April 9, 2014

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

RE: Notice of Exempt Modification
26 Mell Road, Lisbon, CT 06351
N 41° 35' 28"
W -72° 01' 01"
T-Mobile #: CT11150D

Dear Mr. Martin and Members of the Siting Council:

On behalf of T-Mobile, SBA Communications is submitting an exempt modification application to the Connecticut Siting council for modification of existing equipment at a tower facility located at 26 Mell Road, Lisbon, CT 06351.

The 26 Mell Road facility consists of a 200' Monopole owned and operated by SBA Properties, LLC. In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile 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 T-Mobile's modernization project, T-Mobile 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 T-Mobile'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 T-Mobile, 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

T-Mobile

Equipment Modification

26 Mell Road, Lisbon, CT 06351
Site number CT11150D

Tower Owner: SBA Properties, LLC

Equipment Configuration: Monopole

Current and/or approved:

- (6) EMS RR90-17-02DP
- (12) 1-5/8" Feed Lines

Planned Modifications:

- (3) Ericsson Air 21 B2A/B4P
- (3) Ericsson AIR 21 B4A/B2P
- (3) Ericsson KRY 112 144/1 TMAs
- (12) 1-5/8" Feed Lines
- (1) 1-5/8" Fiber

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 T-Mobile facility are 0.316% of the allowable FCC established general public limit. The anticipated composite MPE value for this site assuming all carriers present is 15.016% of the allowable FCC established general public limit sampled at the ground level.

Site Composite MPE %	
Carrier	MPE %
T-Mobile	0.316%
MetroPCS	2.280%
Sprint	3.730%
Nextel	0.480%
Verizon	8.210%
Total Site MPE %	15.016%

April 9, 2014

Mr. Thomas W. Sparkman
First Selectman
Town of Lisbon
1 Newent Road
Lisbon, CT 06351

RE: Telecommunications Facility @ 26 Mell Road, Lisbon, CT 06351

Dear Mr. Sparkman,

In order to accommodate technological changes and enhance system performance in the State of Connecticut, T-Mobile 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 T-Mobile'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 T-Mobile'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

EBI Consulting
environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11150D
Lisbon

26 Mell Road
Lisbon,CT 06351

April 3, 2014

EBI Project Number: 62142264

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

EBI Consulting
environmental | engineering | due diligence

April 3, 2014

T-Mobile USA
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, CT 06002

Re: Emissions Values for Site: **CT11150D – Lisbon**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at 26 Mell Road, Lisbon, CT, for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located 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 (µW/cm2). The general population exposure limit for the cellular band is 567 µW/cm2, and the general population exposure limit for the PCS and AWS bands is 1000 µW/cm2. 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 T-Mobile Wireless antenna facility located at 26 Mell Road, Lisbon, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, the actual antenna pattern gain value in the direction of the sample area was used. For this report the sample point is a 6 foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 GSM / UMTS channels (1935.000 MHz to 1945.000 MHz / 1983.000 MHz to 1984.000 MHz) were considered for each sector of the proposed installation.
2) 4 UMTS / LTE channels (2110.000 to 2120.000 MHz / 2140.000 MHz to 2145.000 MHz) were considered for each sector of the proposed installation.
3) 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.
4) 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.
5) The antenna used in this modeling is the Ericsson AIR21 for LTE, UMTS and GSM. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.6 dBd gain value at its main lobe. Actual antenna gain values were used for all calculations as per the manufacturers specifications.

6) The antenna mounting height centerline of the proposed antennas is **195 feet** above ground level (AGL).
7) 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 calculations were done with respect to uncontrolled / general public threshold limits.

Site ID	CT11150D - Lisbon
Site Addresss	26 Mell Road, Lisbon, CT 06351
Site Type	Monopole

Sector 1

Antenna Number	Antenna Make	Antenna Model	Status	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	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	195	189	None	0	0	48.326044	0.486366	0.04864%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	195	189	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	195	189	None	0	0	24.163022	0.243183	0.02432%
1b	Ericsson	AIR21 B4A/B2P	Passive	AWS - 2100 MHz	UMTS	40	2	80	-3.95	195	189	None	0	0	32.217363	0.324244	0.03242%
														Sector total Power Density Value:		0.105%	

Sector 2

Antenna Number	Antenna Make	Antenna Model	Status	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	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	195	189	None	0	0	48.326044	0.486366	0.04864%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	195	189	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	195	189	None	0	0	24.163022	0.243183	0.02432%
1b	Ericsson	AIR21 B4A/B2P	Passive	AWS - 2100 MHz	UMTS	40	2	80	-3.95	195	189	None	0	0	32.217363	0.324244	0.03242%
														Sector total Power Density Value:		0.105%	

Sector 3

Antenna Number	Antenna Make	Antenna Model	Status	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	ERP	Power Density Value	Power Density Percentage
1a	Ericsson	AIR21 B4A/B2P	Active	AWS - 2100 MHz	LTE	60	2	120	-3.95	195	189	None	0	0	48.326044	0.486366	0.04864%
1b	Ericsson	AIR21 B4A/B2P	Not Used	-	-			0	-3.95	195	189	None	0	0	0	0	0.00000%
2a	Ericsson	AIR21 B2A / B4P	Active	PCS - 1950 MHz	GSM / UMTS	30	2	60	-3.95	195	189	None	0	0	24.163022	0.243183	0.02432%
1b	Ericsson	AIR21 B4A/B2P	Passive	AWS - 2100 MHz	UMTS	40	2	80	-3.95	195	189	None	0	0	32.217363	0.324244	0.03242%
														Sector total Power Density Value:		0.105%	

Site Composite MPE %

Carrier	MPE %
T-Mobile	0.316%
MetroPCS	2.280%
Sprint	3.730%
Nextel	0.480%
Verizon	8.210%
Total Site MPE %	**15.016%**

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 exposure to RF Emissions.

The anticipated Maximum Composite contributions from the T-Mobile facility are **0.105% (0.316% 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 **15.016%** 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

Structural Analysis for SBA Network Services, Inc.

195' Monopole Tower

SBA Site Name: Lisbon
SBA Site ID: CT00167-S-03
T-Mobile Site ID: CT11150D
Site Address: 26 Mell Road, Lisbon, CT 06351

FDH Project Number 1424NX1400

Analysis Results

Tower Components	96.3%	Sufficient
Foundation	84.9%	Sufficient

Prepared By:

Kevin C. Diaz, EIT
Project Engineer

Reviewed By:

Dennis D. Abel, PE
Director – Structural Engineering
CT PE License No. 23247

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

03-20-2014

March 20, 2014

Prepared pursuant to TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures and 2005 Connecticut 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 Lisbon, CT to determine whether the tower is structurally adequate to support both the existing and proposed loads pursuant to the *Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, TIA/EIA-222-F* and the *2005 Connecticut Building Code*. Information pertaining to the existing/proposed antenna loading, current tower geometry, foundation dimensions, geotechnical data, and member sizes was obtained from:

- Fred A. Nudd Corporation (Project No. 6531) original design drawings dated February 4, 1999
- Semaan Engineering Solutions (Site No. CT00167S) Structural Analysis and Modification Package dated May 7, 2002
- SBA Network Services, Inc.

The *basic design wind speed* per the *TIA/EIA-222-F* standards and the *2005 Connecticut Building Code* 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 T-Mobile in place at 195 ft, the tower meets the requirements of the *TIA/EIA-222-F* standards and the *2005 Connecticut Building Code* 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 Project No. 6531), 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 the *2005 Connecticut Building Code* are met with the existing and proposed loading in place, we have the following recommendations:

1. The proposed feed lines should be installed inside the pole's shaft.
2. RRU/RRH Stipulation: The equipment may be installed in any arrangement as 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	Feed Lines[1]	Carrier	Mount Elevation (ft)	Mount Type
195	(6) EMS RR90-17-02DP	(12) 1-5/8"	T-Mobile	195	(3) T-Arms w/ Walkway
183	(9) Swedcom ALP9212	(9) 1-5/8"	Nextel	183	(3) T-Arms w/ Walkway
173	(3) RFS APXVSPP18-C-A20 (3) Alcatel Lucent 1900 MHz RRUs (3) Alcatel Lucent 800 MHz RRUs (3) Alcatel Lucent 800 MHz Filters (4) RFS ACU-A20-N RETs	(3) 1-1/4"	Sprint	173	(3) T-Frames
161	(1) RFS DB-T1-6Z-8AB-0Z Distribution Box	(12) 1-5/8" (1) 1-5/8" Fiber	Verizon	161	(1) Collar Mount
159	(3) Antel BXA-70063/6CF (3) Antel BXA-171085/8BF (3) Antel WBX065X19R050 (3) Antel BXA-70080-4CF (3) ALU RRH2x40-AWS RRHs (6) RFS FD9R6004/2C-3L Diplexers			159	(1) LP Platform
---	---	---	---	153	(3) Standoffs
143	(6) Kathrein 742 351	(12) 1-5/8" (1) 3/8"	Metro PCS	143	(3) T-Arms

1. Feed lines installed inside the pole's shaft unless otherwise noted.

Proposed Loading:

Antenna Elevation (ft)	Description	Feed Lines	Carrier	Mount Elevation (ft)	Mount Type
195	(3) Ericsson Air 21 B2A/B4P (3) Ericsson AIR 21 B4A/B2P (3) Ericsson KRY 112 144/1 TMAs	(12) 1-5/8" (1) 1-5/8" Fiber	T-Mobile	195	(3) T-Arms w/ Walkway

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 66 ksi 75 ksi 76 ksi
Tower Extension Section	36 ksi
Flange Plates	50 ksi
Flange Bolts	Fu = 120 ksi
Base Plate	50 ksi
Anchor Bolts	Fu = 140 ksi

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

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

See the **Appendix** for detailed modeling information

Table 3 - Summary of Working Percentage of Structural Components

Section No.	Elevation ft	Component Type	Size	% Capacity*	Pass Fail
L1	195 - 180	Pole	TP24x24x0.2813	30.5	Pass
	180	Flange Bolts	(18) 0.5" ø w/ BC = 27"	66.0	Pass
		Flange Plates	0.625" thk.	50.9	Pass
L2	180 - 140	Pole	TP33x24x0.25	89.6	Pass
L3	140 - 135	Pole	TP34.125x33x0.375	64.0	Pass
L4	135 - 130	Pole	TP35.25x34.125x0.75	35.2	Pass
L5	130 - 91	Pole	TP44.025x35.25x0.375	86.6	Pass
L6	91 - 85	Pole	TP45.375x44.025x0.75	45.3	Pass
L7	85 - 81	Pole	TP46.275x45.375x0.375	89.4	Pass
L8	81 - 48	Pole	TP53.7x46.275x0.375	84.1	Pass
L9	48 - 41	Pole	TP55.275x53.7x0.75	43.0	Pass
L10	41 - 18	Pole	TP60.45x55.275x0.375	91.8	Pass
L11	18 - 0	Pole	TP64.5x60.45x0.4375	77.1	Pass
		Anchor Bolts	(26) 2.0" ø w/ BC = 58" BC	96.3	Pass
		Base Plate	1.75" thk. w/ PL 1" x 5.5" x 26" stiffeners	47.9	Pass

*Capacities include 1/3 allowable increase for wind per *TIA/EIA-222-F* standards.

Table 4 - Maximum Base Reactions

Base Reactions	Current Analysis *(TIA/EIA-222-F)*	Original Design *(TIA/EIA-222-F)*
Axial	54 k*	36 k
Shear	39 k	46 k
Moment	5,103 k-ft	6,014 k-ft

*Given our experience with similar projects, the vertical load will not control the analysis of the foundation.

GENERAL COMMENTS

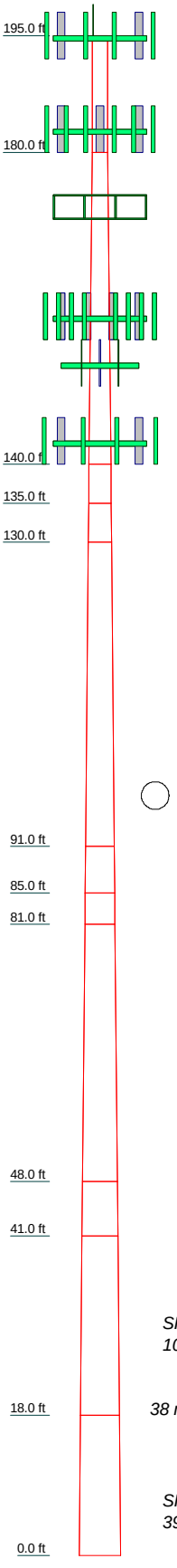
This engineering analysis is based upon the theoretical capacity of the structure. It is not a condition assessment of the tower and its foundation. It is the responsibility of SBA Network Services, Inc. to verify that the tower modeled and analyzed is the correct structure (with accurate antenna loading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

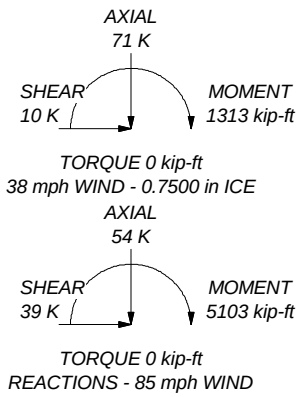
LIMITATIONS

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

APPENDIX

Section	Length (ft)	Number of Sides	Thickness (in)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	15.00	1	0.2813	24.0000	24.0000	A36	1.1
2	40.00	18	0.2500	24.0000	33.0000	A572-65	3.1
3	5.00	18	0.3750	33.0000	34.1250	A572-65	0.7
4	5.00	18	0.7500	34.1250	35.2500	A572-65	1.4
5	39.00	18	0.3750	35.2500	44.0250	Fy=66	6.2
6	6.00	18	0.7500	44.0250	45.3750	Fy=66	2.1
7	4.00	18	0.3750	45.3750	46.2750	Fy=66	0.7
8	33.00	18	0.3750	46.2750	53.7000	Fy=66	6.6
9	7.00	18	0.7500	53.7000	55.2750	Fy=66	3.0
10	23.00	18	0.3750	55.2750	60.4500	Fy=76	5.4
11	18.00	18	0.4375	60.4500	64.5000	Fy=75	5.3
							35.6





DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Lightning Rod	195	APXVSPP18-C-A20 w/Mount Pipe	173
(3) T-Arms w/ Grating	195	APXVSPP18-C-A20 w/Mount Pipe	173
AIR 21 B2A/B4P w/Mount Pipe	195	DB-T1-6Z-8AB-0Z	161
AIR 21 B2A/B4P w/Mount Pipe	195	(1) Collar Mount	161
AIR 21 B2A/B4P w/Mount Pipe	195	RRH2X40-AWS	159
AIR 21 B4A/B2P w/Mount Pipe	195	RRH2X40-AWS	159
AIR 21 B4A/B2P w/Mount Pipe	195	RRH2X40-AWS	159
AIR 21 B4A/B2P w/Mount Pipe	195	(2) FD9R6004/2C-3L Diplexer	159
KRY 112 144/1	195	(2) FD9R6004/2C-3L Diplexer	159
KRY 112 144/1	195	(2) FD9R6004/2C-3L Diplexer	159
KRY 112 144/1	195	LP Platform	159
(3) ALP 9212 w/Mount Pipe	183	BXA-70080/4CF w/ Mount Pipe	159
(3) ALP 9212 w/Mount Pipe	183	BXA-70080/4CF w/ Mount Pipe	159
(3) ALP 9212 w/Mount Pipe	183	BXA-70063/6CF W/Mount Pipe	159
Antenna Mount Pipe	183	BXA-70063/6CF W/Mount Pipe	159
Antenna Mount Pipe	183	BXA-70063/6CF W/Mount Pipe	159
Antenna Mount Pipe	183	BXA-171085-8BF w/ Mount Pipe	159
(3) T-Arms w/ Grating	183	BXA-171085-8BF w/ Mount Pipe	159
800 MHz External Notch Filter	173	BXA-171085-8BF w/ Mount Pipe	159
800 MHz External Notch Filter	173	WBX065X19R050 w/ Mount Pipe	159
800 MHz External Notch Filter	173	WBX065X19R050 w/ Mount Pipe	159
(2) ACU-A20-N RET	173	WBX065X19R050 w/ Mount Pipe	159
ACU-A20-N RET	173	BXA-70080/4CF w/ Mount Pipe	159
ACU-A20-N RET	173	Pipe Mount	153
APXVSPP18-C-A20 w/Mount Pipe	173	(3) Standoffs	153
1900 MHz RRH	173	Pipe Mount	153
1900 MHz RRH	173	Pipe Mount	153
1900 MHz RRH	173	(2) 742 351 w/ mount pipe	143
800 MHz RRH	173	(3) T-Arms	143
800 MHz RRH	173	(2) 742 351 w/ mount pipe	143
800 MHz RRH	173	(2) 742 351 w/ mount pipe	143
(3) T-Frames	173		

MATERIAL STRENGTH

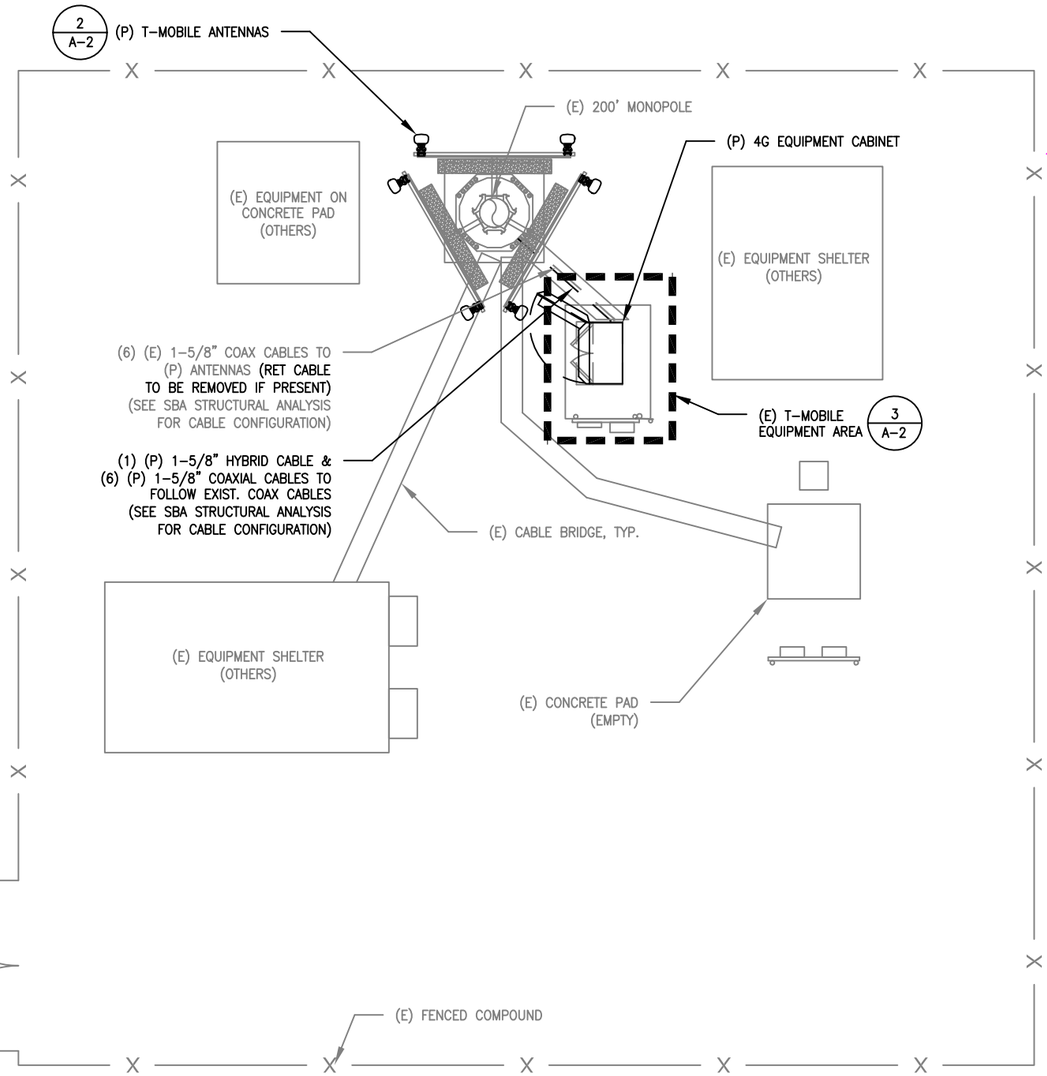
GRADE	Fy	Fu	GRADE	Fy	Fu
A36	36 ksi	58 ksi	Fy=76	76 ksi	91 ksi
A572-65	65 ksi	80 ksi	Fy=75	75 ksi	90 ksi
Fy=66	66 ksi	81 ksi			

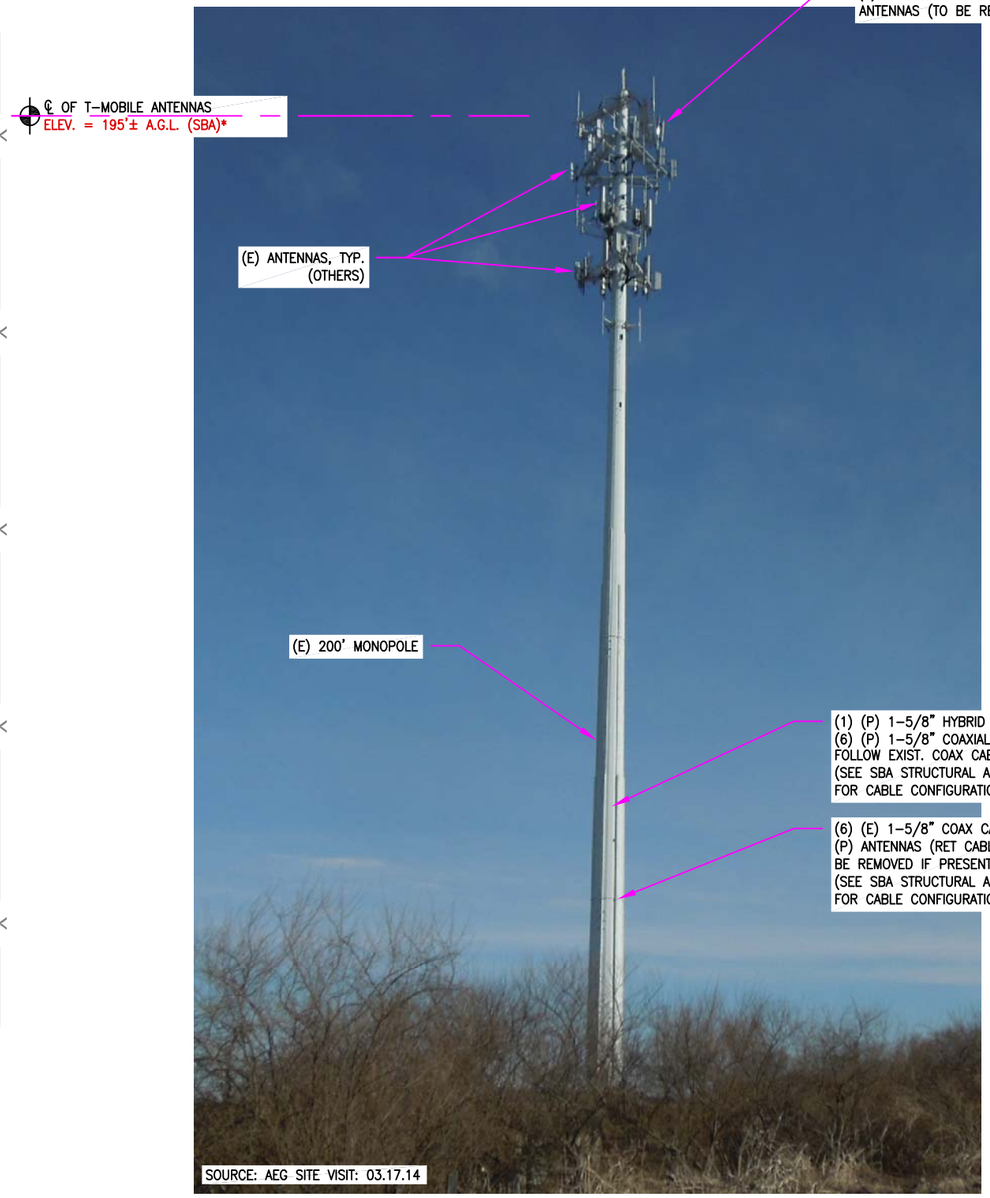
TOWER DESIGN NOTES

1. Tower is located in New London 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. The existing tower modifications are included for wind loading purposes only.
6. TOWER RATING: 91.8%

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

Job: LISBON, CT - CT00167-S-03			
Project: 1424NX1400			
Client: SBA Network Services, Inc.	Drawn by: KDiaz	App'd:	
Code: TIA/EIA-222-F	Date: 03/20/14	Scale: NTS	
Path:		Dwg No. E-1	





STATE OF CONNECTICUT
MARC R. CHRETIEN
No. 29307
LICENSED
PROFESSIONAL ENGINEER

1 A-1 **COMPOUND PLAN**
SCALE: 3/32"=1'-0"
0' 5'-4" 10'-8" 21'-4"

NOTE:
GROUND EQUIPMENT NOT SHOWN FOR CLARITY

2 A-1 **EXISTING ELEVATION**
SCALE: NTS

*NOTE:
ANTENNA ELEVATION BASED ON CLIENT-PROVIDED INFORMATION

ADVANCED ENGINEERING GROUP, P.C.
Civil Engineering - Site Development Surveying - Telecommunications
500 NORTH BROADWAY EAST PROVIDENCE, RI 02914
PH: (401) 354-2403 FAX: (401) 633-6354

SBA COMMUNICATIONS CORPORATION
33 BOSTON POST ROAD WEST, SUITE 320
MARLBOROUGH, MA 01752
PHONE: 508-251-0720

SITE NUMBER: CT11150D
SITE NAME: NORWICH/ I-395 X83
26 MELL ROAD
LISBON, CT 06351

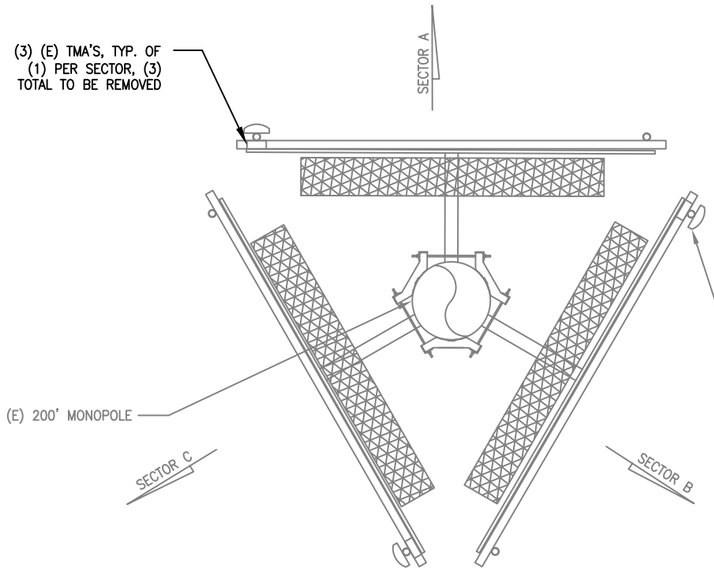
T-MOBILE NORTHEAST LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 648-1116

NO.	DATE	REVISIONS	BY	CHK	APP'D
0	03/20/14	CONSTRUCTION	SO	SB	MRC

SCALE: AS SHOWN | DESIGNED BY: MRC | DRAWN BY: SO

T-MOBILE
COMPOUND PLAN AND ELEVATION

JOB NUMBER	DRAWING NUMBER	REV
CT11150D	A-1	0



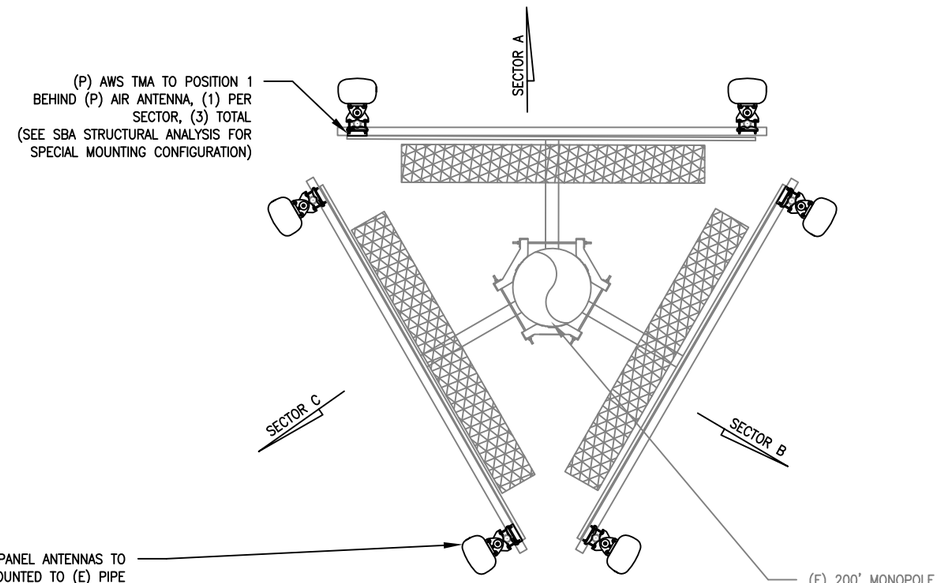
EXISTING ANTENNA SCHEDULE

SECTOR	MAKE	MODEL#	SIZE (INCHES)
SECTOR A:	EMS	RR90-17-02DP	8x2.8x56
SECTOR B:	EMS	RR90-17-02DP	8x2.8x56
SECTOR C:	EMS	RR90-17-02DP	8x2.8x56

PROPOSED ANTENNA SCHEDULE

SECTOR	MAKE	MODEL#	SIZE (INCHES)
SECTOR A:	ERICSSON	AIR21 B2A/B4P	12x8x56
	ERICSSON	AIR21 B4A/B2P	12x8x56
SECTOR B:	ERICSSON	AIR21 B2A/B4P	12x8x56
	ERICSSON	AIR21 B4A/B2P	12x8x56
SECTOR C:	ERICSSON	AIR21 B2A/B4P	12x8x56
	ERICSSON	AIR21 B4A/B2P	12x8x56

NOTE:
1. REFER TO FINAL RF DATA SHEET FOR FINAL ANTENNA SETTINGS.



1 A-2 EXISTING ANTENNA PLAN

SCALE: 1/4"=1'-0"

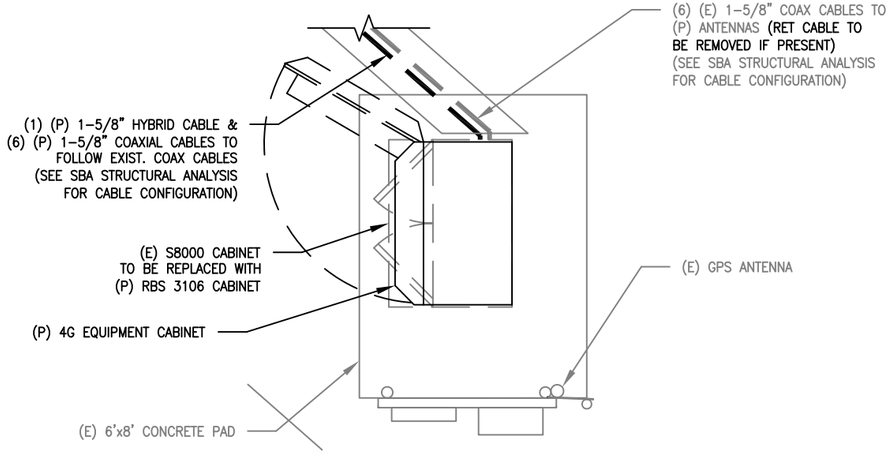
0' 2'-0" 4'-0"

2 A-2 PROPOSED ANTENNA PLAN

SCALE: 1/4"=1'-0"

0' 2'-0" 4'-0"

* SPECIAL INSTALLATION NOTE:
PROPOSED ANTENNAS SHALL BE VERTICALLY CENTERED ON EXISTING PLATFORM RAIL. ADJUST ANTENNA MOUNTING PIPE AS REQUIRED.



3 A-2 EQUIPMENT PLAN

SCALE: 1/4"=1'-0"

0' 2'-0" 4'-0"

4 A-3 EXISTING EQUIPMENT AREA.

N.T.S.

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0	03/20/14	CONSTRUCTION	SO	SB	MRC

SCALE: AS SHOWN DESIGNED BY: MRC DRAWN BY: SO

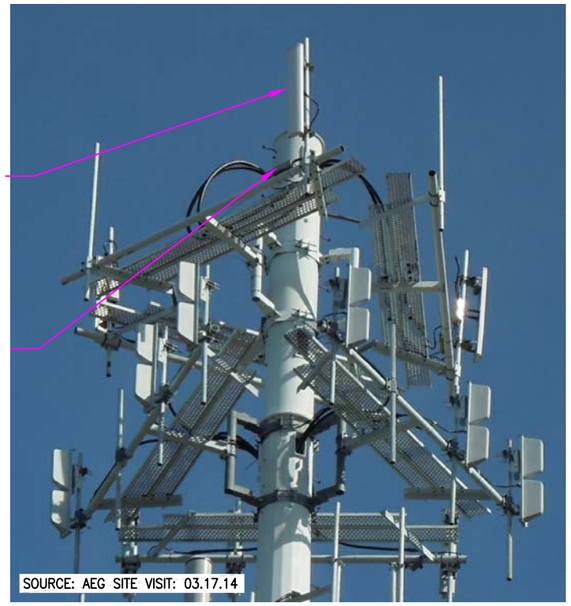
T-MOBILE

PLANS AND ANTENNA SCHEDULES

JOB NUMBER	DRAWING NUMBER	REV
CT11150D	A-2	0

(3) (E) ANTENNAS TYP. OF (1) PER SECTOR, (3) TOTAL TO BE REMOVED

(3) (E) TMA'S. TYP. OF (1) PER SECTOR, (3) TOTAL TO BE REMOVED



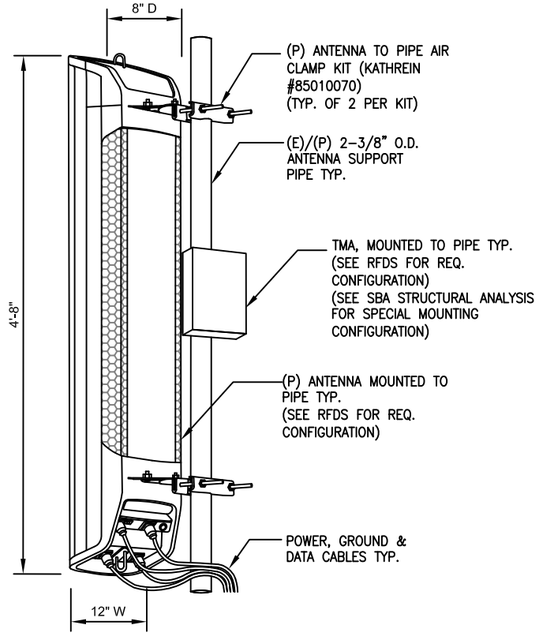
1/A-3 EXISTING ANTENNA MOUNT TYP.
N.T.S.

3/A-3 *(P) ANTENNA TYP. OF (2) PER SECTOR, (6) TOTAL (SEE SBA STRUCTURAL ANALYSIS FOR SPECIAL MOUNTING CONFIGURATION)

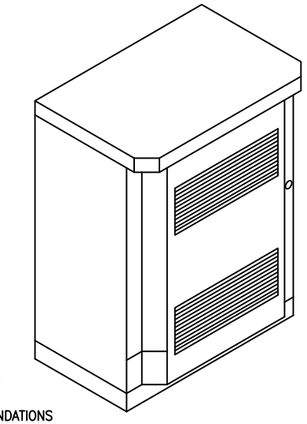
(P) AWS TMA TO POSITION 1 BEHIND (P) AIR ANTENNA, (1) PER SECTOR, (3) TOTAL (SEE SBA STRUCTURAL ANALYSIS FOR SPECIAL MOUNTING CONFIGURATION)

*** SPECIAL INSTALLATION NOTE:**
PROPOSED ANTENNAS SHALL BE VERTICALLY CENTERED ON EXISTING PLATFORM RAIL. ADJUST ANTENNA MOUNTING PIPE AS REQUIRED.

2/A-3 PROPOSED ANTENNA MOUNT TYP.
N.T.S.



3/A-3 ANTENNA MOUNT TYP.
SCALE: NTS



NOTE:
ANCHOR (P) EQUIPMENT TO (E) CONCRETE PAD PER MANUFACTURER'S RECOMMENDATIONS

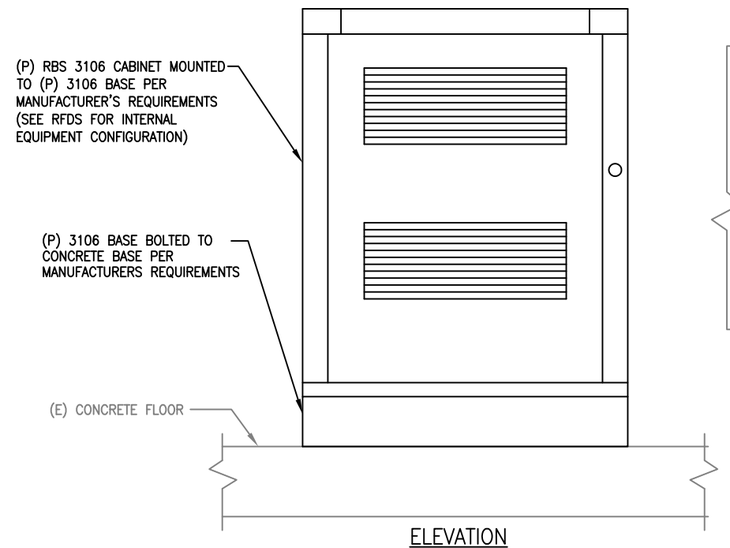
DIMENSIONS		
CABINET	DEPTH x WIDTH x HEIGHT	APPROX. MAX. WEIGHT
OUTDOOR RBS3106	36.45" x 51.18" x 64.17"	1874 LBS.

4/A-3 PROPOSED EQUIPMENT CABINET
SCALE: N.T.S.

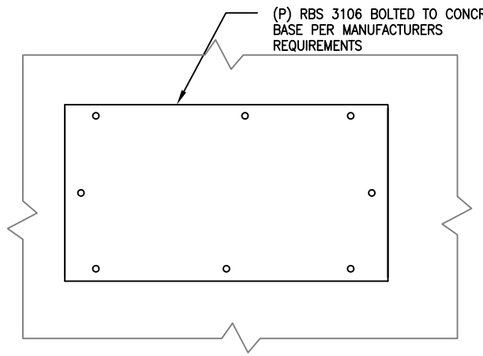
(P) RBS 3106 CABINET MOUNTED TO (P) 3106 BASE PER MANUFACTURER'S REQUIREMENTS (SEE RFDS FOR INTERNAL EQUIPMENT CONFIGURATION)

(P) 3106 BASE BOLTED TO CONCRETE BASE PER MANUFACTURERS REQUIREMENTS

(E) CONCRETE FLOOR



ELEVATION



PLAN

5/A-3 RBS 3106 MOUNTING DETAIL
SCALE: N.T.S

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T-MOBILE

DETAILS

JOB NUMBER	DRAWING NUMBER	REV
CT11150D	A-3	0