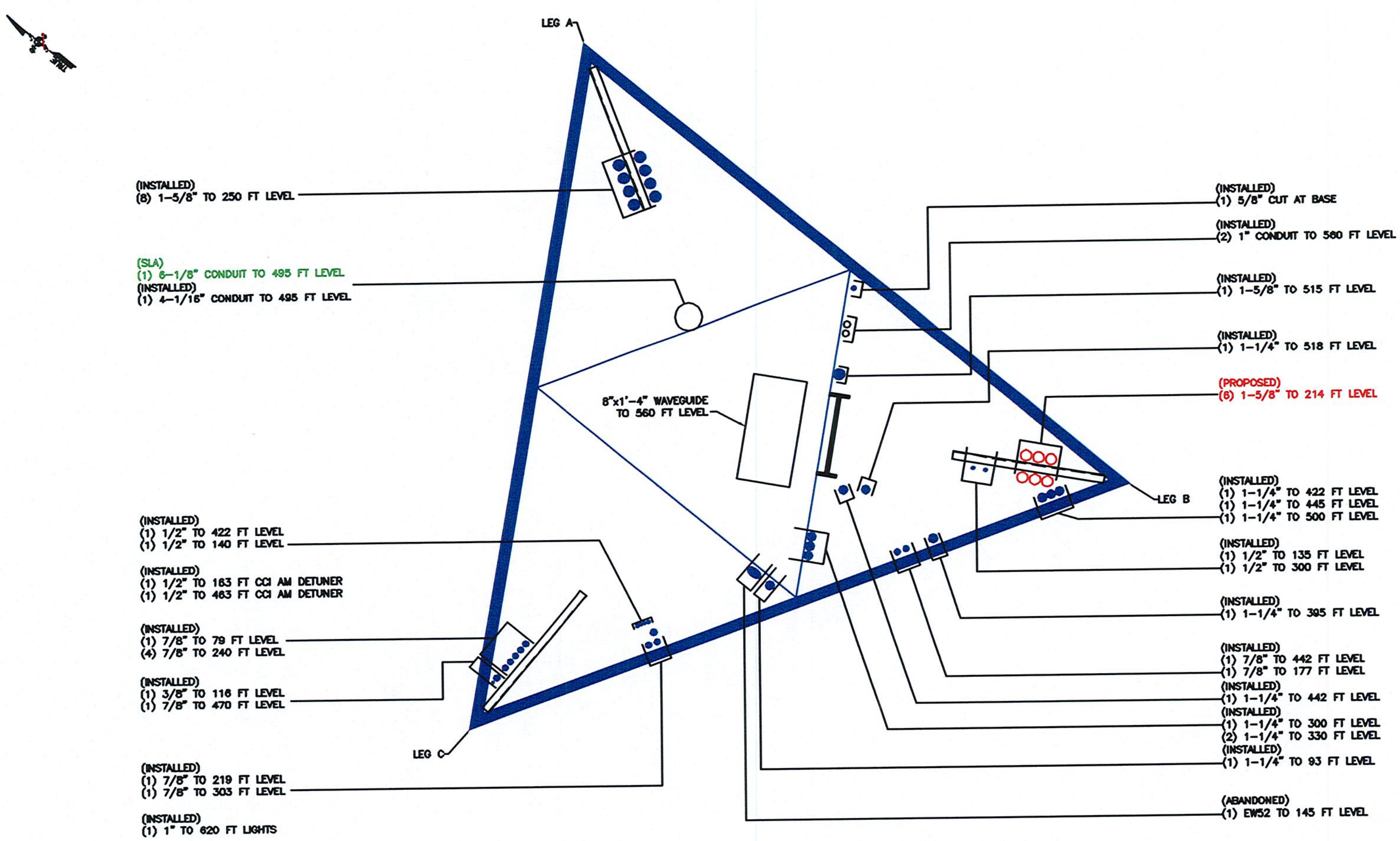
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P_{allow} K	% Capacity	Pass Fail
T12	285 - 260	Leg	4 3/4	463	-158.20	525.46	30.1	Pass
		Diagonal	5/8	500	7.53	8.83	85.2	Pass
		Horizontal	L2x2 1/2x3/16	496	-5.73	8.78	65.3	Pass
		Top Girt	L2x2 1/2x3/16	466	-2.80	8.78	31.9	Pass
		Bottom Girt	L2x2 1/2x3/16	470	-2.22	8.78	25.3	Pass
T13	260 - 235	Leg	4 3/4	505	-131.92	525.46	25.1	Pass
		Diagonal	5/8	543	5.12	8.83	57.9	Pass
		Horizontal	L2x2 1/2x3/16	539	-3.37	8.78	38.4	Pass
		Top Girt	L2x2 1/2x3/16	509	-2.20	8.78	25.0	Pass
		Bottom Girt	L2x2 1/2x3/16	511	-0.51	8.78	5.8	Pass
T14	235 - 210	Leg	4 3/4	547	-137.22	525.46	26.1	Pass
		Diagonal	5/8	557	4.58	8.83	51.8	Pass
		Horizontal	L2x2 1/2x3/16	562	-3.13	8.78	35.7	Pass
		Top Girt	L2x2 1/2x3/16	550	-0.52	8.78	5.9	Pass
		Bottom Girt	L2x2 1/2x3/16	553	-2.19	8.78	25.0	Pass
T15	210 - 185	Leg	5	589	-168.21	596.38	28.2	Pass
		Diagonal	7/8	599	8.89	17.31	51.3	Pass
							80.9 (b)	
		Horizontal	L2x2 1/2x3/16	604	-6.47	8.82	73.4	Pass
		Top Girt	L2x2 1/2x3/16	592	-2.24	8.82	25.4	Pass
		Bottom Girt	L2x2 1/2x3/16	595	-3.16	8.82	35.9	Pass
T16	185 - 160	Leg	5 1/4	632	-217.81	671.27	32.4	Pass
		Diagonal	1	640	13.03	22.61	57.6	Pass
							75.9 (b)	
		Horizontal	L2 1/2x2 1/2x1/4	646	-10.11	17.28	58.5	Pass
							58.9 (b)	
		Top Girt	L2 1/2x2 1/2x1/4	634	-4.62	17.28	26.8	Pass
							26.9 (b)	
		Bottom Girt	L2 1/2x2 1/2x1/4	637	-5.28	17.28	30.6	Pass
							30.7 (b)	
T17	160 - 135	Leg	5 1/2	674	-244.64	750.12	32.6	Pass
		Diagonal	1 1/4	702	14.75	35.33	41.7	Pass
							59.6 (b)	
		Horizontal	L2 1/2x2 1/2x1/4	689	-11.66	17.41	67.0	Pass
		Top Girt	L2 1/2x2 1/2x1/4	676	-4.78	17.41	27.4	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	680	-5.51	17.41	31.6	Pass
		Guy A@153.708	1 3/4	942	76.18	188.00	40.5	Pass
		Guy B@153.708	1 3/4	941	76.26	188.00	40.6	Pass
		Guy C@153.708	1 3/4	940	76.24	188.00	40.6	Pass
		Top Guy Pull-Off@153.708	L2 1/2x2 1/2x1/4	706	17.91	25.70	78.0	Pass
T18	135 - 110	Leg	5 1/4	716	-198.63	671.27	29.6	Pass
		Diagonal	1	753	12.74	22.61	56.3	Pass
		Horizontal	L2 1/2x2 1/2x1/4	750	-9.55	17.62	54.2	Pass
		Top Girt	L2 1/2x2 1/2x1/4	719	-5.48	17.62	31.1	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	722	-4.88	17.62	27.7	Pass
T19	110 - 85	Leg	5 1/4	757	-124.99	503.58	24.8	Pass
		Diagonal	7/8	795	9.02	17.31	52.1	Pass
		Horizontal	L2x2x3/16	792	-6.56	8.30	79.0	Pass
		Top Girt	L2x2x3/16	761	-2.98	8.30	35.9	Pass
		Bottom Girt	L2x2x3/16	764	-2.36	8.30	28.5	Pass
T20	85 - 60	Leg	5 1/4	801	-176.27	671.27	26.3	Pass
		Diagonal	7/8	837	5.27	17.31	30.5	Pass
		Horizontal	L2x2x3/16	833	-3.63	8.30	43.7	Pass
		Top Girt	L2x2x3/16	803	-2.34	8.30	28.2	Pass
		Bottom Girt	L2x2x3/16	807	-0.97	8.30	11.7	Pass
T21	60 - 35	Leg	5 1/4	842	-178.13	671.27	26.5	Pass
		Diagonal	7/8	851	3.68	17.31	21.3	Pass
		Horizontal	L2x2x3/16	856	-2.42	8.30	29.1	Pass
		Top Girt	L2x2x3/16	846	-0.96	8.30	11.5	Pass
		Bottom Girt	L2x2x3/16	847	-1.67	8.30	20.1	Pass

RISATower	Job: Avon (Deercliff Rd.), BU#: 870800	Page: 12 of 12
GPD Associates 520 S. Main Street Akron, OH Phone: (330) 572-2100 FAX: (330) 572-2102	Project: 2008284.22	Date: 15:09:51 12/19/08
	Client: Crown Castle	Designed by: kjoy

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P_{allow} K	% Capacity	Pass Fail
T22	35 - 10	Leg	5 1/4	883	-134.93	503.58	26.8	Pass
		Diagonal	7/8	893	7.33	17.31	42.4	Pass
		Horizontal	L2x2x3/16	907	-4.84	8.30	58.3	Pass
		Top Girt	L2x2x3/16	886	-1.69	8.30	20.4	Pass
		Bottom Girt	L2x2x3/16	891	5.91	11.98	49.3	Pass
T23	10 - 0	Leg	5 1/4	926	-149.73	527.35	28.4	Pass
		Horizontal	L3x5x1/2	929	29.64	81.00	36.6	Pass
							Summary	
						Leg (T11)	37.6	Pass
						Diagonal (T12)	85.2	Pass
						Horizontal (T19)	79.0	Pass
						Top Girt (T9)	47.8	Pass
						Bottom Girt (T22)	49.3	Pass
						Guy A (T3)	64.6	Pass
						Guy B (T3)	64.5	Pass
						Guy C (T3)	64.4	Pass
						Top Guy Pull-Off (T17)	78.0	Pass
						Bolt Checks	80.9	Pass
						RATING =	**85.2**	**Pass**

APPENDIX B

BASE LEVEL DRAWING



0 1 2FT
: SCALE :

BUSINESS UNIT: 870800 TOWER ID: C_BASELEVEL

LEGEND: FEEDLINES

- ● SOLID BLUE CIRCLE DENOTES EXISTING FEEDLINE
- ○ OPEN RED CIRCLE DENOTES PROPOSED FEEDLINE
- ○ OPEN BLUE CIRCLE DENOTES RESERVED FEEDLINE
- X BLUE "X" DENOTES LOCATION NOT GIVEN

NOTE: ASSUME FEEDLINE ATTACHMENT HEIGHT TO TOWER STEEL AT 8-FEET ABOVE FINISHED GRADE UNLESS OTHERWISE SPECIFIED

CROWN REGION ADDRESS
USA

Rev.	Date	Description	By
1	15/01/08	NEW BUILD PER WORK ORDER # 160609	DK
2	29/07/08	APPLICATION ADDED PER WORK ORDER # 223160	AM
3	30/07/08	UPDATED PER WORK ORDER # 223531	RJK
4	08/08/08	UPDATED PER WORK ORDER # 226026	ATF
5	08/10/08	AS-BUILT INFORMATION ADDED PER WORK ORDER # 224280	CGH
6	20/10/08	AS-BUILT INFORMATION ADDED PER WORK ORDER # 230188	LAH

DRAWN BY: KDI/DK
CHECKED BY:
DRAWING DATE: 15/01/08

SITE NUMBER:
SITE NAME:

SITE NAME
AVON (DEERCLIFF RD.)

BUSINESS UNIT NUMBER
870800

SITE ADDRESS
376 DEERCLIFF RD
AVON, CT 06001
HARTFORD COUNTY
USA

SHEET TITLE
BASE LEVEL

SHEET NUMBER
A1-0

BASE LEVEL DRAWING

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

PLOT DATE: 10/20/2008 FILE NAME: 870800_BASELEVEL.DWG
Xref R:\TEMPLATES\TYPICAL BLOCKS FOR TEMPLATES\TITLE BLOCK SITE-WEB 8.1.dwg

APPENDIX C

ADDITIONAL CALCULATIONS

GPD Project	2008284.22
Site Name	Avon (Deercliff Rd.)
Site ID	BU# 870800
Engineer	K. Joy
Date	12/19/2008

FOUNDATION CAPACITY

GUYED TOWER

Tower Base

Axial Force (Kips)	461
Shear Force (Kips)	7
Width of base (ft)	15
Depth of Foundation (ft)	5.3
Allowable Bearing (ksf)	8
Required Bearing (ksf)	**2.20**
Tower Base Rating	27.4%

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

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Internet: ct.gov/csc

Daniel F. Caruso
Chairman

April 9, 2009

Carrie L. Larson, Esq.
Pullman & Comley, LLC
90 State House Square
Hartford, CT 06103-3702

RE: EM Pocket-004-081028 – 376 Deercliff Road, Avon, Connecticut
EM Pocket-061-081112 – 139 Morris Hubbard Road, Haddam Connecticut
EM Pocket-155-081107 – 457 Quaker Lane South (aka 471 So. Quaker Lane), West Hartford Connecticut
EM Pocket-023-081117B – 14 Canton Springs Road, Canton, Connecticut
EM Pocket-020-090109 – 12 Nepaug Road, Burlington, Connecticut

Dear Attorney Larson,

The Connecticut Siting Council (Council) is in receipt of your letter dated April 1, 2009, requesting the use of temporary generators to provide electricity until permanent power can be established. The Council acknowledges the use of temporary generators with the condition that sound pressure levels at the property boundaries be consistent with state noise regulations.

Thank you for this opportunity to be of assistance to you in these matters. If I may be of further service to you, please do not hesitate to contact me.

Very truly yours,

S. Derek Phelps
Executive Director

c: Philip K. Schenck, Jr., Town Manager, Town of Avon
Anthony Bondi, First Selectman, Town of Haddam
Scott Slifka, Mayor, Town of West Hartford
Richard Barlow, First Selectman, Town of Canton
Kathleen K. Zabel, First Selectman, Town of Burlington
Robert L. Marconi, Esq., Assistant Attorney General

PULLMAN & COMLEY, LLC
ATTORNEYS AT LAW

CARRIE L. LARSON
90 State House Square
Hartford, CT 06103-3702
p (860) 424-4312
f (860) 424-4370

www.pullcom.com

April 1, 2009

Via Federal Express

S. Derek Phelps, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Pocket Telecommunications Facilities Use of Temporary Generators
Avon, Haddam, West Hartford, Canton, and Burlington, Connecticut

Dear Mr. Phelps:

Youghiogheny Communications-Northeast, LLC, doing business as Pocket Communications ("Pocket"), has filed multiple exempt modification applications for telecommunication facilities with the Siting Council throughout the State of Connecticut and has received conditional approval for the five facilities discussed herein (attached as Exhibit A). Due to the unforeseen length of time need for Connecticut Light and Power to install permanent power to these Pocket installations, Pocket requests permission to install EPA approved generators to accommodate Pocket's telecommunications equipment on a temporary basis. The generators will be used at the sites to provide electricity until permanent power can be established by the utility provider. Pocket anticipates that the temporary generators will be in use for a maximum of eight weeks from the time of their approval. The specifications for the proposed temporary generators are attached as Exhibit B. Due to the temporary use and low emissions from the generator, no permit is required from the Department of Environmental Protection. Pocket would propose to refuel the generator every 48 hours.

Below is a brief description of the location of the facility and it's proximity to any residences or other areas of concern (area maps attached as Exhibit C).

EM POCKET-004-081028 - 376 Deercliff Road, Avon, Connecticut.

The coordinates for the Facility are **Lat: 41°-46'-30" and Long: 72°-48'-02".** The tower is located in the eastern portion of Avon just west of the West Hartford town line. The Facility is roughly 900 feet east of Deercliff Road and roughly 5,000 feet east of Waterville Road (Route 10). This is a 557-foot guyed tower in a fairly secluded, wooded area on the Metacomet Ridge. There are multiple high guyed towers in the area. The closest residence is more than 600 feet to the west, southwest. Therefore, Pocket does not predict that any abutting property owners would be disturbed by the proposed use of a temporary generator.

EM POCKET-061-0811112 - 139 Morris Hubbard Road, Haddam, Connecticut.

The coordinates for the Facility are **Lat: 41°-28'-21" and Long: 72°–33'-19".** The tower is located in the central portion of Haddam, roughly 350 feet east of Killingworth Road (Route 81), directly east (by approximately 200 feet) of the on-ramp to Route 9 north. The travel portion of Route 9, lies roughly 700 feet to the west of the tower. The closest residence is approximately 220 feet to the west. There are homes to the north and south of the closest residence. They are slightly farther from the tower (at least 300 feet away to the south and the north). Because of the distance from the tower and because of the proximity of Route 9, Pocket does not anticipate that any abutting property owners will be disturbed by the proposed use of a temporary generator.

EM POCKET-155-081107 - 457 Quaker Lane South (aka 471 So. Quaker Lane), West Hartford, Connecticut

The coordinates for the Facility are **Lat: 41°-44'-55" and Long: 72°–43'-53".** The tower is located in the south central portion of West Hartford, approximately 100 feet south of Interstate 84 in the "Park Road curves" area of town. The Facility is roughly 380 feet west of Quaker Lane South, approximately 800 feet east of Trout Brook Drive and roughly 2,200 feet south of Park Road. This tower is located on the The Church of St. Mark property in a wooded area between church buildings and Interstate 84. There is a church building approximately 120 feet from the tower. The closest residence is more than 300 feet to the west on Elm Drive. Again, due to the distance from the tower and the proximity of Interstate I-84, Pocket does not anticipate that any abutting property owners will be disturbed by the proposed use of a temporary generator.

EM POCKET-023-081117B – 14 Canton Springs Road, Canton, Connecticut

The coordinates for the Facility are **Lat: 41°-49'-22" and Long: 72°–53'-44".** The tower is located in the southern portion of Canton, roughly 3,600 feet north of the Avon town line. The tower is approximately 150 feet east of Canton Springs Road and roughly 600 feet south of Albany Turnpike (Route 44/202) at it's intersection with Dowd Avenue. The tower is behind the Canton Fire Department in an area of commercial and/or industrial buildings. The closest residence is approximately 200 feet to the north on Canton Springs Road. Due to the distance from the tower and the general commercial and industrial use in the area, Pocket does not anticipate any abutting property owners will be disturbed by the proposed use of a temporary generator.

EM POCKET-020-090109 – 12 Nepaug Road, Burlington, Connecticut

The coordinates for the Facility are **Lat: 41°-46'-59" and Long: 72°–59'-23".** The tower is located in the northwestern portion of Burlington, approximately 170 feet east of Nepaug Road and roughly 1400 feet north of Spielman Highway (Route 4). The tower is in heavily wooded area. The closest residences are approximately 375 feet to the north and approximately 300 feet to the south. Again, given the vegetation in the area and the distance from the tower, Pocket does not anticipate any abutting property owners will be disturbed by the proposed use of a temporary generator.

Pocket respectfully submits that the proposed temporary generator installations at the above-referenced facilities constitutes an exempt modification under R.C.S.A. Section 16-50j-72(b)(2) and therefore respectfully requests approval of these temporary installations.

Respectfully Submitted,

Carrie L. Larson

cc: Philip K. Schenck, Jr., Town Manager, Town of Avon
Anthony Bondi, First Selectman, Town of Haddam
Scott Slifka, Mayor, Town of West Hartford
Richard Barlow, First Selectman, Town of Canton
Honorable Kathleen K. Zabel, First Selectman, Town of Burlington

EXHIBIT A

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
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Internet: ct.gov/csc

Daniel F. Caruso
Chairman

November 20, 2008

Carrie L. Larson, Esq.
Pullman & Comley, LLC
90 State House Square
Hartford, CT 06103-3702

RE: **EM-POCKET-004-081028** – Youghiogheny Communications-Northeast, LLC d/b/a Pocket Communications notice of intent to modify an existing telecommunications facility located at 376 Deercliff Road, Avon, Connecticut.

Dear Attorney Larson:

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:

- The modifications recommended on page 9 of the structural analysis report dated October 22, 2008 and sealed by David B. Grainger, P.E. are performed prior to the antenna installation;
- A post-construction tower rating of not more than 100 percent is achieved; and
- A signed letter from a Professional Engineer duly licensed in the State of Connecticut is submitted to the Council to certify that the modifications have been properly completed and a post-construction tower rating of not more than 100 percent has been achieved.

The proposed modifications are to be implemented as specified here and in your notice dated October 27, 2008, including the placement of all necessary equipment and shelters within the tower compound. 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. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps

S. Derek Phelps
Executive Director

SDP/MP/laf

c: The Honorable John F. Carlson, Chairman Town Council, Town of Avon
Philip K. Schenck, Jr., Town Manager, Town of Avon
Steven V. Kushner, Town Planner, Town of Avon
Crown Castle USA, Inc.

STATE OF CONNECTICUT
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December 11, 2008

Carrie L. Larson, Esq.
Pullman & Comley, LLC
90 State House Square
Hartford, CT 06103-3702

RE: **EM-POCKET-061-081112** – Youghiogheny Communications-Northeast, LLC d/b/a Pocket Communications notice of intent to modify an existing telecommunications facility located at 139 Morris Hubbard Road, Higganum (Haddam), Connecticut.

Dear Attorney Larson:

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:

- A post-construction tower rating of not more than 100 percent is achieved; and
- A signed letter from a Professional Engineer duly licensed in the State of Connecticut shall be submitted to the Council to certify that the reinforcements have been properly completed and a post-construction tower rating of not more than 100 percent has been achieved.

The proposed modifications are to be implemented as specified here and in your notice dated November 11, 2008, including the placement of all necessary equipment and shelters within the tower compound. 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. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure

and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/CDM/laf

c: The Honorable Tony Bondi, First Selectman, Town of Haddam
Allan Johanson, Zoning Enforcement Officer, Town of Haddam
American Tower Corporation

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
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Daniel F. Caruso
Chairman

November 25, 2008

Carrie L. Larson, Esq.
Pullman & Comley, LLC
90 State House Square
Hartford, CT 06103-3702

RE: **EM-POCKET-155-081107** – Youghiogheny Communications-Northeast, LLC d/b/a Pocket Communications notice of intent to modify an existing telecommunications facility located at 457 Quaker Lane South (aka 471 So. Quaker Lane), West Hartford, Connecticut.

Dear Attorney Larson:

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.

The proposed modifications are to be implemented as specified here and in your notice dated November 6, 2008, including the placement of all necessary equipment and shelters within the tower compound. 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. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/CDM/laf

c: The Honorable Scott Slifka, Mayor, Town of West Hartford
Barry M. Feldman, Town Manager, Town of West Hartford
Mila Limson, Town Planner, Town of West Hartford
Hans Fiedler, T-Mobile

G:\EM-Pocket\West Hartford dc112508.DOC

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
Internet: ct.gov/csc

Daniel F. Caruso
Chairman

December 9, 2008

Carrie L. Larson, Esq.
Pullman &Comley LLC
90 State House Square
Hartford, CT 06103-3702

RE: EM-POCKET-023-081117B – Youghiogheny Communications-Northeast, LLC d/b/a Pocket Communications notice of intent to modify an existing telecommunications facility located at 14 Canton Springs Road, Canton, Connecticut.

Dear Attorney Larson:

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.

The proposed modifications are to be implemented as specified here and in your notice dated November 14, 2008, including the placement of all necessary equipment and shelters within the tower compound. 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. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/CDM/laf

c: The Honorable Richard J. Barlow, First Selectman, Town of Canton
Robert H. Skinner, Chief Administrative Officer, Town of Canton
Neil Pade, Town Planner, Town of Canton
Kenneth C. Baldwin, Esq., Robinson & Cole LLP

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Internet: ct.gov/csc

Daniel F. Caruso
Chairman

January 27, 2009

Carrie L. Larson, Esq.
Pullman & Comley, LLC
90 State House Square
Hartford, CT 06103-3702

RE: **EM-POCKET-020-090109** – Youghiogheny Communications-Northeast, LLC d/b/a Pocket Communications notice of intent to modify an existing telecommunications facility located at 12 Nepaug Road, Burlington, Connecticut.

Dear Attorney Larson:

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.

The proposed modifications are to be implemented as specified here and in your notice dated January 7, 2009, including the placement of all necessary equipment and shelters within the tower compound. 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. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/CDM/laf

c: The Honorable Patricia Allyn Mechare, First Selectman, Town of Canaan
Chris Cross, Zoning Officer, Town of Canaan
Christopher B. Fisher, Esq., Cuddy & Feder LLP

EXHIBIT B

MLG15 Lite Generator

Interim Tier IV EPA Approved Engine

Magnum recognizes environmental responsibility and continues to meet emission regulations with the addition of their Interim Tier IV Generator line. The MLG15 generator is powered by a Mitsubishi diesel engine. Proven power you can trust, while maximizing fuel efficiency and high performance.

Affordable, Reliable, Mobile Power

The MLG15 diesel generator provides just the right combination of output, flexibility, ruggedness, efficiency and affordability for on-the-go, smaller-to-midsize, single phase power needs.

Features

Tough

- Full tubular steel frame, with lockable enclosure
- Durable, fade resistant, white baked on powder coat finish
- Stainless steel hinges, exterior hardware and pad lockable door latches

Reliable

- Key switch to preheat (glow plug), start & stop
- Automatic low oil level / high temp shutdown alerts
- 70A Start limit main breaker
- 2 year - 2,000 hour warranty
- Marathon voltage regulation within +/- 1%

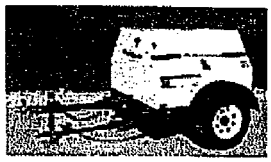
Ease for Your Users

- Self-priming 4 cylinder Mitsubishi engine
- External convenience outlets with individual breaker switches
- External emergency stop switch

Specifications

Output

3 Phase - Standby **kW (kVA)**	N/A
Amps **480V (208V)**	N/A
3 Phase - Prime **kW (kVA)**	N/A
Amps **480V (208V)**	N/A
1 Phase - Standby **kW (kVA)**	14.0 (14.0)
Amps **240V**	58
1 Phase - Prime **kW (kVA)**	13.0 (13.0)
Amps **240V**	54
AC Voltage 1-phase	120, 240
AC Voltage 3-phase	N/A



More Information

Manuals

- Operating & Parts

ALWAYS check for updated parts information before placing a parts order.

Tech. Specs.

- MLG15

Literature / Sales

- Generator Lit.
- Service Kit Lit.
- Sales Support

- Warranty Overview
- Warranty Claim Policy

Frequency **Hz**	60
Power Factor	1.0 (1 Phase)
Generator - Brand / Type / Insulation	Marathon / Brushless / F
Sound (dB(A) 23 ft @ prime)	68

Size and Weight

Skid Mounted - L x W x H **in (m)**	N/A
Dry Weight **lbs (kg)**	N/A
Operating Weight **lbs (kg)**	N/A
Trailer Mounted - L x W x H **in (m)**	105 x 67 x 56 (2.67 x 1.70 x 1.42)
Dry Weight **lbs (kg)**	1425 (646)
Operating Weight **lbs (kg)**	1823 (827)

Engine

Type	Interim Tier IV
Brand	Mitsubishi
Aspiration	Natural
Power - Prime @ 1800 rpm **hp (kWm)**	22.3 (16.6)
Displacement **cubic in (L)**	107 (1.8)
Cylinders	4
Speed **rpm**	1800
Fuel Consumption - Prime **gph (Lph)**	1.30 (4.92)

Capacities

Fuel Tank **gal (L)**	56 (212)
Approximate Run Time **hrs**	43
Coolant **qt (L)**	11.6 (11.0)

Electrical Distribution

Battery - 12V	1 - 12V 440 CCA Wet Cell
Main Circuit Breaker Size **A**	70
Voltage Selection	N/A
Voltage Regulation	+/-1%
120V - 20A GFI Duplex Outlets - qty	2
240V - 30A Twist Lock Outlets - qty	2
240V - 50A Twist Lock Outlets - qty	2

Trailer

Number of Axles	1
Capacity - Axle Rating **lbs (kg)**	2200 (998)
Tire Size **in**	15
Brakes	N/A
Hitch	2" Ball
Maximum Tire Pressure **psi**	50

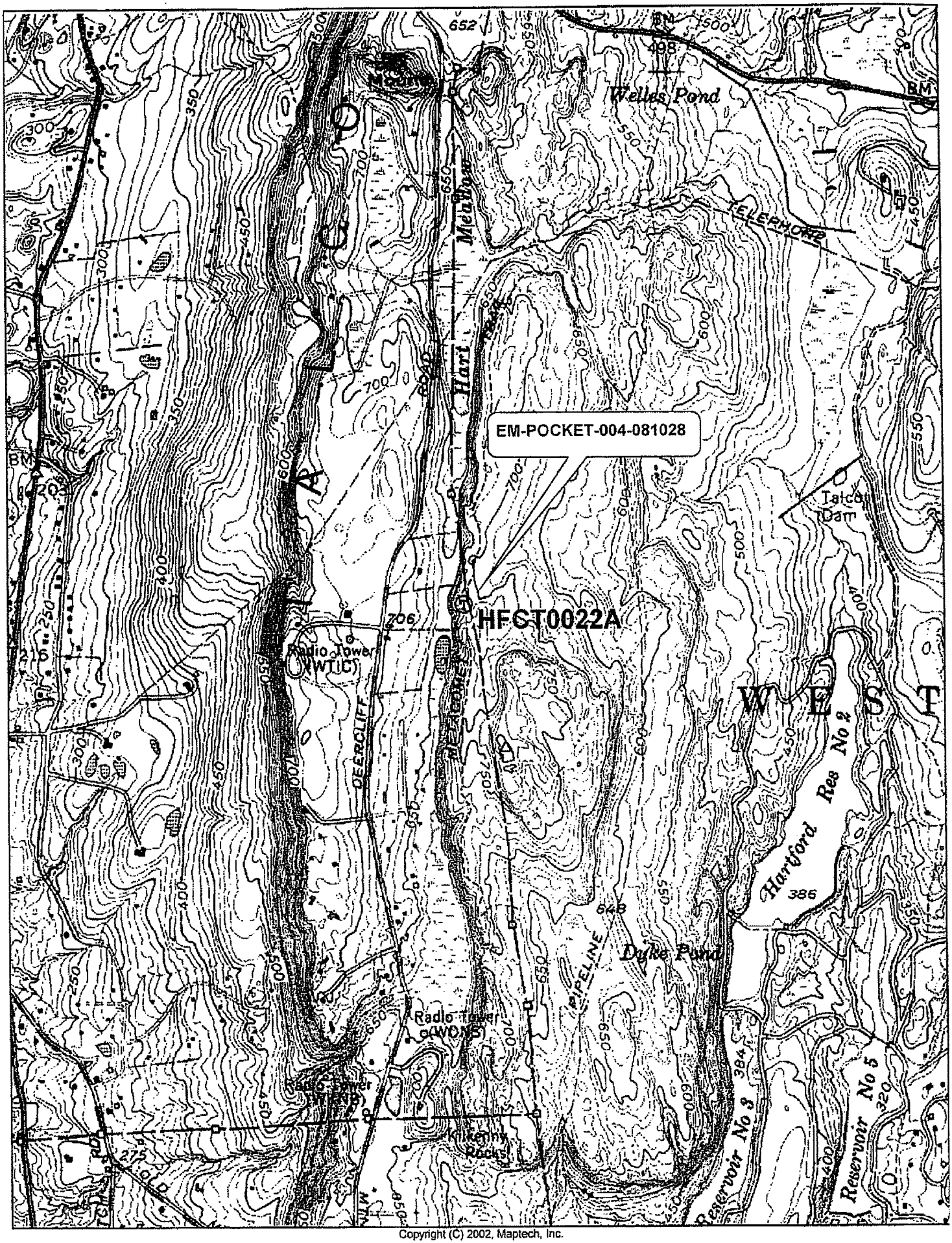
Options

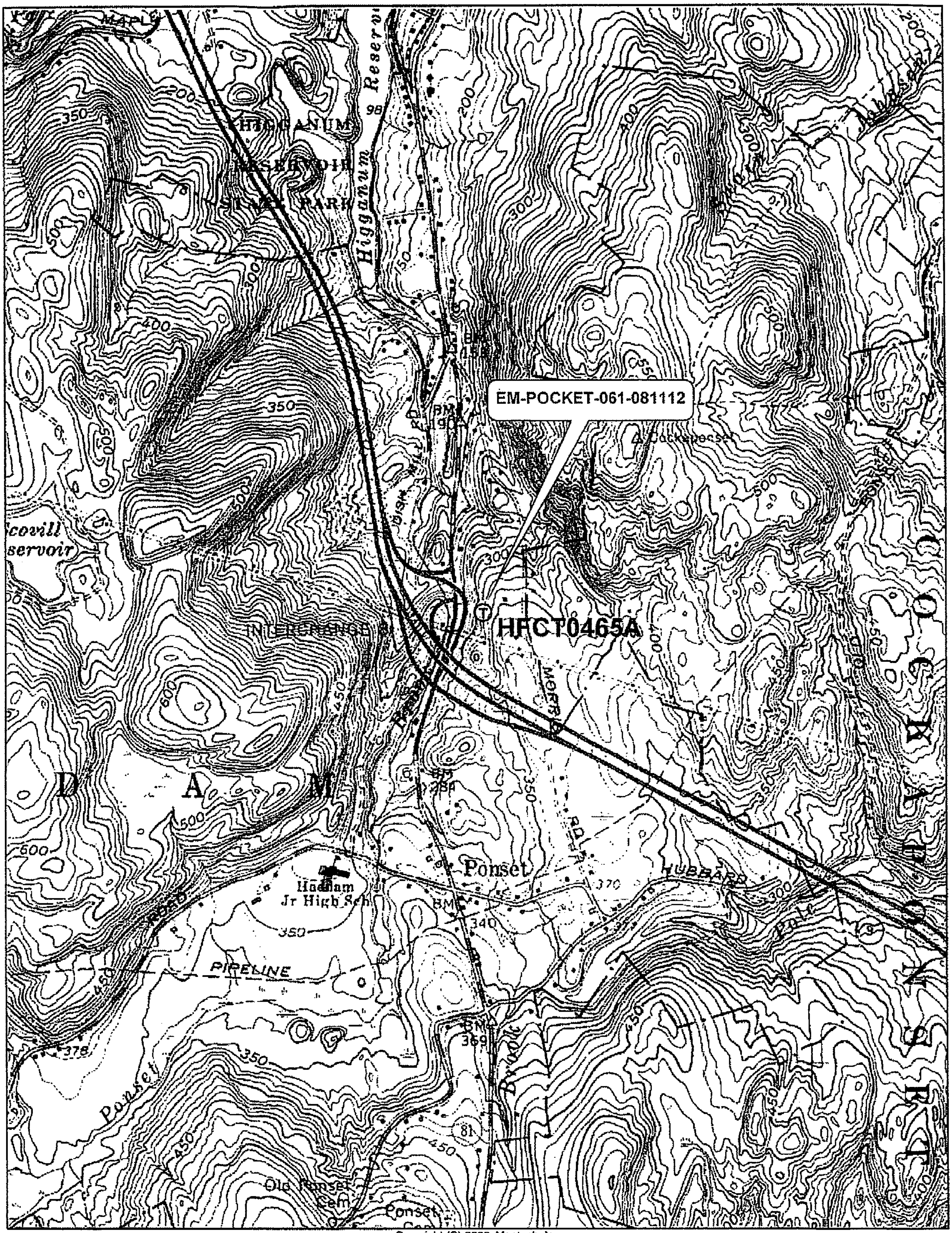
Powertrain (Engine/Gen)	• 60/40 Coolant • Heated Fuel Filter • Engine Heater - Lower Radiator Hose • Oil Drain Valve Kit
Controls	• Battery, 720 CCA Gel Cell • Battery, 720 CCA Wet Cell • Battery, 685 CCA Gel Cell • No Battery • Battery Disconnect, Lockable • Battery Charger, 2 Amp • Alternative Outlet Panel Options (Consult factory for details)
Cabinet/Fuel Tank	• Interior Cabinet Light • Level Indicator • 56 Gallon Fuel Tank • Fuel Tank Cap - Vent w/ Lanyard • Spare Tire & Carrier • Lift Structure • Liquid Containment/Quiet Pack
Trailer	• Tube & Sleeve Jack • Combo Hitch - 2.5" Ring/2" Ball • 2.5" Ring • 3" Ring • 3" Ring (1.625 TH) • Plug Adapter, 4 Flat to 6 Round • Plug Adapter, 4 Flat to 7 Pin • Plug Adapter, 4 Flat to 7 Round Spade • Outrigger Package

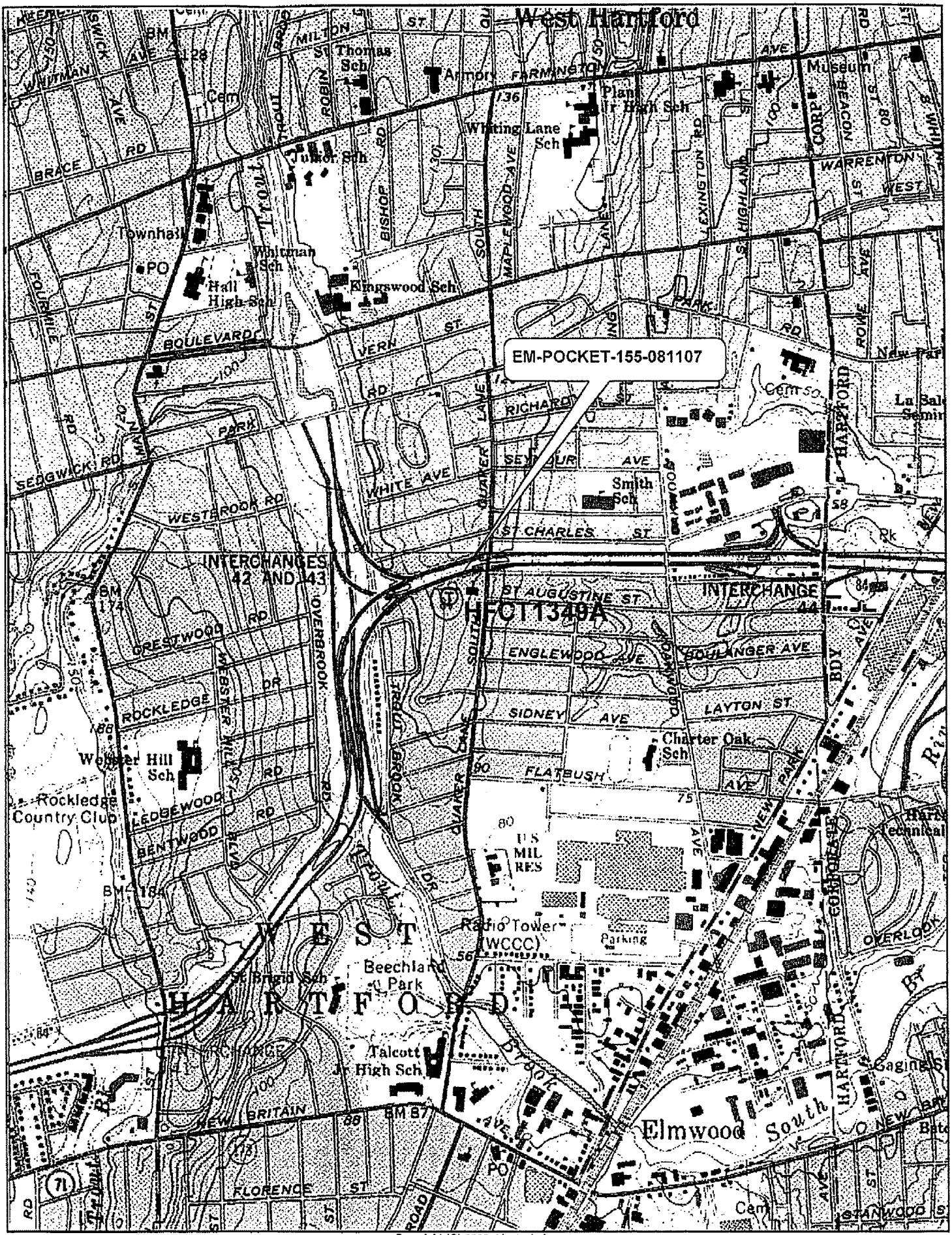
See this page on the Magnum Products Web site for a gallery of images of this product.

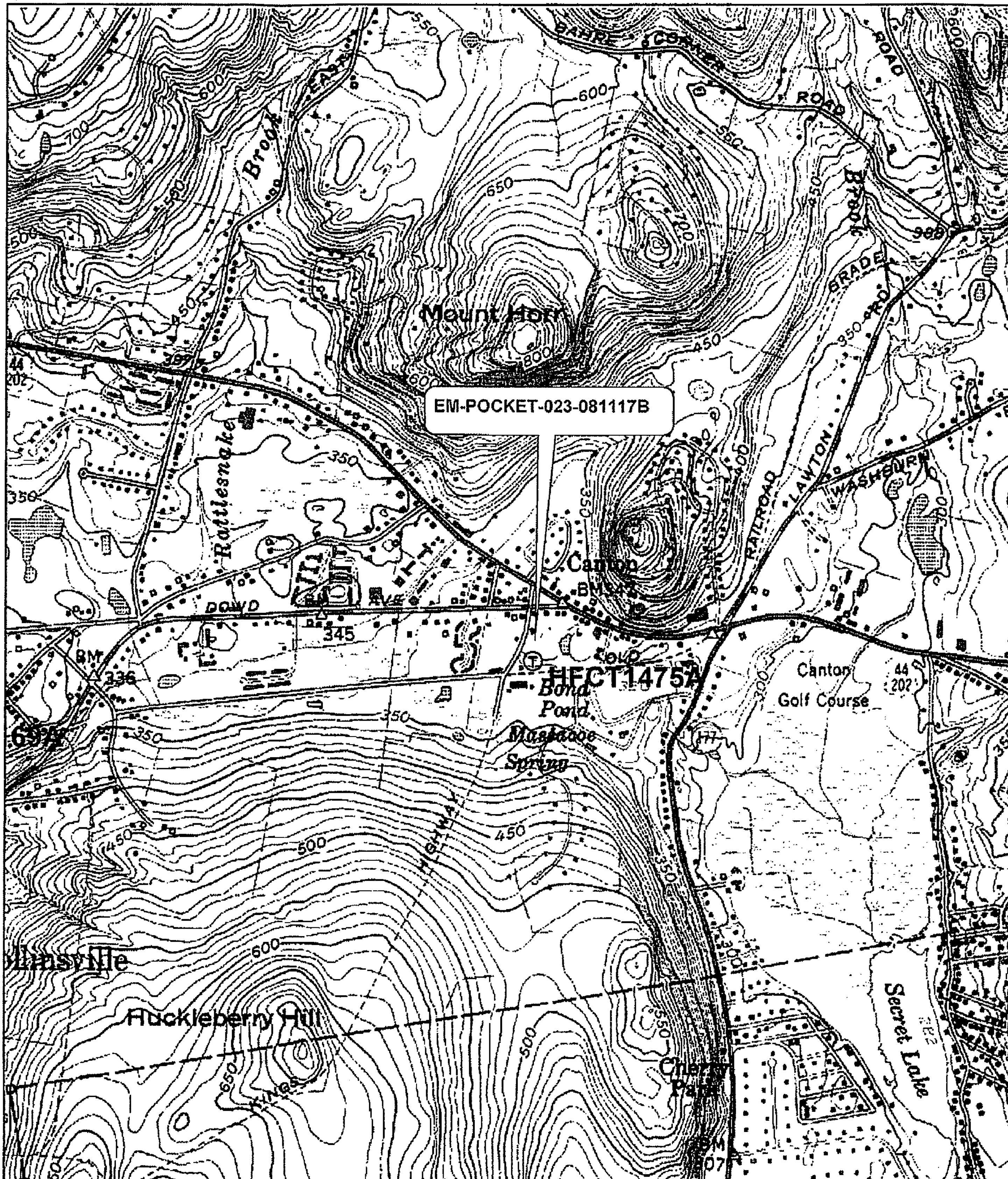
215 Power Drive • Berlin, WI 54923-2420
Phone: 800-926-9768 • Fax: 920-360-2214 • www.m-p-llc.com

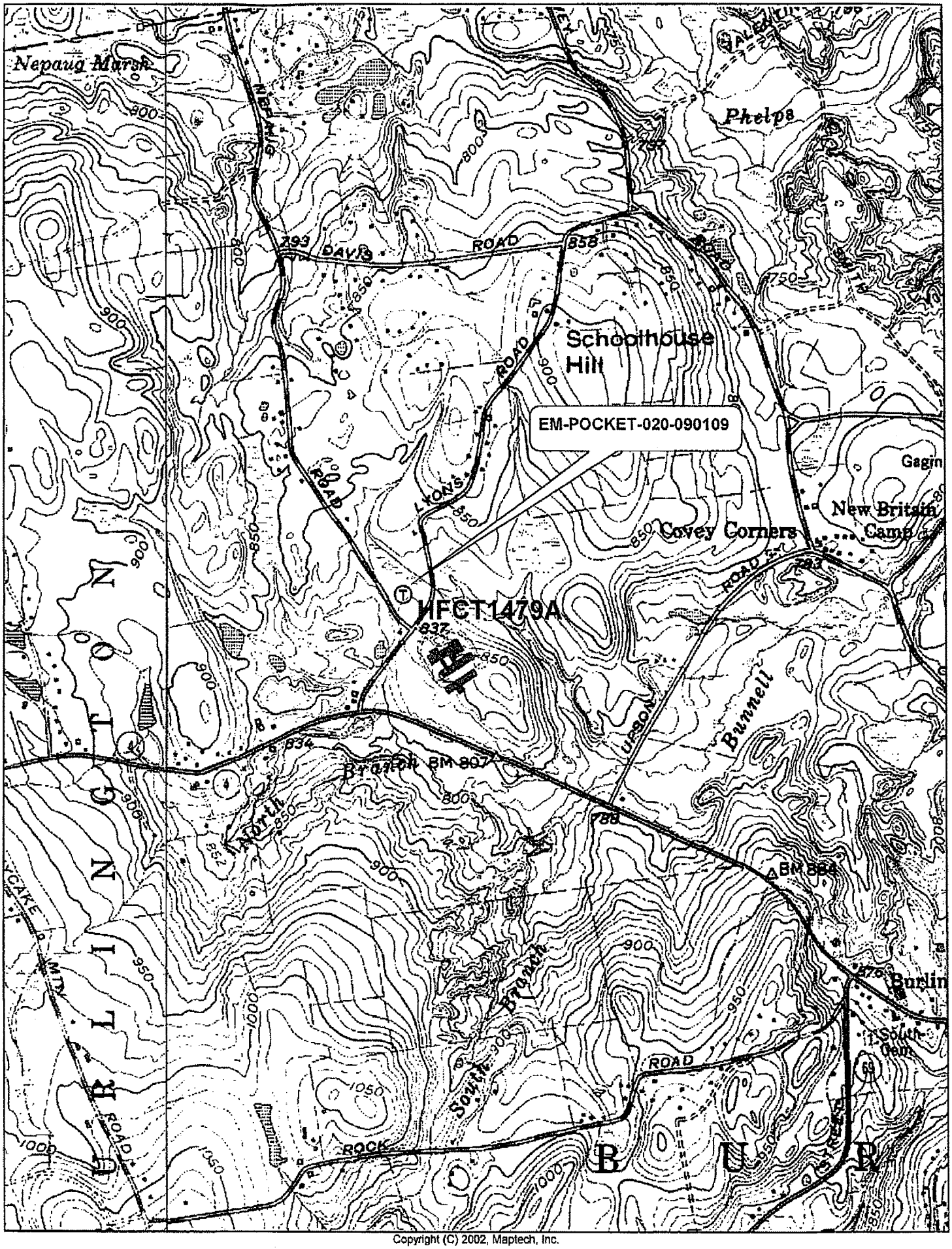
EXHIBIT C






EM-POCKET-155-081107
West Hartford
HFOTT349A
INTERCHANGES 42 AND 43
INTERCHANGE 44
WEST HARTFORD
Elmwood
Copyright (C) 2002, Maptech, Inc.





STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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Daniel F. Caruso
Chairman

November 20, 2008

Carrie L. Larson, Esq.
Pullman & Comley, LLC
90 State House Square
Hartford, CT 06103-3702

RE: **EM-POCKET-004-081028** – Youghiogheny Communications-Northeast, LLC d/b/a Pocket Communications notice of intent to modify an existing telecommunications facility located at 376 Deercliff Road, Avon, Connecticut.

Dear Attorney Larson:

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:

- The modifications recommended on page 9 of the structural analysis report dated October 22, 2008 and sealed by David B. Grainger, P.E. are performed prior to the antenna installation;
- A post-construction tower rating of not more than 100 percent is achieved; and
- A signed letter from a Professional Engineer duly licensed in the State of Connecticut is submitted to the Council to certify that the modifications have been properly completed and a post-construction tower rating of not more than 100 percent has been achieved.

The proposed modifications are to be implemented as specified here and in your notice dated October 27, 2008, including the placement of all necessary equipment and shelters within the tower compound. 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. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Thank you for your attention and cooperation.

Very truly yours,

S. Derek Phelps

S. Derek Phelps
Executive Director

SDP/MP/laf

c: The Honorable John F. Carlson, Chairman Town Council, Town of Avon
Philip K. Schenck, Jr., Town Manager, Town of Avon
Steven V. Kushner, Town Planner, Town of Avon
Crown Castle USA, Inc.

PULLMAN & COMLEY
ATTORNEYS AT LAW

EM-POCKET-004-081028

CARRIE L. LARSON
90 State House Square
Hartford, CT 06103-3702
p (860) 424-4312
f (860) 424-4370

www.pullcom.com

ORIGINAL

October 27, 2008

Via Federal Express

S. Derek Phelps, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Notice of Exempt Modification
Crown Castle USA, Inc. Telecommunications Facility
376 Deercliff Road, Avon, Connecticut

Dear Mr. Phelps:

Youghiogheny Communications-Northeast, LLC, doing business as Pocket Communications ("Pocket"), intends to install antennas and appurtenant equipment at the existing 557-guyed tower facility owned by Crown Castle USA, Inc. and located at 376 Deercliff Road, Avon, Connecticut ("Facility"). Pocket Communications provides prepaid, flat rate wireless voice and data services to more than a quarter of a million subscribers. Pocket is licensed by the Federal Communications Commission (FCC) to provide PCS wireless telecommunications service in the State of Connecticut, which includes the area to be served by the proposed installation. This installation constitutes an exempt modification pursuant to the Public Utility Environmental Standards Act, Connecticut General Statutes Section 16-50g et. seq. (PUESA), and Section 16-50j-72(b)(2) of the Regulations of the Connecticut State Agencies adopted pursuant to PUESA. In accordance with R.C.S.A. Section 16-50j-73, a copy of this notice has been sent to Philip K. Schenck, Jr., Town Manager, Town of Avon.

The existing Facility consists of a 557-foot guyed tower capable of supporting multiple carriers within a fenced compound. The coordinates for the Facility are **Lat: 41°-46'-30" and Long: 72°–48'-02".** The tower is located in the eastern portion of Avon just west of the West Hartford town line. The Facility is roughly 900 feet east of Deercliff Road and roughly 5,000 feet east of Waterville Road (Route 10) (see Site Map, attached as Exhibit A). The tower currently supports T-Mobile antennas at the two hundred fifty foot (250') level centerline AGL (above ground level), and Nextel antennas at the two hundred sixty foot (260') level AGL. The tower also supports multiple communication antennas at various elevations, detailed in both the radio frequency report and the structural report (attached as Exhibits D and E, respectively). Pocket proposes to install three Kathrein 742-213 flush mount antennas on the tower at the two hundred fourteen foot centerline (214') AGL, and a Nortel CDMA Micro BTS 3231 cabinet, mounted on an "H-Frame," contained within a six foot by six foot (6'-0" x 6'-0") lease area. A

small GPS antenna will be mounted to an ice bridge which will run from the lease area to the tower. Utilities will be run via a proposed underground conduit from existing utility sources at the Facility (See Design Drawings and Equipment Specifications, attached as Exhibits B and C respectively).

For the following reasons, the proposed modifications to the Deercliff Road Facility meet the exempt modification criteria set forth in R.C.S.A. Section 16-50j-72(b)(2):

1. The proposed modification will not increase the height of the tower as Pocket's antennas will be installed at a center line height of approximately 214 feet.

2. The installation of Pocket's equipment and shelter will not require an extension of the site boundaries.

3. The proposed modifications will not increase the noise levels at the existing Facility by six decibels or more.

4. The operation of the additional antennas will not increase the total radio frequency (RF) power density, measured at the site boundary, to a level at or above the standard adopted by the Connecticut Department of Environmental Protection as set forth in Section 22a-162 of the Connecticut General Statutes and MPE limits established by the Federal Communications Commission. The worst-case RF power density calculations for the proposed Pocket antennas would be 78.54% of the FCC standard (see general power density calculations table, attached as Exhibit D).

Also attached, Exhibit E, is a structural analysis confirming that the tower can support the existing and proposed antennas and associated equipment.

For the foregoing reasons, Pocket respectfully submits that the proposed antenna installation and equipment at the Avon Facility constitutes an exempt modification under R.C.S.A. Section 16-50j-72(b)(2)

Respectfully Submitted,

Carrie L. Larson

cc: Philip K. Schenck, Jr., Town Manager
Mark Pawlicki, underlying property owner

Exhibit A

Site Map

Pocket Site HFCT0022A

376 Deercliff Road

Avon, Connecticut

Exhibit B

Design Drawings

Pocket Site HFCT0022A

376 Deercliff Road

Avon, Connecticut

PROJECT INFORMATION

TOWER OWNER:	CCI 500 WEST CUMMINGS PARK, SUITE 3600 WOBURN, MA 01801
OWNER SITE ID#:	870800
APPLICANT:	YOUGHIOGHENY COMMUNICATIONS-NORTHEAST LLC 2819 NW LOOP 410 SAN ANTONIO, TX 78230
SITE ADDRESS:	376 DEERCLIFF ROAD AVON, CT 06001
COUNTY:	HARTFORD
LATITUDE:	41.77499
LONGITUDE:	-72.80057
STRUCTURE HEIGHT:	557' AGL
ZONING CLASSIFICATION:	N/A
ZONING JURISDICTION:	CONNECTICUT SITING COUNCIL
POWER COMPANY	CL&P 1-860-947-2121
TELEPHONE COMPANY:	AT&T 1-888-727-8368
DESIGN FIRM:	URS CORPORATION AES 500 ENTERPRISE DRIVE, SUITE 3B ROCKY HILL, CT 06067 PHONE: 860-529-8882

DRAWING INDEX

01	TITLE SHEET	1
02	SITE PLAN, DETAIL AND NOTES	1
03	TOWER ELEVATION, ANTENNA PLAN AND DETAILS	1
04	GROUNDING DETAILS	1
05	GROUNDING PLAN AND DETAILS	1
06	ELECTRICAL DETAILS	1

STRUCTURAL REVIEW

REFER TO STRUCTURAL ANALYSIS REPORT, PREPARED BY GPD ASSOCIATES, JOB NUMBER 2008280.61, DATED OCTOBER 22, 2008. THE REPORT STATES THE TOWER DOES NOT HAVE SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED LOADS AND RECOMMENDS TOWER REINFORCEMENT. NO WORK SHALL OCCUR ON THIS TOWER PRIOR TO THE ISSUANCE OF A PASSING STRUCTURAL TOWER ANALYSIS AND ALL REINFORCEMENT SHALL BE PERFORMED PRIOR TO ANY WORK UNDER THIS CONTRACT BEING PERFORMED.

APPROVALS

_____ REAL ESTATE

_____ RF

_____ OPS/CONSTRUCTION

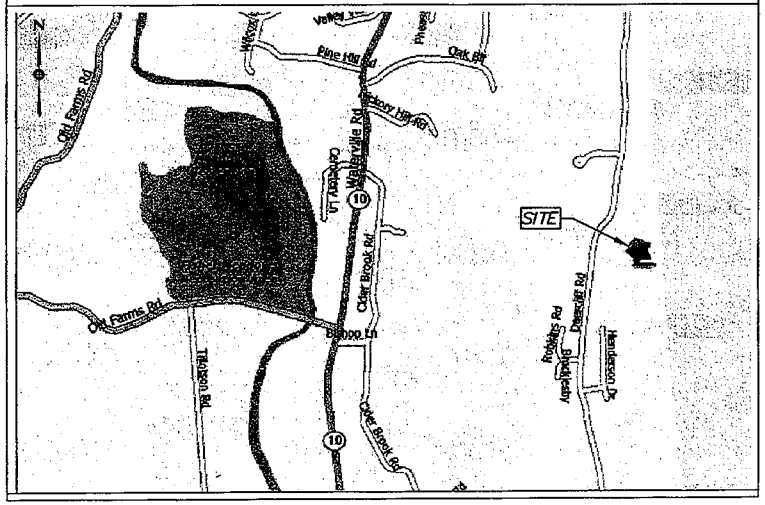
_____ LEGAL/COMPLIANCE

_____ NET DESIGN

pocket™
SMART WIRELESS

HFCT0022
376 DEERCLIFF ROAD
557' GUYED TOWER

LOCATION MAP



DRIVING DIRECTIONS

FROM HARTFORD:
TAKE I-84 EAST TO US-44 (MORGAN STREET) VIA EXIT 52. FOLLOW US-44 WEST AND TURN LEFT ONTO DEERCLIFF ROAD. FOLLOW DEERCLIFF ROAD FOR APPROXIMATELY 1.6 MILES TO THE SITE ENTRANCE ON THE LEFT.

APPLICABLE BUILDING CODES AND STANDARDS

CONTRACTOR'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:
CONNECTICUT STATE BUILDING CODE
- 2003 INTERNATIONAL BUILDING CODE
- 2003 INTERNATIONAL PLUMBING CODE
- 2003 INTERNATIONAL MECHANICAL CODE
- 2003 INTERNATIONAL EXISTING BUILDING CODE
- 2005 CONNECTICUT SUPPLEMENT

ELECTRICAL CODE:
- 2005 NATIONAL ELECTRICAL CODE

CONNECTICUT STATE FIRE SAFETY CODE
- 2003 INTERNATIONAL FIRE CODE

CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST APPROVED 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 STANDARD FOR STRUCTURAL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:

TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM

IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR-1275 GENERAL INSTALLATION REQUIREMENTS

TELCORDIA GR-1503 COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS -- TELECOM, ENVIRONMENTAL PROTECTION

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.

SITE NOTES

1. THIS SITE IS UNMANNED AND IS RESTRICTED TO OUTDOOR EQUIPMENT. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNALS FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
2. POCKET COMMUNICATIONS CERTIFIES THAT THIS TELEPHONE EQUIPMENT FACILITY WILL BE SERVICED ONLY BY POCKET COMMUNICATIONS EMPLOYEES AND THE WORK ASSOCIATED WITH ANY EQUIPMENT CANNOT BE PERFORMED BY HANDICAPPED PERSONS. THIS FACILITY WILL BE FREQUENTED ONLY BY SERVICE PERSONNEL FOR REPAIR PURPOSES ONLY. THIS FACILITY IS EXEMPT FROM THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) APPENDIX B, SECTION 4.11.(5)(B)
3. NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.
4. NO WASTE WATER WILL BE GENERATED AT THIS LOCATION.
5. NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.
6. POCKET COMMUNICATIONS MAINTENANCE CREW (TYPICALLY ONE PERSON) WILL MAKE AN AVERAGE OF ONE TRIP PER MONTH AT ONE HOUR PER VISIT.

CALL before you DIG
FOR CT 1-800-922-4455

STATE OF CONNECTICUT
IGNACIO C. [illegible]
No. 9704
LICENSED ARCHITECT

NO.	DATE	REVISIONS	BY
1	10-23-08	ISSUED FOR CONSTRUCTION - REVISED SITE LAYOUT	JCF
0	09-15-08	ISSUED FOR CONSTRUCTION	JCF

pocket SMART WIRELESS
PROJECT NAME: HFCT0022, 376 DEERCLIFF ROAD
SHEET: TITLE SHEET

URS

URS CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CT. 06067
1-(860)-529-8882

CHECKED BY: JCF
DRAWN BY: JES
DATE: 08/25/08
URS JOB NUMBER: PC1019/36923939
DRAWING NUMBER: 01

CONSTRUCTION NOTES

1. FIELD VERIFICATION: CONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, POCKET COMMUNICATIONS ANTENNA MOUNT LOCATION AND ANTENNAS TO BE INSTALLED.
2. COORDINATION OF WORK: CONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH POCKET COMMUNICATIONS.
3. GRAVEL SURFACE IN AREAS OF COMPOUND THAT ARE DISTURBED DURING CONSTRUCTION SHALL BE REPLACED TO ORIGINAL CONDITION BY CONTRACTOR.

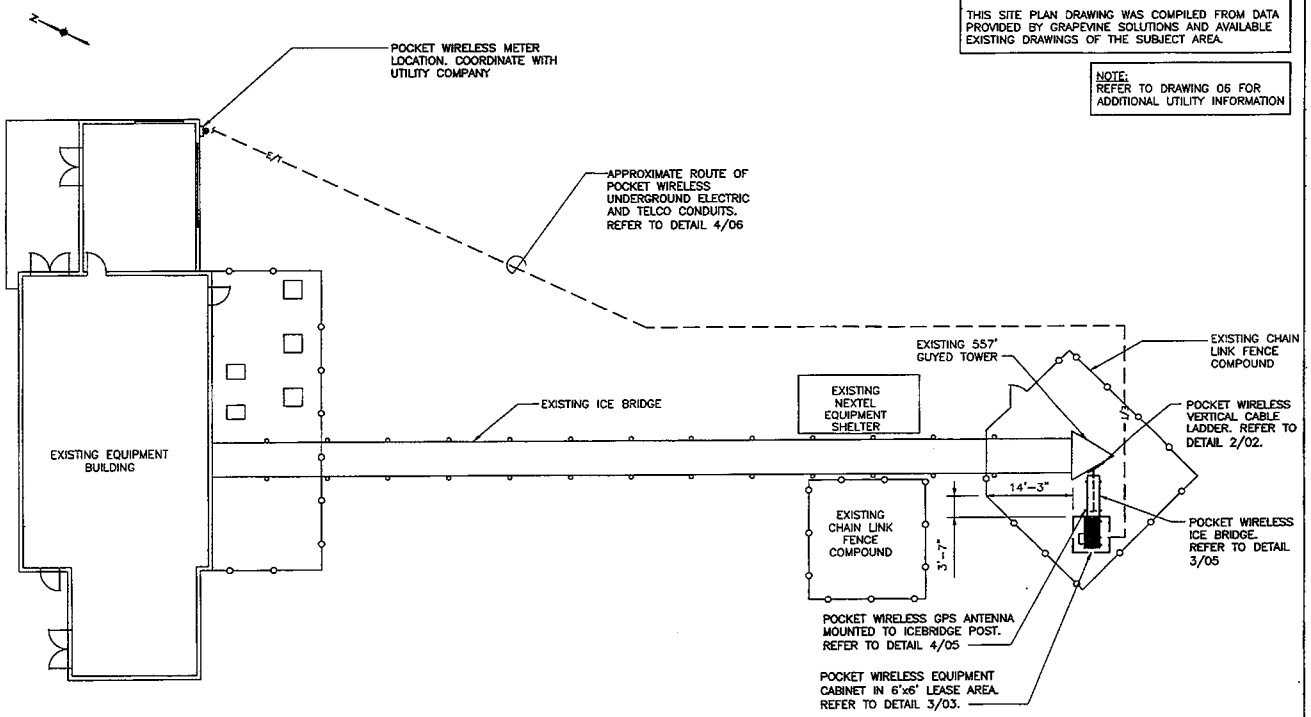
GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
   CONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
   OWNER – POCKET COMMUNICATIONS
   OEM – ORIGINAL EQUIPMENT MANUFACTURER
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO BECOME FAMILIAR 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 THE CONSTRUCTION MANAGER AND THE ENGINEER.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
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. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. CONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, AND GROUNDING CABLES AS SHOWN ON THE SITE PLAN
8. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
9. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
10. CONTRACTOR TO OBTAIN REQUIRED NOTICE TO PROCEED DOCUMENTS FROM THE TOWER OWNER BEFORE COMMENCING CONSTRUCTION.

SITE PLAN INFORMATION

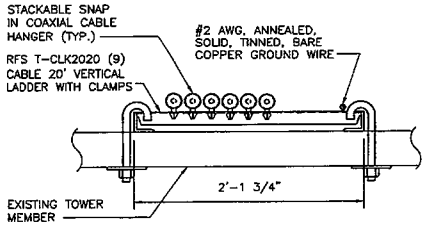
THIS SITE PLAN DRAWING WAS COMPILED FROM DATA PROVIDED BY GRAPEVINE SOLUTIONS AND AVAILABLE EXISTING DRAWINGS OF THE SUBJECT AREA.

NOTE:
REFER TO DRAWING 06 FOR ADDITIONAL UTILITY INFORMATION



1/02 SITE PLAN
SCALE: 1" = 20'-0"

NOTE:
COORDINATE VERTICAL CABLE SUPPORT LOCATION AND DESIGN WITH TOWER OWNER AND STRUCTURAL ANALYSIS



2/02 VERTICAL CABLE LADDER DETAIL
SCALE: N.T.S.

STATE OF CONNECTICUT
IGNACIO C. ARTIGAS
No. 27704
LICENSED ARCHITECT

NO.	DATE	REVISIONS	BY
1	10-23-08	ISSUED FOR CONSTRUCTION – REVISED SITE LAYOUT	JCF
0	09-15-08	ISSUED FOR CONSTRUCTION	ADF

pocket SMART WIRELESS

PROJECT NAME: HFCT10022, 376 DEERCLIFF ROAD

SHEET: SITE PLAN, DETAIL AND NOTES

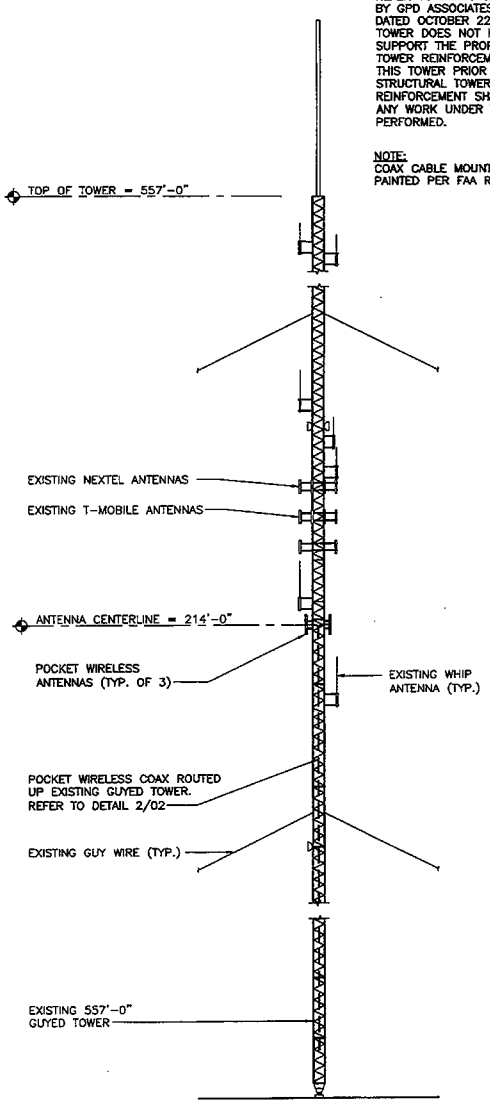
URS

URS CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CT. 06067
1-(860)-529-8882

CHECKED BY: JCF
DRAWN BY: JES
DATE: 08/25/08
URS JOB NUMBER: PC1019/36923939
DRAWING NUMBER: 02

REFER TO STRUCTURAL ANALYSIS REPORT, PREPARED BY GPD ASSOCIATES, JOB NUMBER 2008280.61, DATED OCTOBER 22, 2008. THE REPORT STATES THE TOWER DOES NOT HAVE SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED LOADS AND RECOMMENDS TOWER REINFORCEMENT. NO WORK SHALL OCCUR ON THIS TOWER PRIOR TO THE ISSUANCE OF A PASSING STRUCTURAL TOWER ANALYSIS AND ALL REINFORCEMENT SHALL BE PERFORMED PRIOR TO ANY WORK UNDER THIS CONTRACT BEING PERFORMED.

NOTE:
COAX CABLE MOUNTED TO THE TOWER SHALL BE PAINTED PER FAA REGULATIONS TO MATCH TOWER.



1/03 TOWER ELEVATION
SCALE: 1" = 40'-0"

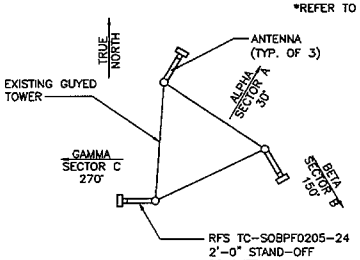
ANTENNA KEY

	# ANTENNAS PER SECTOR	ANTENNA NUMBER	COAX COLOR CODE	ANTENNA VENDOR	MODEL NUMBER	AZIMUTH	C/L HEIGHT	MECHANICAL DOWNTILT*	ELECTRICAL DOWNTILT*	COAX SIZE	CABLES PER ANTENNA	COAX MANUFACTURER
ALPHA	1	A-1	(1) RED BAND	KATHREIN	742 213	30°	214'-0"	0°	0°	1 5/8"ø	2 ● 230'	RFS
BETA	1	B-1	(1) BLUE BAND	KATHREIN	742 213	150°	214'-0"	0°	0°	1 5/8"ø	2 ● 230'	RFS
GAMMA	1	C-1	(1) GREEN BAND	KATHREIN	742 213	270°	214'-0"	0°	0°	1 5/8"ø	2 ● 230'	RFS
GPS	1	–	–	NORTEL	NTGB01MA	–	9'-0"	–	–	1/2"	1 ● 10'	RFS

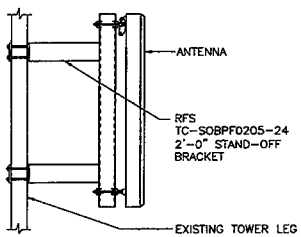
*REFER TO RFDS ANTENNA SHEET FOR FINAL TILT AND AZIMUTHS

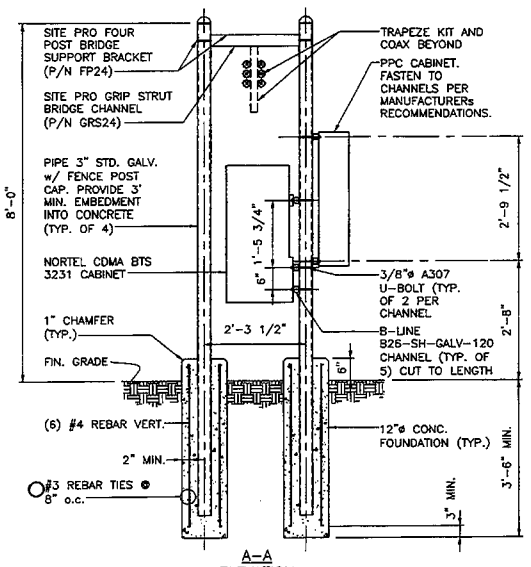
TOWER NOTES:
1. FOR DETAILED TOWER INFORMATION, REFER TO TOWER ERECTION DRAWINGS BY OTHERS. THE TOWER SHOWN ON THIS SHEET IS SHOWN FOR GENERAL CONFIGURATION PURPOSES ONLY.
2. ANTENNA CONFIGURATION IS SUBJECT TO CHANGE. VERIFY ANTENNA HEIGHT, DOWN-TILT, AND AZIMUTH WITH PROJECT MANAGER PRIOR TO CONSTRUCTION.

ANTENNA NOTES:
1. ALL COAX SHALL BE COLOR CODED AT THE ANTENNA AND AT THE EQUIPMENT CABINET.
2. (2) COLOR BANDS DENOTES TRANSMIT. TRANSMITS TO BE CONNECTED TO THE +45 PORTS OF THE ANTENNAS.
3. PRIOR TO ORDERING ANY ANTENNAS OR COAX, CONTRACTOR SHALL CONTACT POCKETS CONSTRUCTION MANAGER AND OBTAIN APPROVAL FOR MATERIALS LISTED. CONTRACTOR IS SOLELY RESPONSIBLE FOR THIS COORDINATION.
4. ANTENNA CONFIGURATION IS SUBJECT TO CHANGE. VERIFY ANTENNA HEIGHT, DOWN-TILT, AND AZIMUTH WITH PROJECT MANAGER PRIOR TO CONSTRUCTION.

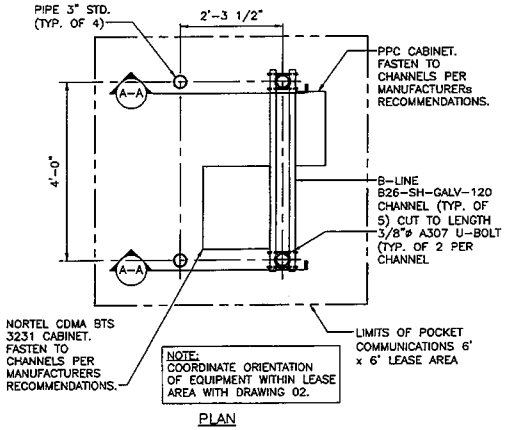


2/03 ANTENNA SECTOR PLAN
SCALE: N.T.S.



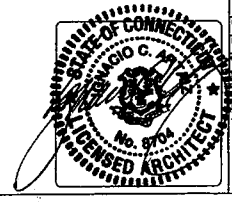


A-A ELEVATION



PLAN

3/03 CABINET SUPPORT FRAME
SCALE: N.T.S.



NO.	DATE	REVISIONS	BY
1	10-23-08	ISSUED FOR CONSTRUCTION - REVISED SITE LAYOUT	JCF
0	09-15-08	ISSUED FOR CONSTRUCTION	JCF

pocket. SMART WIRELESS

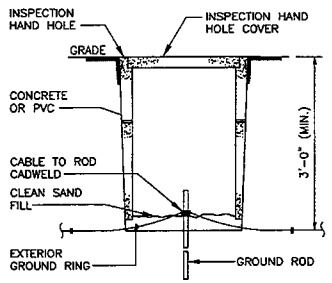
PROJECT NAME: HFCT0022, 378 DEERCLIFF ROAD

SHEET NAME: TOWER ELEVATION, ANTENNA PLAN AND DETAILS

URS

URS CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CT. 06067
1-(860)-529-8882

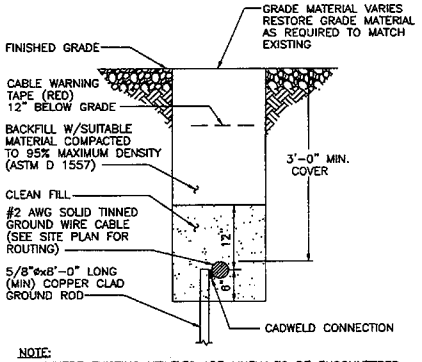
CHECKED BY: JCF
DRAWN BY: JES
DATE: 08/25/08
URS JOB NUMBER: PC1019/36923939
DRAWING NUMBER: 03



NOTE:
INSPECTION HAND HOLE MAY BE CONCRETE OR PVC AND SHALL BE A MINIMUM OF 8" IN WIDTH/DIAMETER

GROUND ROD WITH INSPECTION HANDHOLE

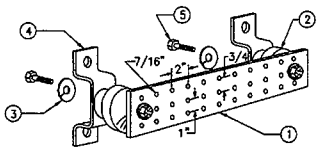
7 / 04 SCALE: N.T.S.



NOTE:
1. WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.
2. CADWELD GROUND ROD TO GROUND RING AFTER GROUND ROD HAS BEEN DRIVEN INTO PLACE

EGR DETAIL

6 / 04 SCALE: N.T.S.

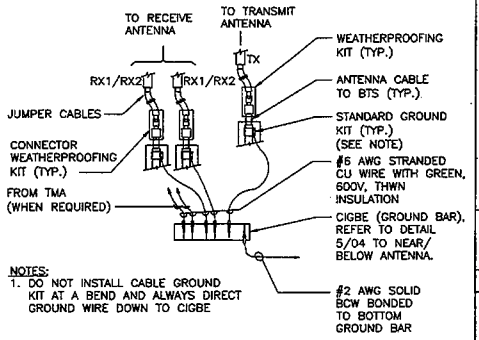


LEGEND

1- COPPER GROUND BAR, 1/4"x 4"x 20", NEWTON INSTRUMENT CO. CAT. NO. B-6142 OR EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION. (ACTUAL GROUND BAR SIZE WILL VARY BASED ON NUMBER OF GROUND CONNECTIONS)
2- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4 OR EQUAL
3- 5/8" LOCK WASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8 OR EQUAL
4- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056 OR EQUAL
5- 5/8-11 X 1" HHCS BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1 OR EQUAL

MASTER/EQUIPMENT GROUND BAR DETAIL

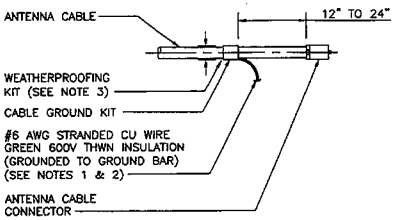
5 / 04 SCALE: N.T.S.



NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

CONNECTION OF GROUND WIRE TO GROUND BAR

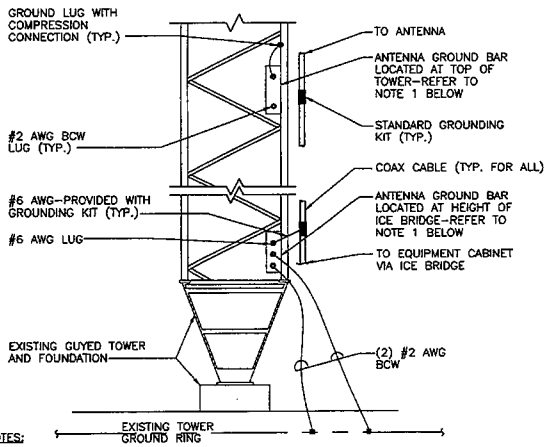
4 / 04 SCALE: N.T.S.



NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE

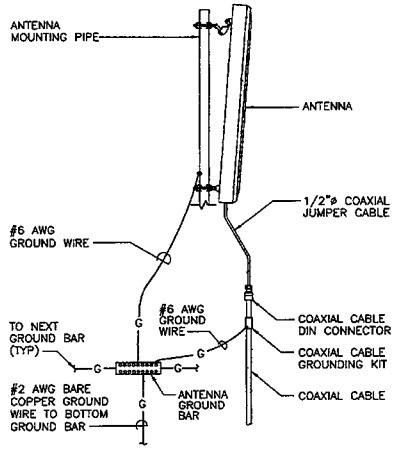
3 / 04 SCALE: N.T.S.



NOTES:
1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED.
2. NO WELDING OR DRILLING SHALL BE ALLOWED ON THE TOWER.
3. DO NOT INSTALL ANTENNA GROUND KIT ON CABLE BEND (TYP.)

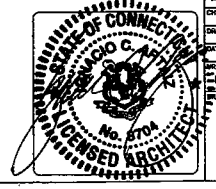
GUYED TOWER - ANTENNA CABLE GROUNDING

2 / 04 SCALE: N.T.S.



TYPICAL ANTENNA GROUNDING DETAIL

1 / 04 SCALE: N.T.S.



NO.	DATE	REVISIONS	BY
0	08-15-08	ISSUED FOR CONSTRUCTION	JCF
1	10-23-08	ISSUED FOR CONSTRUCTION - REVISED SITE LAYOUT	JCF

pocket. SMART WIRELESS

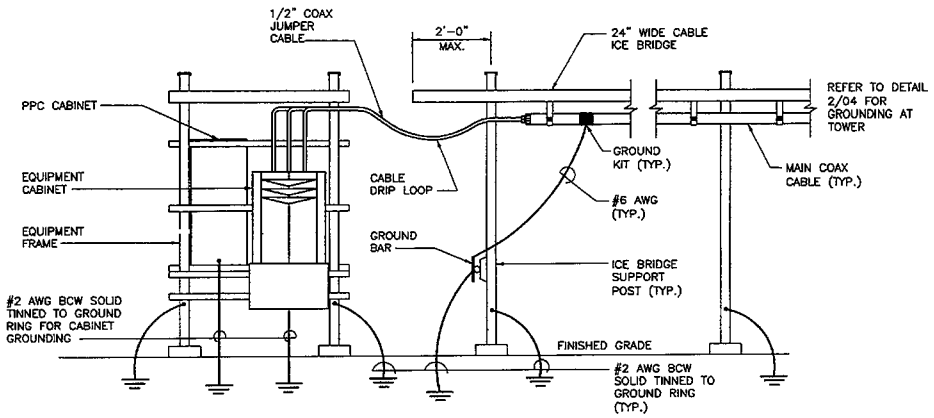
PROJECT NAME: HFCT0022, 376 DEERCLIFF ROAD

SHEET: GROUNDING DETAILS

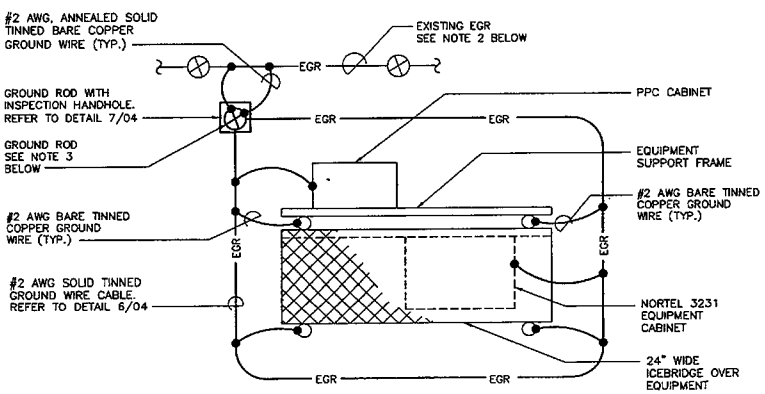
URS

URS CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CT. 06067
1-(860)-529-8882

CHECKED BY: JCF
DRAWN BY: JES
DATE: 08/25/08
URS JOB NUMBER: PC1019/36923939
DRAWING NUMBER: 04



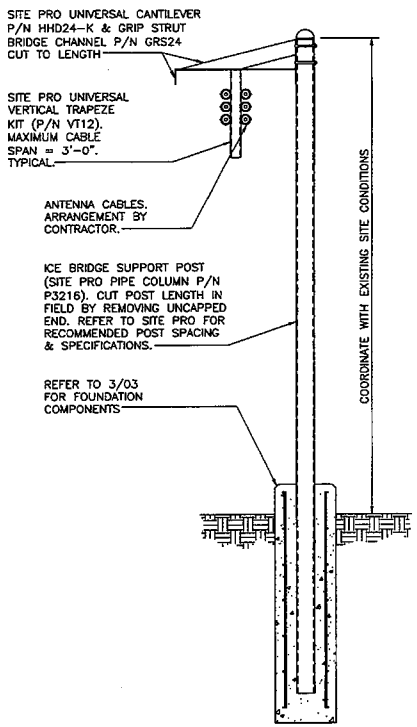
1/05 **GROUNDING AT EQUIPMENT CABINET**
SCALE: N.T.S.



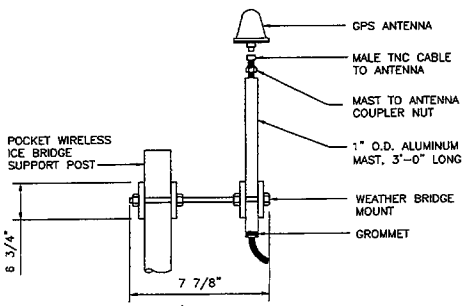
NOTES:

1. SEE SHEET 02 FOR EQUIPMENT ORIENTATION AND LOCATION.
2. EXISTING EGR, VERIFY LOCATION IN FIELD. CONTRACTOR SHALL HAND DIG AND LOCATE EXISTING EGR. IF ANY DAMAGE IS CAUSED TO EXISTING EGR, THE CONTRACTOR SHALL REPAIR THE DAMAGE AT HIS OWN COST TO THE SATISFACTION OF RESPECTIVE CELL ENGINEERS.
3. GROUNDING ELECTRODE SHALL BE 5/8" DIA. x 8'-0"L. COPPER CLAD STEEL ROD. ADJUST LOCATION OF GROUNDING ELECTRODE IF SOIL CONDITION IS NOT CONDUCTIVE (GRAVEL, SANDY SOIL, ROCKS). SPACING OF GROUNDING ELECTRODES SHALL NOT BE LESS THAN 8' O.C. ELECTRODES SHALL BE DRIVEN ONLY WITH PROPER DRIVER SLEEVE TO PREVENT MUSHROOMING TOP OF ROD. WHEN ROCK BOTTOM IS ENCOUNTERED, THE ELECTRODE SHALL BE DRIVEN AT AN OBLIQUE ANGLE NOT TO EXCEED 45° FROM THE VERTICAL AWAY FROM STRUCTURES. TOP OF GROUNDING ELECTRODE SHALL BE MIN. 3'-6" BELOW FINISH GRADE. IF IT IS IMPRACTICAL TO DRIVE THE 8'-0" GROUND ROD, CONTRACTOR SHALL INSTALL THE GROUND ROD HORIZONTALLY IN A TRENCH AWAY FROM STRUCTURE, NOT LESS THEN 36" BELOW FINISHED GRADE. UNDER NO CIRCUMSTANCES SHALL THE GROUND ROD BE CUT OR MODIFIED TO ACCOMMODATE VERTICAL INSTALLATION INTO LEDGE. REFER TO THE NEC 2005, ARTICLE #250 FOR MORE INFORMATION ON GROUNDING.

2/05 **EQUIPMENT GROUNDING PLAN**
SCALE: N.T.S.



3/05 **ICE BRIDGE DETAIL**
SCALE: N.T.S.



4/05 **GPS MOUNTING DETAIL**
SCALE: N.T.S.

NOTES:

1. LOCATION OF ANTENNA MUST HAVE A CLEAR VIEW OF SOUTHERN SKY AND CANNOT HAVE ANY BLOCKAGES EXCEEDING 25% OF A SURFACE AREA OF A HEMISPHERE AROUND THE GPS ANTENNA.
2. ALL GPS ANTENNA LOCATIONS MUST BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF 4 SATELLITES. VERIFY WITH HANDHELD GPS BEFORE FINAL LOCATION OF GPS ANTENNA.

NO.	DATE	REVISIONS	BY
1	10-23-08	ISSUED FOR CONSTRUCTION - REVISED SITE LAYOUT	JCF
0	09-15-08	ISSUED FOR CONSTRUCTION	JCF

pocket SMART WIRELESS

PROJECT NAME: HFCT00022, 376 DEERCLIFF ROAD

SHEET: GROUNDING PLAN AND DETAILS

URS

URS CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CT. 06067
1-(860)-529-8882

CHECKED BY: JCF
DRAWN BY: JES
DATE: 08/25/08
URS JOB NUMBER: PC1019/36923939
DRAWING NUMBER: 05

PANEL SSC

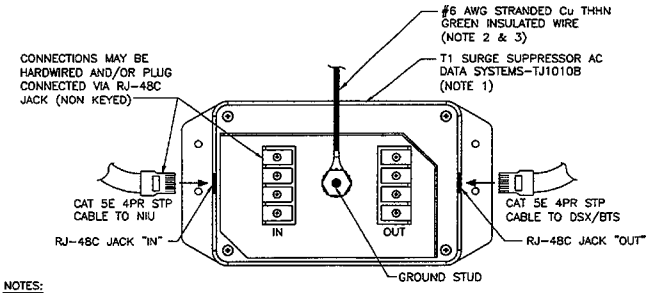
LOAD DESCRIPTION	LOAD (kVA)	BRKR SIZE	CCT NO.	PHASE A	PHASE B	CCT NO.	BRKR SIZE	LOAD (kVA)	LOAD DESCRIPTION
BTS CABINET	2.5	30/2	1			2	30/2	2.2	BTS CABINET
	2.5		3			4		2.2	
LIGHTING	1.9	10/1	5			6	20/1	0.2	GFI OUTLET
SPACE	–	–	7			8	–	–	SPACE
SPACE	–	–	9			10	–	–	SPACE
SPACE	–	–	11			12	–	–	SPACE
SPACE	–	–	13			14	–	–	SPACE
SPACE	–	–	15			16	–	–	SPACE
SPACE	–	–	17			18	–	–	SPACE
SPACE	–	–	19			20	–	–	SPACE
SPACE	–	–	21			22	–	–	SPACE
SPACE	–	–	23			24	–	–	SPACE
LOAD SUB–TOTAL	6.9	LOAD TOTAL		11.5 kVA				4.6	LOAD SUB–TOTAL

100A MCB, 120/208/240V, 1ø, 3 WIRE, 65,000 AIC		
TOTAL CONNECTED LOAD	11.5 KW	
25% OF LARGEST CONT. LOAD	1.25 KW	
TOTAL LOADS	12.75 KW	
NOTE: ALL NON–OPTIONAL BREAKERS PROVIDED BY SSC MFR		

1 / 06 PANEL SCHEDULE
SCALE: N.T.S.

GENERAL ELECTRIC NOTES:

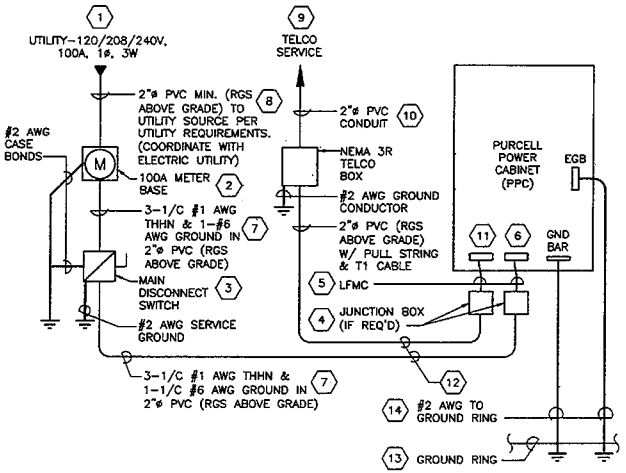
1. ALL ELECTRICAL AND GROUNDING WORK SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
2. CONDUIT ROUTINGS ARE SCHEMATIC, CONTRACTOR SHALL VERIFY ROUTING AND LENGTHS PRIOR TO CONSTRUCTION.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
4. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
5. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES, AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.



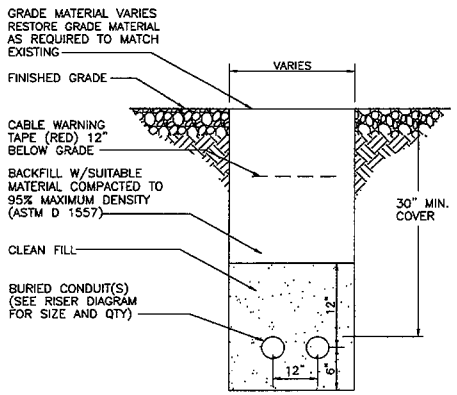
NOTES:

1. MOUNT T1–TVSS UNIT ON EQUIPMENT FRAME HOUSING THE DSX UNIT. USE APPROPRIATE STAINLESS STEEL BOLTS WITH FLAT WASHERS AND A LOCK WASHER ON THE NUT SIDE. THE TVSS MAY BE LOCATED ON THE TELCO BACKBOARD. REFER TO MANUFACTURER'S INSTRUCTIONS.
2. ATTACH RING TERMINAL FROM SUPPLIED GROUND CONDUCTOR TO TVSS GROUND STUD SECURELY FASTEN WITH SUPPLIED WASHER AND NUT. REFER TO MANUFACTURER'S INSTRUCTIONS. FOR PROPER PERFORMANCE, THE GROUND CONDUCTOR LENGTH SHOULD BE LIMITED WITH NO SHARP BENDS ON COILS.
3. WHEN TVSS IS MOUNTED ON EQUIPMENT FRAME, BOND THE GROUND CONDUCTOR TO THE EQUIPMENT FRAME GROUND. ENSURE PROPER GROUNDING SURFACES. WHEN TVSS IS MOUNTED ON THE TELCO BACK BOARD, BOND THE GROUND CONDUCTOR TO THE TELCO (BOARD) GROUND BAR OR NEAREST GROUND BAR.

3 / 06 TVSS DETAIL
SCALE: N.T.S.



2 / 06 POWER, TELCO, GROUND SINGLE LINE DIAGRAM FOR OUTDOOR CABINET
SCALE: N.T.S.



ELECTRICAL/TELEPHONE TRENCH DETAIL NOTES:

1. THE CLEAN FILL SHALL PASS THROUGH A 3/8" MESH SCREEN AND SHALL NOT CONTAIN SHARP STONES. OTHER BACKFILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBRIS OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION. THE TRENCH SHALL BE BACKFILLED IMMEDIATELY FOLLOWING PLACEMENT OF THE CONDUITS.
2. WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.

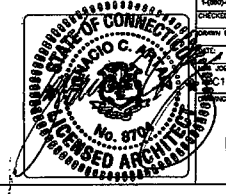
4 / 05 TYPICAL ELECTRICAL/ TELEPHONE TRENCH DETAIL
SCALE: N.T.S.

REFERENCE NOTES:

1. ELECTRICAL DEMARCATION POINT. ELECTRICAL CONTRACTOR TO COORDINATE WITH LOCAL UTILITY COMPANY FOR SERVICE TO METER.
2. CONTRACTOR TO SUPPLY AND INSTALL A 100A, 120/208/240V 1ø, 3W METER BASE. METER BASE TO BE NEMA 3R RATED AND ACCEPTABLE TO LOCAL UTILITY. PROVIDE WITH MECHANICALLY ATTACHED ENGRAVED IDENTIFICATION LABEL INDICATING "POCKET COMMUNICATIONS METER".
3. CONTRACTOR TO SUPPLY AND INSTALL NEMA 3R 100A FUSIBLE DISCONNECT SWITCH WITH LOCKABLE HANDLE. PROVIDE WITH TWO (2) 100A FUSES, AIC RATING TO COORDINATE WITH LOCAL UTILITY REQUIREMENTS. PROVIDE WITH MECHANICALLY ATTACHED ENGRAVED IDENTIFICATION LABEL INDICATING "POCKET COMMUNICATIONS SERVICE DISCONNECT".
4. WEATHER TIGHT NEMA 3R JUNCTION BOX (IF REQUIRED). SIZE TO NEC CODE FOR APPLICATION.
5. LIQUID TIGHT FLEXIBLE METALLIC CONDUIT W/ WEATHER TIGHT FITTINGS AND SUPPORTS. SIZE AND CONTENTS TO MATCH ASSOCIATED USE (POWER OR TELCO) SEE NOTE #5 BELOW
6. UTILITY POWER ENTRY INTO CABINET. COORDINATE TERMINATION WITH CABINET MANUFACTURER.
7. CONTRACTOR SHALL SUPPLY AND INSTALL 2" GRC. AFG AND PVC 36" BFG C/W 3–#1 & 1–#6G AWG THHN FOR UTILITY SERVICE.
8. CONTRACTOR SHALL SUPPLY AND INSTALL 2" GRC. AFG AND PVC 36" BFG C/W 3–#1 & 1–#6G, AWG THHN FOR UTILITY SERVICE.
9. TELCO DEMARCATION POINT. ELECTRICAL CONTRACTOR TO COORDINATE WITH LOCAL TELCO FOR SERVICE TO TELCO BOX OR CABINET.
10. CONTRACTOR TO SUPPLY AND INSTALL (1) 2" GRC AFG AND PVC 36" BFG C/W PULL CORDS FOR TELCO SERVICE TO CABINET TERMINATION POINT.
11. TELCO SERVICE ENTRY INTO CABINET. COORDINATE TERMINATION WITH CABINET MANUFACTURER.
12. CONTRACTOR TO ARRANGE AND PAY FOR UNDERGROUND UTILITY LOCATION SURVEYS FOR ALL TRENCHING. REUSE NATIVE BACKFILL AND RE–INSTATE TO ORIGINAL CONDITION. INSTALL 6" WIDE METALLIC LINED RED PLASTIC MARK TAPE 12" BELOW GRADE.
13. PORTION OF EXTERIOR GROUND RING
14. (1) #2 SOLID BARE TINNED COPPER EQUIPMENT GROUND CONDUCTOR BONDED TO 5/8"x8' COPPER CLAD STEEL GROUNDING ELECTRODES. LOCATE GROUNDING ELECTRODE ADJACENT TO CABINET. BOND GROUNDING ELECTRODE SYSTEM TO CABINET GROUND RING.

NOTES:

1. CONTRACTOR SHALL PROVIDE 100 AMP, SINGLE PHASE, 120/208/240 VAC, 60 HZ ELECTRIC SERVICE FOR SITE
2. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY BEFORE THE START OF CONSTRUCTION. POWER AND TELCO CONDUIT SHALL BE PROVIDED AND INSTALLED PER UTILITY REQUIREMENTS.
3. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO DRAWINGS PROVIDED BY AC OR TELCO PANEL MANUFACTURER.
4. ALL SERVICE EQUIPMENT AND INSTALLATIONS SHALL COMPLY WITH THE N.E.C. AND UTILITY COMPANY AND LOCAL CODE REQUIREMENTS.
5. CONTRACTOR SHALL INSTALL SUFFICIENT LENGTHS OF LFMC (NOT EXCEEDING 6'–0") INCLUDING ALL CONDUIT FITTINGS (NUTS, REDUCING BUSHINGS, ELBOWS, COUPLINGS, ETC.) NECESSARY FOR CONNECTION FROM IMC CONDUIT TO THE PURCELL POWER CABINET, (PPC).
6. CONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE EQUIPMENT WITH FAULT CURRENT RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT FROM THE POWER UTILITY.
7. CONTRACTOR SHALL VERIFY THAT THE MAIN BONDING JUMPER AND GROUNDING ELECTRODE CONDUCTOR IS INSTALLED PROPERLY IN MAIN DISCONNECT SWITCH.



NO.	DATE	REVISIONS	BY
0	09-15-08	ISSUED FOR CONSTRUCTION	JCF
1	10-23-08	ISSUED FOR CONSTRUCTION – REVISED SITE LAYOUT	JCF

pocket. SMARTER WIRELESS

PROJECT NAME: HFCT0022, 376 DEERCLIFF ROAD

SHEET: ELECTRICAL DETAILS

URS
URS CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CT. 06067
1-(860)-529-8882

CHECKED BY: JCF
DRAWN BY: JES
DATE: 08/25/08
JOB NUMBER: SC1019/36923939
DRAWING NUMBER: 06

Exhibit C

Equipment Specifications

Pocket Site HFCT0022A

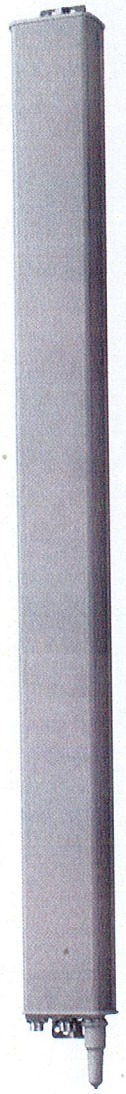
376 Deercliff Road

Avon, Connecticut

KATHREIN
SCALA DIVISION

742 213

65° Panel Antenna

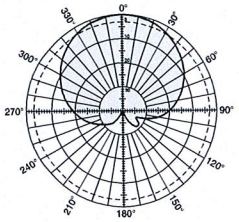


Kathrein's X-polarized adjustable electrical downtilt antennas offer the wireless carrier the ability to tailor polarization diversity sites for optimum performance. Using variable downtilt, only a few models need be procured to accommodate the needs of widely varying conditions. Remotely controlled downtilt is available as a retrofitable option.

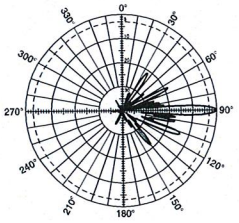
- 0-6° downtilt range.
- UV resistant pulltruded fiberglass radome.
- DC Grounded metallic parts for impulse suppression.
- No moving electrical connections.
- Wideband vector dipole technology.
- Optional remote downtilt Control.
- Will accomodate future 3G / UMTS applications.

General specifications:

Frequency range	1710–2170 MHz
VSWR	< 1.5:1
Impedance	50 ohms
Intermodulation (2x20w)	IM3: <-150 dBc
Polarization	+45° and -45°
Front-to-back ratio (180°±30°)	>30 dB (co-polar) >25 dB (total power)
Maximum input power	300 watts per input (at 50°C)
Electrical downtilt continuously adjustable	0–6 degrees
Connector	2 x 7/16 DIN female
Isolation	>30 dB
Cross polar ratio Main direction 0° Sector ±60°	 25 dB (typical) >10 dB
Weight	22 lb (10 kg)
Dimensions	76.5 x 6.1 x 2.7 inches (1942 x 155 x 69 mm)
Equivalent flat plate area	4.62 ft² (0.429 m²)
Wind survival rating*	120 mph (200 kph)
Shipping dimensions	87.2 x 6.8 x 3.6 inches (2214 x 172 x 92 mm)
Shipping weight	24.3 lb (11 kg)
Mounting	Fixed and tilt mount options are available for 2 to 4.6 inch (50 to 115 mm) OD masts.
See reverse for order information.	



Horizontal pattern
±45°- polarization



Vertical pattern
±45°- polarization

Specifications:	1710–1880 MHz	1850–1990 MHz	1920–2170 MHz
Gain	19 dBi	19.2 dBi	19.5 dBi
+45° and -45° polarization horizontal beamwidth	67° (half-power)	65° (half-power)	63° (half-power)
+45° and -45° polarization vertical beamwidth	4.7° (half-power)	4.5° (half-power)	4.3° (half-power)
Vertical Pattern–sidelobe suppression for first side-lobe above main beam	0° 2° 4° 6° T 18 17 15 15 dB	0° 2° 4° 6° T 18 18 17 15 dB	0° 2° 4° 6° T 18 18 17 15 dB

RoHS Lead-Free

*Mechanical design is based on environmental conditions as stipulated in EIA-222-F (June 1996) and/or ETS 300 019-1-4 which include the static mechanical load imposed on an antenna by wind at maximum velocity. See the Engineering Section of the catalog for further details.

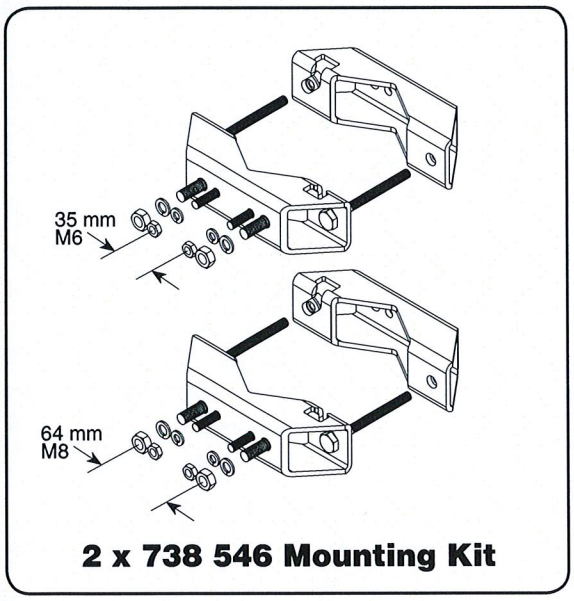
10642-H
936.2074/h

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com

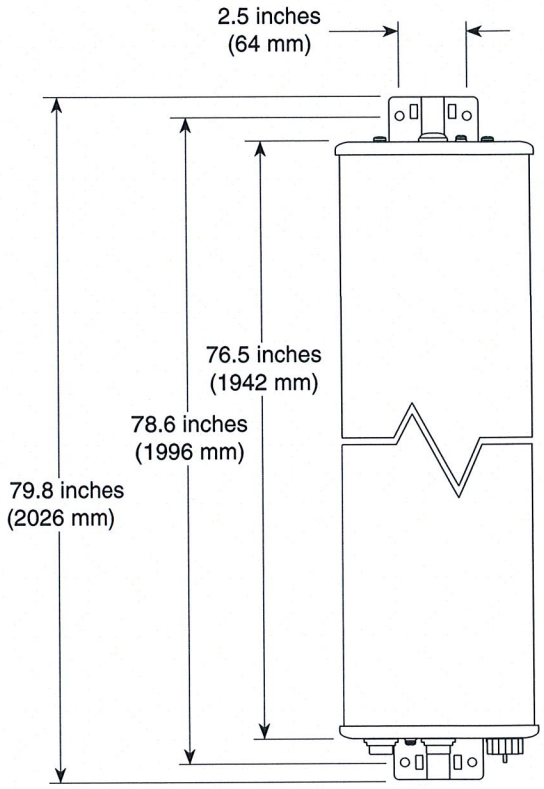
KATHREIN
SCALA DIVISION

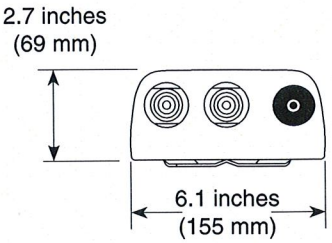
742 213

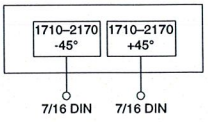
65° Panel Antenna



2 x 738 546 Mounting Kit







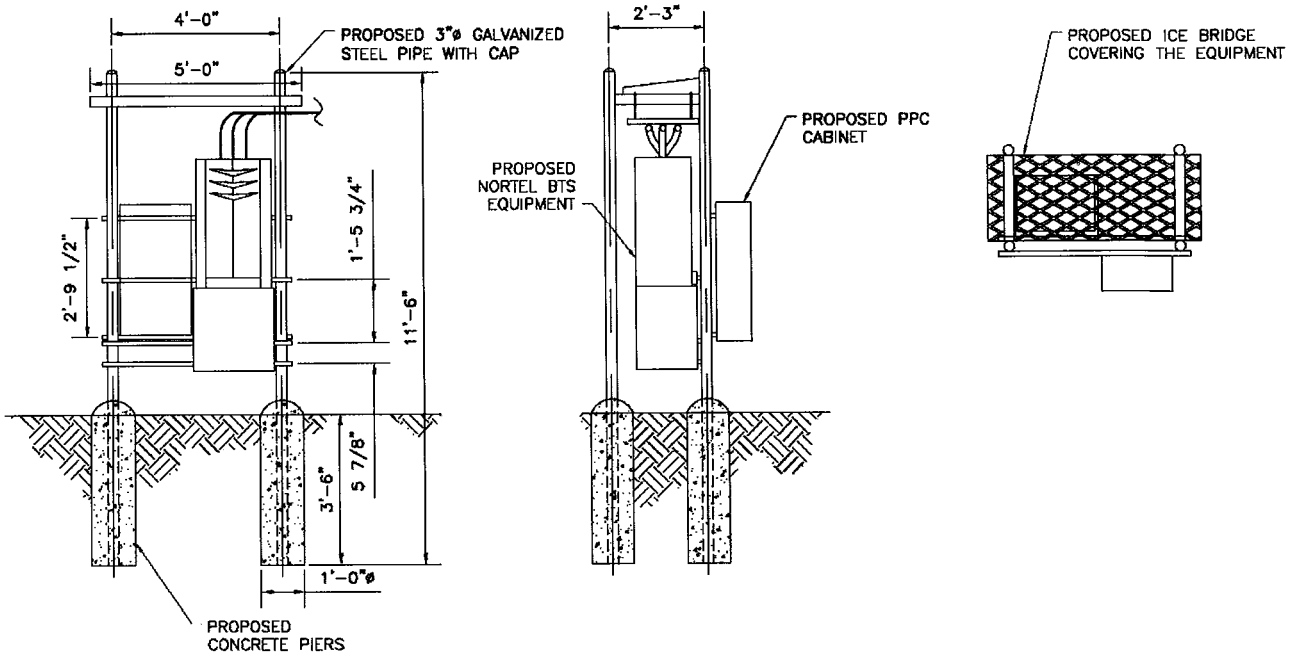
Mounting Options:

Model	Description
2 x 738 546	Mounting Kit for 2 to 4.6 inch (50 to 115 mm) OD mast.
737 978	Tilt Kit for use with the above mounting kit, 0–11 degrees downtilt angle. (requires 2 x 738 546 Mounting Kit)
742 263	Three-panel Sector Mounting Kit (120 deg. ea.) for 3.5 inch (89 mm) OD mast.

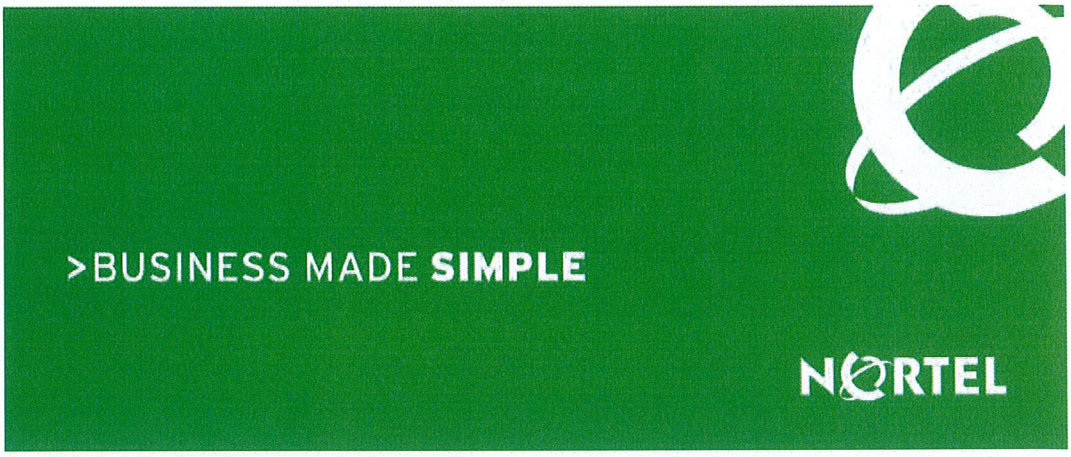
Order Information:

Model	Description
742 213	Antenna with 7/16 DIN connectors 0°–6° adjustable electrical downtilt

Kathrein Inc., Scala Division Post Office Box 4580 Medford, OR 97501 (USA) Phone: (541) 779-6500 Fax: (541) 779-3991
Email: communications@kathrein.com Internet: www.kathrein-scala.com



Pocket/Youghiogheny Communications – Northeast, LLC
Rack Detail



CDMA BTS 3231 AWS 1.7/2.1 GHz (Outdoor/Indoor)

CDMA BTS 3231

Industry's Highest Capacity AWS Micro BTS

The CDMA BTS 3231 is the latest extension to Nortel Networks BTS (Base Transceiver Station) portfolio providing the ideal solution for urban, sub-urban and rural deployments. The CDMA BTS 3231 is a 3-carrier, 3-sector outdoor/indoor BTS operating at the AWS band of 1.7/2.1 GHz supporting IS-95, 1XRTT and 1xEV-DO simultaneously. BTS 3231 provides flexible deployments solutions including floor, rack, and wall mount options. The power consumption of BTS3231 is industry leading consuming only 630W for 3C3S. The BTS 3231 is also very light at 240lbs making it easy to transport to hard to reach locations such as the top of a high rise building.

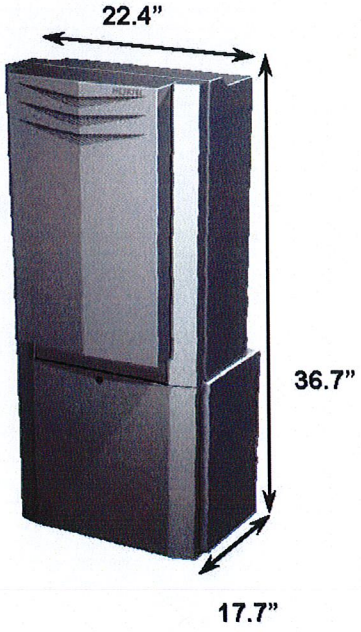


Exhibit D

Power Density Calculations

Pocket Site HFCT0022A

376 Deercliff Road

Avon, Connecticut

C Squared Systems, LLC
920 Candia Road
Manchester, NH 03109
Phone: (603) 657 9702
E-mail:
support@csquaredsystems.com

Calculated Radio Frequency Emissions

CT-0022 (aka HFCT0022)

376 Deercliff Road, Avon, CT

Table of Contents

1. Introduction 1
2. FCC Guidelines for Evaluating RF Radiation Exposure Limits 2
3. RF Exposure Prediction Methods 2
4. Calculation Results 3
5. Conclusion 4
6. Statement of Certification 5
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Attachment B: FCC Limits For Maximum Permissible Exposure (MPE) 7

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed Pocket antennas to be installed on the existing tower at 376 Deercliff Road, Avon, CT.

These calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are much more conservative (higher) than the actual signal levels will be from the finished installation.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter (mW/cm^2). The number of mW/cm^2 emitted is called the power density. The general population exposure limit for the cellular band is 0.567-0.593 mW/cm^2, and the general population exposure limit for the PCS/AWS band is 1.0 mW/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.

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.

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 (through training), 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."

The FCC describes exposure to radio frequency (RF) energy in terms of percentage of maximum permissible exposure (MPE) with 100% being the maximum allowed. Rather than the FCC presenting the user specification in terms of complex power density figures over a specified surface area, this MPE measure is particularly useful, and even more so when considering that power density limits actually vary by frequency because of the different absorptive properties of the human body at different frequencies.

MPE limits are specified as time-averaged exposure limits. This means that exposure can be averaged over 30 minutes for general population / uncontrolled exposure (or 6 minutes for occupational / controlled exposure). However, for the case of exposure of the general public, time averaging is usually not applied because of uncertainties over exact exposure conditions and difficulty in controlling time of exposure. Therefore, the typical conservative approach is to assume that any RF exposure to the general public will be continuous.

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.

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 limits for Maximum Permissible Exposure (MPE) for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP), the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit. As shown in these excerpts, each frequency band has different exposure limits, requiring power density to be reported as a percent of Maximum Permissible Exposure (MPE) when dealing with carriers transmitting in different frequency bands.

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:

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

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance = $\sqrt{\left(H^2 + V^2\right)}$

H = Horizontal Distance from antenna

V = Vertical Distance from bottom of antenna

Off Beam Loss is determined by the selected antenna patterns

4. Calculation Results

Table 1 below outlines the power density information for the site. All information for carriers other than Pocket was obtained from current CSC database.[1]

Carrier	Number of Trans.	Effective Radiated Power (ERP) Per Transmitter (Watts)	Antenna Height (Feet)	Operating Frequency (MHz)	Total ERP (Watts)	Power Density (mw/cm^2)	Limit	%MPE
Marcus	1	100	280	5.8GHz	100	0.0005	1.0000	0.05%
Marcus	1	100	134	5.8GHz	100	0.0020	1.0000	0.20%
Marcus	1	100	131	5.8GHz	100	0.0021	1.0000	0.21%
Marcus	1	100	280	5.8GHz	100	0.0005	1.0000	0.05%
T-Mobile	4	395	250	1930	1580	0.0091	1.0000	0.91%
Arch Communications	N/A	N/A	251	929	N/A	0.0200	0.6193	3.22%
Hartford Data Dispatch	N/A	N/A	200	220	N/A	0.0112	0.2000	5.62%
Hartford Data Dispatch	N/A	N/A	200	221	N/A	0.0022	0.2000	1.12%
Pagemart	N/A	N/A	315	929	N/A	0.0380	0.6193	6.14%
Pagenet	N/A	N/A	513	929	N/A	0.0253	0.6193	4.08%
Preferred Network	N/A	N/A	190	157	N/A	0.0162	0.2000	8.11%
Roamer One	N/A	N/A	191	220	N/A	0.0010	0.2000	0.49%
Roamer One	N/A	N/A	191	221	N/A	0.0025	0.2000	1.23%
Nationwide	N/A	N/A	251	929	N/A	0.0057	0.6193	0.92%
WHCT TV (Ch 18)	N/A	N/A	580	470	N/A	0.1344	0.3133	42.89%
Nextel	9	100	260	851	900	0.0048	0.5673	0.84%
Pocket	3	631	214	2130-2133.75	1893	0.0246	1.0000	2.46%
							Total	78.54%

Table 1: Proposed Carrier Information

[1] CSC database was incomplete regarding the information for the antennas and transmitters for the paging, dispatch and broadcast operators. Only the centerline, frequency, power density and %MPE are available and thus included in the cumulative %MPE.

5. Conclusion

The above analysis verifies that emissions from the proposed site will be well 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 the base of the tower is 78.54% of the FCC limit.

As noted in the introduction, 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 installation.

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/IEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.

October 24, 2008
Date

Daniel l. Goulet
C Squared Systems, LLC

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 Exposure

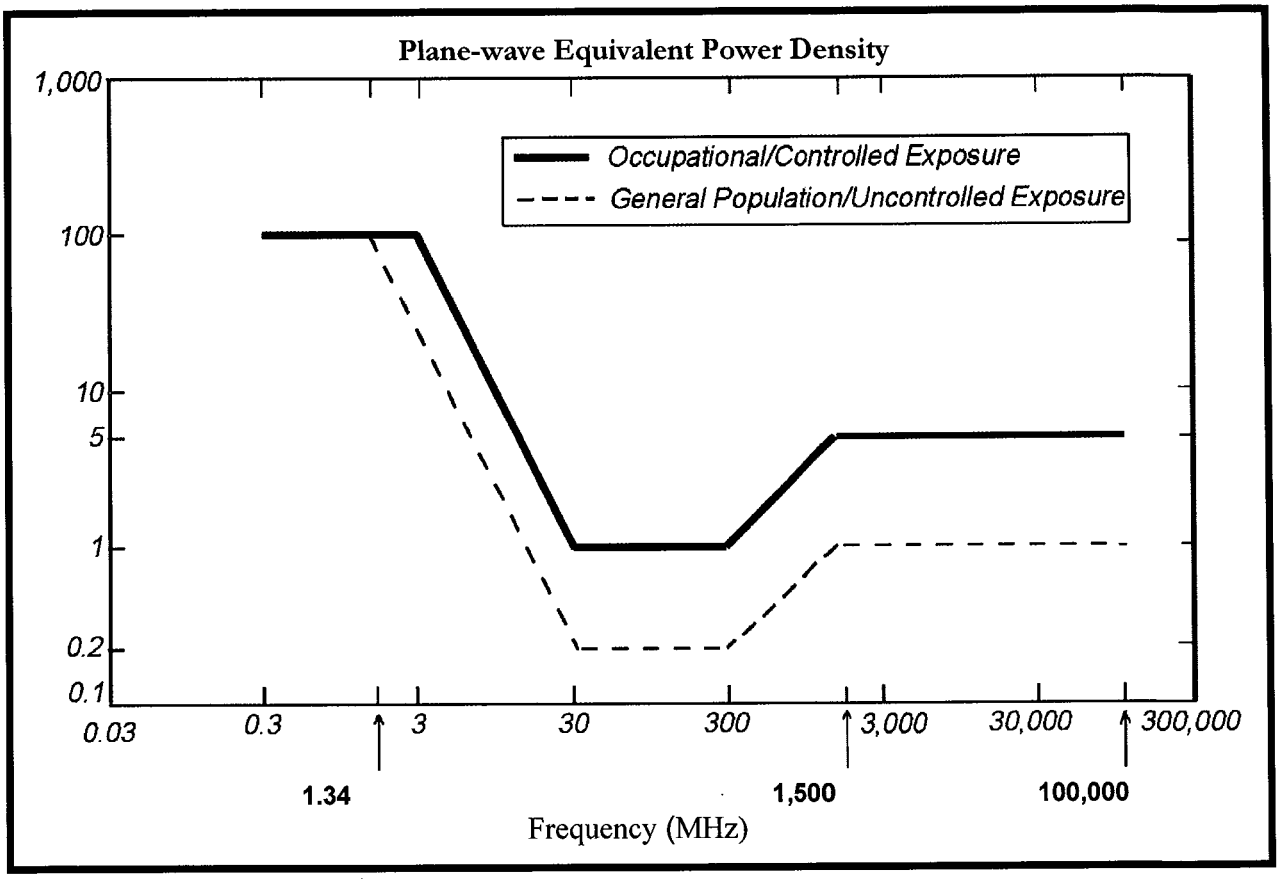
Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure

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

NOTE 1: 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.
NOTE 2: 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 can not exercise control over their exposure.



• FCC Limits for Maximum Permissible Exposure (MPE)

Exhibit E

Structural Analysis

Pocket Site HFCT0022A

376 Deercliff Road

Avon, Connecticut

Date: October 22, 2008

William Hart
Crown Castle USA Inc.
9105 Monroe Rd. Suite 150
Charlotte, NC 28270
(704) 321-3856

GPD Associates
520 South Main St.; Suite 2531
Akron, OH 44311
(614) 210-0751
zsheets@gpdgroup.com

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Pocket Communications* Co-Locate**	
	Carrier Site Number:	CT-0022
	Carrier Site Name:	CCI 870800
Crown Castle Designation:	**Crown Castle BU Number:**	870800
	Crown Castle Site Name:	Avon (Deercliff Rd.)
	Crown Castle JDE Job Number:	108664
	Crown Castle Work Order Number:	235706
Engineering Firm Designation:	**GPD Associates Project Number:**	2008280.61
Site Data:	**376 Deercliff Rd., Avon, CT 06001, Hartford County**	
	Latitude *41° 46' 29.95"*, Longitude *-72° 48' 2.07"*	
	620 Foot - Guyed Tower	

Dear Mr. William Hart,

GPD Associates is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 302900, in accordance with application 67313, revision 3.

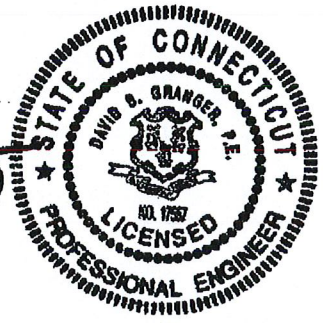
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC1: Existing + Reserved + Proposed Equipment **Insufficient Capacity**
Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

The analysis has been performed in accordance with the TIA/EIA-222-F standard and the Connecticut Building Code based upon a wind speed of 80 mph fastest mile.

We at *GPD Associates* appreciate the opportunity of providing our continuing professional services to you and Crown Castle USA Inc. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted by:



David B. Granger, P.E.
Connecticut #: 17567

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1) INTRODUCTION

This tower is a 620 ft Guyed tower designed by Stainless, Inc. in November of 1986. The tower was originally designed for a wind load of 60 psf 0" of radial ice and a wind load of 20 psf with 2" of radial ice per EIA-222-C.

The existing tower is supported on a tapered base and has twenty-two major sections. It has a triangular cross section made of bolted connections, with an "X" frame configuration. The tower is fabricated with solid round legs and diagonals and angle horizontals. It has three guy elevations for a total of nine guy wires. A 60' pipe mast is mounted to the top of the tower.

All modifications designed by GPD Associates (Project #: 2007282.88, dated 10/11/07) were considered in the analysis.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 80 mph with no ice, 69.3 mph with 0.5 inch ice thickness and 60 mph under service loads.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
214	214	3	Kathrein	742-213	6	1-5/8	
		3		2'-0" - STANDOFFs			

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
557	586	1	Harris	TWS-30-18	1	WR-1500	
518	528	1	Telewave	ANT150F6	1	1-1/4	
		1		4' Side Mount Standoff			
515	515	1	Andrew	PG1NOF-0093-8	1	1-5/8	
		1		4' Side Mount Standoff			
505	505	1	Telewave	ANT150F2	1	1-1/4	
		1		4' Side Mount Standoff			
500	508	1	Tx Rx systems	101-68-10-0-03N	1	1-1/4	
	500	1		6' Side Mount Standoff			
495	495	1	Andrew	ATW25HS3-HSO-46H	1	4-1/16	1
470	480	1	Telewave	ANT150F6	1	7/8	
	470	1		4' Side Mount Standoff			
445	452	1	Tx Rx systems	101-68-10-0-03N	1	1-1/4	
	445	1		6' Side Mount Standoff			

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
442	452	2	Telewave	ANT150F6	1	7/8	
	442	1		2'-0" - STANDOFF	1	1-1/4	
		1		4' Side Mount Standoff			
422	427	1	Swedcom	800/1850 COMBNR	1	1-1/4	
		1	Tx Rx systems	101D-90-06-0-03	1	1/2	
	422	1		6' Side Mount Standoff			
395	402	1	Sinclair	SC233	1	1-1/4	
	395	1		2'-0" - STANDOFF			
330	335	2	Decibel	DB636-C	2	1-1/4	
	330	2		2'-0" - STANDOFF			
303	308	1	Decibel	DB636-C	1	1-1/4	
	303	1		2'-0" - STANDOFF			
300	305	1	Decibel	DB636-C	1	1-1/4	
	300	1	Radiowaves	SPD2-5.8 Dish	1	1/2	
		2		2'-0" - STANDOFF			
289	294	1	Decibel	DB636-C	1	1-1/4	
	289	1		2'-0" - STANDOFF			
254	259	1	Decibel	DB810M-XC			
	254	1		4' Side Mount Standoff			
250	260	4	Celwave	AP859012-42T0	8	1-5/8	1
		4	Decibel	844G65VTZASX			
	250	2		6'x12' Boom Gates			
240	242	2	EMS Wireless	FR90-16-02DP	4	7/8	1
		4	Ericsson	KRY 112 71 TMAs			
	240	2		12' T-Frame			
219	219	1	Telewave	ANT150F6	1	7/8	
		1		2'-0" - STANDOFF			
177	187	1	Telewave	ANT150F6	1	7/8	
	177	1		4' Side Mount Standoff			
145	145	1		2'-0" - STANDOFF	1	EW52	2
140	140	1		2'-0" - STANDOFF	1	1/2	
	135	1	Radiowaves	SPD2-5.8 Dish			
116	120	1	Celwave	201-8	1	3/8	
91	94	1	Telewave	ANT150F2	1	1/4	
	91	1		2'-0" - STANDOFF			
79	80	1	Trimble	Acutime 2000	1	1/2	

Notes:
1) SLA equipment controlling
2) Abandoned

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
560	560	1	Andrew	Ch. 18 Wavestar	1	6-1/8
		1	Harris	Ch. 18 Wavestar	1	WR1800
550	550	6		2-Way Antennas	6	7/8
490	490	1		8' Microwave Parabolic Antenna	1	EW64
480	480	6		2-Way Antennas	6	7/8
320	320	1		8' Microwave Parabolic Antenna	1	EW64
315	315	1		4' Microwave Parabolic Antenna	1	EW64
300	300	1		2-Bay FM Antenna	1	3
200	200	1		PR450	1	7/8

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Tower Manufacturer Drawings	Report #: 3290, dated 11/5/86	Doc ID # 1579694	Crown DMZ
Tower Mapping	Pinnacle Acquisition #: 0236-001, dated 4/14/99	Doc ID # 1579694	Crown DMZ
Geotechnical Report	United Consulting Project #: 20004476-01, dated 2/8/01	Doc ID # 1579662	Crown DMZ
Modification Drawings	GPD Associates Project #: 2007282.88, dated 10/11/07	Doc ID # 2124272	Crown DMZ
Previous Analysis	GPD Associates Project #: 2008276.01, dated 8/6/2008	Doc ID # 2295464	Crown DMZ

3.1) Analysis Method

RISATower (version 5.3.0.1), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) When applicable, transmission cables are considered as structural components for calculating wind loads as allowed by TIA/EIA-222-F.

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

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T1	560 - 535	Leg	4	2	-71.90	335.71	21.4	Pass
		Diagonal	1	13	9.80	22.61	43.4	Pass
		Horizontal	L2 1/2x2 1/2x1/4	36	-5.73	12.90	44.4	Pass
		Top Girt	L2 1/2x2 1/2x1/4	6	-3.07	12.90	23.8	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	9	-3.05	12.90	23.6	Pass
T2	535 - 510	Leg	4	45	-125.52	336.52	37.3 57.7 (b)	Pass
		Diagonal	1	56	12.97	22.61	57.4	Pass
		Horizontal	L2 1/2x2 1/2x1/4	59	-9.76	17.19	56.8	Pass
		Top Girt	L2 1/2x2 1/2x1/4	48	-3.05	12.90	23.6	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	51	-5.43	17.19	31.6	Pass
T3	510 - 485	Leg	4 1/2	87	-185.17	458.51	40.4 102.9 (b)	Fail
		Diagonal	1 1/4	107	17.18	35.33	48.6 69.5 (b)	Pass
		Horizontal	L2 1/2x2 1/2x1/4	111	-12.52	17.26	72.5	Pass
		Top Girt	L2 1/2x2 1/2x1/4	90	-5.50	17.26	31.9	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	91	-4.98	17.26	28.9	Pass
		Guy A@491.292	1 1/4	936	87.90	96.00	91.6	Pass
		Guy B@491.292	1 1/4	935	87.81	96.00	91.5	Pass
		Guy C@491.292	1 1/4	934	87.79	96.00	91.4	Pass
		Top Guy Pull-Off@491.292	L2 1/2x2 1/2x1/4	100	-3.45	5.12	72.8	Pass
T4	485 - 460	Leg	4 1/2	129	-177.05	458.51	38.6 65.1 (b)	Pass
		Diagonal	1	164	7.93	22.61	35.1	Pass
		Horizontal	L2 1/2x2 1/2x1/4	142	-5.31	13.05	40.7	Pass
		Top Girt	L2 1/2x2 1/2x1/4	130	-5.16	17.39	29.7	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	133	-2.58	13.05	19.8	Pass
T5	460 - 435	Leg	4 1/4	169	-168.16	395.53	42.5	Pass
		Diagonal	5/8	206	4.46	8.83	50.5	Pass
		Horizontal	L2x2x3/16	202	-3.25	8.18	39.7	Pass
		Top Girt	L2x2x3/16	172	-1.52	6.14	24.7	Pass
		Bottom Girt	L2x2x3/16	175	-1.24	6.14	20.2	Pass
T6	435 - 410	Leg	4 1/4	211	-189.05	395.53	47.8	Pass
		Diagonal	5/8	224	6.75	8.83	76.4	Pass
		Horizontal	L2x2x3/16	228	-5.02	8.00	62.7	Pass
		Top Girt	L2x2x3/16	214	-1.24	6.00	20.6	Pass
		Bottom Girt	L2x2x3/16	219	-2.88	8.00	36.0	Pass
T7	410 - 385	Leg	4 1/4	253	-225.35	395.53	57.0	Pass
		Diagonal	5/8	266	9.16	8.83	103.7	Fail
		Horizontal	L2x2x3/16	270	-7.06	8.00	88.3	Pass
		Top Girt	L2x2x3/16	258	-2.92	8.00	36.5	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
		Bottom Girt	L2x2x3/16	261	-3.98	8.00	49.7	Pass
T8	385 - 360	Leg	4 1/4	295	-275.54	395.53	69.7	Pass
		Diagonal	3/4	309	11.66	12.72	91.7	Pass
		Horizontal	L2x2x1/4	312	-8.98	10.31	87.1	Pass
		Top Girt	L2x2x3/16	300	-4.01	8.00	50.1	Pass
		Bottom Girt	L2x2x3/16	303	-3.82	8.00	47.8	Pass
T9	360 - 335	Leg	4 3/4	337	-339.58	525.46	64.6 80.0 (b)	Pass
		Diagonal	1	351	14.76	22.61	65.3 85.9 (b)	Pass
		Horizontal	L2 1/2x2 1/2x1/4	354	-11.32	17.08	66.3	Pass
		Top Girt	L2 1/2x2 1/2x1/4	342	-6.33	17.08	37.0 57.5 (b)	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	345	-6.32	17.08	37.0 57.5 (b)	Pass
T10	335 - 310	Leg	5 1/4	379	-399.22	671.27	59.5	Pass
		Diagonal	1 1/4	402	16.80	35.33	47.5 67.9 (b)	Pass
		Horizontal	L2 1/2x2 1/2x1/4	405	-13.02	17.37	74.9	Pass
		Top Girt	L2 1/2x2 1/2x1/4	384	-6.38	17.37	36.7	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	385	-5.79	17.37	33.3	Pass
		Guy A@316.292	1 1/2	939	82.49	138.00	59.8	Pass
		Guy B@316.292	1 1/2	938	82.43	138.00	59.7	Pass
		Guy C@316.292	1 1/2	937	82.50	138.00	59.8	Pass
		Top Guy Pull-Off@316.292	L2 1/2x2 1/2x1/4	396	10.45	34.26	36.7	Pass
T11	310 - 285	Leg	4 3/4	421	-384.53	525.46	73.2	Pass
		Diagonal	1	458	14.50	22.61	64.1	Pass
		Horizontal	L2 1/2x2 1/2x1/4	454	-11.16	17.55	63.6	Pass
		Top Girt	L2 1/2x2 1/2x1/4	424	-6.08	17.55	34.7	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	427	-5.68	17.55	32.4	Pass
T12	285 - 260	Leg	4 3/4	463	-331.88	525.46	63.2	Pass
		Diagonal	5/8	501	10.48	8.83	118.7	Fail
		Horizontal	L2x2 1/2x3/16	497	-8.16	8.78	92.9	Pass
		Top Girt	L2x2 1/2x3/16	466	-3.90	8.78	44.4	Pass
		Bottom Girt	L2x2 1/2x3/16	470	-3.45	8.78	39.3	Pass
T13	260 - 235	Leg	4 3/4	505	-291.68	525.46	55.5	Pass
		Diagonal	5/8	543	8.14	8.83	92.1	Pass
		Horizontal	L2x2 1/2x3/16	539	-5.66	8.78	64.4	Pass
		Top Girt	L2x2 1/2x3/16	509	-3.43	8.78	39.0	Pass
		Bottom Girt	L2x2 1/2x3/16	512	-1.53	8.78	17.4	Pass
T14	235 - 210	Leg	4 3/4	547	-270.85	525.46	51.5	Pass
		Diagonal	5/8	585	3.21	8.83	36.3	Pass
		Horizontal	L2x2 1/2x3/16	581	-2.13	6.59	32.4	Pass
		Top Girt	L2x2 1/2x3/16	551	-1.14	6.59	17.4	Pass
		Bottom Girt	L2x2 1/2x3/16	554	-1.51	6.59	22.9	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
T15	210 - 185	Leg	5	590	-278.42	596.38	46.7	Pass
		Diagonal	7/8	599	7.38	17.31	42.6 67.1 (b)	Pass
		Horizontal	L2x2 1/2x3/16	604	-5.27	8.82	59.8	Pass
		Top Girt	L2x2 1/2x3/16	593	-1.55	6.61	23.5	Pass
		Bottom Girt	L2x2 1/2x3/16	595	-2.68	8.82	30.4	Pass
T16	185 - 160	Leg	5 1/4	632	-310.53	671.27	46.3	Pass
		Diagonal	1	641	12.05	22.61	53.3 70.2 (b)	Pass
		Horizontal	L2 1/2x2 1/2x1/4	646	-9.33	17.28	54.0 54.3 (b)	Pass
		Top Girt	L2 1/2x2 1/2x1/4	634	-3.92	17.28	22.7 22.8 (b)	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	639	-4.54	12.96	35.0	Pass
T17	160 - 135	Leg	5 1/2	674	-335.38	750.12	44.7	Pass
		Diagonal	1 1/4	702	18.72	35.33	53.0 75.7 (b)	Pass
		Horizontal	L2 1/2x2 1/2x1/4	689	-14.13	17.41	81.2	Pass
		Top Girt	L2 1/2x2 1/2x1/4	678	-4.28	13.06	32.8	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	680	-6.84	17.41	39.3	Pass
		Guy A@153.708	1 3/4	942	78.90	188.00	42.0	Pass
		Guy B@153.708	1 3/4	941	78.97	188.00	42.0	Pass
		Guy C@153.708	1 3/4	940	78.97	188.00	42.0	Pass
		Top Guy Pull-Off@153.708	L2 1/2x2 1/2x1/4	708	16.14	34.26	53.3	Pass
T18	135 - 110	Leg	5 1/4	716	-277.27	671.27	41.3	Pass
		Diagonal	1	753	15.81	22.61	69.9	Pass
		Horizontal	L2 1/2x2 1/2x1/4	750	-11.87	17.62	67.4	Pass
		Top Girt	L2 1/2x2 1/2x1/4	719	-6.80	17.62	38.6	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	723	-6.36	17.62	36.1	Pass
T19	110 - 85	Leg	5 1/4	758	-226.00	671.27	33.7	Pass
		Diagonal	7/8	798	11.59	17.31	67.0	Pass
		Horizontal	L2x2x3/16	792	-8.68	8.30	104.6	Fail
		Top Girt	L2x2x3/16	762	-3.87	8.30	46.6	Pass
		Bottom Girt	L2x2x3/16	765	-3.40	8.30	40.9	Pass
T20	85 - 60	Leg	5 1/4	801	-194.86	671.27	29.0	Pass
		Diagonal	7/8	840	7.56	17.31	43.6	Pass
		Horizontal	L2x2x3/16	834	-5.45	8.30	65.6	Pass
		Top Girt	L2x2x3/16	804	-3.36	8.30	40.4	Pass
		Bottom Girt	L2x2x3/16	807	-1.68	6.23	27.0	Pass
T21	60 - 35	Leg	5 1/4	843	-198.22	671.27	29.5	Pass
		Diagonal	7/8	882	4.56	17.31	26.4	Pass
		Horizontal	L2x2x3/16	876	-2.98	6.23	47.8	Pass
		Top Girt	L2x2x3/16	846	-1.68	6.23	27.0	Pass
		Bottom Girt	L2x2x3/16	849	-1.68	6.23	26.9	Pass
T22	35 - 10	Leg	5 1/4	884	-196.27	671.27	29.2	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
		Diagonal	7/8	893	8.49	17.31	49.0	Pass
		Horizontal	L2x2x3/16	898	-5.15	8.30	62.1	Pass
		Top Girt	L2x2x3/16	888	-1.68	6.23	27.0	Pass
		Bottom Girt	L2x2x3/16	891	7.56	15.97	47.3	Pass
T23	10 - 0	Leg	5 1/4	926	-156.67	527.35	29.7	Pass
		Horizontal	L3x5x1/2	930	38.40	107.97	35.6	Pass
							Summary	
						Leg (T3)	102.9 (b)	Fail
						Diagonal (T12)	118.7	Fail
						Horizontal (T19)	104.6	Fail
						Top Girt (T9)	57.5	Pass
						Bottom Girt (T9)	57.5	Pass
						Guy A (T3)	91.6	Pass
						Guy B (T3)	91.5	Pass
						Guy C (T3)	91.4	Pass
						Top Guy Pull-Off (T3)	72.8	Pass
						Bolt Checks	102.9	Fail
						Rating =	118.7	Fail

Table 6 - Tower Component Stresses vs. Capacity - LC1

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Base Foundation Soil Interaction	0	32.1 %	Pass
2	Guy Anchor Foundation (Comp. w/ Design Loads)	0	76.4 %	Pass

Structure Rating (max from all components) =	**118.7%**

Notes:
1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
2) Foundation capacity determined by comparing analysis reactions to original design reactions.

4.1) Recommendations

We recommend replacing the overstressed, horizontals, and bolts, and adding horizontals to the overstressed diagonals. All modifications would need to be engineered. The foundations are satisfactory for the proposed loads and do not require modifications.

5) DISCLAIMER OF WARRANTIES

GPD ASSOCIATES has not performed a site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD ASSOCIATES in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

GPD ASSOCIATES does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD ASSOCIATES provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD ASSOCIATES, but are beyond the scope of this report.

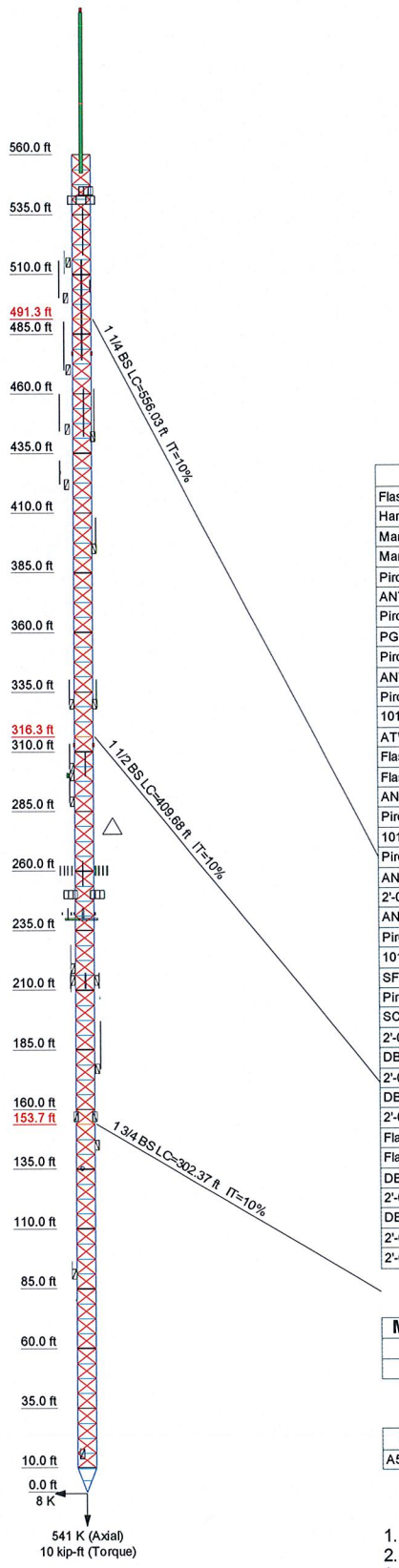
Miscellaneous items such as antenna mounts, etc. have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

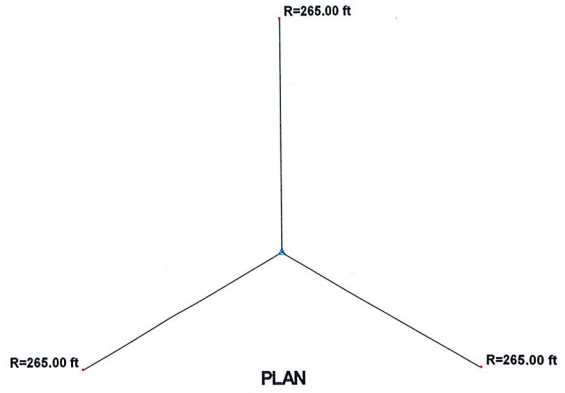
GPD ASSOCIATES makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD ASSOCIATES will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD ASSOCIATES pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

RISA TOWER OUTPUT

Section	T23	T22	T21	T20	T19	T18	T17	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs			SR 5 1/4				SR 5 1/2	SR 5 1/4	SR 5		SR 5/8	SR 4 3/4		SR 5 1/4	SR 4 3/4		SR 4 1/4				SR 4 1/2		SR 4
Leg Grade												A572-50											
Diagonals	A		SR 7/8			SR 1	SR 1 1/4	SR 1	SR 7/8				SR 1	SR 1 1/4	SR 1	SR 3/4		SR 5/8		SR 1	SR 1 1/4		SR 1
Diagonal Grade	A											A36											
Top Girts	A		L2x2x3/16			L2 1/2x2 1/2x1/4				L2x2 1/2x3/16			L2 1/2x2 1/2x1/4					L2x2x3/16			L2 1/2x2 1/2x1/4		
Bottom Girts	A		L2x2x3/16			L2 1/2x2 1/2x1/4				L2x2 1/2x3/16			L2 1/2x2 1/2x1/4					L2x2x3/16			L2 1/2x2 1/2x1/4		
Horizontals	B		L2x2x3/16			L2 1/2x2 1/2x1/4				L2x2 1/2x3/16			L2 1/2x2 1/2x1/4			L2x2x1/4		L2x2x3/16			L2 1/2x2 1/2x1/4		
Top Guy Pull-Offs				N.A.			C				N.A.			C				N.A.			C		N.A.
Face Width (ft)												84 @ 6.20833											4 @ 6.22917
# Panels @ (ft)							D																8
Weight (K)	130.9	2.9	6.6	6.6	6.6	7.0	7.9	7.0	6.1	5.4	5.4	5.4	5.9	7.4	5.9	4.5	4.4	4.4	4.4	5.5	5.8	4.6	4.6





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Flash Beacon Lighting	620	SPD2-5.8	300
Harris TWS-30-18	557	2'-0" - STANDOFF	289
Man Platform	545	DB636-C	289
Man Platform	541	Pirod 4' Side Mount Standoff (1)	254
Pirod 4' Side Mount Standoff (1)	518	DB810M-XC	254
ANT150F6	518	(4) AP859012-42T0	250
Pirod 4' Side Mount Standoff (1)	515	(4) 844G65VTZASX	250
PG1NOF-0093-8	515	Rohn 6'x12' Boom Gate (1)	250
Pirod 4' Side Mount Standoff (1)	505	Rohn 6'x12' Boom Gate (1)	250
ANT150F2	505	FR90-16-02DP	240
Pirod 6' Side Mount Standoff (1)	500	FR90-16-02DP	240
101-68-10-0-03N	500	(2) KRY 112 71	240
ATW25HS3-HSO-46H	495	(2) KRY 112 71	240
Flash Beacon Lighting	476	PiROD 12' Lightweight T-Frame (GPD)	240
Flash Beacon Lighting	476		
ANT150F6	470	PiROD 12' Lightweight T-Frame (GPD)	240
Pirod 4' Side Mount Standoff (1)	470		
101-68-10-0-03N	445	2'-0" - STANDOFF	219
Pirod 6' Side Mount Standoff (1)	445	ANT150F6	219
ANT150F6	442	2'-0" - STANDOFF	214
2'-0" - STANDOFF	442	742-213 w/Mount Pipe	214
ANT150F6	442	742-213 w/Mount Pipe	214
Pirod 4' Side Mount Standoff (1)	442	742-213 w/Mount Pipe	214
101D-90-06-0-03 w/Mount Pipe	422	2'-0" - STANDOFF	214
SFCP 800/1850 TMA	422	2'-0" - STANDOFF	214
Pirod 6' Side Mount Standoff (1)	422	Pirod 4' Side Mount Standoff (1)	177
SC233	395	ANT150F6	177
2'-0" - STANDOFF	395	Side Light	157
DB636-C	330	Side Light	157
2'-0" - STANDOFF	330	Side Light	157
DB636-C	330	2'-0" - STANDOFF	145
2'-0" - STANDOFF	330	SPD2-5.8	140
Flash Beacon Lighting	312	2'-0" - STANDOFF	140
Flash Beacon Lighting	312	201-8 W/ Pipe Mount	116
DB636-C	303	ANT150F2	91
2'-0" - STANDOFF	303	2'-0" - STANDOFF	91
DB636-C	300	Acutime 2000	79
2'-0" - STANDOFF	300	Side Light	16
2'-0" - STANDOFF	300		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	N.A.	C	L2 1/2x2 1/2x1/4
B	L3x5x1/2	D	2 @ 4.95833

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

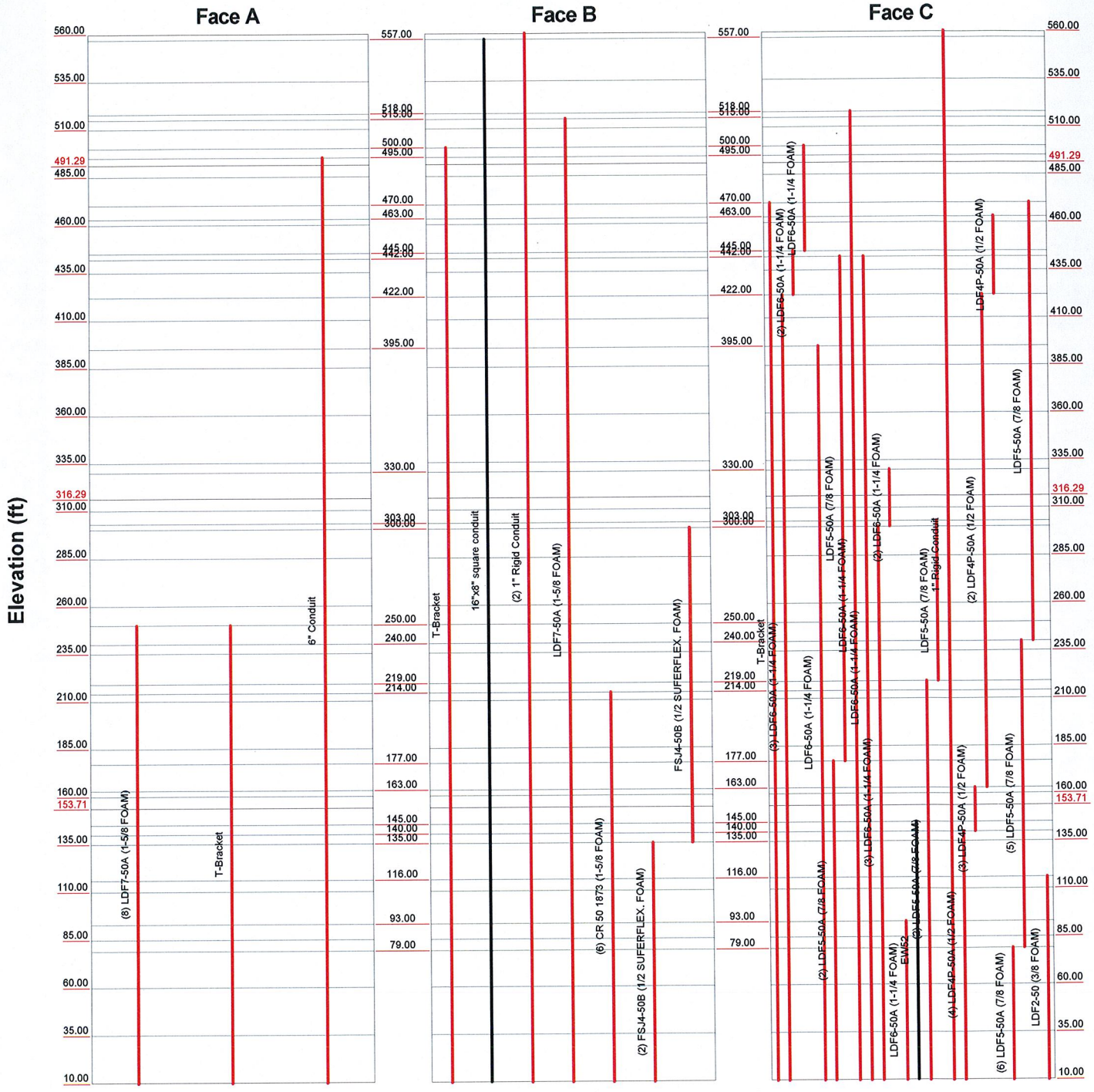
1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 69 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 60 mph wind.
5. TOWER RATING: 118.7%

GPD GROUP
GPD Associates
520 South Main St. Suite 2531
Akron, OH 44311
Phone: (330) 572-2100
FAX: (330) 572-2101

Job: *Avon (Deercliff Rd.), BU#: 870800*			
Project: *2008280.61*			
Client: Crown Castle	Drawn by: ZSHEETS	App'd:	
Code: TIA/EIA-222-F	Date: 10/22/08	Scale: NTS	
Path: G:\Telecom\2008280\61\RISA\870800.eri		Dwg No. E-1	

Feedline Distribution Chart
10' - 560'

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



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Job: ***Avon (Deercliff Rd.), BU#: 870800***			
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Client: Crown Castle	Drawn by: ZSHEETS	App'd:	
Code: TIA/EIA-222-F	Date: 10/22/08	Scale: NTS	
Path: G:\Telecom\2008280\61\RISA\870800.eri		Dwg No. E-7	

Tower Input Data

The main tower is a 3x guyed tower with an overall height of 560.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 8.00 ft at the top and tapered at the base.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Hartford County, Connecticut.
Basic wind speed of 80 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 69 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
Tension only take-up is 0.0313 in.
Pressures are calculated at each section.
Safety factor used in guy design is 2.
Stress ratio used in tower member design is 1.333.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF7-50A (1-5/8 FOAM)	A	No	Ar (Leg)	250.00 - 8.00	0.0000	0.1	8	4	0.2500	1.9800		0.82
T-Bracket	A	No	Ar (Leg)	250.00 - 8.00	0.0000	0.1	1	1	0.2500	0.0000		10.00
T-Bracket	B	No	Ar (Leg)	500.00 - 8.00	0.0000	0.1	1	1	0.2500	0.0000		10.00
T-Bracket	C	No	Ar (Leg)	470.00 - 8.00	0.0000	0.1	1	1	0.2500	0.0000		10.00
6" Conduit	A	No	Ar (Leg)	495.00 - 8.00	0.0000	0.4	1	1	6.0000	6.0000		1.00
16"x8" square conduit	B	No	Af (Leg)	557.00 - 8.00	0.0000	0.5	1	1	8.0000	8.0000	48.0000	1.00
1" Rigid Conduit	B	No	Ar (CfAe)	560.00 - 8.00	-4.0000	0.1	2	1	1.0000	1.0000		0.50
LDF7-50A (1-5/8 FOAM)	B	No	Ar (CfAe)	515.00 - 8.00	-8.0000	0.12	1	1	1.0000	1.9800		0.82
CR 50 1873 (1-5/8 FOAM)	B	No	Ar (Leg)	214.00 - 8.00	0.0000	0.1	6	3	1.0000	1.9800		0.83
FSJ4-50B (1/2 SUFERFLEX. FOAM)	B	No	Ar (Leg)	135.00 - 8.00	0.0000	0.16	2	2	0.5200	0.5200		0.14
FSJ4-50B (1/2 SUFERFLEX. FOAM)	B	No	Ar (Leg)	300.00 - 135.00	0.0000	0.16	1	1	0.5200	0.5200		0.14
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	422.00 - 8.00	-1.0000	-0.33	3	3	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	445.00 - 422.00	-1.0000	-0.33	2	2	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	500.00 - 445.00	-1.0000	-0.33	1	1	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	395.00 - 8.00	-1.0000	-0.15	1	1	1.0000	1.5500		0.66
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	177.00 - 8.00	-1.0000	-0.1	2	2	1.0000	1.0900		0.33

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	442.00 - 177.00	-1.0000	-0.1	1	1	1.0000	1.0900		0.33
LDF6-50A (1-1/4 FOAM)	C	No	Ar (CfAe)	518.00 - 8.00	-8.0000	-0.1	1	1	1.5500	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	442.00 - 8.00	-6.0000	-0.08	1	1	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	300.00 - 8.00	-5.0000	-0.02	3	1	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	330.00 - 300.00	-5.0000	-0.02	2	2	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	C	Yes	Ar (CfAe)	93.00 - 8.00	-2.0000	0.02	1	1	1.0000	1.5500		0.66
EW52	C	Yes	Af (CfAe)	145.00 - 8.00	-4.0000	0.04	1	1	1.7426	1.7426	5.5505	0.59
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	219.00 - 8.00	-2.0000	0.15	2	1	1.0000	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	303.00 - 219.00	-1.0000	0.15	1	1	1.0000	1.0900		0.33
1" Rigid Conduit	C	Yes	Ar (CfAe)	560.00 - 8.00	-1.0000	0.18	1	1	1.0000	1.0000		0.50
LDF4P-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	140.00 - 8.00	-4.0000	0.16	4	4	0.6300	0.6300		0.15
LDF4P-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	163.00 - 140.00	-4.0000	0.16	3	3	0.6300	0.6300		0.15
LDF4P-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	422.00 - 163.00	-4.0000	0.16	2	2	0.6300	0.6300		0.15
LDF4P-50A (1/2 FOAM)	C	Yes	Ar (CfAe)	463.00 - 422.00	-4.0000	0.16	1	1	0.6300	0.6300		0.15
LDF5-50A (7/8 FOAM)	C	No	Ar (Leg)	79.00 - 8.00	0.0000	0.1	6	6	1.0000	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	No	Ar (Leg)	240.00 - 79.00	0.0000	0.1	5	5	1.0000	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	No	Ar (Leg)	470.00 - 240.00	0.0000	0.1	1	1	1.0000	1.0900		0.33
LDF2-50 (3/8 FOAM)	C	No	Ar (Leg)	116.00 - 8.00	0.0000	0.1	1	1	0.4400	0.4400		0.08

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Harris TWS-30-18	C	From Centroid-Leg	0.00 0.00 29.00	0.0000	557.00	No Ice 1/2" Ice	201.30 208.27	201.30 208.27	9.00 10.27
Flash Beacon Lighting	C	None		0.0000	620.00	No Ice 1/2" Ice	2.70 3.10	2.70 3.10	0.05 0.07
Man Platform	C	None		0.0000	541.00	No Ice 1/2" Ice	3.77 4.83	3.77 4.83	0.13 0.17
Man Platform	B	From Face	0.00 0.00 0.00	0.0000	545.00	No Ice 1/2" Ice	3.77 4.83	3.77 4.83	0.13 0.17
Pirod 4' Side Mount Standoff (1)	A	From Leg	1.97 0.35 0.00	10.0000	518.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
ANT150F6	A	From Leg	3.94 0.69 10.00	10.0000	518.00	No Ice 1/2" Ice	4.80 6.83	4.80 6.83	0.03 0.07
Pirod 4' Side Mount Standoff (1)	C	From Leg	2.00 0.00 0.00	0.0000	515.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
PG1NOF-0093-8	C	From Leg	4.00 0.00 0.00	0.0000	515.00	No Ice 1/2" Ice	2.98 4.01	2.98 4.01	0.03 0.05
Pirod 4' Side Mount Standoff (1)	A	From Leg	1.00 1.73 0.00	60.0000	505.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
ANT150F2	A	From Leg	2.00 3.46 0.00	60.0000	505.00	No Ice 1/2" Ice	1.29 1.60	1.29 1.60	0.01 0.02
Pirod 6' Side Mount Standoff (1)	C	From Leg	2.96 0.53 0.00	10.0000	500.00	No Ice 1/2" Ice	4.97 6.12	4.97 6.12	0.07 0.13
101-68-10-0-03N	C	From Leg	5.91 1.04 8.00	10.0000	500.00	No Ice 1/2" Ice	5.48 7.09	5.48 7.09	0.07 0.11
Flash Beacon Lighting	B	From Leg	0.00 0.00 0.00	0.0000	476.00	No Ice 1/2" Ice	2.70 3.10	2.70 3.10	0.05 0.07
Flash Beacon Lighting	C	From Leg	0.00 0.00 0.00	0.0000	476.00	No Ice 1/2" Ice	2.70 3.10	2.70 3.10	0.05 0.07
Pirod 4' Side Mount Standoff (1)	C	From Leg	1.97 0.35 0.00	10.0000	470.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
ANT150F6	C	From Leg	3.94 0.69 10.00	10.0000	470.00	No Ice 1/2" Ice	4.80 6.83	4.80 6.83	0.03 0.07
Pirod 6' Side Mount Standoff (1)	C	From Leg	2.46 0.53 0.00	10.0000	445.00	No Ice 1/2" Ice	4.97 6.12	4.97 6.12	0.07 0.13
101-68-10-0-03N	C	From Leg	5.91 1.04 7.00	10.0000	445.00	No Ice 1/2" Ice	5.48 7.09	5.48 7.09	0.07 0.11
Pirod 4' Side Mount Standoff (1)	A	From Leg	1.97 0.35 0.00	10.0000	442.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
ANT150F6	A	From Leg	3.94 0.69 10.00	10.0000	442.00	No Ice 1/2" Ice	4.80 6.83	4.80 6.83	0.03 0.07
2'-0" - STANDOFF	B	From Leg	0.87 0.50 0.00	30.0000	442.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
ANT150F6	B	From Leg	1.73 1.00 10.00	30.0000	442.00	No Ice 1/2" Ice	4.80 6.83	4.80 6.83	0.03 0.07
Pirod 6' Side Mount Standoff (1)	C	From Leg	2.96 0.53 0.00	10.0000	422.00	No Ice 1/2" Ice	4.97 6.12	4.97 6.12	0.07 0.13
101D-90-06-0-03 w/Mount Pipe	C	From Leg	5.91 1.04 5.00	10.0000	422.00	No Ice 1/2" Ice	5.83 6.98	7.50 9.37	0.07 0.12

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
SFCP 800/1850 TMA	C	From Leg	5.91 1.04 5.00	10.0000	422.00	No Ice 1/2" Ice	1.02 1.16	0.29 0.39	0.00 0.01
2'-0" - STANDOFF	B	From Leg	0.99 0.18 0.00	10.0000	395.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
SC233	B	From Leg	1.97 0.35 7.00	10.0000	395.00	No Ice 1/2" Ice	1.81 3.04	1.81 3.04	0.00 0.02
2'-0" - STANDOFF	B	From Leg	0.99 0.18 0.00	10.0000	330.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
DB636-C	B	From Leg	1.97 0.65 5.00	10.0000	330.00	No Ice 1/2" Ice	2.51 3.59	2.51 3.59	0.03 0.05
2'-0" - STANDOFF	C	From Leg	0.99 0.18 0.00	10.0000	330.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
DB636-C	C	From Leg	1.97 0.65 5.00	10.0000	330.00	No Ice 1/2" Ice	2.51 3.59	2.51 3.59	0.03 0.05
Flash Beacon Lighting	B	From Leg	0.00 0.00 0.00	0.0000	312.00	No Ice 1/2" Ice	2.70 3.10	2.70 3.10	0.05 0.07
Flash Beacon Lighting	C	From Leg	0.00 0.00 0.00	0.0000	312.00	No Ice 1/2" Ice	2.70 3.10	2.70 3.10	0.05 0.07
2'-0" - STANDOFF	C	From Leg	0.99 0.18 0.00	10.0000	303.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
DB636-C	C	From Leg	1.97 0.65 5.00	10.0000	303.00	No Ice 1/2" Ice	2.51 3.59	2.51 3.59	0.03 0.05
2'-0" - STANDOFF	A	From Leg	0.99 0.18 0.00	10.0000	300.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
DB636-C	A	From Leg	1.97 0.65 5.00	10.0000	300.00	No Ice 1/2" Ice	2.51 3.59	2.51 3.59	0.03 0.05
2'-0" - STANDOFF	C	From Leg	0.99 0.18 0.00	10.0000	300.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
2'-0" - STANDOFF	C	From Leg	0.99 0.18 0.00	10.0000	289.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
DB636-C	C	From Leg	1.97 0.65 5.00	10.0000	289.00	No Ice 1/2" Ice	2.51 3.59	2.51 3.59	0.03 0.05
Pirod 4' Side Mount Standoff (1)	A	From Leg	1.97 -0.35 0.00	-10.0000	254.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
DB810M-XC	A	From Leg	3.94 -0.69 5.00	-10.0000	254.00	No Ice 1/2" Ice	2.12 3.14	2.12 3.14	0.03 0.05
Rohn 6'x12' Boom Gate (1)	B	From Leg	1.97 0.35 0.00	10.0000	250.00	No Ice 1/2" Ice	19.15 25.12	5.01 8.12	0.56 0.70

RISATower	Job: Avon (Deercliff Rd.), BU#: 870800	Page: 5 of 15
GPD Associates 520 South Main St. Suite 2531 Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2101	Project: 2008280.61	Date: 11:52:42 10/22/08
	Client: Crown Castle	Designed by: ZSHEETS

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Rohn 6'x12' Boom Gate (1)	C	From Leg	1.97 0.35 0.00	10.0000	250.00	No Ice 1/2" Ice	19.15 25.12	5.01 8.12	0.56 0.70
(4) AP859012-42T0	C	From Leg	3.94 0.69 10.00	10.0000	250.00	No Ice 1/2" Ice	2.87 3.18	3.73 4.10	0.01 0.03
(4) 844G65VTZASX	B	From Leg	3.94 0.69 10.00	10.0000	250.00	No Ice 1/2" Ice	5.83 6.23	3.97 4.34	0.02 0.05
PiROD 12' Lightweight T-Frame (GPD)	A	From Leg	1.97 -0.35 0.00	-10.0000	240.00	No Ice 1/2" Ice	10.20 16.20	2.94 4.96	0.25 0.35
PiROD 12' Lightweight T-Frame (GPD)	C	From Leg	1.97 -0.35 0.00	-10.0000	240.00	No Ice 1/2" Ice	10.20 16.20	2.94 4.96	0.25 0.35
FR90-16-02DP	A	From Leg	3.94 -0.69 2.00	-10.0000	240.00	No Ice 1/2" Ice	4.36 4.77	1.97 2.31	0.02 0.04
FR90-16-02DP	C	From Leg	3.94 -0.69 2.00	-10.0000	240.00	No Ice 1/2" Ice	4.36 4.77	1.97 2.31	0.02 0.04
(2) KRY 112 71	A	From Leg	3.94 -0.69 2.00	-10.0000	240.00	No Ice 1/2" Ice	0.73 0.86	0.43 0.54	0.01 0.02
(2) KRY 112 71	C	From Leg	3.94 -0.69 2.00	-10.0000	240.00	No Ice 1/2" Ice	0.73 0.86	0.43 0.54	0.01 0.02
2'-0" - STANDOFF	C	From Leg	0.82 0.55 0.00	35.0000	219.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
ANT150F6	C	From Leg	1.64 1.14 0.00	35.0000	219.00	No Ice 1/2" Ice	4.80 6.83	4.80 6.83	0.03 0.07
2'-0" - STANDOFF	A	From Leg	0.98 0.17 0.00	10.0000	214.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
2'-0" - STANDOFF	B	From Leg	0.77 -0.64 0.00	-40.0000	214.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
2'-0" - STANDOFF	C	From Leg	0.94 0.34 0.00	20.0000	214.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
742-213 w/Mount Pipe	A	From Leg	1.97 0.35 0.00	10.0000	214.00	No Ice 1/2" Ice	5.42 5.95	4.63 6.02	0.05 0.09
742-213 w/Mount Pipe	B	From Leg	1.53 -1.29 0.00	10.0000	214.00	No Ice 1/2" Ice	5.42 5.95	4.63 6.02	0.05 0.09
742-213 w/Mount Pipe	C	From Leg	1.88 0.68 0.00	10.0000	214.00	No Ice 1/2" Ice	5.42 5.95	4.63 6.02	0.05 0.09
Pirod 4' Side Mount Standoff (1)	B	From Leg	1.88 0.68 0.00	20.0000	177.00	No Ice 1/2" Ice	2.72 4.91	2.72 4.91	0.05 0.09
ANT150F6	B	From Leg	3.76 1.37 10.00	20.0000	177.00	No Ice 1/2" Ice	4.80 6.83	4.80 6.83	0.03 0.07

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
2'-0" - STANDOFF	B	From Leg	1.00 0.00 0.00	0.0000	145.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
2'-0" - STANDOFF	A	From Leg	0.77 -0.64 0.00	-40.0000	140.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
201-8 W/ Pipe Mount	C	From Leg	0.00 0.00 4.00	0.0000	116.00	No Ice 1/2" Ice	2.72 4.28	2.72 4.28	0.03 0.05
2'-0" - STANDOFF	C	From Leg	0.98 0.17 0.00	10.0000	91.00	No Ice 1/2" Ice	1.36 2.45	1.36 2.45	0.02 0.04
ANT150F2	C	From Leg	1.97 0.34 3.00	10.0000	91.00	No Ice 1/2" Ice	1.29 1.60	1.29 1.60	0.01 0.02
Acutime 2000	C	From Leg	0.00 0.00 1.00	0.0000	79.00	No Ice 1/2" Ice	0.17 0.24	0.17 0.24	0.00 0.00
Side Light	A	From Face	0.00 0.00 0.00	0.0000	16.00	No Ice 1/2" Ice	0.33 0.47	0.33 0.47	0.01 0.01
Side Light	A	From Leg	0.00 0.00 0.00	0.0000	157.00	No Ice 1/2" Ice	0.33 0.47	0.33 0.47	0.01 0.01
Side Light	B	From Leg	0.00 0.00 0.00	0.0000	157.00	No Ice 1/2" Ice	0.33 0.47	0.33 0.47	0.01 0.01
Side Light	C	From Leg	0.00 0.00 0.00	0.0000	157.00	No Ice 1/2" Ice	0.33 0.47	0.33 0.47	0.01 0.01
Side Light	C	From Leg	0.00 0.00 0.00	0.0000	157.00	No Ice 1/2" Ice	0.33 0.47	0.33 0.47	0.01 0.01
ATW25HS3-HSO-46H	A	From Leg	2.00 0.00 0.00	0.0000	495.00	No Ice 1/2" Ice	36.16 40.42	36.16 40.42	0.48 0.72

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight K
SPD2-5.8	A	Paraboloid w/Shroud (HP)	From Leg	1.53 -1.29 -5.00	-40.0000		140.00	2.04	No Ice 1/2" Ice	3.27 3.55	0.03 0.05
SPD2-5.8	C	Paraboloid w/Shroud (HP)	From Leg	1.97 0.65 0.00	10.0000		300.00	2.00	No Ice 1/2" Ice	3.14 3.41	0.02 0.04

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	560 - 535	40.200	35	0.8266	0.3468
T2	535 - 510	35.856	35	0.8057	0.3465
T3	510 - 485	31.648	35	0.7621	0.3473
T4	485 - 460	27.745	35	0.7105	0.3492
T5	460 - 435	24.177	31	0.6712	0.3582
T6	435 - 410	20.797	31	0.6326	0.3666
T7	410 - 385	17.540	31	0.5922	0.3558
T8	385 - 360	14.411	31	0.5432	0.3367
T9	360 - 335	11.546	31	0.4794	0.3386
T10	335 - 310	9.089	31	0.4119	0.3354
T11	310 - 285	7.069	31	0.3430	0.3334
T12	285 - 260	5.606	31	0.2757	0.3013
T13	260 - 235	4.644	31	0.2257	0.2695
T14	235 - 210	3.722	31	0.1879	0.2590
T15	210 - 185	2.856	31	0.1551	0.2387
T16	185 - 160	2.097	31	0.1250	0.2296
T17	160 - 135	1.478	31	0.0926	0.2172
T18	135 - 110	1.119	31	0.0642	0.2097
T19	110 - 85	0.943	37	0.0476	0.1948
T20	85 - 60	0.807	37	0.0416	0.1709
T21	60 - 35	0.630	37	0.0423	0.1513
T22	35 - 10	0.396	37	0.0472	0.1282
T23	10 - 0	0.109	29	0.0511	0.0989

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
620.00	Flash Beacon Lighting	35	40.200	0.8266	0.3468	299621
557.00	Harris TWS-30-18	35	39.676	0.8247	0.3467	299621
545.00	Man Platform	35	37.586	0.8161	0.3465	99873
541.00	Man Platform	35	36.892	0.8124	0.3465	78847
518.00	Pirod 4' Side Mount Standoff (1)	35	32.969	0.7781	0.3471	28371
515.00	Pirod 4' Side Mount Standoff (1)	35	32.470	0.7723	0.3472	25914
505.00	Pirod 4' Side Mount Standoff (1)	35	30.840	0.7515	0.3475	22044
500.00	Pirod 6' Side Mount Standoff (1)	35	30.045	0.7408	0.3476	21456
495.00	ATW25HS3-HSO-46H	35	29.263	0.7303	0.3479	20899
491.29	Guy	35	28.693	0.7226	0.3483	20504
476.00	Flash Beacon Lighting	31	26.427	0.6952	0.3517	25258
470.00	Pirod 4' Side Mount Standoff (1)	31	25.572	0.6860	0.3539	30836
445.00	Pirod 6' Side Mount Standoff (1)	31	22.132	0.6482	0.3647	54478
442.00	Pirod 4' Side Mount Standoff (1)	31	21.730	0.6436	0.3656	55775
422.00	Pirod 6' Side Mount Standoff (1)	31	19.090	0.6121	0.3636	67335
395.00	2'-0" - STANDOFF	31	15.640	0.5645	0.3427	37314
330.00	2'-0" - STANDOFF	31	8.648	0.3983	0.3350	17113
316.29	Guy	31	7.530	0.3606	0.3343	14091
312.00	Flash Beacon Lighting	31	7.212	0.3486	0.3338	13347
303.00	2'-0" - STANDOFF	31	6.599	0.3233	0.3308	12634
300.00	SPD2-5.8	31	6.411	0.3150	0.3287	12485
289.00	2'-0" - STANDOFF	31	5.799	0.2856	0.3122	11970
254.00	Pirod 4' Side Mount Standoff (1)	31	4.426	0.2159	0.2679	68141
250.00	Rohn 6'x12' Boom Gate (1)	31	4.278	0.2096	0.2690	93802
240.00	PiROD 12' Lightweight T-Frame	31	3.906	0.1949	0.2644	163443

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
	(GPD)					
219.00	2'-0" - STANDOFF	31	3.156	0.1664	0.2431	71557
214.00	2'-0" - STANDOFF	31	2.988	0.1601	0.2405	67430
177.00	Pirod 4' Side Mount Standoff (1)	31	1.877	0.1148	0.2257	43676
157.00	Side Light	31	1.421	0.0888	0.2161	24470
153.71	Guy	31	1.364	0.0847	0.2150	26468
145.00	2'-0" - STANDOFF	31	1.235	0.0745	0.2127	34123
140.00	2'-0" - STANDOFF	31	1.173	0.0691	0.2113	40918
135.00	SPD2-5.8	31	1.119	0.0642	0.2097	50158
116.00	201-8 W/ Pipe Mount	37	0.975	0.0505	0.1995	106588
91.00	2'-0" - STANDOFF	37	0.842	0.0423	0.1766	200662
79.00	Acutime 2000	37	0.769	0.0413	0.1657	142993
16.00	Side Light	29	0.178	0.0506	0.1030	322358

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	560 - 535	98.425	10	1.8871	0.6043
T2	535 - 510	88.492	6	1.8497	0.6056
T3	510 - 485	78.741	6	1.7710	0.6080
T4	485 - 460	69.564	6	1.6779	0.6052
T5	460 - 435	61.042	6	1.6031	0.6228
T6	435 - 410	52.850	6	1.5234	0.6459
T7	410 - 385	44.854	6	1.4348	0.6842
T8	385 - 360	37.072	6	1.3250	0.6986
T9	360 - 335	29.936	6	1.1835	0.6980
T10	335 - 310	23.713	6	1.0370	0.6911
T11	310 - 285	18.489	6	0.8904	0.6856
T12	285 - 260	14.870	19	0.7393	0.6993
T13	260 - 235	12.466	19	0.6177	0.6979
T14	235 - 210	10.141	19	0.5170	0.6969
T15	210 - 185	7.873	19	0.4253	0.6373
T16	185 - 160	5.839	19	0.3414	0.5640
T17	160 - 135	4.083	19	0.2566	0.5107
T18	135 - 110	3.208	19	0.1826	0.4950
T19	110 - 85	2.829	19	0.1427	0.4952
T20	85 - 60	2.537	19	0.1319	0.4782
T21	60 - 35	2.000	19	0.1387	0.4217
T22	35 - 10	1.251	19	0.1520	0.3653
T23	10 - 0	0.345	19	0.1617	0.2441

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
620.00	Flash Beacon Lighting	10	98.425	1.8871	0.6043	269974
557.00	Harris TWS-30-18	10	97.231	1.8838	0.6044	269974
545.00	Man Platform	10	92.458	1.8684	0.6047	89991
541.00	Man Platform	10	90.870	1.8618	0.6050	71045
518.00	Pirod 4' Side Mount Standoff (1)	6	81.817	1.7999	0.6080	15812
515.00	Pirod 4' Side Mount Standoff (1)	6	80.657	1.7893	0.6082	13926

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
505.00	Pirod 4' Side Mount Standoff (1)	6	76.850	1.7520	0.6071	11178
500.00	Pirod 6' Side Mount Standoff (1)	6	74.986	1.7328	0.6059	10837
495.00	ATW25HS3-HSO-46H	6	73.150	1.7138	0.6045	10510
491.29	Guy	6	71.807	1.7000	0.6036	10280
476.00	Flash Beacon Lighting	6	66.435	1.6495	0.6111	13015
470.00	Pirod 4' Side Mount Standoff (1)	6	64.392	1.6320	0.6151	16387
445.00	Pirod 6' Side Mount Standoff (1)	6	56.099	1.5564	0.6359	30557
442.00	Pirod 4' Side Mount Standoff (1)	6	55.121	1.5466	0.6375	30774
422.00	Pirod 6' Side Mount Standoff (1)	6	48.674	1.4789	0.6712	45151
395.00	2'-0" - STANDOFF	6	40.135	1.3728	0.6947	16195
330.00	2'-0" - STANDOFF	6	22.578	1.0081	0.6892	7460
316.29	Guy	6	19.688	0.9282	0.6853	5608
312.00	Flash Beacon Lighting	6	18.861	0.9025	0.6853	5227
303.00	2'-0" - STANDOFF	6	17.265	0.8472	0.6885	5314
300.00	SPD2-5.8	6	16.774	0.8286	0.6902	5442
289.00	2'-0" - STANDOFF	19	15.321	0.7621	0.6973	5971
254.00	Pirod 4' Side Mount Standoff (1)	19	11.915	0.5923	0.7089	24902
250.00	Rohn 6'x12' Boom Gate (1)	19	11.543	0.5759	0.7115	29879
240.00	PiROD 12' Lightweight T-Frame (GPD)	19	10.609	0.5363	0.7051	54061
219.00	2'-0" - STANDOFF	19	8.666	0.4572	0.6602	22549
214.00	2'-0" - STANDOFF	19	8.221	0.4393	0.6474	19287
177.00	Pirod 4' Side Mount Standoff (1)	19	5.217	0.3141	0.5463	16654
157.00	Side Light	19	3.930	0.2468	0.5069	6764
153.71	Guy	19	3.780	0.2364	0.5037	7436
145.00	2'-0" - STANDOFF	19	3.464	0.2100	0.4989	10235
140.00	2'-0" - STANDOFF	19	3.324	0.1958	0.4971	13057
135.00	SPD2-5.8	19	3.208	0.1826	0.4950	15853
116.00	201-8 W/ Pipe Mount	19	2.899	0.1493	0.4918	26212
91.00	2'-0" - STANDOFF	19	2.621	0.1319	0.4868	26528
79.00	Acutime 2000	19	2.433	0.1334	0.4670	24044
16.00	Side Light	19	0.562	0.1890	0.3002	48791

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	560	Diagonal	A325N	0.7500	2	4.90	9.28	0.528 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	3.58	9.28	0.386 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	1.79	9.28	0.193 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	2.01	9.28	0.217 ✓	1.333	Bolt Shear
T2	535	Leg	A325N	0.6250	6	10.27	13.36	0.769 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	6.49	9.28	0.699 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	4.88	9.28	0.526 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	2.02	9.28	0.218 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	2.72	9.28	0.293 ✓	1.333	Bolt Shear
T3	510	Leg	A325N	0.6250	6	18.18	13.25	1.372 ✗	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	8.59	9.28	0.926 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	6.26	9.28	0.675 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	2.75	9.28	0.297 ✓	1.333	Bolt Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Bottom Girt	A325N	0.7500	2	2.49	9.28	0.269 ✔	1.333	Bolt Shear
T4	485	Leg	A325N	0.6250	6	11.70	13.48	0.868 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.8750	2	3.96	12.63	0.314 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.8750	2	2.91	12.63	0.230 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.8750	2	2.58	12.63	0.205 ✔	1.333	Bolt Shear
		Bottom Girt	A325N	0.8750	2	1.46	12.63	0.115 ✔	1.333	Bolt Shear
T5	460	Leg	A325N	0.6250	6	7.13	13.48	0.529 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	2.23	9.28	0.240 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	1.63	9.28	0.175 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	0.88	9.28	0.095 ✔	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	0.78	9.28	0.084 ✔	1.333	Bolt Shear
T6	435	Leg	A325N	0.6250	6	5.27	13.50	0.391 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.5000	2	3.38	4.12	0.819 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	2.51	4.12	0.608 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	0.80	4.12	0.193 ✔	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	1.44	4.12	0.349 ✔	1.333	Bolt Shear
T7	410	Leg	A325N	0.6250	6	5.97	13.48	0.443 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.5000	2	4.58	4.12	1.110 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	3.53	4.12	0.856 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	1.46	4.12	0.354 ✔	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	1.99	4.12	0.482 ✔	1.333	Bolt Shear
T8	385	Leg	A325N	0.6250	6	8.98	13.45	0.668 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.6250	2	5.83	6.44	0.905 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	4.49	4.12	1.089 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	2.00	4.12	0.486 ✔	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	1.91	4.12	0.463 ✔	1.333	Bolt Shear
T9	360	Leg	A325N	0.6250	6	14.19	13.31	1.066 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.6250	2	7.38	6.44	1.145 ✔	1.333	Bolt Shear
		Horizontal	SAEGR-8	0.5000	2	5.66	7.85	0.721 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	3.16	4.12	0.767 ✔	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	3.16	4.12	0.766 ✔	1.333	Bolt Shear
T10	335	Leg	A325N	1.0000	6	21.51	34.47	0.624 ✔	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	8.40	9.28	0.905 ✔	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	6.51	9.28	0.702 ✔	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	3.19	9.28	0.344 ✔	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	2.90	9.28	0.312 ✔	1.333	Bolt Shear
T11	310	Leg	A325N	1.0000	6	16.11	34.48	0.467 ✔	1.333	Bolt Tension
		Diagonal	A325N	1.0000	2	7.25	16.49	0.439 ✔	1.333	Bolt Shear
		Horizontal	A325N	1.0000	2	5.58	16.49	0.338 ✔	1.333	Bolt Shear
		Top Girt	A325N	1.0000	2	3.04	16.49	0.184 ✔	1.333	Bolt Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Bottom Girt	A325N	1.0000	2	2.84	16.49	0.172 ✓	1.333	Bolt Shear
T12	285	Leg	A325N	0.6250	6	7.11	13.29	0.535 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	2	5.24	4.12	1.271 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	4.08	4.12	0.989 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	1.95	4.12	0.472 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	1.73	4.12	0.419 ✓	1.333	Bolt Shear
T13	260	Leg	A325N	0.6250	6	0.36	13.41	0.027 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	2	4.07	4.12	0.987 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	2.83	4.12	0.686 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	1.71	4.12	0.415 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	0.76	4.12	0.185 ✓	1.333	Bolt Shear
T14	235	Leg	A325N	0.6250	6	0.00	13.48	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	2	1.60	4.12	0.389 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	1.13	4.12	0.275 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	0.75	4.12	0.182 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	0.80	4.12	0.193 ✓	1.333	Bolt Shear
T15	210	Leg	A325N	0.6250	6	0.00	13.48	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	2	3.69	4.12	0.895 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.5000	2	2.64	4.12	0.639 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.5000	2	0.82	4.12	0.199 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.5000	2	1.34	4.12	0.325 ✓	1.333	Bolt Shear
T16	185	Leg	A325N	1.0000	6	0.00	34.52	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.6250	2	6.02	6.44	0.935 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.6250	2	4.67	6.44	0.724 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.6250	2	1.96	6.44	0.305 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.6250	2	2.97	6.44	0.461 ✓	1.333	Bolt Shear
T17	160	Leg	A325N	1.0000	6	1.75	34.56	0.051 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	9.36	9.28	1.009 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	7.07	9.28	0.762 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	2.74	9.28	0.296 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	3.42	9.28	0.368 ✓	1.333	Bolt Shear
T18	135	Leg	A325N	1.0000	6	0.00	34.32	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	1.0000	2	7.91	16.49	0.479 ✓	1.333	Bolt Shear
		Horizontal	A325N	1.0000	2	5.94	16.49	0.360 ✓	1.333	Bolt Shear
		Top Girt	A325N	1.0000	2	3.40	16.49	0.206 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	1.0000	2	3.18	16.49	0.193 ✓	1.333	Bolt Shear
T19	110	Leg	A325N	1.0000	6	0.00	34.47	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	5.80	9.28	0.625 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	4.34	9.28	0.468 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	1.93	9.28	0.208 ✓	1.333	Bolt Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
		Bottom Girt	A325N	0.7500	2	1.70	9.28	0.183 ✓	1.333	Bolt Shear
T20	85	Leg	A325N	1.0000	6	0.00	34.51	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	3.78	9.28	0.407 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	2.72	9.28	0.294 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	1.68	9.28	0.181 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	1.02	9.28	0.110 ✓	1.333	Bolt Shear
T21	60	Leg	A325N	1.0000	6	0.00	34.54	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	2.28	9.28	0.246 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	1.64	9.28	0.177 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	1.01	9.28	0.109 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	0.84	9.28	0.090 ✓	1.333	Bolt Shear
T22	35	Leg	A325N	1.0000	6	0.00	34.55	0.000 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.7500	2	4.24	9.28	0.458 ✓	1.333	Bolt Shear
		Horizontal	A325N	0.7500	2	2.58	9.28	0.278 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.7500	2	0.85	9.28	0.091 ✓	1.333	Bolt Shear
		Bottom Girt	A325N	0.7500	2	3.78	9.28	0.408 ✓	1.333	Bolt Shear
T23	10	Leg	A325N	0.6250	6	0.00	0.00	0.167 ✓	1.333	Bolt Tension

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T K	Allowable T_a K	Required S.F.	Actual S.F.
T3	491.29 (A) (936)	1 1/4 BS	19.20	192.00	87.90	96.00	2.000	2.184 ✓
	491.29 (B) (935)	1 1/4 BS	19.20	192.00	87.81	96.00	2.000	2.187 ✓
	491.29 (C) (934)	1 1/4 BS	19.20	192.00	87.79	96.00	2.000	2.187 ✓
T10	316.29 (A) (939)	1 1/2 BS	27.60	276.00	82.49	138.00	2.000	3.346 ✓
	316.29 (B) (938)	1 1/2 BS	27.60	276.00	82.43	138.00	2.000	3.348 ✓
	316.29 (C) (937)	1 1/2 BS	27.60	276.00	82.50	138.00	2.000	3.345 ✓
T17	153.71 (A) (942)	1 3/4 BS	37.60	376.00	78.90	188.00	2.000	4.766 ✓
	153.71 (B) (941)	1 3/4 BS	37.60	376.00	78.97	188.00	2.000	4.761 ✓
	153.71 (C) (940)	1 3/4 BS	37.60	376.00	78.97	188.00	2.000	4.761 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P_{allow} K	% Capacity	Pass Fail
T1	560 - 535	Leg	4	2	-71.90	335.71	21.4	Pass
		Diagonal	1	13	9.80	22.61	43.4	Pass
		Horizontal	L2 1/2x2 1/2x1/4	36	-5.73	12.90	44.4	Pass
		Top Girt	L2 1/2x2 1/2x1/4	6	-3.07	12.90	23.8	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	9	-3.05	12.90	23.6	Pass
T2	535 - 510	Leg	4	45	-125.52	336.52	37.3 57.7 (b)	Pass
		Diagonal	1	56	12.97	22.61	57.4	Pass
		Horizontal	L2 1/2x2 1/2x1/4	59	-9.76	17.19	56.8	Pass
		Top Girt	L2 1/2x2 1/2x1/4	48	-3.05	12.90	23.6	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	51	-5.43	17.19	31.6	Pass
T3	510 - 485	Leg	4 1/2	87	-185.17	458.51	40.4 102.9 (b)	Fail ✗
		Diagonal	1 1/4	107	17.18	35.33	48.6 69.5 (b)	Pass
		Horizontal	L2 1/2x2 1/2x1/4	111	-12.52	17.26	72.5	Pass
		Top Girt	L2 1/2x2 1/2x1/4	90	-5.50	17.26	31.9	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	91	-4.98	17.26	28.9	Pass
		Guy A@491.292	1 1/4	936	87.90	96.00	91.6	Pass
		Guy B@491.292	1 1/4	935	87.81	96.00	91.5	Pass
		Guy C@491.292	1 1/4	934	87.79	96.00	91.4	Pass
		Top Guy Pull-Off@491.292	L2 1/2x2 1/2x1/4	100	-3.45	5.12	72.8	Pass
T4	485 - 460	Leg	4 1/2	129	-177.05	458.51	38.6 65.1 (b)	Pass
		Diagonal	1	164	7.93	22.61	35.1	Pass
		Horizontal	L2 1/2x2 1/2x1/4	142	-5.31	13.05	40.7	Pass
		Top Girt	L2 1/2x2 1/2x1/4	130	-5.16	17.39	29.7	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	133	-2.58	13.05	19.8	Pass
T5	460 - 435	Leg	4 1/4	169	-168.16	395.53	42.5	Pass
		Diagonal	5/8	206	4.46	8.83	50.5	Pass
		Horizontal	L2x2x3/16	202	-3.25	8.18	39.7	Pass
		Top Girt	L2x2x3/16	172	-1.52	6.14	24.7	Pass
		Bottom Girt	L2x2x3/16	175	-1.24	6.14	20.2	Pass
T6	435 - 410	Leg	4 1/4	211	-189.05	395.53	47.8	Pass
		Diagonal	5/8	224	6.75	8.83	76.4	Pass
		Horizontal	L2x2x3/16	228	-5.02	8.00	62.7	Pass
		Top Girt	L2x2x3/16	214	-1.24	6.00	20.6	Pass
		Bottom Girt	L2x2x3/16	219	-2.88	8.00	36.0	Pass
T7	410 - 385	Leg	4 1/4	253	-225.35	395.53	57.0	Pass
		Diagonal	5/8	266	9.16	8.83	103.7	Fail ✗
		Horizontal	L2x2x3/16	270	-7.06	8.00	88.3	Pass
		Top Girt	L2x2x3/16	258	-2.92	8.00	36.5	Pass
		Bottom Girt	L2x2x3/16	261	-3.98	8.00	49.7	Pass
T8	385 - 360	Leg	4 1/4	295	-275.54	395.53	69.7	Pass
		Diagonal	3/4	309	11.66	12.72	91.7	Pass
		Horizontal	L2x2x1/4	312	-8.98	10.31	87.1	Pass
		Top Girt	L2x2x3/16	300	-4.01	8.00	50.1	Pass
		Bottom Girt	L2x2x3/16	303	-3.82	8.00	47.8	Pass
T9	360 - 335	Leg	4 3/4	337	-339.58	525.46	64.6 80.0 (b)	Pass
		Diagonal	1	351	14.76	22.61	65.3 85.9 (b)	Pass
		Horizontal	L2 1/2x2 1/2x1/4	354	-11.32	17.08	66.3	Pass
		Top Girt	L2 1/2x2 1/2x1/4	342	-6.33	17.08	37.0 57.5 (b)	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	345	-6.32	17.08	37.0 57.5 (b)	Pass

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GPD Associates 520 South Main St. Suite 2531 Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2101	Project: 2008280.61	Date: 11:52:42 10/22/08
	Client: Crown Castle	Designed by: ZSHEETS

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T10	335 - 310	Leg	5 1/4	379	-399.22	671.27	59.5	Pass
		Diagonal	1 1/4	402	16.80	35.33	47.5	Pass
							67.9 (b)	
		Horizontal	L2 1/2x2 1/2x1/4	405	-13.02	17.37	74.9	Pass
		Top Girt	L2 1/2x2 1/2x1/4	384	-6.38	17.37	36.7	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	385	-5.79	17.37	33.3	Pass
		Guy A@316.292	1 1/2	939	82.49	138.00	59.8	Pass
		Guy B@316.292	1 1/2	938	82.43	138.00	59.7	Pass
		Guy C@316.292	1 1/2	937	82.50	138.00	59.8	Pass
		Top Guy Pull-Off@316.292	L2 1/2x2 1/2x1/4	396	10.45	34.26	36.7	Pass
T11	310 - 285	Leg	4 3/4	421	-384.53	525.46	73.2	Pass
		Diagonal	1	458	14.50	22.61	64.1	Pass
		Horizontal	L2 1/2x2 1/2x1/4	454	-11.16	17.55	63.6	Pass
		Top Girt	L2 1/2x2 1/2x1/4	424	-6.08	17.55	34.7	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	427	-5.68	17.55	32.4	Pass
T12	285 - 260	Leg	4 3/4	463	-331.88	525.46	63.2	Pass
		Diagonal	5/8	501	10.48	8.83	118.7	Fail ✗
		Horizontal	L2x2 1/2x3/16	497	-8.16	8.78	92.9	Pass
		Top Girt	L2x2 1/2x3/16	466	-3.90	8.78	44.4	Pass
		Bottom Girt	L2x2 1/2x3/16	470	-3.45	8.78	39.3	Pass
T13	260 - 235	Leg	4 3/4	505	-291.68	525.46	55.5	Pass
		Diagonal	5/8	543	8.14	8.83	92.1	Pass
		Horizontal	L2x2 1/2x3/16	539	-5.66	8.78	64.4	Pass
		Top Girt	L2x2 1/2x3/16	509	-3.43	8.78	39.0	Pass
		Bottom Girt	L2x2 1/2x3/16	512	-1.53	8.78	17.4	Pass
T14	235 - 210	Leg	4 3/4	547	-270.85	525.46	51.5	Pass
		Diagonal	5/8	585	3.21	8.83	36.3	Pass
		Horizontal	L2x2 1/2x3/16	581	-2.13	6.59	32.4	Pass
		Top Girt	L2x2 1/2x3/16	551	-1.14	6.59	17.4	Pass
		Bottom Girt	L2x2 1/2x3/16	554	-1.51	6.59	22.9	Pass
T15	210 - 185	Leg	5	590	-278.42	596.38	46.7	Pass
		Diagonal	7/8	599	7.38	17.31	42.6	Pass
							67.1 (b)	
		Horizontal	L2x2 1/2x3/16	604	-5.27	8.82	59.8	Pass
		Top Girt	L2x2 1/2x3/16	593	-1.55	6.61	23.5	Pass
		Bottom Girt	L2x2 1/2x3/16	595	-2.68	8.82	30.4	Pass
T16	185 - 160	Leg	5 1/4	632	-310.53	671.27	46.3	Pass
		Diagonal	1	641	12.05	22.61	53.3	Pass
							70.2 (b)	
		Horizontal	L2 1/2x2 1/2x1/4	646	-9.33	17.28	54.0	Pass
							54.3 (b)	
		Top Girt	L2 1/2x2 1/2x1/4	634	-3.92	17.28	22.7	Pass
							22.8 (b)	
		Bottom Girt	L2 1/2x2 1/2x1/4	639	-4.54	12.96	35.0	Pass
T17	160 - 135	Leg	5 1/2	674	-335.38	750.12	44.7	Pass
		Diagonal	1 1/4	702	18.72	35.33	53.0	Pass
							75.7 (b)	
		Horizontal	L2 1/2x2 1/2x1/4	689	-14.13	17.41	81.2	Pass
		Top Girt	L2 1/2x2 1/2x1/4	678	-4.28	13.06	32.8	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	680	-6.84	17.41	39.3	Pass
		Guy A@153.708	1 3/4	942	78.90	188.00	42.0	Pass
		Guy B@153.708	1 3/4	941	78.97	188.00	42.0	Pass
		Guy C@153.708	1 3/4	940	78.97	188.00	42.0	Pass
		Top Guy Pull-Off@153.708	L2 1/2x2 1/2x1/4	708	16.14	34.26	53.3	Pass
T18	135 - 110	Leg	5 1/4	716	-277.27	671.27	41.3	Pass
		Diagonal	1	753	15.81	22.61	69.9	Pass
		Horizontal	L2 1/2x2 1/2x1/4	750	-11.87	17.62	67.4	Pass
		Top Girt	L2 1/2x2 1/2x1/4	719	-6.80	17.62	38.6	Pass
		Bottom Girt	L2 1/2x2 1/2x1/4	723	-6.36	17.62	36.1	Pass

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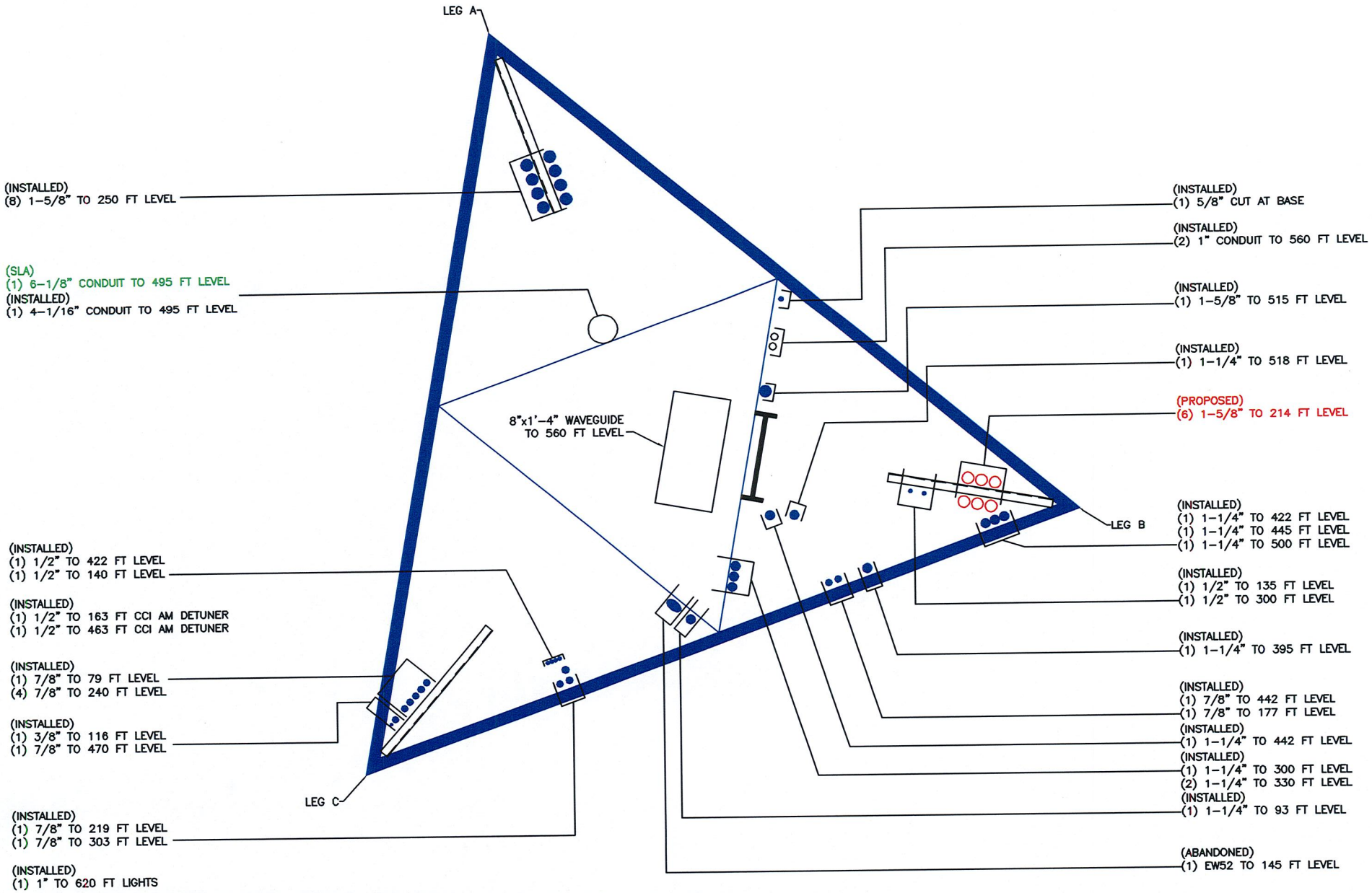
GPD Associates 520 South Main St. Suite 2531 Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2101	Project: 2008280.61	Date: 11:52:42 10/22/08
	Client: Crown Castle	Designed by: ZSHEETS

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P_{allow} K	% Capacity	Pass Fail
T19	110 - 85	Leg	5 1/4	758	-226.00	671.27	33.7	Pass
		Diagonal	7/8	798	11.59	17.31	67.0	Pass
		Horizontal	L2x2x3/16	792	-8.68	8.30	104.6	Fail ✗
		Top Girt	L2x2x3/16	762	-3.87	8.30	46.6	Pass
		Bottom Girt	L2x2x3/16	765	-3.40	8.30	40.9	Pass
T20	85 - 60	Leg	5 1/4	801	-194.86	671.27	29.0	Pass
		Diagonal	7/8	840	7.56	17.31	43.6	Pass
		Horizontal	L2x2x3/16	834	-5.45	8.30	65.6	Pass
		Top Girt	L2x2x3/16	804	-3.36	8.30	40.4	Pass
		Bottom Girt	L2x2x3/16	807	-1.68	6.23	27.0	Pass
T21	60 - 35	Leg	5 1/4	843	-198.22	671.27	29.5	Pass
		Diagonal	7/8	882	4.56	17.31	26.4	Pass
		Horizontal	L2x2x3/16	876	-2.98	6.23	47.8	Pass
		Top Girt	L2x2x3/16	846	-1.68	6.23	27.0	Pass
		Bottom Girt	L2x2x3/16	849	-1.68	6.23	26.9	Pass
T22	35 - 10	Leg	5 1/4	884	-196.27	671.27	29.2	Pass
		Diagonal	7/8	893	8.49	17.31	49.0	Pass
		Horizontal	L2x2x3/16	898	-5.15	8.30	62.1	Pass
		Top Girt	L2x2x3/16	888	-1.68	6.23	27.0	Pass
		Bottom Girt	L2x2x3/16	891	7.56	15.97	47.3	Pass
T23	10 - 0	Leg	5 1/4	926	-156.67	527.35	29.7	Pass
		Horizontal	L3x5x1/2	930	38.40	107.97	35.6	Pass
							Summary	
						Leg (T3)	102.9	Fail ✗
						Diagonal (T12)	118.7	Fail ✗
						Horizontal (T19)	104.6	Fail ✗
						Top Girt (T9)	57.5	Pass
						Bottom Girt (T9)	57.5	Pass
						Guy A (T3)	91.6	Pass
						Guy B (T3)	91.5	Pass
						Guy C (T3)	91.4	Pass
						Top Guy Pull-Off (T3)	72.8	Pass
						Bolt Checks	102.9	Fail ✗
						RATING =	**118.7**	**Fail ✗**

APPENDIX B

BASE LEVEL DRAWING


LEG A
(INSTALLED)
(8) 1-5/8" TO 250 FT LEVEL
(SLA)
(1) 6-1/8" CONDUIT TO 495 FT LEVEL
(INSTALLED)
(1) 4-1/16" CONDUIT TO 495 FT LEVEL
8"x1'-4" WAVEGUIDE
TO 560 FT LEVEL
(INSTALLED)
(1) 1/2" TO 422 FT LEVEL
(1) 1/2" TO 140 FT LEVEL
(INSTALLED)
(1) 1/2" TO 163 FT CCI AM DETUNER
(1) 1/2" TO 463 FT CCI AM DETUNER
(INSTALLED)
(1) 7/8" TO 79 FT LEVEL
(4) 7/8" TO 240 FT LEVEL
(INSTALLED)
(1) 3/8" TO 116 FT LEVEL
(1) 7/8" TO 470 FT LEVEL
LEG C
(INSTALLED)
(1) 7/8" TO 219 FT LEVEL
(1) 7/8" TO 303 FT LEVEL
(INSTALLED)
(1) 1" TO 620 FT LIGHTS
(INSTALLED)
(1) 5/8" CUT AT BASE
(INSTALLED)
(2) 1" CONDUIT TO 560 FT LEVEL
(INSTALLED)
(1) 1-5/8" TO 515 FT LEVEL
(INSTALLED)
(1) 1-1/4" TO 518 FT LEVEL
(PROPOSED)
(6) 1-5/8" TO 214 FT LEVEL
LEG B
(INSTALLED)
(1) 1-1/4" TO 422 FT LEVEL
(1) 1-1/4" TO 445 FT LEVEL
(1) 1-1/4" TO 500 FT LEVEL
(INSTALLED)
(1) 1/2" TO 135 FT LEVEL
(1) 1/2" TO 300 FT LEVEL
(INSTALLED)
(1) 1-1/4" TO 395 FT LEVEL
(INSTALLED)
(1) 7/8" TO 442 FT LEVEL
(1) 7/8" TO 177 FT LEVEL
(INSTALLED)
(1) 1-1/4" TO 442 FT LEVEL
(INSTALLED)
(1) 1-1/4" TO 300 FT LEVEL
(2) 1-1/4" TO 330 FT LEVEL
(INSTALLED)
(1) 1-1/4" TO 93 FT LEVEL
(ABANDONED)
(1) EW52 TO 145 FT LEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

GPD Project	2008280.61
Site Name	Avon (Deercliff Rd.)
Site ID	BU# 870800
Engineer	Z Sheets
Date	8/21/2008

FOUNDATION CAPACITY

GUYED TOWER

Tower Base

Axial Force (Kips)	541
Shear Force (Kips)	8
Width of base (ft)	15
Depth of Foundation (ft)	5.3
Allowable Bearing (ksf)	8
Required Bearing (ksf)	**2.56**
Tower Base Rating	**32.1%**