



# 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)

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

Daniel F. Caruso

Chairman

February 17, 2009

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

RE: **EM-CING-028-081229**- New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 315 Old Hartford Road, Colchester, 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 December 23, 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

c: The Honorable Linda M. Riley Hodge, First Selectman, Town of Colchester  
Christopher Beauchemin, Town Planner, Town of Colchester  
Clark Family Trust

EM-CING-028-081229



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

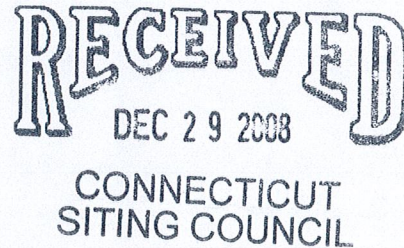
Steven L. Levine  
Real Estate Consultant

ORIGINAL

HAND DELIVERED

December 23, 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 315 Old Hartford Road, Colchester (owner, Clark Family Trust)

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.
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,

A handwritten signature in blue ink, appearing to read 'S. L. Levine', is written over the typed name.

Steven L. Levine  
Real Estate Consultant

Attachments

**NEW CINGULAR WIRELESS  
Equipment Modification**

315 Old Hartford Road, Colchester  
Site Number 5346  
Former AT&T cell site  
Petition 605 approved 2/02

**Tower Owner/Manager:** Clark Family Trust

**Equipment Configuration:** Monopole

**Current and/or Approved:** Three Allgon 7250 panel antennas @ 57.5 ft AGL  
Six runs 7/8 inch coax cable  
Concrete pad with outdoor cabinets

**Planned Modifications:** Remove all existing antennas  
Install new low profile platform @ 57.5 ft  
Install six Powerwave 7770 antennas (or equivalent) @ 57.5 ft  
Install six TMA's and six diplexers @ 57.5 ft  
Install six additional lines 7/8 inch coax  
Remove one outdoor cabinet  
Install one new outdoor cabinet for UMTS

**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 29.3 % 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 58.9 % 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 *							18.43
AT&T GSM *	57.5	1900 Band	4	250	0.1088	1.0000	10.88
<b>Total</b>							<b>29.3%</b>

\* Per CSC records

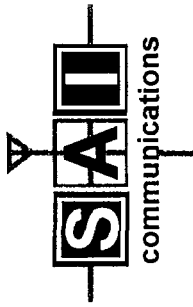
## Proposed

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 *							18.43
AT&T UMTS	57.5	880 - 894	1	500	0.0544	0.5867	9.27
AT&T GSM	57.5	1900 Band	2	427	0.0929	1.0000	9.29
AT&T GSM	57.5	880 - 894	4	296	0.1288	0.5867	21.95
Total							58.9%

\* Per CSC records

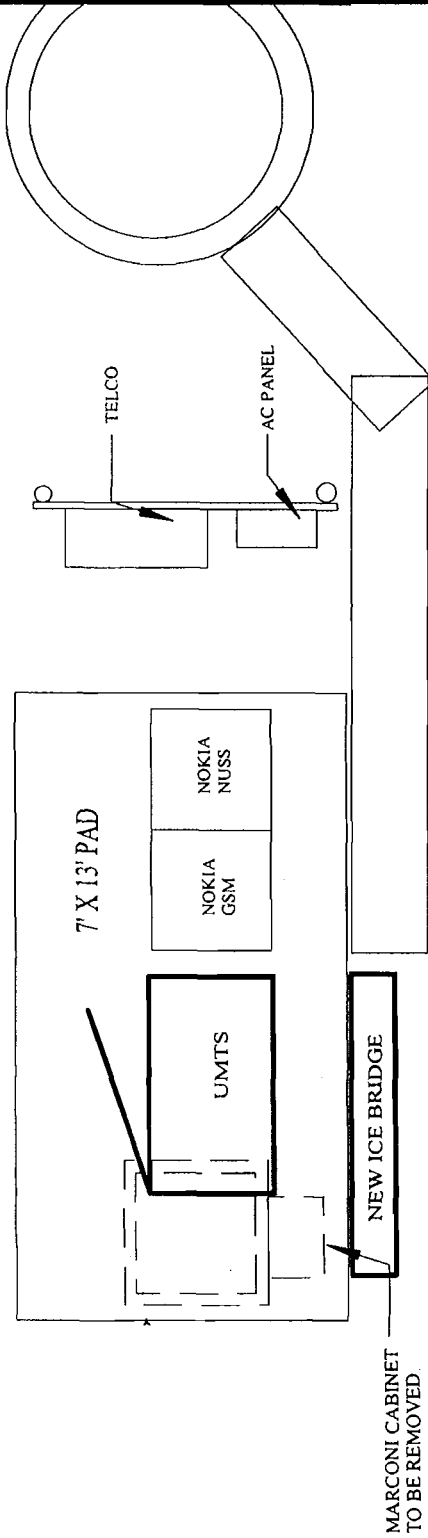
### Structural information:

The attached structural analysis demonstrates that the tower will have adequate structural capacity to accommodate the proposed equipment modifications. (GPD Associates, 12/15/08)



SITENUMBER  
5346  
SITE NAME  
Colchester North Central

TITLE:	EQUIPMENT PLAN
MISC. INFO:	
DWG. BY:	SGB
DATE:	07/07/08
SCALE:	N.T.S.
SHEET:	1 OF 1





**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

December 23, 2008

Linda M. Hodge, 1<sup>st</sup> Selectman  
Town of Colchester  
Town Hall, 127 Norwich Ave.  
Colchester, CT 06415

Re: Telecommunications Facility – 315 Old Hartford Road

Dear Ms. Hodge:

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





## 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 AT&T to SAI. This report was commissioned by Ms. Karen Couture of SAI.

No foundation or geotechnical information was available or provided for this report. Therefore, the in place capacity of the existing foundation could not be verified. A foundation mapping and geotechnical investigation is recommended to verify the capacity of the foundation with the proposed loading.

### TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Monopole	27.1%	Pass
Base Plate	14.2%	Pass
Anchor Rods	20.3%	Pass
Foundation	Not Verified	N/A

## 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.

### DOCUMENTS PROVIDED

Document	Remarks	Source
AT&T UMTS Document	AT&T Mobility TB 2009 UMTS Scope Meeting Notes	K. Couture
Tower Mapping	GPD Associates and Northeast Towers Inc, dated 12/3/08	GPD

## 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 prior structural modifications, if any, are assumed to be as per data supplied/available, to have been properly installed and to be fully effective.
9. Tower Mounted Amplifiers and Diplexers are assumed to be installed behind antennas.
10. All existing loading was obtained from the recent tower mapping by GPD Associates and Northeast Towers Inc., dated 12/3/08, the provided UMTS Document and site photos and is assumed to be accurate.
11. All proposed coax is assumed to be 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 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.

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**APPENDIX A**

**Tower Analysis Summary Form**

# Tower Analysis Summary Form

<b>General Info</b>	
Site Name	COLCHESTER NORTH CENTRAL
Site Number	25989
Site FA	10076973
Date of Analysis	12/15/2008
Company Performing Analysis	GPD Associates

<b>Tower Info</b>	
Tower Type (G, SST, MP)	MP
Tower Height (top of steel AGL)	61
Tower Manufacturer	n/a
Tower Model	n/a
Manufacturer Drawings	n/a
Foundation Design	n/a
Geotech Report	n/a
Tower Mapping	GPD & Northeast Towers Inc
Previous Structural Analysis	n/a
Date	12/9/2008

<b>Steel Yield Strength (ksi)</b>	
Pole	60
Base Plate	50
Anchor Rods	75

Note: Steel grades were assumed

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

### Design Parameters

Design Code Used	TIA/EIA-222-F
Location of Tower (County, State)	New London, 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	27.1%
Foundation	n/a
Guy Wire	n/a

Note: Foundation not Verified

Proposed Condition	
Tower	18.2%
Foundation	n/a
Guy Wire	n/a

Note: Foundation not Verified

### Existing/Reserved

Antenna	Antenna				Mount			Transmission Line					
	Attachment Height (ft)	Quantity	Type	Model	EPA (ft²) each	Azimuth	Quantity	Type	Model	EPA (ft²) total	Quantity	Size	Attachment Leg/Face
Unknown	59.5	1	Whip	20' Whip Antenna	6.00		1	Stand-Off		2.27			
AT&T Mobility	57.5	3	Panel	AWS80162	2.66		3	Flush Mount		shielded	6	7/8"	Internal
Unknown	43.75	1	Yagi	2' Yagi Antenna	0.30		1	Stand-Off		2.27	1	1/2"	Internal
Unknown	29.5	1	Yagi	3' Yagi Antenna	0.52		1	Stand-Off		2.27	1	1/2"	Internal
Unknown	29.5	1	Yagi	6' Yagi Antenna	1.20		1	Stand-Off on same mount		shielded	1	1/2"	Internal

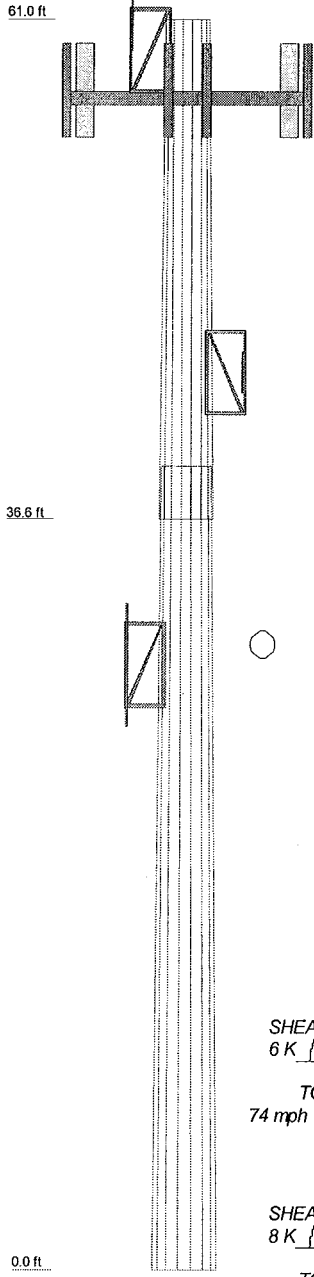
### Proposed

Antenna	Antenna				Mount			Transmission Line					
	Attachment Height (ft)	Quantity	Type	Model	EPA (ft²) each	Azimuth	Quantity	Type	Model	EPA (ft²) total	Quantity	Size	Attachment Leg/Face
AT&T Mobility	57.5	6	Panel	7770.00	6.58		1	LP Platform	PR0D	15.70	6	LDf5-50A 7/8"	Internal
AT&T Mobility	57.5	6	TMA	LGP21401	shielded			on same mount					
AT&T Mobility	57.5	6	Diplexer	LGP21803	shielded			on same mount					

Note: The existing antennas at 57.5' shall be removed prior to the installation of the proposed loading. The existing coax shall be reused for a total of (12) LDf5-50A 7/8" coax.

Revision: 1.2  
Date: 12/15/06

Section	1	2
Length (ft)	24.42	39.19
Number of Sides	16	16
Thickness (in)	0.2188	0.2500
Lap Splice (ft)	2.61	
Top Dia (in)	26.7500	30.4124
Bot Dia (in)	31.3410	38.2200
Grade	A572-60	A572-60
Weight (K)	1.7	3.6



### DESIGNED APPURTENANCE LOADING

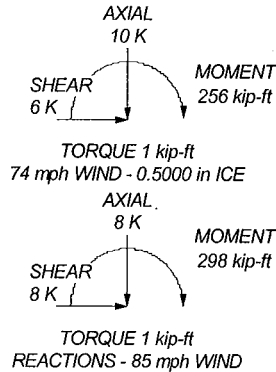
TYPE	ELEVATION	TYPE	ELEVATION
20' Omni	59.5	PIROD 13' Low Profile Platform	57.5
2' Angled Standoff	59.5	(2) 7770.00 w/Mount Pipe	57.5
(2) 7770.00 w/Mount Pipe	57.5	(2) 7770.00 w/Mount Pipe	57.5
(2) LGP21401	57.5	2' Yagi	43.75
(2) LGP21401	57.5	2' Angled Standoff	43.75
(2) LGP21401	57.5	3' Yagi	29.5
(2) LGP21903 Diplexer	57.5	2' Angled Standoff	29.5
(2) LGP21903 Diplexer	57.5	6' Yagi	29.5
(2) LGP21903 Diplexer	57.5		


### MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-60	60 ksi	75 ksi			

### TOWER DESIGN NOTES

1. Tower is located in New London 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: 27.1%



 <b>GPD Associates</b> 520 South Main Street, Ste 2531 Akron, Ohio Phone: (330)572.2100 FAX: (330)572.2101	Job: <b>25960 COLCHESTER NORTH CENTRAL (CT5346)</b> Project: <b>2008013.23</b>
	Client: <b>AT&amp;T</b> Drawn by: <b>uguduru</b> App'd:
	Code: <b>TIA/EIA-222-F</b> Date: <b>12/15/08</b> Scale: <b>NTS</b>
	Path: <b>G:\Telecom\2008013\23\visa\Colchester North Central.er</b> Dwg No. <b>E-1</b>