August 05, 2014

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

RE: Notice of Exempt Modification
500 Highland Avenue
Cheshire, CT 06410
Sprint Site #: NV2.5_CT43XC809
N 41° 30' 40.38"
W -72° 53' 54.69"

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 500 Highland Avenue, Cheshire CT.

The 500 Highland Avenue facility consists of a 160' MONOPOLE Tower owned and operated by SBA Site Management. 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 3807 with any questions you may have concerning this matter.

Thank you,

Peter Nute
SBA Communications Corporation
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 3807 + T
508-251-1755 + F
Pnute@sbasite.com

Sprint Spectrum
Equipment Modification

500 Highland Avenue, Cheshire CT
Site number CT43XC809

Tower Owner: SBA Site Management

Equipment Configuration: MONOPOLE Tower

Current and/or approved: (Note: equipment listed below has been expanded for clarity)

- (3) RFS APXVSPP18-C-A20
- (4) RFS ACU-A20-N RETs
- (3) ALU 1900 MHz RRH
- (3) ALU 800 MHz RRH
- (3) ALU 800 MHz Filter
- (3) 1-5/8 Hybriflex

Planned Modifications:

- (3) RFS APXVSPP18-C-A20
- (3) RFS APXVTM14-C-I20
- (4) RFS ACU-A20-N RETs
- (3) ALU 2500 MHz RRH
- (3) ALU 1900 MHz RRH
- (3) ALU 800 MHz RRH
- (3) ALU 800 MHz Filter
- (4) 1-5/8 Hybriflex

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 2.11% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 73.27% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE %	
Carrier	MPE %
Sprint	2.11%
Sprint MW	0.01%
MetroPCS	6.43%
Town Emergency Services	5.13%
T-Mobile	0.16%
AT&T	25.22%
Nextel	6.64%
Verizon Wireless	27.57%
Total Site MPE %	73.27%

August 05, 2014

Michael A. Milone
Town Manager
Town of Cheshire
Town Hall
84 South Main Street
Cheshire, CT 06410

RE: Telecommunications Facility @ 500 Highland Avenue, Cheshire CT

Dear Mr. Milone,

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 3807.

Thank you,

Peter Nute
SBA Communications Corporation
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 3807 + T
508-251-1755 + F
Pnute@sbasite.com

August 05, 2014

Town of Cheshire CT
84 South Main Street
Finance Cheshire CT 06410

RE: Telecommunications Facility @ 500 Highland Avenue, Cheshire 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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Thank you,

Peter Nute
SBA Communications Corporation
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-0720 x 3807 + T
508-251-1755 + F
Pnute@sbasite.com

PRINT SOLUTIONS (770) 416-6099

4542

DATE 08/06/14

TO CSC

DEPOSITS

FOR ZONING-CSC

CT43XC809

535033

TAX DEDUCTIBLE

TOTAL		
THIS CHECK	625	-
OTHER		
BALANCE		

REF

4542

SBA NETWORK SERVICES, LLC (MASSACHUSETTS)
900 CUMMINGS CENTER, SUITE 316U
BEVERLY, MA 01915-6181
(561) 995-7670

63-2-630

DATE 08/06/14

PAY TO THE ORDER OF Connecticut Siting Council $ 625.00

Six Hundred Twenty Five and 00/100 DOLLARS

Security Features Included Details on Back.

OVER $5,000 REQUIRES TWO SIGNATURES

Wells Fargo, N.A.

FOR CSC - CT43XC809 - 535033

MP

⑈00004542⑈ ⑆063000021⑆ 2000017262525⑈

EBI Consulting
environmental | engineering | due diligence

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

Sprint Existing Facility

Site ID: CT43XC809

Cheshire / Tower Ventures

500 Highland Avenue
Cheshire, CT 06410

July 29, 2014

EBI Project Number: 62144045

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

EBI Consulting
environmental | engineering | due diligence

July 29, 2014

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

Re: Radio Frequency Maximum Permissible Exposure (MPE) Assessment for Site:
CT43XC809 - Cheshire / Tower Ventures

Site Total: 73.27% - MPE% in full compliance

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 500 Highland Avenue, Cheshire, 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 500 Highland Avenue, Cheshire, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. 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) 2 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 minus 10 dB was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

6) The antennas used in this modeling are the RFS APXVSPP18-C-A20 and the RFS APXVTM14-C-I20. 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 APXVTM14-C-I20 has a 15.9 dBd gain value at its main lobe at 2500 MHz. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.
7) The antenna mounting height centerline for the proposed antennas is **158 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	CT43XC809 - Cheshire / Tower Ventures
Site Addresss	500 Highland Avenue, Cheshire, CT, 06410
Site Type	Monopole

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 (10 db reduction)	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	2	40	5.9	158	152	1/2 "	0.5	0	138.69	0.22%
1a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	3.4	158	152	1/2 "	0.5	0	39.00	0.11%
1B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	5.9	158	152	1/2 "	0.5	0	138.69	0.38%
														Sector total Power Density Value:		0.70%

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 (10 db reduction)	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	2	40	5.9	158	152	1/2 "	0.5	0	138.69	0.22%
2a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	3.4	158	152	1/2 "	0.5	0	39.00	0.11%
2B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	5.9	158	152	1/2 "	0.5	0	138.69	0.38%
														Sector total Power Density Value:		0.70%

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 (10 db reduction)	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	2	40	5.9	158	152	1/2 "	0.5	0	138.69	0.22%
3a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	3.4	158	152	1/2 "	0.5	0	39.00	0.11%
3B	RFS	APXVTMM14-C-120	RRH	2500 MHz	CDMA / LTE	20	2	40	5.9	158	152	1/2 "	0.5	0	138.69	0.38%
														Sector total Power Density Value:		0.70%

Site Composite MPE %	
Carrier	MPE %
Sprint	2.11%
Sprint MW	0.01%
MetroPCS	6.43%
Town Emergency Services	5.13%
T-Mobile	0.16%
AT&T	25.22%
Nextel	6.64%
Verizon Wireless	27.57%
Total Site MPE %	**73.27%**

EBI Consulting
environmental | engineering | due diligence

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 **2.11% (0.70% from sector 1, 0.70% from sector 2 and 0.70% from sector 3)** 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 **73.27%** 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 REPORT

160' Monopole Tower

500 Highland Avenue
Cheshire, CT 06410

SBA Site Name: Cheshire
SBA Site Number: CT33762-M

Sprint Site Number: CT43XC809
Sprint Site Name: Cheshire/Tower Ventures

GPD Project Number: 2014778.33762.03

Analysis Results

Tower Components	76.7%	Sufficient
Foundation	42.8%	Sufficient

July 17, 2014

Respectfully submitted by:

7/17/14

John N. Kabak, P.E.
Connecticut #: 28836

TABLE OF CONTENTS

DESCRIPTION	PAGE NUMBER
EXECUTIVE SUMMARY	1
CONCLUSIONS & RECOMMENDATIONS	1
TOWER DESCRIPTION	2
TOWER LOADING	3
COAX LAYOUT	5
ASSUMPTIONS	6
SECTION RESULTS	7
DISCLAIMER OF WARRANTIES	8

APPENDICES

1.TNXTOWER OUTPUT

2. ADDITIONAL CALCULATIONS

Executive Summary

The purpose of this analysis is to verify whether the existing monopole tower is structurally capable of carrying the proposed antenna and coax loads as specified by Sprint to SBA. This report was commissioned by Mr. Rick Woods of SBA Site Management.

The existing structure and its foundations have been analyzed using the following requirements:

Governing Code/s	TIA-222-G & 2005 CTBC
Wind Speed	105 MPH 3-Second Gust
Wind Speed w/ Ice	50 MPH 3-Second Gust
Radial Ice Thickness	3/4″
Structure Class	II
Exposure Class	B
Topographic Category	1

Conclusions & Recommendations

The designs of the tower and its foundation are sufficient for the proposed loading configuration considering the above analysis criteria and will not require modification.

Tower Description

The existing 160' Monopole Tower is located in Cheshire, Connecticut. The tower was originally designed by Sabre in September of 2003. All structural information was obtained from a previous analysis performed by URS. The original design load for the tower was not available at the time of analysis.

Documents Provided:

Document Type	Remarks	Source
Previous Structural Analysis	URS Corporation Job #: 36917370, dated 10/10/2012	SBA
Previous Structural Analysis	Hudson Design Group dated 05/06/2013	SBA
Previous Structural Analysis	GPD Job #: 2014778.33762.02, dated 3/13/2014	SBA
Foundation Calculations	URS Corporation Job #: 36917370, dated 10/10/2012	SBA
Construction Drawings	Hudson Design Group, reviewed by SBA 7/10/2014	SBA

Tower Materials:

Structural Components	Material Strength
Pole	ASTM A572 (65 KSI Yield Strength)
Base Plate	ASTM A572 (60 KSI Yield Strength)
Anchor Rods	ASTM A615 (75 KSI Yield Strength)

Tower Loading

The following data shows the major loading that the tower supports. All existing/leased and proposed loading was provided by SBA.

Existing/Leased Loading

Carrier	Mounting Level (ft)	Center Line Elevation (ft)	# of Antennas	Antenna Manufact.	Antenna/Mount Model	# of Coax	Coax Size (in)	Note
Town of Cheshire	160	170	1		20' Omni	4	1/2	
		168	2	Decibel	DB224			
		166.17	1		6' Omni			
		160	3		T-Arm			
Sprint	160	162	3	RFS	APXVSPP18-C-A20	6 3	1-5/8 Hybriflex	
		160	1		LP Platform			
		158	6		RRH			
T-Mobile	152	149	3	Ericsson	AIR21 B2A/B4P	18	1-5/8	
			3	Ericsson	AIR21 B4A/B2P			
			3	RFS	APX16-PV-6PVL-C			
			3	Ericsson	KRY 112			
			3	RFS	ATMAA1412D			
		152	1		LP Platform			
Pocket	141.08	141.08	3	RFS	APXV18-206517S-C	6	1-5/8	1
			3		T-Arm			
AT&T	132	132	3	Kathrein	800 10121	12	1-5/8	
			2	Powerwave	P65-16-XL-2			
			2	KMW	AM-X-CD-16-65-00T-RET			
			2	Andrew	SBNM-1D6565C			
			12		TMA			
			1		LP Platform			
	125	125	6		RRH	1	3" Conduit	2
			1	Raycap	DC6-48-60-18-8F			
			1		Universal Ring Mount			
Verizon	122.5	122.5	3	Antel	BXA 70063/6CF	12 1	1-5/8 1-5/8 Fiber	
			3	Antel	BXA 185063/8CF			
			3	Andrew	HBX-6517DS-VTM			
			3	Andrew	LNX-6514DS-VTM			
			6	RFS	FD9R6004/2C-3L			
			3	Alcatel-Lucent	RRH2x40-AWS			
			1		DB-T1-6Z-8AB-0Z			
			1		LP Platform			
Town of Cheshire	89.08	89.08	1		Dipole Antenna	5	1/2	
			1		Collar Mount			
		81.25	1		Yagi Antenna			
		79.33	1		Yagi Antenna			
	83.17	83.17	1	PCTEL	GPS-TMG-HR-26N			
			1		Collar Mount			
		81.17	1		Yagi Antenna			

Notes:

1) Coax installed outside the monopole in a single row.
2) Conduit contains DC and power cables.

Final Proposed Loading Configuration

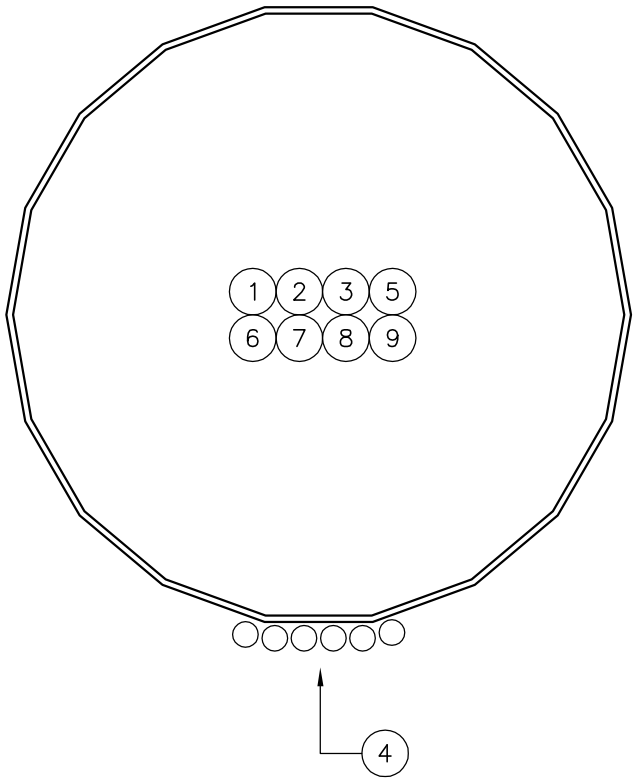
Carrier	Mounting Level (ft)	Center Line Elevation (ft)	# of Antennas	Antenna Manufact.	Antenna/Mount Model	# of Coax	Coax Size (in)	Note
Sprint	160	158	3	RFS	APXVSPP18-C-A20	6	1-1-/4	1
			3	RFS	APXVTM14-C-I20			
			4	RFS	ACU-A20-N			
			3	ALU	1900 MHz RRH			
			3	ALU	800 MHz RRH			
			3	ALU	2500 MHz RRH			
			3	ALU	800 MHz Filter			
		160	1		LP Platform			

Notes:

1)This loading represents the final configuration for Sprint. See the next page for the proposed coax layout.

SBA Site ID#: CT33762-M
July 17, 2014

Proposed Coax Configuration



#	CARRIER	SIZE	QTY.	ELEVATION	NOTES
1	Town of Cheshire	1/2"	4	160'	
2	Sprint	1-1/4" Fiber	6	160'	Proposed
3	T-Mobile	1-5/8"	18	152'	
4	Pocket	1-5/8"	6	141.08'	
5	AT&T	1-5/8"	6	132'	
6	AT&T	3" Conduit	1	125'	Carries DC and Power Cables
7	Verizon	1-5/8"	12	122.5'	
8	Verizon	1-5/8" Fiber	1	122.5'	
9	Town of Cheshire	1/2"	5	89.09'	

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) Tower and structures were built in accordance with the manufacturer's specifications.
2) The tower and structures have been maintained in accordance with the manufacturer's specification.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in the Existing/Reserved Loading and Proposed Loading Tables, and the specified documents.
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) Mount sizes, weights, and manufacturers are best estimates based on photos provided and determined without the benefit of a site visit by GPD.
6) The proposed coax shall be installed internal to the monopole.
7) All member connections and foundation steel reinforcing are assumed designed to meet or exceed the load carrying capacity of the connected member and surrounding soils respectively unless otherwise specified in this report.
8) The existing loads on the tower were modeled from the previous structural analyses.

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.

Tower Section Results

Capacity Summary of Structural Components

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass/ Fail
L1	160 - 146.5	Pole	TP20.91x16.75x0.1875	1	-4.72	865.69	21.0	Pass
L2	146.5 - 95.75	Pole	TP36.16x19.6876x0.25	2	-17.17	1841.20	76.7	Pass
L3	95.75 - 46.75	Pole	TP50.76x34.2745x0.3125	3	-29.70	3077.94	75.6	Pass
L4	46.75 - 0	Pole	TP64.53x48.1321x0.375	4	-49.06	4662.89	66.1	Pass
							Summary	
							Pole (L2)	76.7	Pass
							RATING =	**76.7**	**Pass**

Additional Capacities

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
	Anchor Rods	0	67.4	Pass
	Base Plate	0	42.0	Pass
	Tower Base Foundation	0	42.8	Pass

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.

This analysis is limited to the designated maximum wind and seismic conditions per the governing tower standards and code. Wind forces resulting in tower vibrations near the structure's resonant frequencies were not considered in this analysis and are outside the scope of this analysis. Lateral loading from any dynamic response was not evaluated under a time-domain based fatigue analysis.

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 code specified 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.

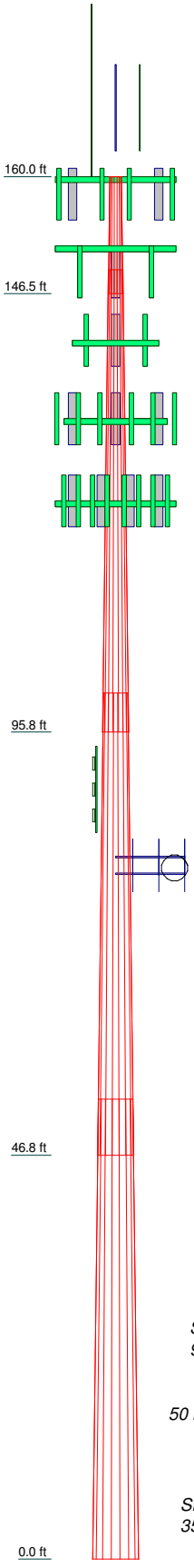
Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

Towers are designed to carry gravity, wind, and ice loads. All members, legs, diagonals, struts, and redundant members provide structural stability to the tower with little redundancy. Absence or removal of a member can trigger catastrophic failure unless a substitute is provided before any removal. Legs carry axial loads and derive their strength from shorter unbraced lengths by the presence of redundant members and their connection to the diagonals with bolts or welds. If the bolts or welds are removed without providing any substitute to the frame, the leg is subjected to a higher unbraced length that immediately reduces its load carrying capacity. If a diagonal is also removed in addition to the connection, the unbraced length of the leg is greatly increased, jeopardizing its load carrying capacity. Failure of one leg can result in a tower collapse because there is no redundancy. Redundant members and diagonals are critical to the stability of the tower.

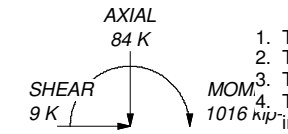
GPD GROUP makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD GROUP will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any 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.

TNX TOWER OUTPUT

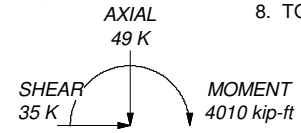
Section	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	13.50	18	0.1875	2.75	16.7500	20.9100		0.5
2	53.50	18	0.2500	4.50	19.6876	36.1600		4.0
3	53.50	18	0.3125	6.50	34.2745	50.7600		7.6
4	53.25	18	0.3750		48.1321	64.5300		12.1
							A572-65	



ALL REACTIONS ARE FACTORED



TORQUE 0 kip-ft
50 mph WIND - 0.7500 in ICE



TORQUE 1 kip-ft
REACTIONS - 105 mph WIND

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
20' Omni (3" Diam)	160	800 10121 w/ Mount Pipe	132
DB224	160	SBNH-1D6565C w/ Mount Pipe	132
DB224	160	P65-15-XLH-RR w/ Mount Pipe	132
6' Omni	160	800 10121 w/ Mount Pipe	132
MTS 36" Standoff (3)	160	SBNH-1D6565C w/ Mount Pipe	132
APXVSPP18-C-A20 w/ Mount Pipe	160	AM-X-CD-16-65-00T-RET w/ Mount Pipe	132
APXVSPP18-C-A20 w/ Mount Pipe	160		
APXVSPP18-C-A20 w/ Mount Pipe	160	800 10121 w/ Mount Pipe	132
APXVTM14-C-120 w/ Mount Pipe	160	AM-X-CD-16-65-00T-RET w/ Mount Pipe	132
APXVTM14-C-120 w/ Mount Pipe	160		
APXVTM14-C-120 w/ Mount Pipe	160	P65-15-XLH-RR w/ Mount Pipe	132
Mount Pipe	160	(4) TMA	132
Mount Pipe	160	(4) TMA	132
Mount Pipe	160	(4) TMA	132
(2) ACU-A20-N	160	Mount Pipe	132
ACU-A20-N	160	Mount Pipe	132
ACU-A20-N	160	Mount Pipe	132
1900MHz RRH	160	Sabre 12' LP Platform	132
1900MHz RRH	160	(2) RRH	125
1900MHz RRH	160	(2) RRH	125
RRH 800 MHz	160	(2) RRH	125
RRH 800 MHz	160	DC6-48-60-18-8F	125
RRH 800 MHz	160	Universal Ring Mount w/8" Standoff	125
RRH 2500MHz	160	BXA-70063/6CF w/ Mount Pipe	122.5
RRH 2500MHz	160	BXA-70063/6CF w/ Mount Pipe	122.5
RRH 2500MHz	160	BXA-70063/6CF w/ Mount Pipe	122.5
800 MHz Filter	160	BXA-185063/8CF w/ Mount Pipe	122.5
800 MHz Filter	160	BXA-185063/8CF w/ Mount Pipe	122.5
800 MHz Filter	160	BXA-185063/8CF w/ Mount Pipe	122.5
Sabre 12' LP Platform	160	(2) FD9R6004/2C-3L	122.5
AIR21 B2A/B4P w/ mount pipe	152	(2) FD9R6004/2C-3L	122.5
AIR21 B4A/B2P w/ mount pipe	152	(2) FD9R6004/2C-3L	122.5
APX16-PV-6PVL-C w/ Mount Pipe	152	HBX-6517DS-VTM w/ Mount Pipe	122.5
AIR21 B2A/B4P w/ mount pipe	152	HBX-6517DS-VTM w/ Mount Pipe	122.5
AIR21 B4A/B2P w/ mount pipe	152	HBX-6517DS-VTM w/ Mount Pipe	122.5
APX16-PV-6PVL-C w/ Mount Pipe	152	LNX-6514DS-VTM w/ Mount Pipe	122.5
AIR21 B2A/B4P w/ mount pipe	152	LNX-6514DS-VTM w/ Mount Pipe	122.5
AIR21 B4A/B2P w/ mount pipe	152	LNX-6514DS-VTM w/ Mount Pipe	122.5
APX16-PV-6PVL-C w/ Mount Pipe	152	RRH2x40-AWS	122.5
KRY 112	152	RRH2x40-AWS	122.5
ATMAA1412D	152	RRH2x40-AWS	122.5
KRY 112	152	DB-T1-6Z-8AB-0Z	122.5
ATMAA1412D	152	MTS 14.5' LP Platform	122.5
KRY 112	152	3' Yagi	89.08
ATMAA1412D	152	3' Yagi	89.08
Sabre 12' LP Platform	152	Andrew Collar Mount	89.08
APXV18-206517S-C w/ Mount Pipe	141.08	14' Dipole	89.08
APXV18-206517S-C w/ Mount Pipe	141.08	3' Yagi	83.17
APXV18-206517S-C w/ Mount Pipe	141.08	Andrew Collar Mount	83.17
MTS 36" Standoff (3)	141.08	GPS-TMG-HR-26N	83.17

MATERIAL STRENGTH

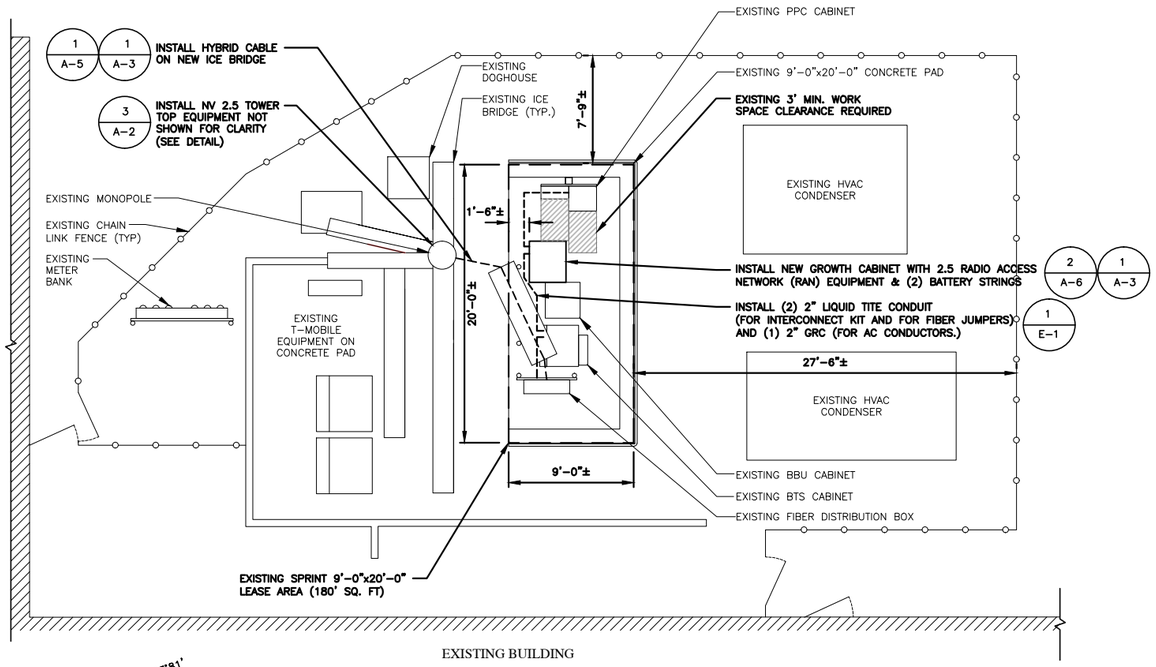
GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-G Standard.
3. Tower designed for a 105 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 76.7%

GPD Group
520 South Main St Suite 2531
Akron, Ohio 44311
Phone: (330) 572-2100
FAX: (330) 572-2103

Job: CT33762-M Cheshire, CT		
Project: 2014778.33762.03		
Client: SBA	Drawn by: ebecker	App'd:
Code: TIA-222-G	Date: 07/17/14	Scale: NTS
Path: T:\SBA\33762\03 SA Sprint 2.5\tnx\CT33762_G Code.eri		Dwg No. E-1



COMPOUND PLAN

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

1 A-1

GRAPHIC SCALE

0 2'-8" 5'-4" 10'-8" 16'-0"

1 A-3 — INSTALL NEW GROWTH CABINET WITH 2.5 RADIO ACCESS NETWORK (RAN) EQUIPMENT & (2) BATTERY STRINGS

2 A-6

EXISTING BTS CABINET

EXISTING BBU CABINET

SOURCE: SPRINT SITE AUDIT 8-13-13

RAN EQUIPMENT PHOTO DETAIL

SCALE: N.T.S.

2 A-1

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 Groupllc

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

STATE OF CONNECTICUT
DEREK J. CREASER
No. 25951
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: KB

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	07/18/14	ISSUED FOR CONSTRUCTION	JA
0	05/15/14	ISSUED FOR CONSTRUCTION	SF

SITE NUMBER:
CT43XC809-A

SITE NAME:
CHESHIRE/
TOWER VENTURES

SITE ADDRESS:
500 HIGHLAND AVENUE
CHESHIRE, CT 06410

SHEET TITLE

COMPOUND PLAN

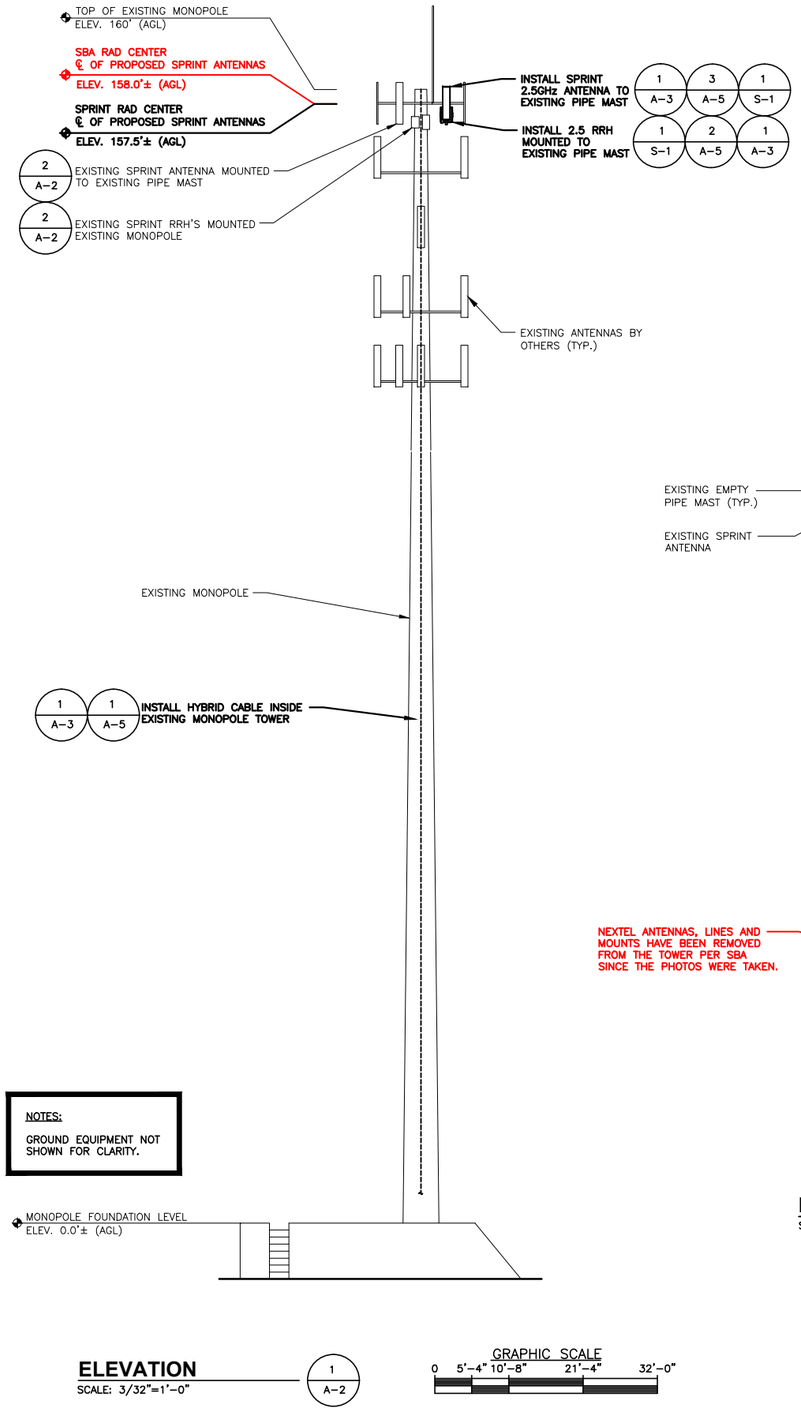
SHEET NUMBER

A-1

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.

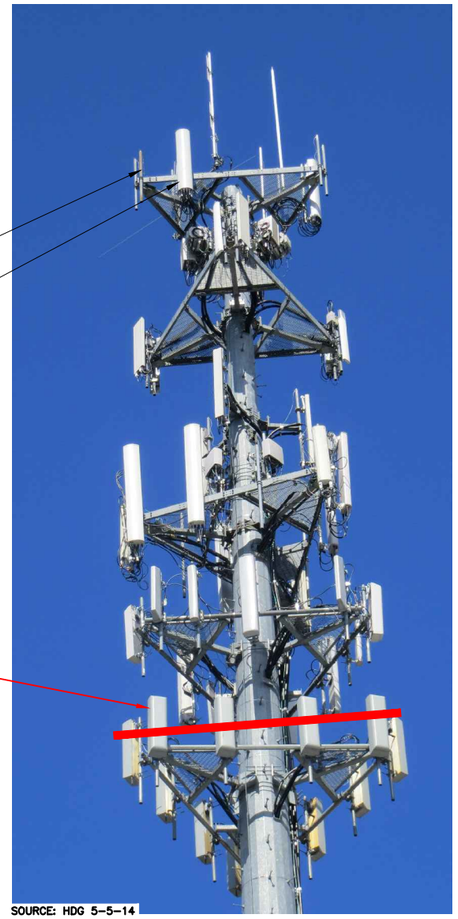
NOTE:
EXISTING AZIMUTHS FROM SPRINT SITE AUDIT DATED 08/13/13



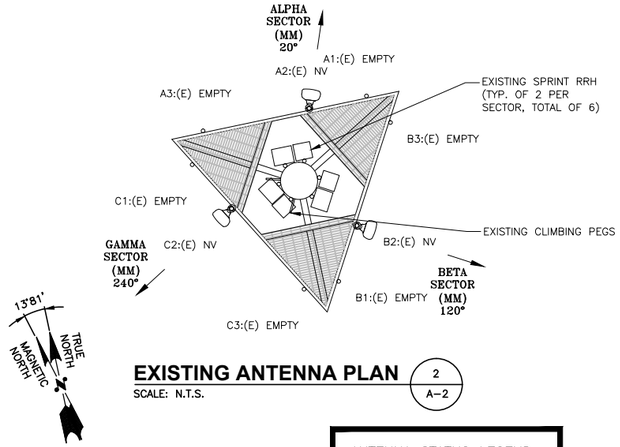
NOTES:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY.

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

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



EXISTING PARTIAL ELEVATION PHOTO DETAIL
SCALE: N.T.S.

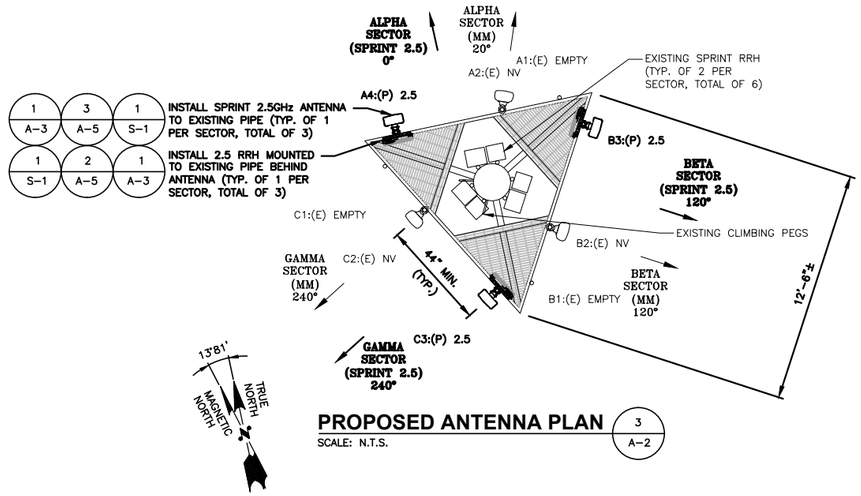


EXISTING ANTENNA PLAN
SCALE: N.T.S. (2/A-2)

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 PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

ANTENNA STATUS LEGEND:
EMPTY – EMPTY PIPE
(E) – EXISTING
(P) – INSTALL
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
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STATE OF CONNECTICUT
DEREK J. CREASER
No. 23554
LICENSED PROFESSIONAL ENGINEER

CHECKED BY: KB

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SUBMITTALS

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CT43XC809-A
SITE NAME:
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TOWER VENTURES
SITE ADDRESS:
500 HIGHLAND AVENUE
CHESHIRE, CT 06410

SHEET TITLE
ELEVATION AND ANTENNA PLANS

SHEET NUMBER
A-2