

EM-CING-006-120827



HPC Wireless Services
46 Mill Plain Rd.
Floor 2
Danbury, CT, 06811
P.: 203.797.1112

August 24, 2012

VIA OVERNIGHT COURIER

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051
Attn: Ms. Linda Roberts, Executive Director

RECEIVED
AUG 27 2012
CONNECTICUT
SITING COUNCIL

Re: New Cingular Wireless PCS, LLC – Exempt Modification
60 Rice Lane, Beacon Falls, Connecticut

Dear Ms. Roberts:

This letter and attachments are submitted on behalf of New Cingular Wireless PCS, LLC ("AT&T"). AT&T is making modifications to certain existing sites in its Connecticut system in order to implement LTE technology. Please accept this letter and attachments as notification, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies ("R.C.S.A."), of construction that 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 First Selectman of the Town of Beacon Falls.

AT&T plans to modify the existing wireless communications facility owned by SBA and located at 60 Rice Lane, Beacon Falls, (coordinates 41°-27'-20.6" N, 72°-02'-23.2" W). Attached are a compound plan and elevation depicting the planned changes, and documentation of the structural sufficiency of the structure to accommodate the revised antenna configuration, subject to modifications detailed in the attached structural documentation. Also included is a power density report reflecting the modification to AT&T's operations at the site.

The changes to the facility do not constitute a modification 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. 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. AT&T will install new T-arm mounts, relocate three (3) existing UMTS/GSM antennas to the T-arms, and add three (3) LTE panel antennas, all at a center line of approximately 132.5'. Six (6) RRUS (remote radio units) and one (1) surge arrestor will be mounted to the pole above the T-arm level. AT&T will also place a DC power and

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fiber run from the equipment to the antennas along the existing coaxial cable run. These changes will not extend the height of the approximately 160' structure.

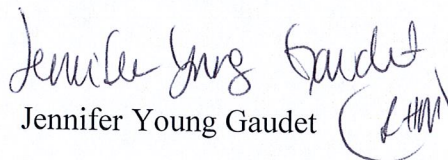
2. AT&T will remove and replace one (1) cabinet on the existing concrete pad and will add one (1) cabinet on a proposed 3' x 3' concrete pad adjacent to the existing pad. AT&T will also mount a new GPS antenna to the existing ice bridge. These changes will be within the existing compound and will have no effect on the site boundaries.

3. The proposed changes will not increase the noise level at the existing facility by six (6) decibels or more. The incremental effect of the proposed changes will be negligible.

4. The changes to the facility 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. As indicated on the attached report prepared by C Squared Systems, LLC, AT&T's operations at the site will result in a power density of approximately 2.04%; the combined site operations will result in a total power density of approximately 28.25%.

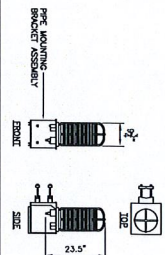
Please feel free to contact me by phone at (860) 798-7454 or by e-mail at jgaudet@hpcwireless.com with questions concerning this matter. Thank you for your consideration.

Respectfully yours,


Jennifer Young Gaudet

Attachments

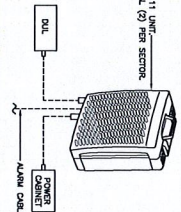
cc: Honorable Gerald F. Smith, First Selectman, Town of Beacon Falls
Charles Edwards (underlying property owner)



SET TYPE	ARRESTOR MAKE/MODEL	QTY REQUIRED	ARRESTOR LOCATION	WEIGHT
TOWER	INVOCA (SQUAD)	(1) PER SITE	20 LBS.	
MODEL	DOA-40-18-45		ARRESTOR AND MOUNTING (WHICH MOUNT)	

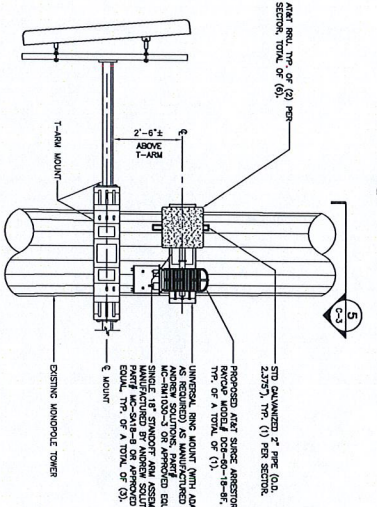
NOTE: 1. CONSTRUCTION TO COORDINATE FINAL SURGE ARRESTOR MODEL SELECTIONS WITH 2. RECOMMENDATIONS.

8 SURGE ARRESTOR DETAIL
C-3 NOT TO SCALE

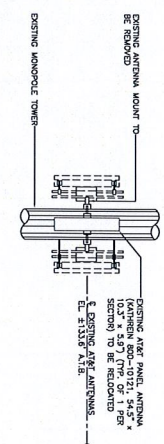


RFU (REMOTE RADIO UNIT)			
EQUIPMENT	DIMENSIONS	WEIGHT	CLEARANCES
MAKE: ERISSON MODEL: RRU5 11	17.0" x 17.5" x 7.2"	BAND 4, 44 LBS DWD 12.50 LBS	APPRO. 14" 12" MIN. BELOW SIDE OF MIN.
NOTES: 1. CONTRACTOR TO COORDINATE WITH EQUIPMENT MODEL SELECTION WITH A/E/ET CONSTRUCTION JAWABER PRIOR TO ORDERING.			

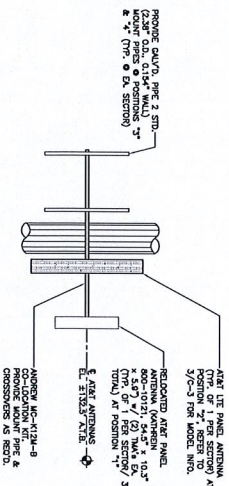
9 FRU DETAIL
C-3 NOT TO SCALE



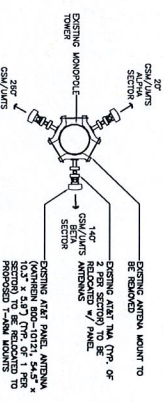
7 FRU AND SURGE ARRESTOR MOUNTING DETAIL
C-3 SCALE 1/2\"/>



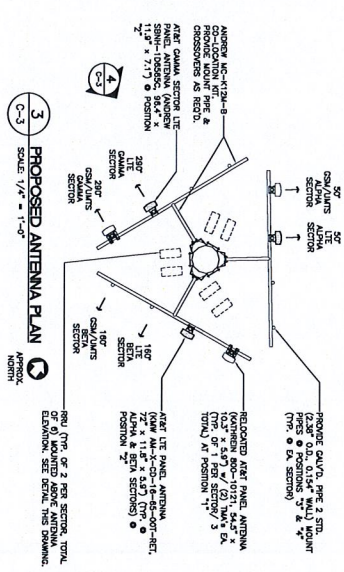
2 EXISTING ANTENNA SECTOR ELEVATION
C-3 SCALE 1/2\"/>



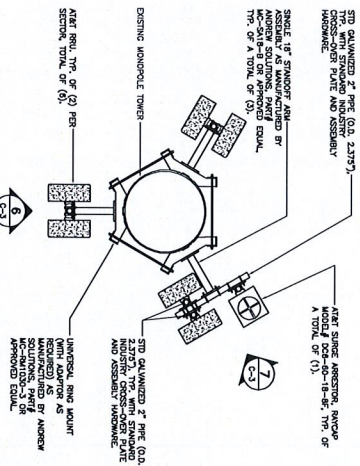
4 PROPOSED ANTENNA SECTOR ELEVATION
C-3 SCALE 1/2\"/>



1 EXISTING ANTENNA PLAN
C-3 SCALE 1/4\"/>

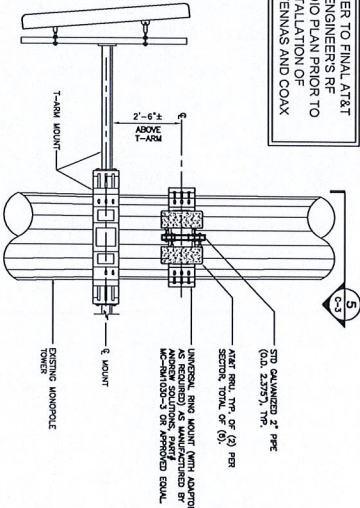


3 PROPOSED ANTENNA PLAN
C-3 SCALE 1/4\"/>

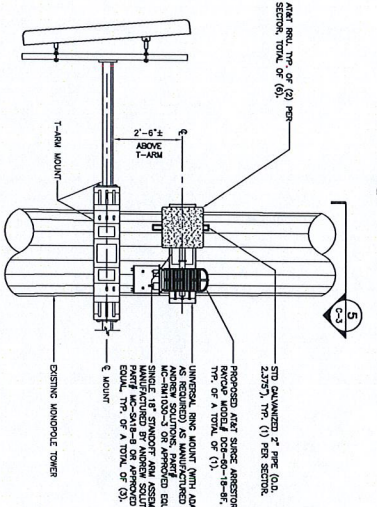


5 FRU AND SURGE ARRESTOR MOUNTING PLAN
C-3 SCALE 1/2\"/>

6 FRU MOUNTING DETAIL
C-3 SCALE 1/2\"/>



7 FRU AND SURGE ARRESTOR MOUNTING DETAIL
C-3 SCALE 1/2\"/>



9 FRU DETAIL
C-3 NOT TO SCALE

7 FRU AND SURGE ARRESTOR MOUNTING DETAIL
C-3 SCALE 1/2\"/>



FDH Engineering, Inc., 6521 Meridien Drive Raleigh, NC 27616, Ph. 919.755.1012

**Structural Analysis for
SBA Network Services, Inc.**

160' Monopole Tower

SBA Site Name: Beacon Falls
SBA Site ID: CT02049-S
AT&T Site ID: CT5416
AT&T Site Name: AWE-Beacon Falls NE

FDH Project Number 12-04772E S2

Analysis Results

Tower Components	134.1 %	Insufficient
Foundation	77.1 %	Sufficient

Prepared By:

Joe W. Fulk, EI
Project Engineer

Reviewed By:

Christopher M Murphy, PE
President
CT PE License No. 25842

FDH Engineering, Inc.
6521 Meridien Drive
Raleigh, NC 27616
(919) 755-1012
info@fdh-inc.com



July 16, 2012

Prepared pursuant to TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures & 2005 Connecticut Building Code

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EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the monopole located in Beacon Falls, CT to determine whether the tower is structurally adequate to support both the existing and proposed loads pursuant to the *Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, TIA/EIA-222-F* and the *2005 Connecticut Building Code (CBC)*. Information pertaining to the existing/proposed antenna loading, current tower geometry, soil parameters, foundation dimensions, and member sizes was obtained from:

- ☐ Fred A. Nudd Corp. (Project No. 7342) original design drawings dated January 14, 2000
- ☐ SEA Consultants, Inc. (Ref. No. 99339.02-A) Geotechnical Investigation Report dated August 2, 1999
- ☐ O2 Wireless Solutions (Job No. 2230-022) Monopole Tower Rework Construction Drawings dated May 23, 2002
- ☐ FDH, Inc. (Job No. 09-04127T T1) Steel Data Monopole Tower Report dated May 5, 2009
- ☐ FDH Engineering, Inc. (Project No. 09-04232E S2) Extension & Modification As-Built Drawings for a 150' Monopole dated November 3, 2009
- ☐ FDH Engineering, Inc. (Project No. 09-04232E S2) Post-Construction Inspection Report dated December 28, 2009
- ☐ FDH, Inc. (Job No. 09-04127T T2) TIA Inspection Report dated December 29, 2009
- ☐ SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and the *2005 CBC* is 85 mph without ice and 38 mph with 3/4" radial ice. Ice is considered to increase in thickness with height.

Conclusions

With the existing and proposed antennas from AT&T in place at 132.5 ft and 135 ft, the tower does not meet the requirements of the *TIA/EIA-222-F* standards and the *2005 CBC*. However, provided the foundation was constructed per the original design drawings (see Fred A. Nudd Project No. 7342) and utilizing the soil parameters provided (see SEA Ref. No. 99339.02-A), the foundation should have necessary capacity to support the existing and proposed loading. For a more detailed description of the analysis of the tower, see the **Results** section of this report.

Our structural analysis has been performed assuming all information provided to FDH Engineering, Inc. is accurate (i.e., the steel data, tower layout, existing antenna loading, and proposed antenna loading) and that the tower has been properly erected and maintained per the original design drawings.

Recommendations

To ensure the requirements of the *TIA/EIA-222-F* standards and the *2005 CBC* are met with the existing and proposed loading in place, we have the following recommendations:

1. Proposed coax must be installed inside the monopole shaft.
2. Reinforcement of the monopole shaft is required to support the existing and proposed loading. See the **Results** section of this analysis for overstressed locations.
3. Reinforcement of the tower anchor bolts is required to support the existing and proposed loading.

We would anticipate the construction cost for a turnkey design/build modification project of this nature to range in price from approximately \$65,000 to \$75,000 (which should include the engineering design fees, inspection fees, and construction fees).

APPURTENANCE LISTING

The proposed and existing antennas with their corresponding cables/coax lines are shown in **Table 1**. *If the actual layout determined in the field deviates from the layout, FDH Engineering, Inc. should be contacted to perform a revised analysis.*

Table 1 - Appurtenance Loading

Existing Loading:

Antenna Elevation (ft)	Description	Coax and Lines ¹	Carrier	Mount Elevation (ft)	Mount Type
162.2	(6) Decibel DB846F65ZAXY (6) Antel LPA-185063/8CF (3) Antel BXA-70063/4CF	(18) 1-5/8"	Verizon	160	(1) 14' Low Profile Platform
155	(3) Horizon Duo ODUs (3) Andrew VHLP2.5 Dishes	(3) 1/2"	Clearwire	148.3	(1) 14' Low Profile Platform
152	(3) RFS APXVSP18-C-A20 (3) ALU 1900 MHz RRUs (3) ALU 800 MHz RRUs (3) ALU 800 MHz Filters (4) RFS ACU-A20-N RETs	(3) 1-1/4"	Sprint		
143.8	(6) Powerwave LGP13907 TMAs	(18) 1-5/8"	T-Mobile	142.2	(1) 15' Low Profile Platform
142.9 ²	(6) EMS FR90-16-04DP (3) RFS APX16DWV-16DWVS-E-A20 (3) Ericsson KRY 112 144/1 TMAs				
133.6	(3) Allgon 7770.00 (9) EMS RR90-17-02DP (6) Powerwave LGP21401 TMAs	(6) 1-5/8" (6) 1-1/4"	AT&T	133.2	(1) 14' Low Profile Platform
94.5	(1) Celwave PD1142-1 Omni	(1) 1/2"	Fire Dept.	86.2	(1) 6' Standoff
94.7	(1) 24" x 6" Trombone	(1) 5/8"			(1) 6' Standoff
78.8	(1) 24" x 6" Trombone (Inverted)	(1) 5/8"			
40	(1) GPS	(1) 1/2"	Sprint	39.5	(1) 4' Standoff

1. Coax located inside monopole shaft unless otherwise noted.

2. (6) 1-5/8" coax located on outside of monopole shaft in a single row.

Proposed Loading:

Antenna Elevation (ft)	Description	Coax and Lines ¹	Carrier	Mount Elevation (ft)	Mount Type
135	(6) Ericsson RRUS-11 RRUs (1) Raycap DC6-48-60-18-8F Surge Arrestor	(6) 1-5/8" (6) 1-1/4"	AT&T	135	(1) Collar Mount
132.5	(6) Kathrein 800-10121 (5) KMW AM-X-CD-16-6500T (1) Andrew SBNH-1D6565C (6) Powerwave LGP21901 Diplexers (6) Powerwave LGP21401 TMAs	(1) Rosenberger 10mm Fiber Trunk (2) WR-VG122ST-BRDA DC Cables		132.5	(3) Andrew MC-K12M-B T-Arms

1. The proposed fiber and DC cables are to be installed inside a 3" conduit inside of the poles shaft.

RESULTS

The following yield strength of steel for individual members was used for analysis:

Table 2 - Material Strength

Member Type	Yield Strength
Tower Extension Section	50 ksi
Tower Shaft Sections	45 ksi & 65 ksi
Flange Plates	50 ksi
Flange Bolts	$F_u = 120$ ksi
Base Plate	50 ksi
Anchor Bolts	$F_u = 125$ ksi

Table 3 displays the summary of the ratio (as a percentage) of force in the member to their capacities. Values greater than 100% indicate locations where the maximum force in the member exceeds its capacity. **Table 4** displays the maximum foundation reactions.

If the assumptions outlined in this report differ from actual field conditions, FDH Engineering, Inc. should be contacted to perform a revised analysis. Furthermore, as no information pertaining to the allowable twist and sway requirements for the existing or proposed appurtenances was provided, deflection and rotation were not taken into consideration when performing this analysis.

See the **Appendix** for detailed modeling information

Table 3 - Summary of Working Percentage of Structural Components

Section No.	Elevation ft	Component Type	Size	% Capacity*	Pass Fail
L1	160 - 150	Pole	TP16x16x0.25	35.7	Pass
---	150	Flange Bolts	(20) 0.5" dia. on 21" BC	61.2	Pass
---	150	Interior Flange Plate	PL 0.75" thk. x 24" dia.	52.4	Pass
---	150	Exterior Flange Plate	PL 1.25" thk. x 26" dia.	27.3	Pass
L3	150 - 145	Pole	TP24x24x0.25	35.7	Pass
---	145	Flange Bolts	(18) 0.5" dia. on 27" BC	99.0	Pass
---	145	Flange Plates	PL 0.5" thk. x 30" dia.	71.5	Pass
L4	145 - 115	Pole	TP29.4x24x0.25	130.7	Fail
L5	115 - 95	Pole	TP33x29.4x0.3125	134.1	Fail
L6	95 - 80	Pole	TP35.7x31.475x0.3125	112.7	Fail
L7	80 - 50	Pole	TP41.1x35.7x0.375	107.8	Fail
L8	50 - 48	Pole	TP47.22x38.91x0.375	115.8	Fail
	48 - 16	Modified Pole**	TP47.22x38.91x0.375	90.5	Pass
L9	16 - 0	Modified Pole**	TP50.1x45.2829x0.375	96.4	Pass
	0	Anchor Bolts	(18) 2"Ø on 58"Ø BC	105.3	Fail
	0	Base Plate	PL 1.5" thk. x 63"Ø	88.5	Pass

*Capacities include 1/3 allowable wind increase.

** Existing modifications considered for pole strength.

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis (TIA/EIA-222-F)*	Original Design (TIA/EIA-222-F)
Axial	43 k	---
Shear	36 k	25 k
Moment	4,009 k-ft	2,374 k-ft

*Foundation determined adequate per independent analysis.

GENERAL COMMENTS

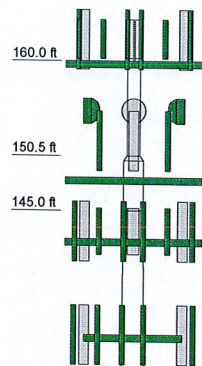
This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading information) modeled. If there are substantial modifications to be made or the assumptions made in this analysis are not accurate, FDH Engineering, Inc. should be notified immediately to perform a revised analysis.

LIMITATIONS

All opinions and conclusions are considered accurate to a reasonable degree of engineering certainty based upon the evidence available at the time of this report. All opinions and conclusions are subject to revision based upon receipt of new or additional/updated information. All services are provided exercising a level of care and diligence equivalent to the standard and care of our profession. No other warranty or guarantee, expressed or implied, is offered. Our services are confidential in nature and we will not release this report to any other party without the client's consent. The use of this engineering work is limited to the express purpose for which it was commissioned and it may not be reused, copied, or distributed for any other purpose without the written consent of FDH Engineering, Inc.

APPENDIX

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	9.50	12	0.2500	5.00	24.0000	24.0000	A500-50	0.4
2	30.00	12	0.3125	5.00	31.4750	35.7000	A570-45	2.2
3	20.00	12	0.3125	5.00	31.4750	35.7000	A570-45	2.1
4	30.00	12	0.3750	8.00	35.7000	41.1000	A572-65	4.7
5	42.00	12	0.3750	6.00	38.9100	47.2200	A572-65	7.4
6	22.00	12	0.3750	45.2829	50.1000			4.3
7	23.7							



115.0 ft

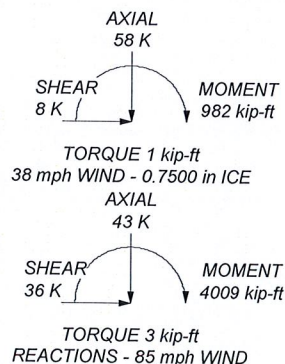
95.0 ft

80.0 ft

50.0 ft

16.0 ft

0.0 ft



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(1) Lightning Rod	160	APX16DWV-16DWVS-E-A20 W/Mount Pipe	142.2
(2) DB846F65ZAXY w/Mount Pipe	160	KRY 112 144/1	142.2
(2) DB846F65ZAXY w/Mount Pipe	160	KRY 112 144/1	142.2
(2) DB846F65ZAXY w/Mount Pipe	160	(2) LGP13907 TMA	142.2
(2) LPA-185063/8CF w/ Mount Pipe	160	(2) LGP13907 TMA	142.2
(2) LPA-185063/8CF w/ Mount Pipe	160	(2) LGP13907 TMA	142.2
(2) LPA-185063/8CF w/ Mount Pipe	160	(1) 15' Low Profile Platform MNT	142.2
BXA-70063/4CF w/ Mount Pipe	160	(2) RRUS-11	135
BXA-70063/4CF w/ Mount Pipe	160	(2) RRUS-11	135
BXA-70063/4CF w/ Mount Pipe	160	(2) RRUS-11	135
(1) 14' Low Profile Platform MNT	160	DC6-48-60-18-8F Surge Arrestor	135
Horizon Duo ODU	148.3	(1) Collar Mount MNT	135
Horizon Duo ODU	148.3	SBNH-1D6565C w/ Mount Pipe	132.5
Pipe Mount	148.3	(2) LGP21401 TMA	132.5
Pipe Mount	148.3	(2) LGP21401 TMA	132.5
(1) 14' Low Profile Platform MNT	148.3	(2) LGP21401 TMA	132.5
APXVSPP18-C-A20 w/Mount Pipe	148.3	(2) LGP21901 Diplexer	132.5
APXVSPP18-C-A20 w/Mount Pipe	148.3	(2) LGP21901 Diplexer	132.5
APXVSPP18-C-A20 w/Mount Pipe	148.3	(2) LGP21901 Diplexer	132.5
1900 MHz RRU	148.3	(3) T-Arms (Andrew MC-K12M-B)	132.5
1900 MHz RRU	148.3	(2) 800 10121 w/ Mount Pipe	132.5
1900 MHz RRU	148.3	(2) 800 10121 w/ Mount Pipe	132.5
800 MHz RRU	148.3	(2) 800 10121 w/ Mount Pipe	132.5
800 MHz RRU	148.3	(2) AM-X-CD-16-65-00T-RET w/ Mount Pipe	132.5
800 MHz RRU	148.3	(2) AM-X-CD-16-65-00T-RET w/ Mount Pipe	132.5
800 MHz Filter	148.3	AM-X-CD-16-65-00T-RET w/ Mount Pipe	132.5
800 MHz Filter	148.3		
800 MHz Filter	148.3		
ACU-A20-N RET	148.3	24" x 6" Trombone	86.2
ACU-A20-N RET	148.3	10' Pipe Mount	86.2
(2) ACU-A20-N RET	148.3	10' Pipe Mount	86.2
VHLP2.5	148.3	24" x 6" Trombone	86.2
VHLP2.5	148.3	(1) 6' Standoff MNT	86.2
VHLP2.5	148.3	(1) 6' Standoff MNT	86.2
(2) FR90-16-04DP w/Mount Pipe	142.2	PD1142-1	86.2
(2) FR90-16-04DP w/Mount Pipe	142.2	GPS	39.5
(2) FR90-16-04DP w/Mount Pipe	142.2	(1) 4' Standoff MNT	39.5
APX16DWV-16DWVS-E-A20 W/Mount Pipe	142.2		
APX16DWV-16DWVS-E-A20 W/Mount Pipe	142.2		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A500-50	50 ksi	62 ksi	A572-65	65 ksi	80 ksi
A570-45	45 ksi	60 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven 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.

Tower Analysis	FDH Engineering, Inc. 6521 Meridian Drive Raleigh, NC 27616 Phone: 919-755-1012 FAX: 919-755-1031		Job: Beacon Falls, CT02049-S Project: 12-04772E S2 Client: SBA Code: TIA/EIA-222-F Path:		Drawn by: Joe Fulk Date: 07/16/12 App'd: Scale: NTS Dwg No. E-1	

ALL DIMENSIONS, MEASUREMENTS, QUANTITIES, PART NUMBERS AND COAX/ANTENNA PLACEMENTS TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO MATERIAL ORDERS AND CONSTRUCTION.

SBA

SITE NUMBER:
CT02049-S

SITE ADDRESS:
60 RICE LANE
BEACON FALLS, CT 06403

COORDINATES:
LATITUDE: 41.4557°
LONGITUDE: -73.0399°

PREPARED BY:



6521 MERIDIAN DRIVE
RALEIGH, NC 27616
PHONE: 919-755-1012

ENGINEERING INNOVATION

PREPARED FOR:



5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800) 487-SITE

FOR BID ONLY

CHRISTOPHER M. MURPHY, P.E.
CONNECTICUT LLC, NO. 25842

DRAWN BY:	OP
CHECKED BY:	SMN
ENG APPVD:	CMM
PROJECT NO:	12-04772E S3

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THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. REPRODUCTION OR CAUSING TO BE REPRODUCED THE WHOLE OR ANY PART OF THESE DRAWINGS WITHOUT THE PERMISSION OF FDH ENGINEERING, INC. IS PROHIBITED.

SITE NAME: BEACON FALLS

SITE NUMBER:
CT02049-S

SITE ADDRESS:
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE

SHEET NUMBER

1-

[illegible]

POST CONSTRUCTION INSPECTION NOTES:

GENERAL

1. THE POST CONSTRUCTION INSPECTION (PCI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).
2. THE PCI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. NOR DOES THE PCI INSPECTOR HAVE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.
3. ALL PCI'S SHALL BE CONDUCTED BY A PCI INSPECTOR THAT IS APPROVED TO PERFORM ELEVATED WORK FOR FDH ENGINEERING, INC.
4. TO ENSURE THAT THE REQUIREMENTS OF THE PCI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE PCI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR FDH POINT OF CONTACT (POC).
5. REFER TO CCR-01 : CONTRACTOR CLOSEOUT REQUIREMENTS FOR FURTHER DETAILS AND REQUIREMENTS.

PCI INSPECTOR

1. THE PCI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE PCI TO, AT A MINIMUM
 - REVIEW THE REQUIREMENTS OF THE PCI CHECKLIST
 - WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
2. THE PCI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADEQUACY, THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE PCI REPORT TO FDH.

CORRECTION OF FAILING PCI'S

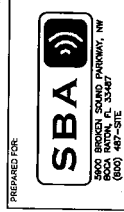
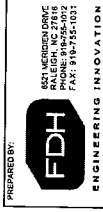
1. IF THE MODIFICATION INSTALLATION WOULD FAIL THE PCI ('FAILED PCI'), THE GC SHALL WORK WITH FDH TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:
 - CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE CONTRACT DOCUMENTS. THE GC SHALL COORDINATE A SUPPLEMENT PCI INSPECTION WITH FDH'S APPROVAL. THE GC SHALL BE REQUIRED TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION.

REQUIRED PHOTOS

1. BETWEEN THE GC AND THE PCI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE PCI REPORT:
 - PRE-CONSTRUCTION GENERAL SITE CONDITION
 - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND CLOSEOUT
 - RAW MATERIALS
 - PHOTOS OF ALL CRITICAL DETAILS
 - FOUNDATION MODIFICATIONS
 - REBAR PREPARATION
 - BOLT INSTALLATION AND TORQUE
 - FINAL INSTALLED CONDITION
 - SURFACE COATING REPAIR
 - POST CONSTRUCTION PHOTOGRAPHS
 - FINAL IN-FIELD CONDITION
2. PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

PCI CHECKLIST		REPORT ITEM
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED		
PRE-CONSTRUCTION	X	PCI CHECKLIST DRAWING
	N/A	EOR APPROVED SHOP DRAWINGS
	N/A	FABRICATION INSPECTION
	N/A	FABRICATOR CERTIFIED WELD INSPECTION
	X	MATERIAL TEST REPORT (MTR)
	N/A	FABRICATOR NDE INSPECTION
	N/A	NDE REPORT OF MONOPOLE BASE PLATE (AS REQUIRED)
	X	PACKING SLIPS
		ADDITIONAL TESTING AND INSPECTIONS:
CONSTRUCTION	X	CONSTRUCTION INSPECTIONS
	N/A	FOUNDATION INSPECTIONS
	N/A	CONCRETE COMP. STRENGTH AND SLUMP TESTS
	X	POST INSTALLED ANCHOR ROD VERIFICATION
	N/A	BASE PLATE GROUT VERIFICATION
	X	CONTRACTOR'S CERTIFIED WELD INSPECTION
	N/A	EARTHWORK LIFT AND DENSITY
	X	ON SITE COLD GALVANIZING VERIFICATION
	N/A	GUY WIRE TENSION REPORT
	X	GC AS-BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:		
POST-CONSTRUCTION		
X		PCI INSPECTOR REDLINE OR RECORD DRAWING(S)
X		POST INSTALLED ANCHOR ROD PULL-OUT TESTING
X		PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:		

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PCI REPORT
N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PCI REPORT



FOR BID ONLY

CHRISTOPHER M. MURPHY, P.E.
CONNECTICUT LIC. NO. 25842

DRAWN BY: OP
CHECKED BY: SM
ENG APP'D: CMM
PROJECT NO: 12-04772Z S3

SUBMITTALS	
DATE	DESCRIPTION
08/27/12	PRELIMINARY REVIEW

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BEACON FALLS

SITE NUMBER:
CT02049-S

SITE ADDRESS:
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE
POST CONSTRUCTION
INSPECTION NOTES

SHEET NUMBER
N-1

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SUBMITTALS	
DATE	DESCRIPTION
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SITE NUMBER:
CT02049-S

SITE ADDRESS:
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE
MODIFICATION
SCHEDULE

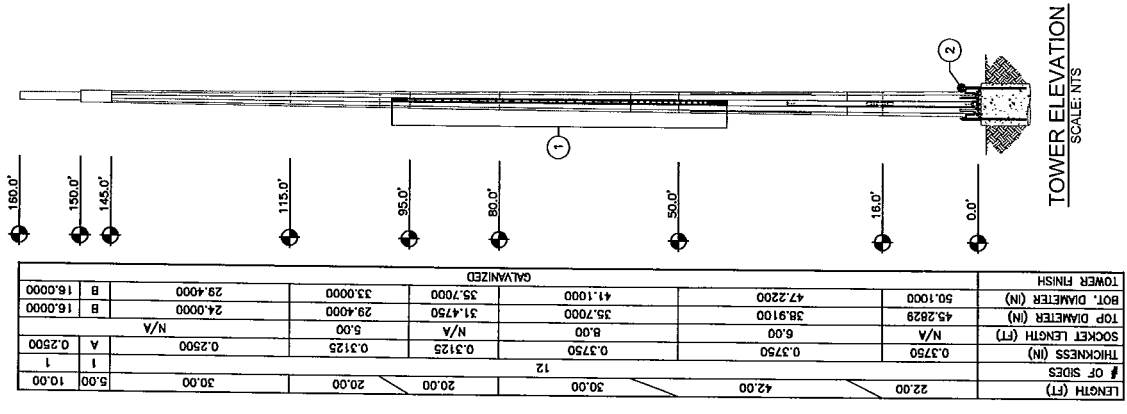
SHEET NUMBER
S-1

TOWER MODIFICATION SCHEDULE

NO.	TYPE OF MODIFICATION	BOTTOM ELEV. (FT)	TOP ELEV. (FT)
1	INSTALLATION OF NEW FLAT PLATE REINFORCEMENT. SEE S-2 & S-3 FOR DETAILS.	42.0±	98.0±
2	INSTALLATION OF NEW ANCHOR RODS. SEE S-4 & S-5 FOR DETAILS.	-7.5±	2.0±

- ALL MODIFICATIONS TO BE INSTALLED CONTINUOUSLY THROUGH EXISTING EQUIPMENT. ALL EXISTING EQUIPMENT NOT TO BE DAMAGED OR TAKEN OFF AIR DURING INSTALLATION.
- ANTENNA GRAPHICS NOT SHOWN FOR CLARITY. SEE STRUCTURAL ANALYSIS REPORT FOR EXISTING ANTENNA LOADING.

MEMBER SIZE KEY	
MARK	SIZE
A	0.2500
B	24.0000



TOP OF INSTALLATION
ELEV: 98'-0" ±

EX. TOWER SPUR
ELEV: 95'-0" ±

MK-1
NEW FLAT PLATE
REINFORCEMENT. SEE
MK-1/S-3 FOR DETAILS.

NEW 20MM AJAX BOLT
SEE FLAT PLATE NOTES
(TYP.)

EX. TOWER SPUR
ELEV: 80'-0" ±

Q. OF SPUR WELD
ELEV: 78'-0" ±
SEE DETAIL 4/S-2 FOR
SPUR WELD INFORMATION.

MK-2
NEW FLAT PLATE
REINFORCEMENT. SEE
MK-2/S-3 FOR DETAILS.

Q. OF SPUR WELD
ELEV: 58'-0" ±
SEE DETAIL 4/S-2 FOR
SPUR WELD INFORMATION.

EX. TOWER SPUR
ELEV: 50'-0" ±

MK-3
NEW FLAT PLATE
REINFORCEMENT. SEE
MK-3/S-3 FOR DETAILS.

EXISTING FLAT PLATE MONOPOLE
REINFORCEMENT. SEE
ENGINEERING, INC. PROJECT NO.
08-04232E S2 FOR MORE DETAILS.

BTM. OF INSTALLATION
ELEV: 42'-0" ±

2
S-2

2
S-2

3
S-2

FLAT PLATE REINFORCEMENT LAYOUT
ELEVATION VIEW

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

NEW FLAT PLATE REINFORCEMENT NOTES:

- CONTRACTOR TO FIELD VERIFY PROPOSED LOCATION OF FLAT PLATE TO ENSURE THAT PROPER SPACING CAN BE MET.
- CONTRACTOR TO REPLACE AND/OR RELOCATE ANY CLIMBING PEGS THAT INTERFERE WITH THE INSTALLATION OF FLAT PLATE.
- ALL AJAX CONNECTIONS TO USE HIGH TENSILE SLEEVE PROVIDED BY MANUFACTURER. AJAX BOLT ASSEMBLY TO BE INSTALLED PER MANUFACTURER SPECIFICATIONS. SEE AJAX BOLT ASSEMBLY DETAIL 5/S-2.
- ALL SHEAR SLEEVES TO BE HOT DIPPED GALVANIZED PRIOR TO INSTALLATION.

CONSTRUCTION NOTES:

- CONTRACTOR TO FIELD VERIFY PROPOSED FLAT PLATE LAYOUT PRIOR TO CONSTRUCTION. IF ISSUES ARE PRESENT IN THE FIT OF THE FLAT PLATE, CONTRACTOR TO CONTACT ENGINEER OF RECORD OR FDH ENGINEERING PROJECT MANAGER PRIOR TO PROCEEDING WITH PROPOSED MODIFICATION OR FABRICATION.

FLAT PLATE INSTALLATION SCHEDULE

PART #	QTY.	DESCRIPTION	ELEVATION
MK-1	3	FLAT PLATE REINFORCEMENT	78'-0" ± TO 95'-0" ±
MK-2	3	FLAT PLATE REINFORCEMENT	58'-0" ± TO 78'-0" ±
MK-3	3	FLAT PLATE REINFORCEMENT	42'-0" ± TO 58'-0" ±
-	186	20MM AJAX BOLTS	VARIES
ALL NEW FLAT PLATE STEEL TO HAVE F _y =65 KSI			

MK-3
NEW FLAT PLATE
REINFORCEMENT. SEE
SHEET S-3 FOR DETAILS.
(TYP.)

MK-1 & MK-2
NEW FLAT PLATE
REINFORCEMENT. SEE
SHEET S-3 FOR DETAILS.
(TYP.)

NEW 20MM AJAX BOLT.
SEE FLAT PLATE NOTES
3 & 4.
(TYP.)

EXISTING FLAT PLATE
MONOPOLE REINFORCEMENT.
SEE FDH ENGINEERING, INC.
PROJECT NO. 08-04232E S2
FOR MORE DETAILS.
(TYP.)

NEW FLAT PLATE REINFORCEMENT LAYOUT
SECTION VIEW

2
SECTION
SCALE: 1/2" = 1'-0"

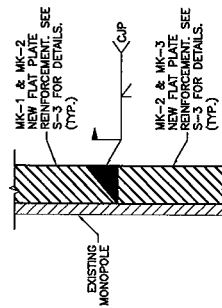
MK-3
NEW FLAT PLATE
REINFORCEMENT. SEE
SHEET S-3 FOR DETAILS.
(TYP.)

NEW 20MM AJAX BOLT.
SEE FLAT PLATE NOTES
3 & 4.
(TYP.)

EXISTING FLAT PLATE
MONOPOLE REINFORCEMENT.
SEE FDH ENGINEERING, INC.
PROJECT NO. 08-04232E S2
FOR MORE DETAILS.
(TYP.)

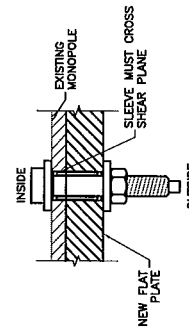
NEW FLAT PLATE REINFORCEMENT LAYOUT
SECTION VIEW

3
SECTION
SCALE: 1/2" = 1'-0"



SPUR WELDING
ELEVATION VIEW

4
SECTION
NTS



AJAX BOLT ASSEMBLY
PLAN VIEW

5
DETAIL
NTS

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CONNECTICUT LIC. NO. 25642

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PROJECT NO.: 12-04772E S3

DATE	SUBMITTALS	REV
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SITE NAME:
BEACON FALLS

SITE NUMBER:
CT02049-S

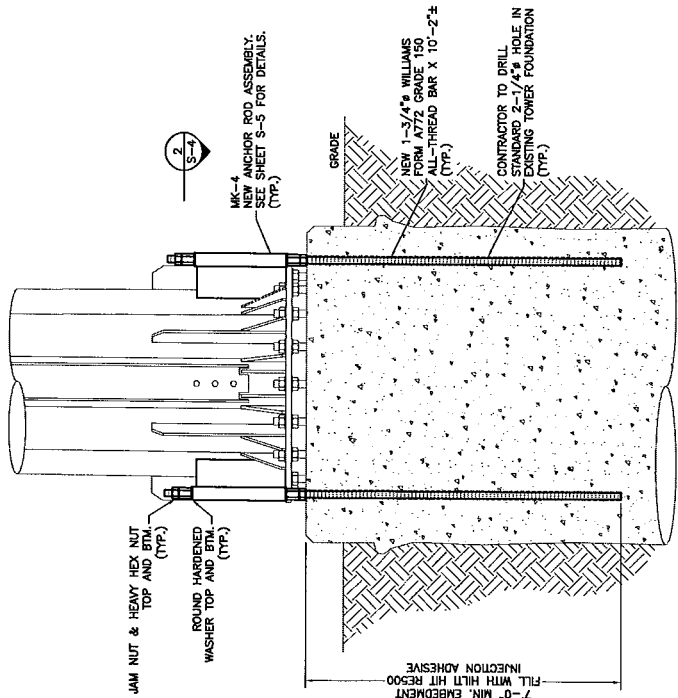
SITE ADDRESS:
60 RICE LANE
BEACON FALLS, CT 06403

SHEET TITLE
FLAT PLATE REINFORCEMENT
DETAILS

SHEET NUMBER
S-2

CONTRACTOR TO PROVIDE PHOTOS OF THE ANCHOR ROD HOLES TO FDH CONSTRUCTION MANAGER PRIOR TO INSTALLING NEW ANCHOR RODS. PHOTOS MUST SHOW THE DEPTH AND DIAMETER OF ANCHOR ROD HOLES.

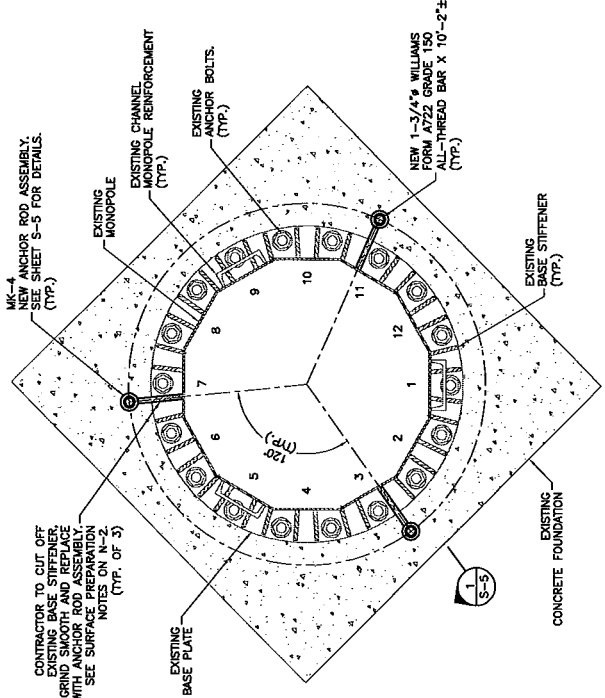
PISTON PLUGS TO BE USED IN ALL INJECTION ADHESIVE APPLICATIONS



ANCHOR ROD LAYOUT FRONT VIEW

1 ELEVATION SCALE: 3/8" = 1'-0"

ANCHOR ROD MATERIAL LIST			
PART. NO	QTY.	DESCRIPTION	ELEVATION
MK-4	3	ANCHOR ROD ASSEMBLY	0'-0"± TO 2'-0"±
-	3	NEW 1-3/4" WILLIAMS FORM A772 GRADE 150 ALL-THREAD BAR X 10'-2"±	-7'-6"± TO 2'-5"±
-	6	ROUND HARDENED WASHER	-
-	6	HEAVY HEX NUT	-
-	6	JAM NUT	-



ANCHOR ROD LAYOUT PLAN VIEW

2 SECTION SCALE: 1/2" = 1'-0"

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ENG. APPROV: CHM
PROJECT NO. 12-04772E S2

SUBMITTALS		REVISIONS
DATE	DESCRIPTION	APPROVED
08/21/12	PRELIMINARY/REVIEW	

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SITE NAME:
BEACON FALLS
SITE NUMBER:
CT020049-S
SITE ADDRESS:
60 RICE LANE
BEACON FALLS, CT 06403
SHEET TITLE:
ANCHOR ROD
INSTALLATION DETAILS I
SHEET NUMBER:
S-4

PREPARED BY:
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 CHECKED BY: SMN
 ENG. APPROV.: CM
 PROJECT NO.: 12-04772E S3

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DATE	DESCRIPTION
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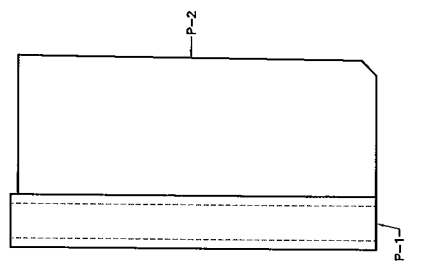
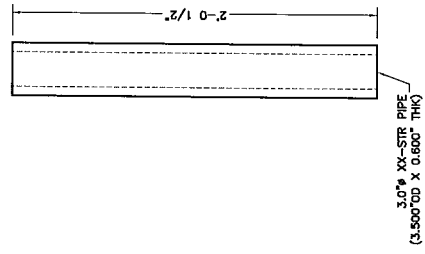
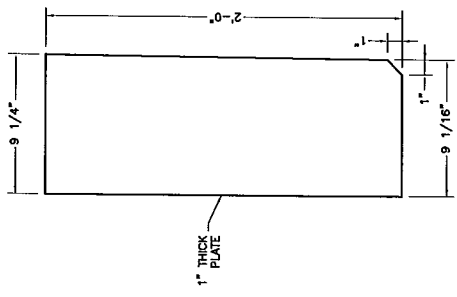
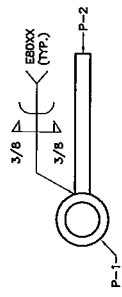
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SITE NAME:
 BEACON FALLS
 SITE NUMBER:
 CT02049-S
 SITE ADDRESS:
 60 RICE LANE
 BEACON FALLS, CT 06403

SHEET TITLE
 ANCHOR ROD
 INSTALLATION DETAILS II

SHEET NUMBER
 S-5

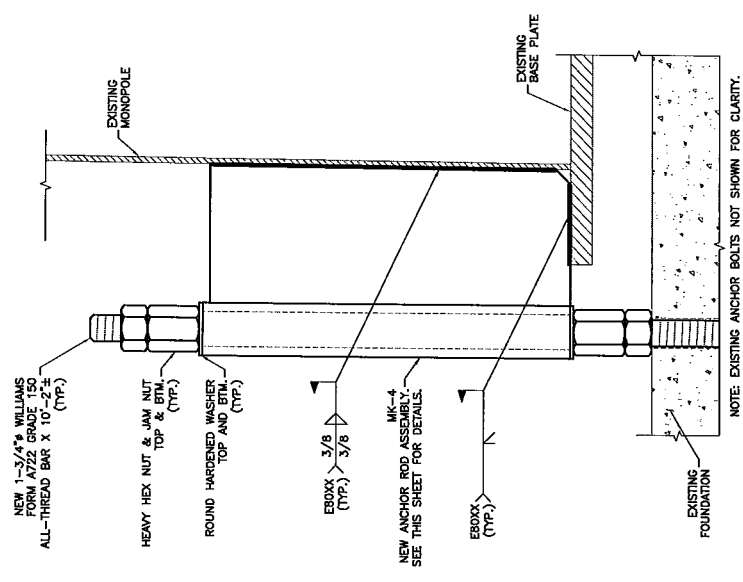
MATERIAL LIST (MK-4)		
PART. NO.	QTY.	DESCRIPTION
P-1	3	ANCHOR ROD SLEEVE
P-2	3	TRANSFER PLATE



TRANSFER PLATE
 SIDE VIEW
 P-2
 S-5
 SCALE: 1-1/2" = 1'-0"

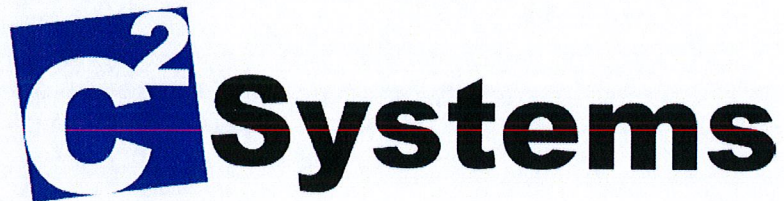
ANCHOR ROD SLEEVE
 SIDE VIEW
 P-1
 S-5
 SCALE: 1-1/2" = 1'-0"

ANCHOR ROD ASSEMBLY
 TOP & SIDE VIEW
 MK-4
 S-5
 SCALE: 1-1/2" = 1'-0"



ANCHOR ROD ASSEMBLY WELD DETAIL
 ELEVATION VIEW
 1
 S-5
 SCALE: 1-1/2" = 1'-0"

NOTE: EXISTING ANCHOR BOLTS NOT SHOWN FOR CLARITY.



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support@csquaredsystems.com

Calculated Radio Frequency Emissions



CT5416

(Beacon Falls NE)

60 Rice Lane, Beacon Falls, CT 06403

August 20, 2012

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modifications to the existing AT&T antenna arrays mounted on the monopole tower located at 60 Rice Lane in Beacon Falls, CT. The coordinates of the tower are 41° 27' 20.5" N, 73° 2' 23.3" W.

AT&T is proposing the following modifications:

- 1) Install three LTE 700 MHz antennas (one per sector).

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm²). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment B of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment B contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

$$\text{Power Density} = \left(\frac{1.6^2 \times EIRP}{4\pi \times R^2} \right) \times \text{Off Beam Loss}$$

Where:

EIRP = Effective Isotropic Radiated Power

$$R = \text{Radial Distance} = \sqrt{H^2 + V^2}$$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Ground reflection factor of 1.6

Off Beam Loss is determined by the selected antenna pattern

These calculations assume that the antennas are operating at 100 percent capacity and power, and that all channels are transmitting simultaneously. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the finished modifications.

4. Calculation Results

Table 1 below outlines the power density information for the site. Because the proposed AT&T antennas are directional in nature, the majority of the RF power is focused out towards the horizon. As a result, there will be less RF power directed below the antennas relative to the horizon, and consequently lower power density levels around the base of the tower. Please refer to Attachment C for the vertical pattern of the proposed AT&T antennas. The calculated results for AT&T in Table 1 include a nominal 10 dB off-beam pattern loss to account for the lower relative gain below the antennas.

Carrier	Antenna Height (Feet)	Operating Frequency (MHz)	Number of Trans.	ERP Per Transmitter (Watts)	Power Density (mw/cm ²)	Limit	%MPE
Cingular GSM	132	1900	3	427	0.0264	1.0000	2.64%
Cingular UMTS	132	880	1	500	0.0103	0.5867	1.76%
T-Mobile GSM	142	1945	8	93	0.0133	1.0000	1.33%
T-Mobile UMTS	142	2100	2	711	0.0254	1.0000	2.54%
Verizon PCS	162	1970	7	165	0.0158	1.0000	1.58%
Verizon cellular	162	869	9	365	0.0450	0.5793	7.77%
Verizon 700 MHz	162	757	1	534	0.0073	0.5047	1.45%
Clearwire	155	2496	2	152	0.0045	1.0000	0.45%
Clearwire	155	11 GHz	1	211	0.0032	1.0000	0.32%
Sprint	152	1962	11	500	0.0856	1.0000	8.56%
Beacon Hose Co.	90	33	1	100	0.0044	0.2000	2.22%
AT&T UMTS	132.5	880	2	565	0.0023	0.5867	0.39%
AT&T UMTS	132.5	1900	2	1077	0.0044	1.0000	0.44%
AT&T LTE	132.5	734	1	1375	0.0028	0.4893	0.58%
AT&T GSM	132.5	880	1	283	0.0006	0.5867	0.10%
AT&T GSM	132.5	1900	4	646	0.0053	1.0000	0.53%
						Total	28.25%

Table 1: Carrier Information^{1 2 3}

¹ The existing CSC filing for Cingular should be removed and replaced with the updated AT&T technologies and values provided in Table 1. The power density information for carriers other than AT&T was taken directly from the CSC database dated 7/26/2012. Please note that %MPE values listed are rounded to two decimal points. The total %MPE listed is a summation of each unrounded contribution. Therefore, summing each rounded value may not reflect the total value listed in the table.

² In the case where antenna models are not uniform across all 3 sectors for the same frequency band, the antenna model with the highest gain was used for the calculations to present a worse-case scenario.

³ Antenna height listed for AT&T is in reference to the FDH Engineering, Inc Structural Analysis dated July 16, 2012.

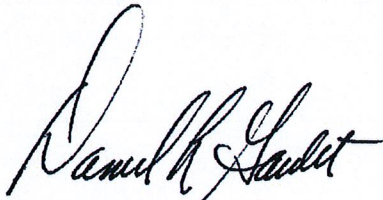
5. Conclusion

The above analysis verifies that emissions from the existing site will be below the maximum power density levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Even when using conservative methods, the cumulative power density from the proposed transmit antennas at the existing facility is well below the limits for the general public. The highest expected percent of Maximum Permissible Exposure at ground level is **28.25% of the FCC limit**.

As noted previously, obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. As a result, the predicted signal levels are more conservative (higher) than the actual signal levels will be from the finished modifications.

6. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.



Daniel L. Goulet
C Squared Systems, LLC

August 20, 2012

Date

Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

ANSI C95.1-1982, American National Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 300 kHz to 100 GHz. IEEE-SA Standards Board

IEEE Std C95.3-1991 (Reaff 1997), IEEE Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave. IEEE-SA Standards Board

Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure⁴

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	-	-	f/300	6
1500-100,000	-	-	5	6

(B) Limits for General Population/Uncontrolled Exposure⁵

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
1500-100,000	-	-	1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 2: FCC Limits for Maximum Permissible Exposure (MPE)

⁴ Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure

⁵ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure

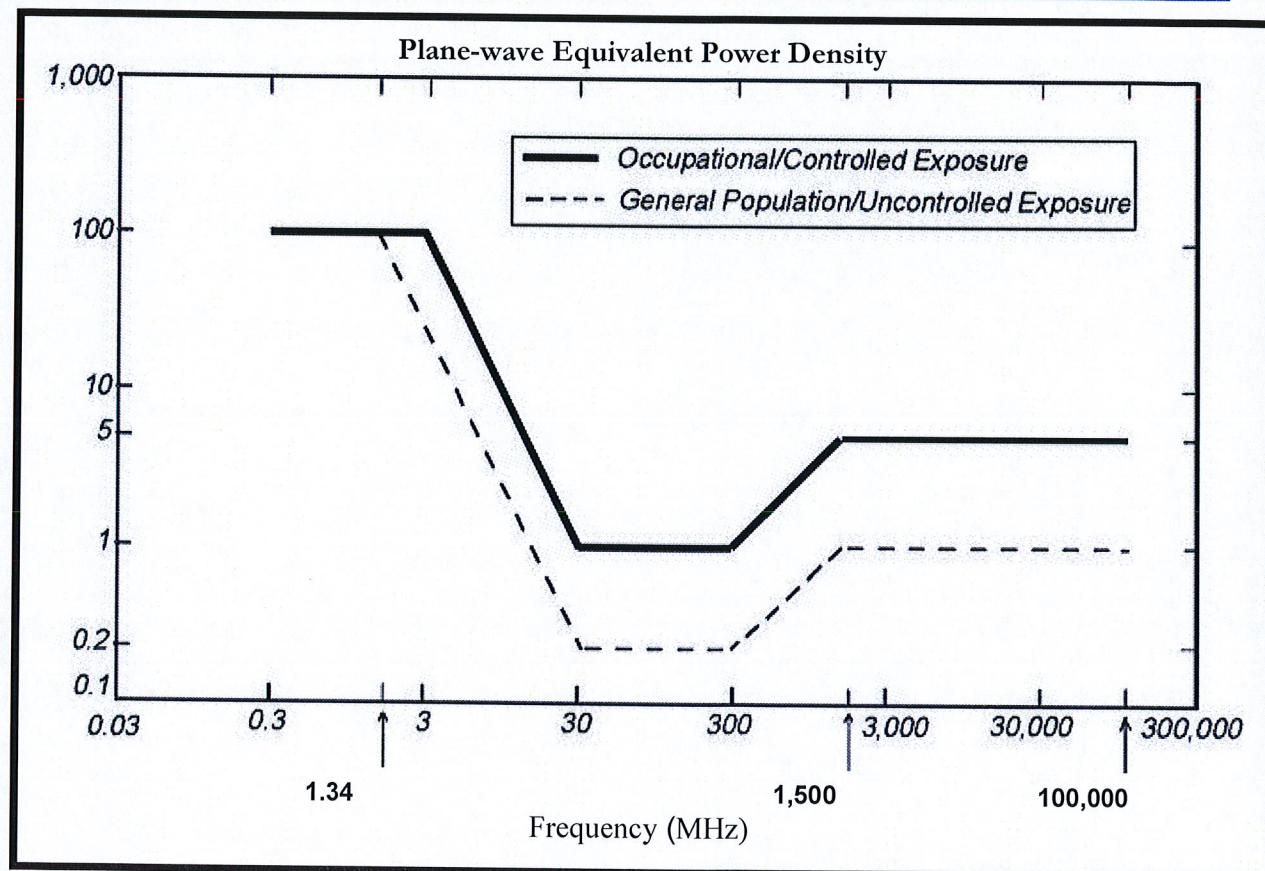
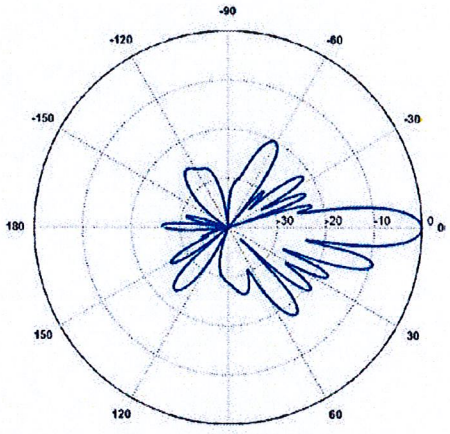
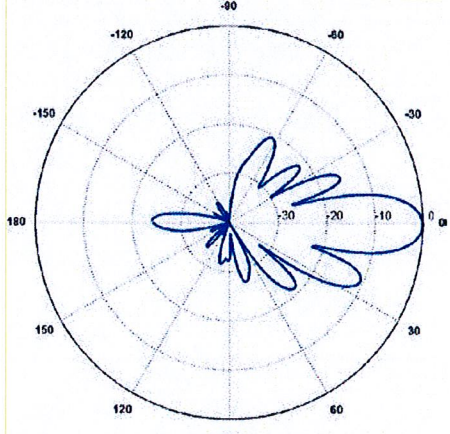
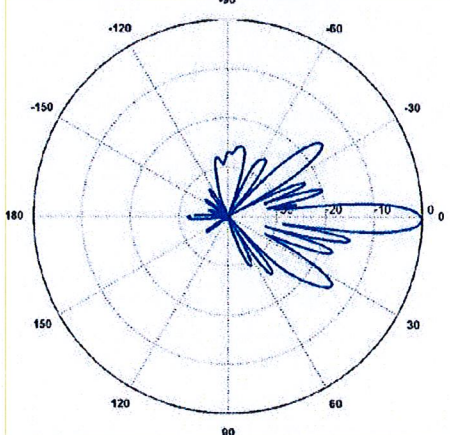


Figure 1: Graph of FCC Limits for Maximum Permissible Exposure (MPE)

Attachment C: AT&T Antenna Data Sheets and Electrical Patterns

700 MHz Manufacturer: Commscope Model #: SBNH-1D6565C Frequency Band: 698-806 MHz Gain: 13.6 dBd Vertical Beamwidth: 8.6° Horizontal Beamwidth: 71° Polarization: $\pm 45^\circ$ Size L x W x D: 96.42" x 11.85" x 7.1"	
850 MHz Manufacturer: Kathrien Scala Model #: 80010121 Frequency Band: 824-896 MHz Gain: 11.5 dBd Vertical Beamwidth: 14.5° Horizontal Beamwidth: 86° Polarization: $\pm 45^\circ$ Size L x W x D: 54.5"x10.3"x5.9"	
1900 MHz Manufacturer: Kathrien Scala Model #: 80010121 Frequency Band: 1850-1990 MHz Gain: 14.3 dBd Vertical Beamwidth: 6.6° Horizontal Beamwidth: 85° Polarization: $\pm 45^\circ$ Size L x W x D: 54.5"x10.3"x5.9"	



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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www.ct.gov/csc

August 28, 2012

The Honorable Gerard F. Smith
First Selectman
Town of Beacon Falls
10 Maple Avenue
Beacon Falls, CT 06403

RE: **EM-CING-006-120827** – New Cingular Wireless PCS, LLC notice of intent to modify an existing telecommunications facility located at 60 Rice Lane, Beacon Falls, Connecticut.

Dear First Selectman Smith:

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.

If you have any questions or comments regarding this proposal, please call me or inform the Council by September 11, 2012.

Thank you for your cooperation and consideration.

Very truly yours,

Linda Roberts
Executive Director

LR/cm

Enclosure: Notice of Intent

c: Brian Herb, Zoning Enforcement Officer, Town of Beacon Falls