



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

December 14, 2012

Rick Woods
SBA Communications Corporation
33 Boston Post Road West Suite 320
Marlborough, MA 01752

RE: **EM-SPRINT-013-121126** –Sprint Spectrum notice of intent to modify an existing telecommunications facility located at 131 Gifford Lane, Bozrah, Connecticut.

Dear Mr. Woods:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Not more than 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated November 19, 2012. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the



closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,



Linda Roberts
Executive Director

LR/CDM/cm

c: The Honorable William E. Ballinger, First Selectman, Town of Bozrah
Seymour Adelman, Planning and Zoning Chairman, Town of Bozrah

- Any deviation from the proposed modification as specified in this notice and any other conditions of the permit shall be reported to the Planning and Zoning Commission in writing within 30 days of the date of the modification.
- The validity of this permit shall expire one year from the date of this letter and any extension of this permit shall be subject to the provisions of the permit.
- The permit shall be subject to the provisions of the permit and any extension of this permit shall be subject to the provisions of the permit.
- The permit shall be subject to the provisions of the permit and any extension of this permit shall be subject to the provisions of the permit.

The proposed modification includes the provision of all necessary equipment and materials within the tower component to be implemented as specified here and in your notice of intent. The modification is in compliance with the exception criteria in Section 12-101 of the Regulations of Connecticut State Agencies as changes to an existing facility that would not increase the height, extend the footprint of the tower site, increase the number of antennas, or increase the tower's footprint. The modification is subject to the provisions of the permit and any extension of this permit shall be subject to the provisions of the permit.

This decision is subject to the conditions of the permit. Any additional changes to the permit shall be subject to the provisions of the permit. The Planning and Zoning Commission reserves the right to modify or rescind this decision at any time. The permit shall be subject to the provisions of the permit and any extension of this permit shall be subject to the provisions of the permit.



ORIGINAL

November 19, 2012

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

RECEIVED
NOV 26 2012

CONNECTICUT
SITING COUNCIL

RE: Notice of Exempt Modification
131 Gifford Lane
Bozrah, CT 33486
N 41° 33' 08.93"
W 72° 09' 02.73"

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 131 Gifford Lane Bozrah, CT.

The 131 Gifford Lane facility consists of a 195' SELF SUPPORT Tower owned and operated by SBA Communications. 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 antennas and associated 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



SBA

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 the proposed changes at the referenced site constitute exempt modifications under R.C.S.A. Section 16-50j-72(b)(2).

Please feel free to call me at (508) 614-0389 with any questions you may have concerning this matter.

Thank you,

Rick Woods
SBA Communications Corporation
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-1691 x 319 + T
508-251-1755 + F
508-614-0389 + C
rwoods@sbsite.com



**Sprint Spectrum
Equipment Modification**

131 Gifford Lane Bozrah, CT
Site number CT33XC574

Tower Owner: SBA Communications Corporation

Equipment Configuration: SELF SUPPORT Tower

Current and/or approved: Six (6) CDMA Antennas @ 175'
Six (6) lines of 1-5/8" coax
Two (2) equipment cabinets

Planned Modifications: Install One (1) Fiber Distribution Box
Install Three (3) RRHs on ground inside existing lease area
Replacing Two (2) equipment cabinets with Two (2) new equipment cabinets

Structural Information:

No Structural information is required as there will be no work performed on the tower. Ground work only.

Power Density:

The anticipated Maximum Composite contributions from the Sprint facility are 6.275% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 19.595% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE %	
Carrier	MPE %
Sprint	6.275%
T-Mobile	0.733%
Verizon Wireless	8.553%
AT&T	4.043%
Total Site MPE %	19.595%



November 19, 2012

Honorable William Ballinger
First Selectman
Town of Bozrah
1 River Road
Bozrah, CT 06334

RE: Telecommunications Facility- 131 Gifford Lane Bozrah, CT 33486

Dear Mr. Ballinger,

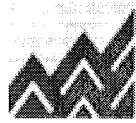
In order to accommodate technological changes and enhance system performance in the State of Connecticut, Sprint Spectrum will be changing its equipment configuration at certain cell sites.

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) 614-0389.

Thank you,

Rick Woods
SBA Communications Company
33 Boston Post Road West Suite 320
Marlborough, MA 01752
508-251-1691 x 319 + T
508-251-1755 + F
508-614-0389 + C
rwoods@sbsite.com



EBI Consulting

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RADIO FREQUENCY EMISSIONS ANALYSIS REPORT EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

Sprint Existing Facility

Site ID: CT33XC574

Bozrah
131 Gifford Lane
Bozrah, CT 33486

October 30, 2012

October 30, 2012

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

Re: Emissions Values for Site: CT33XC574 – Bozrah

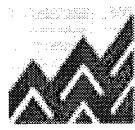
EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 131 Gifford Lane, Bozrah, CT, for the purpose of determining whether the emissions from the proposed Sprint equipment upgrades on this property are within specified federal limits.

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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$). The number of $\mu\text{W}/\text{cm}^2$ 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 ($\mu\text{W}/\text{cm}^2$). The general population exposure limit for the cellular band is approximately 567 $\mu\text{W}/\text{cm}^2$, and the general population exposure limit for the PCS band is 1000 $\mu\text{W}/\text{cm}^2$. 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.

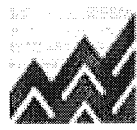
Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed upgrades to the existing Sprint Wireless antenna facility located at 131 Gifford Lane, Bozrah, 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 CDMA Carriers (1900 MHz) were considered for each sector of the proposed installation.
- 2) 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.
- 3) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
- 4) The antenna used in this modeling is the DB980H90E-M. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 14.95 dBd gain value at its main lobe at 1900 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.



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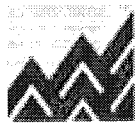
- 5) The antenna mounting height centerline of the proposed antennas is **175.5 feet** above ground level (AGL)
- 6) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

Site ID	CT33XG574 - Bozrah
Site Address	131 Gifford Lane, Bozrah, CT 03486
Site Type	Self Support 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 (dBi)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a		DB980H90E-M	RRH	1900 MHz	CDMA / LTE	20	3	60	14.95	175.5	169.5	1/2"	0.5	0	1671.6727	20,91789	2.09179%
											Sector total Power Density Value: 2.092%						
Sector 2																	
2a		DB980H90E-M	RRH	1900 MHz	CDMA / LTE	20	3	60	14.95	175.5	169.5	1/2"	0.5	0	1671.6727	20,91789	2.09179%
											Sector total Power Density Value: 2.092%						
Sector 3																	
3a		DB980H90E-M	RRH	1900 MHz	CDMA / LTE	20	3	60	14.95	175.5	169.5	1/2"	0.5	0	1671.6727	20,91789	2.09179%
											Sector total Power Density Value: 2.092%						

Site Composite MPE %	
Carrier	MPE %
Sprint	6.275%
T-Mobile	0.730%
Verizon Wireless	8.550%
AT&T	4.040%
Total Site MPE %	19.595%



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Summary

All calculations performed for this analysis yielded results that were well within the allowable limits for general public exposure to RF Emissions.

The anticipated Maximum Composite contributions from the Sprint facility are **6.275% (2.092% 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 **19.595%** of the allowable FCC established general public limit sampled at the ground level. This is based upon 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


Sprint
VISION
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
PHONE: (201) 684-4000 FAX (201) 684-4223

Alcatel-Lucent
1 ROBBINS ROAD
WESTFORD, MA 01886
OFFICE: (978) 692-1153

SBA
SBA COMMUNICATION CORP.
5900 BROKEN SOUND PARKWAY
BOCA RATON, FL 33487
TEL: (561) 226-9523
FAX: (561) 226-3572

COM-EX Consultants
4 SECOND AVENUE
SUITE 204
DENVER, NJ 07834
PHONE: 862.209.4300
FAX: 862.209.4301

INFORMATION ON THIS SET OF DRAWINGS IS NOT FOR OFFICIAL USE UNLESS ACCOMPANIED BY THE STAMPED SEAL & SIGNATURE OF A PROFESSIONAL ENGINEER



NICHOLAS D. BARILE
PROFESSIONAL ENGINEER, CT LIC No. 28643

REV. NO.	DATE	DESCRIPTION OF CHANGES
9		
8		
7		
6		
5		
4		
3	10/26/12	ISSUED FOR CONSTRUCTION
2	10/12/12	REVISED PER CLIENT COMMENTS
1	09/17/12	CONSTRUCTION REVIEW

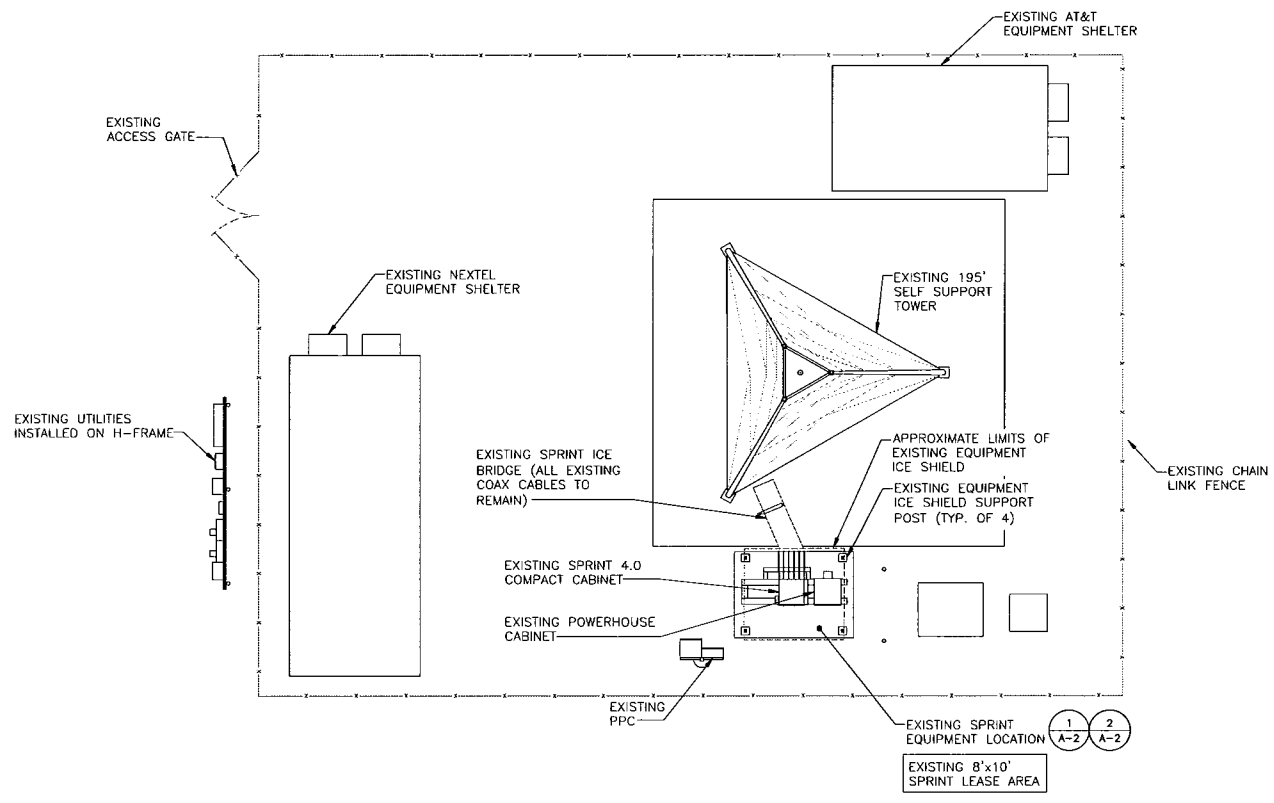
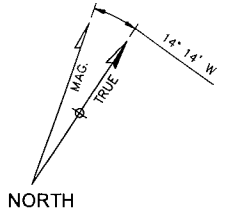
DRAWN BY: SDF
CHECKED BY: NB
SCALE: AS NOTED
JOB NO: 12041-SBA

CT33XC574
BOZRAH
131 GIFFORD LANE
BOZRAH, CT
NEW LONDON

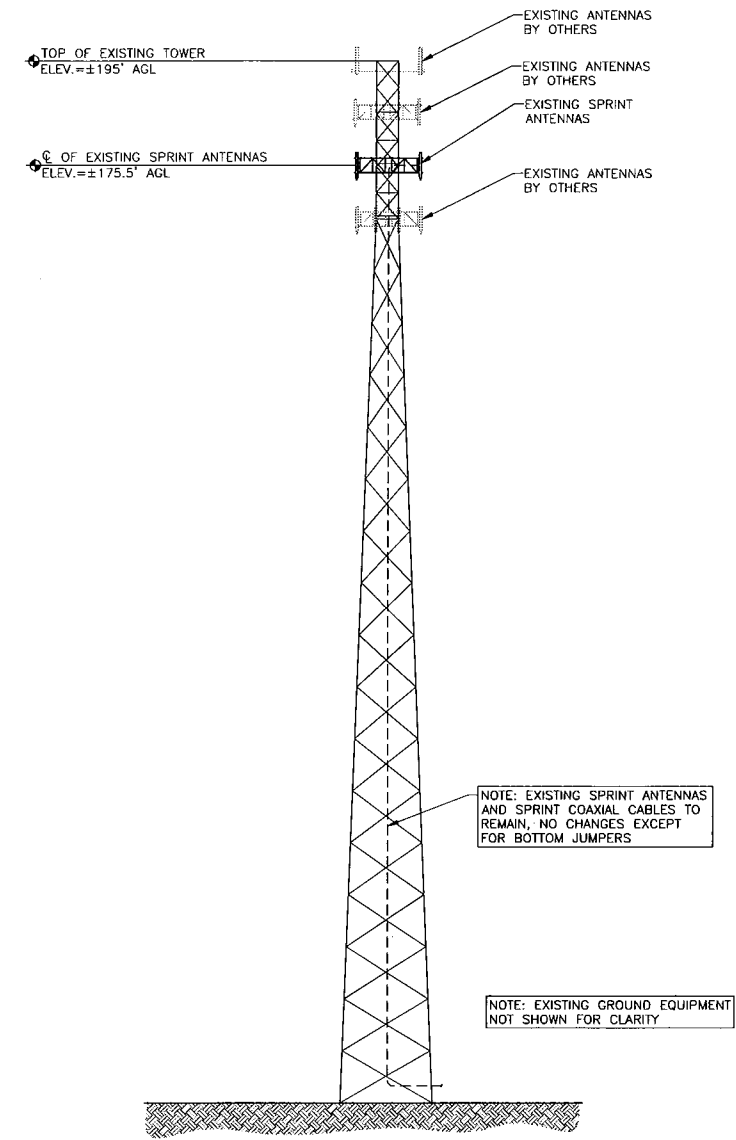
DRAWING TITLE:
COMPOUND PLAN & ELEVATION

DRAWING SHEET: 3 OF 9

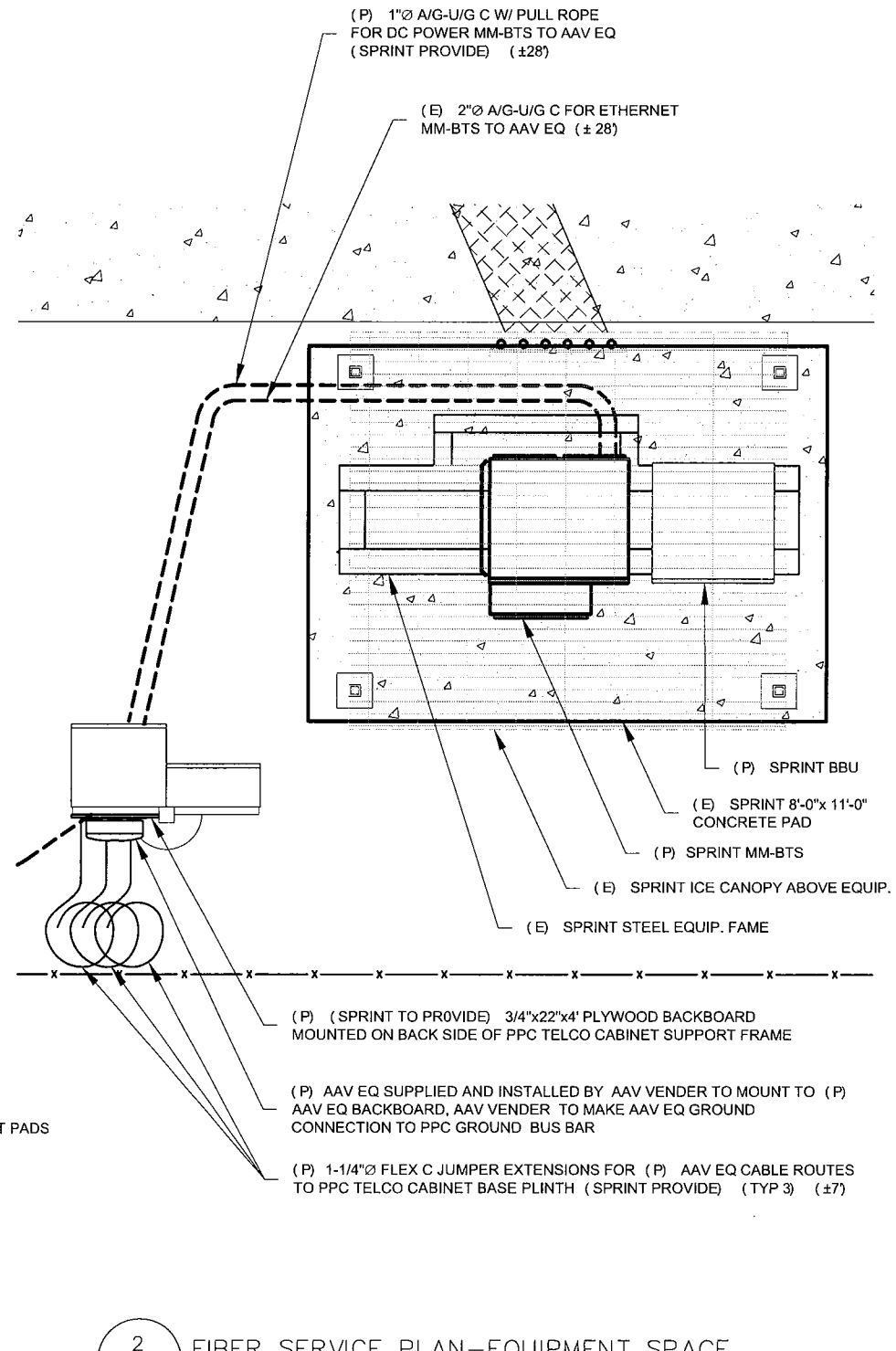
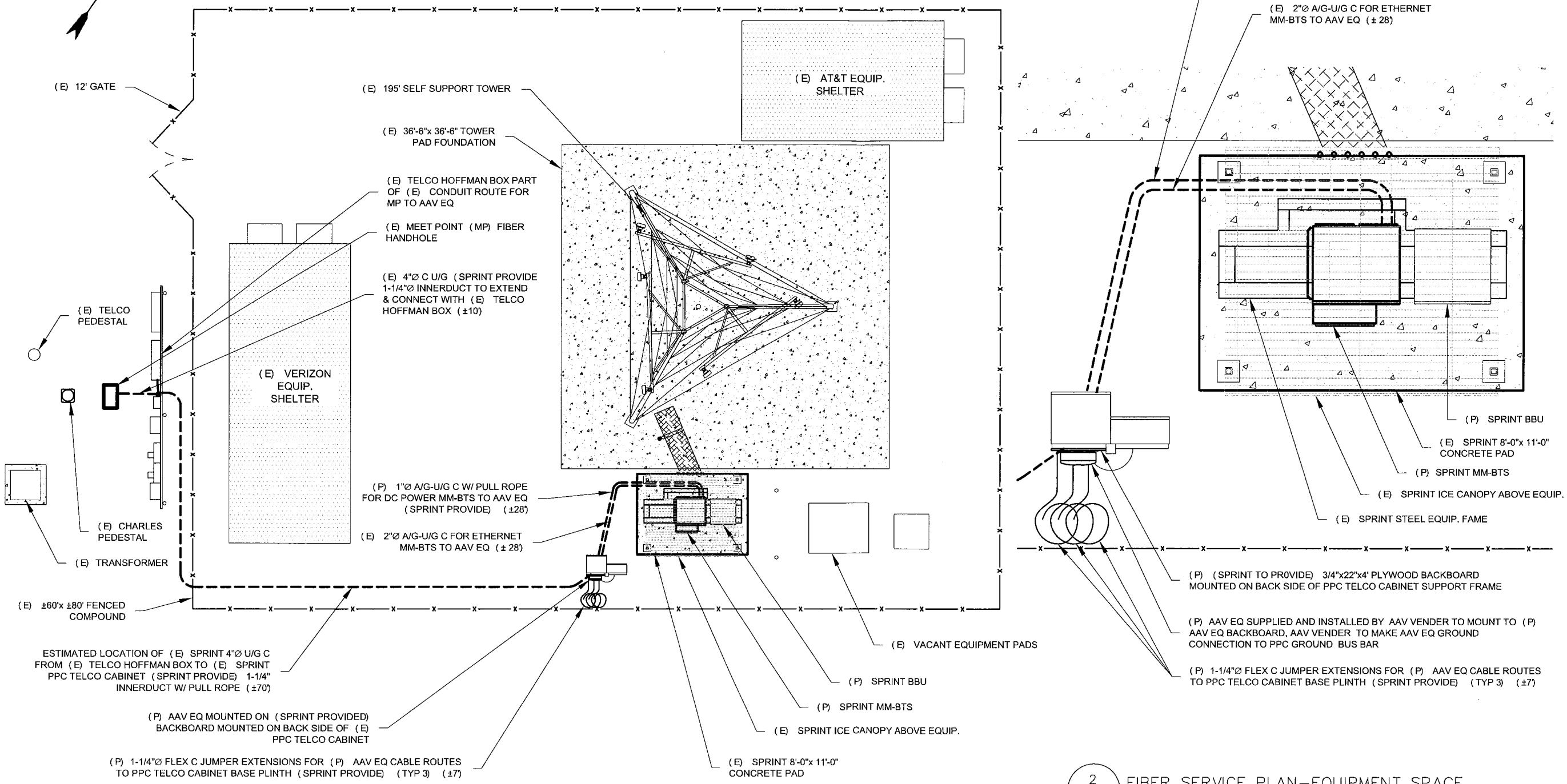
A-1



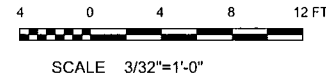
1
A-1
EXISTING COMPOUND PLAN
SCALE: 1/8"=1'
GRAPHIC SCALE
(IN FEET)
1/8" Inch = 1 Foot
(24"x36" SHEET SIZE)



2
A-1
EXISTING TOWER DETAIL
SCALE: 1/16"=1'
GRAPHIC SCALE
(IN FEET)
1/16" Inch = 1 Foot
(24"x36" SHEET SIZE)



1 FIBER SERVICE PLAN
C-3 SCALE: 3/32"=1'-0"



2 FIBER SERVICE PLAN-EQUIPMENT SPACE
C-3 SCALE: N.T.S.

COM-EX Consultants
4 SECOND AVENUE
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DENVER, NJ 07834
PHONE: 862.209.4300
FAX: 862.209.4301
NEW JERSEY STATE BOARD OF PROFESSIONAL ENGINEERS
CERTIFICATE OF AUTHORIZATION # 3484812100

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SCHEDULE OF REVISIONS	
REV NO.	DESCRIPTION OF CHANGES
5	
4	
3	
2	
1	09/11/12 REVISION
0	09/10/12 INITIAL SUBMISSION

DRAWN BY: ELP
CHECKED BY: JCP
SCALE: AS NOTED
JOB NO: 12041-SBA

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CT33XC574
131 GIFFORD LANE
BOZRAH, CT 06334

DRAWING TITLE:
SITE PLAN
DRAWING SHEET: 1 OF 4

C-3