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ORIGINAL

November 20, 2009

Via Federal Express

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

Re: EM- POCKET-001-081208
AT&T Towers Telecommunications Facility
122 Route 6, Andover, Connecticut

Dear Mr. Phelps:

Pursuant to your letter dated January 20, 2009 (a copy of which is attached), I have enclosed a letter (post modification observation report) from the structural engineer certifying that the recommendations stated in the revised structural analysis report (also attached) have been implemented including the reinforcement of the base plate. The report indicates that the capacity for the tower is below 100%, and therefore acceptable.

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

Respectfully Submitted,

Carrie L. Larson

Enclosure

at&t
Martin Jelleme
AT&T Mobility
5405 Windward Pkwy.
Alpharetta, GA 30004
(770) 708-6124

GPD ASSOCIATES
Jeff Woods
520 South Main St., Suite 2531
Akron, Ohio 44311
(330) 572-2274
jwoods@gpdgroup.com

GPD# 2009513.00
March 18, 2009

POST MODIFICATION OBSERVATION REPORT

AT&T DESIGNATION:	Site USID:	27084
	Site FA:	10070910
	Site Name:	ANDOVER NORTH
POCKET DESIGNATION:	Site Name:	Andover North
	Site Number:	CT-0002

SITE DATA: 122 Jonathan Trumbull Hwy., Andover, CT 06232, Tolland County
Latitude 41° 44' 59.963"N, Longitude 72° 24' 9.719"W
149' EEI Monopole

Mr. Jelleme,

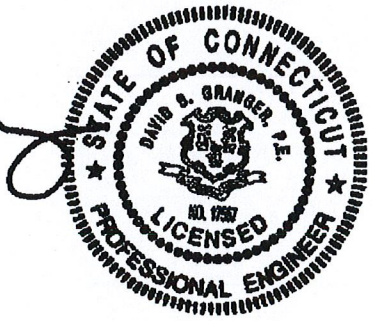
GPD is pleased to submit this Post Installation Observation Letter for the aforementioned tower. The purpose of this letter is to provide a summary of the modifications and the hands on observation performed by GPD on March 12, 2009. This observation was performed in order to verify structural reinforcements specified in modification drawings by GPD Associates (Job #: 2009260.48, dated January 29, 2009).

The design drawings call for the addition of (12) 2'-2" x 7"x 1-1/2" triangular stiffener plates to the base plate of the existing monopole.

Upon comparison of the designed and installed modifications, it is our opinion that the installed modifications do meet the specifications outlined in the design drawings.

We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T. If you have any questions please do not hesitate to call.

Respectfully submitted,



David B. Granger, P.E.
Connecticut # 17557
Attachments: photos 2 pgs

at&t
Lee Cash
AT&T Mobility
5405 Windward Pkwy.
Alpharetta, GA 30004
(770) 708-6144

GPD ASSOCIATES
Kevin Clements
520 South Main St., Suite 2531
Akron, Ohio 44311
(330) 572-2195
kclements@gpdgroup.com

GPD# 2008265.64 Rev. 1
November 26, 2008

REVISED STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	**Site USID:**	**27084**
	Site FA:	**10070910**
	Site Name:	**ANDOVER NORTH**
POCKET DESIGNATION:	**Site Name:**	**Andover North**
	Site Number:	**CT-0002**
ANALYSIS CRITERIA:	**Codes:**	**TIA/EIA-222-F & 2003 IBC** **85-mph with 0" ice** **74-mph with 1/2" ice**
SITE DATA:		**122 Jonathan Trumbull Hwy, Andover, CT 06232, Tolland County** **Latitude 41° 44' 59.963"N, Longitude 72° 24' 9.719"W** **149' EEI Monopole**

Mr. Cash,

GPD is pleased to submit this Revised Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the addition of the following proposed loading configuration:

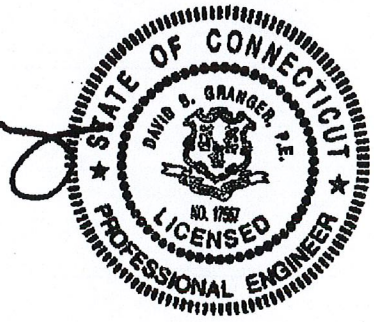
Elev. 130' (3) Kathrein 742-213 Antennas, Pipe Mounted, w/ (6) 1-5/8" internal coax

Based on our analysis we have determined the **tower is not sufficient** for the proposed, existing and reserved loadings as referenced in Appendix A. However, the **foundation is sufficient** for the proposed, existing, and reserved loadings.

We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T. If you have any questions please do not hesitate to call.

Respectfully submitted,

David B. Granger, P.E.
Connecticut # 17557



SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing structure is capable of carrying the proposed loading configuration as specified by Pocket Communications to AT&T. This report was commissioned by Mr. Lee Cash of AT&T.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Monopole	56.4%	Pass
Base Plate	**142.3%**	**Fail**
Anchor Rods	46.4%	Pass
Foundation	55.4%	Pass

RECOMMENED MODIFICATIONS

We recommend installing stiffener plates to the overstressed base plate. All modifications shall be engineered.

ANALYSIS METHOD

RISA Tower (Version 5.3.0.1), a commercially available software program, was used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information and is being provided without the benefit of a site visit.

DOCUMENTS PROVIDED

Document	Remarks	Source
Preliminary Tower Summary	Pocket Communications Co-location document	L. Cash
Site Lease Application	Pocket Communications Application, dated 8/4/08	L. Cash
Previous Structural Analysis	GPD Associates Project #: 2008265.29, dated 10/31/08	Siterra
Original Tower Drawings	EEI Project #: 12026, dated 11/29/03	Siterra
Foundation Drawing	EEI Project #: 12026, dated 12/2/03	Siterra

ASSUMPTIONS

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the monopole. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The monopole shaft sizes and shape are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations. If no data is available, the foundation system is not verified.
6. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
7. All welds and connections are assumed to develop at least the member capacity, unless determined otherwise and explicitly stated in this report.
8. All existing loading was obtained from the recent previous analysis by GPD Associates, Project #: 2008265.29, dated 10/31/08, site photos and the provided preliminary tower summary and is assumed to be accurate.
9. All proposed coax is assumed to be internal to the monopole.
10. Tower Mounted Amplifiers are assumed to be installed behind antennas.
11. The proposed coax is assumed to be installed internal to the monopole.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD Associates should be allowed to review any new information to determine its effect on the structural integrity of the tower.

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

Tower Analysis Summary Form

Tower Analysis Summary Form

General Info

Site Name	ANDOVER NORTH
Site Number	27084
FA Number	10070910
Date of Analysis	11/26/2008
Company Performing Analysis	GPD Associates

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	MP	
Tower Height (top of steel AGL)	149'	
Tower Manufacturer	EEI	
Tower Model	n/a	
Manufacturer Drawings	EEI Job #: 12026 Rev 1	11/20/2003
Foundation Design	EEI Job #: 12026	11/20/2003
Geotech Report	VN Engineers Project #: 23-120G	10/17/2003
Tower Mapping	n/a	
Previous Analysis	GPD Associates Job #: 2008265.29	10/31/2008

Design Parameters

Design Code Used	TIA/EIA-222-F
Location of Tower (County, State)	Tolland, Connecticut
Basic Wind Speed (mph)	85-fastest
Ice Thickness (in)	0.5"
Structure Classification (I, II, III)	
Exposure Category (B, C, D)	
Topographic Category (1 to 5)	

Analysis Results (% Maximum Usage)

Existing Condition	
Tower	105.4%
Foundation	46.5%
Guy Wire	n/a

Proposed Condition	
Tower	142.3%
Foundation	55.4%
Guy Wire	n/a

Steel Yield Strength (ksi)

Pole	65
Base Plate	60
Anchor Rods	75

Existing/Reserved

Antenna							Mount				Transmission Line		
Antenna Owner	Centerline Height (ft)	Quantity	Type	Model	EPA (ft²) each	Azimuth	Quantity	Type	Model	EPA (ft²) total	Quantity	Size	Attachment Leg/Face
AT&T Mobility	149	3	Panel	7250.03	4.24		3	Pipe Mounts		Shielded	6	1-1/4"	Internal
T-Mobile	140	3	Panel	DR65-19-XXDPQ	8.40	70, 180, 300	3	Pipe Mounts		Shielded	6	1-5/8"	Internal

Proposed

Antenna							Mount				Transmission Line		
Antenna Owner	Centerline Height (ft)	Quantity	Type	Model	EPA (ft²) each	Azimuth	Quantity	Type	Model	EPA (ft²) total	Quantity	Size	Attachment Leg/Face
Pocket Communications	130	3	Panel	742-213	5.42	30, 150, 270	3	Pipe Mounts		Shielded	6	1-5/8"	Internal

Future

Antenna							Mount				Transmission Line		
Antenna Owner	Centerline Height (ft)	Quantity	Type	Model	EPA (ft²) each	Azimuth	Quantity	Type	Model	EPA (ft²) total	Quantity	Size	Attachment Leg/Face
AT&T Mobility	149	6	Panel	7770.00	5.88		3	12' T-Arms		14.20	12	1-5/8"	Internal
AT&T Mobility	149	6	TMA	LGP 17201	Shielded			on same mount					

Note: Future loading is replacing existing loading at this elevation. Both the existing and future loadings have been considered. Future loading is controlling.

APPENDIX B

RISA Tower Output File

Tower Input Data

There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Tolland County, Connecticut.
Basic wind speed of 85 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 74 mph is used in combination with ice.
Deflections calculated using a wind speed of 50 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole 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 Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	149.00 - 8.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	140.00 - 8.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	130.00 - 8.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82

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
12' T-arms (3)	A	None		0.0000	149.00	No Ice	14.10	14.10	1.00
						1/2" Ice	16.00	16.00	1.20
(2) 7770.00	A	From Face	3.00 0.00 0.00	0.0000	149.00	No Ice	5.88	2.93	0.04
						1/2" Ice	6.31	3.27	0.07
(2) 7770.00	B	From Face	3.00 0.00 0.00	0.0000	149.00	No Ice	5.88	2.93	0.04
						1/2" Ice	6.31	3.27	0.07
(2) 7770.00	C	From Face	3.00 0.00 0.00	0.0000	149.00	No Ice	5.88	2.93	0.04
						1/2" Ice	6.31	3.27	0.07
(2) LGP 17201 TMA	A	From Face	3.00 0.00 0.00	0.0000	149.00	No Ice	0.00	0.52	0.03
						1/2" Ice	0.00	0.64	0.04
(2) LGP 17201 TMA	B	From Face	3.00	0.0000	149.00	No Ice	0.00	0.23	0.01

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2" Ice	0.00	0.31	0.02
			0.00						
(2) LGP 17201 TMA	C	From Face	3.00	0.0000	149.00	No Ice	0.00	0.23	0.01
			0.00			1/2" Ice	0.00	0.31	0.02
			0.00						
DR65-19-XXDPQ	A	From Face	0.50	0.0000	140.00	No Ice	8.40	3.53	0.03
			0.00			1/2" Ice	8.95	3.97	0.07
			0.00						
DR65-19-XXDPQ	B	From Face	0.50	10.0000	140.00	No Ice	8.40	3.53	0.03
			0.00			1/2" Ice	8.95	3.97	0.07
			0.00						
DR65-19-XXDPQ	C	From Face	0.50	0.0000	140.00	No Ice	8.40	3.53	0.03
			0.00			1/2" Ice	8.95	3.97	0.07
			0.00						
742-213 w/Mount Pipe	A	From Leg	0.50	30.0000	130.00	No Ice	5.42	4.63	0.05
			0.00			1/2" Ice	5.95	6.02	0.09
			0.00						
742-213 w/Mount Pipe	B	From Leg	0.50	30.0000	130.00	No Ice	5.42	4.63	0.05
			0.00			1/2" Ice	5.95	6.02	0.09
			0.00						
742-213 w/Mount Pipe	C	From Leg	0.50	30.0000	130.00	No Ice	5.42	4.63	0.05
			0.00			1/2" Ice	5.95	6.02	0.09
			0.00						

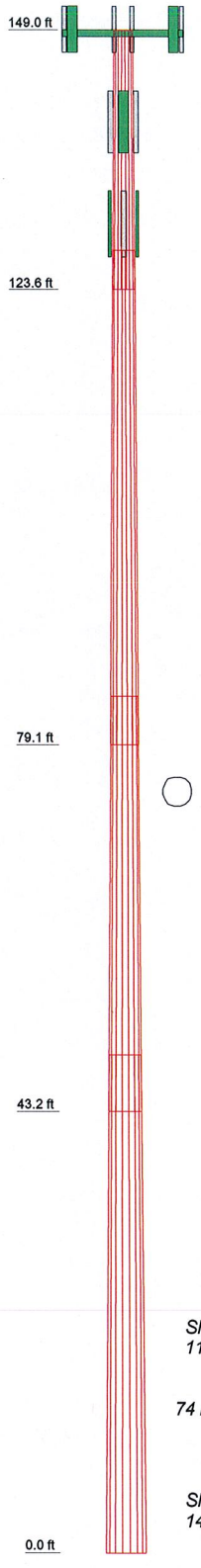
Section Capacity Table

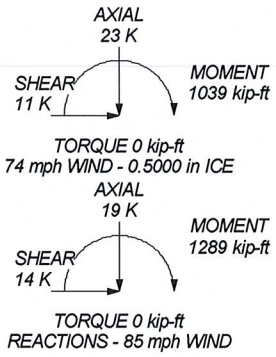
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	149 - 123.58	Pole	TP26.21x21.5x0.1875	1	-2.56	783.13	18.0	Pass
L2	123.58 - 79.123	Pole	TP33.96x25.1248x0.1875	2	-6.13	943.73	56.4	Pass
L3	79.123 - 43.203	Pole	TP40.11x32.7159x0.25	3	-10.60	1578.01	55.1	Pass
L4	43.203 - 0	Pole	TP47.5x38.595x0.3125	4	-19.27	2426.74	55.5	Pass
							Summary	
						Pole (L2)	56.4	Pass
						RATING =	**56.4**	**Pass**

APPENDIX C

Tower Elevation Drawing

Section	1	2	3	4
Length (ft)	25.42	48.29	40.67	48.79
Number of Sides	18	18	18	18
Thickness (in)	0.1875	0.1875	0.2500	0.3125
Lap Splice (ft)	3.83	4.75	5.58	
Top Dia (in)	21.5000	25.1248	32.7159	38.5950
Bot Dia (in)	26.2100	33.9600	40.1100	47.5000
Grade	A572-65			
Weight (K)	1.2	2.9	4.0	7.0





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
12' T-arms (3)	149	DR65-19-XXDPQ	140
(2) 7770.00	149	DR65-19-XXDPQ	140
(2) 7770.00	149	DR65-19-XXDPQ	140
(2) 7770.00	149	742-213 w/Mount Pipe	130
(2) LGP 17201 TMA	149	742-213 w/Mount Pipe	130
(2) LGP 17201 TMA	149	742-213 w/Mount Pipe	130
(2) LGP 17201 TMA	149		

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

1. Tower is located in Tolland County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.

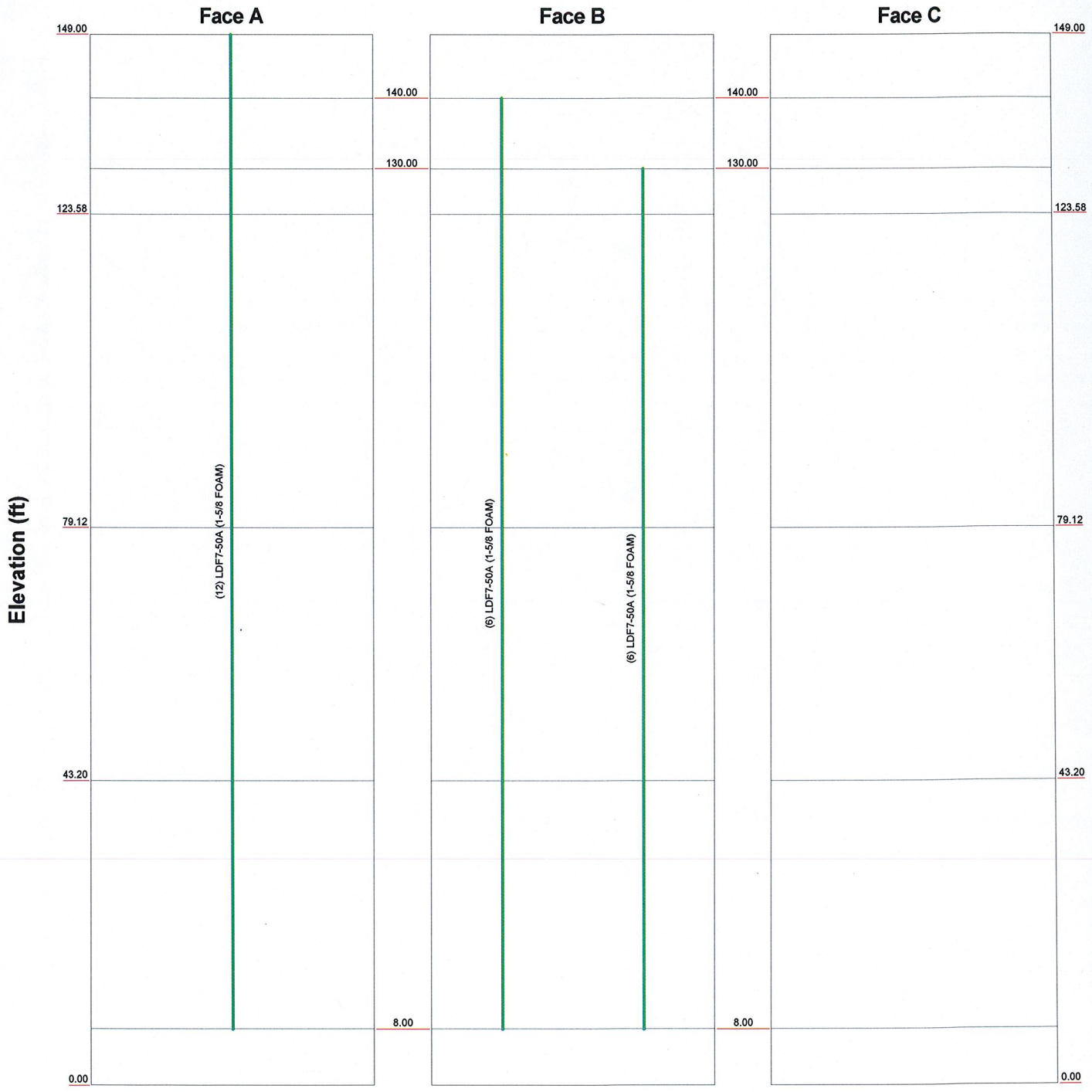
GPD GROUP

GPD Group
520 South Main St. Suite 2531
Akron, OH 44311
Phone: (614) 210-0751
FAX: (614) 210-0752

Job: ***27084 ANDOVER NORTH***			
Project: ***2008265.64***			
Client: AT&T	Drawn by: kdavis	App'd:	
Code: TIA/EIA-222-F	Date: 11/26/08	Scale: NTS	
Path: G:\Telecom\2008265\64\RISA\27084 ANDOVER NORTH\ANDOVER NORTH.eri		Dwg No. E-1	

Feedline Distribution Chart
0' - 149'

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



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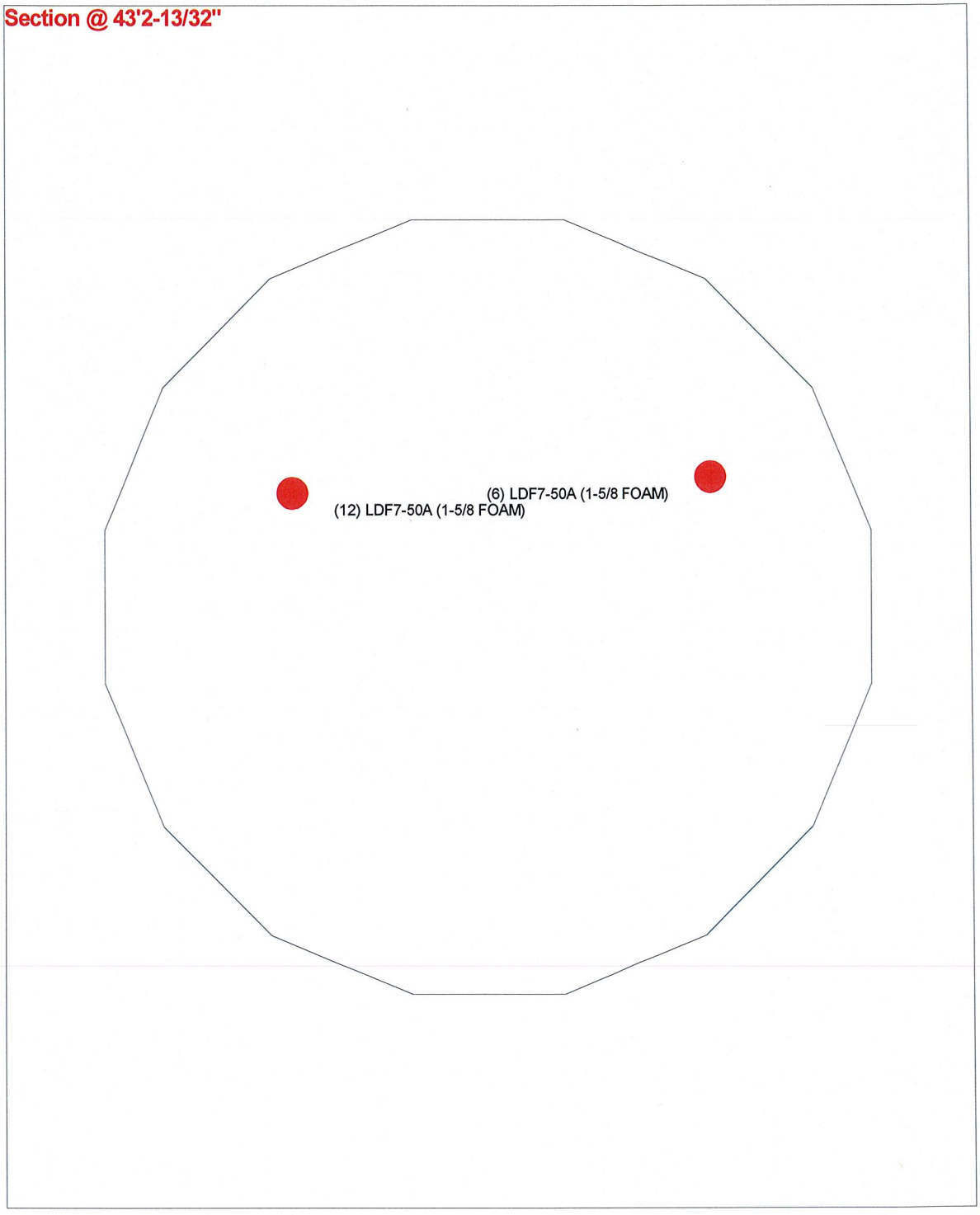
Project: 2008265.64			
Client: AT&T	Drawn by: kdavis	App'd:	
Code: TIA/EIA-222-F	Date: 11/26/08	Scale: NTS	
Path: G:\Telecom\2008265\64\RISA\27084 ANDOVER NORTH\ANDOVER NORTH.eri		Dwg No. E-7	

Feedline Plan
43'2-13/32"

Round Flat App In Face App Out Face

Section @ 43'2-13/32"



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Job: ***27084 ANDOVER NORTH***			
Project: ***2008265.64***			
Client: AT&T	Drawn by: kdavis	App'd:	
Code: TIA/EIA-222-F	Date: 11/26/08	Scale: NTS	
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APPENDIX D

Base Plate & Anchor Rod Analysis

Anchor Rod and Base Plate Stresses

27084 ANDOVER NORTH

Overturning Moment =	1289.38	k*ft
Axial Force =	19.27	k
Shear Force =	14.05	k

Anchor Rods		
Pole Diameter =	47.5	in
Number of Rods =	12	
Rod Grade (Fy) =	75	ksi
Rod Circle =	56	in
Rod Diameter =	2.25	in
Net Tensile Area =	3.25	in^2
Max Tension on Rod =	90.49	kips
Max Compression on Rod =	93.70	kips
Allow. Rod Force =	195.00	kips
Anchor Rod Capacity =	46.4%	**OK**

Base Plate		
Plate Strength (Fy) =	60	ksi
Plate Thickness =	1.5	in
w_{calc} =	12.44	in
e =	4.25	in
w_{max} =	17	in
w =	12.44	in
S =	4.66	in^3
fb =	85.40	ksi
Fb =	60	ksi
Base Plate Capacity =	142.3%	**Stiffeners Required**

APPENDIX E

Foundation Analysis

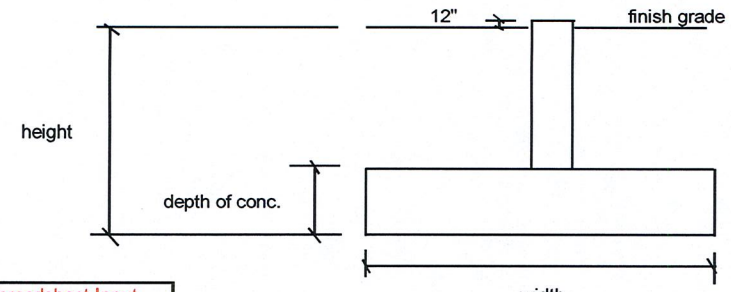
PAD & PIER DESIGN - Monopole
27084 ANDOVER NORTH

TOWER REACTIONS

total overturning moment =	1289.38	Kip-ft
total shear =	14.05	Kip
axial =	19.27	Kip
ground water table =	Below	ft

PAD DIMENSIONS

width =	20.5	ft
height =	6.5	ft
depth of conc =	3	ft
γ_{soil} =	0.100	kcf
γ_{conc} =	0.150	kcf
Mr =	3945.67	k-ft
Mot =	1387.73	k-ft
P =	355.47	k
w_{wedge}	7.25	k
Allowable Bearing =	4	ksf



Spreadsheat Input
PCAMATS Input

F.S. $_{OVERTURNING}$ / F.S. $_{ALLOWABLE}$

F.S. $_{OVERTURNING}$ = 2.8432577 ok > 1.5 52.8%

LOAD PERPENDICULAR TO PAD

Q_{MAX} = P/A+M/S= 1.8123376
Q_{MIN} = P/A-M/S= -0.12063029

LOAD AT 45 DEGREES TO PAD

Q_{MAX} = P/A+M/S= 2.21503925
Q_{MIN} = P/A-M/S= -0.52333193

Mx =	981.274		
My =	981.274		
e_X =	2.760		
ey =	2.760		
e_X/W =	0.135	ok (e/W < 1/6)	
e_Y/W =	0.135	ok (e/W < 1/6)	

width/6	M/P		**IF M/P>width/6**		Q_{MAX}/Q_{ALL}	
3.42	3.90	NG (width/6 < M/P), use Qmax	Qmax = 1.822	ksf	45.5%	OK
			Qmin = 0.000	ksf		

Verify max pressure in PCAMATS for this load case

IF e/W > 1/6

Q_{ALL} =	1009.7	kips	
Q_{MAX} =	559.11	kips	
Q_{MAX}/Q_{ALL} =	55.4%	OK	

B_1 =	22.47	ft
L_1 =	22.47	ft

Foundation Capacity:	**55.4%**	**OK**

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

January 20, 2009

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

RE: **EM-POCKET-001-081208** – Youghiogheny Communications-Northeast, LLC d/b/a Pocket Communications notice of intent to modify an existing telecommunications facility located at 122 Route 6, Andover, 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 base plate shall be reinforced as specified in the structural analysis report dated November 26, 2008 and sealed by David Granger, P.E. prior to the antenna installation;
- A post-construction tower rating of not more than 100 percent shall be achieved; and
- A signed letter from a Professional Engineer shall be submitted to the Council to certify that the reinforcements were 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 December 5, 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/MP/laf

c: The Honorable Robert Burbank, First Selectman, Town of Andover
Bill Warner, Zoning Agent & Planner, Town of Andover
Christopher B. Fisher, Esq., Cuddy & Feder LLP

PULLMAN & COMLEY
ATTORNEYS AT LAW

EM-POCKET-001-081208

ARRIE L. LARSON
) State House Square
Hartford, CT 06103-3702
p (860) 424-4312
f (860) 424-4370
www.pullcom.com

ORIGINAL

December 5, 2008

Via Federal Express

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

Re: **Notice of Exempt Modification**
AT&T Towers Telecommunications Facility
122 Route 6, Andover, Connecticut

Dear Mr. Phelps:

Youghiogheny Communications-Northeast, LLC, doing business as Pocket Communications ("Pocket"), intends to install antennas and appurtenant equipment at the existing 150-foot monopole facility owned by AT&T Towers and located at 122 Route 6, Andover, 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 Robert Burbank, First Selectman, Town of Andover.

The existing Facility consists of a 150-foot self-supporting monopole tower capable of supporting multiple carriers within a fenced compound. The coordinates for the Facility are **Lat: 41°-45'-00" and Long: 72°–24'-10".** The tower is located in the western portion of Andover, approximately 1,200 feet east of the Bolton town line. The Facility is on the land of The Andover Sportsmen's Club, roughly 1,000 west of the end of Aspinall Drive, and is approximately 1,500 feet west of Route 6 (see Site Map, attached as Exhibit A). The tower currently supports T-Mobile antennas at the one hundred forty foot (140') level centerline AGL (above ground level), and AT&T antennas at the one hundred fifty foot level (150') AGL. Pocket proposes to install three Kathrein 742-213 flush mount antennas on the tower at the one hundred thirty foot centerline (130') 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 an existing utility backboard, within the compound (See Design Drawings and Equipment Specifications, attached as Exhibits B and C respectively).

For the following reasons, the proposed modifications to the Route 6 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 130 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 7.69% 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 Andover Facility constitutes an exempt modification under R.C.S.A. Section 16-50j-72(b)(2).

Respectfully Submitted,

Carrie L. Larson

cc: Robert Burbank, First Selectman
A.S.C. Inc. underlying property owner

Exhibit A

Site Map

Pocket Site HFCT0002

122 Route 6

Andover, Connecticut

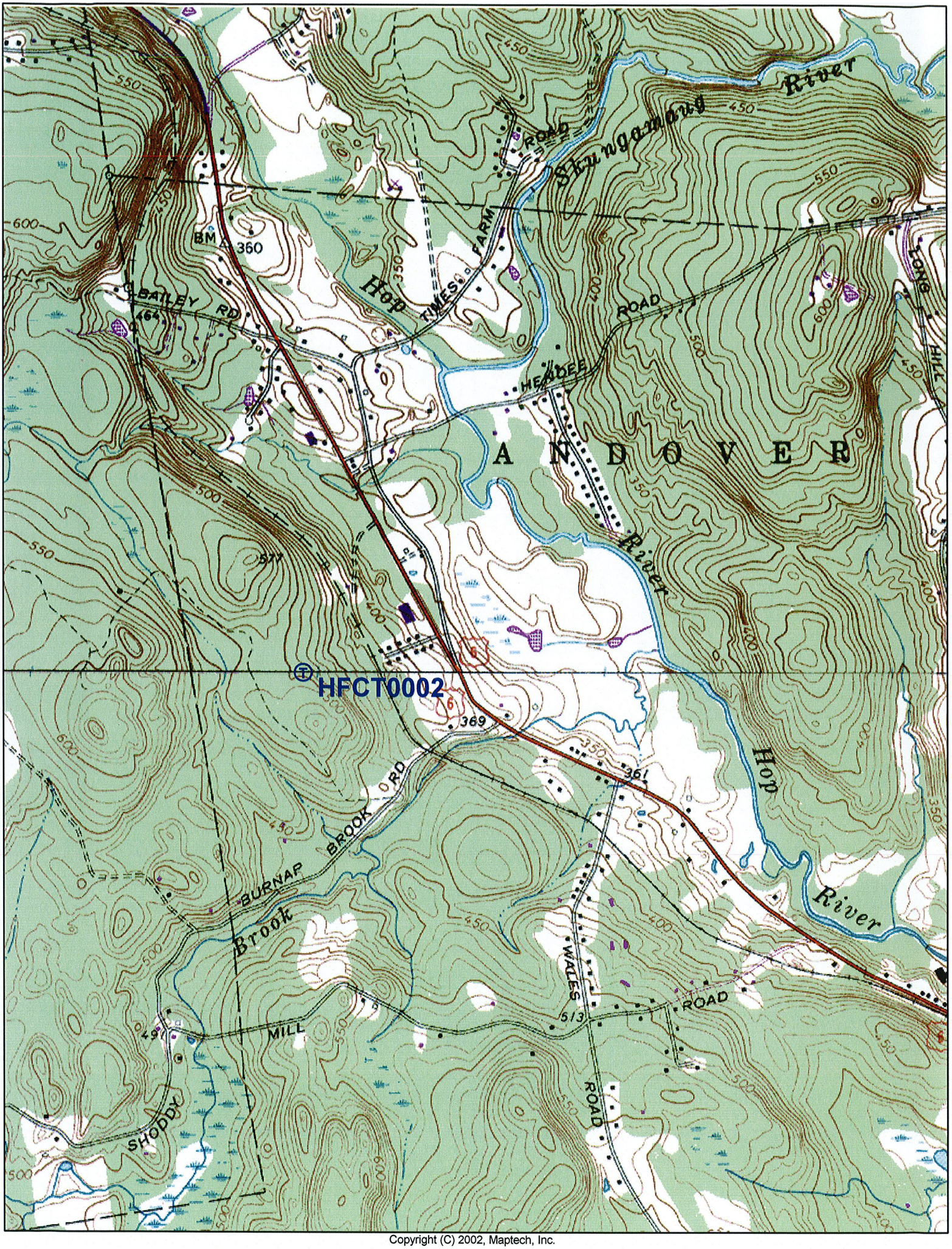


Exhibit B

Design Drawings

Pocket Site HFCT0002

122 Route 6

Andover, Connecticut

PROJECT INFORMATION

TOWER OWNER:	AT&T TOWERS 15 EAST MIDLAND AVENUE PARAMUS, NJ 07652
OWNER SITE ID#:	27084
APPLICANT:	YOUGHIOGHENY COMMUNICATIONS-NORTHEAST LLC 2819 NW LOOP 410 SAN ANTONIO, TX 78230
SITE ADDRESS:	122 ROUTE 6 ANDOVER, CT 06232
COUNTY:	TOLLAND
LATITUDE:	41.7501
LONGITUDE:	-72.4027
STRUCTURE HEIGHT:	150' 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

STRUCTURAL REVIEW

A TOWER ANALYSIS HAS NOT BEEN PERFORMED FOR THE PREPARATION OF THESE PLANS. AS OF THE ISSUANCE OF THESE DRAWINGS, THE EXISTING TOWER HAS NOT BEEN EVALUATED FOR REPLACEMENT/ADDITION OF ANTENNAS, COAX CABLES AND EQUIPMENT. NO WORK SHALL OCCUR ON THIS TOWER PRIOR TO THE ISSUANCE OF A PASSING STRUCTURAL TOWER ANALYSIS. A COPY OF THE TOWER ANALYSIS SHALL BE FORWARDED TO URS CORPORATION. ALL REINFORCEMENT (IF REQUIRED) SHALL BE PERFORMED PRIOR TO ANY WORK UNDER THIS CONTRACT BEING PERFORMED.

APPROVALS

_____ REAL ESTATE

_____ RF

_____ OPS/CONSTRUCTION

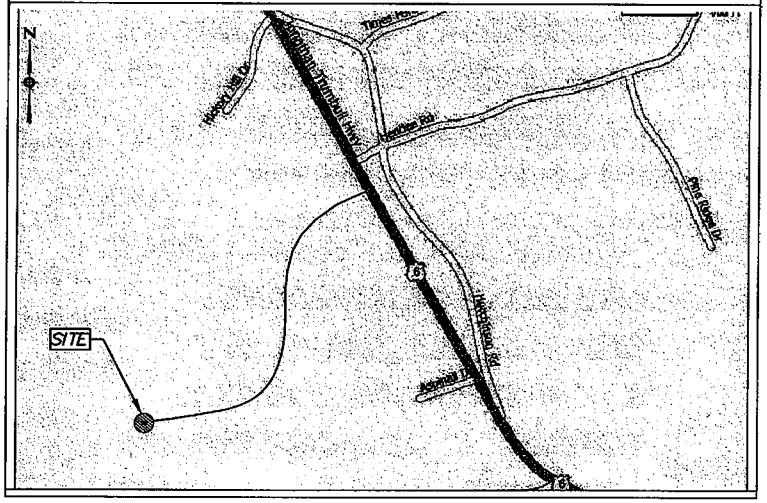
_____ LEGAL/COMPLIANCE

_____ NET DESIGN

pocket™
SMART WIRELESS

HFCT0002
122 ROUTE 6
150' MONOPOLE

LOCATION MAP



DRIVING DIRECTIONS

FROM HARTFORD:
TAKE I-84 EAST TO I-384 EAST. TURN RIGHT ON ROUTE 6. GO 1.2 MILES AND TURN RIGHT INTO THE ANDOVER SPORTSMANS CLUB. FOLLOW SIGNS TO THE TURKEY SHOOT AREA ON THE LEFT TO THE TOP OF THE HILL. TOWER WILL BE 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. ARIAS
No. 8704
LICENSED ARCHITECT

NO.	DATE	REVISIONS	BY
0	09/22/08	ISSUED FOR CONSTRUCTION	JCF

pocket SMART WIRELESS
PROJECT NAME: HFCT0002, 122 ROUTE 6
SHEET: TITLE SHEET

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

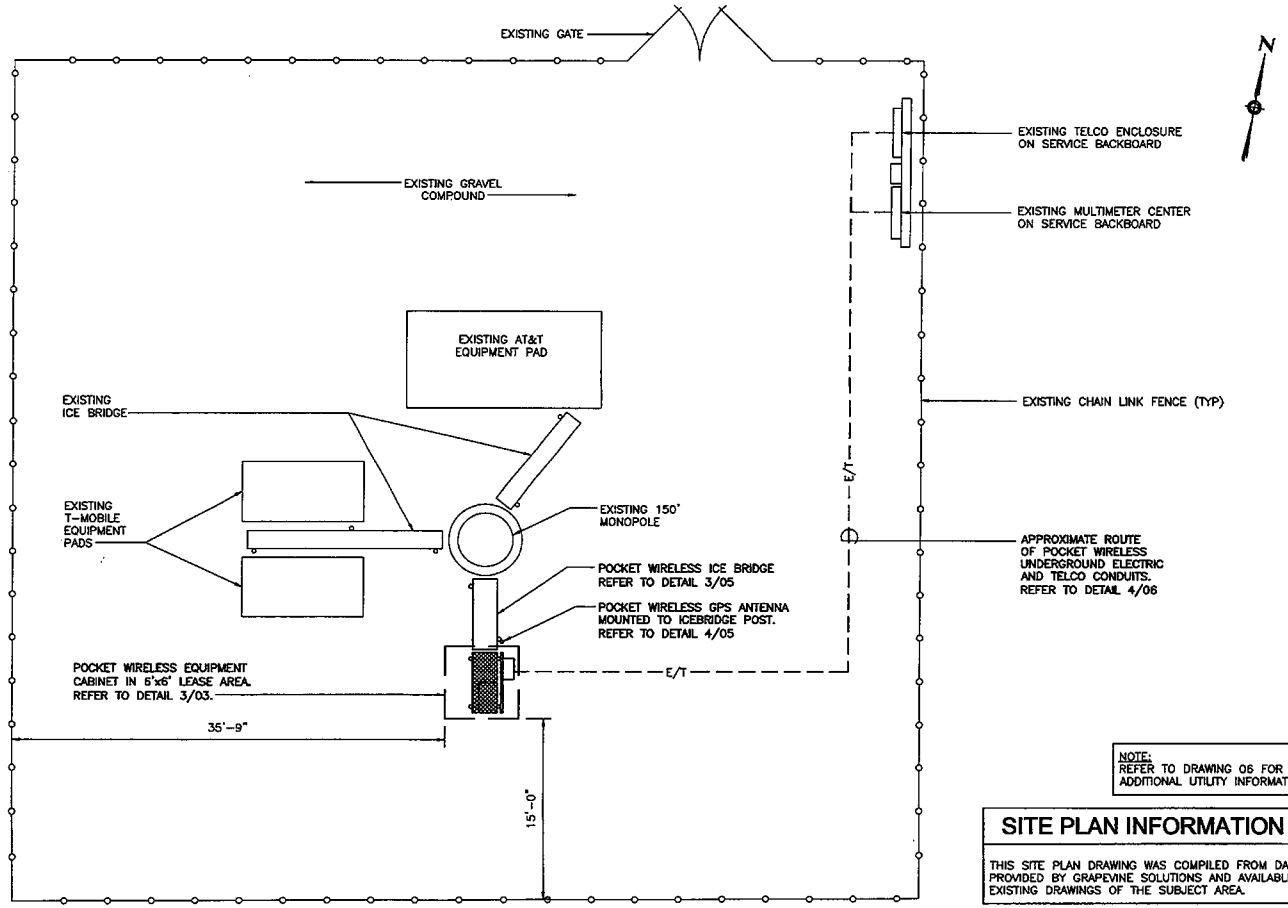
CHECKED BY: JCF
DRAWN BY: JCF
DATE: 09/22/08
URS JOB NUMBER: PC1033/36923953
DRAWING NUMBER: 01

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.



1/02 COMPOUND PLAN
SCALE: 1" = 10'-0"

NOTE:
REFER TO DRAWING 05 FOR ADDITIONAL UTILITY INFORMATION

SITE PLAN INFORMATION

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

STATE OF CONNECTICUT
IGNACIO C. ARIAS
No. 17704
LICENSED ARCHITECT

NO.	DATE	REVISIONS
0	09/28/08	ISSUED FOR CONSTRUCTION
		BY: JCF

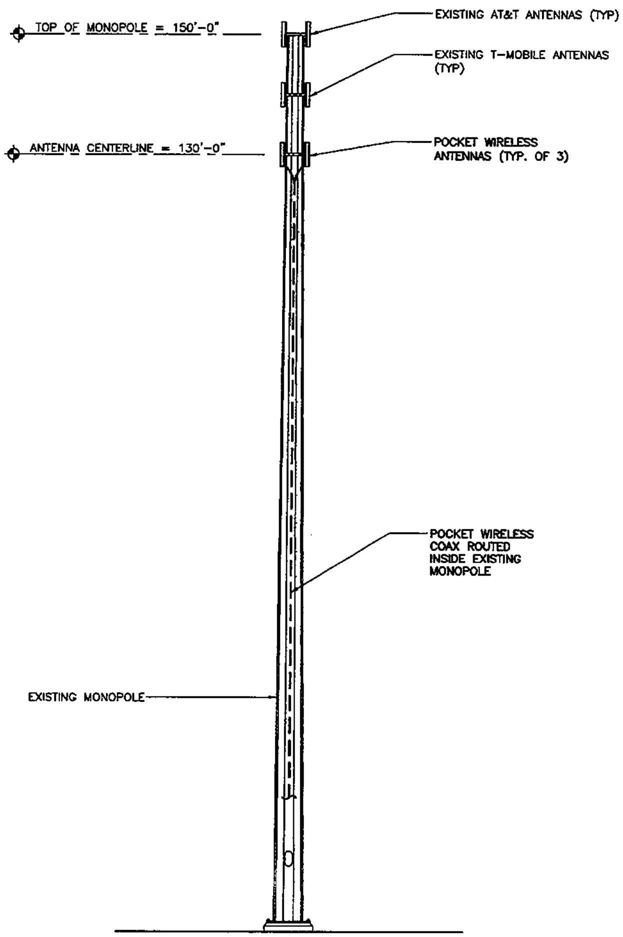
pocket SMART WIRELESS

PROJECT: HFCT0002, 122 ROUTE 6
SHEET: COMPOUND PLAN AND NOTES

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

CHECKED BY: JCF
DRAWN BY: JCF
DATE: 09/22/08
URS JOB NUMBER: PC1033/36923953
DRAWING NUMBER: 02

A TOWER ANALYSIS HAS NOT BEEN PERFORMED FOR THE PREPARATION OF THESE PLANS. AS OF THE ISSUANCE OF THESE DRAWINGS, THE EXISTING TOWER HAS NOT BEEN EVALUATED FOR REPLACEMENT/ADDITION OF ANTENNAS, COAX CABLES AND EQUIPMENT. NO WORK SHALL OCCUR ON THIS TOWER PRIOR TO THE ISSUANCE OF A PASSING STRUCTURAL TOWER ANALYSIS. A COPY OF THE TOWER ANALYSIS SHALL BE FORWARDED TO URS CORPORATION. ALL REINFORCEMENT (IF REQUIRED) SHALL BE PERFORMED PRIOR TO ANY WORK UNDER THIS CONTRACT BEING PERFORMED.



1 / 03 TOWER ELEVATION
SCALE: 1" = 20'-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°	130'-0"	0°	0°	1 5/8"ø	2 @ 140'	RFS
BETA	1	B-1	(1) BLUE BAND	KATHREIN	742 213	150°	130'-0"	0°	0°	1 5/8"ø	2 @ 140'	RFS
GAMMA	1	C-1	(1) GREEN BAND	KATHREIN	742 213	270°	130'-0"	0°	0°	1 5/8"ø	2 @ 140'	RFS

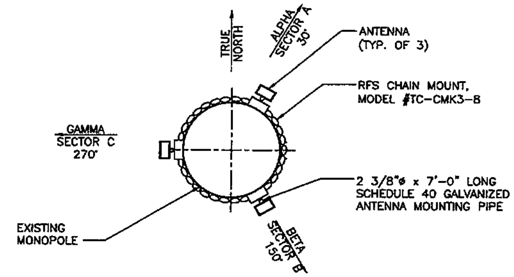
*REFER TO RFDS ANTENNA SHEET FOR FINAL TILT AND AZIMUTHS

TOWER NOTES:

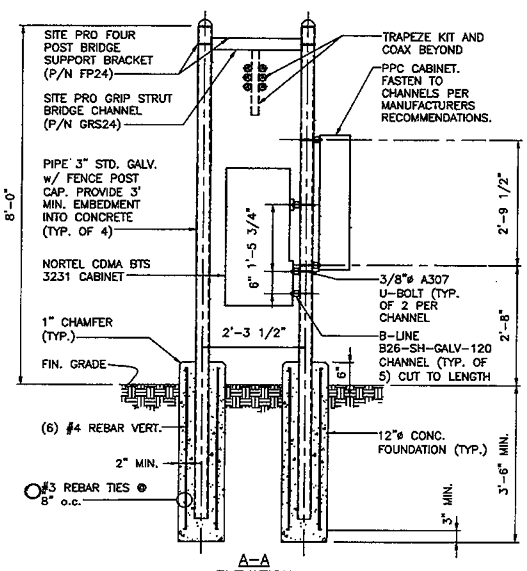
1. FOR DETAILED TOWER INFORMATION, REFER TO TOWER ERECTION DRAWINGS BY OTHERS. THE TOWER SHOWN ON THIS SHEET IS SHOWN FOR GENERAL CONFIGURATION PURPOSES ONLY.
2. ANTENNA CONFIGURATION IS SUBJECT TO CHANGE. VERIFY ANTENNA HEIGHT, DOWN-TILT, AND AZIMUTH WITH PROJECT MANAGER PRIOR TO CONSTRUCTION.

ANTENNA NOTES:

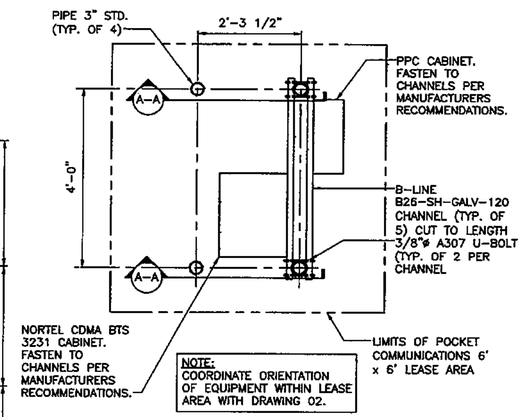
1. ALL COAX SHALL BE COLOR CODED AT THE ANTENNA AND AT THE EQUIPMENT CABINET.
2. (2) COLOR BANDS DENOTES TRANSMIT. TRANSMITS TO BE CONNECTED TO THE +45 PORTS OF THE ANTENNAS.
3. PRIOR TO ORDERING ANY ANTENNAS OR COAX, CONTRACTOR SHALL CONTACT POCKETS CONSTRUCTION MANAGER AND OBTAIN APPROVAL FOR MATERIALS 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



NOTE:
COORDINATE ORIENTATION OF EQUIPMENT WITHIN LEASE AREA WITH DRAWING 02.

SECTION

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

NO.	DATE	REVISIONS	BY
0	09/23/08	ISSUED FOR CONSTRUCTION	JCF

pocket. SMART WIRELESS

PROJECT NAME: HFCT0002, 122 ROUTE 6

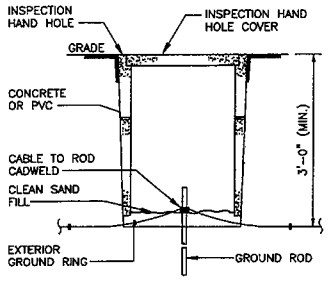
SHEET: TOWER ELEVATION, ANTENNA PLAN AND DETAILS

URS

URS CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CT. 06067

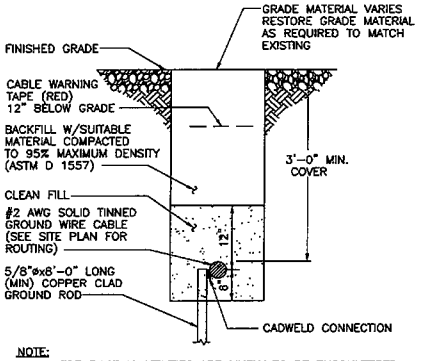
CHECKED BY: JCF
DRAWN BY: JCF
DATE: 09/22/08
URS JOB NUMBER: PC1033/36923953
DRAWING NUMBER: 03

STATE OF CONNECTICUT · IGNACIO C. ARTIZ · No. 8704 · LICENSED ARCHITECT



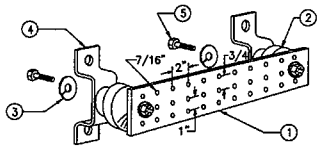
NOTE:
INSPECTION HAND HOLE MAY BE CONCRETE OR PVC AND SHALL BE A MINIMUM OF 8" IN WIDTH/DIAMETER

7/04 GROUND ROD WITH INSPECTION HANDHOLE
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

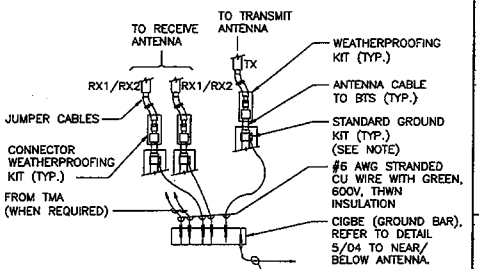
6/04 EGR DETAIL
SCALE: N.T.S.



LEGEND

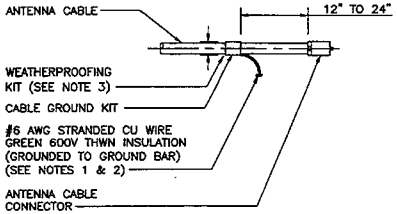
1- COPPER GROUND BAR, 1/4"x 4"x 20", NEWTON INSTRUMENT CO. CAT. NO. B-8142 OR EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION. (ACTUAL GROUND BAR SIZE WILL VARY BASED ON NUMBER OF GROUND CONNECTIONS)
2- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4 OR EQUAL
3- 5/8" LOCK WASHERS, NEWTON INSTRUMENT 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

5/04 MASTER/EQUIPMENT GROUND BAR DETAIL
SCALE: N.T.S.



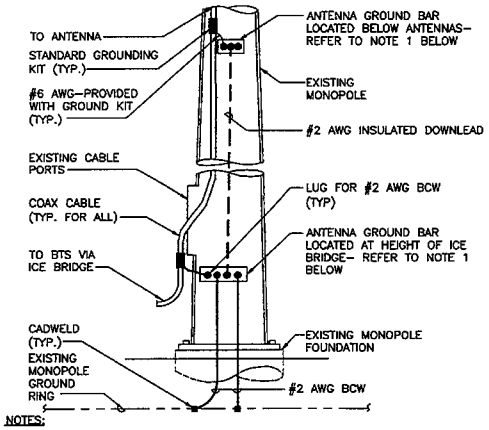
NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

4/04 CONNECTION OF GROUND WIRE TO GROUND BAR
SCALE: N.T.S.



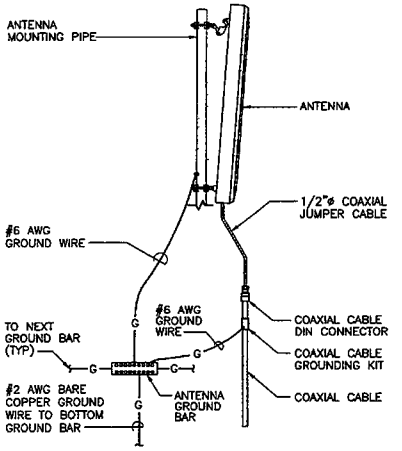
NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
3. WEATHER PROOFING SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

3/04 CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE
SCALE: N.T.S.



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

2/04 MONOPOLE - ANTENNA CABLE GROUNDING
SCALE: N.T.S.



1/04 TYPICAL ANTENNA GROUNDING DETAIL
SCALE: N.T.S.

NO.	DATE	REVISIONS	BY
0	09/25/08	ISSUED FOR CONSTRUCTION	JCF

pocket. SMART WIRELESS

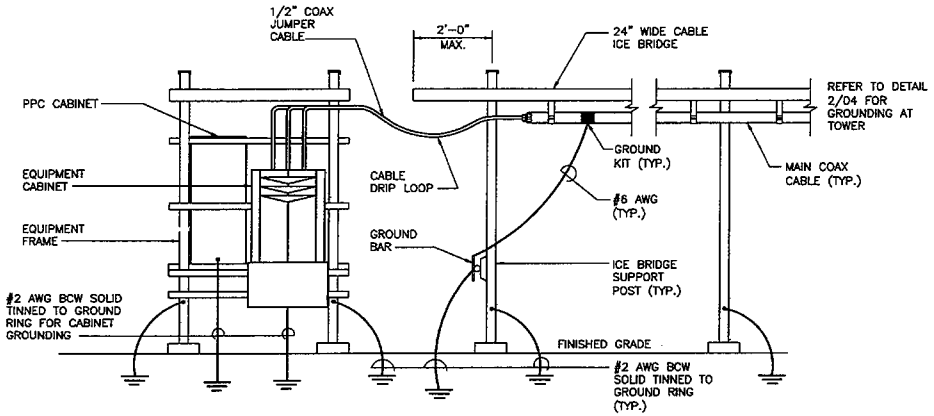
PROJECT: HFCT0002, 122 ROUTE 6

SHEET: GROUNDING DETAILS

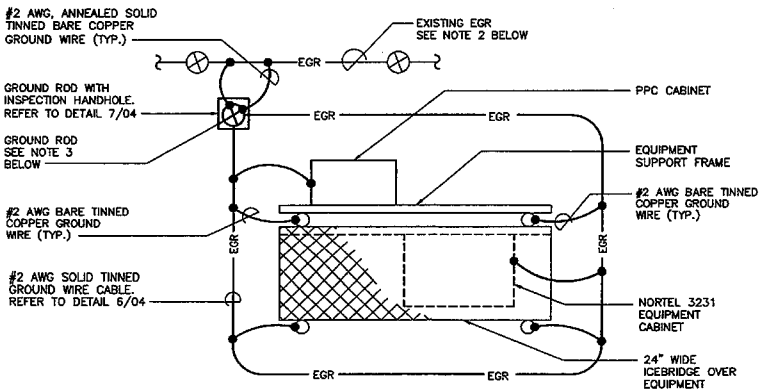
URS

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

CHECKED BY: JCF
DRAWN BY: JCF
DATE: 09/22/08
URS JOB NUMBER: PC1033/36923953
DRAWING NUMBER: 04



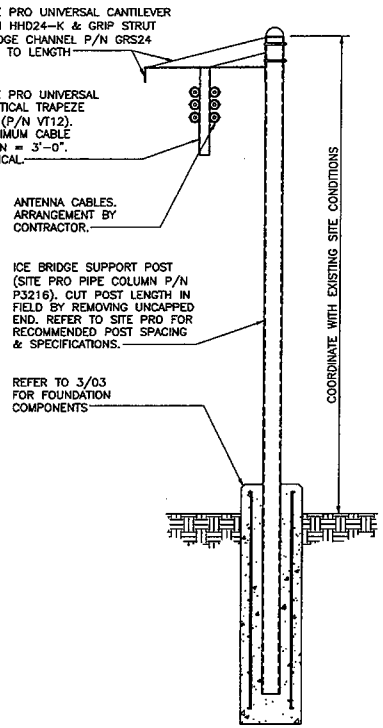
1/05 **GROUNDING AT EQUIPMENT CABINET**
SCALE: N.T.S.



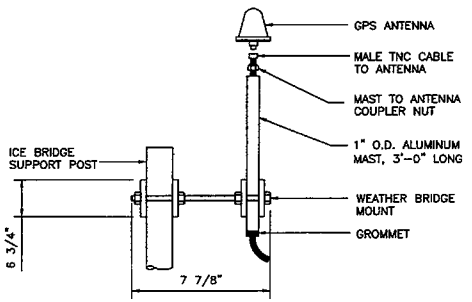
NOTES:

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.

STATE OF CONNECTICUT
IGNACIO C. ARIAS
No. 8704
LICENSED ARCHITECT

NO.	DATE	REVISIONS	BY
0	09/29/08	ISSUED FOR CONSTRUCTION	JCF

pocket. SMART WIRELESS

PROJECT NAME: HFCT0002, 122 ROUTE 6

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: JCF
DATE: 09/22/08
URS JOB NUMBER: 38C1033/36923953
DRAWING NUMBER: 05

PANEL SSC

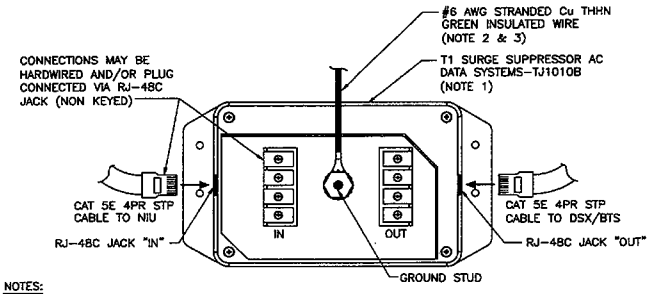
LOAD DESCRIPTION	LOAD (kVA)	BRKR SIZE	CCT NO.	PHASE A	PHASE B	CCT NO.	BRKR SIZE	LOAD (kVA)	LOAD DESCRIPTION
BTS CABINET	2.5	30/2	1			2	30/2	2.2	BTS CABINET
	2.5		3			4		2.2	
LIGHTING	1.9	10/1	5			6	20/1	0.2	GFI OUTLET
SPACE	–	–	7			8	–	–	SPACE
SPACE	–	–	9			10	–	–	SPACE
SPACE	–	–	11			12	–	–	SPACE
SPACE	–	–	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:

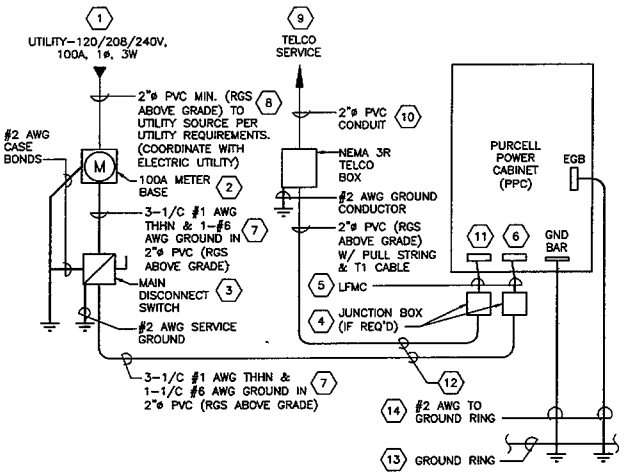
1. ALL ELECTRICAL AND GROUNDING WORK SHALL BE PERFORMED IN ACCORDANCE WITH PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
2. CONDUIT ROUTINGS ARE SCHEMATIC, CONTRACTOR SHALL VERIFY ROUTING AND LENGTHS PRIOR TO CONSTRUCTION.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY 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.



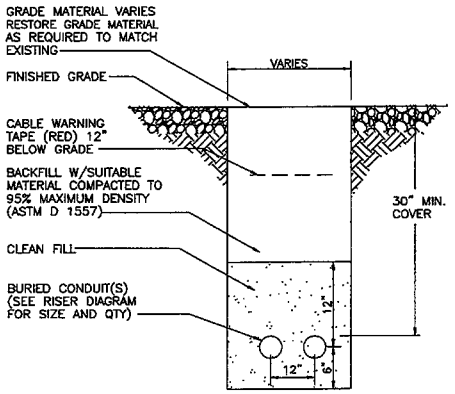
NOTES:

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.

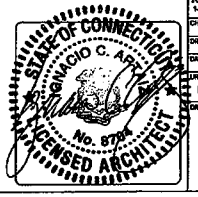
4 / 06 **TYPICAL ELECTRICAL/ TELEPHONE TRENCH DETAIL**
SCALE: N.T.S.

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 COMMUNCATIONS 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	09/25/08	ISSUED FOR CONSTRUCTION	ACF

pocket. SMART WIRELESS

PROJECT NAME: HFCT00002, 122 ROUTE 6

SHEET: ELECTRICAL DETAILS

URS

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

CHECKED BY: JCF
DRAWN BY: JCF
DATE: 09/22/08
URS JOB NUMBER: PC1033/36923953
DRAWING NUMBER: 06

Exhibit C

Equipment Specifications

Pocket Site HFCT0002

122 Route 6

Andover, Connecticut

KATHREIN
SCALA DIVISION

742 213

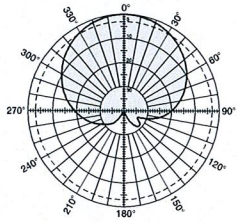
65° Panel Antenna

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.

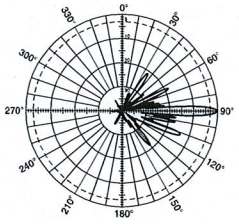
- 0-6° downtilt range.
- UV resistant pulltruded fiberglass radome.
- DC Grounded metallic parts for impulse suppression.
- No moving electrical connections.
- Wideband vector dipole technology.
- Optional remote downtilt Control.
- Will accomodate future 3G / UMTS applications.

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.

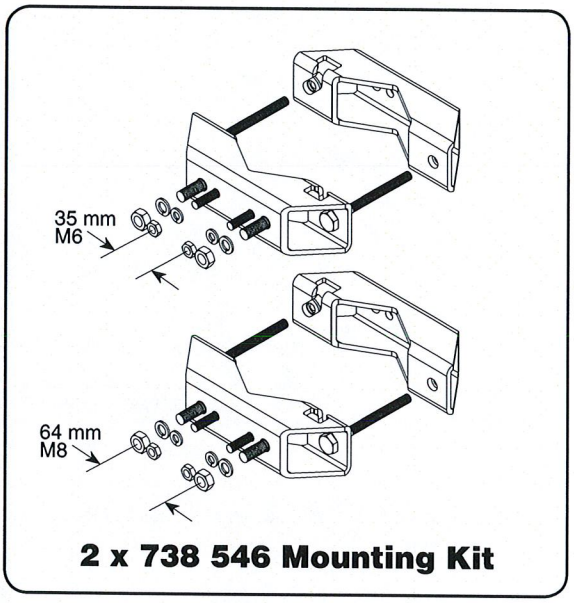
10642-H
936.2074/h

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

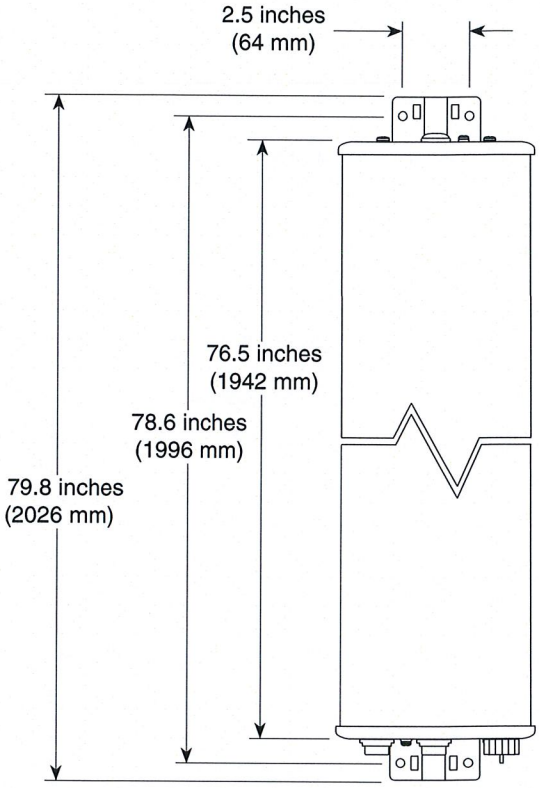
KATHREIN
SCALA DIVISION

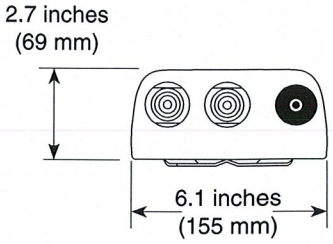
742 213

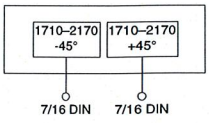
65° Panel Antenna



2 x 738 546 Mounting Kit







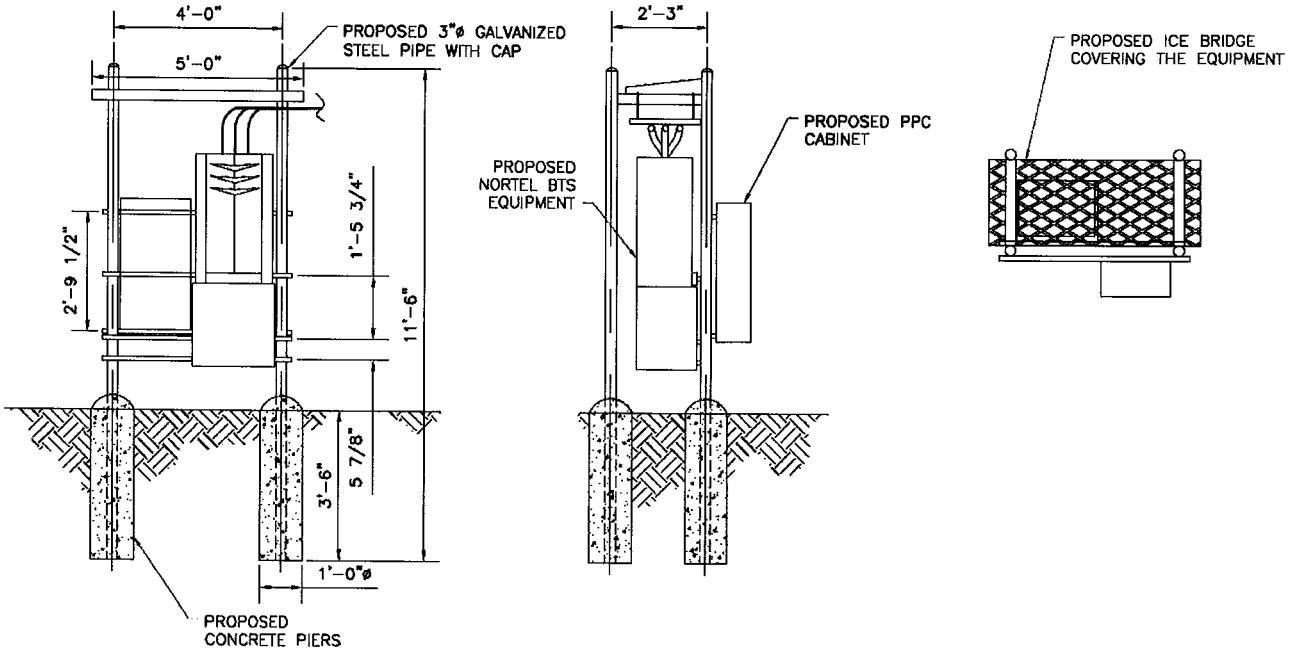
Mounting Options:

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

>BUSINESS MADE **SIMPLE**

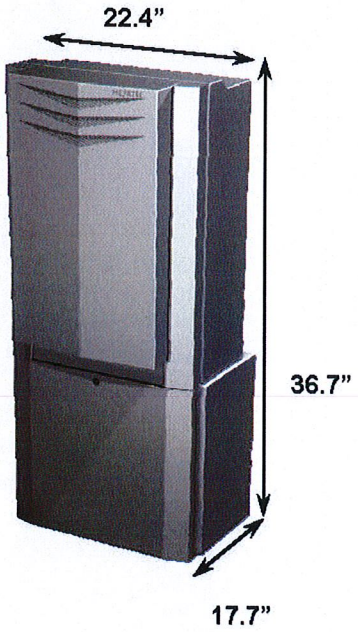
NORTEL

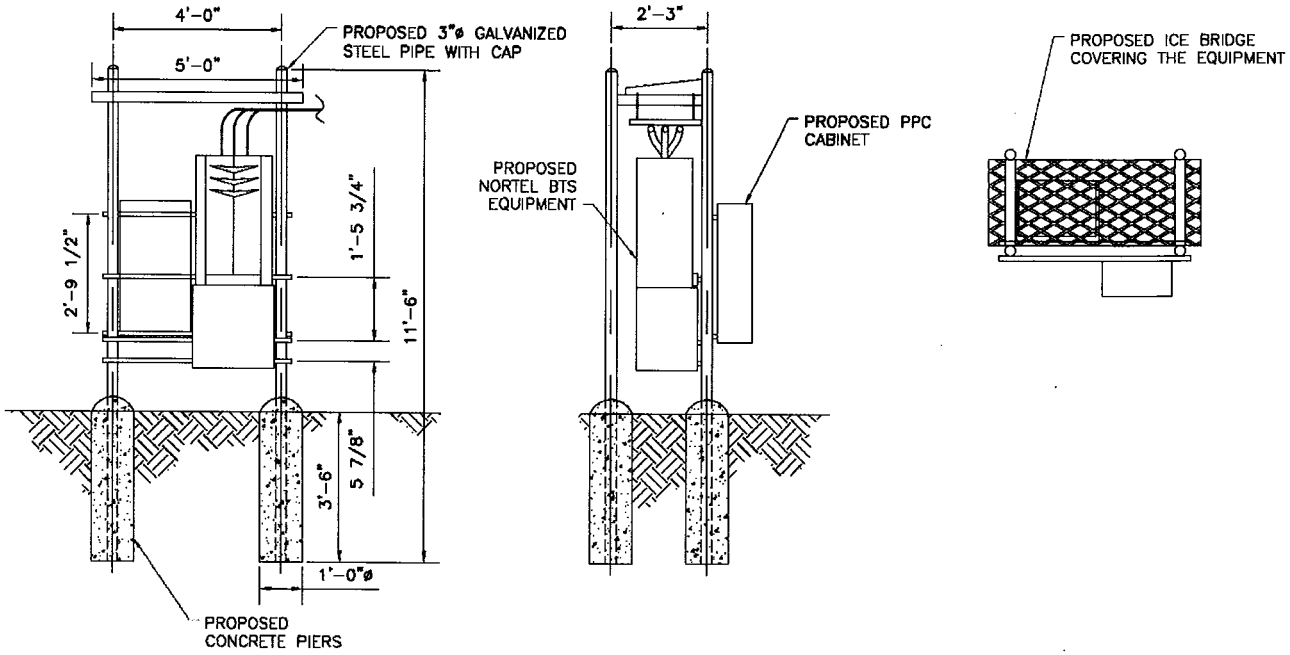
CDMA BTS 3231 AWS 1.7/2.1 GHz (Outdoor/Indoor)

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.





Pocket/Youghiogheny Communications – Northeast, LLC
Rack Detail

Exhibit D

Power Density Calculations

Pocket Site HFCT0002

122 Route 6

Andover, 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-0002 (aka HFCT0002)

122 Route 6, Andover, CT

Table of Contents

List of Tables

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 122 Route 6, Andover, 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 = $\sqrt{(H^2 + V^2)}$

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, except where otherwise noted[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
AT&T	4	250	150	1945	1000	0.0160	1.0000	1.60%
T-Mobile	4	282	140	1930	1128	0.0207	1.0000	2.07%
Pocket	3	631	130	2130-2133.75	1893	0.0403	1.0000	4.03%
							Total	7.69%

Table 1: Proposed Carrier Information

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 7.69% 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.

[1] T-Mobile has installed their antennas on the tower and the CSC database had not been updated as of this submission. The ERP value for T-Mobile was obtained from a previous filing with CSC on a tower in the same Town. %MPE values for T-Mobile at 122 Route 6 were subsequently calculated using the ERP values described herein.

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.

December 2, 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

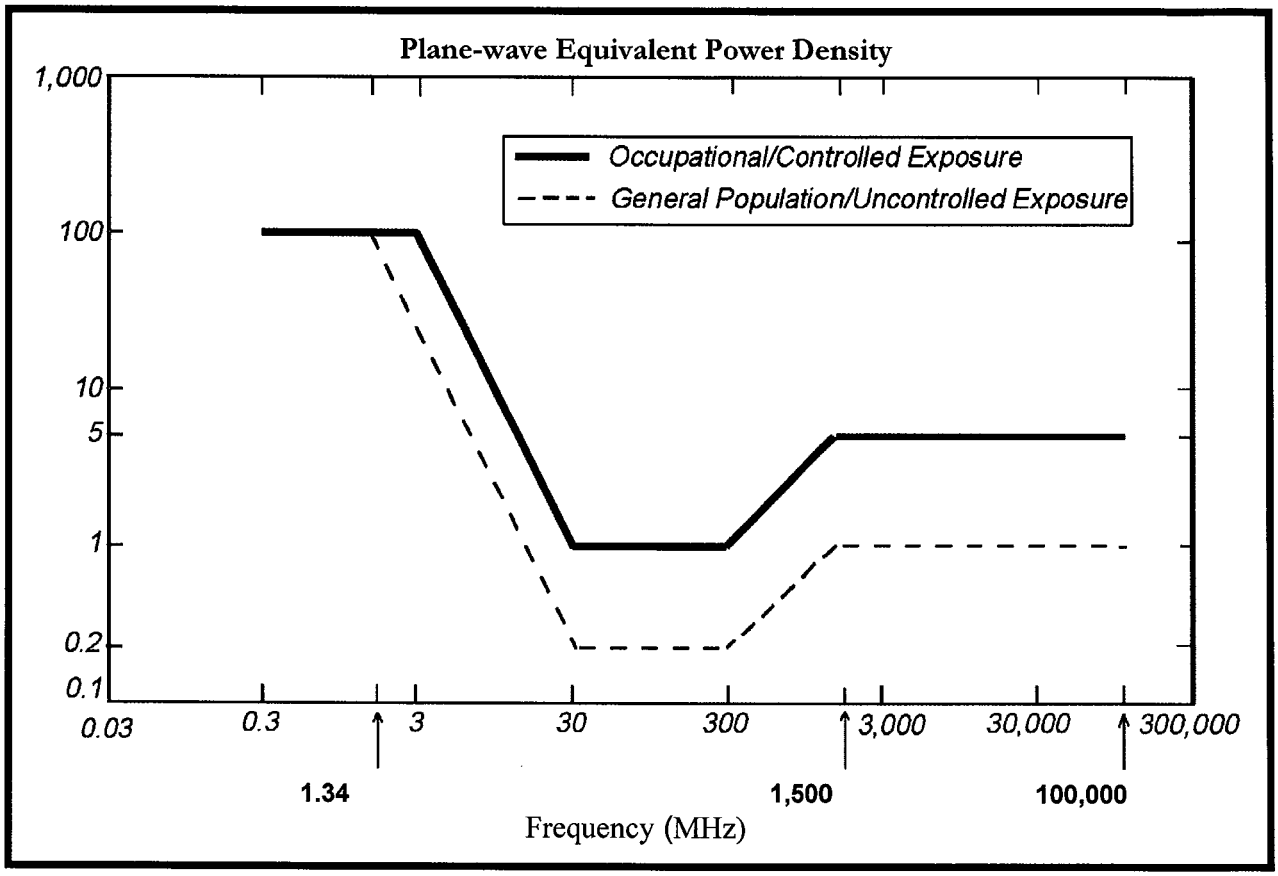
(B) Limits for General Population/Uncontrolled Exposure

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 HFCT0002
122 Route 6
Andover, Connecticut

at&t
Lee Cash
AT&T Mobility
5405 Windward Pkwy.
Alpharetta, GA 30004
(770) 708-6144

GPD ASSOCIATES
Kevin Clements
520 South Main St., Suite 2531
Akron, Ohio 44311
(330) 572-2195
kclements@gpdgroup.com

GPD# 2008265.64 Rev. 1
November 26, 2008

REVISED STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	**Site USID:**	**27084**
	Site FA:	**10070910**
	Site Name:	**ANDOVER NORTH**
POCKET DESIGNATION:	**Site Name:**	**Andover North**
	Site Number:	**CT-0002**
ANALYSIS CRITERIA:	**Codes:**	**TIA/EIA-222-F & 2003 IBC** **85-mph with 0" ice** **74-mph with 1/2" ice**
SITE DATA:		**122 Jonathan Trumbull Hwy, Andover, CT 06232, Tolland County** **Latitude 41° 44' 59.963"N, Longitude 72° 24' 9.719"W** **149' EEI Monopole**

Mr. Cash,

GPD is pleased to submit this Revised Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the addition of the following proposed loading configuration:

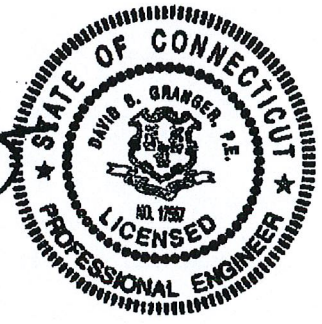
Elev. 130' (3) Kathrein 742-213 Antennas, Pipe Mounted, w/ (6) 1-5/8" internal coax

Based on our analysis we have determined the **tower is not sufficient** for the proposed, existing and reserved loadings as referenced in Appendix A. However, the **foundation is sufficient** for the proposed, existing, and reserved loadings.

We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T. If you have any questions please do not hesitate to call.

Respectfully submitted,

David B. Granger, P.E.
Connecticut # 17557



SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing structure is capable of carrying the proposed loading configuration as specified by Pocket Communications to AT&T. This report was commissioned by Mr. Lee Cash of AT&T.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Monopole	56.4%	Pass
Base Plate	**142.3%**	**Fail**
Anchor Rods	46.4%	Pass
Foundation	55.4%	Pass

RECOMMENED MODIFICATIONS

We recommend installing stiffener plates to the overstressed base plate. All modifications shall be engineered.

ANALYSIS METHOD

RISA Tower (Version 5.3.0.1), a commercially available software program, was used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information and is being provided without the benefit of a site visit.

DOCUMENTS PROVIDED

Document	Remarks	Source
Preliminary Tower Summary	Pocket Communications Co-location document	L. Cash
Site Lease Application	Pocket Communications Application, dated 8/4/08	L. Cash
Previous Structural Analysis	GPD Associates Project #: 2008265.29, dated 10/31/08	Siterra
Original Tower Drawings	EEI Project #: 12026, dated 11/29/03	Siterra
Foundation Drawing	EEI Project #: 12026, dated 12/2/03	Siterra

ASSUMPTIONS

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the monopole. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The monopole shaft sizes and shape are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations. If no data is available, the foundation system is not verified.
6. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
7. All welds and connections are assumed to develop at least the member capacity, unless determined otherwise and explicitly stated in this report.
8. All existing loading was obtained from the recent previous analysis by GPD Associates, Project #: 2008265.29, dated 10/31/08, site photos and the provided preliminary tower summary and is assumed to be accurate.
9. All proposed coax is assumed to be internal to the monopole.
10. Tower Mounted Amplifiers are assumed to be installed behind antennas.
11. The proposed coax is assumed to be installed internal to the monopole.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD Associates should be allowed to review any new information to determine its effect on the structural integrity of the tower.

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

Tower Analysis Summary Form

Tower Analysis Summary Form

General Info

Site Name	ANDOVER NORTH
Site Number	27084
FA Number	10070910
Date of Analysis	11/26/2008
Company Performing Analysis	GPD Associates

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	MP	
Tower Height (top of steel AGL)	149'	
Tower Manufacturer	EEI	
Tower Model	n/a	
Manufacturer Drawings	EEI Job #: 12026 Rev 1	11/20/2003
Foundation Design	EEI Job #: 12026	11/20/2003
Geotech Report	VN Engineers Project #: 23-120G	10/17/2003
Tower Mapping	n/a	
Previous Analysis	GPD Associates Job #: 2008265.29	10/31/2008

Design Parameters	
Design Code Used	TIA/EIA-222-F
Location of Tower (County, State)	Tolland, Connecticut
Basic Wind Speed (mph)	85-fastest
Ice Thickness (in)	0.5"
Structure Classification (I, II, III)	
Exposure Category (B, C, D)	
Topographic Category (1 to 5)	

Analysis Results (% Maximum Usage)

Existing Condition	
Tower	105.4%
Foundation	46.5%
Guy Wire	n/a

Proposed Condition	
Tower	142.3%
Foundation	55.4%
Guy Wire	n/a

Steel Yield Strength (ksi)

Pole	65
Base Plate	60
Anchor Rods	75

Existing/Reserved

Antenna							Mount				Transmission Line		
Antenna Owner	Centerline Height (ft)	Quantity	Type	Model	EPA (ft²) each	Azimuth	Quantity	Type	Model	EPA (ft²) total	Quantity	Size	Attachment Leg/Face
AT&T Mobility	149	3	Panel	7250.03	4.24		3	Pipe Mounts		Shielded	6	1-1/4"	Internal
T-Mobile	140	3	Panel	DR65-19-XXDPQ	8.40	70, 180, 300	3	Pipe Mounts		Shielded	6	1-5/8"	Internal

Proposed

Antenna							Mount				Transmission Line		
Antenna Owner	Centerline Height (ft)	Quantity	Type	Model	EPA (ft²) each	Azimuth	Quantity	Type	Model	EPA (ft²) total	Quantity	Size	Attachment Leg/Face
Pocket Communications	130	3	Panel	742-213	5.42	30, 150, 270	3	Pipe Mounts		Shielded	6	1-5/8"	Internal

Future

Antenna							Mount				Transmission Line		
Antenna Owner	Centerline Height (ft)	Quantity	Type	Model	EPA (ft²) each	Azimuth	Quantity	Type	Model	EPA (ft²) total	Quantity	Size	Attachment Leg/Face
AT&T Mobility	149	6	Panel	7770.00	5.88		3	12' T-Arms		14.20	12	1-5/8"	Internal
AT&T Mobility	149	6	TMA	LGP 17201	Shielded			on same mount					

Note: Future loading is replacing existing loading at this elevation. Both the existing and future loadings have been considered. Future loading is controlling.

APPENDIX B

RISA Tower Output File

RISATower	Job: 27084 ANDOVER NORTH	Page: 1 of 2
GPD Group 520 South Main St. Suite 2531 Akron, OH 44311 Phone: (614) 210-0751 FAX: (614) 210-0752	Project: 2008265.64	Date: 09:30:46 11/26/08
	Client: AT&T	Designed by: kdavis

Tower Input Data

There is a pole section.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Tolland County, Connecticut.
Basic wind speed of 85 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 74 mph is used in combination with ice.
Deflections calculated using a wind speed of 50 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in pole 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 Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
LDF7-50A (1-5/8 FOAM)	A	No	Inside Pole	149.00 - 8.00	12	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	140.00 - 8.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82
LDF7-50A (1-5/8 FOAM)	B	No	Inside Pole	130.00 - 8.00	6	No Ice	0.00	0.82
						1/2" Ice	0.00	0.82

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
12' T-arms (3)	A	None		0.0000	149.00	No Ice	14.10	14.10	1.00
						1/2" Ice	16.00	16.00	1.20
(2) 7770.00	A	From Face	3.00 0.00 0.00	0.0000	149.00	No Ice	5.88	2.93	0.04
						1/2" Ice	6.31	3.27	0.07
(2) 7770.00	B	From Face	3.00 0.00 0.00	0.0000	149.00	No Ice	5.88	2.93	0.04
						1/2" Ice	6.31	3.27	0.07
(2) 7770.00	C	From Face	3.00 0.00 0.00	0.0000	149.00	No Ice	5.88	2.93	0.04
						1/2" Ice	6.31	3.27	0.07
(2) LGP 17201 TMA	A	From Face	3.00 0.00 0.00	0.0000	149.00	No Ice	0.00	0.52	0.03
						1/2" Ice	0.00	0.64	0.04
(2) LGP 17201 TMA	B	From Face	3.00	0.0000	149.00	No Ice	0.00	0.23	0.01

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2" Ice	0.00	0.31	0.02
			0.00						
(2) LGP 17201 TMA	C	From Face	3.00	0.0000	149.00	No Ice	0.00	0.23	0.01
			0.00			1/2" Ice	0.00	0.31	0.02
			0.00						
DR65-19-XXDPQ	A	From Face	0.50	0.0000	140.00	No Ice	8.40	3.53	0.03
			0.00			1/2" Ice	8.95	3.97	0.07
			0.00						
DR65-19-XXDPQ	B	From Face	0.50	10.0000	140.00	No Ice	8.40	3.53	0.03
			0.00			1/2" Ice	8.95	3.97	0.07
			0.00						
DR65-19-XXDPQ	C	From Face	0.50	0.0000	140.00	No Ice	8.40	3.53	0.03
			0.00			1/2" Ice	8.95	3.97	0.07
			0.00						
742-213 w/Mount Pipe	A	From Leg	0.50	30.0000	130.00	No Ice	5.42	4.63	0.05
			0.00			1/2" Ice	5.95	6.02	0.09
			0.00						
742-213 w/Mount Pipe	B	From Leg	0.50	30.0000	130.00	No Ice	5.42	4.63	0.05
			0.00			1/2" Ice	5.95	6.02	0.09
			0.00						
742-213 w/Mount Pipe	C	From Leg	0.50	30.0000	130.00	No Ice	5.42	4.63	0.05
			0.00			1/2" Ice	5.95	6.02	0.09
			0.00						

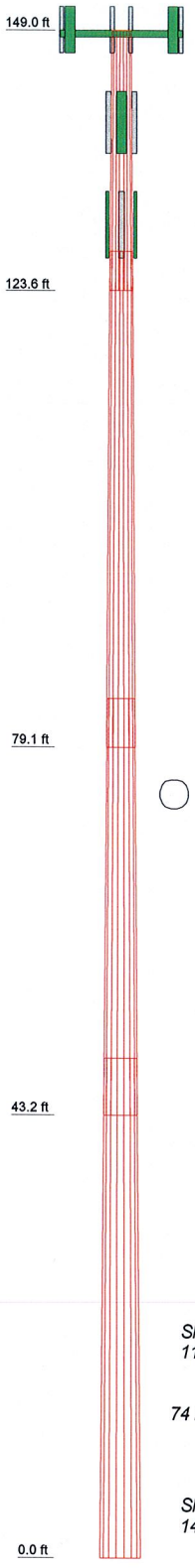
Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
L1	149 - 123.58	Pole	TP26.21x21.5x0.1875	1	-2.56	783.13	18.0	Pass
L2	123.58 - 79.123	Pole	TP33.96x25.1248x0.1875	2	-6.13	943.73	56.4	Pass
L3	79.123 - 43.203	Pole	TP40.11x32.7159x0.25	3	-10.60	1578.01	55.1	Pass
L4	43.203 - 0	Pole	TP47.5x38.595x0.3125	4	-19.27	2426.74	55.5	Pass
							Summary	
						Pole (L2)	56.4	Pass
						RATING =	**56.4**	**Pass**

APPENDIX C

Tower Elevation Drawing

Section	1	2	3	4
Length (ft)	25.42	48.29	40.67	48.79
Number of Sides	18	18	18	18
Thickness (in)	0.1875	0.1875	0.2500	0.3125
Lap Splice (ft)	3.83	4.75	5.58	
Top Dia (in)	21.5000	25.1248	32.7159	38.5950
Bot Dia (in)	26.2100	33.9600	40.1100	47.5000
Grade	A572-65			
Weight (K)	1.2	2.9	4.0	7.0



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
12' T-arms (3)	149	DR65-19-XXDPQ	140
(2) 7770.00	149	DR65-19-XXDPQ	140
(2) 7770.00	149	DR65-19-XXDPQ	140
(2) 7770.00	149	742-213 w/Mount Pipe	130
(2) LGP 17201 TMA	149	742-213 w/Mount Pipe	130
(2) LGP 17201 TMA	149	742-213 w/Mount Pipe	130
(2) LGP 17201 TMA	149		

MATERIAL STRENGTH

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

TOWER DESIGN NOTES

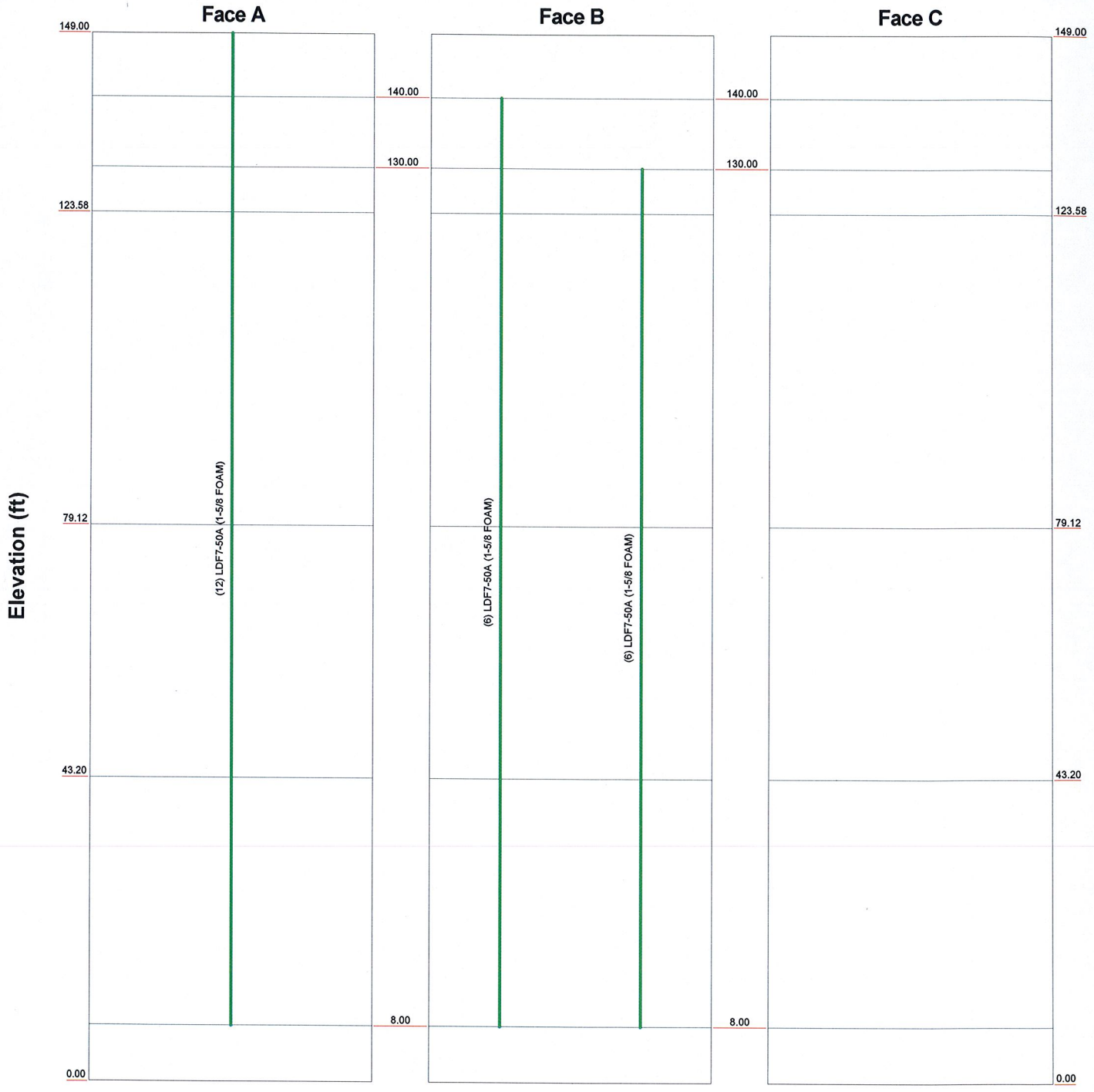
1. Tower is located in Tolland County, Connecticut.
2. Tower designed for a 85 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 74 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 50 mph wind.

GPD Group
520 South Main St. Suite 2531
Akron, OH 44311
Phone: (614) 210-0751
FAX: (614) 210-0752

Job: 27084 ANDOVER NORTH			
Project: 2008265.64			
Client: AT&T	Drawn by: kdavis	App'd:	
Code: TIA/EIA-222-F	Date: 11/26/08	Scale: NTS	
Path: G:\Telecom\2008265\84\RISA\27084 ANDOVER NORTH\ANDOVER NORTH.eri		Dwg No. E-1	

Feedline Distribution Chart
0' - 149'

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



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Phone: (614) 210-0751
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Job: 27084 ANDOVER NORTH		
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Client: AT&T	Drawn by: kdavis	App'd:
Code: TIA/EIA-222-F	Date: 11/26/08	Scale: NTS
Path: G:\Telecom\2008265\64\RISA\27084 ANDOVER NORTH\ANDOVER NORTH.eri		Dwg No. E-7

Feedline Plan
43'2-13/32"

Round Flat App In Face App Out Face

GPD Group
520 South Main St. Suite 2531
Akron, OH 44311
Phone: (614) 210-0751
FAX: (614) 210-0752

Job: 27084 ANDOVER NORTH		
Project: 2008265.64		
Client: AT&T	Drawn by: kdavis	App'd:
Code: TIA/EIA-222-F	Date: 11/26/08	Scale: NTS
Path: G:\Telecom\2008265\64\RISA\27084 ANDOVER NORTH\ANDOVER NORTH.er		Dwg No. E-7

APPENDIX D

Base Plate & Anchor Rod Analysis

Anchor Rod and Base Plate Stresses

27084 ANDOVER NORTH

Overturning Moment =	1289.38	k*ft
Axial Force =	19.27	k
Shear Force =	14.05	k

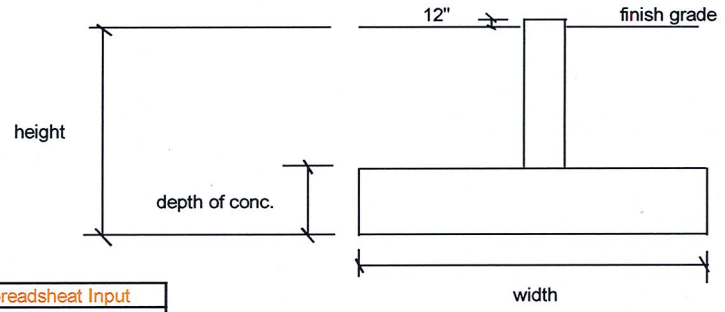
Anchor Rods		
Pole Diameter =	47.5	in
Number of Rods =	12	
Rod Grade (Fy) =	75	ksi
Rod Circle =	56	in
Rod Diameter =	2.25	in
Net Tensile Area =	3.25	in^2
Max Tension on Rod =	90.49	kips
Max Compression on Rod =	93.70	kips
Allow. Rod Force =	195.00	kips
Anchor Rod Capacity =	46.4%	**OK**

Base Plate		
Plate Strength (Fy) =	60	ksi
Plate Thickness =	1.5	in
w_{calc} =	12.44	in
e =	4.25	in
w_{max} =	17	in
w =	12.44	in
S =	4.66	in^3
fb =	85.40	ksi
Fb =	60	ksi
Base Plate Capacity =	142.3%	**Stiffeners Required**

APPENDIX E

Foundation Analysis

PAD & PIER DESIGN - Monopole
27084 ANDOVER NORTH



Spreadsheat Input
PCAMATS Input

TOWER REACTIONS

total overturning moment =	1289.38	Kip-ft
total shear =	14.05	Kip
axial =	19.27	Kip
ground water table =	Below	ft

PAD DIMENSIONS

width =	20.5	ft
height =	6.5	ft
depth of conc =	3	ft
γ_{soil} =	0.100	kcf
γ_{conc} =	0.150	kcf
Mr =	3945.67	k-ft
Mot =	1387.73	k-ft
P =	355.47	k
w_{wedge}	7.25	k
Allowable Bearing =	4	ksf

F.S. $_{OVERTURNING}$ = 2.8432577 ok > 1.5 — F.S. $_{OVERTURNING}$ / F.S. $_{ALLOWABLE}$ = 52.8%

LOAD PERPENDICULAR TO PAD

Q_{MAX} = P/A+M/S=	1.8123376	
Q_{MIN} = P/A-M/S=	-0.12063029	

width/6	M/P	
3.42	3.90	NG (width/6 < M/P), use Qmax

IF M/P>width/6

Qmax = 1.822 ksf — Q_{MAX}/Q_{ALL} = 45.5% OK

Qmin = 0.000 ksf

LOAD AT 45 DEGREES TO PAD

Q_{MAX} = P/A+M/S=	2.21503925
Q_{MIN} = P/A-M/S=	-0.52333193

Verify max pressure in PCAMATS for this load case

Mx =	981.274	
My =	981.274	
e_X =	2.760	
ey =	2.760	
e_X/W =	0.135	ok (e/W < 1/6)
e_Y/W =	0.135	ok (e/W < 1/6)

IF e/W > 1/6

Q_{ALL} =	1009.7	kips
Q_{MAX} =	559.11	kips
Q_{MAX}/Q_{ALL} =	55.4%	OK

B_1 = 22.47 ft

L_1 = 22.47 ft

Foundation Capacity:	**55.4%**	**OK**