



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

HAND DELIVERED



CONNECTICUT
SITING COUNCIL

September 19, 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 Request for Re-Acknowledgment of a
Previously-Acknowledged Notice of Exempt Modification

EM-CING-014-080917 150 North Main Street, Branford

Dear Chairman Caruso and Members of the Council:

On September 17, 2008, New Cingular Wireless ("AT&T") submitted a letter and checks totaling \$8,000, requesting re-acknowledgment of 16 notices of exempt modification. These notices had been filed and approved in 2006 with a 1-year expiration date, but AT&T had not initiated or completed the approved site modifications within the year allowed by the Council. Accordingly, the acknowledgments expired and AT&T is now requesting re-acknowledgment so the site modifications may proceed.

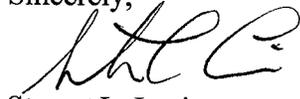
Acting upon the 9/17/08 letter, Council staff assigned 16 new EM numbers and requested additional information from AT&T for each site. The request concerned the status of structural analysis records presently in the Council's files, i.e., did the latest structural in Council files for each site incorporate the modifications approved for AT&T in 2006?

We have assessed this matter and have found that the existing structural analysis in Council files for the referenced site *does* include AT&T's modifications approved by the Council in 2006. The latest action for the site that affected tower loading was T-Mobile's 2007 filing. The structural analysis submitted by T-Mobile incorporated the approved loading from Cingular's 2006 filing.

AT&T, therefore, respectfully requests that the Council acknowledge the referenced Notice of Exempt Modification so that its planned site modifications may proceed.

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 black ink, appearing to read 'S.L. Levine', written in a cursive style.

Steven L. Levine
Real Estate Consultant

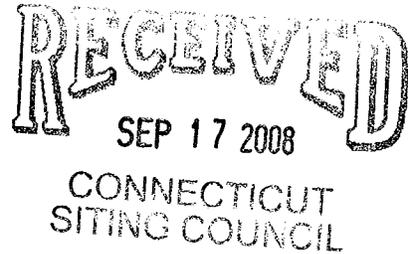


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HAND DELIVERED

September 17, 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 Request for Re-Acknowledgment of Sixteen Previously-Acknowledged Notices of Exempt Modification

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. This program has been in progress since 2006.

In 2006, AT&T submitted a number of Notices of Exempt Modification and received the Council's acknowledgments, each carrying a 1-yr expiration provision. On-site installation was completed at most of the cell sites within the ensuing year. However, for a number of sites the work was either not begun or not completed before expiration of the Council's approval.

At this time AT&T intends to finish UMTS modifications at the affected sites and hereby requests the Council's re-acknowledgment for sixteen of the earlier Notices of Exempt Modification. For each site, we herewith submit a filing fee of \$500.

For each site, the materials required for a notice of exempt modification are already in the Council's files owing to the earlier filings, and the currently-proposed modifications are the same as those previously acknowledged by the Council. Therefore, we are submitting AT&T's request for re-acknowledgment in this form to avoid needless waste of paper.

The sites and the earlier Exempt Modification Notices are:

2 West Street, Rocky Hill	EM-CING-119-007-155-064-060623
260 Beckley Road, Berlin	EM-CING-119-007-155-064-060623
123 Costello Road, Newington	EM-CING-064-043-155-094-060609
179 Shunpike Road, Cromwell	EM-CING-033-017-060728
290 Preston Avenue, Middletown	EM-CING-033-080-083-060525
945 East Center Street, Wallingford	EM-CING-148-101-060-060609
992 Northrop Road, Wallingford	EM-CING-084-148-014-060623
10 Bona Street, Milford	EM-CING-014-084-060602
438 Bridgeport Avenue, Milford	EM-CING-084-060728
185 Research Drive, Milford	EM-CING-084-148-014-060623
4 Beaver Road, Branford	EM-CING-084-148-014-060623
150 North Main Street, Branford	EM-CING-014-148-060707
123 Meadow Street, Hartford	EM-CING-119-007-155-064-060623
92 Weston Street, Hartford	EM-CING-064-119-060707
1030 New Britain Avenue, West Hartford	EM-CING-119-007-155-064-060623
310 Orange Street, New Haven	EM-CING-093-084-060613

For the foregoing reasons, AT&T respectfully requests that the Council re-acknowledge the sixteen referenced Notices of Exempt Modification so that its planned site modifications may proceed.

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



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

www.ct.gov/csc

July 27, 2006

Elizabeth H. Lankenau, AICP
Kise Straw & Kolodner Inc.
123 South Broad Street, Suite 1270
Philadelphia, PA 19109

RE: **EM-CING-014-148-060707** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 150 North Main Street, Branford; and 23 Wayne Road, Wallingford, Connecticut.

Dear Ms. Lankenau:

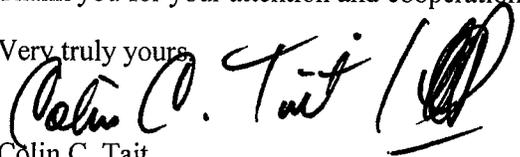
At a public meeting held on July 27, 2006, the Connecticut Siting Council (Council) acknowledged your notice to modify these existing telecommunications facilities, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies.

The proposed modifications are to be implemented as specified here and in your notice dated July 6, 2006 and errata sheets received July 20, 2006, including the placement of all necessary equipment and shelters within the tower compounds. 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 existing facility sites that would not increase tower heights, extend the boundaries of the tower sites, increase noise levels at the tower site boundaries by six decibels, and increase the total radio frequencies electromagnetic radiation power densities measured at the tower site boundaries to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. These facilities have also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on these towers.

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 any of these facilities 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,


Colin C. Tait
Chairman

CCT/laf

c: See Attached List

List Attachment.

- c: The Honorable Cheryl P. Morris, First Selectman, Town of Branford
- Justine K. Gillen, Zoning Enforcement Officer, Town of Branford
- Diana Ross, Inland Wetland Enforcement Officer, Town of Branford
- The Honorable William W. Dickinson, Jr., Mayor, Town of Wallingford
- Linda Bush, Town Planner, Town of Wallingford
- Thomas J. Regan, Esq., Brown Rudnick Berlack Israels LLP
- Karen L. Couture, Site Acquisition Specialist
- Michele G. Briggs, New Cingular Wireless PCS, LLC
- Christopher B. Fisher, Esq., Cuddy & Feder LLP
- Thomas F. Flynn III, Esq., Sprint Nextel Communications
- Sam J. D'Agostino, Zoning Specialist, PageNet, Inc.
- Global Signal
- Stephen B. Tripp

Perrone, Michael

EM-CING-014-148-060707

From: Karen Couture [karencouture@myeastern.com]
Sent: Thursday, July 20, 2006 2:12 PM
To: Perrone, Michael
Subject: 23 Wayne Road, Wallingford, CT-Errata Sheet
Importance: High

Dear Mr. Perrone,

Attached you will find an errata sheet for 23 Wayne Road, Wallingford, CT. The "antenna configuration" text has been revised on the "Proposed Modifications" page, which matches the structural analysis letter.

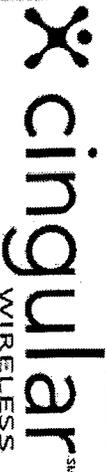
Should you have any further questions, please do not hesitate to call.

Thank you.

Karen L. Couture
Site Acquisition Specialist
Mobile: 860-389-4924
E-Fax: 888-281-6394
Email: karencouture@myeastern.com

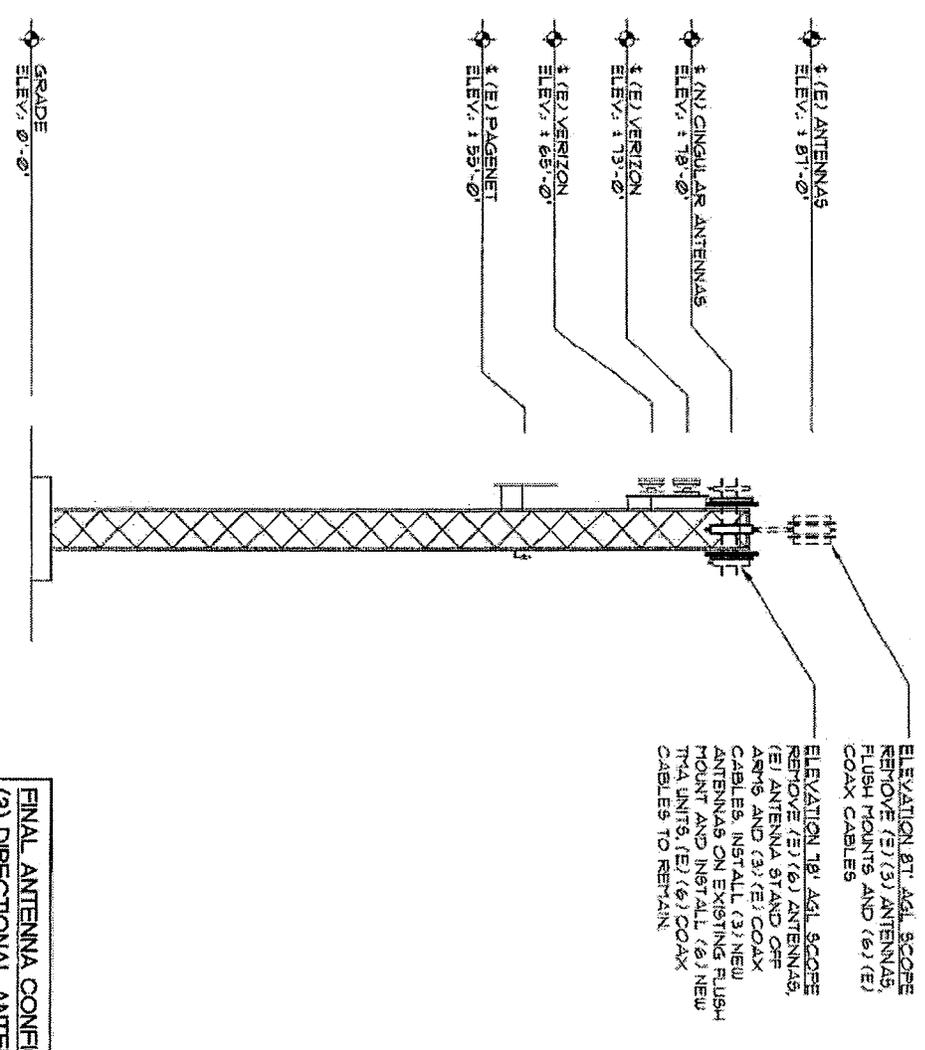
RECEIVED
JUL 21 2006
CONNECTICUT
SITING COUNCIL

7/21/2006



NO.	DATE	DESCRIPTION	BY	CHECKED BY	SCALE
1	05-05-06	ISSUED FOR SUBMITTAL	RR	JZ	1"=30'-0"
2	07-05-06	ISSUED FOR CSC REVIEW	RR	JZ	
3	08-05-06	REVISION DESCRIPTION	RR	JZ	

1 TOWER ELEVATION
1'-30'-0"

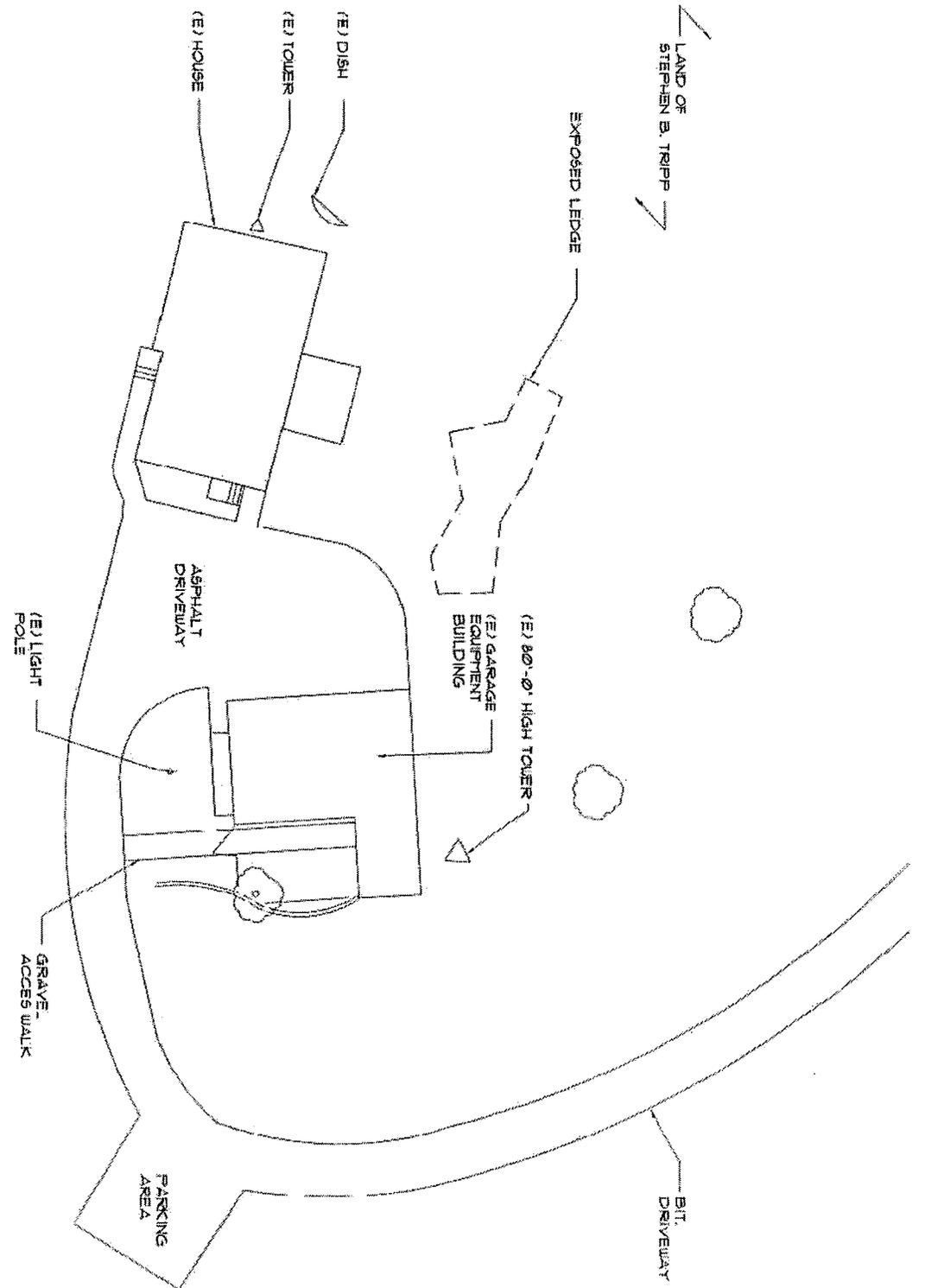


FINAL ANTENNA CONFIGURATION
(3) DIRECTIONAL ANTENNAS POWERWAVE # 7770
(6) EXISTING 1-5/8" DIA. COAX CABLES
(6) TMAS

CINGULAR WIRELESS

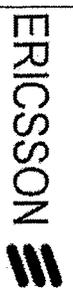
SITE # 2182
 SITE NAME: COLLETT
 23 WARRIOR ROAD, WALLINGFORD, CT, 06492
 DRAWING NUMBER 2182
 REV 0

LAND OF
STEPHEN B. TRIPP



1
EXISTING SITE PLAN
NTS.

NORTH



CH2M HILL
8619 WEST BRYN MAWR
CHICAGO, ILLINOIS 60631

NO.	DATE	DESCRIPTION	BY	CHKD BY	SCALE	NTS.
1	07-08-06	ISSUED FOR SUBMITTAL	HJ	JZ		
1	05-08-08	ISSUED FOR CEC REVIEW	BR	JZ		
		REVISION DESCRIPTION				
			BY: CHIK/AP/PD			
			DRWN: BT: BR			

CINGULAR WIRELESS

Site #: 2168
Site Name: GOLFORD
23 WAVER ROAD, WILMINGTON, CT 06492
DRAWING NUMBER: 2168

REV: 0

Perrone, Michael

EM-CING-014-148-060707

From: Karen Couture [karencouture@myeastern.com]
Sent: Thursday, July 20, 2006 2:07 PM
To: Perrone, Michael
Subject: 150 N. Main Street, Branford, CT-Errata Sheet
Importance: High

Dear Mr. Perrone,

Attached you will find an errata sheet for 150 N. Main Street, Branford, CT. The tower elevation drawings have been revised to show Sprint's antennas centered at the 147' level, not 150.

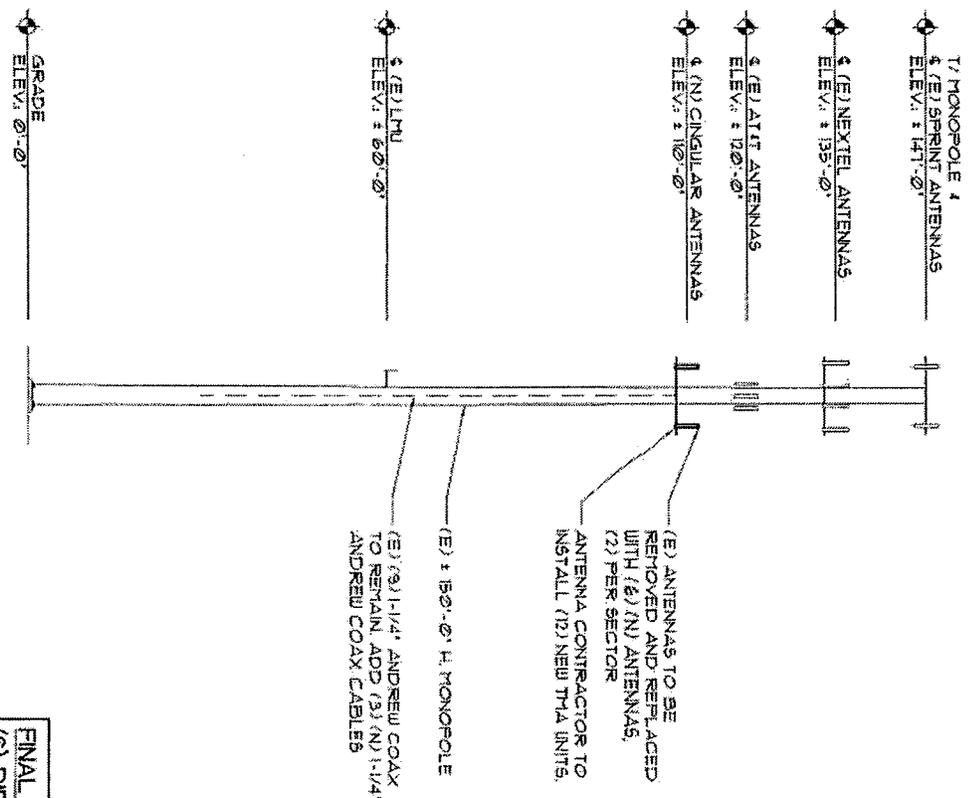
Should you have any further questions, please do not hesitate to call.

Thank you.

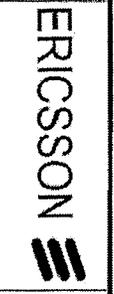
Karen L. Couture
Site Acquisition Specialist
Mobile: 860-389-4924
E-Fax: 888-281-6394
Email: karencouture@myeastern.com

RECEIVED
JUL 21 2006
CONNECTICUT
SITING COUNCIL

1 TOWER ELEVATION
SCALE: 1"=30'-0"



FINAL ANTENNA CONFIGURATION
(6) DIRECTIONAL ANTENNAS POWERWAVE # 7770
(12) 1-1/4" DIA COAX CABLES
(12) TMAS



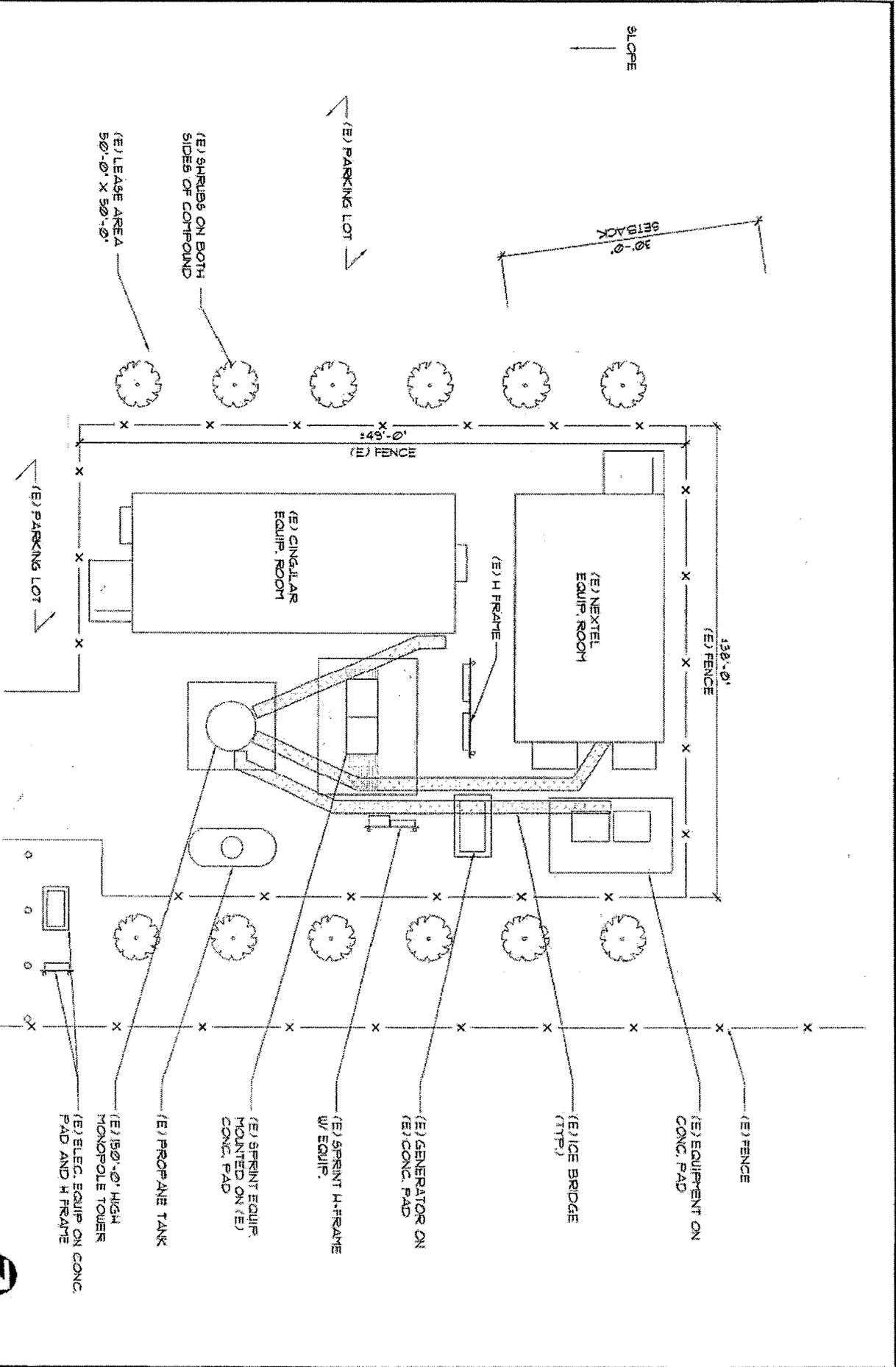
3	04-26-08	ISSUED FOR CSC SUBMITTAL	14	22	JF	SITE # 2229
2	04-21-08	ISSUED FOR CSC REVIEW	08	22	JF	SITE NAME: BRANDED 1-05 EXT 54
1	04-07-08	SECURING REVIEW	08	22	JF	150 NORTH WASH STREET BRANDED, CT 06405
NO.	DATE	REVISION DESCRIPTION	BY	CHK'D	APP'D	DRAWING NUMBER
						2229

CINGULAR WIRELESS
 SCALE: 1"=30'-0"
 CHECKED BY: JZ
 DRAWN BY: QB
 3

NO.	DATE	REVISION DESCRIPTION	BY	CHECKED BY	DATE	SCALE
1	04-21-06	ISSUED FOR CSC REVIEW	PH	JZ	JZ	1"=30'

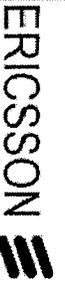
SCALE: 3/32" = 1'-0"

1
EXISTING SITE PLAN
3/32" = 1'-0"

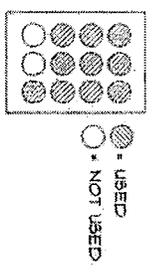
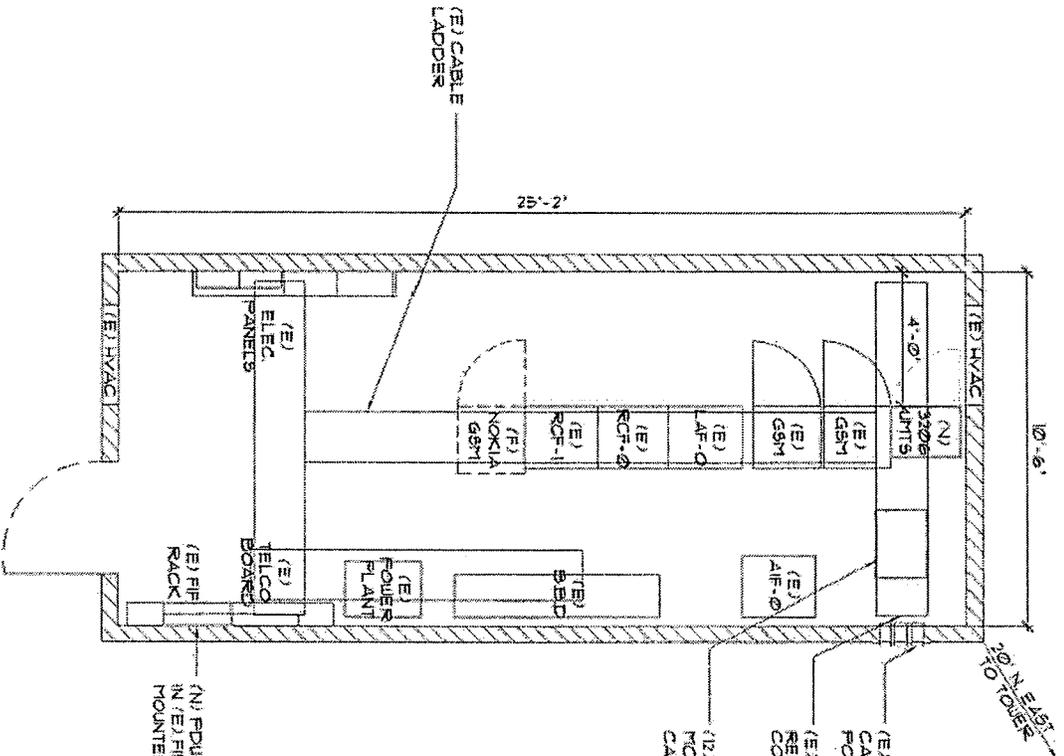


1
SCALE: 3/16" = 1'-0"

PROPOSED EQUIPMENT PLAN



899 WEST BRYN MAWR
CHICAGO, ILLINOIS 60681



NO.	DATE	REVISION DESCRIPTION	BY	CHKD BY	DATE
2	04-21-08	ISSUED FOR SSC REVIEW	CB	JZ	
1	03-20-06	SCOPING REVIEW	CB	JZ	
1	03-20-06	REVISION DESCRIPTION	BY	CHKD BY	DATE
			BY	CHKD BY	DATE

SCALE: 3/16" = 1'-0" CHECKED BY: JZ DRAWN BY: CB

SITE # 2220
 SITE NAME: BRACKFORD 95 054
 150 N. MAIN ST., BARTONVILLE, IL 60103
 DRAWING NUMBER: 2220
 REV: 0

CINGULAR WIRELESS



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@po.state.ct.us

www.ct.gov/csc

July 11, 2006

The Honorable Cheryl P. Morris
First Selectman
Town of Branford
Town Hall
1019 Main Street
P. O. Box 150
Branford, CT 06405-0150

RE: **EM-CING-014-148-060707** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 150 North Main Street, Branford; and 23 Wayne Road, Wallingford, Connecticut.

Dear Ms. Morris:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for July 27, 2006 at 1:30 p.m. in Hearing Room Two, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by July 26, 2006.

Thank you for your cooperation and consideration.

Very truly yours,

S. Derek Phelps
Executive Director

SDP/ap

Enclosure: Notice of Intent

c: Justine K. Gillen, Zoning Enforcement Officer, Town of Branford
Diana Ross, Inland Wetland Enforcement Officer, Town of Branford



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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www.ct.gov/csc

July 11, 2006

The Honorable William W. Dickinson, Jr.
Mayor
Town of Wallingford
Municipal Building
45 South Main Street
Wallingford, CT 06492

RE: **EM-CING-014-148-060707** - New Cingular Wireless PCS, LLC notice of intent to modify existing telecommunications facilities located at 150 North Main Street, Branford; and 23 Wayne Road, Wallingford, Connecticut.

Dear Mayor Dickinson:

The Connecticut Siting Council (Council) received this request to modify an existing telecommunications facility, pursuant to Regulations of Connecticut State Agencies Section 16-50j-72.

The Council will consider this item at the next meeting scheduled for July 27, 2006 at 1:30 p.m. in Hearing Room Two, Ten Franklin Square, New Britain, Connecticut.

If you have any questions or comments regarding this proposal, please call me or inform the council by July 26, 2006.

Thank you for your cooperation and consideration.

Very truly yours,

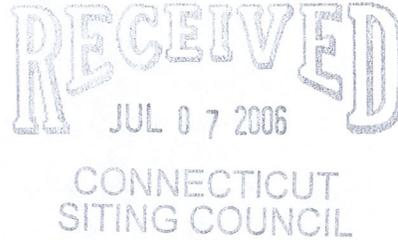
S. Derek Phelps
Executive Director

SDP/ap

Enclosure: Notice of Intent

c: Linda Bush, Town Planner, Town of Wallingford

ORIGINAL



6 July 2006

Mr. Colin C. Tait, Chairman, and
Members of the Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

**RE: Notice of Exempt Modification –Two (2) Existing Telecommunications
Tower Facilities in Hartford County
Site 1: 150 N. Main Street, Branford
Site 2: 23 Wayne Road, Wallingford**

Dear Chairman Tait and Members of the Council:

Kise Straw & Kolodner Inc., in association with Network Building & Consulting, LLC, submits this notice of intent to modify existing telecommunications facilities. New Cingular Wireless PCS, LLC (“Cingular”) proposes to remove and replace telecommunications antennas and associated equipment located on an existing facility in the above-referenced municipalities. Cingular operates under licenses issued by the Federal Communications Commission (FCC) to provide cellular and PCS mobile telephone service in the areas to be served by the proposed installations.

Please accept this letter and attachments as notification to the Council, pursuant to Regulations of Connecticut State Agencies (RCSA) Section 16-50j-73. This submission will demonstrate that the proposed changes fall within the limits of an exempt modification as described under the RCSA Section 16-50j-72(b)(2).

In accordance with RCSA Section 16-50j-73, the chief elected officials will receive notification of the work proposed at locations within their jurisdiction.

Attached you will find summary sheets detailing the planned changes, including power density calculations reflecting the change in the effect of Cingular’s operations at each site. Also included is documentation of the structural sufficiency of each tower to accommodate the revised antenna configuration.

The planned changes to these facilities fall within those activities explicitly provided for in RCSA Section 16-50j-72(b)(2). As such, the proposed work does not result in any substantial adverse environmental effect:

James Bennett Straw, AIA

Harvey D. Kolodner, MBA

James Nelson Kise, AIA/AICP/PP

Scott W. Killinger, AIA

John R. Gibbons, AIA/AICP

Philip E. Scott, EA

Suzanna Barucco

Katherine Bottom, LEED

LaVern Browne

Johnette Davies

Petar D. Glumac, Ph.D

Douglas S. Heckrotte, RA/LEED

Jody Holton, AICP

Marian Maxfield Hull, AICP/PP

Kise Straw & Kolodner Inc.
123 South Broad St.
Suite 1270
Philadelphia, PA 19109
(215) 790-1050 FAX (215) 790-0215
www.kski.com

1. The proposed work does not affect the height of the structure.
2. The proposed changes do not affect the existing property boundaries. All proposed work will occur on the property controlled by Cingular.
3. The proposed work will not increase noise levels at the site boundary by six (6) decibels or more.
4. Addition of the UMTS broadcasts will not increase the exposure to radio frequency electromagnetic energy, measured at the base of the tower, to or above the standard adopted by the state of Connecticut and the FCC. The power density tables provided for each facility summarize the cumulative results for a point of interest at the tower's base of the "worst-case" exposure calculations resulting from all carriers co-located on this tower. The calculations are in accordance with the Federal Communications Commission's Office of Engineering and Technology Bulletin No. 65 (1997), and for simplicity, an assumption is made that the antennas are all pointed down, thus focusing their energy at the tower's base.

For the foregoing reasons, Cingular respectfully submits that proposed changes at the these facilities constitute an exempt modification under RCSA Section 16-50j-72(b)(2).

Please do not hesitate to call me at 215.790.1050 ext. 138 with questions concerning this notice. Thank you for your consideration of this matter.

Sincerely,



Elizabeth H. Lankenau, AICP
Planner

Attachments

cc: Honorable Cheryl Morris, First Selectwoman, Town of Branford
Honorable William W. Dickinson, Jr., Mayor, Town of Wallingford

150 N. Main Street, Branford, CT

**Summary Sheet
Project Location Map
Site Plan and Elevation
Structural Analysis
Elected Official Letter**

CINGULAR WIRELESS
Proposed Modifications

Site Address: 150 North Main Street, Branford CT; *Project Location Map* attached

Coordinates: Lat: 14' 17' 22"; Long: 72' 48' 49"

Site Owner: Global Signal

Type of Existing Facility: 150' monopole

Antenna Configuration: Center line – 110' above ground level; remove existing CSS DUO4-8670 antennas and replace with six (6) Powerwave 7770 units; *specification attached*

TMA Configuration: Existing units to be removed and add twelve (12) new LGP 214nn units; *specification attached*

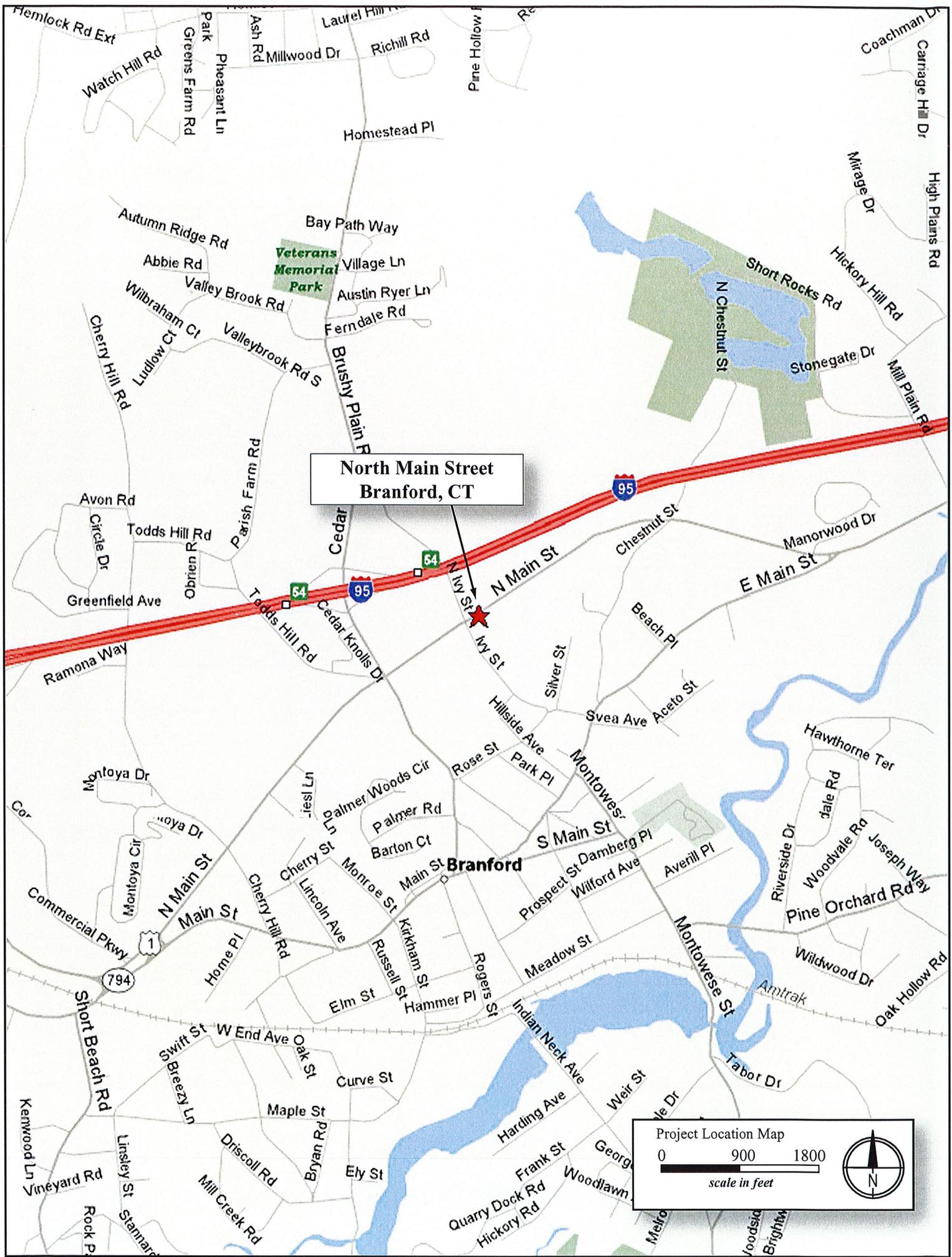
Coaxial Cables: Nine (9) existing 1 ¼" diameter coaxial cables to remain and add three (3) new cables of the same dimension

Power Density:

As the table demonstrates, the cumulative worst-case exposure would be approximately 40.28% of the ANSI/IEEE standard, as calculated for mixed frequency sites. Total power density levels resulting from Cingular's use of the facility would be within applicable standards.

Site # 2220								
Carrier	Antenna Height (ft)	Freq. (MHz) For Limit	# of Channels	W ERP/Channel (ref 1/2-w dipole)	W EIRP/Sector	Power Density ($\mu\text{W}/\text{cm}^2$)	FCC Limit ($\mu\text{W}/\text{cm}^2$)	Percent of Limit (%)
Cingular UMTS	110	1935.0	1	500.0	820.0	14.9	1000	1.49%
Sprint	147	1900.0	12	500.0	9840.0	99.9	1000	9.99%
Nextel	135	851.0	12	100.0	1968.0	23.7	567	4.17%
AT&T	120	1900.0	16	250.0	6560.0	99.9	1000	9.99%
Cingular TDMA	110	880.0	16	100.0	2624.0	47.6	587	8.11%
Cingular 800	110	880.0	2	296.0	970.9	17.6	587	3.00%
Cingular 1900	110	1900.0	2	427.0	1400.6	25.4	1000	2.54%
Pagenet	95	900.0	1	150.0	246.0	6.0	600	1.00%
TOTAL								40.28%

Structural Analysis: *Structural Analysis* attached.



North Main Street
Branford, CT

Project Location Map

0 900 1800

scale in feet



1079 N. 204th Avenue
Elkhorn, NE 68022
Ph: 402-289-1888
Fax: 402-289-1861

SEMAAN ENGINEERING SOLUTIONS

**147 ft SUMMIT Monopole
Structural Analysis**

**Prepared for:
Global Signal
301 North Cattlemen Road, Suite 300
Sarasota, FL 34232**

**Site: 3017641 / CT03XC040
For Cingular
150 Main St.
Branford, CT**



June 16, 2006

Mr. Louis Belizaire
Global Signal
301 North Cattlemen Road, Suite 300
Sarasota, FL 34232

Re: Site 3017641 / CT03XC040 – 150 Main St. Branford, CT.

Dear Mr. Belizaire:

We have completed the structural analysis for the existing monopole, located at the above referenced site. The purpose of this analysis is to determine that the existing monopole design is in conformance with the TIA/EIA-222 Rev F standard and local building codes for the proposed antennae loads installation. Refer to the Review and Recommendations section at the end of this report for the analysis results.

Description of Structure:

The structure is a 147 ft SUMMIT Monopole.

Refer to SUMMIT job #4516 dated March 15, 1999 for a detailed description of the structure.

Method of analysis:

The tower was analyzed using Semaan Engineering Solutions' software suite for communication structures. The structural analysis is performed using the SAPS finite element engine. The method is 3D, non-linear, which accounts for the second order geometric effects due to the displacements. It also treats guys as exact cable elements and therefore is ideal for guyed towers. The analysis was performed in conformance with **TIA/EIA-222 Rev F and local building codes for a basic wind speed of 85 mph and 1/2" radial ice with reduced wind speed (fastest mile)**. This wind speed is equivalent to 105 mph 3-second gust per the IBC 2003. This is in conformance with the IBC 2003: Section 1609.1.1, Exception (5) and Section 3108.4. Wind is applied to the structure, accessories and antennas.

Structure loading:

The following loads were used in the tower analysis:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
147.0	9	RR65-19-02DP	Low Profile platform	(9) 1 5/8"	Sprint
135.0	12	DB844H90	Low Profile platform	(15) 1 1/4"	Nextel
120.0	6	Allgon 7250	(3) T-Arms	(12) 1 1/4"	AT&T

Proposed Loads:

Elev (ft)	Qty	Antennas	Mounts	Coax	Carrier
110.0	9	Allgon 7770	Low Profile platform	(12) 1 5/8"	Cingular
	12	21401 TMA			

**All new access holes shall be reinforced with welded rims that are compatible with the pole and to be sized and supplied by pole manufacturer.
All transmission lines are assumed running inside of pole shaft.**

Results of Analysis:

Refer to the attached Computer Summary sheets for detailed analysis results.

Structure:

The existing monopole is structurally capable of supporting the existing and proposed antennas. The maximum structure usage is: 92.4%.

Foundation:

Pole Reactions	Original Design Reactions	Current Analysis Reactions	% Of Design
Moment (ft-kips)	2,979.00	2,808.01	94.3
Shear (kips)	31.00	28.18	90.9

The analysis reactions are less than the design reactions therefore no foundation modifications are required.

Review and Recommendations:

Based on the analysis results, the existing structure meets the requirements per the TIA/EIA-222 Rev F standards for a basic wind speed of 85 mph and 1/2" radial ice with reduced wind speed. This wind speed is equivalent to a 105 mph 3-second gust.

6 July 2006

Honorable Cheryl Morris
First Selectwoman, Town of Branford
239 N. Main Street
Branford, CT 06405

**RE: Notice of Exempt Modification – Existing Cingular
Telecommunications Tower Facility at 150 North Main Street,
Branford, Connecticut**

Dear Ms. Morris:

New Cingular Wireless PCS, LLC (“Cingular”) proposes to remove and replace telecommunications antennas and associated equipment located on an existing tower at the above-referenced location. The facility is now controlled and operated by Cingular whose corporate office is located at 500 Enterprise Drive, Rocky Hill, CT 06067.

Proposed Modifications

Cingular proposes to remove the existing antennas and replace them with a total of six (6) new antennas, located at an existing centerline height of approximately 110’ above ground level. Cingular will keep nine (9) of the existing 1 ¼” coaxial cables and three (3) more of the same dimension. It proposes to remove the existing tower mounted amplifiers and replace them with twelve (12) new units, located at the same height as the antennas.

In summary, the final antenna configuration at 150 North Main Street will include:

- 6 antennas,
- 12 coaxial cables, and
- 12 tower mounted amplifiers.

A structural evaluation has demonstrated that the tower will be structurally capable of supporting the proposed Cingular telecommunications equipment once the proposed modifications are complete.

James Nelson Kise, AIA / AICP / PP

James Bennett Straw, AIA

Harvey D. Kolodner, MBA

John R. Gibbons, AIA / AICP

Philip E. Scott, RA

Suzanna Barucco

LaVern Browne

Katherine E. Cowing, LEED

Johette Davies

Petar D. Glumac, Ph.D.

Douglas S. Heckrotte, RA / LEED

Jody Holton, AICP

Marian Maxfield Hull, AICP / PP

Kise Straw & Kolodner Inc.

123 South Broad St.

Suite 1270

Philadelphia, PA 19109

(215) 790-1050 FAX (215) 790-0215

www.ksk1.com

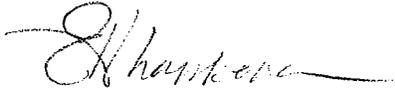
Statutory Considerations

The proposed work will not affect the height of the existing structure, nor will it alter the existing property boundaries. Furthermore, the proposed work will not increase noise levels at the facility's site boundary by six (6) decibels or more. Operation of additional antennas will not increase the radio frequency electromagnetic radiation power density, measured at the tower base, to or above the standard adopted by the State of Connecticut and the Federal Communications Commission.

A Notice of Exempt Modification has been filed with the Connecticut Siting Council (CSC) as required by the Regulations of Connecticut State Agencies (RCSA), Section 16-50j-73. Please accept this letter as notification to the Town of Branford under Section 16-50j-73 that the proposed work constitutes an exempt modification pursuant to RCSA Section 16-50j-72(b)(2).

Should you have any questions or require additional information about the plans or the CSC's procedures, please do not hesitate to contact me (215.790.1050 ext. 138) or Mr. Derek Phelps, Executive Director, Connecticut Siting Council (860.827.2935).

Sincerely,



Elizabeth H. Lankenau, AICP
Planner

23 Wayne Road, Wallingford, CT

**Summary Sheet
Project Location Map
Site Plan and Elevation
Structural Analysis
Elected Official Letter**

CINGULAR WIRELESS
Proposed Modifications

Site Address: 23 Wayne Road, Wallingford, CT; *Project Location Map attached*

Coordinates: Lat: 41' 27' 45"; Long: 72' 50' 33"

Site Owner: Stephen B. Tripp

Type of Existing Facility: 80' lattice tower and an equipment shelter

Antenna Configuration: Center line – 78' above ground level: remove existing antennas and replace with three (3) Powerwave 7770 units; *specification attached*
Center line – 80' above ground level: remove existing antennas, stand off arms, and three (3) coaxial cables
Center line – 87' above ground level: remove existing antennas, flush mounts, and six (6) coaxial cables

TMA Configuration: Remove existing units and replace with six (6) new LGP 214nn units; *specification attached*

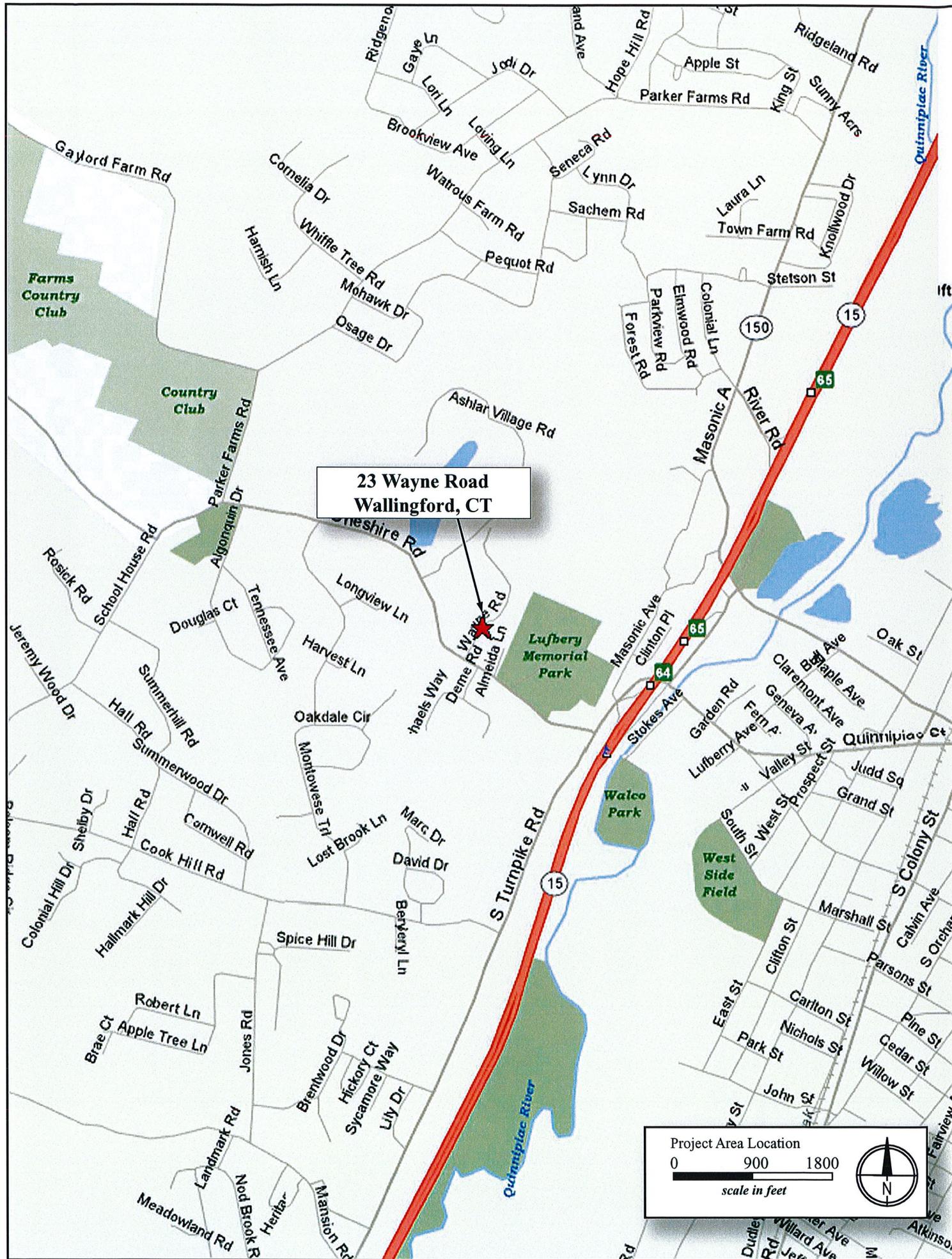
Coaxial Cables: Existing six (6) 7/8" coaxial cables to remain

Power Density:

As the table demonstrates, the cumulative worst-case exposure would be approximately 75.32% of the ANSI/IEEE standard, as calculated for mixed frequency sites. Total power density levels resulting from Cingular's use of the facility would be within applicable standards.

Site # 2168								
Carrier	Antenna Height (ft)	Freq. (MHz) For Limit	# of Channels	W ERP/Channel (ref 1/2-w dipole)	W EIRP/Sector	Power Density ($\mu\text{W}/\text{cm}^2$)	FCC Limit ($\mu\text{W}/\text{cm}^2$)	Percent of Limit (%)
Cingular UMTS	78	1935.0	1	500.0	820.0	29.6	1000	2.96%
AT&T	87	1900.0	16	250.0	6560.0	190.1	1000	19.01%
Cingular 800	78	880.0	20	250.0	8200.0	295.6	587	50.38%
Pagenet	55	900.0	1	150.0	246.0	17.8	600	2.97%
TOTAL								75.32%

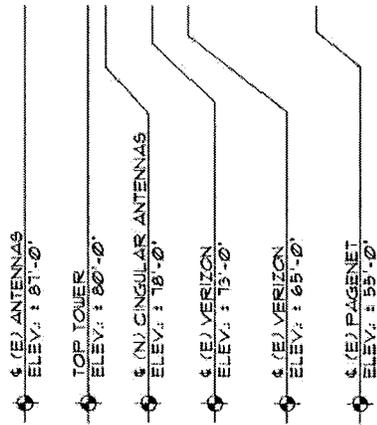
Structural Analysis: *Structural Analysis attached.*



REMOVE (E) (3) ANTENNAS,
FLUSH MOUNTS AND (6) (E)
COAX CABLES

REMOVE (E) (6) ANTENNAS,
(E) ANTENNA STAND OFF
ARMS AND (3) (E) COAX
CABLES

INSTALL (3) NEW ANTENNAS
ON EXISTING FLUSH MOUNT
USE (E) (6) COAX CABLES
ANTENNA CONTRACTOR TO
INSTALL (6) NEW TMA UNITS.



FINAL ANTENNA CONFIGURATION
(3) DIRECTIONAL ANTENNAS POWERWAVE # 7770
(6) 1-5/8" DIA. COAX CABLES
(6) TMAS

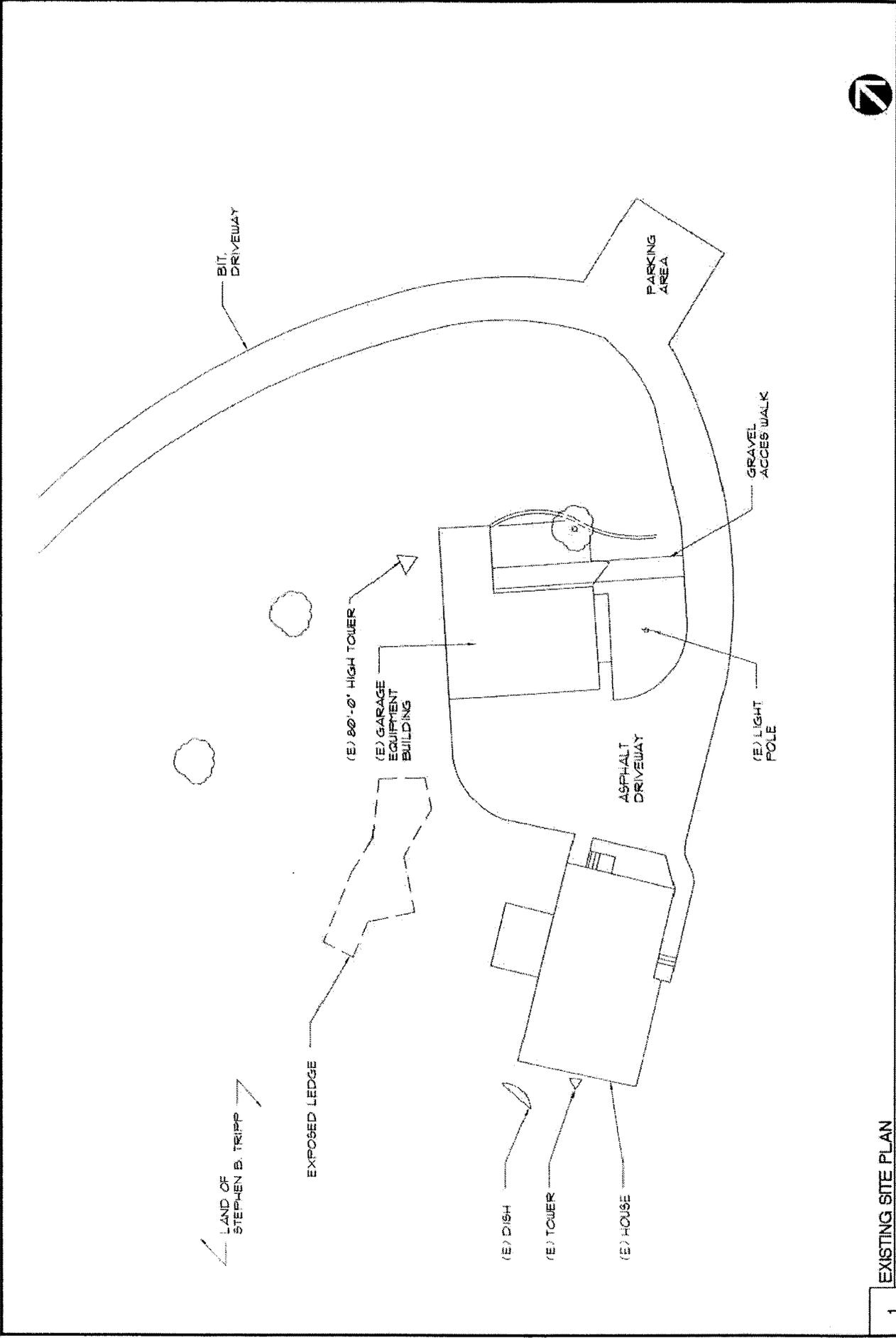
1
TOWER ELEVATION
1'-20'-0"

cingular WIRELESS

ERICSSON

CH2M HILL
869 WEST BRUN MAWR
CHICAGO, ILLINOIS 60631

CINGULAR WIRELESS	
2 07-05-06	ISSUED FOR SUBMITTAL
1 05-08-06	ISSUED FOR USC REVIEW
NO. DATE	REVISION DESCRIPTION
SCALE: 1"=20'-0"	CHECKED BY: JZ
	DRAWN BY: RR
	BY: CHK/APP'D
	DRAWING NUMBER
	2188
	0
	REV
	23 WAYNE ROAD WASHINGTON, CT. 06492
	SITE NAME: GULFORD
	SITE # : 2188



1 EXISTING SITE PLAN
NTS.

				CH2M HILL 8819 WEST BRYN MAWR CHICAGO, ILLINOIS 60631	
				SCALE: N.T.S.	
1 EXISTING SITE PLAN NTS.		NORTH		CINGULAR WIRELESS	
NO. DATE REVISION DESCRIPTION		BY (CHK/APP)		DRAWN BY: RB	
2 27-05-06 ISSUED FOR SUBMITTAL		FH JZ		SITE # 2188	
1 05-08-06 ISSUED FOR CSC REVIEW		RR JZ JZ		SITE NAME: CLIFORD	
NO. DATE REVISION DESCRIPTION		CHECKED BY: JZ		23 WAYNE ROAD WALLINGFORD, CT 06482	
1 05-08-06 ISSUED FOR CSC REVIEW		RR JZ JZ		DRAWING NUMBER 2188	
NO. DATE REVISION DESCRIPTION		CHECKED BY: JZ		REV 0	

DETAILED STRUCTURAL ANALYSIS AND EVALUATION OF EXISTING 80' SELF SUPPORTING LATTICE TOWER FOR NEW ANTENNA ARRANGEMENT

Cingular Site #2168
23 Wayne Road
Wallingford, Connecticut

prepared for

CH2MHILL

8619 West Bryn Mawr, Suite 615
Chicago, IL 60631



Cingular Wireless
580 Main Street
Bolton, MA 01740

prepared by



URS CORPORATION
500 ENTERPRISE DR, SUITE 3B
ROCKY HILL, CT 06067
TEL. 860-529-8882

36922928.00008
CH2-018

Revision 1 June 27, 2006

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- 6. DRAWINGS AND DATA**
 - **RISA TOWER INPUT / OUTPUT SUMMARY**
 - **RISA TOWER FEEDLINE DISTRIBUTION**
 - **RISA TOWER FEEDLINE PLAN**
 - **RISA TOWER DETAILED OUTPUT**
 - **ANCHOR BOLT ANALYSIS**
 - **FOUNDATION ANALYSIS**

1. EXECUTIVE SUMMARY

This report summarizes the structural analysis of the existing 80' self supporting lattice tower located at 23 Wayne Road in Wallingford, Connecticut. The analysis was conducted in accordance with the 2005 Connecticut State Building Code and the TIA/EIA-222-F standard for wind velocity of 85 mph (fastest mile) and 74 mph (fastest mile) concurrent with 1/2" ice. The antenna loading considered in the analysis consists of all existing and proposed antennas, transmission lines, and ancillary items as outlined in the Introduction Section of this report. The proposed Cingular modification is as follows:

Proposed Antenna and Mount	Carrier	Antenna Center Elevation
Remove: (3) existing antennas (6) existing 1 1/4" coax cables and existing pipe mast	Cingular Blue (Existing)	@ 87'
Remove: (6) existing antennas (3) existing 7/8" coax cables and (3) Standoff Mounts		
Install: (3) Powerwave 7770.00 antennas and (6) Powerwave LGP21401 TMA's on the existing (3) Flush Mounts with (6) existing 7/8" coax cables.	Cingular (Proposed)	@ 78'

The results of the analysis indicate that the tower structure, anchor bolts, and foundation are in compliance with the proposed loading conditions. **The tower is considered structurally adequate with the wind load classification specified above and all the existing and proposed antenna loading.**

The installation of (6) Powerwave 7770.00 antennas and (12) Powerwave LGP21401 TMA's on the existing (3) Flush Mounts and the existing (3) Standoff Mounts with (9) existing 7/8" coax cables and (3) new 7/8" coax cables was also investigated. The tower was found to be adequate; however, the foundation did not comply with Section 3108.4.2 of the 2005 Connecticut State Building Code.

This analysis is based on:

- 1) The tower structure's theoretical capacity, not including any assessment of the condition of the tower.
- 2) Tower geometry and structural member sizes taken from a tower report prepared by Pirod, Inc, job number A-111743, dated September 14, 1995.
- 3) Antenna and mount configuration as specified on the following page of this report.

This report is only valid as per the assumptions and data utilized in this report for antenna inventory, mounts and associated cables. The user of this report shall field verify the assumption of the antenna and mount configuration as well as the physical condition of the tower and connections. Notify the engineer in writing immediately if any of the information in this report is found to be other than specified.

If you should have any questions, please call.

Sincerely,

URS Corporation

Richard A. Sambor
 Richard A. Sambor, P.E.
 Manager Facilities Design



RAS/jek

cc: AA, DR, IA, CF/Book – URS

2. INTRODUCTION

The subject tower is located at 23 Wayne Road in Wallingford, Connecticut. The structure is a 80' self supporting lattice tower designed and manufactured Pirod, Inc.

The inventory is summarized in the table below:

<i>Antenna Type</i>	<i>Carrier</i>	<i>Mount</i>	<i>Antenna Centerline Elevation</i>	<i>Cable</i>
(3) Powerwave 7770.00 antennas and (6) Powerwave LGP21401 TMA's	Cingular (proposed)	(3) Flush Mounts	78'	(6) existing 7/8" coax cables
(1) 4' Dish	Verizon (existing)	Dish Mount	73'	(1) EW52 coax cables
(1) 7' omni antenna and (1) 4' omni antenna	(existing)	Standoff Mount	65'	(4) 7/8" coax cables
(1) 8' omni antenna	(existing)	Standoff Mount	65'	(1) 7/8" coax cable
(1) 4' Dish	Verizon (existing)	Dish Mount	65'	(1) EW52 coax cables
(2) PG1N0F-0091-011 omni antennas and (1) PG1D0F-0091-011 omni antenna	PageNet (existing)	(3) Standoff Mounts	55'	(3) 7/8" coax cables
(1) PD320 antenna	(existing)	Leg Mount	48'	(1) 7/8" coax cable

*Omni/Whip antenna elevations are at the base of the antenna.

This structural analysis of the communications tower was performed by URS Corporation (URS) for CH2Mhill/Cingular Wireless. The purpose of this analysis was to investigate the structural integrity of the existing tower with its existing and proposed antenna loads. This analysis was conducted to evaluate stress on the tower and the effect of forces to the foundation of the tower resulting from existing and proposed antenna arrangements.

3. ANALYSIS METHODOLOGY AND LOADING CONDITIONS

The structural analysis was done in accordance with the 2005 Connecticut State Building Code, TIA/EIA-222-F—Structural Standard for Steel Antenna Towers and Antenna Supporting Structures, and the American Institute of Steel Construction (AISC) Manual of Steel Construction—Allowable Stress Design (ASD).

The analysis was conducted using RISA Tower 4.5. Two load conditions were evaluated as shown below which were compared to allowable stresses according to AISC and TIA/EIA.

Load Condition 1 = 85 mph (fastest mile) Wind Load (without ice) + Tower Dead Load
Load Condition 2 = 74 mph (fastest mile) Wind Load (with ice) + Ice Load + Tower Dead Load

Please note that wind pressure is a function of velocity squared. Under Load Condition 2, a 25 percent reduction in wind pressure is allowed by code to account for the unlikelihood of the full wind pressure and ice load occurring at the same time. The same results may be achieved by utilizing a lower wind pressure without taking the 25 percent reduction, as shown above.

The TIA/EIA standard permits a one-third increase in allowable stresses for towers and monopoles less than 700 feet tall. For the purposes of this analysis, in computing the load capacity the allowable stresses of the tower members were increased by one-third.

4. FINDINGS AND EVALUATION

Stresses on the tower structure were evaluated to compare with allowable stresses in accordance with AISC. The calculated stresses under the proposed loading were within the allowable stresses. Detailed analysis and calculations for the proposed load condition are provided in section 6 of this report. The anchor bolts and foundation were also found to be within allowable limits.

5. CONCLUSIONS AND RECOMMENDATIONS

The results of the analysis indicate that the tower structure, anchor bolts, and foundation are in compliance with the proposed loading conditions. **The tower is structurally adequate under the wind load classification specified above and the proposed antenna loadings.**

The installation of (6) Powerwave 7770.00 antennas and (12) Powerwave LGP21401 TMA's on the existing (3) Flush Mounts and the existing (3) Standoff Mounts with (9) existing 7/8" coax cables and (3) new 7/8" coax cables was also investigated. The tower was found to be adequate; however, the foundation did not comply with Section 3108.4.2 of the 2005 Connecticut State Building Code.

Limitations/Assumptions:

This report is based on the following:

1. Tower inventory as listed in this report.
2. Tower is properly installed and maintained.
3. All members are as specified in the original design documents and are in good condition.
4. All required members are in place.
5. All bolts are in place and are properly tightened.
6. Tower is in plumb condition.
7. All member protective coatings are in good condition.
8. All tower members were properly designed, detailed, fabricated, and installed and have been properly maintained since erection.
9. Foundations were properly constructed to support original design loads as specified in the original design documents.
10. All coaxial cable is installed as specified in Section 6 of this report.

URS is not responsible for any modifications completed prior to or hereafter in which URS is not or was not directly involved. Modifications include but are not limited to:

- A. Adding antennas
- B. Removing/replacing antennas
- C. Adding coaxial cables

URS hereby states that this document represents the entire report and that it assumes no liability for any factual changes that may occur after the date of this report. All representations, recommendations, and conclusions are based upon information contained and set forth herein. If you are aware of any information which conflicts with that which is contained herein, or you are aware of any defects arising from original design, material, fabrication, or erection deficiencies, you should disregard this report and immediately contact URS. URS disclaims all liability for any representation, recommendation, or conclusion not expressly stated herein.

Ongoing and Periodic Inspection and Maintenance:

After the Contractor has successfully completed the installation and the work has been accepted, the owner will be responsible for the ongoing and periodic inspection and maintenance of the tower.

The owner shall refer to TIA/EIA-222-F for recommendations for maintenance and inspection. The frequency of the inspection and maintenance intervals is to be determined by the owner based upon actual site and environmental conditions. It is recommended that a complete and thorough inspection of the entire tower structural system be performed at least yearly and more frequently as conditions warrant. According to TIA/EIA-222-F section 14.1, Note 1: It is recommended that the structure be inspected after severe wind and/or ice storms or other extreme loading conditions.

22 June 2006

Honorable William W. Dickinson, Jr.
Mayor, Town of Wallingford
45 S. Main Street
Wallingford, CT 06492

**RE: Notice of Exempt Modification – Existing Cingular
Telecommunications Tower Facility at 23 Wayne Road,
Wallingford, Connecticut**

Dear Mr. Dickinson:

New Cingular Wireless PCS, LLC (“Cingular”) proposes to remove and replace telecommunications antennas and associated equipment located on an existing tower at the above-referenced location. The facility is now controlled and operated by Cingular whose corporate office is located at 500 Enterprise Drive, Rocky Hill, CT 06067.

Proposed Modifications

Cingular proposes to remove the existing antennas and replace them with a total of three (3) new antennas, located at an existing centerline height of approximately 78’ above ground level. Cingular will keep the existing coaxial cables and remove the existing tower mounted amplifiers and replace them with six (6) new units, located at the same height as the antennas.

In summary, the final antenna configuration at 23 Wayne Road will include:

- 6 antennas,
- 12 coaxial cables, and
- 12 tower mounted amplifiers.

A structural evaluation has demonstrated that the tower will be structurally capable of supporting the proposed Cingular telecommunications equipment once the proposed modifications are complete.

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Kise Straw & Kolodner Inc.
123 South Broad St.
Suite 1270
Philadelphia, PA 19109
(215) 790-1050 FAX (215) 790-0215
www.kskl.com

Statutory Considerations

The proposed work will not affect the height of the existing structure, nor will it alter the existing property boundaries. Furthermore, the proposed work will not increase noise levels at the facility's site boundary by six (6) decibels or more. Operation of additional antennas will not increase the radio frequency electromagnetic radiation power density, measured at the tower base, to or above the standard adopted by the State of Connecticut and the Federal Communications Commission.

A Notice of Exempt Modification has been filed with the Connecticut Siting Council (CSC) as required by the Regulations of Connecticut State Agencies (RCSA), Section 16-50j-73. Please accept this letter as notification to the Town of Wallingford under Section 16-50j-73 that the proposed work constitutes an exempt modification pursuant to RCSA Section 16-50j-72(b)(2).

Should you have any questions or require additional information about the plans or the CSC's procedures, please do not hesitate to contact me (215.790.1050 ext. 138) or Mr. Derek Phelps, Executive Director, Connecticut Siting Council (860.827.2935).

Sincerely,



Elizabeth H. Lankenau, AICP
Planner

Specifications for Proposed New Equipment

**Ericsson RBS Equipment Cabinet
Powerwave 7770 Antenna
Powerwave LGP 214nn Tower Mounted Amplifier**

3 Dimensions

This section describes the physical characteristics of the RBS: dimensions, weight, and color.

Table 1 The RBS Dimensions

Unit	Dimensions (mm)
Height	1626
Width	1300
Depth	710
Depth including door	926

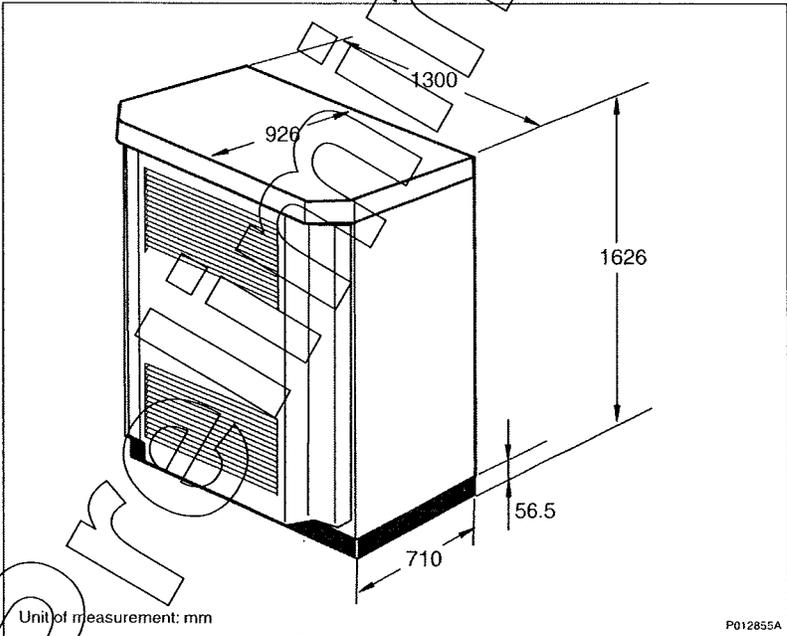


Figure 2 RBS 3106 Dimensions

The RBS weight is shown in the table below.

Table 2 The RBS Weight

Unit	Weight (kg)
RBS fully equipped excluding batteries	560
RBS fully equipped including batteries	850
RBS fully equipped including batteries and future expansion of hardware (not yet available)	875
Installation frame	12

The RBS color is shown in the table below.

Table 3 The RBS Color

Color	Color Standard
Grey	RAL 7035
Green	NCS 8010-G 10 Y

Preliminary

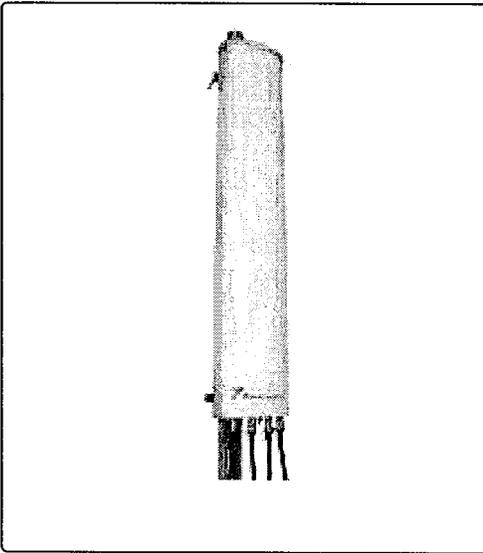
Dual Broadband Antenna

90° 1.4 m MET Antenna

806-960/1710-2170 MHz

Part Number: 7770.00	Horizontal Beamwidth: 90° Gain: 13.5/16 dBi	Electrical Downtilt: Adjustable Connector Type: 7/16 female
-------------------------	--	--

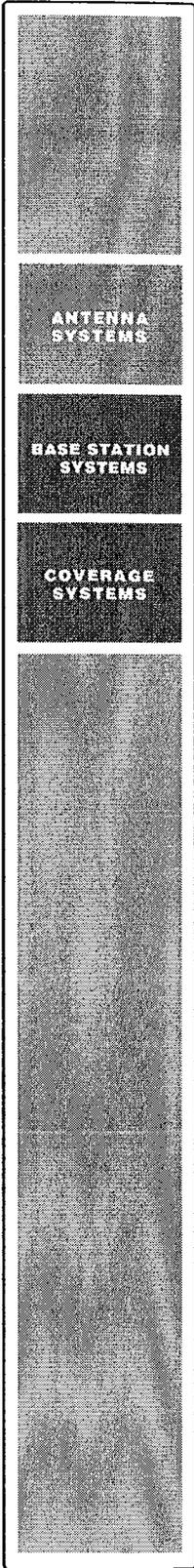
The Powerwave dual band dual polarized broadband antenna has individual adjustable electrical downtilt per band (upgradeable to Remote Electrical Tilt (RET)). Four connector ports allow separate tilts on each frequency band and ensure the use of diversity concepts. The phase shifter technology, based on a patented sliding dielectric, minimizes intermodulation distortion and maximizes efficiency. The slant +/- 45° dual polarization system provides the independent fading signals needed for achieving top-quality coverage via diversity concepts. The Powerwave Broadband antenna design is based on a patented stacked aperture-coupled patch technology, which provides high isolation performance and a wide VSWR bandwidth. The antennas have superior radiation patterns due to a unique reflector design which provides a very small variation of the -3dB horizontal beam width over the frequency band as well as a high front-to-back ratio.



Key Benefits

- Excellent broad- and multi-band capabilities
- Polarization purity makes good diversity gain
- Excellent pattern performance and high gain over frequency
- High passive intermodulation performance
- Light, slim and robust design

Preliminary



806-960/1710-2170 MHz

Dual Broadband Antenna

Electrical Specifications (Preliminary)

Frequency band (MHz)	806-960	1710-2170
Gain, ± 0.5 dB (dBi)	13.5	16.0
Polarization	Dual linear $\pm 45^\circ$	
Nominal Impedance (Ohm)	50	
VSWR	1.5:1	1.5:1
Isolation between inputs (dB)	30	30
Isolation between inputs (dB)	40	
Inter band isolation (dB)	40	
Horizontal -3 dB beamwidth	$85 \pm 5^\circ$	$85 \pm 5^\circ$
Tracking, Horizontal plane, $\pm 60^\circ$ (dB)	< 2.0	
Tracking, Horizontal plane, $\pm 60^\circ$ (dB)	< 2.0	
Electrical downtilt range (adjustable)	0° to 10°	0° to 8°
Vertical -3 dB beamwidth	$14.3 \pm 2.0^\circ$	$6.6 \pm 1^\circ$
Sidelobe suppression, Vertical 1 st upper (dB)	$> 17, 16, 15$ $x=0, 5, 10^\circ$ MET	$> 17, 16, 15$ $x=0, 4, 8^\circ$ MET
Vertical beam squint	$< 0.8^\circ$	$< 0.5^\circ$
First null-fill (dB)	< -25	< -25
Front-to-back ratio (dB)	> 25	> 27
Front-to-back ratio, total power (dB)	> 20	> 23
IM3, 2Tx@43dBm (dBc)	< -153	
IM3, 2Tx@43dBm (dBc)		< -153
IM7, 2Tx@43dBm (dBc)		< -160
Power Handling, Average per input (W)	400	250
Power Handling, Average total (W)	800	500

All specifications are subject to change without notice.
Contact your Powerwave representative for complete performance data.

Mechanical Specifications

Connector Type	4 x 7/16 DIN female
Connector Position	Bottom
Dimensions, HxWxD	1408mm x 280mm x 125mm (55"x11"x5")
Weight Including Brackets	15.8 kg (35 lbs)
Wind Load, Frontal, 42m/s Cd=1	435N (98 lbf)
Survival Wind Speed (m/s)	70 (156mph)
Lightning Protection	DC grounded
Radome Material	GRP
Radome Color	Light Gray
Mounting	Pre-mounted Standard Brackets
Packing Size	1550mm x 355mm x 255mm (61"x14"x10")

Corporate Headquarters
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COVERAGE AND CAPACITY

TECHNOLOGY LEADERSHIP

GLOBAL PARTNER

INTEGRATED SOLUTIONS

QUALITY AND RELIABILITY

Tower Mounted Amplifier

Dual Band 1900 MHz with 850 MHz Bypass

1900/850 MHz

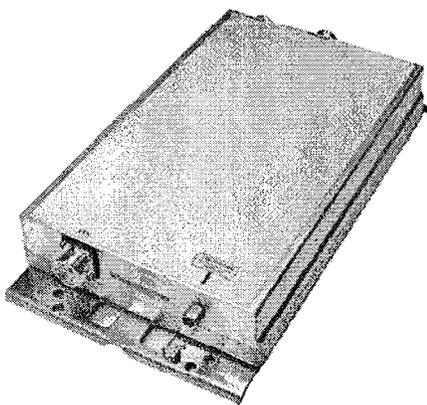
Part Number:
LGP 214nn

Up-link: 1850-1910 MHz
Down-link: 1930-1990 MHz
Bypass: 824-894 MHz

Gain: 12 dB
Noise Figure: < 1.7 dB

The Powerwave® TMA-DD 1900/850 is a dual band Tower Mounted Amplifier (TMA) to be installed near the antenna. Deployed in an AMPS, GSM, GPRS, EDGE and CDMA network it will increase capacity and coverage as well as extend the battery life time for the handsets. The TMA System will provide enhanced coverage and improved up-link signal quality. Appropriate for new rollouts by optimizing coverage with a reduced number of BTSs or as an upgrade to existing BTSs for enhancing the existing coverage.

Extended band TMA facilitates simplified logistics, especially when the frequency bands are scattered. The unit comprises of high Q band-pass filters, dual balanced low noise amplifiers with circuits for active bias, supervision, alarms and lightning protection circuit. The Powerwave patented design with all active components integrated within the filter body provides an extremely reliable, compact and lightweight TMA solution. The vented enclosure design is employed to prevent the effect of condensation, thereby guaranteeing long, reliable, maintenance-free service in all environmental conditions. These TMAs offer an easy to install, maintenance free, cost effective solution for coverage enhancement and increased quality in mobile communication networks.



Key Benefits:

- 850 MHz Bypass
- Improved Network Quality
- Increased Coverage
- State of the Art Performance
- Excellent Power Handling
- Low Tx Loss
- Exceptional Reliability

ANTENNA
SYSTEMS

BASE STATION
SYSTEMS

COVERAGE
SYSTEMS

Tower Mounted Amplifier



1900/850 MHz

Technical Specifications

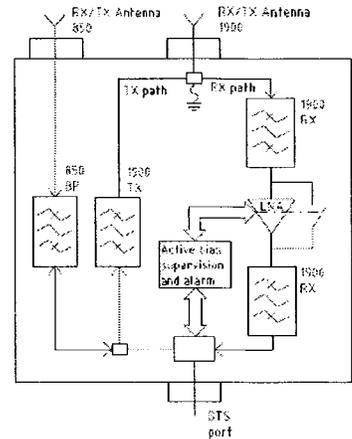
Product Number	LGP214nn	
850 MHz	Bypass (MHz)	824-894
	Return loss* (dB)	> 20
	Insertion loss* (dB)	< 0.3
1900 MHz		
Up-link	Frequency range, full band (60 MHz)	1850-1910
	Nominal gain (dB)	12
	Return loss* (dB)	> 20
	Noise figure* (dB)	< 1.7
	Output 3rd order Intercept Point* (dBm)	> +23
Down-link	Frequency range, full band (60 MHz)	1930-1990
	Insertion loss* (dB)	< 0.6
	Return loss* (dB)	> 20
Intermodulation	2 Tx@x43 dBm (dBC)	<-158
Alarm Functionality	Two levels, individually supervised LNAs	
Power Consumption	@12 VDC	1.2 W

* Typical

All specifications subject to change without notice. Please contact your Powerwave representative for complete performance data.

Mechanical Specifications

Size, W x H x D (without mounting plate)	235 x 366 x 66 mm (9.2 x 14.4 x 2.6 in)
Weight	6.4 kg (14.1 lbs)
Color	Off white (NCS 1502-R)
Housing	Aluminum
RF-connectors	DIN 7/16 female.
Mounting kit	Mounting kit for pole and wall is included
Temperature range	-40 °C to +65 °C (-40 °F to +149 °F)
MTBF	>1 million hours
Safety	UL 60 950
Ingress protection, IP 65	EN 60 529
Environmental	ETS 300 019
EMC	FCC Part 15



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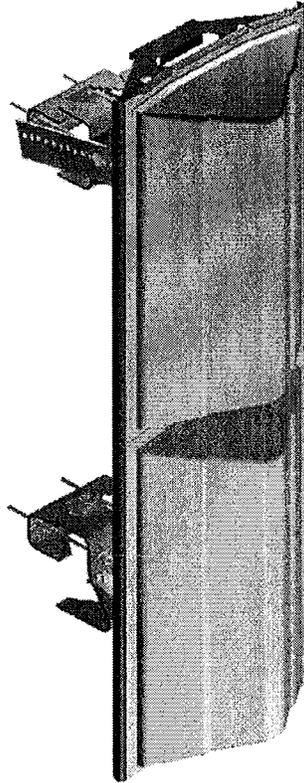
Specifications for Existing Antennas

DUO4-8670



Directing our energies for you.

Dual Band Antenna DUO1417-8686



86 & 86 Azimuth Beams
15 & 7 Elevation Beams
14.0 & 16.0 dBi Gain

- PCS & Cellular in One Package
- Independent Control of Electrical Beam Downtilt
- High Power Handling Capability
- Anti-Corrosion Design for Superb IM Performance
- Available With Optional Internal Dual Band Combiner



Directing our energies for you.

Dual Band Antenna DUO1417- 8686

Electrical Specifications

Frequency Range
Gain
Electrical Downtilt Options
VSWR
VSWR (with -i option)
Front-to-Back at Horizon
Upper Side Lobe Suppression
Elevation Beam (3-dB Points)
Azimuth Beam (3-dB Points)
Polarization
Impedance
Power Input Rating
Intermodulation Specification

Cellular

806-900 MHz
14.0 dBi
0, 2, 4 or 6 Degrees
1.35:1 Maximum
1.40:1 Maximum
> 25 dB
< -17 dB
15 Degrees
86 Degrees
Vertical
50 Ohms
500 CW
<-110dBm at 2x10W

PCS

1850-1990 MHz
16.0 dBi
0 or 4 Degrees
1.35:1 Maximum
1.40:1 Maximum
> 30 dB
< -18 dB
7 Degrees
86 Degrees
Vertical
50 Ohms
200 CW
<-110dBm at 2x10W

Mechanical Specifications

Input Connectors (female)
Antenna Dimensions
Antenna Weight
Antenna Weight (w/opt. 'i')
Bracket Weight
Lightning Protection
RF Distribution

Two Back Mounted 7/16 DIN (Silver Finish)
48.4 x 14 x 9 Inches (10.7" deep with option 'i')
20.3 lbs
32.0 lbs
10.5 lbs
Direct Ground
Cellular: Silver Plated Brass
PCS: Printed Microstrip Substrate
Ultra High-Strength Luran
UV Stabilized, ASTM D1925
ASTM D570, 0.45%
MIL-STD-810E
150 mph
124 lbs
2.54 sq-ft. (c=2)
Fits 2.5 to 3 Inch Schedule 40 Pipe
0-12 Degrees in 1 Degree Increments
Hot Dip Galvanized Steel/Stainless Steel

Radome
Weatherability
Radome Water Absorption
Environmental
Wind Survival
Front Wind Load at 100 mph
Front Flat Plate Equivalent
Mounting Brackets
Mechanical Downtilt Range
Clamps/Bolts

Ordering Information

Model
DUO1417- 8686-xy

DUO1417-8686-xyi

Options
x=Electrical Downtilt at 800 MHz in Degrees (0, 2, 4 or 6)
y=Electrical Downtilt at 1900 MHz in Degrees (0 or 4)
i=Dual Band Combiner included as an internal device