

# 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](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

December 16, 2008

Steven L. Levine  
New Cingular Wireless PCS, LLC  
500 Enterprise Drive  
Rocky Hill, CT 06067-3900

RE: **EM-CING-032-081124**- New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 400 Riley Mountain Road, Coventry, Connecticut.

Dear Mr. Levine:

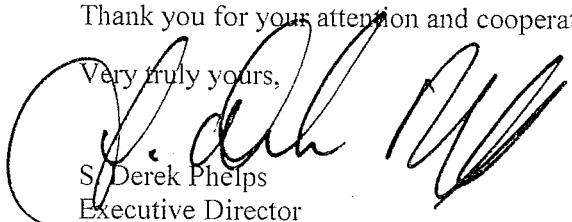
The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated November 24, 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 James E. Clark, Chairman Town Council, Town of Coventry  
John A. Elsesser, Town Manager, Town of Coventry  
Eric M. Trott, Director of Planning & Development, Town of Coventry  
Crown Castle

EM-CING-032-081124



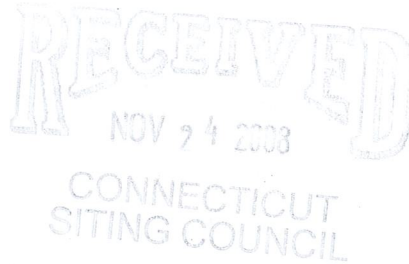
New Cingular Wireless PCS, LLC  
500 Enterprise Drive  
Rocky Hill, Connecticut 06067-3900  
Phone: (860) 513-7636  
Fax: (860) 513-7190

Steven L. Levine  
Real Estate Consultant

ORIGINAL

HAND DELIVERED

November 24, 2008



Honorable Daniel F. Caruso, Chairman,  
and Members of the Connecticut Siting Council  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

Re: New Cingular Wireless PCS, LLC notice of intent to modify an existing tele-communications facility located at 400 Riley Mountain Road, Coventry (owner, Crown Castle).

Dear Chairman Caruso and Members of the Council:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") capability, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC ("AT&T") plans to modify the equipment configurations at many of its existing cell sites. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the chief elected official of the municipality in which the affected cell site is located.

UMTS technology offers services to mobile computer and phone users anywhere in the world. Based on the Global System for Mobile (GSM) communication standard, UMTS is the planned worldwide standard for mobile users. UMTS, fully implemented, gives computer and phone users high-speed access to the Internet as they travel. They have the same capabilities even when they roam, through both terrestrial wireless and satellite transmissions.

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

The changes to the facility do not constitute modifications as defined in Connecticut General

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

1. The height of the overall structure will be unaffected. Modifications to the existing site include all or some of the following as necessary to bring the site into conformance with the plan:

- Replacement of existing panel antennas with new antennas or, installation of additional antennas of a size required to accommodate UMTS.
- Installation of small tower mount amplifiers ("TMA's") and/or diplexers to the platform on which the panel antennas are mounted to enhance signal reception.
- Installation of additional or larger coaxial cables as required.
- Installation of an additional equipment cabinet in existing shelters, or on existing or enlarged concrete pads.
- Radome enlargement for flagpole and "stick" structures to accommodate larger antennas and additional associated equipment.

None of these modifications will extend the height of the tower.

2. The proposed changes will not extend the site boundaries. There will be no effect on the site compound other than some enlarged equipment pads as may be noted in the attachments.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more.

4. Radio frequency power density may increase due to use of one or more GSM channel for UMTS transmissions. However, the changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site.

For the foregoing reasons, New Cingular Wireless respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (860) 513-7636 with questions concerning this matter. Thank you for your consideration.

Sincerely,



Steven L. Levine  
Real Estate Consultant

Attachments

**NEW CINGULAR WIRELESS  
Equipment Modification**

400 Riley Mountain Road, Coventry  
Site Number 1106  
Exempt Modifications approved 10/01 and 8/02

**Tower Owner/Manager:** Crown Castle

**Equipment Configuration:** Monopole

**Current and/or Approved:** Nine CSS DUO-1417-8686 panel antennas @ 117 ft AGL  
Six TMA's @ 117 ft  
Nine runs 1 1/4 inch coax cable  
Equipment Shelter

**Planned Modifications:** Remove all existing equipment and coax  
Install six Powerwave 7770 antennas (or equivalent) @ 119 ft  
Install six TMA's and six diplexers @ 119 ft  
Install three additional lines 1 1/4 inch coax

**Power Density:**

Worst-case calculations for existing wireless operations at the site indicate a radio frequency electromagnetic radiation power density, measured at ground level beside the tower, of approximately 37 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density following proposed modifications would be approximately 34.4 % of the standard.

**Existing**

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm <sup>2</sup> )	Standard Limits (mW/cm <sup>2</sup> )	Percent of Limit
Other Users *							24.92
AT&T TDMA *	117	880 - 894	16	100	0.0420	0.5867	7.16
AT&T GSM *	117	1900 Band	2	427	0.0224	1.0000	2.24
AT&T GSM *	117	880 - 894	2	296	0.0155	0.5867	2.65
<b>Total</b>							<b>37.0%</b>

\* Per CSC records

### Proposed

Company	Centerline Ht (feet)	Frequency (MHz)	Number of Channels	Power Per Channel (Watts)	Power Density (mW/cm <sup>2</sup> )	Standard Limits (mW/cm <sup>2</sup> )	Percent of Limit
Other Users *							24.92
AT&T UMTS	119	880 - 894	1	500	0.0127	0.5867	2.16
AT&T GSM	119	1900 Band	2	427	0.0217	1.0000	2.17
AT&T GSM	119	880 - 894	4	296	0.0301	0.5867	5.12
<b>Total</b>							<b>34.4%</b>

\* Per CSC records

### Structural information:

The attached structural analysis demonstrates that the tower and foundation have adequate structural capacity to accommodate the proposed equipment modifications. (GPD Associates, 10/31/08)



**New Cingular Wireless PCS, LLC**  
500 Enterprise Drive  
Rocky Hill, Connecticut 06067-3900  
Phone: (860) 513-7636  
Fax: (860) 513-7190

**Steven L. Levine**  
Real Estate Consultant

November 24, 2008

John A. Elsesser, Town Manager  
Town of Coventry  
Town Office Bldg. 1712 Main Street  
Coventry, CT 06238

Re: Telecommunications Facility – Riley Mountain Road

Dear Mr. Elsesser:

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System (“UMTS”) capability, and enhance system performance in the State of Connecticut, New Cingular Wireless PCS, LLC (“AT&T”) will be changing its equipment configuration at certain cell sites.

As required by Regulations of Connecticut State Agencies (“R.C.S.A.”) Section 16-50j-73, the Connecticut Siting Council has been notified of the changes and will review AT&T’s proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter to the Siting Council fully describes AT&T’s proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council’s procedures, please call me at (860) 513-7636 or Mr. Derek Phelps, Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Steven L. Levine  
Real Estate Consultant

Enclosure

Date: **October 31, 2008**

Eva Morales  
Crown Castle USA Inc.  
46 Broadway  
Albany, NY 12204  
(518) 433-6250



GPD Associates  
520 South Main Street, Suite 2531  
Akron, Ohio 44311  
(317) 299-2996  
uguduru@gpdgroup.com

**Subject: Structural Analysis Report**

**Carrier Designation:**

**AT&T Mobility Co-Locate**  
**Carrier Site Number:** 1106  
**Carrier Site Name:** Coventry-Riley Mountain Road

**Crown Castle Designation:**

**Crown Castle BU Number:** 876385  
**Crown Castle Site Name:** N. Coventry/ Wallbeoff  
**Crown Castle JDE Job Number:** 111650  
**Crown Castle Work Order Number:** 237978

**Engineering Firm Designation:**

**GPD Associates Project Number:** 2008281.58

**Site Data:**

**Reilly Mtn. Rd., Coventry, Connecticut 06238, Tolland County**  
**Latitude 41° 47' 56.21", Longitude -72° 19' 55.88"**  
**152 Foot – EEI Monopole Tower**

Dear Ms. Eva Morales,

GPD Associates is pleased to submit this "**Structural Analysis Report**" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 308915, in accordance with application 70308, revision 1.

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

LC1: Existing + Reserved + Proposed Equipment

**Sufficient Capacity**

Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

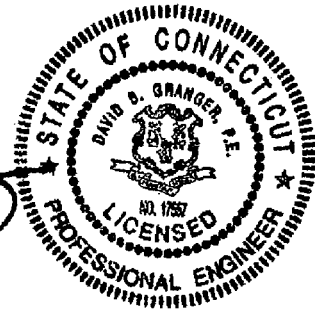
The analysis has been performed in accordance with the TIA/EIA-222-F standard and all local code requirements based upon a wind speed of 85 mph fastest mile.

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

Respectfully submitted by:

A handwritten signature in black ink, appearing to read "David B. Granger", is written over the typed name and extends into the circular seal.

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



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## 1) INTRODUCTION

The monopole has 18 sides and is evenly tapered from 75" (flat-flat) at the base to 33.03" (flat-flat) at the top. It has four major sections connected with slip joints. The tower is galvanized and has no tower lighting.

This tower is a 152 ft Monopole tower designed by EEI in November of 2007. The tower was originally designed for a wind speed of 90 mph per TIA/EIA-222-F.

## 2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 85 mph with no ice, 73.6 mph with 0.5 inch ice thickness and 60 mph under service loads.

**Table 1 - Proposed Antenna and Cable Information**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
116	119	6	Powerwave	LGP21401 TMA's	3	1-1/4	1
		6	Powerwave	LGP21903 Diplexer's			
		6	Powerwave	7770.00			

Notes:

- 1) See Appendix B for proposed coax layout.

**Table 2 - Existing and Reserved Antenna and Cable Information**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
150	152	6	Decibel	DB980F90T2E-M	6	1-5/8	1
	150	1		12' LP Platform			
133	136	6	Ericsson	KRY 112 71/2 TMA's			
		3	EMS Wireless	RR90-17-02DP	6	1-5/8	
		3	EMS Wireless	RR90-17-02DP	6	1-5/8	2
	133	1		13' Low Profile Platform			
124	126	6	Decibel	DB846H80E-SX	12	1-5/8	3
		6	Decibel	DB948F85E-M			
	124	1		13' Low Profile Platform			
116	119	9	CSS	DUO4-8670			4
		6	ADC	CG-800DD-FULL-DIN TMA's			4
	116	1		12' LP Platform	9	1-1/4	
107	107	3	Kathrein	742-213	6	1-5/8	2
74	75	1	Lucent	KS24019-L112A GPS	1	1/2	
	74	1		4' Standoff			
60	60	1	Kathrein	738 449	2	1/2	2
		1		GPS			
		2		4' Standoff's			

Notes:

- 1) Both the MLA and Existing loading scenarios were considered. In this case, the MLA loading controls the analysis.
- 2) Reserved Equipment.
- 3) Both the SLA and Existing loading scenarios were considered. In this case, the SLA loading controls the analysis.
- 4) Equipment to be removed and is not considered in this analysis.

**Table 3 - Design Antenna and Cable Information**

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
150	150	1		LP Platform		
		12	Dapa	48000		
140	140	1		LP Platform		
		12	Dapa	48000		
130	130	1		LP Platform		
		12	Dapa	48000		
120	120	1		LP Platform		
		12	Dapa	48000		
110	110	1		LP Platform		
		12	Dapa	48000		
100	100	1		LP Platform		
		12	Dapa	48000		

### 3) ANALYSIS PROCEDURE

**Table 4 - Documents Provided**

Document	Remarks	Reference	Source
Original Tower Drawings	Engineered Endeavors, Inc. Job #: 7831, dated 11/9/07	Doc ID # 1614566	Crown DMZ
Foundation Design	Engineered Endeavors, Inc. Project #: 7831 Rev. 1, dated 9/25/2000	Doc ID # 1441268	crown DMZ
Geotechnical Report	Goodkind & O'Dea, Inc. dated August, 2000	Doc ID # 1531969	Crown DMZ

#### 3.1) Analysis Method

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

#### 3.2) Assumptions

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

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

#### 4) ANALYSIS RESULTS

**Table 5 - Section Capacity (Summary)**

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	152 - 137.423	Pole	TP37.31x33.03x0.3125	1	-3.06	1829.53	3.6	Pass
L2	137.423 - 91.09	Pole	TP50.15x35.1679x0.375	2	-17.71	2956.95	22.4	Pass
L3	91.09 - 44.793	Pole	TP62.86x47.4122x0.4375	3	-32.39	4329.64	31.0	Pass
L4	44.793 - 0	Pole	TP75x59.5377x0.5	4	-56.08	6146.50	33.8	Pass
							Summary	
						Pole (L4)	33.8	Pass
						Rating =	33.8	Pass

**Table 6 - Tower Component Stresses vs. Capacity - LC1**

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	31.0%	Pass
1	Base Plate	0	58.7%	Pass
2	Base Foundation	0	42.2%	Pass

<b>Structure Rating (max from all components) =</b>	<b>58.7%</b>
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Notes:

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

#### 4.1) Recommendations

The design of the tower and its foundation are sufficient for proposed loading and do not require any modifications.

## 5) DISCLAIMER OF WARRANTIES

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

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

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

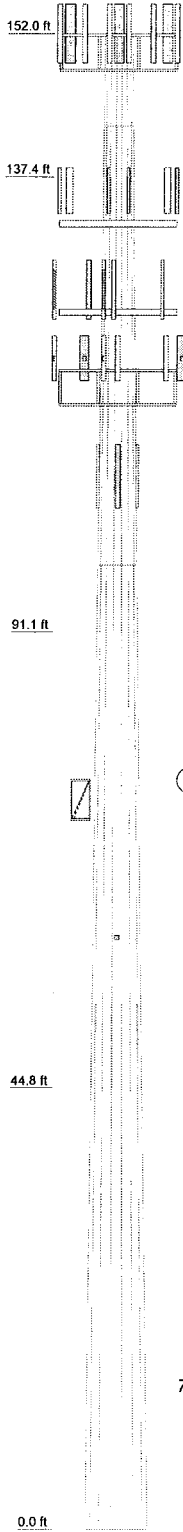
It is the owner's responsibility to determine the amount of ice accumulation, if any, that should be considered in the structural analysis.

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

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

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

Section	1	2	3	4
Length (ft)	14.58	51.50	53.13	53.21
Number of Sides	18	18	18	18
Thickness (in)	0.3125	0.3750	0.4375	0.5000
Lap Splice (ft)	5.17		8.42	
Top Dia (in)	33.0300	35.1679	47.4122	59.5377
Bot Dia (in)	37.3100	50.1500	62.8600	75.0000
Grade			A572-65	
Weight (K)	1.7	8.8	13.7	19.2



### DESIGNED APPURTENANCE LOADING

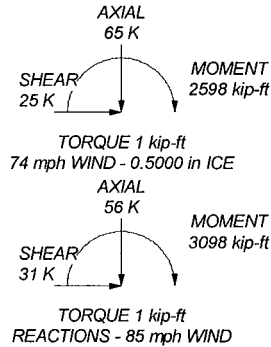
TYPE	ELEVATION	TYPE	ELEVATION
12' LP Platform	150	(2) 7770.00 w/Mount Pipe	116
(3) FV65-14-00NA2 w/Mount Pipe	150	(2) 7770.00 w/Mount Pipe	116
(3) FV65-14-00NA2 w/Mount Pipe	150	(2) 7770.00 w/Mount Pipe	116
(3) FV65-14-00NA2 w/Mount Pipe	150	(2) LGP21401	116
PIROD 13' Low Profile Platform	133	(2) LGP21401	116
(2) RR90-17-02DP w/Mount Pipe	133	(2) LGP21401	116
(2) RR90-17-02DP w/Mount Pipe	133	(2) LGP21903 Diplexer	116
(2) RR90-17-02DP w/Mount Pipe	133	(2) LGP21903 Diplexer	116
(2) KRY 112 7 1/2	133	(2) LGP21903 Diplexer	116
(2) KRY 112 7 1/2	133	742-213 w/Mount Pipe	107
(2) KRY 112 7 1/2	133	742-213 w/Mount Pipe	107
PIROD 13' Low Profile Platform	124	742-213 w/Mount Pipe	107
(2) DB846H80E-SX w/Mount Pipe	124	Pirod 4' Side Mount Standoff (1)	74
(2) DB846H80E-SX w/Mount Pipe	124	KS24019-L 112A	74
(2) DB846H80E-SX w/Mount Pipe	124	Pirod 4' Side Mount Standoff (1)	60
(2) DB948F85E-M w/Mount Pipe	124	Pirod 4' Side Mount Standoff (1)	60
(2) DB948F85E-M w/Mount Pipe	124	GPS	60
(2) DB948F85E-M w/Mount Pipe	124	738 449 w/Mount Pipe	60
12' LP Platform	116		


### 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 60 mph wind.
5. TOWER RATING: 33.8%



 <b>GPD Associates</b> 520 South Main Street, Ste 2531 Akron, Ohio Phone: (330)572.2100 FAX: (330)572.2101	<b>Job: 876385 N. Coventry/Wallbeoff</b> Project: 2008281.58 Client: Crown Castle USA, Inc. Code: TIA/EIA-222-F Path: G:\T\elec\2008281\58\visa\876385.en	Drawn by: ugoduru Date: 10/31/08 Scale: NTS Dwg No. E-1
	App'd: _____ Scale: NTS	