



Centek Engineering, Inc.  
3-2 North Branford Road  
Branford, Connecticut 06405  
Phone: (203) 488-0580  
Fax: (203) 488-8587

Steven L. Levine  
Real Estate Consultant

HAND DELIVERED

January 16, 2014

Attorney Melanie Bachman  
Acting Executive Director  
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 1363 Boston Post Road, Old Saybrook (owner, AT&T)**

**CT-CING-106-131114  
SECOND AMENDED Notice of Exempt Modification**

Dear Ms. Bachman:

On November 14, 2013 New Cingular Wireless PCS, LLC ("AT&T") submitted a Notice of Exempt Modification for the referenced telecommunications facility; and on January 6, 2014, AT&T submitted an Amended Notice of Exempt Modification. This Second Amended Notice of Exempt Modification is intended to replace both prior filings in their entirety.

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") and/or Long Term Evolution ("LTE") capabilities, and enhance system performance in the State of Connecticut, 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.

LTE is a high-performance air interface for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

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. Moreover, LTE will utilize additional radio frequencies newly-licensed by the FCC for cellular mobile communications. 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, AT&T 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) 830-0380 with questions concerning this matter. Thank you for your consideration.

Sincerely,



Steven L. Levine  
Real Estate Consultant

cc: Carl P. Fortuna, 1<sup>st</sup> Selectman, Town of Old Saybrook

Attachments

**NEW CINGULAR WIRELESS PCS, LLC  
Equipment Modification**

1363 Boston Post Road, Old Saybrook, CT  
Site Number 1284  
Prior Decisions: Docket 411

**Tower Owner/Manager:** AT&T

**Equipment configuration:** Monopole

**Current and/or approved:** Three T-arm mounts @ 97 ft  
Nine KMW AM-X-CD-16-65-00T-RET antennas @ 97 ft c.l.  
Six CCI TMA's @ 97 ft  
Twelve lines 1 5/8 inch coax  
Equipment shelter

**Proposed modifications:** Remove all T-arms, antennas, and TMA's from 97 ft level.  
Remove six lines 1 5/8 inch coax.  
Install two Valmont ULP12-496 Rigid T-arm Frames (@ 99.5 ft and @ 93.5 ft, respectively).  
Re-install three KMW AM-X-CD-16-65-00T-RET antennas @ 97 ft c.l.  
Install nine CCI HPA-65R-BUU-H6 antennas @ 97 ft c.l.  
Install three TMA's @ 97 ft.  
Install 18 remote radio heads and six associated A2 modules @ 97 ft.  
Install three Raycap DC6-48-60-18-8F surge arrestors @ 95 ft.  
Install one fiber cable and six DC control cables.

**Power Density:**

Calculations for AT&T's current operations at the site indicate a radio frequency electromagnetic radiation power density, measured at the tower base, of approximately 12.6 % of the standard adopted by the FCC. As depicted in the second table below, the total radio frequency electromagnetic radiation power density for AT&T's planned operations would be approximately 16.3 % 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 *							0.00
AT&T GSM *	97	880 - 894	3	296	0.0339	0.5867	5.78
AT&T GSM *	97	1900 Band	1	427	0.0163	1.0000	1.63
AT&T UMTS *	97	880 - 894	1	500	0.0191	0.5867	3.26
AT&T UMTS *	97	1900 Band	1	500	0.0191	1.0000	1.91
<b>Total *</b>							<b>12.6%</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 *							0.00
AT&T LTE	97	700 Band	1	500	0.0191	0.4667	4.09
AT&T LTE	97	1900 Band	1	500	0.0191	1.0000	1.91
AT&T LTE	97	2300 Band	1	500	0.0191	1.0000	1.91
AT&T UMIS	97	880 - 894	2	500	0.0382	0.5867	6.51
AT&T UMIS	97	1900 Band	1	500	0.0191	1.0000	1.91
<b>Total</b>							<b>16.3%</b>

\* Per CSC records

### Structural information:

The Decision in Docket 411 restricts antenna mounts on the Old Saybrook tower to T-arms only. One set of T-arms, however, will be insufficient to support the increased equipment weight load. Therefore, AT&T proposes to install two sets of Valmont Ultra Low Profile Rigid T-Arms for necessary added support capacity. (Please refer to the attached Design Memo from ProTerra Design Group, LLC.) The attached structural analysis (GPD Group, 1/10/14) demonstrates that the tower and foundation are adequate to accommodate the proposed equipment modifications.

**From:** "Bachman, Melanie" <Melanie.Bachman@ct.gov>  
**To:** 'Steve Levine' <slevine@snet.net>  
**Cc:** "Martin, David C." <David.C.Martin@ct.gov>; "Fontaine, Lisa" <Lisa.Fontaine@ct.gov>; "Mulcahy, Carriann" <Carriann.Mulcahy@ct.gov>; "Brito, Jessica" <jessica.brito@ct.gov>  
**Sent:** Tuesday, January 7, 2014 2:13 PM  
**Subject:** RE: Resubmission -- AT&T Exempt Mod EM-CING-106-131114

Good afternoon, Steve.

Thank you for your message. I appreciate your candor.

This exempt mod will be placed on hold for a second time, pending redesign of the upgrade and the fee paid in November will still be applied to the second resubmission. As before, please indicate in the cover letter for the revised submission the above-referenced control number and a brief statement describing the reason for the resubmission.

Thanks. Have a nice afternoon.

Melanie

**Melanie A. Bachman**  
**Staff Attorney/Acting Executive Director**  
**Connecticut Siting Council**  
**10 Franklin Square**  
**New Britain, CT 06051**  
**860-827-2951**

**CONFIDENTIAL INFORMATION:** The information contained in this e-mail is confidential and is protected from general disclosure. If the recipient of the reader of this e-mail is not the intended recipient, or person responsible to receive this e-mail, you are requested to delete this e-mail immediately and do not disseminate or distribute or copy. If you have received this e-mail by mistake, please notify us immediately by replying to the message so that we can take appropriate action immediately and see to it that this mistake is rectified.

**From:** Steve Levine [mailto:slevine@snet.net]  
**Sent:** Tuesday, January 07, 2014 1:39 PM  
**To:** Bachman, Melanie  
**Cc:** Martin, David C.  
**Subject:** Re: Resubmission -- AT&T Exempt Mod EM-CING-106-131114

Melanie,

It turns out that there's another issue with the Old Saybrook exempt mod notice I resubmitted yesterday. Dave Martin has informed me that Docket 411 contains a T-arms-only stipulation at this facility. We apparently overlooked the requirement, and for this I apologize.

I respectfully request that this exempt mod notice be placed on hold for a second time, pending re-design of the LTE upgrade in conformance with Docket 411. I also ask that the application fee paid in November still be applied to the second resubmission.

Thank you for your consideration in this matter.

-- Steve Levine, for AT&T Mobility (860-830-0380)

**From:** "Bachman, Melanie" <Melanie.Bachman@ct.gov>  
**To:** 'Steve Levine' <slevine@snet.net>  
**Sent:** Monday, January 6, 2014 9:37 AM  
**Subject:** RE: Resubmission -- AT&T Exempt Mod EM-CING-106-131114

Good morning, Steve.

Thank you for following through with the resubmission as we discussed. It is appreciated.

**Melanie A. Bachman**  
**Staff Attorney/Acting Executive Director**  
**Connecticut Siting Council**  
**10 Franklin Square**  
**New Britain, CT 06051**  
**860-827-2951**

**CONFIDENTIAL INFORMATION:** The information contained in this e-mail is confidential and is protected from general disclosure. If the recipient or the reader of this e-mail is not the intended recipient, or person responsible to receive this e-mail, you are requested to delete this e-mail immediately and do not disseminate or distribute or copy. If you have received this e-mail by mistake, please notify us immediately by replying to the message so that we can take appropriate action immediately and see to it that this mistake is rectified.

**From:** Steve Levine [<mailto:slevine@snet.net>]  
**Sent:** Monday, January 06, 2014 9:16 AM  
**To:** CSC-DL Siting Council; Brito, Jessica  
**Cc:** Bachman, Melanie  
**Subject:** Resubmission -- AT&T Exempt Mod EM-CING-106-131114

Good morning.

Attached please find the electronic version of AT&T's revised Notice for EM-CING-106-131114. I will probably visit the Council later today to submit the original and 2 hard copies. Per Atty Bachman's email below, the fee submitted on 11/14/13 should be applied to this filing.

I have also attached the full structural analysis.

Thank you.

-- Steve Levine

**From:** "Bachman, Melanie" <Melanie.Bachman@ct.gov>  
**To:** 'Steve Levine' <slevine@snet.net>  
**Cc:** "Martin, David C." <David.C.Martin@ct.gov>; Carl Aquilina <Carl.Aquilina@SAI-Comm.com>; Carlo F. Centore <cfcentore@centekeng.com>; "Mulcahy, Carriann" <Carriann.Mulcahy@ct.gov>; "Fontaine, Lisa" <Lisa.Fontaine@ct.gov>  
**Sent:** Wednesday, November 20, 2013 1:33 PM  
**Subject:** RE: CT-CING-106-131114

Good afternoon, Steve.

Thank you for the information. We will place the exempt modification request on hold pending receipt of the updated information and apply the fee already paid to the resubmission. Please indicate in the

cover letter for the updated information the above-referenced control number and a brief statement describing the resubmission.

Thanks.

**Melanie A. Bachman**  
**Staff Attorney/Acting Executive Director**  
**Connecticut Siting Council**  
**10 Franklin Square**  
**New Britain, CT 06051**  
**860-827-2951**

**From:** Steve Levine [<mailto:slevine@snet.net>]  
**Sent:** Wednesday, November 20, 2013 1:26 PM  
**To:** Bachman, Melanie  
**Cc:** Martin, David C.; Carl Aquilina; Carlo F. Centore  
**Subject:** CT-CING-106-131114

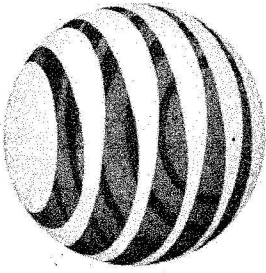
Dear Ms. Bachman,

AT&T is revising its proposed LTE upgrade design for 1363 Boston Post Road, Old Saybrook. We submitted an exempt mod Notice and fee for the upgrade on 11/14 using the original design. Dave Martin informs me that the EM has not yet gone out to Council members on a weekend summary.

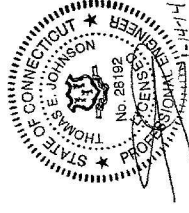
We respectfully request that the Notice be placed on hold pending receipt of an updated equipment inventory, drawings, and structural analysis. We also respectfully request that the \$625 fee already paid to the Council for the original submission be applied to the re-submission.

Thank you for your consideration in this matter.

Sincerely,  
Steve Levine, for AT&T Mobility



at&t

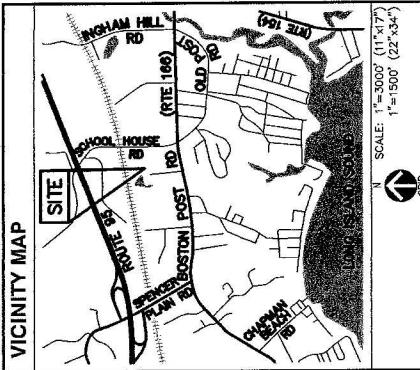


# OLD SAYBROOK SCHOOLHOUSE ROAD (CT-1284)

1363 BOSTON POST ROAD  
OLD SAYBROOK, CT 06475

SITE TYPE: MONOPOLE - LTE ALTERATION

PROJECT SUMMARY	
SITE NAME:	OLD SAYBROOK SCHOOLHOUSE ROAD
SITE ADDRESS:	1363 BOSTON POST ROAD OLD SAYBROOK, CT 06475
COUNTY:	MIDDLESEX
TAX ID:	027/023-0000
ZONING JURISDICTION:	TOWN OF OLD SAYBROOK
ZONING CLASSIFICATION:	(B-4) GATEWAY BUSINESS DISTRICT
CONSTRUCTION TYPE:	LTE ALTERATION
LATITUDE:	41° 17' 23.2" N ± (RECORD)
LONGITUDE:	72° 24' 21.4" W ± (RECORD)
PROPERTY OWNER:	N/F WILCOY FAMILY LLC 26 CLARRY ROAD OLD SAYBROOK, CT 06475
APPLICANT:	NEW CONSUMERS WIRELESS PCS, LLC
LESSEE/LICENSEE:	NEW CONSUMERS WIRELESS PCS, LLC
PROJECT OWNER:	500 ENTERPRISE DRIVE ROCKY HILL, CT 06867
ARCHITECT/ENGINEER:	PROTERRA DESIGN GROUP, LLC 1 SHORT STREET, SUITE 3 NORTHAMPTON, MA 01060



SHEET INDEX		
SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	3
GN-1	GENERAL NOTES	3
A-1	COMPOUND & ELEVATION	3
A-2	EQUIPMENT ROOM PLAN	3
S-1	STRUCTURAL DETAILS	3
S-2	STRUCTURAL DETAILS	3
E-1	ELECTRICAL & GROUNDING DETAILS	3

SCALE NOTES	
1.	THIS SHEET SET WAS ORIGINALLY SETUP AS 11'-17".
2.	PRINTING TO ANSI D (22"X34") WILL RESULT IN A DOUBLE SCALE SHEET SET WITH 1" MARGINS. RESULTING SCALES WILL BE THOSE NOTED IN TEXT. EXAMPLE: ORIGINAL SCALE: 1"=3000' (11'-17") PRINTED SCALE: 1"=1500' (22"X34")
3.	CONTRAST ALL SCALED DISTANCES WITH GRAPHICAL SCALES SHOWN HEREIN. GRAPHICAL SCALES WILL BE UNCHANGED BY ENLARGEMENT OR REDUCTION.

PROJECT DESCRIPTION	
1.	THIS PLAN SET DETAILS A MODIFICATION TO AN EXISTING AIRTEL COMMUNICATIONS FACILITY.
2.	ALL TRANSMITTED ACCESS EQUIPMENT AND ANTENNAS WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
3.	THIS FACILITY WILL CONSUME NO UNRECOVERABLE ENERGY.
4.	ALL AVAILABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.
5.	NO WASTE WATER WILL BE GENERATED AT THIS LOCATION.
6.	NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.
7.	ALL WASTE MATERIALS WILL BE PROPERLY MANAGED. MAKE AN AVERAGE OF ONE TRIP PER MONTH AT ONE HOUR PER VISIT.

PLAN NOTES	
1.	EXISTING CONDITIONS BASED ON A FIELD VISIT BY PROTERRA DESIGN GROUP, LLC ON AUGUST 23, 2013.
2.	CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION. RECORD IS TO BE INFORMED OF ANY DISCREPANCIES PRIOR TO COMMENCING CONSTRUCTION ACTIVITY.
3.	ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM RECORDS. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL THE FOLLOWING FOR ALL PRE-CONSTRUCTION INFORMATION 72-HOURS PRIOR TO ANY EXCAVATION ACTIVITY: 888-344-7233

**ProTerra**  
DESIGN GROUP, LLC  
1 Short Street  
Suite 3  
Northampton, MA 01060  
Ph: (413)320-4818  
Fax: (413)320-4817

**SAI**  
27 Northwestern Drive  
Salem, NH 03079

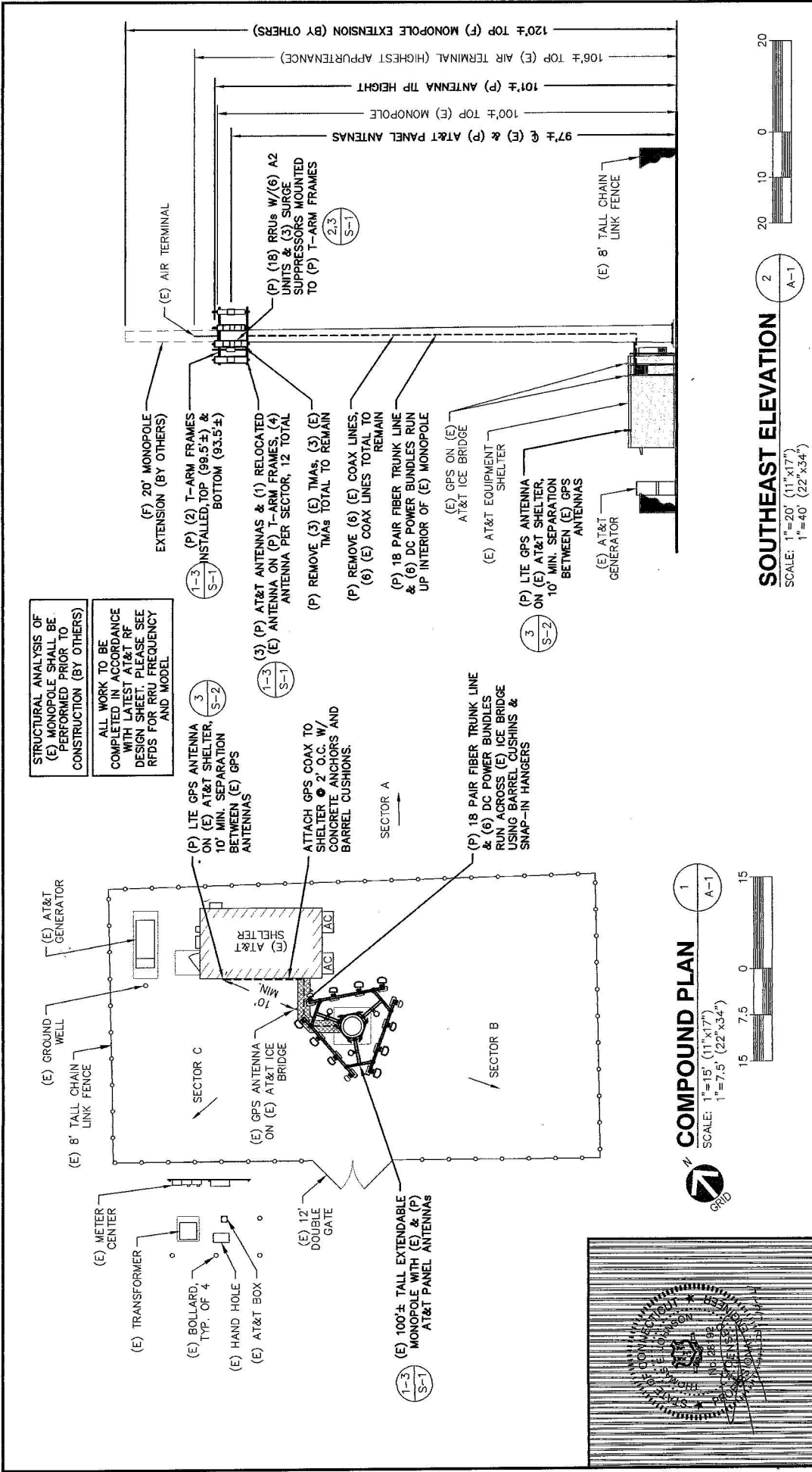
**at&t**  
New England Wireless PCS, LLC  
500 Enterprise Drive  
Rocky Hill, CT 06867

**CT-1284**  
1363 BOSTON POST ROAD  
OLD SAYBROOK, CT 06475

REVISIONS	
2.	COMMENTS
3.	COMMENTS

DESIGNED BY:	JMM/TEJ	JOB #:	11-023
DRAWN BY:	JEB	REV. #:	3
DATE:	1/14/14	<b>T-1</b>	
SCALE:	AS NOTED		





STRUCTURAL ANALYSIS OF (E) MONOPOLE SHALL BE PERFORMED PRIOR TO CONSTRUCTION (BY OTHERS)

ALL WORK TO BE COMPLETED IN ACCORDANCE WITH LATEST AT&T RF DESIGN SHEET. PLEASE SEE RFDS FOR RRU FREQUENCY AND MODEL.

(P) LITE GPS ANTENNA ON (E) AT&T SHELTER 10' MIN. SEPARATION BETWEEN (E) GPS ANTENNAS

(P) ATTACH GPS COAX TO SHELTER @ 2' O.C. W/ CONCRETE ANCHORS AND BARREL CUSHIONS.

(P) 18 PAIR FIBER TRUNK LINE & (6) DC POWER BUNDLES RUN ACROSS (E) ICE BRIDGE USING BARREL CUSHIONS & SNAP-IN HANGERS

(P) REMOVE (3) (E) T.MAs, (3) (E) T.MAs TOTAL TO REMAIN

(P) REMOVE (6) (E) COAX LINES, (6) (E) COAX LINES TOTAL TO REMAIN

(P) 18 PAIR FIBER TRUNK LINE & (6) DC POWER BUNDLES RUN UP INTERIOR OF (E) MONOPOLE

(P) LITE GPS ANTENNA ON (E) AT&T SHELTER, 10' MIN. SEPARATION BETWEEN (E) GPS ANTENNAS

(E) AT&T GENERATOR

(P) REMOVE (3) (E) T.MAs, (3) (E) T.MAs TOTAL TO REMAIN

(P) REMOVE (6) (E) COAX LINES, (6) (E) COAX LINES TOTAL TO REMAIN

(P) 18 PAIR FIBER TRUNK LINE & (6) DC POWER BUNDLES RUN UP INTERIOR OF (E) MONOPOLE

(P) AT&T ANTENNAS & (1) RELOCATED ANTENNA ON (P) T-ARM FRAMES, (4) ANTENNA PER SECTOR, 12 TOTAL

(P) (18) RRU's W/(6) A2 UNITS & (3) SURGE SUPPRESSORS MOUNTED TO (P) T-ARM FRAMES

(F) 20' MONOPOLE EXTENSION (BY OTHERS)

(P) (2) T-ARM FRAMES INSTALLED TOP (99.5'±) & BOTTOM (93.5'±)

(E) AIR TERMINAL

**SOUTHEAST ELEVATION**  
 SCALE: 1"=20' (11"x17")  
 1"=40' (22"x34")

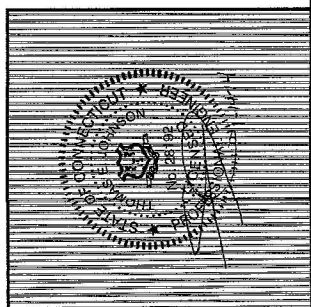
**COMPOUND PLAN**  
 SCALE: 1"=15' (11"x17")  
 1"=7.5' (22"x34")

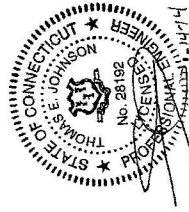
REVISIONS	DESIGNED BY:	JMM/TEJ	JOB #:	11-023
2	COMMENTS	JEB	REV. #:	3
3	COMMENTS		DATE:	1/14/14
			SCALE:	AS NOTED

**SITE NUMBER**  
**CT-1284**  
 1363 BOSTON POST ROAD  
 OLD SAYBROOK, CT 06475



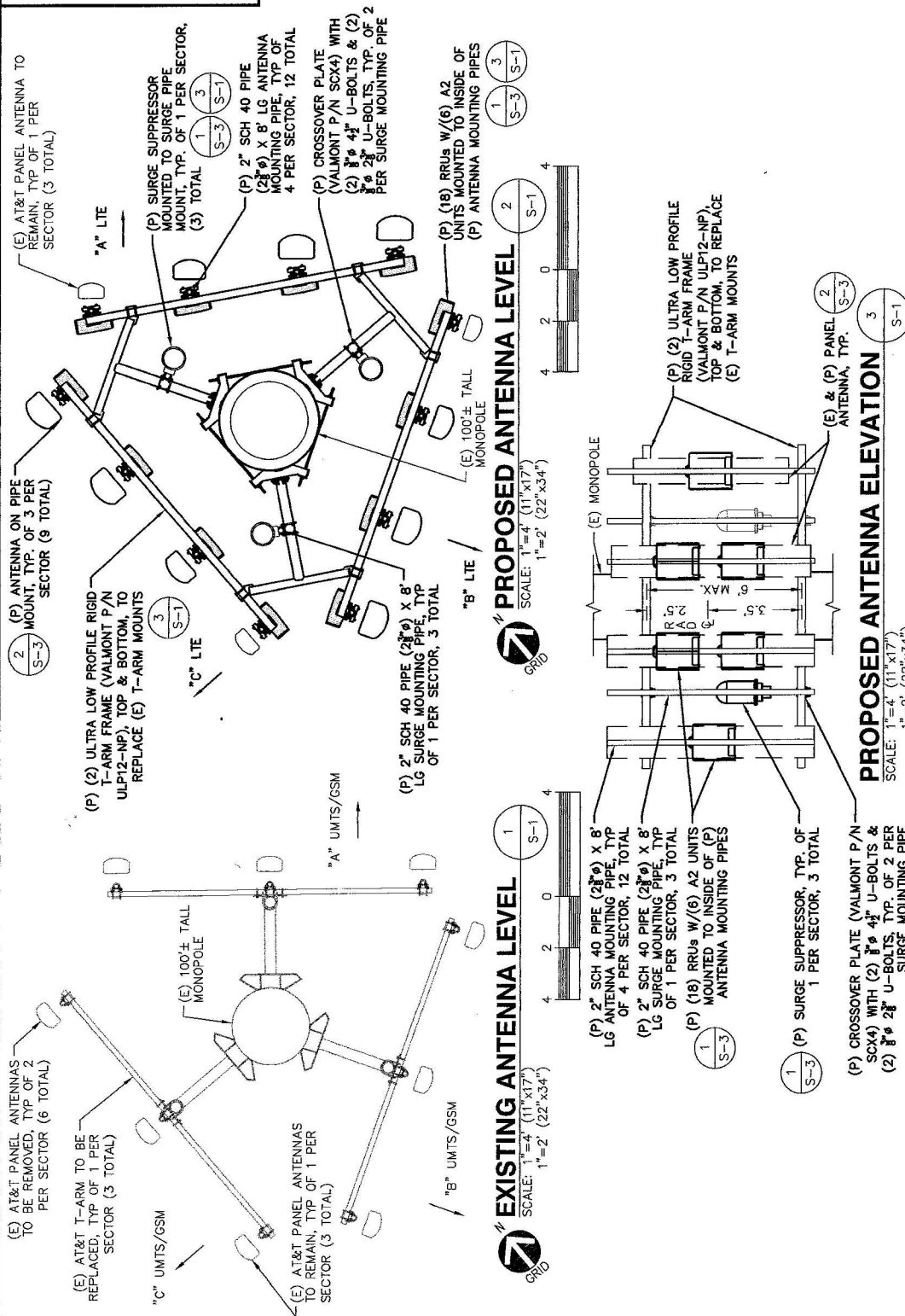
**ProTerra**  
**DESIGN GROUP, LLC**  
 1 Short Street  
 Suite 3  
 Northampton, MA 01060 Fax: (413)320-4917





ALL WORK TO BE COMPLETED IN ACCORDANCE WITH LATEST AT&T RF DESIGN SHEET. PLEASE SEE RFDS FOR RRU FREQUENCY AND MODEL.

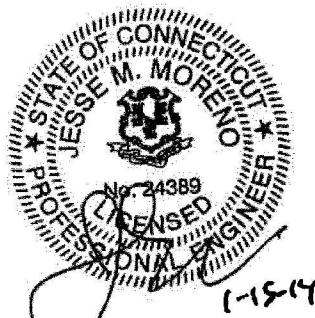
NOTE: ANTENNA RAD CENTER MUST BE AT SECTOR MOUNT ELEVATION. NO ECCENTRICITY ALLOWED.



- (E) AT&T PANEL ANTENNAS TO BE REMOVED, TYP OF 2 PER SECTOR (6 TOTAL)
- (E) AT&T T-ARM TO BE REPLACED, TYP OF 1 PER SECTOR (3 TOTAL)
- "C" UMTS/GSM
- (E) 100'+ TALL MONOPOLE
- (E) AT&T PANEL ANTENNAS TO REMAIN, TYP OF 1 PER SECTOR (3 TOTAL)
- "B" UMTS/GSM
- (P) ANTENNA ON PIPE MOUNT, TYP. OF 3 PER SECTOR (9 TOTAL)
- (P) 2" SCH 40 PIPE RIGID T-ARM FRAME (VALMONT P/N ULPT12-NP), TOP & BOTTOM, TO REPLACE (E) T-ARM MOUNTS
- "A" LITE
- (P) SURGE SUPPRESSOR MOUNTED TO SURGE PIPE MOUNT, TYP. OF 1 PER SECTOR, (3) TOTAL
- (P) 2" SCH 40 PIPE (2 3/8" Ø) X 8' LG ANTENNA MOUNTING PIPE, TYP OF 4 PER SECTOR, 12 TOTAL
- (P) CROSSOVER PLATE (VALMONT P/N SCX4) WITH (2) 3/8" Ø 4" U-BOLTS & (2) 1/2" Ø 2 1/2" U-BOLTS, TYP. OF 2 PER SURGE MOUNTING PIPE
- (P) 18" RRU'S W/(6) A2 UNITS MOUNTED TO INSIDE OF ANTENNA MOUNTING PIPES
- "A" LITE
- (E) 100'+ TALL MONOPOLE
- (P) SURGE SUPPRESSOR, TYP. OF 1 PER SECTOR, 3 TOTAL
- (E) AT&T PANEL ANTENNA TO REMAIN, TYP OF 1 PER SECTOR (3 TOTAL)
- (P) 2" SCH 40 PIPE (2 3/8" Ø) X 8' LG SURGE MOUNTING PIPE, TYP OF 1 PER SECTOR, 3 TOTAL
- "B" LITE
- (E) 100'+ TALL MONOPOLE
- (P) 2" ULTRA LOW PROFILE RIGID T-ARM FRAME (VALMONT P/N ULPT12-NP), TOP & BOTTOM, TO REPLACE (E) T-ARM MOUNTS
- (E) & (P) PANEL ANTENNA, TYP.

<b>ProTerra DESIGN GROUP, LLC</b> 1 Short Street Northampton, MA 01060 Ph: (413)520-4918 Fax: (413)520-4917		<b>at&amp;t</b> New Circular Wireless PCS, LLC 500 Enterprise Drive Rocky Hill, CT 06867	SITE NUMBER <h1>CT-1284</h1>		DESIGNED BY: JMM/TEU JOB #: 11-023
			1363 BOSTON POST ROAD OLD SAYBROOK, CT 06475		DRAWN BY: JEB REV. # 3
			REVISIONS 2 COMMENTS 3 COMMENTS		DATE: 1/14/14 SCALE: AS NOTED

**S-1**



**DESIGN MEMO**

Date: January 15, 2014  
Author: Jesse Moreno, PE  
Project: AT&T CT-1084 Old Saybrook Schoolhouse Road  
RE: Design of Mount for LTE Equipment Alteration for Existing Telecommunications Facility  
1363 Boston Post Road  
Old Saybrook, CT 06475

**SUMMARY**

- Based upon the attached memo, the Ultra-Low Profile Rigid T-Arm Frame (SitePro1 P/N ULP12-NP) in a tandem arrangement will support the proposed configuration of RF equipment as noted herein and as shown on the latest Construction Drawings.

**SCOPE OF WORK**

ProTerra Design Group, LLC (ProTerra) was retained by SAI Communications for New Cingular Wireless PCS, LLC (AT&T) to design the placement of AT&T LTE antenna and radio equipment to upgrade the existing telecommunications installation located at the above referenced location. This report details ProTerra's design of the support for AT&T's LTE equipment alteration.

**EXISTING CONDITIONS**

The existing facility consisted of a 100' tall monopole (extendable to 120') within a fenced compound. An installation by AT&T were contained within the facility. The facility is located within a 115 mph wind zone as noted in the 2003 IBC with 2005, 2009, and 2011 Connecticut amendments and 85 mph fastest mile as noted in ANSI/TIA-222-F. The ANSI/TIA-222-G to be adopted to Connecticut in the near future requires design for a 3-second gust between 100 and 120 mph with 3/4" ice. Existing conditions of AT&T's installation were documented by ProTerra Design Group, LLC during a site visit on August 23, 2013.

Nine panel antennas in three sectors of three antennas each were pipe-mounted to a T-arm centered at 97' above ground level. The panel antennas were fed via coaxial cables through the monopole and across an ice bridge by equipment within a pad-mounted shelter.

**PROPOSED EQUIPMENT**

AT&T proposes to replace two of the three panel antennas at each sector with three panel antennas (92.4"H x 14.8"W x 7.4"D and 70 pounds maximum each). One panel antenna at each sector will remain. The new panel antennas at each sector will be fed via coaxial cables by six RRUs (approximately 70 pounds each) and two A2 units (approximately 22 pounds each). Power and fiber will be distributed to the RRUs by three surge suppressors (approximately 30 pounds each). The surge suppressors will be fed

via fiber and DC power cables following the existing coaxial cables by the pad-mounted shelter. An LTE rack with surge suppressor, fiber tray, and radio units will be added inside the shelter.

#### **EQUIPMENT SUPPORT RECOMMENDATIONS**

The existing T-arm frame is insufficient to support the proposed panel antennas and other RF equipment and shall be removed prior to placing equipment. ProTerra recommends placing two Ultra-Low Profile Rigid T-Arm Frames (SitePro1 P/N ULP12-NP) in a "tandem" arrangement on the monopole vertically separated by no more than seven feet. The frames shall be centered at the existing 97' above ground level. Twelve schedule 40 pipes in three sectors of four pipes each shall be mounted at each pipe mount location spanning the two frames.

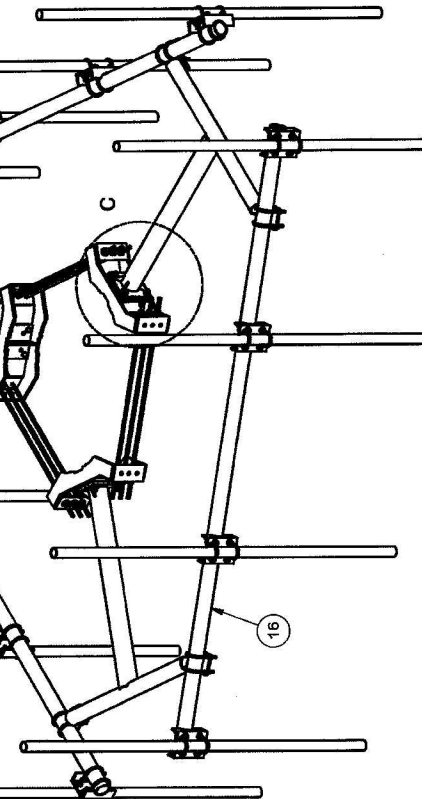
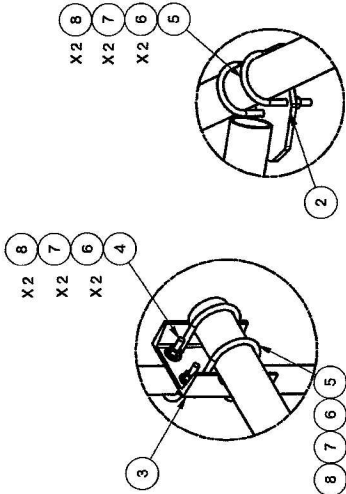
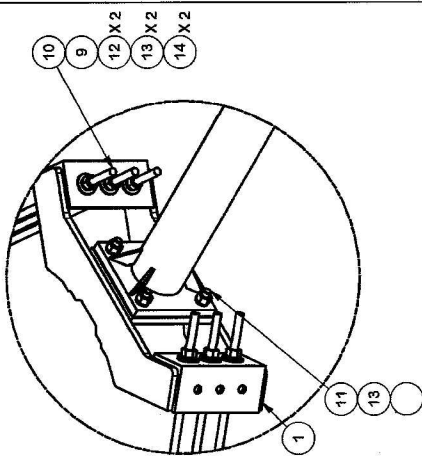
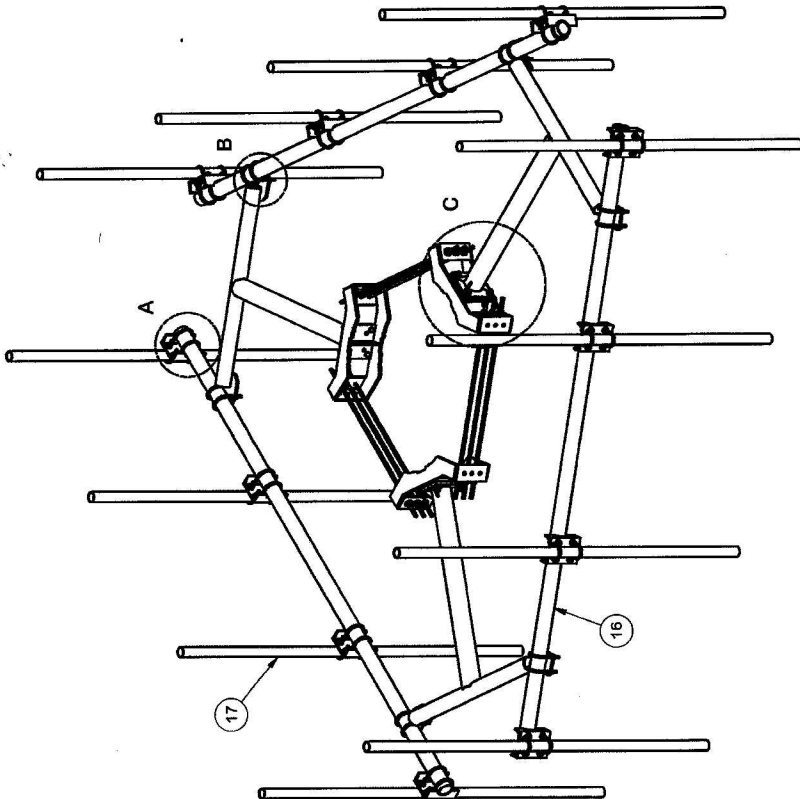
A maximum of one panel antenna and two RRUs containing a maximum factored load of 275 pounds may be mounted to each pipe. Surge suppressors shall be each pipe-mounted to the radial arm of the T-arm frame secured with crossover plates.

According to the attached memo regarding "ANSI/TIA-222-G Mount Capacity; Valmont / Site Pro 1 Mount: 12'-6" Ultra Low Profile Double Level Ridged [sic] T-Frame with 9 or 12 antennas" prepared by William B. Rettig for SitePro1 dated December 3, 2013, the doubled frame arrangement will support the proposed configuration of RF equipment following ANSI/TIA-222-G requirements.

The LTE alteration is detailed in a plan set entitled "Old Saybrook Schoolhouse Road (CT-1284)" prepared by ProTerra revised through January 14, 2014.

PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	3	X-LWRM	RING MOUNT WELDMENT		66.16	204.48
2	3	X-UPL	SUPPORT ARM WELDMENT - 36"		103.07	309.20
3	12	X-SP219	SMALL SUPPORT CROSS PLATE	8.250 in	8.61	103.33
4	24	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.63	15.00
5	36	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.66	23.63
6	120	G12FW	1/2" HDG USS FLATWASHER		0.03	4.08
7	120	G12LW	1/2" HDG LOCKWASHER		0.01	1.67
8	120	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	8.58
9	9	G58R-24	5/8" X 24" GALV THREADED ROD		2.09	18.82
10	9	G58R-48	5/8" X 48" GALV THREADED ROD		4.39	39.52
11	12	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2.75	0.36	4.27
12	18	G58FW	5/8" HDG USS FLATWASHER		0.07	1.27
13	30	G58LW	5/8" HDG LOCKWASHER		0.03	0.78
14	30	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	3.89
16	3	P3150	3-1/2" X 150" SCH 40 GALVANIZED PIPE	150.00 in	94.80	284.40
17	12				D	



DETAIL A

DETAIL B

DETAIL C

"ASSEMBLY NO."	PART NO. "A"	PART DESCRIPTION "B"	LENGTH "C"	UNIT WT. "D"	TOTAL WT.
UPL12-NP	N/A	N/A	N/A	N/A	927.96
UPL12-472	P272	2-3/8" O.D. SCH. 40 PIPE	72"	23.07	1,311.05
UPL12-484	P284	2-3/8" O.D. SCH. 40 PIPE	84"	26.91	1,387.13
UPL12-496	P296	2-3/8" O.D. SCH. 40 PIPE	96"	30.76	1,403.33

**TOLERANCE NOTES**  
 TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWS, SHEARED AND GAS CUT EDGES (± 0.030")  
 DRILLED AND GAS CUT HOLES (± 0.030") - NO CORNING OF HOLES  
 LASER CUT EDGES AND HOLES (± 0.010") - NO CORNING OF HOLES  
 BENDS ARE ± 1/2 DEGREE  
 ALL OTHER MACHINING (± 0.030")  
 ALL OTHER ASSEMBLY (± 0.060")

PROPRIETARY NOTE:  
 THE DATA AND TECHNIQUES CONTAINED IN THE DRAWING ARE PROPRIETARY INFORMATION OF VALMONT  
 INDUSTRIES. ANY REUSE OR REPRODUCTION OF THIS INFORMATION WITHOUT THE CONSENT OF  
 VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION:  
 ULTRA LOW PROFILE RIDGED T-ARM  
 FOR 12 ANTENNAS

Locations:  
 New York, NY  
 Allentown, PA  
 Los Angeles, CA  
 Plymouth, IN  
 Salem, OR  
 Dallas, TX

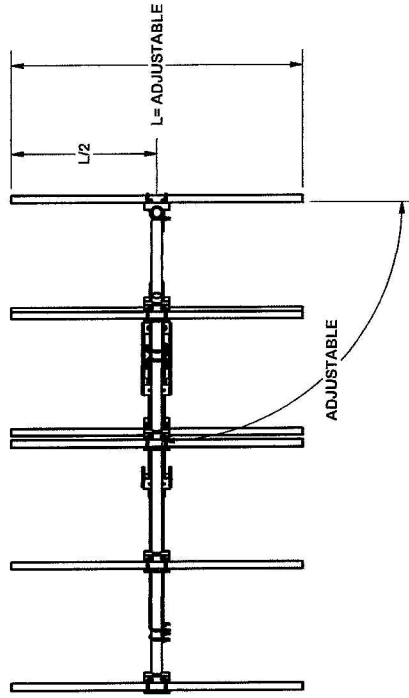
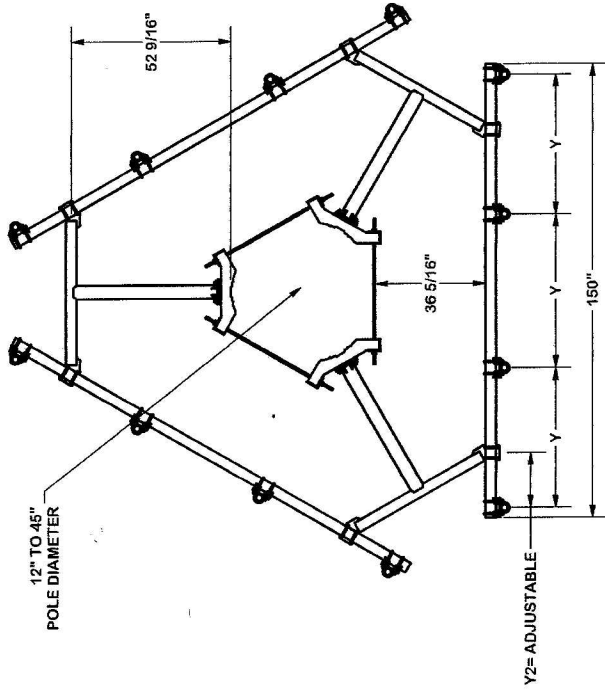
Engineering Support Team:  
 1-888-753-7448

**SITE PRO**  
 A Valmont COMPANY

Part No. SEE "ASSEMBLY NO."  
 DWG. NO. ULP12-4XX

CPD NO. 5416  
 CLASS SUB 81 01  
 DRAWING USAGE CUSTOMER  
 DRAWN BY LMD 12/20/2012  
 ENG. APPROVAL  
 CHECKED BY BMC 12/27/2012

PAGE 1 OF 2




**TOLERANCE NOTES**

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
 SAWED, SHEARED AND GAS CUT EDGES ( $\pm 0.030''$ )  
 DRILLED AND GAS CUT HOLES ( $\pm 0.030''$ ) - NO CONING OF HOLES  
 LASER CUT EDGES AND HOLES ( $\pm 0.010''$ ) - NO CONING OF HOLES  
 BENDS ARE  $\pm 1/2$  DEGREE  
 ALL OTHER MACHINING ( $\pm 0.030''$ )  
 ALL OTHER ASSEMBLY ( $\pm 0.060''$ )

PROPRIETARY NOTE:  
 THIS DRAWING IS THE PROPERTY OF VALMONT INDUSTRIES AND SHOULD BE KEPT IN CONFIDENTIALITY. ANY USE OR DISSEMINATION WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION		ENG. APPROVAL	
ULTRA LOW PROFILE RIDGED T-ARM FOR 12 ANTENNAS		CHECKED BY	
CPD NO.	DRAWN BY	DRAWING USAGE	CUSTOMER
5416	LMD 12/20/2012	BMC 12/27/2012	
CLASS	SUB		
81	01		



A valmont COMPANY

Engineering  
Support Team:  
1-888-753-7446

Locations:  
Atlanta, GA  
Los Angeles, CA  
Plymouth, IN  
Salem, OR  
Dallas, TX

PART NO. SEE "ASSEMBLY NO."

DWG. NO. ULP12-4XX

PAGE  
2 OF 2



A **valmont** COMPANY

December 3, 2013

RE: **ANSI/TIA-222-G Mount Capacity**  
**Valmont / Site Pro 1 Mount: 12'-6" Ultra Low Profile Double Level Ridged**  
**T-Frame with 9 or 12 antennas**

**Part No. ULPD12-4xx**

The Ultra-Low Profile Double Level Ridged T-Frame referenced above has been analyzed in accordance with ANSI/TIA-222-G-2005 standard using the following design criteria.

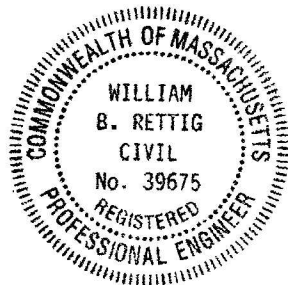
**Mount Design Criteria**

Structure Height	250'
Basic Wind Speed	120 mph (3-sec)
Ice Wind Speed	40 mph
Structure Class	II
Exposure Category	C
Topographic Category	I
Design Ice Thickness	0.75"
Wind Direction Factor	0.85 Tubular Pole Structures, Lattice Structures with other than triangular, square or rectangular cross-sections, strength design of appurtenances
	0.80 On antennas, radios, and antenna pipes
Gust Effect Factor	1.10 Tubular Pole Structures

**Modeling & Applied Appurtenance Loading**

The mount was analyzed for four (4) antenna loads evenly spaced across each face of the mount, centered on the centerline of the mount (i.e. no vertical eccentricity). Based on the Design Criteria above; The maximum, factored normal force per antenna pipe is 878 lbs (12.9 Sq-ft) with a maximum, factored tangential force of 840 lbs (12.3 Sq-ft). The weight of each antenna was considered to be a maximum of 275 lbs. Self-weight of the mount was also considered.

The mount will also support a nominal load of 250 lbs at two (2) locations simultaneously (500 lbs total) to provide access for climbers. This condition assumes wind speed less than 30 mph.



Valmont Site Pro 1  
2400 Walter Glaub Drive Plymouth, Indiana 46563-4005 USA  
574-936-4221 Fax 574-936-8925 www.sitepro1.com



SAI Communications  
 27 Northwestern Drive  
 Salem, NH 03079  
 (603) 560-7049



Kevin Clements  
 502 S. Main St., Suite 2531  
 Akron, Ohio 44311  
 (330) 572-2100  
 kclements@gpdgroup.com

**GPD# 2013723.13.105130.02 Rev. 1**  
 January 10, 2014

**STRUCTURAL ANALYSIS REPORT**

**AT&T DESIGNATION:**      **Site USID:**      105130  
    **Site FA:**      10133875  
    **Client #:**      CT1284  
    **Site Name:**    OLD SAYBROOK BOSTON POST RD  
    **AT&T Project:** MOD: LTE Add 9/16/2013

**ANALYSIS CRITERIA:**      **Codes:**      TIA/EIA-222-F, ASCE 7-05 & 2005 CTBC  
    85-mph (fastest-mile) with 0" ice  
    38-mph (fastest-mile) with 0.75" ice

**SITE DATA:**      1363 Boston Post Road, Old Saybrook, CT 06475, Middlesex County  
    Latitude 41° 17' 23.201" N, Longitude 72° 24' 21.398" W  
    Market: New England  
    99' Sabre Monopole

Mr. Edward Onessimo ,

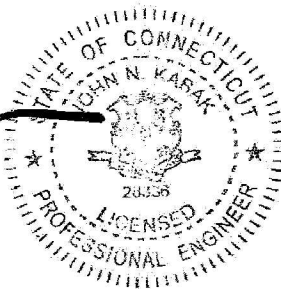
GPD is pleased to submit this Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

**Analysis Results**

Tower Stress Level with Proposed Equipment:	54.2%	Pass
Foundation Ratio with Proposed Equipment:	45.3%	Pass

We at GPD appreciate the opportunity of providing our continuing professional services to you and SAI Communications . If you have any questions or need further assistance on this or any other projects please do not hesitate to call.

Respectfully submitted,



John N. Kabak, P.E.  
 Connecticut #: 28336



## 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 Mobility to SAI Communications . This report was commissioned by Mr. Edward Onessimo of SAI Communications .

**The proposed coax shall be installed internal to the monopole for the analysis results to be valid.**

### TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Monopole	54.2%	Pass
Anchor Rods	45.1%	Pass
Base Plate	52.1%	Pass
Foundation	45.3%	Pass

### ANALYSIS METHOD

tnxTower (Version 6.1.3.1), a commercially available software program, was used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information and is being completed without the benefit of a detailed site visit.

### DOCUMENTS PROVIDED

Document	Remarks	Source
Equipment Modification Form	AT&T Internal Loading Document, dated 12/11/2013	Siterra
Construction Drawings	ProTerra Job #: 11-023, dated 10/15/2013	SAI
Tower Design	Sabre Job #: 49722, dated 9/22/2011	Siterra
Foundation Design	Sabre Job #: 49722, dated 9/22/2011	Siterra
Geotechnical Report	Dr. Clarence Welti, P.E., P.C., dated 6/1/2011	Siterra

## ASSUMPTIONS

This structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. 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 tower member sizes and shapes 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.
6. Foundations are properly designed and constructed to resist the original design loads indicated in the documents provided.
7. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
8. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
9. All prior structural modifications are assumed to be as per data supplied/available and to have been properly installed.
10. Loading interpreted from photos is accurate to  $\pm 5'$  AGL, antenna size accurate to  $\pm 3.3$  sf, and coax equal to the number of existing antennas without reserve.
11. All existing loading was obtained from site photos, the provided EMF and CDs and is assumed to be accurate.

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

## DISCLAIMER OF WARRANTIES

GPD GROUP 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 GROUP 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 GROUP 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 GROUP 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 in excess of the specified code recommended amount, 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 GROUP, 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 GROUP 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 GROUP 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 GROUP pursuant to this report will be limited to the total fee received for preparation of this report.



99 ft

Section	1	2
Length (ft)	50.50	53.25
Number of Sides	18	18
Thickness (in)	0.2500	0.3125
Socket Length (ft)	4.75	32.5203
Top Dia (in)	22.1400	45.2000
Bot Dia (in)	34.1500	69.88.0
Grade	A572-65	
Weight (lb)	3803.6	10731.7

48.5 ft

0.0 ft

**DESIGNED APPURTENANCE LOADING**

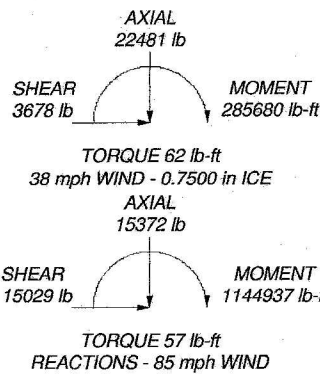
TYPE	ELEVATION	TYPE	ELEVATION
SitePro 12.5' T-Arm	97	(2) RRUS 12	97
SitePro 12.5' T-Arm	97	RRUS E2	97
SitePro 12.5' T-Arm	97	RRUS E2	97
AM-X-CD-16-65-00T-RET w/ Mount Pipe	97	RRUS E2	97
		RRUS 32	97
AM-X-CD-16-65-00T-RET w/ Mount Pipe	97	RRUS 32	97
		RRUS 32	97
AM-X-CD-16-65-00T-RET w/ Mount Pipe	97	(2) KRC 161 286-1 (A2 Module)	97
(3) HPA-65R-BUU-H6 w/ Mount Pipe	97	(2) KRC 161 286-1 (A2 Module)	97
(3) HPA-65R-BUU-H6 w/ Mount Pipe	97	(2) KRC 161 286-1 (A2 Module)	97
(3) HPA-65R-BUU-H6 w/ Mount Pipe	97	Callar Mount	95
DTMABP7819VG12A	97	DC6-48-60-18-8F Surge Suppression Unit	95
DTMABP7819VG12A	97	DC6-48-60-18-8F Surge Suppression Unit	95
DTMABP7819VG12A	97	DC6-48-60-18-8F Surge Suppression Unit	95
(2) RRUS 11	97	SitePro 12.5' T-Arm	93
(2) RRUS 11	97	SitePro 12.5' T-Arm	93
(2) RRUS 12	97	SitePro 12.5' T-Arm	93
(2) RRUS 12	97	SitePro 12.5' T-Arm	93


**MATERIAL STRENGTH**

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

**TOWER DESIGN NOTES**

1. Tower is located in Middlesex 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 38 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
4. Deflections are based upon a 50 mph wind.
5. TOWER RATING: 54.2%



 <b>GPD GROUP</b> 520 S. Main St., Suite 2531 Akron, OH 44311 Phone: (614) 210-0751 FAX: (614) 210-0752	<b>Job: CT1284 (105130) OLD SAYBROOK BOSTON POST RD</b> <b>Project: 2013723.13.105130.02</b>		
	Client: SAI Code: TIA/EIA-222-F Path:	Drawn by: kdavis Date: 01/10/14	App'd: Scale: NTS Dwg No. E-1



**Centek Engineering, Inc.**  
3-2 North Branford Road  
Branford, Connecticut 06405  
Phone: (203) 488-0580  
Fax: (203) 488-8587

**Steven L. Levine**  
Real Estate Consultant

January 16, 2014

Honorable Carl P. Fortuna  
1<sup>st</sup> Selectman, Town of Old Saybrook  
Town Hall 302 Main Street  
Old Saybrook, CT 06475

**Second Amended Notice of Exempt Modification: Existing Telecommunications Facility at 1363 Boston Post Road, Old Saybrook**

Dear Mr. Fortuna:

On November 14, 2013 you were mailed a copy of an AT&T Notice of Exempt Modification to the Connecticut Siting Council for the referenced telecommunications facility; and on January 6, 2014 you were mailed an Amended Notice of Exempt Modification. This Second Amended Notice of Exempt Modification is intended to replace both previous filings in their entirety.

In order to accommodate technological changes, implement Uniform Mobile Telecommunications System ("UMTS") and Long Term Evolution ("LTE") capabilities, 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 enclosed Notice fully sets forth the AT&T proposal. However, if you have any questions or require any further information on the plans for the site or the Siting Council's procedures, please contact the undersigned at 860-830-0380 or Ms. Melanie Bachman, Acting Executive Director, Connecticut Siting Council at (860) 827-2935.

Sincerely,

Steven L. Levine  
Real Estate Consultant

Enclosure