June 10, 2014

David Martin and
Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Notice of Exempt Modification
150 Foxon Road
North Branford, CT 06471
Sprint Site #: NV2.5_CT03XC033
N 41° 19' 41.55"
W -72° 49' 08.63"

Dear Mr. Martin and Members of the Siting Council:

On behalf of Sprint Spectrum, SBA Communications is submitting an exempt modification application to the Connecticut Siting council for modification of existing equipment at a tower facility located at 150 Foxon Road North Branford CT.

The 150 Foxon Road facility consists of a 175' MONOPOLE Tower owned and operated by SBA Properties, LLC. In order to accommodate technological changes and enhance system performance in the State of Connecticut, Sprint Spectrum 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.

As part of Sprint's Network Vision modification project, Sprint desires to upgrade their equipment to meet the new standards of 4G technology. The new equipment will allow customers to download files and browse the internet at a high rate of speed while also allowing their phones to be compatible with the latest 4G technology.

Attached is a summary of the planned modifications, including power density calculations reflecting the change in Sprint's operations at the site along with the required fee of $625.

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 overall height of the 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 the new equipment cabinets.

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

4. The changes in radio frequency power density 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, SBA Communications on behalf of Sprint Spectrum, respectfully submits that he 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 (508) 251-0720 x 3804 with any questions you may have concerning this matter.

Thank you,

Kri Pelletier
SBA Communications Corporation
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 3804 + T
508-251-1755 + F
203-446-7700 + C
kpelletier@sbasite.com

Sprint Spectrum
Equipment Modification

150 Foxon Road North Branford CT
Site number CT03XC033

Tower Owner: SBA Properties, LLC

Equipment Configuration: MONOPOLE Tower

Current and/or approved:

Sprint equipment at 175':

- (3) RFS APXVSPP18-C-A20
- (3) ALU 1900 MHz RRHs
- (3) ALU 800 MHz RRHs
- (3) ALU 800 MHz Filters
- (4) RFS ACU-A20-N RETs
- (3) 1-1/4" Feeds

Clearwire equipment at 175':

- (3) Argus LLPX310R
- (3) Samsung U-RAS RRHs
- (1) CCI 200W TMA
- (2) Andrew VHLP2-11 Dishes
- (1) Andrew VHLP1-23 Dish
- (6) 5/16" Feeds
- (3) 1/2" Feeds
- (6) 1-5/8" Feeds

Planned Modifications:

Sprint equipment at 177.5':

- (3) RFS APXVTM14-C-I20
- (3) Alcatel Lucent TD-RRH8x20-25 RRHs
- (1) 1-1/4"

Sprint equipment at 175':

- (3) RFS APXVSPP18-C-A20
- (3) ALU 1900 MHz RRHs
- (3) ALU 800 MHz RRHs
- (3) ALU 800 MHz Filters
- (4) RFS ACU-A20-N RETs
- (3) 1-1/4" Feeds

Clearwire equipment at 175':

- (3) Argus LLPX310R
- (3) Samsung U-RAS RRHs
- (1) CCI 200W TMA
- (2) Andrew VHLP2-11 Dishes
- (1) Andrew VHLP1-23 Dish
- (6) 5/16" Feeds
- (3) 1/2" Feeds
- (6) 1-5/8" Feeds

Structural Information:

The attached structural analysis demonstrates that the tower and foundation will have adequate structural capacity to accommodate the proposed modifications.

Power Density:

The anticipated Maximum Composite contributions from the Sprint facility are 7.767% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 31.277% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE %	
Carrier	MPE %
Sprint	7.767%
Nextel	2.070%
MetroPCS	7.080%
Clearwire	0.630%
AT&T	13.560%
T-Mobile	0.170%
Total Site MPE %	31.277%

June 10, 2014

Michael T. Paulhus
Town Manager
Town of North Bradford
Town Hall
909 Foxon Road
North Branford CT 06471

RE: Telecommunications Facility @ 150 Foxon Road North Branford CT

Dear Mr. Paulhus,

In order to accommodate technological changes and enhance system performance in the State of Connecticut, Sprint Spectrum 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 Sprint's proposal. Please accept this letter as notification under Section 16-50j-73 of construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).

The accompanying letter to the Siting Council fully describes Sprint's proposal for the referenced cell site. However, if you have any questions or require any further information on our plans or the Siting Council's procedures, please call me at (508) 251-0720 x 3804.

Thank you,

Kri Pelletier
SBA Communications Company
33 Boston Post Road West, Suite 320
Marlborough, MA 01752
508-251-0720 x 3804 + T
508-251-1755 + F
203-446-7700 + C
kpelletier@sbasite.com

June 10, 2014

108 Foxon Road, L.L.C.
250 Totoket Road
North Branford CT 06471

RE: Telecommunications Facility @ 150 Foxon Road North Branford CT

To Whom it May Concern,

In order to accommodate technological changes and enhance system performance in the State of Connecticut, Sprint Spectrum 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 Sprint'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).

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EBI Consulting
environmental | engineering | due diligence

RADIO FREQUENCY FCC REGULATORY COMPLIANCE MAXIMUM PERMISSIBLE EXPOSURE (MPE) ASSESSMENT

Sprint Existing Facility

Site ID: CT03XC033

Foxon

150 Foxon Road
North Branford, CT 06471

May 19, 2014

EBI Project Number: 62143077

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

May 19, 2014

Sprint
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Re: Radio Frequency Maximum Permissible Exposure (MPE) Assessment for Site:
CT03XC033 - Foxon

Site Total: 31.277% - MPE% in full compliance

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 150 Foxon Road, North Branford, CT, for the purpose of determining whether the radio frequency (RF) exposure levels from the proposed Sprint equipment upgrades on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (µW/cm2). The number of µW/cm2 calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limit for the cellular band (850 MHz Band) is approximately 567 $\mu W/cm^2$, and the general population exposure limit for the 1900 MHz and 2500 MHz bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed upgrades to the existing Sprint Wireless antenna facility located at 150 Foxon Road, North Branford, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario. Actual values seen from this site will be dramatically less than those shown in this report. For this report the sample point is the top of a 6 foot person standing at the base of the tower.

For all calculations, all emissions were calculated using the following assumptions:

1) 3 channels in the 1900 MHz Band were considered for each sector of the proposed installation.
2) 1 channel in the 800 MHz Band was considered for each sector of the proposed installation
3) 2 channels in the 2500 MHz Band were considered for each sector of the proposed installation.
4) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
5) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufactures supplied specifications was used in this direction.

6) The antennas used in this modeling are the RFS APXVSPP18-C-A20 and the RFS APXVTMM-C-120. This is based on feedback from the carrier with regards to anticipated antenna selection. The RFS APXVSPP18-C-A20 has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. The RFS APXVTMM-C-120 has a 15.9 dBd gain value at its main lobe at 2500 MHz. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario.
7) The antenna mounting height centerlines for the proposed antennas are 1 antenna per sector at **177.5 feet** above ground level (AGL) **and** 1 antenna per sector at **175 feet** above ground level (AGL).
8) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

All calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CT03XC033 - Foxon
Site Addresss	150 Foxon Road, North Branford, CT 06471
Site Type	Guyed Tower

Sector 1

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss (dB)	ERP	Power Density Percentage
1a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	15.9	175	169	1/2 "	0.5	3	1042.6805	1.31245%
1a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	175	169	1/2 "	0.5	3	195.44744	0.43389%
1B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	13.4	177.5	171.5	1/2 "	0.5	3	390.89489	0.84266%
														Sector total Power Density Value:		2.589%

Sector 2

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss (dB)	ERP	Power Density Percentage
2a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	15.9	175	169	1/2 "	0.5	3	1042.6805	1.31245%
2a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	175	169	1/2 "	0.5	3	195.44744	0.43389%
2B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	13.4	177.5	171.5	1/2 "	0.5	3	390.89489	0.84266%
														Sector total Power Density Value:		2.589%

Sector 3

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss (dB)	ERP	Power Density Percentage
3a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	3	60	15.9	175	169	1/2 "	0.5	3	1042.6805	1.31245%
3a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	175	169	1/2 "	0.5	3	195.44744	0.43389%
3B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	13.4	177.5	171.5	1/2 "	0.5	3	390.89489	0.84266%
														Sector total Power Density Value:		2.589%

Site Composite MPE %	
Carrier	MPE %
Sprint	7.767%
Nextel	2.070%
MetroPCS	7.080%
Clearwire	0.630%
AT&T	13.560%
T-Mobile	0.170%
Total Site MPE %	**31.277%**

EBI Consulting
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Summary

All calculations performed for this analysis yielded results that were well within the allowable limits for general public Maximum Permissible Exposure (MPE) to radio frequency energy.

The anticipated Maximum Composite contributions from the Sprint facility are **7.767% (2.589% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **31.277%** of the allowable FCC established general public limit sampled at 6 feet above ground level. This total composite site value is based upon MPE values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

Structural Analysis for SBA Network Services, Inc.

175' Monopole Tower

SBA Site Name: North Branford
SBA Site ID: CT03110-S-01
Sprint Site ID: CT03XC033

FDH Project Number 1464XU1400

Analysis Results

Tower Components	86.9 %	Sufficient
Foundation	83.4 %	Sufficient

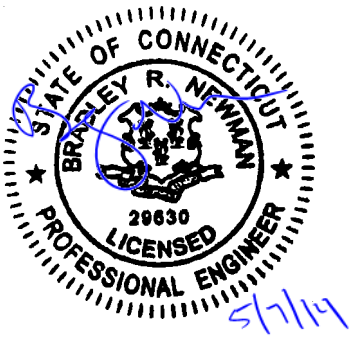
Prepared By:

Chip DeVoto, EI
Project Engineer

Reviewed By:

Bradley R. Newman, PE
Senior Project Engineer
CT PE License No. 29630

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



May 7, 2014

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

TABLE OF CONTENTS

EXECUTIVE SUMMARY

At the request of SBA Network Services, Inc., FDH Engineering, Inc. performed a structural analysis of the monopole located in North Branford, 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 *2005 Connecticut State Building Code (CSBC)*. Information pertaining to the existing/proposed antenna loading, current tower geometry, geotechnical data, foundation dimensions, and member sizes was obtained from:

- Fred A. Nudd Corporation (Project No. 7735; #10125-053) original design drawings dated September, 2000
- Paul J. Ford and Company (Project No. 41702-0001) post-modification calculations dated May 10, 2002
- Paul J. Ford and Company (Project No. 31307-0010) Structural Analysis Report dated August 8, 2007
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and *2005 CSBC* 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 Sprint in place at 177.5 ft, and 175 ft the tower meets the requirements of the *TIA/EIA-222-F* standards and *2005 CSBC* provided the **Recommendations** listed below are satisfied. Furthermore, provided the foundation was designed and constructed to support the original design reactions (see Fred A. Nudd and Corporation Project No. 7735; #10125-053), the foundation should have the 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 *2005 CSBC* are met with the existing and proposed loading in place, we have the following recommendations:

1. The proposed coax should be installed inside the pole's shaft.
2. RRU/RRH Stipulation: The equipment may be installed in any arrangement determined by the client.

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
177	(1) Decibel ASPG952 Omni	(1) 7/8"	Schlumberger	175	(1) 14' Low Profile Platform
175[2]	(3) Argus LLPX310R (3) Samsung U-RAS RRHs (1) CCI 200W TMA (2) Andrew VHLP2-11 Dishes (1) Andrew VHLP1-23 Dish	(6) 5/16" (3) 1/2" (6) 1-5/8"	Clearwire		
	(3) RFS APXVSPP18-C-A20 (3) ALU 1900 MHz RRHs (3) ALU 800 MHz RRHs (3) ALU 800 MHz Filters (4) RFS ACU-A20-N RETs	(3) 1-1/4"	Sprint		
162	(12) Decibel DB844H90E-XY	(12) 1-5/8"	Nextel	162	(1) 14' Low Profile Platform
155	(6) Ericsson RRU-11 RRUs (1) Raycap DC6-48-60-18-8F Surge Arrestor	(12) 1-5/8" (1) 10mm Fiber (2) DC Cables	AT&T	155	(1) Collar Mount (Andrew MTC3335)
152	(3) Powerwave 7770 (3) KMW AM-X-CD-16-65-00T (6) 55" Panels (6) Powerwave LGP21401 TMAs			152	(1) 14' Low Profile Platform
141	(3) Ericsson AIR 21 B2A/B4P (3) Ericsson AIR 21 B4A/B2P (3) Ericsson KRY 112 144 TMAs	(12) 1-5/8" (1) 1-5/8" Fiber	T-Mobile	141	(1) 14' Low Profile Platform
131	(3) Kathrein 742 213	(6) 1-5/8"	Pocket	131	(3) Pipe Mounts
75	(1) GPS	(1) 1/2"	Sprint	75	Flush

1. Coax installed inside the pole's shaft unless otherwise noted.
2. Clearwire currently has (6) 1-5/8", (3) 1/2", and (6) 5/16" coax installed outside of the pole shaft in a single row.

Proposed Loading:

Antenna Elevation (ft)	Description	Coax and Lines	Carrier	Mount Elevation (ft)	Mount Type
177.5	(3) RFS APXVTM14-C-I20 (3) Alcatel Lucent TD-RRH8x20-25 RRHs	(4) 1-1/4"	Sprint	175	(1) 14' Low Profile Platform
175	(3) RFS APXVSPP18-C-A20 (3) ALU 1900 MHz RRHs (3) ALU 800 MHz RRHs (3) ALU 800 MHz Filters (4) RFS ACU-A20-N RETs				

RESULTS

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

Table 2 - Material Strength

Member Type	Yield Strength
Tower Shaft Sections	65 ksi
Modified Flange Plate	50 ksi
Modified Anchor Bolts	127.7 ksi
Base Plate	50 ksi
Anchor Bolts	105 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. **Table 5** displays the maximum antenna rotations at service wind speeds. (dishes only)

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	175 - 170	Pole	TP25.211x24x0.25	6.6	Pass
L2	170 - 130	Pole	TP34.896x25.211x0.25	53.4	Pass
L3	130 - 85	Pole	TP45.293x33.1854x0.3125	77.9	Pass
L4	85 - 41	Pole	TP55.322x43.2151x0.375	77.4	Pass
L5	41 - 18	Pole	TP60.141x52.877x0.375	84.7	Pass
L6	18 - 0	Pole	TP64.5x60.141x0.4375	71.6	Pass
		Exterior Anchor Bolts	(18) 1.875" Ø w/ BC = 80"	77.2	Pass
		Exterior Base Plate	84.5" Ø x 2.5" thk. PL	86.9	Pass

* Capacities include a 1/3 allowable stress increase for wind.

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis *(TIA/EIA-222-F)*	Original Design *(TIA/EIA-222-F)*
Axial	49 k	32 k
Shear	34 k	41 k
Moment	4,301 k-ft	5,158 k-ft

Table 5 - Maximum Antenna Rotations at Service Wind Speeds (dishes only)

Centerline Elevation (ft)	Antenna	Tilt (deg)*	Twist (deg)*
175	(2) Andrew VHLP2-11 Dishes (1) Andrew VHLP1-23 Dish	1.8285	0.0019

*Tilt and Twist values to be reviewed by the carrier.

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

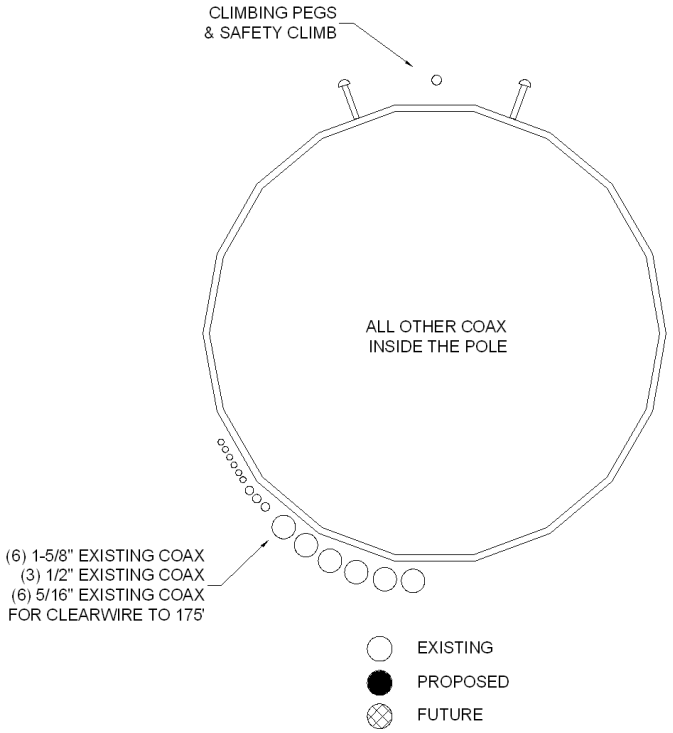
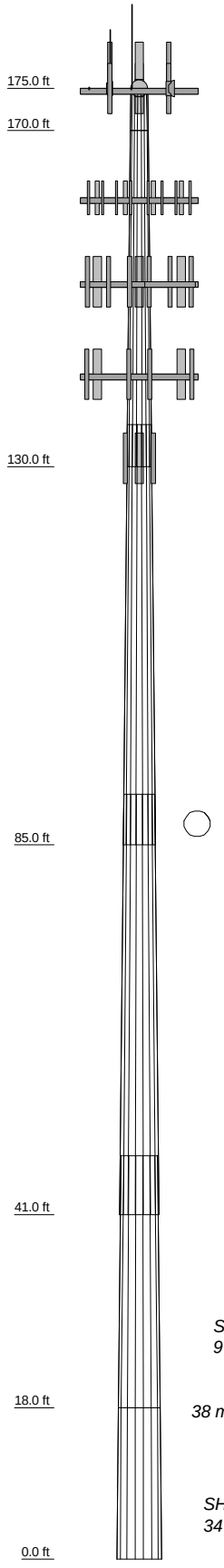
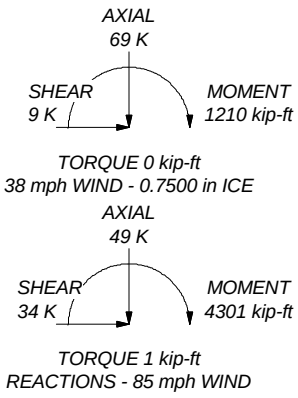


Figure 1 – Assumed Coax Layout

Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	18	0.2500		24.0000	25.2500		0.3
2	40.00	18	0.2500	5.00	25.2500	35.3167		3.2
3	50.00	18	0.3125	6.00	33.5583	45.3979		6.6
4	50.00	18	0.3750	7.00	43.3521	55.3391		9.9
5	30.00	18	0.3750		52.9109	60.1541		6.8
6	18.00	18	0.4375		60.1541	64.5000		5.3
							A572-65	32.2





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	175	(4) DB844H90E-XY w/Mount Pipe	162
ASPG952	175	(2) Ericsson RRUS-11	155
LLPX310R W/ Mount Pipe	175	Raycap DC6-48-60-18-8F Surge Arrestor	155
LLPX310R W/ Mount Pipe	175	Collar Mount MNT	155
LLPX310R W/ Mount Pipe	175	(2) Ericsson RRUS-11	155
U-RAS RRH	175	(2) Ericsson RRUS-11	155
U-RAS RRH	175	KMW AM-X-CD-16-65-00T-RET w/ Mount Pipe	152
U-RAS RRH	175	KMW AM-X-CD-16-65-00T-RET w/ Mount Pipe	152
200W TMA	175	KMW AM-X-CD-16-65-00T-RET w/ Mount Pipe	152
14' Low Profile Platform	175	(2) 55" Panel	152
APXVSPP18-C-A20 w/Mount Pipe	175	(2) 55" Panel	152
APXVSPP18-C-A20 w/Mount Pipe	175	(2) 55" Panel	152
APXVSPP18-C-A20 w/Mount Pipe	175	(2) Powerwave LGP21401 TMA	152
1900 MHz RRH	175	(2) Powerwave LGP21401 TMA	152
1900 MHz RRH	175	(2) Powerwave LGP21401 TMA	152
1900 MHz RRH	175	14' Low Profile Platform MNT	152
800 MHz RRH	175	Powerwave 7770.00 w/Mount Pipe	152
800 MHz RRH	175	Powerwave 7770.00 w/Mount Pipe	152
800 MHz RRH	175	Powerwave 7770.00 w/Mount Pipe	152
Alcatel Lucent 800 MHz Filter	175	AIR 21 B4A/B2P w/Mount Pipe	141
Alcatel Lucent 800 MHz Filter	175	AIR 21 B4A/B2P w/Mount Pipe	141
Alcatel Lucent 800 MHz Filter	175	AIR 21 B4A/B2P w/Mount Pipe	141
(2) ACU-A20-N RET	175	Ericsson KRY 112 144	141
ACU-A20-N RET	175	Ericsson KRY 112 144	141
ACU-A20-N RET	175	Ericsson KRY 112 144	141
APXVTM14-C-I20 w/ Mount Pipe	175	14' Low Profile Platform	141
APXVTM14-C-I20 w/ Mount Pipe	175	AIR 21 B2A/B4P w/Mount Pipe	141
APXVTM14-C-I20 w/ Mount Pipe	175	AIR 21 B2A/B4P w/Mount Pipe	141
TD-RRH8x20-25	175	AIR 21 B2A/B4P w/Mount Pipe	141
TD-RRH8x20-25	175	742 213 w/ Mount Pipe	131
TD-RRH8x20-25	175	742 213 w/ Mount Pipe	131
VHLP2-11	175	742 213 w/ Mount Pipe	131
VHLP2-11	175	GPS	75
VHLP1-23	175		
14' Low Profile Platform	162		
(4) DB844H90E-XY w/Mount Pipe	162		
(4) DB844H90E-XY w/Mount Pipe	162		

MATERIAL STRENGTH

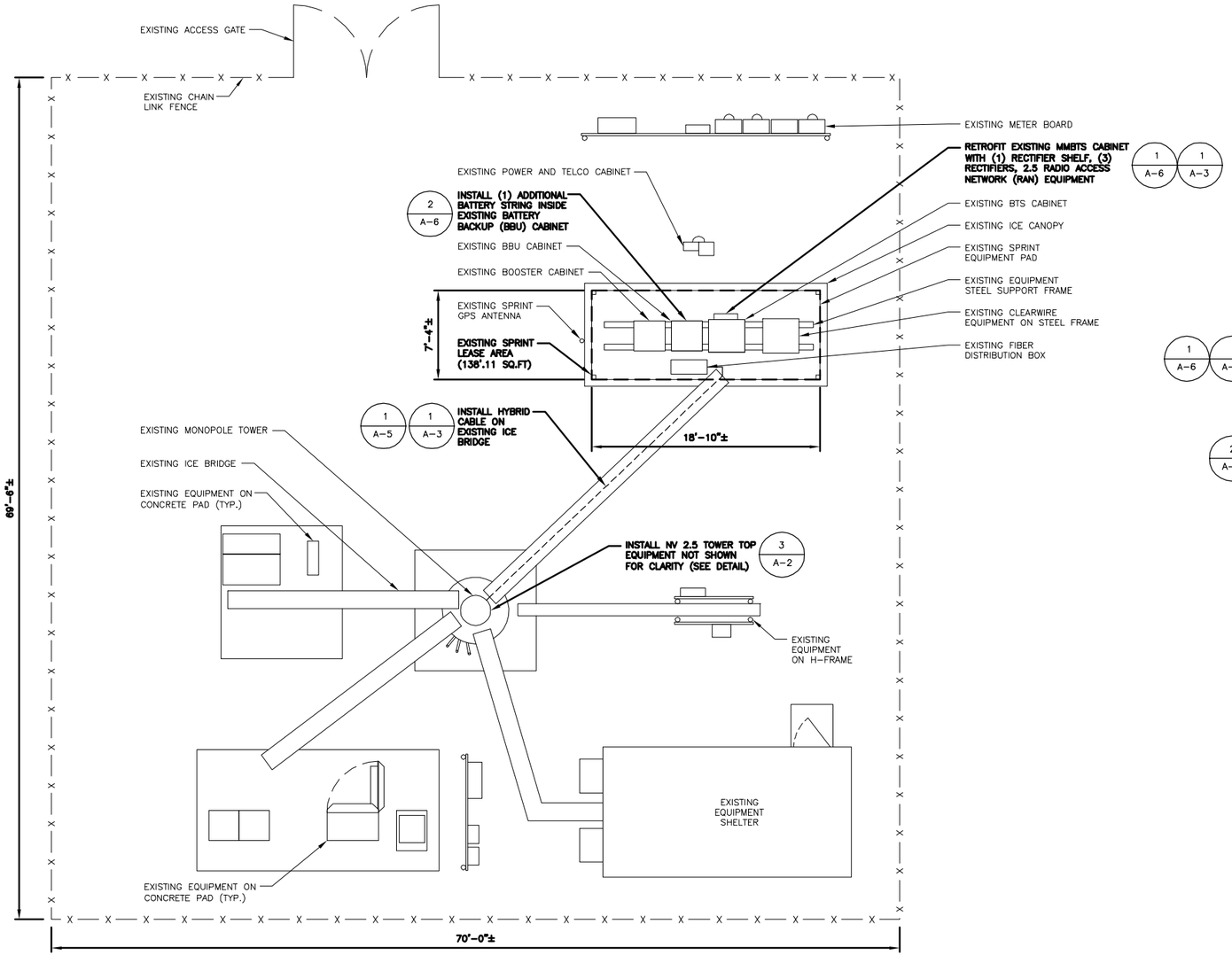
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

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.
5. Analysis performed without shaft reinforcement shown in the PJF modification drawings dated May 24, 2002.

FDH Engineering, Inc.
6521 Meridien Drive
Raleigh, NC 27616
Phone: (919) 755-1012
FAX: (919) 755-1031
Tower Analysis

Job: North Branford (CT03110-S-01)			
Project: 1464XU1400			
Client: SBA Network Services, Inc.	Drawn by: Chip DeVoto, EI	App'd:	
Code: TIA/EIA-222-F	Date: 05/06/14	Scale: NTS	
Path:		Dwg No. E-1	



COMPOUND PLAN 1 A-1
SCALE: 3/16"=1'-0"

SOURCE: SPRINT SITE AUDIT 09-18-13

RAN EQUIPMENT PHOTO DETAIL 2 A-1
SCALE: N.T.S.

Sprint
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

SBA
SBA COMMUNICATIONS CORP.
33 BOSTON POST ROAD WEST, SUITE 320
MARLBOROUGH, MA 01752 TEL: (508) 251-0720

Hudson Design Group LLC
1600 OSGOOD STREET
BUILDING 20 NORTH, SUITE 3090
N. ANDOVER, MA 01845 TEL: (978) 557-5553
FAX: (978) 336-5586

STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

Daniel P. Hamm

CHECKED BY: KB

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	05/13/14	ISSUED FOR CONSTRUCTION	SF

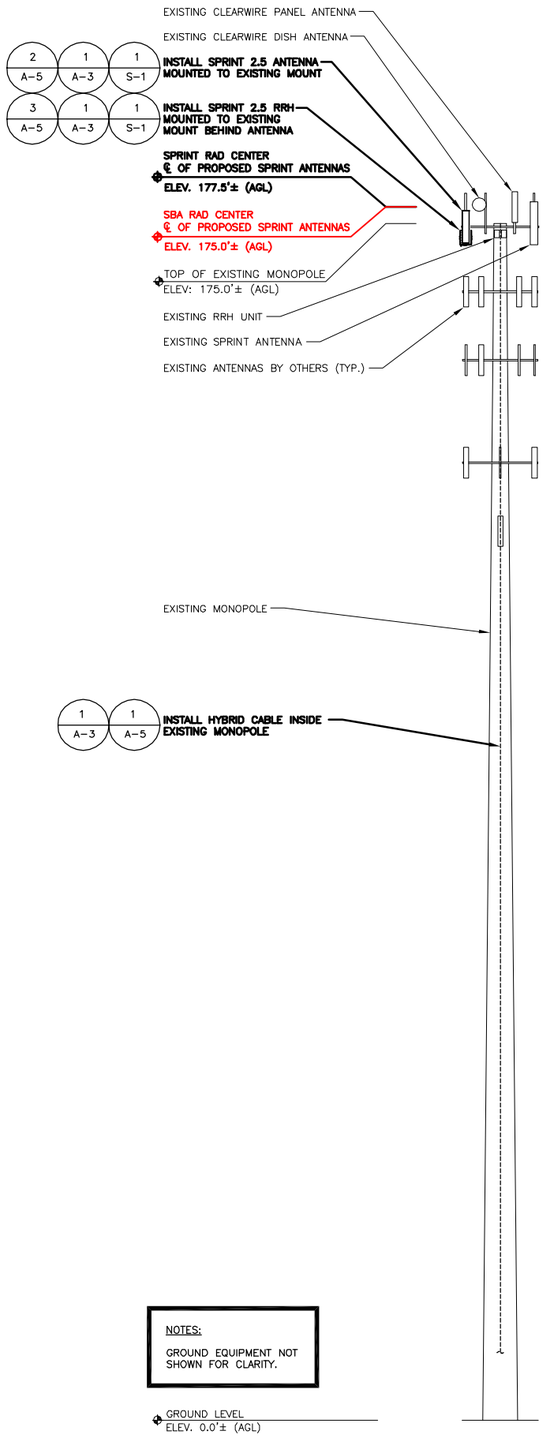
SITE NUMBER:
CT03XC033-C

SITE NAME:
FOXON/SBA

SITE ADDRESS:
150 FOXON ROAD
NORTH BRANFORD, CT 06471

SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
A-1



NOTES:

GROUND EQUIPMENT NOT SHOWN FOR CLARITY.

ELEVATION

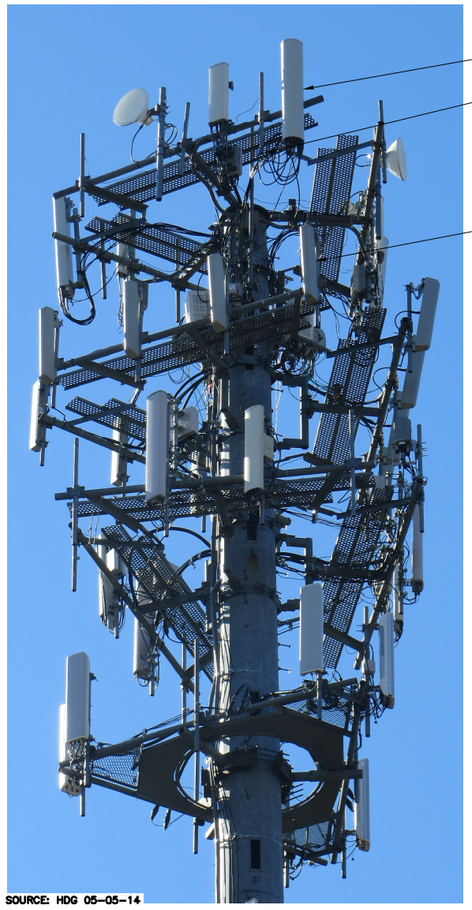
SCALE: 3/32"=1'-0" (1 / A-2)

GRAPHIC SCALE

0 5'-4" 10'-8" 21'-4" 32'-0"

SPECIAL CONSTRUCTION NOTE:
SPRINT TOWER TOP WORK IS CONTINGENT ON THE FOLLOWING:
* COMPLETION OF A GLOBAL STRUCTURAL STABILITY ANALYSIS (PROVIDED BY TOWER OWNER).
* COMPLETION OF AN ANTENNA/RRH MOUNT STRUCTURAL ASSESSMENT (PROVIDED BY A&E VENDOR).
* GC SHALL FURNISH, INSTALL AND COMPLETE ALL REQUIRED STRUCTURAL MODIFICATIONS AS INDICATED IN BEFORE-MENTIONED ANALYSIS AND ASSESSMENT.
* SBA COMMUNICATIONS CORPORATION SHALL PROVIDE WRITTEN ACCEPTANCE/APPROVAL FOR THE COMPLETION OF ALL TOWER/FOUNDATION STRUCTURAL MODIFICATIONS INCLUDING (AS NECESSARY) CONTROLLED CONSTRUCTION INSPECTIONS, SHOP-DRAWING APPROVALS, MATERIALS TEST RESULTS, AND FINAL ENGINEER'S AFFIDAVIT.

NOTE:
SPRINT RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED COLLOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA RAD CENTER SHALL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM THE SPRINT NV 2.5 RFDS.



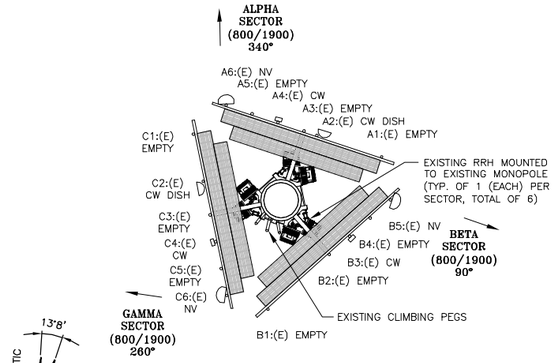
SOURCE: HDG 05-05-14

EXISTING PARTIAL ELEVATION PHOTO DETAIL

SCALE: N.T.S.

NOTE:

EXISTING AZIMUTHS FROM SPRINT SITE AUDIT DATED 09/18/13



EXISTING ANTENNA PLAN

SCALE: N.T.S. (2 / A-2)

SPECIAL WORK NOTE:
JUMPERS FROM 2.5 RRH TO 2.5 ANTENNA CAN NOT EXCEED 15'. NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY DISCREPANCY.

NOTES:
1) VERIFY EXISTING AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

ANTENNA STATUS LEGEND:

EMPTY – EMPTY PIPE

(E) – EXISTING

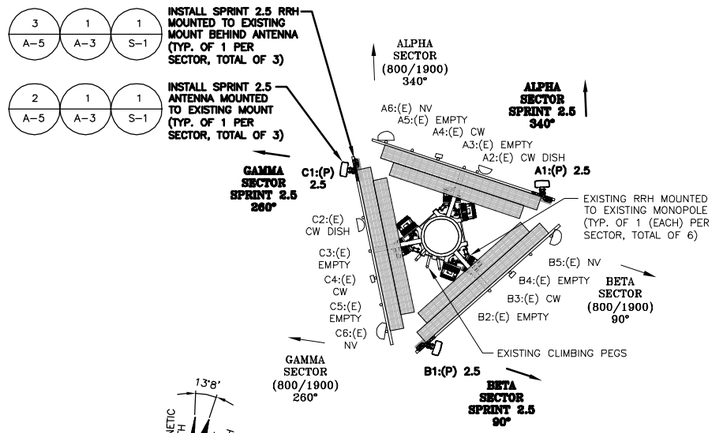
(P) – INSTALL

CW – CLEARWIRE ANTENNA

CW DISH – CLEARWIRE DISH ANTENNA

NV – SPRINT ANTENNA MODEL APXVSPP18-C-A20

2.5 – SPRINT ANTENNA



PROPOSED ANTENNA PLAN

SCALE: N.T.S. (3 / A-2)

Sprint
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
TEL: (800) 357-7641

SBA
SBA COMMUNICATIONS CORP.
33 BOSTON POST ROAD WEST, SUITE 320
MARLBOROUGH, MA 01752 TEL: (508) 251-0720

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STATE OF CONNECTICUT
DANIEL P. HAMM
No. 24178
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: KB

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	05/13/14	ISSUED FOR CONSTRUCTION	SF

SITE NUMBER:
CT03XC033-C

SITE NAME:
FOXON/SBA

SITE ADDRESS:
150 FOXON ROAD
NORTH BRANFORD, CT 06471

SHEET TITLE
ELEVATION AND ANTENNA PLANS

SHEET NUMBER
A-2