



10 INDUSTRIAL AVE,
SUITE 3
MAHWAH NJ 07430

PHONE: 201.684.0055
FAX: 201.684.0066

July 7, 2016

Melanie A. Bachman
Acting Executive Director
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Notice of Exempt Modification
668 Jones Hill Road, West Haven, CT 06516
Latitude- 41.25637800
Longitude- -72.97244600

Dear Ms. Bachman,

T-Mobile currently maintains (9) existing antennas at the 143' level of the existing 150' monopole located at 668 Jones Hill Road in West Haven, CT. The property and tower is owned by American Tower Corporation. T-Mobile now intends to remove all (9) existing antennas and replace with (6) new 1900 MHz antennas. These antennas would be installed at the same 143' level of the tower. T-Mobile also intends to install (1) new fiber cable.

This facility was approved by the Council in Docket No. 293. on May 11, 2005. This approval included conditions, none of which would be violated by this modification. This modification complies with the conditions of approval.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. 16-50j-72(b)(2). In accordance with R.C.S.A. 16-50j-73, a copy of this letter is being sent to Ed O'Brien, Mayor for the City of West Haven, as well as the property/tower owner.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-72(b)(2).

1. The proposed modification will not result in an increase in the height of the existing structure
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, T-Mobile respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitute an exempt modification under R.C.S.A. 16-50j-72(b)(2).

Sincerely,

Kyle Richers

Kyle Richers
Transcend Wireless
10 Industrial Ave., Suite 3
Mahwah, New Jersey 07430
908-447-4716
krichers@transcendwireless.com

cc: Ed O'Brien- as elected official
American Tower Corporation- as tower and property owner



Property Information

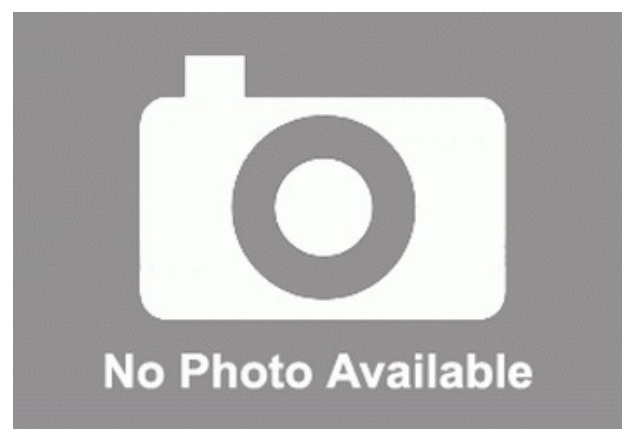
Owner	
Co-Owner	
Address	
Mailing Address	
Land Use	
Land Class	

Vision ID	
Census Tract	
Neighborhood	
Zoning Code	
Acreage	
Utilities	

Photo



Sketch



Primary Construction Details

Actual Year Built	
Effective Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Total Rooms	

Bedrooms	
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

Exterior Walls	
Interior Walls	
Heating Type	
Heating Fuel	
AC Type	
Gross Bldg Area	
Total Living Area	



Parcel ID

Account

Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings		
Outbuildings		
Improvements		
Extras		
Land		
Total		

Outbuilding and Extra Items

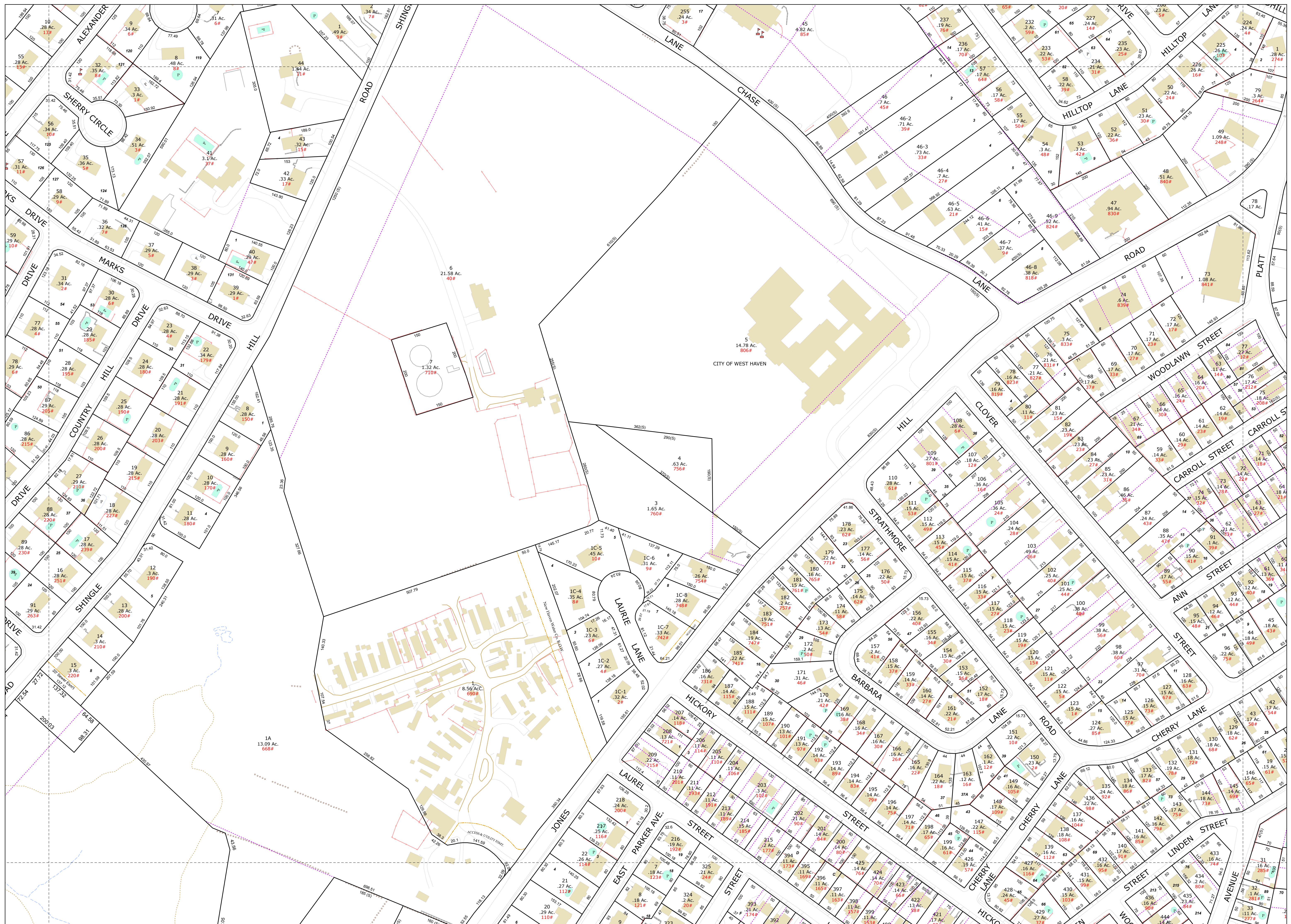
Description	Units

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area		

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
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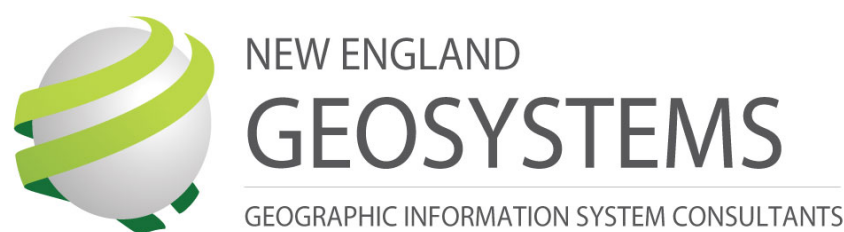
Map Number: 019

HORIZONTAL DATUM BASED ON THE CONNECTICUT STATE PLANE COORDINATE SYSTEM, NAD 83 (1986)

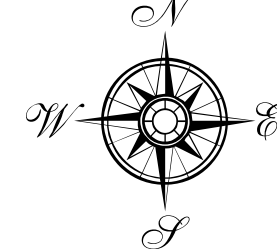
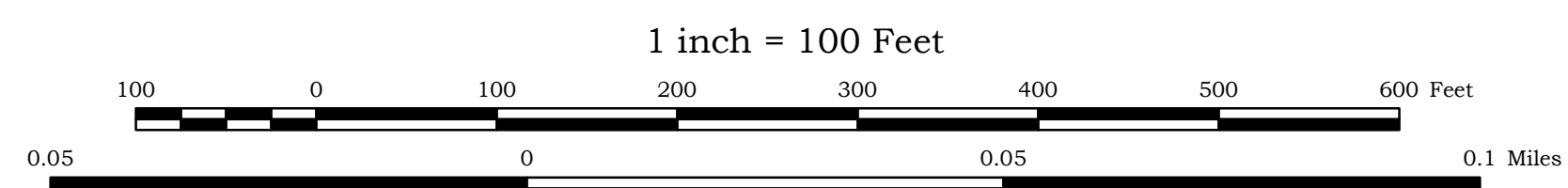
THIS MAP IS PREPARED FOR THE INVENTORY OF REAL PROPERTY FOUND WITHIN THE JURISDICTION AND IS COMPILED FROM RECORDED DEEDS, PLATS, AND OTHER PUBLIC RECORDS AND DATA. USERS OF THIS MAP ARE HEREBY NOTIFIED THAT THE AFORESAID INFORMATION IS PUBLIC PRIMARY INFORMATION CONTAINED ON THIS MAP. THE TOWNS AND THE MAPPING COMPANIES ASSUME NO LEGAL RESPONSIBILITIES FOR THE INFORMATION CONTAINED ON THIS MAP.



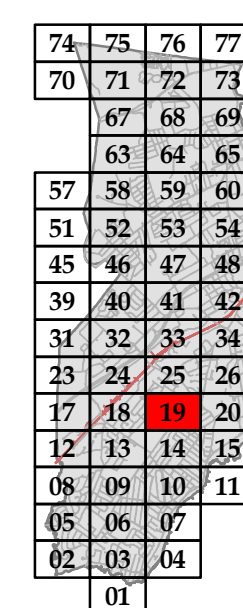
City of West Haven Connecticut Planimetric Data and Property Maps 2014



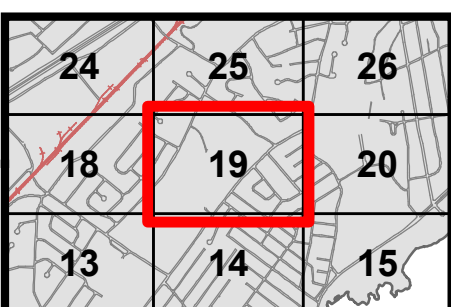
282 Main Street Extension - C2
Middletown, CT 06457 • (203) 404-7129 • www.ne-geo.com



- 15# Address
- 100' Record Dimension
- 2 Ac Acreage
- 77 Lot Number
- Property Line
- Historic Property Line
- Easement
- Wall / Fence
- Flag
- Pools
- Building
- Railroad
- Hydro
- Swamps
- Roads, Dirt Roads, Sidewalks and Structures



Map Number: 019



Map Produced in February 2015

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

T-Mobile Existing Facility

Site ID: CT11821E

**CT821/D&B Flower Farm
668 Jones Hill Road
West Haven, CT 06516**

June 23, 2016

EBI Project Number: 6216002956

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general public allowable limit:	10.65 %

June 23, 2016

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

Emissions Analysis for Site: **CT11821E – CT821/D&B Flower Farm**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **668 Jones Hill Road, West Haven, 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 97-01 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 700 MHz Band is approximately 467 $\mu\text{W}/\text{cm}^2$, and the general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands 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 T-Mobile Wireless antenna facility located at **668 Jones Hill Road, West Haven, 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, 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 equipment was calculated using the following assumptions:

- 1) 2 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 2 UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 3) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 5) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 6) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.

- 7) Since some of the radios are ground mounted there are additional cabling losses accounted for these radio paths. For each ground mounted RF path the following losses were calculated. 1.04 dB of additional cable loss for all ground mounted 700 MHz Channels, 1.91 dB of additional cable loss for all ground mounted 1900 MHz channels and 1.96 dB of additional cable loss for all ground mounted 2100 MHz channels. This is based on manufacturers Specifications for 185 feet of 1-5/8" coax cable on each path. The ground mounted radios are all feeding the Commscope SBNHH-1D65A antenna at each sector
- 8) 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.
- 9) For the following calculations the sample point was the top of a 6-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.
- 10) The antennas used in this modeling are the **Ericsson AIR32 B2A/B66Aa** & **Commscope SBNHH-1D65A** for 700 MHz, 1900 MHz (PCS) and 2100 MHz (AWS) channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **Ericsson AIR32 B2A/B66Aa** has a maximum gain of **15.9 dBd** at its main lobe at 1900 MHz and 2100 MHz. The **Commscope SBNHH-1D65A** has a maximum gain of **14.7 dBd** at its main lobe at 1900 MHz and 2100 MHz a maximum gain of **10.9 dBd** at its main lobe at 700 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.
- 11) The antenna mounting height centerline of the proposed antennas is **143 feet** above ground level (AGL).
- 12) 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.
- 13) All calculations were done with respect to uncontrolled / general public threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR32 B2A/B66Aa	Make / Model:	Ericsson AIR32 B2A/B66Aa	Make / Model:	Ericsson AIR32 B2A/B66Aa
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	143	Height (AGL):	143	Height (AGL):	143
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	240	Total TX Power(W):	240	Total TX Power(W):	240
ERP (W):	9,337.08	ERP (W):	9,337.08	ERP (W):	9,337.08
Antenna A1 MPE%	1.79	Antenna B1 MPE%	1.79	Antenna C1 MPE%	1.79
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope SBNHH-1D65A	Make / Model:	Commscope SBNHH-1D65A	Make / Model:	Commscope SBNHH-1D65A
Gain:	14.7 dBd / 10.9 dBd	Gain:	14.7 dBd / 10.9 dBd	Gain:	14.7 dBd / 10.9 dBd
Height (AGL):	143	Height (AGL):	143	Height (AGL):	143
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS) / 700 MHz	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS) / 700 MHz	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS) / 700 MHz
Channel Count	7	Channel Count	7	Channel Count	7
Total TX Power(W):	210	Total TX Power(W):	210	Total TX Power(W):	210
ERP (W):	3,699.37	ERP (W):	3,699.37	ERP (W):	3,699.37
Antenna A2 MPE%	0.77	Antenna B2 MPE%	0.77	Antenna C2 MPE%	0.77

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	2.56 %
Clearwire	0.05 %
Clearwire MW	0.07 %
MetroPCS	1.02 %
Computer Hospital	0.23 %
Verizon Wireless	2.42 %
AT&T	4.30 %
Site Total MPE %:	10.65 %

T-Mobile Sector A Total:	2.56 %
T-Mobile Sector B Total:	2.56 %
T-Mobile Sector C Total:	2.56 %
Site Total:	10.65 %

T-Mobile _per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 2100 MHz (AWS) LTE	2	2,334.27	143	8.94	AWS - 2100 MHz	1000	0.89 %
T-Mobile 1900 MHz (PCS) LTE	2	2,334.27	143	8.94	PCS - 1900 MHz	1000	0.89 %
T-Mobile 2100 MHz (AWS) UMTS	2	563.80	143	2.16	AWS - 2100 MHz	1000	0.22 %
T-Mobile 1900 MHz (PCS) UMTS	2	570.32	143	2.18	PCS - 1950 MHz	1000	0.22 %
T-Mobile 1900 MHz (PCS) GSM	2	570.32	143	2.18	PCS - 1950 MHz	1000	0.22 %
T-Mobile 700 MHz LTE	1	290.48	143	0.56	700 MHz	467	0.12 %
						Total:	2.56 %

Summary

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

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general public exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector A:	2.56 %
Sector B:	2.56 %
Sector C:	2.56 %
T-Mobile Per Sector Maximum:	2.56 %
Site Total:	10.65 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **10.65%** 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.



AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure : 149 ft Monopole
ATC Site Name : West Haven & Rt 162 CT, CT
ATC Site Number : 243036
Engineering Number : 66408524
Proposed Carrier : T-Mobile
Carrier Site Name : N/A
Carrier Site Number : CT11821E
Site Location : 668 Jones Hill Road
West Haven, CT 06516-6311
41.256403,-72.972361
County : New Haven
Date : June 9, 2016
Max Usage : 86%
Result : Pass - Pending Modifications

Prepared By:
Zachary Polaha
Structural Engineer I

Reviewed by:
William Garrett, PE
Chief Engineer



Jun 9 2016 1:10 PM

COA: PEC.0001553



Table of Contents

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Calculations	Attached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 149 ft monopole to reflect the change in loading by T-Mobile.

Supporting Documents

Tower Drawings	Sabre Drawing #06-08204-PE, dated August 19, 2005
Foundation Drawing	Sabre Drawing #06-10095-F1, dated October 12, 2005
Geotechnical Report	EBI Project #61051509, dated July 12, 2005
Modifications	ATC Project #543052310, dated June 10, 2014 [Pending] (Foundation Not Installed) ATC Project #543052315, dated September 15, 2015 [Pending]

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/EIA-222.

Basic Wind Speed:	90 mph (Fastest Mile)
Basic Wind Speed w/ Ice:	78 mph (Fastest Mile)w/ 1/2" radial ice concurrent
Code:	ANSI/TIA/EIA-222-F / 2003 IBC , Sec. 1609.1.1, Exception (5) & Sec. 3108.4 w/ 2005 CT Supplement & 2009 CT Amendment

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report once the pending modifications have been installed. Failure to install the modifications listed will void the results of this analysis.

If you have any questions or require additional information, please contact American Tower via email at Engineering@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
149.0	152.0	3	DragonWave Horizon Compact	Clearwire Mount	(6) 5/16" Coax (4) 1/2" Coax (1) 2" Conduit	Clearwire
		1	DragonWave A-ANT-23G-1-C			
		3	NextNet BTS-2500			
		2	DragonWave A-ANT-11G-2-C			
	3	Argus LLPX310R				
149.0	1	12" x 12" Junction Box				
143.0	143.0	3	Kathrein Smart Bias Tee	Low Profile Platform	(12) 1 5/8" Coax	T-Mobile
135.0	135.0	6	RFS FD9R6004/2C-3L	Low Profile Platform	(12) 1 5/8" Coax (1) 1 5/8" Fiber	Verizon
		3	Alcatel-Lucent RRH2x40-AWS			
		3	Antel BXA-171063-12BF-EDIN-X			
		3	Antel BXA-185085/12CF			
		1	RFS DB-T1-6Z-8AB-0Z			
		3	Andrew DB854DG65ESX			
3	Commscope LNX-6514DS-A1M					
125.0	125.0	6	TTA	Low Profile Platform	(12) 1 5/8" Coax	AT&T Mobility
		12	77" x 14" Panel			
114.0	114.0	3	RFS APXV18-206517S-C	Flush	(6) 1 5/8" Coax	Metro PCS
105.0	105.0	1	Proxim 5054-R-LR	Stand-Off	-	Computer Hospital
		1	Pacific Wireless HDDA5W-32-xx w/ Radome			

Equipment to be Removed

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
143.0	143.0	6	RFS APX16PV-16PVL-A	-	(6) 1 5/8" Coax	T-Mobile
		3	Andrew LNX-6515DS-VTM			
		3	Andrew ETW190VS12UB			
		3	Andrew ETW200VS12UB			

Proposed Equipment

Elevation ¹ (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
143.0	143.0	3	Ericsson KRY 112 14	Low Profile Platform	(1) 7/8" Fiber	T-Mobile
		3	Ericsson KRY 112 489/1			
		3	Ericsson RRUS 11 B12			
		3	Commscope SBNHH-1D65A			
		3	Ericsson AIR-32 B2A/B66Aa			

¹Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax inside the pole shaft.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	82%	Pass
Shaft	75%	Pass
Base Plate	54%	Pass
Reinforcement	86%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3,290.4	78%
Axial (Kips)	38.9	65%
Shear (Kips)	31.6	69%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.

Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
149.0	DragonWave A-ANT-23G-1-C	Clearwire	1.959	1.431
	DragonWave A-ANT-11G-2-C			
143.0	Ericsson KRY 112 14	T-Mobile	1.810	1.421
	Ericsson KRY 112 489/1			
	Ericsson RRUS 11 B12			
	Commscope SBNHH-1D65A			
105.0	Ericsson AIR-32 B2A/B66Aa	Computer Hospital In	0.979	1.061
	Pacific Wireless HDDA5W-32-xx w/ Radome			

*Deflection and Sway was evaluated considering a design wind speed of 50 mph (Fastest Mile) per ANSI/TIA/EIA-222-F.



Standard Conditions

All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

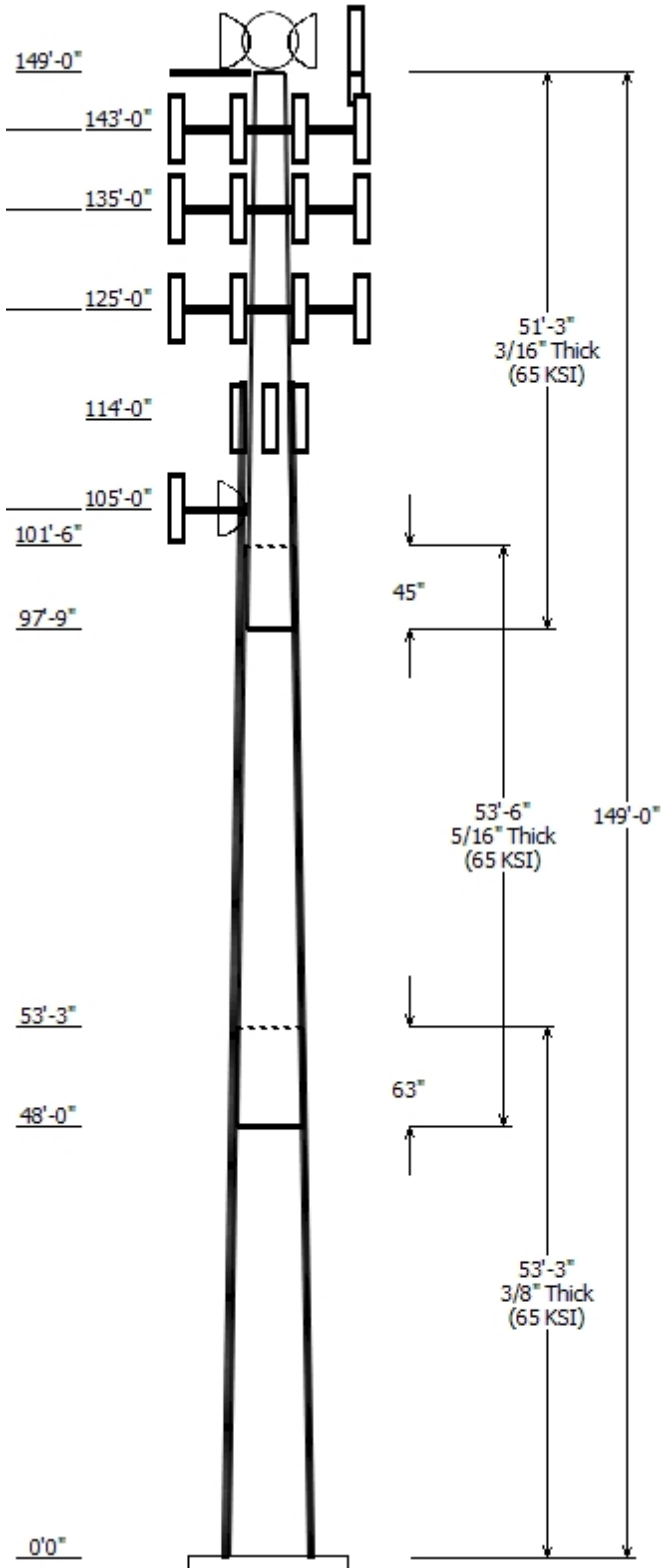
- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- Information from drawings in the possession of American Tower Corporation, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and American Tower Corporation, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. A.T. Engineering Service, PLLC is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.

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Job Information	
Pole :	243036
Code:	TIA/EIA-222-F
Description :	Tower Model Verified: 12/13/2012
Client :	T-MOBILE
Location :	West Haven & Rt 162 CT, CT
Shape :	18 Sides
Height :	149.00 (ft)
Base Elev (ft):	0.00
Taper:	0.23496(in/ft)

Sections Properties								
Shaft Section	Length (ft)	Diameter (in)			Joint Type	Overlap Length (in)	Taper (in/ft)	Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom	Thick (in)				
1	53.250	39.49	52.01	0.375	0.000	0.235000	65	
2	53.500	28.78	41.35	0.313	Slip Joint	63.000	65	
3	51.250	18.00	30.04	0.188	Slip Joint	45.000	65	

Discrete Appurtenance				
Attach Elev (ft)	Force Elev (ft)	Qty	Description	
149.000	149.000	1	12" x 12" Junction Box	
149.000	152.000	1	DragonWave A-ANT-23G-1-C	
149.000	152.000	3	DragonWave Horizon Compact	
149.000	152.000	3	Argus LLPX310R	
149.000	152.000	3	NextNet BTS-2500	
149.000	152.000	2	DragonWave A-ANT-11G-2-C	
149.000	149.000	1	Clearwire Mount	
143.000	143.000	3	Ericsson RRUS 11 B12	
143.000	143.000	3	Ericsson AIR-32 B2A/B66Aa	
143.000	143.000	3	Commscope SBNH-1D65A	
143.000	143.000	3	Ericsson KRY 112 489/1	
143.000	143.000	3	Ericsson KRY 112 14	
143.000	143.000	3	Kathrein Smart Bias Tee	
143.000	143.000	1	Flat Low Profile Platform	
135.000	135.000	1	Round Low Profile Platform	
135.000	135.000	3	Commscope LNX-6514DS-A1M	
135.000	135.000	3	Andrew DB854DG65ESX	
135.000	135.000	1	RFS DB-T1-6Z-8AB-0Z	
135.000	135.000	3	Antel BXA-185085/12CF	
135.000	135.000	3	Amphenol Antel BXA-171063-	
135.000	135.000	3	Alcatel-Lucent RRH2x40-AWS	
135.000	135.000	6	RFS FD9R6004/2C-3L	
125.000	125.000	12	77" x 14" Panel	
125.000	125.000	1	Flat Low Profile Platform	
125.000	125.000	6	TTA	
114.000	114.000	3	RFS APXV18-206517S-C	
105.000	105.000	1	Proxim 5054-R-LR	
105.000	105.000	1	Pacific Wireless HDDA5W-32-	
105.000	105.000	1	Stand-Off	

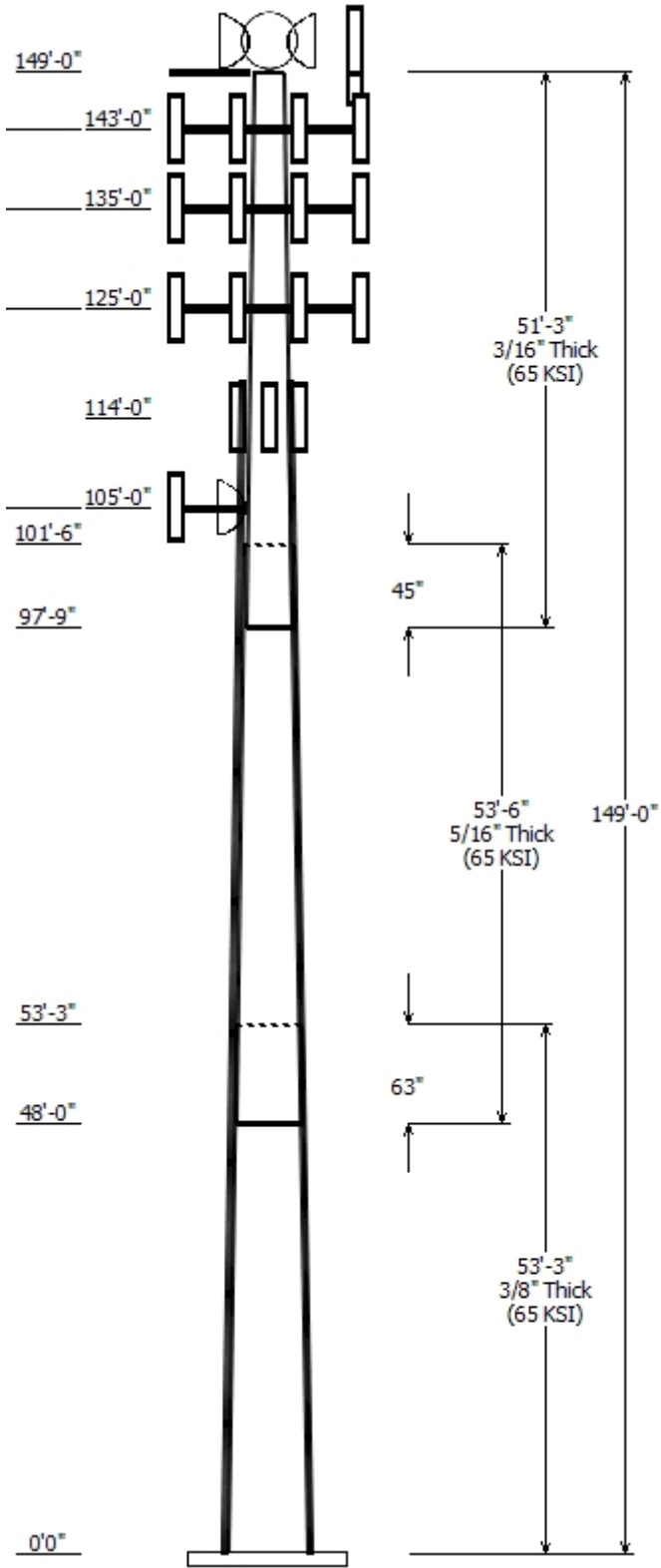
Linear Appurtenance			
Elev (ft)	From To		Exposed To Wind
	From	To	
4.000	125.0	1 5/8" Coax	No
4.000	135.0	1 5/8" Coax	No
4.000	135.0	1 5/8" Fiber	No
4.000	143.0	1 5/8" Coax	No
4.000	143.0	7/8" Fiber	No
4.000	149.0	1/2" Coax	No
4.000	149.0	2" Conduit	No
4.000	149.0	5/16" Coax	No

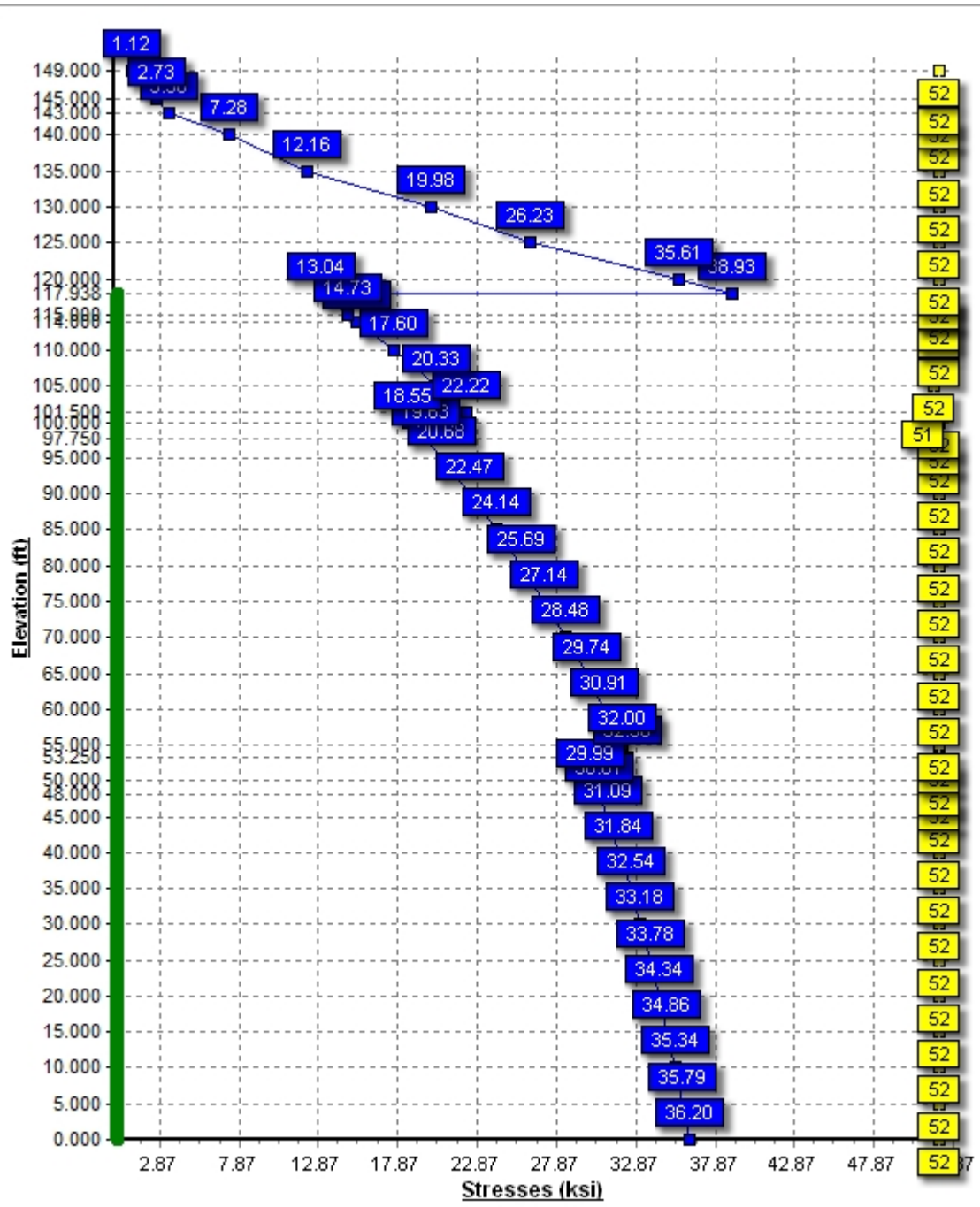
4.000	114.0	1 5/8" Coax	No
0.000	122.5	Dywidag	Yes

Load Cases	
No Ice	90.00 mph Wind with No Ice
Ice	77.94 mph Wind with Ice
Twist/Sway	50.00 mph Wind with No Ice

Reactions			
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
No Ice	3290.45	31.60	38.85
Ice	2540.74	24.75	43.36
Twist/Sway	1016.36	9.75	38.89

Dish Deflections			
Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
Twist/Sway	105.00	11.752	1.061
Twist/Sway	149.00	23.512	1.431
Twist/Sway	149.00	23.512	1.431





Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

6/9/2016 9:12:33 AM

Customer: T-MOBILE

Analysis Parameters

Location:	New Haven County, CT	Height (ft):	149
Code:	TIA/EIA-222-F	Base Diameter (in):	52.01
Shape:	18 Sides	Top Diameter (in):	18.00
Pole Type:	Taper	Taper (in/ft) :	0.235
Pole Manufacturer:	Sabre		

Load Cases

No Ice	90.00 mph Wind with No Ice
Ice	77.94 mph Wind with Ice
Twist/Sway	50.00 mph Wind with No Ice

Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

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Customer: T-MOBILE

Shaft Section Properties

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint Len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-18	53.250	0.3750	65		0.00	9,787	52.01	0.00	61.46	20701.4	23.04	138.69	39.49	53.25	46.56	9004.7	17.16	105.33	0.234964
2-18	53.500	0.3125	65	Slip	63.00	6,276	41.35	48.00	40.71	8664.4	21.92	132.34	28.78	101.50	28.24	2892.7	14.83	92.11	0.234964
3-18	51.250	0.1875	65	Slip	45.00	2,473	30.04	97.75	17.77	2000.7	26.84	160.22	18.00	149.00	10.60	424.9	15.52	96.00	0.234964
Shaft Weight						18,536													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	No Ice			Ice			Distance From Face (ft)	Vert Ecc (ft)
			Weight (lb)	EPAA (sf)	Orientation Factor	Weight (lb)	EPAA (sf)	Orientation Factor		
149.00	12" x 12" Junction Box	1	10.00	1.400	0.50	21.90	1.640	0.50	0.000	0.000
149.00	Argus LLPX310R	3	28.60	4.830	0.62	54.50	5.360	0.62	0.000	3.000
149.00	Clearwire Mount	1	500.00	8.500	0.90	50.00	10.500	0.90	0.000	0.000
149.00	DragonWave A-ANT-11G-2-C	2	27.00	4.690	0.90	55.10	5.050	0.90	0.000	3.000
149.00	DragonWave A-ANT-23G-1-C	1	15.00	1.610	0.90	25.10	1.830	0.90	0.000	3.000
149.00	DragonWave Horizon	3	10.60	0.430	0.50	17.00	0.580	0.50	0.000	3.000
149.00	NextNet BTS-2500	3	35.00	2.120	0.50	48.30	2.430	0.50	0.000	3.000
143.00	Commscope SBNHH-1D65A	3	33.50	6.360	0.80	0.00	0.000	0.80	0.000	0.000
143.00	Ericsson AIR-32 B2A/B66Aa	3	132.20	7.100	0.84	0.00	0.000	0.84	0.000	0.000
143.00	Ericsson KRY 112 14	3	12.10	0.580	0.50	17.10	0.750	0.50	0.000	0.000
143.00	Ericsson KRY 112 489/1	3	15.40	0.650	0.50	20.40	0.830	0.50	0.000	0.000
143.00	Ericsson RRUS 11 B12	3	50.70	3.250	0.67	0.00	0.000	0.67	0.000	0.000
143.00	Flat Low Profile Platform	1	1500.00	26.100	1.00	1,700.00	31.600	1.00	0.000	0.000
143.00	Kathrein Smart Bias Tee	3	3.31	0.090	0.50	4.30	0.160	0.50	0.000	0.000
135.00	Alcatel-Lucent RRH2x40-AWS	3	44.00	2.520	0.50	61.40	2.870	0.50	0.000	0.000
135.00	Amphenol Antel BXA-171063-	3	15.00	4.730	0.72	42.40	5.450	0.72	0.000	0.000
135.00	Andrew DB854DG65ESX	3	18.50	5.830	0.63	52.21	6.497	0.63	0.000	0.000
135.00	Antel BXA-185085/12CF	3	13.00	4.790	0.72	40.46	5.470	0.72	0.000	0.000
135.00	Commscope LNX-6514DS-	3	38.80	8.410	0.69	89.30	9.240	0.69	0.000	0.000
135.00	RFS DB-T1-6Z-8AB-0Z	1	44.00	5.600	0.67	144.50	6.080	0.67	0.000	0.000
135.00	RFS FD9R6004/2C-3L	6	2.60	0.370	0.50	5.40	0.500	0.50	0.000	0.000
135.00	Round Low Profile Platform	1	1500.00	21.700	0.90	1,700.00	27.200	0.90	0.000	0.000
125.00	77" x 14" Panel	12	35.00	10.480	0.66	93.70	11.380	0.66	0.000	0.000
125.00	Flat Low Profile Platform	1	1500.00	26.100	0.90	1,700.00	31.600	0.90	0.000	0.000
125.00	TTA	6	10.00	1.400	0.33	20.34	1.640	0.33	0.000	0.000
114.00	RFS APXV18-206517S-C	3	26.40	5.160	0.68	53.13	5.850	0.68	0.000	0.000
105.00	Pacific Wireless HDDA5W-32-	1	27.00	6.270	1.00	57.70	12.760	1.00	0.000	0.000
105.00	Proxim 5054-R-LR	1	6.00	1.540	0.50	10.00	2.000	0.50	0.000	0.000
105.00	Stand-Off	1	50.00	1.000	1.00	100.00	3.000	1.00	0.000	0.000
Totals		81	7132.93			8,399.74			Number of Loadings :	29

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Qty	Description	No Ice		Ice		Exposed To Wind
				Weight (lb/ft)	CaAa (sf/ft)	Weight (lb/ft)	CaAa (sf/ft)	
4.00	149.00	4	1/2" Coax	0.60	0.00	0.00	0.00	N
4.00	149.00	1	2" Conduit	3.65	0.00	0.00	0.00	N
4.00	149.00	6	5/16" Coax	0.24	0.00	0.00	0.00	N
4.00	143.00	12	1 5/8" Coax	9.84	0.00	0.00	0.00	N
4.00	143.00	1	7/8" Fiber	0.70	0.00	0.00	0.00	N
4.00	135.00	12	1 5/8" Coax	9.84	0.00	0.00	0.00	N
4.00	135.00	1	1 5/8" Fiber	1.61	0.00	0.00	0.00	N
4.00	125.00	12	1 5/8" Coax	9.84	0.00	0.00	0.00	N
0.00	122.50	4	Dywidag	0.00	0.80	0.00	0.96	Y
4.00	114.00	6	1 5/8" Coax	4.92	0.00	0.00	0.00	N

Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

6/9/2016 9:12:33 AM

Customer: T-MOBILE

Total Weight 5,347.90 (lb) 0.00 (lb)

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	— Intermediate Connections —			Connectors	Continuation?
						Description	Spacing (in)	Len (in)		
0.00	117.9	4	SOL #20 All Thread	80	2.19	6" Angle Bracket	30.0	3.31	5/8" A36 U-Bolt	No

Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

6/9/2016 9:12:33 AM

Customer: T-MOBILE

Segment Properties (Max Len : 5.ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Fy (ksi)	Fb (ksi)	Fa (ksi)	Weight (lb)	Additional Reinforcing		
												Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00		0.3750	52.010	61.456	20,701.4	23.04	138.69	65	52	0	0.0	19.64	8,520	0.0
5.00		0.3750	50.835	60.058	19,320.3	22.49	135.56	65	52	0	1,033.7	19.64	8,184	334.0
10.00		0.3750	49.660	58.659	18,002.0	21.94	132.43	65	52	0	1,009.9	19.64	7,854	334.0
15.00		0.3750	48.485	57.261	16,745.1	21.39	129.29	65	52	0	986.1	19.64	7,531	334.0
20.00		0.3750	47.310	55.863	15,548.1	20.83	126.16	65	52	0	962.3	19.64	7,216	334.0
25.00		0.3750	46.136	54.465	14,409.6	20.28	123.03	65	52	0	938.5	19.64	6,906	334.0
30.00		0.3750	44.961	53.066	13,328.0	19.73	119.90	65	52	0	914.8	19.64	6,604	334.0
35.00		0.3750	43.786	51.668	12,301.9	19.18	116.76	65	52	0	891.0	19.64	6,308	334.0
40.00		0.3750	42.611	50.270	11,329.9	18.63	113.63	65	52	0	867.2	19.64	6,019	334.0
45.00		0.3750	41.436	48.871	10,410.6	18.07	110.50	65	52	0	843.4	19.64	5,737	334.0
48.00	Bot - Section 2	0.3750	40.731	48.032	9,883.6	17.74	108.62	65	52	0	494.6	19.64	5,571	200.4
50.00		0.3750	40.261	47.473	9,542.3	17.52	107.36	65	52	0	600.4	19.64	5,608	133.6
53.25	Top - Section 1	0.3125	40.123	39.485	7,906.5	21.23	128.39	65	52	0	960.8	19.64	5,430	217.1
55.00		0.3125	39.712	39.078	7,664.0	21.00	127.08	65	52	0	233.9	19.64	5,336	116.9
60.00		0.3125	38.537	37.912	6,998.6	20.33	123.32	65	52	0	654.9	19.64	5,070	334.0
65.00		0.3125	37.362	36.747	6,373.0	19.67	119.56	65	52	0	635.1	19.64	4,812	334.0
70.00		0.3125	36.187	35.582	5,785.7	19.01	115.80	65	52	0	615.3	19.64	4,560	334.0
75.00		0.3125	35.012	34.417	5,235.7	18.34	112.04	65	52	0	595.5	19.64	4,315	334.0
80.00		0.3125	33.838	33.251	4,721.7	17.68	108.28	65	52	0	575.6	19.64	4,077	334.0
85.00		0.3125	32.663	32.086	4,242.5	17.02	104.52	65	52	0	555.8	19.64	3,845	334.0
90.00		0.3125	31.488	30.921	3,796.9	16.36	100.76	65	52	0	536.0	19.64	3,620	334.0
95.00		0.3125	30.313	29.756	3,383.6	15.69	97.00	65	52	0	516.2	19.64	3,403	334.0
97.75	Bot - Section 3	0.3125	29.667	29.115	3,169.7	15.33	94.93	65	52	0	275.4	19.64	3,286	183.7
100.0		0.3125	29.138	28.591	3,001.5	15.03	93.24	65	52	0	355.7	19.64	3,258	150.3
101.5	Top - Section 2	0.1875	29.161	17.242	1,828.7	26.01	155.52	65	51	0	233.6	19.64	3,195	100.2
105.0		0.1875	28.338	16.753	1,677.4	25.24	151.14	65	52	0	202.4	19.64	3,052	233.8
110.0		0.1875	27.164	16.054	1,476.0	24.13	144.87	65	52	0	279.1	19.64	2,852	334.0
114.0		0.1875	26.224	15.494	1,327.0	23.25	139.86	65	52	0	214.7	19.64	2,697	267.2
115.0		0.1875	25.989	15.354	1,291.4	23.03	138.61	65	52	0	52.5	19.64	2,659	66.8
117.9	Reinf. Top	0.1875	25.299	14.944	1,190.5	22.38	134.93	65	52	0	151.4	19.64	2,549	196.2
120.0		0.1875	24.814	14.655	1,122.9	21.92	132.34	65	52	0	103.9			
125.0		0.1875	23.639	13.956	969.8	20.82	126.08	65	52	0	243.4			
130.0		0.1875	22.464	13.257	831.2	19.72	119.81	65	52	0	231.5			
135.0		0.1875	21.290	12.558	706.5	18.61	113.54	65	52	0	219.6			
140.0		0.1875	20.115	11.859	595.0	17.51	107.28	65	52	0	207.7			
143.0		0.1875	19.410	11.439	534.0	16.84	103.52	65	52	0	118.9			
145.0		0.1875	18.940	11.160	495.8	16.40	101.01	65	52	0	76.9			
149.0		0.1875	18.000	10.600	424.9	15.52	96.00	65	52	0	148.1			
											18,536.1	7,878.2		

Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

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Customer: T-MOBILE

Load Case: No Ice	90.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		244.0	0.0					0.0	0.0	244.0	0.0	0.0	0.0
5.00		482.5	1,033.7					140.2	375.2	622.7	1,408.9	0.0	0.0
10.00		471.3	1,009.9					140.2	540.2	611.5	1,550.1	0.0	0.0
15.00		460.2	986.1					140.2	540.2	600.4	1,526.3	0.0	0.0
20.00		449.0	962.3					140.2	540.2	589.2	1,502.5	0.0	0.0
25.00		437.9	938.5					140.2	540.2	578.1	1,478.7	0.0	0.0
30.00		426.7	914.8					140.2	540.2	566.9	1,455.0	0.0	0.0
35.00		423.2	891.0					140.2	540.2	563.4	1,431.2	0.0	0.0
40.00		427.0	867.2					145.4	540.2	572.4	1,407.4	0.0	0.0
45.00		343.4	843.4					150.7	540.2	494.1	1,383.6	0.0	0.0
48.00	Bot - Section 2	216.4	494.6					92.8	324.1	309.2	818.7	0.0	0.0
50.00		229.4	600.4					62.8	216.1	292.1	816.5	0.0	0.0
53.25	Top - Section 1	218.3	960.8					103.5	351.1	321.9	1,312.0	0.0	0.0
55.00		294.0	233.9					56.5	189.1	350.5	423.0	0.0	0.0
60.00		433.7	654.9					164.3	540.2	598.0	1,195.1	0.0	0.0
65.00		430.2	635.1					168.2	540.2	598.5	1,175.3	0.0	0.0
70.00		425.6	615.3					172.0	540.2	597.6	1,155.5	0.0	0.0
75.00		420.0	595.5					175.5	540.2	595.6	1,135.7	0.0	0.0
80.00		413.5	575.6					178.9	540.2	592.4	1,115.8	0.0	0.0
85.00		406.1	555.8					182.1	540.2	588.3	1,096.0	0.0	0.0
90.00		398.0	536.0					185.2	540.2	583.2	1,076.2	0.0	0.0
95.00		303.2	516.2					188.2	540.2	491.3	1,056.4	0.0	0.0
97.75	Bot - Section 3	193.3	275.4					104.7	297.1	298.0	572.6	0.0	0.0
100.00		144.5	355.7					86.3	243.1	230.8	598.8	0.0	0.0
101.50	Top - Section 2	189.8	233.6					57.8	162.1	247.6	395.6	0.0	0.0
105.00	Appertunance(s)	316.8	202.4	392.2	0.0	0.0	83.0	135.9	378.1	845.0	663.6	0.0	0.0
110.00		328.2	279.1					196.4	540.2	524.7	819.3	0.0	0.0
114.00	Appertunance(s)	179.0	214.7	525.7	0.0	0.0	79.2	159.0	432.2	863.7	726.1	0.0	0.0
115.00		137.9	52.5					40.0	103.1	177.9	155.6	0.0	0.0
117.94	Reinf. Top	173.3	151.4					118.1	302.9	291.3	454.3	0.0	0.0
120.00		238.0	103.9					83.4	74.9	321.4	178.8	0.0	0.0
125.00	Appertunance(s)	328.2	243.4	5,602.0	0.0	0.0	1,980.0	102.0	181.6	6,032.1	2,405.0	0.0	0.0
130.00		315.4	231.5					0.0	132.4	315.4	363.9	0.0	0.0
135.00	Appertunance(s)	302.1	219.6	4,044.1	0.0	0.0	1,947.5	0.0	132.4	4,346.3	2,299.5	0.0	0.0
140.00		233.0	207.7					0.0	75.2	233.0	282.9	0.0	0.0
143.00	Appertunance(s)	140.7	118.9	3,610.7	0.0	0.0	2,241.6	0.0	45.1	3,751.4	2,405.6	0.0	0.0
145.00		162.9	76.9					0.0	9.0	162.9	85.9	0.0	0.0
149.00	Appertunance(s)	107.5	148.1	1,680.9	0.0	3,692.1	801.6	0.0	18.0	1,788.3	967.6	0.0	0.0
Totals:										31,790.7	38,895.1	0.00	0.00

Site Number: 243036

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

6/9/2016 9:12:35 AM

Customer: T-MOBILE

Load Case: No Ice	90.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-31.600	-38.851	0.000	0.000	0.000	-3,290.446	0.000	0.000	0.000	0.000
5.00	-31.078	-37.357	0.000	0.000	0.000	-3,132.447	-0.085	0.000	0.085	-0.156
10.00	-30.560	-35.725	0.000	0.000	0.000	-2,977.058	-0.334	0.000	0.334	-0.314
15.00	-30.044	-34.119	0.000	0.000	0.000	-2,824.263	-0.750	0.000	0.750	-0.474
20.00	-29.532	-32.539	0.000	0.000	0.000	-2,674.044	-1.333	0.000	1.333	-0.635
25.00	-29.024	-30.985	0.000	0.000	0.000	-2,526.384	-2.086	0.000	2.086	-0.797
30.00	-28.520	-29.457	0.000	0.000	0.000	-2,381.265	-3.010	0.000	3.010	-0.961
35.00	-28.011	-27.956	0.000	0.000	0.000	-2,238.669	-4.106	0.000	4.106	-1.126
40.00	-27.486	-26.482	0.000	0.000	0.000	-2,098.616	-5.375	0.000	5.375	-1.292
45.00	-27.017	-25.047	0.000	0.000	0.000	-1,961.188	-6.818	0.000	6.818	-1.458
48.00	-26.722	-24.198	0.000	0.000	0.000	-1,880.138	-7.768	0.000	7.768	-1.560
50.00	-26.444	-23.349	0.000	0.000	0.000	-1,826.694	-8.436	0.000	8.436	-1.628
53.25	-26.116	-22.009	0.000	0.000	0.000	-1,740.753	-9.583	0.000	9.583	-1.737
55.00	-25.798	-21.542	0.000	0.000	0.000	-1,695.051	-10.231	0.000	10.231	-1.796
60.00	-25.224	-20.289	0.000	0.000	0.000	-1,566.065	-12.209	0.000	12.209	-1.975
65.00	-24.642	-19.061	0.000	0.000	0.000	-1,439.948	-14.373	0.000	14.373	-2.152
70.00	-24.054	-17.857	0.000	0.000	0.000	-1,316.740	-16.722	0.000	16.722	-2.327
75.00	-23.461	-16.677	0.000	0.000	0.000	-1,196.472	-19.253	0.000	19.253	-2.500
80.00	-22.864	-15.522	0.000	0.000	0.000	-1,079.169	-21.962	0.000	21.962	-2.669
85.00	-22.265	-14.393	0.000	0.000	0.000	-964.849	-24.848	0.000	24.848	-2.834
90.00	-21.664	-13.288	0.000	0.000	0.000	-853.525	-27.903	0.000	27.903	-2.994
95.00	-21.142	-12.217	0.000	0.000	0.000	-745.205	-31.122	0.000	31.122	-3.148
97.75	-20.827	-11.635	0.000	0.000	0.000	-687.066	-32.960	0.000	32.960	-3.230
100.0	-20.573	-11.031	0.000	0.000	0.000	-640.204	-34.498	0.000	34.498	-3.296
101.5	-20.316	-10.626	0.000	0.000	0.000	-609.344	-35.540	0.000	35.540	-3.339
105.0	-19.455	-9.971	0.000	0.000	0.000	-538.238	-38.023	0.000	38.023	-3.432
110.0	-18.901	-9.144	0.000	0.000	0.000	-440.964	-41.700	0.000	41.700	-3.580
114.0	-18.003	-8.454	0.000	0.000	0.000	-365.359	-44.747	0.000	44.747	-3.686
115.0	-17.822	-8.296	0.000	0.000	0.000	-347.356	-45.522	0.000	45.522	-3.711
117.9	-17.509	-7.844	0.000	0.000	0.000	-295.004	-47.827	0.000	47.827	-3.779
120.0	-17.199	-7.637	0.000	0.000	0.000	-258.891	-49.470	0.000	49.470	-3.822
125.0	-11.039	-5.610	0.000	0.000	0.000	-172.896	-53.627	0.000	53.627	-4.096
130.0	-10.714	-5.235	0.000	0.000	0.000	-117.703	-58.034	0.000	58.034	-4.309
135.0	-6.212	-3.263	0.000	0.000	0.000	-64.132	-62.635	0.000	62.635	-4.465
140.0	-5.961	-2.992	0.000	0.000	0.000	-33.074	-67.364	0.000	67.364	-4.562
143.0	-2.029	-0.893	0.000	0.000	0.000	-15.192	-70.241	0.000	70.241	-4.597
145.0	-1.860	-0.820	0.000	0.000	0.000	-11.134	-72.168	0.000	72.168	-4.611
149.0	-1.788	0.000	0.000	0.000	0.000	-3.692	-76.035	0.000	76.035	-4.628

Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

6/9/2016 9:12:35 AM

Customer: T-MOBILE

Load Case: No Ice	90.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Calculated Stresses

Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Allowable Stress (Fa) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)			
0.00	0.48	1.04	0.00	0.00	0.00	35.68	36.20	52.0	0.0	0.696
5.00	0.47	1.04	0.00	0.00	0.00	35.27	35.79	52.0	0.0	0.688
10.00	0.46	1.05	0.00	0.00	0.00	34.84	35.34	52.0	0.0	0.680
15.00	0.44	1.06	0.00	0.00	0.00	34.37	34.86	52.0	0.0	0.671
20.00	0.43	1.07	0.00	0.00	0.00	33.86	34.34	52.0	0.0	0.661
25.00	0.42	1.07	0.00	0.00	0.00	33.31	33.78	52.0	0.0	0.650
30.00	0.41	1.08	0.00	0.00	0.00	32.73	33.18	52.0	0.0	0.638
35.00	0.39	1.09	0.00	0.00	0.00	32.09	32.54	52.0	0.0	0.626
40.00	0.38	1.10	0.00	0.00	0.00	31.40	31.84	52.0	0.0	0.613
45.00	0.37	1.11	0.00	0.00	0.00	30.66	31.09	52.0	0.0	0.598
48.00	0.36	1.12	0.00	0.00	0.00	30.19	30.61	52.0	0.0	0.589
50.00	0.35	1.12	0.00	0.00	0.00	29.58	29.99	52.0	0.0	0.577
53.25	0.37	1.33	0.00	0.00	0.00	31.91	32.36	52.0	0.0	0.623
55.00	0.37	1.33	0.00	0.00	0.00	31.55	32.00	52.0	0.0	0.616
60.00	0.35	1.34	0.00	0.00	0.00	30.47	30.91	52.0	0.0	0.595
65.00	0.34	1.35	0.00	0.00	0.00	29.30	29.74	52.0	0.0	0.572
70.00	0.32	1.36	0.00	0.00	0.00	28.06	28.48	52.0	0.0	0.548
75.00	0.31	1.37	0.00	0.00	0.00	26.72	27.14	52.0	0.0	0.522
80.00	0.29	1.39	0.00	0.00	0.00	25.29	25.69	52.0	0.0	0.494
85.00	0.28	1.40	0.00	0.00	0.00	23.74	24.14	52.0	0.0	0.464
90.00	0.26	1.41	0.00	0.00	0.00	22.07	22.47	52.0	0.0	0.432
95.00	0.25	1.43	0.00	0.00	0.00	20.28	20.68	52.0	0.0	0.398
97.75	0.24	1.44	0.00	0.00	0.00	19.24	19.63	52.0	0.0	0.378
100.00	0.23	1.45	0.00	0.00	0.00	18.16	18.55	52.0	0.0	0.357
101.50	0.29	2.37	0.00	0.00	0.00	21.55	22.22	51.0	0.0	0.436
105.00	0.27	2.34	0.00	0.00	0.00	19.65	20.33	51.6	0.0	0.394
110.00	0.26	2.37	0.00	0.00	0.00	16.86	17.60	52.0	0.0	0.339
114.00	0.24	2.34	0.00	0.00	0.00	14.50	15.29	52.0	0.0	0.294
115.00	0.24	2.34	0.00	0.00	0.00	13.92	14.73	52.0	0.0	0.283
117.94	0.23	2.36	0.00	0.00	0.00	12.16	13.04	52.0	0.0	0.251
117.94	0.52	2.36	0.00	0.00	0.00	38.19	38.93	52.0	0.0	0.749
120.00	0.52	2.37	0.00	0.00	0.00	34.85	35.61	52.0	0.0	0.685
125.00	0.40	1.59	0.00	0.00	0.00	25.68	26.23	52.0	0.0	0.505
130.00	0.39	1.63	0.00	0.00	0.00	19.38	19.98	52.0	0.0	0.384
135.00	0.26	1.00	0.00	0.00	0.00	11.77	12.16	52.0	0.0	0.234
140.00	0.25	1.01	0.00	0.00	0.00	6.81	7.28	52.0	0.0	0.140
143.00	0.08	0.36	0.00	0.00	0.00	3.36	3.50	52.0	0.0	0.067
145.00	0.07	0.34	0.00	0.00	0.00	2.59	2.73	52.0	0.0	0.052
149.00	0.00	0.34	0.00	0.00	0.00	0.95	1.12	52.0	0.0	0.022

Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

6/9/2016 9:12:35 AM

Customer: T-MOBILE

Load Case: Ice

77.94 mph Wind with Ice

22 Iterations

Gust Response Factor : 1.69

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		186.6	0.0					0.0	0.0	186.6	0.0	0.0	0.0
5.00		369.0	1,192.1					126.2	375.2	495.1	1,567.4	0.0	0.0
10.00		360.6	1,164.7					126.2	540.2	486.7	1,704.9	0.0	0.0
15.00		352.2	1,137.3					126.2	540.2	478.4	1,677.5	0.0	0.0
20.00		343.9	1,109.9					126.2	540.2	470.0	1,650.1	0.0	0.0
25.00		335.5	1,082.5					126.2	540.2	461.7	1,622.7	0.0	0.0
30.00		327.1	1,055.0					126.2	540.2	453.3	1,595.2	0.0	0.0
35.00		324.6	1,027.6					126.2	540.2	450.8	1,567.8	0.0	0.0
40.00		327.7	1,000.2					130.8	540.2	458.6	1,540.4	0.0	0.0
45.00		263.7	972.8					135.6	540.2	399.3	1,513.0	0.0	0.0
48.00	Bot - Section 2	166.2	571.0					83.5	324.1	249.7	895.1	0.0	0.0
50.00		176.2	651.5					56.5	216.1	232.7	867.6	0.0	0.0
53.25	Top - Section 1	167.8	1,042.3					93.2	351.1	261.0	1,393.4	0.0	0.0
55.00		226.1	277.3					50.9	189.1	276.9	466.4	0.0	0.0
60.00		333.7	775.4					147.8	540.2	481.6	1,315.6	0.0	0.0
65.00		331.3	752.0					151.4	540.2	482.7	1,292.2	0.0	0.0
70.00		328.0	728.5					154.8	540.2	482.8	1,268.7	0.0	0.0
75.00		324.0	705.1					158.0	540.2	482.0	1,245.3	0.0	0.0
80.00		319.3	681.6					161.0	540.2	480.3	1,221.8	0.0	0.0
85.00		313.9	658.2					163.9	540.2	477.8	1,198.4	0.0	0.0
90.00		307.9	634.7					166.7	540.2	474.6	1,174.9	0.0	0.0
95.00		234.8	611.3					169.3	540.2	404.2	1,151.5	0.0	0.0
97.75	Bot - Section 3	149.8	326.6					94.2	297.1	244.1	623.8	0.0	0.0
100.00		112.0	397.4					77.7	243.1	189.7	640.5	0.0	0.0
101.50	Top - Section 2	147.2	261.0					52.1	162.1	199.3	423.1	0.0	0.0
105.00	Appertunance(s)	246.1	264.7	613.1	0.0	0.0	167.7	122.3	378.1	981.5	810.6	0.0	0.0
110.00		255.2	364.4					176.8	540.2	432.0	904.6	0.0	0.0
114.00	Appertunance(s)	139.3	280.7	447.0	0.0	0.0	159.4	143.1	432.2	729.4	872.2	0.0	0.0
115.00		107.4	68.8					36.0	103.1	143.4	172.0	0.0	0.0
117.94	Reinf. Top	135.1	198.2					106.3	302.9	241.3	501.1	0.0	0.0
120.00		185.8	136.1					75.1	74.9	260.8	211.0	0.0	0.0
125.00	Appertunance(s)	256.5	317.9	4,683.9	0.0	0.0	2,946.4	91.8	181.6	5,032.2	3,445.9	0.0	0.0
130.00		247.1	302.4					0.0	132.4	247.1	434.8	0.0	0.0
135.00	Appertunance(s)	237.2	286.8	3,512.0	0.0	0.0	2,734.2	0.0	132.4	3,749.3	3,153.5	0.0	0.0
140.00		183.3	271.3					0.0	75.2	183.3	346.5	0.0	0.0
143.00	Appertunance(s)	111.0	155.8	1,366.9	0.0	0.0	1,825.4	0.0	45.1	1,477.9	2,026.3	0.0	0.0
145.00		128.7	100.9					0.0	9.0	128.7	109.9	0.0	0.0
149.00	Appertunance(s)	84.9	193.8	1,440.7	0.0	3,076.5	566.6	0.0	18.0	1,525.7	778.3	0.0	0.0
Totals:										24,892.2	43,383.5	0.00	0.00

Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

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Customer: T-MOBILE

Load Case: Ice

77.94 mph Wind with Ice

22 Iterations

Gust Response Factor : 1.69

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-24.752	-43.357	0.000	0.000	0.000	-2,540.739	0.000	0.000	0.000	0.000
5.00	-24.344	-41.738	0.000	0.000	0.000	-2,416.981	-0.065	0.000	0.065	-0.121
10.00	-23.937	-39.984	0.000	0.000	0.000	-2,295.266	-0.258	0.000	0.258	-0.243
15.00	-23.532	-38.258	0.000	0.000	0.000	-2,175.584	-0.578	0.000	0.578	-0.366
20.00	-23.129	-36.562	0.000	0.000	0.000	-2,057.925	-1.028	0.000	1.028	-0.490
25.00	-22.728	-34.894	0.000	0.000	0.000	-1,942.281	-1.609	0.000	1.609	-0.615
30.00	-22.330	-33.255	0.000	0.000	0.000	-1,828.641	-2.321	0.000	2.321	-0.740
35.00	-21.927	-31.645	0.000	0.000	0.000	-1,716.995	-3.165	0.000	3.165	-0.867
40.00	-21.510	-30.065	0.000	0.000	0.000	-1,607.363	-4.141	0.000	4.141	-0.994
45.00	-21.134	-28.522	0.000	0.000	0.000	-1,499.814	-5.251	0.000	5.251	-1.121
48.00	-20.897	-27.608	0.000	0.000	0.000	-1,436.414	-5.981	0.000	5.981	-1.199
50.00	-20.677	-26.722	0.000	0.000	0.000	-1,394.621	-6.495	0.000	6.495	-1.251
53.25	-20.413	-25.312	0.000	0.000	0.000	-1,327.420	-7.376	0.000	7.376	-1.334
55.00	-20.165	-24.820	0.000	0.000	0.000	-1,291.697	-7.874	0.000	7.874	-1.379
60.00	-19.706	-23.470	0.000	0.000	0.000	-1,190.874	-9.393	0.000	9.393	-1.515
65.00	-19.239	-22.147	0.000	0.000	0.000	-1,092.346	-11.052	0.000	11.052	-1.650
70.00	-18.767	-20.850	0.000	0.000	0.000	-996.150	-12.852	0.000	12.852	-1.782
75.00	-18.289	-19.580	0.000	0.000	0.000	-902.318	-14.790	0.000	14.790	-1.913
80.00	-17.807	-18.337	0.000	0.000	0.000	-810.875	-16.863	0.000	16.863	-2.041
85.00	-17.322	-17.120	0.000	0.000	0.000	-721.841	-19.068	0.000	19.068	-2.164
90.00	-16.835	-15.930	0.000	0.000	0.000	-635.232	-21.400	0.000	21.400	-2.284
95.00	-16.406	-14.771	0.000	0.000	0.000	-551.060	-23.854	0.000	23.854	-2.398
97.75	-16.149	-14.143	0.000	0.000	0.000	-505.944	-25.253	0.000	25.253	-2.458
100.0	-15.941	-13.501	0.000	0.000	0.000	-469.609	-26.424	0.000	26.424	-2.507
101.5	-15.735	-13.073	0.000	0.000	0.000	-445.697	-27.217	0.000	27.217	-2.538
105.0	-14.737	-12.284	0.000	0.000	0.000	-390.625	-29.104	0.000	29.104	-2.606
110.0	-14.282	-11.378	0.000	0.000	0.000	-316.939	-31.894	0.000	31.894	-2.713
114.0	-13.520	-10.531	0.000	0.000	0.000	-259.811	-34.201	0.000	34.201	-2.789
115.0	-13.374	-10.358	0.000	0.000	0.000	-246.292	-34.788	0.000	34.788	-2.807
117.9	-13.115	-9.861	0.000	0.000	0.000	-207.005	-36.531	0.000	36.531	-2.854
120.0	-12.864	-9.638	0.000	0.000	0.000	-179.955	-37.772	0.000	37.772	-2.885
125.0	-7.677	-6.437	0.000	0.000	0.000	-115.638	-40.900	0.000	40.900	-3.072
130.0	-7.419	-6.001	0.000	0.000	0.000	-77.255	-44.196	0.000	44.196	-3.214
135.0	-3.500	-3.062	0.000	0.000	0.000	-40.160	-47.620	0.000	47.620	-3.314
140.0	-3.299	-2.724	0.000	0.000	0.000	-22.659	-51.126	0.000	51.126	-3.377
143.0	-1.704	-0.788	0.000	0.000	0.000	-12.762	-53.256	0.000	53.256	-3.403
145.0	-1.569	-0.686	0.000	0.000	0.000	-9.354	-54.683	0.000	54.683	-3.414
149.0	-1.526	0.000	0.000	0.000	0.000	-3.077	-57.549	0.000	57.549	-3.429

Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

6/9/2016 9:12:37 AM

Customer: T-MOBILE

Load Case: Ice

77.94 mph Wind with Ice

22 Iterations

Gust Response Factor : 1.69

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Calculated Stresses

Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Allowable Stress (Fa) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)			
0.00	0.53	0.81	0.00	0.00	0.00	27.55	28.12	52.0	0.0	0.541
5.00	0.52	0.82	0.00	0.00	0.00	27.22	27.78	52.0	0.0	0.534
10.00	0.51	0.82	0.00	0.00	0.00	26.86	27.41	52.0	0.0	0.527
15.00	0.50	0.83	0.00	0.00	0.00	26.47	27.01	52.0	0.0	0.520
20.00	0.48	0.83	0.00	0.00	0.00	26.06	26.58	52.0	0.0	0.511
25.00	0.47	0.84	0.00	0.00	0.00	25.61	26.12	52.0	0.0	0.503
30.00	0.46	0.85	0.00	0.00	0.00	25.13	25.63	52.0	0.0	0.493
35.00	0.44	0.86	0.00	0.00	0.00	24.61	25.10	52.0	0.0	0.483
40.00	0.43	0.86	0.00	0.00	0.00	24.05	24.53	52.0	0.0	0.472
45.00	0.42	0.87	0.00	0.00	0.00	23.45	23.91	52.0	0.0	0.460
48.00	0.41	0.88	0.00	0.00	0.00	23.06	23.52	52.0	0.0	0.452
50.00	0.40	0.88	0.00	0.00	0.00	22.58	23.03	52.0	0.0	0.443
53.25	0.43	1.04	0.00	0.00	0.00	24.33	24.82	52.0	0.0	0.478
55.00	0.42	1.04	0.00	0.00	0.00	24.04	24.53	52.0	0.0	0.472
60.00	0.41	1.05	0.00	0.00	0.00	23.17	23.64	52.0	0.0	0.455
65.00	0.39	1.06	0.00	0.00	0.00	22.23	22.70	52.0	0.0	0.437
70.00	0.38	1.06	0.00	0.00	0.00	21.23	21.68	52.0	0.0	0.417
75.00	0.36	1.07	0.00	0.00	0.00	20.15	20.60	52.0	0.0	0.396
80.00	0.35	1.08	0.00	0.00	0.00	19.00	19.44	52.0	0.0	0.374
85.00	0.33	1.09	0.00	0.00	0.00	17.76	18.19	52.0	0.0	0.350
90.00	0.32	1.10	0.00	0.00	0.00	16.43	16.85	52.0	0.0	0.324
95.00	0.30	1.11	0.00	0.00	0.00	15.00	15.42	52.0	0.0	0.297
97.75	0.29	1.12	0.00	0.00	0.00	14.17	14.58	52.0	0.0	0.281
100.00	0.28	1.12	0.00	0.00	0.00	13.32	13.74	52.0	0.0	0.264
101.50	0.35	1.84	0.00	0.00	0.00	15.76	16.43	51.0	0.0	0.322
105.00	0.34	1.77	0.00	0.00	0.00	14.26	14.92	51.6	0.0	0.289
110.00	0.32	1.79	0.00	0.00	0.00	12.12	12.82	52.0	0.0	0.247
114.00	0.30	1.76	0.00	0.00	0.00	10.31	11.04	52.0	0.0	0.212
115.00	0.30	1.76	0.00	0.00	0.00	9.87	10.61	52.0	0.0	0.204
117.94	0.29	1.77	0.00	0.00	0.00	8.53	9.33	52.0	0.0	0.180
117.94	0.66	1.77	0.00	0.00	0.00	26.80	27.63	52.0	0.0	0.532
120.00	0.66	1.77	0.00	0.00	0.00	24.23	25.07	52.0	0.0	0.482
125.00	0.46	1.11	0.00	0.00	0.00	17.17	17.74	52.0	0.0	0.341
130.00	0.45	1.13	0.00	0.00	0.00	12.72	13.32	52.0	0.0	0.256
135.00	0.24	0.56	0.00	0.00	0.00	7.37	7.68	52.0	0.0	0.148
140.00	0.23	0.56	0.00	0.00	0.00	4.67	4.99	52.0	0.0	0.096
143.00	0.07	0.30	0.00	0.00	0.00	2.83	2.94	52.0	0.0	0.057
145.00	0.06	0.28	0.00	0.00	0.00	2.18	2.29	52.0	0.0	0.044
149.00	0.00	0.29	0.00	0.00	0.00	0.79	0.94	52.0	0.0	0.018

Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

6/9/2016 9:12:37 AM

Customer: T-MOBILE

Load Case: Twist/Sway	50.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Applied Segment Forces Summary

Seg Elev (ft)	Description	Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
		Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Wind FX (lb)	Dead Load (lb)	Torsion MY (lb-ft)	Moment MZ (lb)
0.00		75.3	0.0					0.0	0.0	75.3	0.0	0.0	0.0
5.00		148.9	1,033.7					43.3	375.2	192.2	1,408.9	0.0	0.0
10.00		145.5	1,009.9					43.3	540.2	188.7	1,550.1	0.0	0.0
15.00		142.0	986.1					43.3	540.2	185.3	1,526.3	0.0	0.0
20.00		138.6	962.3					43.3	540.2	181.9	1,502.5	0.0	0.0
25.00		135.1	938.5					43.3	540.2	178.4	1,478.7	0.0	0.0
30.00		131.7	914.8					43.3	540.2	175.0	1,455.0	0.0	0.0
35.00		130.6	891.0					43.3	540.2	173.9	1,431.2	0.0	0.0
40.00		131.8	867.2					44.9	540.2	176.7	1,407.4	0.0	0.0
45.00		106.0	843.4					46.5	540.2	152.5	1,383.6	0.0	0.0
48.00	Bot - Section 2	66.8	494.6					28.6	324.1	95.4	818.7	0.0	0.0
50.00		70.8	600.4					19.4	216.1	90.2	816.5	0.0	0.0
53.25	Top - Section 1	67.4	960.8					32.0	351.1	99.3	1,312.0	0.0	0.0
55.00		90.7	233.9					17.4	189.1	108.2	423.0	0.0	0.0
60.00		133.9	654.9					50.7	540.2	184.6	1,195.1	0.0	0.0
65.00		132.8	635.1					51.9	540.2	184.7	1,175.3	0.0	0.0
70.00		131.4	615.3					53.1	540.2	184.5	1,155.5	0.0	0.0
75.00		129.6	595.5					54.2	540.2	183.8	1,135.7	0.0	0.0
80.00		127.6	575.6					55.2	540.2	182.8	1,115.8	0.0	0.0
85.00		125.3	555.8					56.2	540.2	181.6	1,096.0	0.0	0.0
90.00		122.8	536.0					57.2	540.2	180.0	1,076.2	0.0	0.0
95.00		93.6	516.2					58.1	540.2	151.7	1,056.4	0.0	0.0
97.75	Bot - Section 3	59.7	275.4					32.3	297.1	92.0	572.6	0.0	0.0
100.00		44.6	355.7					26.6	243.1	71.2	598.8	0.0	0.0
101.50	Top - Section 2	58.6	233.6					17.9	162.1	76.4	395.6	0.0	0.0
105.00	Appertunance(s)	97.8	202.4	121.0	0.0	0.0	83.0	42.0	378.1	260.8	663.6	0.0	0.0
110.00		101.3	279.1					60.6	540.2	161.9	819.3	0.0	0.0
114.00	Appertunance(s)	55.3	214.7	162.2	0.0	0.0	79.2	49.1	432.2	266.6	726.1	0.0	0.0
115.00		42.5	52.5					12.3	103.1	54.9	155.6	0.0	0.0
117.94	Reinf. Top	53.5	151.4					36.4	302.9	89.9	454.3	0.0	0.0
120.00		73.5	103.9					25.7	74.9	99.2	178.8	0.0	0.0
125.00	Appertunance(s)	101.3	243.4	1,729.0	0.0	0.0	1,980.0	31.5	181.6	1,861.8	2,405.0	0.0	0.0
130.00		97.3	231.5					0.0	132.4	97.3	363.9	0.0	0.0
135.00	Appertunance(s)	93.3	219.6	1,248.2	0.0	0.0	1,947.5	0.0	132.4	1,341.4	2,299.5	0.0	0.0
140.00		71.9	207.7					0.0	75.2	71.9	282.9	0.0	0.0
143.00	Appertunance(s)	43.4	118.9	1,114.4	0.0	0.0	2,241.6	0.0	45.1	1,157.8	2,405.6	0.0	0.0
145.00		50.3	76.9					0.0	9.0	50.3	85.9	0.0	0.0
149.00	Appertunance(s)	33.2	148.1	518.8	0.0	1,139.5	801.6	0.0	18.0	551.9	967.6	0.0	0.0
Totals:										9,811.97	38,895.1	0.00	0.00

Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

6/9/2016 9:12:39 AM

Customer: T-MOBILE

Load Case: Twist/Sway

50.00 mph Wind with No Ice

22 Iterations

Gust Response Factor : 1.69

Dead Load Factor : 1.00

Wind Load Factor : 1.00

Calculated Shaft Forces and Deflections

Seg Elev (ft)	Lateral FX (-) (kips)	Axial FY (-) (kips)	Lateral FZ (kips)	Moment MX (ft-kips)	Torsion MY (ft-kips)	Moment MZ (ft-kips)	X Deflect (in)	Z Deflect (in)	Total Deflect (in)	Rotation (deg)
0.00	-9.753	-38.891	0.000	0.000	0.000	-1,016.359	0.000	0.000	0.000	0.000
5.00	-9.592	-37.474	0.000	0.000	0.000	-967.593	-0.026	0.000	0.026	-0.048
10.00	-9.432	-35.916	0.000	0.000	0.000	-919.633	-0.103	0.000	0.103	-0.097
15.00	-9.273	-34.382	0.000	0.000	0.000	-872.472	-0.232	0.000	0.232	-0.146
20.00	-9.116	-32.872	0.000	0.000	0.000	-826.106	-0.412	0.000	0.412	-0.196
25.00	-8.959	-31.386	0.000	0.000	0.000	-780.528	-0.644	0.000	0.644	-0.246
30.00	-8.804	-29.924	0.000	0.000	0.000	-735.733	-0.930	0.000	0.930	-0.297
35.00	-8.647	-28.486	0.000	0.000	0.000	-691.714	-1.268	0.000	1.268	-0.348
40.00	-8.486	-27.073	0.000	0.000	0.000	-648.478	-1.660	0.000	1.660	-0.399
45.00	-8.341	-25.684	0.000	0.000	0.000	-606.050	-2.106	0.000	2.106	-0.451
48.00	-8.251	-24.863	0.000	0.000	0.000	-581.026	-2.400	0.000	2.400	-0.482
50.00	-8.165	-24.043	0.000	0.000	0.000	-564.525	-2.606	0.000	2.606	-0.503
53.25	-8.064	-22.728	0.000	0.000	0.000	-537.989	-2.961	0.000	2.961	-0.537
55.00	-7.966	-22.301	0.000	0.000	0.000	-523.877	-3.161	0.000	3.161	-0.555
60.00	-7.790	-21.100	0.000	0.000	0.000	-484.046	-3.772	0.000	3.772	-0.610
65.00	-7.611	-19.920	0.000	0.000	0.000	-445.097	-4.441	0.000	4.441	-0.665
70.00	-7.430	-18.760	0.000	0.000	0.000	-407.042	-5.167	0.000	5.167	-0.719
75.00	-7.248	-17.620	0.000	0.000	0.000	-369.892	-5.949	0.000	5.949	-0.772
80.00	-7.064	-16.500	0.000	0.000	0.000	-333.653	-6.787	0.000	6.787	-0.825
85.00	-6.880	-15.401	0.000	0.000	0.000	-298.331	-7.679	0.000	7.679	-0.876
90.00	-6.695	-14.322	0.000	0.000	0.000	-263.931	-8.623	0.000	8.623	-0.925
95.00	-6.535	-13.265	0.000	0.000	0.000	-230.454	-9.618	0.000	9.618	-0.973
97.75	-6.438	-12.691	0.000	0.000	0.000	-212.484	-10.187	0.000	10.187	-0.998
100.0	-6.360	-12.092	0.000	0.000	0.000	-198.000	-10.662	0.000	10.662	-1.019
101.5	-6.280	-11.695	0.000	0.000	0.000	-188.460	-10.985	0.000	10.985	-1.032
105.0	-6.015	-11.033	0.000	0.000	0.000	-166.479	-11.752	0.000	11.752	-1.061
110.0	-5.845	-10.212	0.000	0.000	0.000	-136.404	-12.889	0.000	12.889	-1.106
114.0	-5.567	-9.490	0.000	0.000	0.000	-113.027	-13.832	0.000	13.832	-1.139
115.0	-5.511	-9.334	0.000	0.000	0.000	-107.460	-14.071	0.000	14.071	-1.147
117.9	-5.415	-8.880	0.000	0.000	0.000	-91.270	-14.784	0.000	14.784	-1.168
120.0	-5.320	-8.698	0.000	0.000	0.000	-80.102	-15.292	0.000	15.292	-1.181
125.0	-3.415	-6.329	0.000	0.000	0.000	-53.502	-16.578	0.000	16.578	-1.266
130.0	-3.316	-5.965	0.000	0.000	0.000	-36.426	-17.942	0.000	17.942	-1.332
135.0	-1.923	-3.696	0.000	0.000	0.000	-19.847	-19.365	0.000	19.365	-1.380
140.0	-1.845	-3.415	0.000	0.000	0.000	-10.234	-20.829	0.000	20.829	-1.410
143.0	-0.628	-1.038	0.000	0.000	0.000	-4.699	-21.719	0.000	21.719	-1.421
145.0	-0.576	-0.954	0.000	0.000	0.000	-3.443	-22.315	0.000	22.315	-1.426
149.0	-0.552	0.000	0.000	0.000	0.000	-1.140	-23.512	0.000	23.512	-1.431

Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

6/9/2016 9:12:39 AM

Customer: T-MOBILE

Load Case: Twist/Sway	50.00 mph Wind with No Ice	22 Iterations
Gust Response Factor : 1.69		
Dead Load Factor : 1.00		
Wind Load Factor : 1.00		

Calculated Stresses

Seg Elev (ft)	Applied Stresses							Allowable Stress (Fb) (ksi)	Allowable Stress (Fa) (ksi)	Stress Ratio
	Axial (Y) (ksi)	Shear (X) (ksi)	Shear (Z) (ksi)	Torsion (ksi)	Bending (X) (ksi)	Bending (Z) (ksi)	Combined (ksi)			
0.00	0.48	0.32	0.00	0.00	0.00	11.02	11.51	52.0	0.0	0.222
5.00	0.47	0.32	0.00	0.00	0.00	10.90	11.38	52.0	0.0	0.219
10.00	0.46	0.32	0.00	0.00	0.00	10.76	11.23	52.0	0.0	0.216
15.00	0.45	0.33	0.00	0.00	0.00	10.62	11.08	52.0	0.0	0.213
20.00	0.44	0.33	0.00	0.00	0.00	10.46	10.91	52.0	0.0	0.210
25.00	0.42	0.33	0.00	0.00	0.00	10.29	10.73	52.0	0.0	0.206
30.00	0.41	0.33	0.00	0.00	0.00	10.11	10.54	52.0	0.0	0.203
35.00	0.40	0.34	0.00	0.00	0.00	9.92	10.33	52.0	0.0	0.199
40.00	0.39	0.34	0.00	0.00	0.00	9.70	10.11	52.0	0.0	0.194
45.00	0.37	0.34	0.00	0.00	0.00	9.47	9.87	52.0	0.0	0.190
48.00	0.37	0.35	0.00	0.00	0.00	9.33	9.72	52.0	0.0	0.187
50.00	0.36	0.35	0.00	0.00	0.00	9.14	9.52	52.0	0.0	0.183
53.25	0.38	0.41	0.00	0.00	0.00	9.86	10.27	52.0	0.0	0.198
55.00	0.38	0.41	0.00	0.00	0.00	9.75	10.15	52.0	0.0	0.195
60.00	0.37	0.41	0.00	0.00	0.00	9.42	9.81	52.0	0.0	0.189
65.00	0.35	0.42	0.00	0.00	0.00	9.06	9.44	52.0	0.0	0.182
70.00	0.34	0.42	0.00	0.00	0.00	8.67	9.04	52.0	0.0	0.174
75.00	0.33	0.42	0.00	0.00	0.00	8.26	8.62	52.0	0.0	0.166
80.00	0.31	0.43	0.00	0.00	0.00	7.82	8.16	52.0	0.0	0.157
85.00	0.30	0.43	0.00	0.00	0.00	7.34	7.67	52.0	0.0	0.148
90.00	0.28	0.44	0.00	0.00	0.00	6.83	7.15	52.0	0.0	0.138
95.00	0.27	0.44	0.00	0.00	0.00	6.27	6.58	52.0	0.0	0.127
97.75	0.26	0.45	0.00	0.00	0.00	5.95	6.26	52.0	0.0	0.120
100.00	0.25	0.45	0.00	0.00	0.00	5.62	5.92	52.0	0.0	0.114
101.50	0.32	0.73	0.00	0.00	0.00	6.66	7.10	51.0	0.0	0.139
105.00	0.30	0.72	0.00	0.00	0.00	6.08	6.50	51.6	0.0	0.126
110.00	0.29	0.73	0.00	0.00	0.00	5.22	5.65	52.0	0.0	0.109
114.00	0.27	0.72	0.00	0.00	0.00	4.49	4.92	52.0	0.0	0.095
115.00	0.27	0.72	0.00	0.00	0.00	4.31	4.74	52.0	0.0	0.091
117.94	0.26	0.73	0.00	0.00	0.00	3.76	4.21	52.0	0.0	0.081
117.94	0.59	0.73	0.00	0.00	0.00	11.82	12.47	52.0	0.0	0.240
120.00	0.59	0.73	0.00	0.00	0.00	10.78	11.45	52.0	0.0	0.220
125.00	0.45	0.49	0.00	0.00	0.00	7.95	8.44	52.0	0.0	0.162
130.00	0.45	0.50	0.00	0.00	0.00	6.00	6.51	52.0	0.0	0.125
135.00	0.29	0.31	0.00	0.00	0.00	3.64	3.97	52.0	0.0	0.076
140.00	0.29	0.31	0.00	0.00	0.00	2.11	2.46	52.0	0.0	0.047
143.00	0.09	0.11	0.00	0.00	0.00	1.04	1.15	52.0	0.0	0.022
145.00	0.09	0.10	0.00	0.00	0.00	0.80	0.90	52.0	0.0	0.017
149.00	0.00	0.10	0.00	0.00	0.00	0.29	0.35	52.0	0.0	0.007

Site Number: 243036

Code: TIA/EIA-222-F

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Site Name: West Haven & Rt 162 CT, CT

Engineering Number: 66408524

6/9/2016 9:12:39 AM

Customer: T-MOBILE

Analysis Summary

Load Case	Reactions						Combined Stress (ksi)	Max Stresses		
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)		Allowable Stress (ksi)	Elev (ft)	Stress Ratio
No Ice	31.6	0.00	38.85	0.00	0.00	3290.45	38.93	52.0	117.94	0.749
Ice	24.8	0.00	43.36	0.00	0.00	2540.74	28.12	52.0	0.00	0.541
Twist/Sway	9.8	0.00	38.89	0.00	0.00	1016.36	12.47	52.0	117.94	0.240

Additional Steel Summary

Elev From (ft)	Elev To (ft)	Member	Intermediate Connectors			Upper Termination Connectors				Lower Termination Connectors				Max Member		
			VQ/I (lb/in)	Shear Applied (kips)	Shear Allow (kips)	MQ/I (kips)	Allow (kips)	Num Reqd	Num Actual	MQ/I (kips)	Allow (kips)	Num Reqd	Num Actual	fb (ksi)	Fb (ksi)	Ratio
0.00	117.	(4) SOL-#20 All Thre	369.8	11.1	12.9	74.8	8.1	10	12	0.0	8.1	0	0	42.0	57.8	0.725

Base/Flange Plate	Plate Type	Baseplate
	Pole Diameter	52.01 in
	Pole Thickness	0.375 in
	Plate Length	59 in
	Plate Thickness	2.75 in
	Plate Fy	60 ksi
	Weld Length	0.3125 in
	Allowable	1646.23 k-in
	Applied	894.33 k-in
	Stiffeners	#

Code Rev. **F**
A.S.I. **1.00**
Moment **3290.5 k-ft**
Axial **38.9 k**

Date **6/9/2016**
Engineer **ZSP**
Site # **243036**
Carrier **T-Mobile**

Bolts	#	16
	Bolt Circle	59 in
	(R)adial / (S)quare	S
	Bolt Gap	6 in
	Diameter	2.25 in
	Hole Diameter	2.625 in
	Type	A615-75
	Fy	75 ksi
	Fu	100 ksi
	Allowable	146.15 k
Applied	119.56 k	
Reinforcement	#	4
	DYW. Circle	58.885 in
	Offset Angle	0°
	Type	#20
	Diameter	2.5 in
	Fu	100 ksi
Allowable	163.62 k	
Applied	140.15 k	
Extra Bolts O	#	0

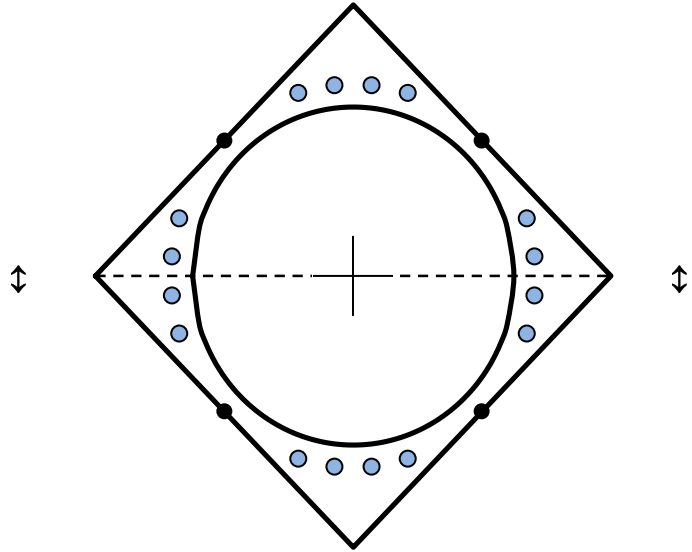


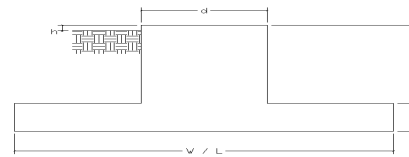
Plate Stress Ratio:
0.54 (Pass)

Bolt Stress Ratio:
0.82 (Pass)

Reinforcement Stress Ratio:
0.86 (Pass)

Site Name: West Haven & RT 162 CT, CT
 Site Number: 243036
 Engineering Number: 66408524
 Engineer: C. Poe
 Date: 06/09/16
 Tower Type: MP

Program Last Updated: 11/15/2012



Design Loads (Unfactored)

Design / Analysis / Mapping:	Analysis
Compression/Leg:	38.9 k
Uplift/Leg:	0.0 k
Total Shear:	31.6 k
Moment:	3290.5 k-ft
Tower + Appurtenance Weight:	38.9 k
Depth to Base of Foundation:	5.50 ft
Diameter of Pier (d):	7.00 ft
Height of Pier above Ground (h):	1.00
Width of Pad (W):	22.50 ft
Length of Pad (L):	22.50 ft
Thickness of Pad (t):	2.00 ft
Tower Leg Center to Center:	0.00 ft
Number of Tower Legs:	1.0 (1 if MP or GT)
Tower Center from Mat Center:	0.00 ft
Depth Below Ground Surface to Water Table:	8.00 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil Above Water Table:	125.0 pcf
Unit Weight of Water:	62.4 pcf
Unit Weight of Soil Below Water Table:	67.5 pcf
Friction Angle of Uplift:	15.00 Degrees
Ultimate Coefficient of Shear Friction:	0.35
Allowable Compressive Bearing Pressure:	7500.0 psf
Ultimate Passive Pressure on Pad Face:	1000.0 psf
Allowable Capacity Increase:	1.00

Concrete Strength (f_c'):	4000 psi
Pad Tension Steel Depth:	20.00 in
Wind Load Factor:	1.3
ϕ_{Shear} :	0.75
$\phi_{\text{Flexure / Tension}}$:	0.90
$\phi_{\text{Compression}}$:	0.65
β :	0.85
Bottom Pad Rebar Size #:	8
# of Bottom Pad Rebar:	38
Pad Bottom Steel Area:	30.02 in ²
Pad Steel F_y :	60000 psi
Top Pad Rebar Size #:	8
# of Top Pad Rebar:	38
Pad Top Steel Area:	30.02 in ²
Pier Rebar Size #:	8
Pier Steel Area (Single Bar):	0.79 in ²
# of Pier Rebar:	36
Pier Steel F_y :	60000 psi
Pier Cage Diameter:	76.0 in
Rebar Strain Limit:	0.008
Steel Elastic Modulus:	29000 ksi
Tie Rebar Size #:	4
Tie Steel Area (Single Bar):	0.20 in ²
Tie Spacing:	12 in
Tie Steel F_y :	60000 psi

Overturning Factor of Safety

Design OTM:	3495.9 k-ft
OTM Resistance:	8017.2 k-ft
OTM Resistance / Design OTM Factor of Safety:	2.29 Result: OK

Soil Bearing Pressure Usage:

Net Bearing Pressure:	4869 psf
Allowable Bearing Pressure:	7500 psf
Net Bearing Pressure/Allowable Bearing Pressure:	0.65 Result: OK
Load Direction Controlling Design Bearing Pressure:	Diagonal to Pad Edge

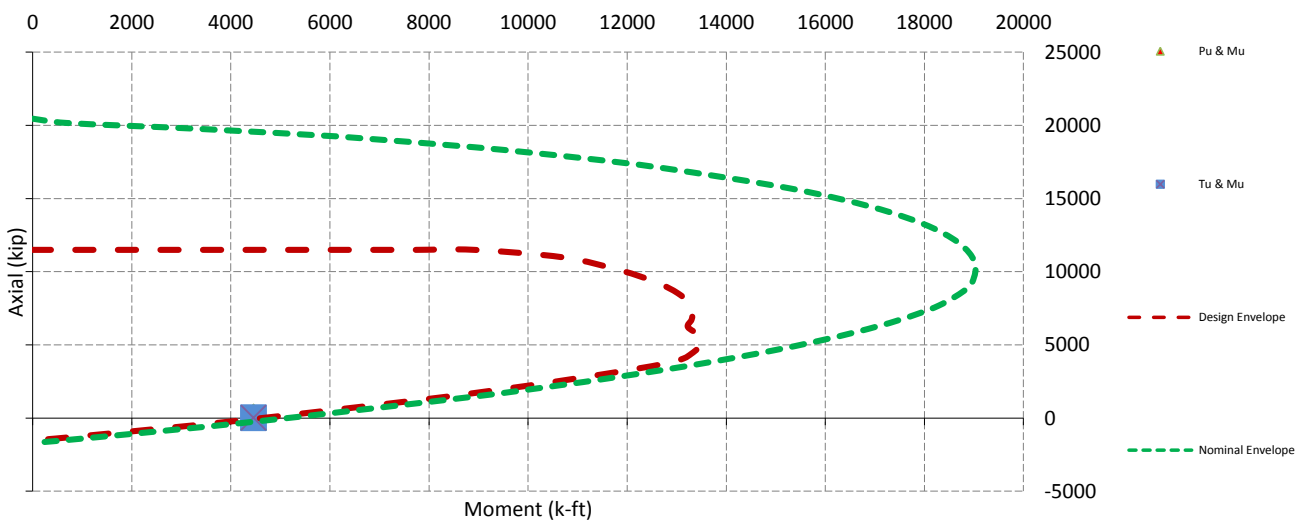
Sliding Factor of Safety

Total Ultimate Sliding Resistance:	192.5 k
Sliding Resistance/Sliding Design Factor of Safety:	6.09 Result: OK

One Way Shear, Flexural Capacity, and Punching Shear

Factored One Way Shear (V_u):	339.6 k	
One Way Shear Capacity (ϕV_c):	489.2 k - ACI11.3.1.1	
$V_u / \phi V_c$:	0.69	Result: OK
Load Direction Controlling Shear Capacity:	Diagonal to Pad Edge	
Lower Pad Steel Factored Moment (M_u):	2023.4 k-ft	
Lower Steel Pad Moment Capacity (ϕM_n):	2589.1 k-ft - ACI10.3	
$M_u / \phi M_n$:	0.78	Result: OK
Load Direction Controlling Flexural Capacity:	Parallel to Pad Edge	
Upper Steel Pad Factored Moment (M_u):	679.1 k-ft	
Upper Steel Pad Moment Capacity (ϕM_n):	2589.1 k-ft	
$M_u / \phi M_n$:	0.26	Result: OK
Lower Pad Flexural Reinforcement Ratio:	0.0056	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0056	OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Lower Pad Reinforcement Spacing:	7 in	Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	7 in	Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	0.0 k	
Nominal Punching Shear Capacity ($\phi_c V_n$):	1239.8 k - ACI11.12.2.1	
$V_u / \phi V_c$:	0.00	Result: OK
Factored Moment in Pier (M_u):	4462.4 k-ft	
Pier Moment Capacity (ϕM_n):	8221.0 k-ft	
$M_u / \phi M_n$:	0.54	Result: OK
Factored Shear in Pier (V_u):	41.1 k	
Pier Shear Capacity (ϕV_n):	527.6 k	
$V_u / \phi V_c$:	0.08	Result: OK
Pier Shear Reinforcement Ratio:	0.0004	No Ties Necessary for Shear - ACI11.5.6.1
Factored Tension in Pier (T_u):	0.0 k	
Pier Tension Capacity (ϕT_n):	1535.8 k	
$T_u / \phi T_n$:	0.00	Result: OK
Factored Compression in Pier (P_u):	50.5 k	
Pier Compression Capacity (ϕP_n):	9747.6 k - ACI10.3.6.2	
$P_u / \phi P_n$:	0.01	Result: OK
Pier Compression Reinforcement Ratio:	0.005	OK - Reinforcement Ratio Met - ACI10.9.1 & 10.8.4
$M_u / \phi_B M_n + T_u / \phi_T T_n$:	0.54	Result: OK

Nominal and Design Moment Capacity and Factored Design Loads



T-Mobile T-MOBILE NORTHEAST LLC

SITE #: CT11821E

SITE NAME: CT821/D&B FLOWER FARM

ATC SITE ID: 243036 / WEST HAVEN & RT 162 CT, CT

SITE ADDRESS:

668 JONES HILL RD

WEST HAVEN, CT 06516

EXISTING WIRELESS BROADBAND FACILITY MODIFICATION

CONSTRUCTION DRAWINGS

(EXISTING CONFIGURATION 704BU)

(PROPOSED CONFIGURATION 794DB)



T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX: (860) 692-7159



10 INDUSTRIAL AVE
MAHWAH NJ 07430
TRANSCEND@TRANSCENDWIRELESS.COM
TELEPHONE: (201) 684-0066

FORESITE LLC

SITE DESIGN SERVICES
462 WALNUT STREET
NEWTON, MA 02460
TEL: 617-527-3031

SUBMITTALS

DATE	DESCRIPTION	REVISION
06/16/16	ISSUED FOR REVIEW	A
07/1/16	FINAL CD	0

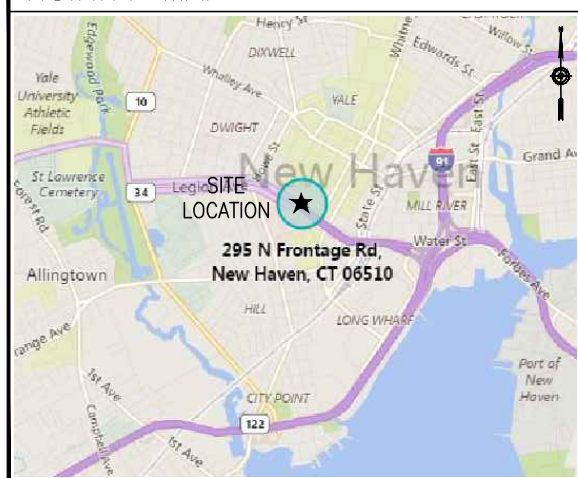
DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: CT11821E
DRAWN BY: MS
CHECKED BY: SW



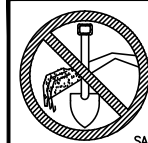
THIS DOCUMENT IS THE CREATION, DESIGN, PROPERTY AND COPYRIGHTED WORK OF T-MOBILE. ANY DUPLICATION OR USE WITHOUT EXPRESS WRITTEN CONSENT IS STRICTLY PROHIBITED.

VICINITY MAP



DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



CALL BEFORE YOU DIG:

WWW.CBYD.COM

CALL 800 922 4455, OR 811

CALL THREE WORKING DAYS PRIOR TO DIGGING

SAFETY PRECAUTIONS SHALL BE IMPLEMENTED BY CONTRACTOR(S) AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARDS.

COLOR CODE FOR UTILITY LOCATIONS

ELECTRIC - RED	SEWER - GREEN
GAS/OIL - YELLOW	SURVEY - PINK
TEL/CATV - ORANGE	PROPOSED EXCAVATION - WHITE
WATER - BLUE	RECLAIMED WATER - PURPLE

GENERAL NOTES

- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONSTRUCT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
- THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE T-MOBILE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF THE CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXPENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
- THE SCOPE OF WORK SHALL INCLUDE FURNISHING OF ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUM OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY PERMITS AND INSPECTIONS WHICH ARE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY, OR LOCAL GOVERNMENT AUTHORITY.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC., DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS, AS WELL AS THE LATEST EDITIONS OF ANY PERTINENT STATE SAFETY REGULATIONS.
- THE CONTRACTOR SHALL NOTIFY THE T-MOBILE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE T-MOBILE REPRESENTATIVE.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB.
- THE CONTRACTOR SHALL RETURN ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITION AT THE COMPLETION OF WORK.
- REFER TO STRUCTURAL ANALYSIS REPORT BY AMERICAN TOWER CORPORATION, DATED JUNE 9, 2016 PENDING MODIFICATIONS.

PROJECT INFORMATION

SITE NUMBER:	CT11821E	APPLICANT:	T-MOBILE NORTHEAST, LLC.
SITE NAME:	CT821/D&B FLOWER FARM		35 GRIFFIN ROAD SOUTH
SITE ADDRESS:	668 JONES HILL RD		BLOOMFIELD, CT 06002
	WEST HAVEN, CT 06516		(860) 692-7100
LAT./LONG.:	N 41.25637800 / W -72.97244600	PROJECT MANAGER	TRANSCEND WIRELESS LLC
TOWER OWNER:	AMERICAN TOWER CORPORATION		10 INDUSTRIAL AVE, SUITE #3
	116 HUNTINGTON AVE. 11TH FLOOR		MAHWAH, NJ 07430
	BOSTON, MA 02116		

PROJECT DESCRIPTION

T-MOBILE NORTHEAST LLC PROPOSES THE MODIFICATION OF AN EXISTING WIRELESS BROADBAND FACILITY CONSISTING OF REPLACEMENT OF 3 EXISTING APX16 ANTENNAS WITH (3) AIR32 ANTENNAS AND REPLACEMENT OF 3 EXISTING LNX ANTENNAS WITH (3) SBNHH ANTENNAS, ADD (1) (6x12) FIBER TRUNK, REMOVE (6) EXISTING COAX CABLES AND UPGRADE EXISTING CIRCUIT BREAKER TO 100 AMPS.

SHEET INDEX

SHEET	DESCRIPTION
T-1	TITLE SHEET
N-1	CONTRACTOR'S NOTES
A-1	SITE PLAN
A-2	ELEVATION ANTENNA PLAN AND DETAILS
E-1	GROUNDING AND POWER ONE LINE DIAGRAM

SITE NUMBER
CT11821E

SITE NAME
CT821/D&B FLOWER FARM

SITE ADDRESS
668 JONES HILL RD
WEST HAVEN, CT 06516

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

ELECTRICAL NOTES:**WORK INCLUDED**

- INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, PLANT SERVICES AND ADMINISTRATIVE TASKS REQUIRED TO COMPLETE AND MAKE OPERABLE THE ELECTRICAL WORK SHOWN ON THE DRAWINGS AND SPECIFIED HEREIN, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - PREPARE AND SUBMIT SHOP DRAWINGS, DIAGRAMS AND ILLUSTRATIONS.
 - PROCURE ALL NECESSARY PERMITS AND APPROVALS AND PAY ALL REQUIRED FEES AND CHARGES IN CONNECTION WITH THE WORK OF THIS CONTRACT.
 - SUBMIT AS-BUILT DRAWINGS, OPERATING AND MAINTENANCE INSTRUCTIONS AND MANUALS.
 - EXECUTE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING OF EXISTING OR NEWLY INSTALLED CONSTRUCTION REQUIRED FOR THE WORK OF THIS CONTRACT. FOR SLAB PENETRATIONS THROUGH POST TENSION SLABS, X-RAY EXACT AREA OF PENETRATION PRIOR TO PERFORMING WORK. COORDINATE ALL X-RAY WORK WITH BUILDING ENGINEER.
 - PROVIDE HANGERS, SUPPORTS, FOUNDATIONS, STRUCTURAL FRAMING SUPPORTS, AND BASES FOR CONDUIT AND EQUIPMENT PROVIDED OR INSTALLED UNDER THE WORK OF HIS CONTRACT. PROVIDE COUNTER FLASHING, SLEEVES AND SEALS FOR FLOOR AND WALL PENETRATIONS.
 - MAINTAIN ALL EXISTING ELECTRICAL SERVICES IN THE BUILDING AREAS NOT AFFECTED BY THE ALTERATION DURING THE PROGRESS OF THE WORK INCLUDING PROVIDING ALL TEMPORARY JUMPERS, CONDUITS, CAPS, PROTECTIVE DEVICES, CONNECTIONS AND EQUIPMENT REQUIRED. PROVIDE TEMPORARY LIGHT AND POWER FOR CONSTRUCTION PURPOSES.
- IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO CALL FOR AN INSTALLATION THAT IS COMPLETE IN EVERY RESPECT. IT IS NOT THE INTENT TO GIVE EVERY DETAIL ON THE DRAWINGS AND IN THE SPECIFICATIONS. IF AN ITEM OF WORK IS INDICATED IN THE DRAWINGS, IT IS CONSIDERED SUFFICIENT FOR INCLUSION IN THE CONTRACT. FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT USUALLY FURNISHED OR NEEDED TO MAKE A COMPLETE INSTALLATION WHETHER OR NOT SPECIFICALLY MENTIONED IN THE CONTRACT DOCUMENTS.

GENERAL REQUIREMENTS

- PROVIDE ALL WORK IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND LOCAL AND STATE ELECTRICAL CODES.
 - THE ELECTRICAL PLANS ARE DIAGRAMMATIC ONLY. REFER TO THE ARCHITECTURAL PLANS FOR THE EXACT DIMENSIONS OF THE BUILDING.
 - LOAD CALCULATIONS ARE BASED ON EXISTING BUILDING INFORMATION/DRAWINGS PROVIDED TO ENGINEERING. CONTRACTOR IS TO VERIFY ALL EXISTING RATINGS AND LOADS PRIOR TO PURCHASING OF SPECIFIED EQUIPMENT FOR COMPLIANCE TO NEC. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES AND REQUEST FURTHER DIRECTION BY ENGINEER.
 - EXISTING BUILDING EQUIPMENT IS NOTED ON THE DRAWINGS. NEW OR RELOCATED EQUIPMENT IS SHOWN WITH SOLID LINES. FUTURE EQUIPMENT (NOT IN THIS CONTRACT) IS DEPICTED WITH SHADED LINES. REQUEST CLARIFICATION OF DRAWINGS OR OF SPECIFICATIONS PRIOR TO PRICING OR INSTALLATION.
 - GENERAL
 - AFTER CAREFULLY STUDYING THE DRAWINGS AND SPECIFICATIONS, AND BEFORE SUBMITTING THE PROPOSAL, MAKE A MANDATORY SITE VISIT TO ASCERTAIN CONDITIONS OF THE SITE, AND THE NATURE AND EXACT QUANTITY OF WORK TO BE PERFORMED. NO EXTRA COMPENSATION WILL BE ALLOWED FOR FAILURE TO NOTIFY THE OWNER, IN WRITING, OF ANY DISCREPANCIES THAT MAY HAVE BEEN NOTED BETWEEN THE EXISTING CONDITIONS AND THE DRAWINGS AND SPECIFICATIONS.
 - VERIFY ALL MEASUREMENTS AT THE SITE AND BE RESPONSIBLE FOR CORRECTNESS OF SAME.
 - QUALITY, WORKMANSHIP, MATERIALS AND SAFETY
 - PROVIDE NEW MATERIALS AND EQUIPMENT OF A DOMESTIC MANUFACTURER BY THOSE REGULARLY ENGAGED IN THE PRODUCTION AND MANUFACTURE OF SPECIFIED MATERIALS AND EQUIPMENT. WHERE UL, OR OTHER AGENCY, HAS ESTABLISHED STANDARDS FOR MATERIALS, PROVIDE MATERIALS WHICH ARE LISTED AND LABELED ACCORDINGLY. THE COMMERCIALY STANDARD ITEMS OF EQUIPMENT AND THE SPECIFIC NAMES MENTIONED HEREIN ARE INTENDED FOR THE PROPER FUNCTIONING OF THE WORK.
 - WORK SHALL BE PERFORMED BY WORKMEN SKILLED IN THE TRADE REQUIRED FOR THE WORK. INSTALL MATERIALS AND EQUIPMENT TO PRESENT A NEAT APPEARANCE WHEN COMPLETED AND IN ACCORDANCE WITH THE APPROVED RECOMMENDATIONS OF THE MANUFACTURER AND IN ACCORDANCE WITH CONTRACT DOCUMENTS.
 - PROVIDE LABOR, MATERIALS, APPARATUS AND APPLIANCES ESSENTIAL TO THE FUNCTIONING OF THE SYSTEMS DESCRIBED OR INDICATED HEREIN, OR WHICH MAY BE REASONABLY IMPLIED AS ESSENTIAL WHENEVER MENTIONED IN THE CONTRACT DOCUMENT OR NOT.
 - MAKE WRITTEN REQUESTS FOR SUPPLEMENTARY INSTRUCTIONS TO ARCHITECT/ENGINEER IN CASE OF DOUBT AS TO WORK INTENDED OR IN EVENT OF NEED FOR EXPLANATION THEREOF.
 - PERFORMANCE AND MATERIAL REQUIREMENTS SCHEDULED OR SPECIFIED ARE MINIMUM STANDARD ACCEPTABLE. THE RIGHT TO JUDGE THE QUALITY OF EQUIPMENT THAT DEVIATES FROM THE CONTRACT DOCUMENT REMAINS SOLELY WITH ARCHITECT/ENGINEER. CONTRACT DOCUMENT OR NOT.
- GUARANTEE**
- GUARANTEE MATERIALS, PARTS AND LABOR FOR WORK FOR ONE YEAR FROM THE DATE OF ISSUANCE OF OCCUPANCY PERMIT. DURING THAT PERIOD, MAKE GOOD FAULTS OR IMPERFECTIONS THAT MAY ARISE DUE TO DEFECTS OR OMISSIONS IN MATERIALS OR WORKMANSHIP WITH NO ADDITIONAL COMPENSATION AND AS DIRECTED BY ARCHITECT.

CLEANING

- REMOVE ALL CONSTRUCTION DEBRIS RESULTING FROM THE WORK.
- CLEAN EQUIPMENT AND SYSTEMS FOLLOWING THE COMPLETION OF THE PROJECT TO THE SATISFACTION OF THE ENGINEER.

COORDINATION AND SUPERVISION

- CAREFULLY LAY OUT ALL WORK IN ADVANCE TO AVOID UNNECESSARY CUTTING, CHANNELING, CHASING OR DRILLING OF FLOORS, WALLS, PARTITIONS, CEILINGS OR OTHER SURFACES. WHERE SUCH WORK IS NECESSARY, HOWEVER, PATCH AND REPAIR THE WORK IN AN APPROVED MANNER BY SKILLED MECHANICS AT NO ADDITIONAL COST TO THE OWNER. RENDER FULL COOPERATION TO OTHER TRADES WHERE WORK WILL BE INSTALLED IN CLOSE PROXIMITY TO WORK OF OTHER TRADES. ASSIST IN WORKING OUT SPACE CONDITIONS. IF WORK IS INSTALLED BEFORE COORDINATION WITH OTHER TRADES, OR CAUSES INTERFERENCE, MAKE CHANGES NECESSARY TO CORRECT CONDITIONS WITHOUT EXTRA CHARGE.
- SUBMITTALS**
- AS-BUILT DRAWINGS:
 - UPON COMPLETION OF THE WORK, FURNISH TO THE OWNER "AS-BUILT" DRAWINGS.
 - SERVICE MANUALS:
 - UPON COMPLETION OF THE WORK, FULLY INSTRUCT T-MOBILE AS TO THE OPERATION AND MAINTENANCE OF ALL MATERIAL, EQUIPMENT AND SYSTEMS.
 - PROVIDE 3 COMPLETE BOUND SETS OF INSTRUCTIONS FOR OPERATING AND MAINTAINING ALL SYSTEMS AND EQUIPMENT.

CUTTING AND PATCHING

- PROVIDE ALL CUTTING, DRILLING, ROUGH AND FINISH PATCHING REQUIRED TO COMPLETE THE WORK.
- OBTAIN OWNER APPROVAL PRIOR TO CUTTING THROUGH FLOORS OR WALLS FOR PIPING OR CONDUIT.

TESTS, INSPECTION AND APPROVAL

- BEFORE ENERGIZING ANY ELECTRICAL INSTALLATION, INSPECT EACH UNIT IN DETAIL. TIGHTEN ALL BOLTS AND CONNECTIONS (TORQUE-TIGHTEN WHERE REQUIRED) AND DETERMINE THAT ALL COMPONENTS ARE ALIGNED, AND THE EQUIPMENT IS IN SAFE, OPERATIONAL CONDITION.
- PROVIDE THE COMPLETE ELECTRICAL SYSTEM FREE OF GROUND FAULTS AND SHORT CIRCUITS SUCH THAT THE SYSTEM WILL OPERATE SATISFACTORILY UNDER FULL LOAD CONDITIONS, WITHOUT EXCESSIVE HEATING AT ANY POINT IN THE SYSTEM.

SPECIAL REQUIREMENTS

- DO NOT LEAVE ANY WORK INCOMPLETE NOR ANY HAZARDOUS SITUATIONS CREATED WHICH WILL AFFECT THE LIFE OR SAFETY OF THE PUBLIC AND/OR BUILDING OCCUPANTS. DO NOT INTERFERE WITH OR CUTOFF ANY OF THE EXISTING SERVICES WITHOUT THE OWNER'S WRITTEN PERMISSION.
- WHEN NECESSARY TO TEMPORARILY DISCONNECT ANY EXISTING BUILDING UTILITIES AND SERVICE SYSTEMS, INCLUDING FEEDER OR BRANCH CIRCUITING SUPPLYING EXISTING FACILITIES, CONFER WITH THE OWNER AND ARRANGE THE PERIOD OF INTERRUPTION FOR A TIME MUTUALLY AGREED UPON.
SHUTDOWN NOTE: SCHEDULE AND NOTIFY OWNER 48 HOURS PRIOR TO SHUTDOWN. ALL SHUTDOWN WORK TO BE SCHEDULED AT A TIME CONVENIENT TO OWNER.

GROUNDING

- ROUTE ALL GROUNDING CONDUCTORS AS SHOWN ON CONDUIT/GROUNDING RISER.
- ROUTE 500 KCMIL CU. THHN CONDUCTOR FROM THE MGB LOCATION TO BUILDING STEEL. VERIFY BUILDING STEEL IS EFFECTIVELY GROUNDED PER NEC TO THE MAIN SERVICE GROUNDING ELECTRODE CONDUCTOR (GEC).
- MAKE ALL GROUND CONNECTIONS FROM MGB TO ELECTRICAL EQUIPMENT WITH 2 HOLE, CRIMP TYPE, BURNDY COMPRESSION TERMINATIONS, SIZED AS REQUIRED.
- USE 1 HOLE, CRIMP TYPE, BURNDY COMPRESSIONS TERMINATIONS, SIZED AS REQUIRED, AT EQUIPMENT GROUND CONNECTIONS.
- HIRE AN INDEPENDENT LAB TO PERFORM THE SPECIFIED OHMS TESTING. PROVIDE 4 SETS OF THE CERTIFIED DOCUMENTS TO THE OWNER FOR VERIFICATION PRIOR TO THE PROJECT COMPLETION.

RACEWAYS

- ALL WIRING TO BE INSTALLED IN CONDUIT SYSTEMS IN ACCORDANCE WITH THE FOLLOWING:
 - EXTERIOR FEEDERS AND CONTROL, WHERE UNDERGROUND, TO BE IN SCH 40 PVC.
 - EXTERIOR, ABOVE GROUND POWER CONDUITS TO BE GALVANIZED RIGID STEEL (RGS).
 - ALL TELECOMMUNICATION CONDUITS, INTERIOR/EXTERIOR, TO BE EMT.
 - INSTALL PULL ROPES IN ALL NEW EMPTY CONDUITS INSTALLED ON THIS PROJECT.
 - ALL TELECOM CONDUITS AND PULL BOXES INSTALLED ON THIS PROJECT TO BE LABELED "T-MOBILE". OWNER WILL PROVIDE LABELS FOR CONTRACTOR TO INSTALL.
 - INTERIOR FEEDERS TO BE INSTALLED IN E.M.T. WITH STEEL COMPRESSION FITTINGS.
 - MINIMUM SIZE CONDUIT TO BE 3/4" TRADE SIZE UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - FINAL CONNECTIONS TO MOTORS AND VIBRATING EQUIPMENT TO BE INSTALLED IN LIQUID-TIGHT FLEXIBLE METAL CONDUIT.
 - CONDUIT TO BE RUN CONCEALED IN CEILINGS, FINISHED AREAS OR DRYWALL PARTITIONS, UNLESS OTHERWISE NOTED.
 - THE ROUTING OF CONDUITS INDICATED ON THE DRAWINGS IS DIAGRAMMATIC. BEFORE INSTALLING ANY WORK, EXAMINE THE WORKING LAYOUTS AND SHOP DRAWINGS OF THE OTHER TRADES TO DETERMINE THE EXACT LOCATIONS AND CLEARANCES.
 - ALL EXTERIOR MOUNTING HARDWARE TO BE GALVANIZED STEEL. COORDINATE WITH BUILDING ENGINEER PRIOR TO ATTACHING TO BUILDING STRUCTURE.

RACEWAYS CONT'D

- PENETRATIONS OF WALLS, FLOORS AND ROOFS, FOR THE PASSAGE OF ELECTRICAL RACEWAYS, TO BE PROPERLY SEALED AFTER INSTALLATION OF RACEWAYS SO AS TO MAINTAIN THE STRUCTURAL OR WATERPROOF INTEGRITY OF THE WALL, FLOOR OR ROOF SYSTEM TO BE PENETRATED. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE OR SMOKE RATED WALLS, CEILINGS OR SMOKE TIGHT CORRIDOR PARTITIONS TO MAINTAIN PROPER RATING OF WALL OR CEILING.
- PROVIDE ALL CONDUIT ENDS WITH INSULATED METALLIC GROUNDING BUSHINGS.
- CONDUIT TO BE SUPPORTED AT MAXIMUM DISTANCE OF 8'-0", OR AS REQUIRED BY NEC, IN HORIZONTAL AND VERTICAL DIRECTIONS.
- PROVIDE STAINLESS STEEL BLANK COVER PLATES FOR ALL JUNCTION BOXES AND/OR OUTLET BOXES NOT USED IN EXPOSED AREAS. PROVIDE ALL OTHER UNUSED BOXES WITH STANDARD STEEL COVER PLATES.
- WHERE APPLICABLE, PROVIDE ROOFTOP CONDUIT SUPPORT SYSTEM, CONFORMING TO ROOFTOP WARRANTY REQUIREMENTS, PER BUILDING.

WIRES AND CABLES

- CONTRACTOR TO COORDINATE WITH EQUIPMENT SUPPLIER AND VENDOR FOR EXACT EQUIPMENT OVER-CURRENT PROTECTION VOLTAGE, WIRE SIZE AND PLUG CONFIGURATION, IF APPLICABLE, PRIOR TO BID.
- ALL EQUIPMENT/DEVICES TO BE PROVIDED WITH INSULATED GROUND CONDUCTOR.
- ALL WIRE AND CABLE TO BE 600VOLT, COPPER, WITH THWN/THHN INSULATION, EXCEPT AS NOTED.
- WIRE FOR POWER AND LIGHTING WILL NOT BE LESS THAN NO. 12AWG. ALL WIRE NO. 8 AND LARGER TO BE STRANDED.
- CONTROL WIRING IS NOT TO BE LESS THAN NO. 14AWG, FLEXIBLE IN SINGLE CONDUCTORS OR MULTI-CONDUCTOR CABLES. CONTROL WIRING WILL CONSIST OF MULTI-CONDUCTOR CABLES WHEREVER POSSIBLE. CABLES TO BE PROVIDED WITH AN OVERALL FLAME-RETARDANT, EXTRUDED JACKET AND RATED FOR PLENUM USE. ALL CONTROL WIRE TO BE 600VOLT RATED.
- WIRE PREVIOUSLY PULLED INTO CONDUIT IS CONSIDERED USED AND IS NOT TO BE RE-PULLED.
- HOME RUNS AND BRANCH CIRCUIT WIRING FOR 20A, 120V CIRCUITS:

LENGTH (FT.)	HOME RUN WIRE SIZE
0 TO 50	NO. 12
51 TO 100	NO. 10
101 TO 150	NO. 8
- VOLTAGE DROP IS NOT TO EXCEED 3%.
- MAKE ALL CONNECTIONS WITH UL APPROVED, SOLDERLESS, PRESSURE TYPE INSULATED CONNECTORS: SCOTCHKOK OR AND APPROVED EQUAL.

WIRING DEVICES

- ALL RECEPTACLES INSTALLED IN THIS PROJECT TO BE GROUNDING TYPE, WITH GROUNDING PIN SLOT CONNECTED TO DEVICE GROUND SCREW FOR GROUND WIRE CONNECTION.

DISCONNECT SWITCHES AND FUSES

- DISCONNECT SWITCHES TO BE VOLTAGE-RATED TO SUIT THE CHARACTERISTICS OF THE SYSTEM FROM WHICH THEY ARE SUPPLIED.
- PROVIDE HEAVY-DUTY, METAL-ENCLOSED, EXTERNALLY-OPERATED DISCONNECT SWITCHES, FUSED OR UNFUSED, OF SUCH TYPE AND SIZE AS REQUIRED TO PROPERLY PROTECT OR DISCONNECT THE LOAD FOR WHICH THEY ARE INTENDED.
- PROVIDE NEMA 1 DISCONNECT SWITCHES FOR INTERIOR INSTALLATION, NEMA 3R FOR EXTERIOR INSTALLATION.
- DISCONNECT SWITCHES TO BE MANUFACTURED BY:
 - GENERAL ELECTRIC COMPANY
 - SQUARE-D
- PROVIDE RK-1 TYPE FUSES, UNLESS NOTED OTHERWISE.

INSTALLATION

- INSTALL DISCONNECT SWITCHES WHERE INDICATED ON DRAWINGS.
- INSTALL FUSES IN FUSIBLE DISCONNECT SWITCHES. FUSES MUST MATCH IN TYPE AND RATING.
- FUSES TO BE MOUNTED SO THAT THE LABELS SHOWING THEIR RATINGS CAN BE READ WITHOUT REQUIRING FUSE REMOVAL.
- FURNISH AND DEPOSIT SPARE FUSES AT THE JOB SITE AS FOLLOWS:
 - THREE SPARES FOR EACH TYPE AND SIZE, IN EXCESS OF 60A, USED FOR INITIAL FUSING.
 - TEN PERCENT SPARES FOR EACH TYPE AND SIZE, UP TO AND INCLUDING 60A, USED FOR INITIAL FUSING. IN NO CASE WILL LESS THAN THREE FUSES OF ONE PARTICULAR TYPE AND SIZE BE FURNISHED.

GENERAL NOTES:**INTENT**

- THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS ACCOMPANYING THEM DESCRIBE THE WORK TO BE DONE AND THE MATERIALS TO BE FURNISHED FOR CONSTRUCTION.
- THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED, OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH.
- THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.
- THE PURPOSE OF THE SPECIFICATIONS IS TO INTERPRET THE INTENT OF THE DRAWINGS AND TO DESIGNATE THE METHOD OF THE PROCEDURE, TYPE AND QUALITY OF MATERIALS REQUIRED TO COMPLETE THE WORK.
- MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED AS PART OF THE WORK. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK WILL BE MADE OR PERMITTED BY THE OWNER WITHOUT ISSUING A CHANGE ORDER.

CONFLICTS

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATIONS OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE OWNER FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS.
- THE BIDDER, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING CONCERNING SUCH BIDDER MIGHT HAVE FULLY INFORMED THEMSELVES PRIOR TO THE BIDDING.
- NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES OR CONDITIONS THAT MAY BE ENCOUNTERED, OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS GOVERNING THE WORK.

CONTRACTS AND WARRANTIES

- CONTRACTOR IS RESPONSIBLE FOR APPLICATION AND PAYMENT OF CONTRACTOR LICENSES AND BONDS.
- SEE MASTER CONTRACTOR SERVICES AGREEMENT FOR ADDITIONAL DETAILS.

STORAGE

- ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY FASHION AND IN A MANNER THAT DOES NOT NECESSARILY OBSTRUCT THE FLOW OF OTHER WORK. ANY STORAGE METHOD MUST MEET ALL RECOMMENDATIONS OF THE ASSOCIATED MANUFACTURER.

CLEANUP

- THE CONTRACTORS SHALL, AT ALL TIMES, KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR EMPLOYEES AT WORK AND AT THE COMPLETION OF THE WORK. THEY SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE BUILDING AREA, INCLUDING ALL THEIR TOOLS, SCAFFOLDING AND SURPLUS MATERIALS AND SHALL LEAVE THEIR WORK CLEAN AND READY TO USE.
- EXTERIOR
 - VISUALLY INSPECT EXTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER.
 - REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
 - IF NECESSARY, TO ACHIEVE A UNIFORM DEGREE OF CLEANLINESS, HOSE DOWN THE EXTERIOR OF THE STRUCTURE.
- INTERIOR
 - VISUALLY INSPECT INTERIOR SURFACE AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER FROM WALLS, FLOOR, AND CEILING.
 - REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
 - REMOVE PAINT DROPPINGS, SPOTS, STAINS, AND DIRT FROM FINISHED SURFACES.

CHANGE ORDER PROCEDURE:

- REFER TO SECTION 17 OF SIGNED MCSA: SEE PROFESSIONAL SERVICE AGREEMENT FOR MCSA.

RELATED DOCUMENTS AND COORDINATION

- GENERAL CARPENTRY, ELECTRICAL AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCE OF THE WORK, THE CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORDINATION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

SHOP DRAWINGS

- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS REQUIRED AND LISTED IN THESE SPECIFICATIONS TO THE OWNER FOR APPROVAL.
- ALL SHOP DRAWINGS SHALL BE REVIEWED, CHECKED AND CORRECTED BY CONTRACTOR PRIOR TO SUBMITAL TO THE OWNER.

PRODUCTS AND SUBSTITUTIONS

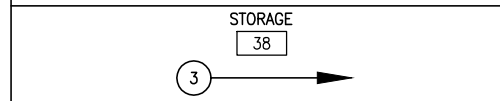
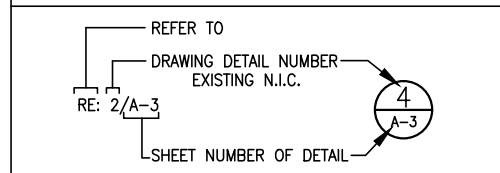
- SUBMIT 3 COPIES OF EACH REQUEST FOR SUBSTITUTION. IN EACH REQUEST, IDENTIFY THE PRODUCT OR FABRICATION OR INSTALLATION METHOD TO BE REPLACED BY THE SUBSTITUTION. INCLUDE RELATED SPECIFICATION SECTION AND DRAWING NUMBERS AND COMPLETE DOCUMENTATION SHOWING COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS.
- SUBMIT ALL NECESSARY PRODUCT DATA AND CUT SHEETS WHICH PROPERLY INDICATE AND DESCRIBE THE ITEMS, PRODUCTS AND MATERIALS BEING INSTALLED. THE CONTRACTOR SHALL, IF DEEMED NECESSARY BY THE OWNER, SUBMIT ACTUAL SAMPLES TO THE OWNER FOR APPROVAL IN LIEU OF CUT SHEETS.

QUALITY ASSURANCE

- ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THESE SHALL INCLUDE, BUT NOT BE LIMITED TO THE APPLICABLE CODES SET FORTH BY THE LOCAL GOVERNING BODY. SEE "CODE COMPLIANCE" T-1.

ADMINISTRATION

- BEFORE THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR WILL ASSIGN A PROJECT MANAGER WHO WILL ACT AS A SINGLE POINT OF CONTACT FOR ALL PERSONNEL INVOLVED IN THIS PROJECT. THIS PROJECT MANAGER WILL DEVELOP A MASTER SCHEDULE FOR THE PROJECT WHICH WILL BE SUBMITTED TO THE OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK.
 - SUBMIT A BAR TYPE PROGRESS CHART, NOT MORE THAN 3 DAYS AFTER THE DATE ESTABLISHED FOR COMMENCEMENT OF THE WORK ON THE SCHEDULE, INDICATING A TIME BAR FOR EACH MAJOR CATEGORY OR UNIT OF WORK TO BE PERFORMED AT THE SITE, PROPERLY SEQUENCED AND COORDINATED WITH OTHER ELEMENTS OF WORK AND SHOWING COMPLETION OF THE WORK SUFFICIENTLY IN ADVANCE OF THE DATE ESTABLISHED FOR SUBSTANTIAL COMPLETION OF THE WORK.
 - PRIOR TO COMMENCING CONSTRUCTION, THE OWNER SHALL SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES. THIS WOULD INCLUDE, BUT NOT LIMITED TO, THE OWNER, PROJECT MANAGER, CONTRACTOR, LAND OWNER REPRESENTATIVE, LOCAL TELEPHONE COMPANY, TOWER ERECTION FOREMAN (IF SUBCONTRACTED).
 - CONTRACTOR SHALL BE EQUIPPED WITH SOME MEANS OF CONSTANT COMMUNICATIONS, SUCH AS A MOBILE PHONE OR A BEEPER. THIS EQUIPMENT WILL NOT BE SUPPLIED BY THE OWNER, NOR WILL WIRELESS SERVICE BE ARRANGED.
 - DURING CONSTRUCTION, CONTRACTOR MUST ENSURE THAT EMPLOYEES AND SUBCONTRACTORS WEAR HARD HATS AT ALL TIMES. CONTRACTOR WILL COMPLY WITH ALL WPSC SAFETY REQUIREMENTS IN THEIR AGREEMENT.
 - PROVIDE WRITTEN DAILY UPDATES ON SITE PROGRESS TO THE OWNER.
 - COMPLETE INVENTORY OF CONSTRUCTION MATERIALS AND EQUIPMENT IS REQUIRED PRIOR TO START OF CONSTRUCTION.
 - NOTIFY THE OWNER/PROJECT MANAGER IN WRITING NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, TOWER ERECTIONS, AND EQUIPMENT CABINET PLACEMENTS.
- INSURANCE AND BONDS**
- CONTRACTOR, AT THEIR OWN EXPENSE, SHALL CARRY AND MAINTAIN, FOR THE DURATION OF THE PROJECT, ALL INSURANCE, AS REQUIRED AND LISTED, AND SHALL NOT COMMENCE WITH THEIR WORK UNTIL THEY HAVE PRESENTED AN ORIGINAL CERTIFICATE OF INSURANCE STATING ALL COVERAGES TO THE OWNER. REFER TO THE MASTER AGREEMENT FOR REQUIRED INSURANCE LIMITS.
 - THE OWNER SHALL BE NAMED AS AN ADDITIONAL INSURED ON ALL POLICIES.
 - CONTRACTOR MUST PROVIDE PROOF OF INSURANCE.

ARCHITECTURAL SYMBOLS**DETAIL REFERENCE KEY****T-MOBILE NORTHEAST, LLC**

35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX: (860) 692-7159



10 INDUSTRIAL AVE
MAHWAH NJ 07430
TRANSCEND@TRANSCENDWIRELESS.COM
TELEPHONE: (201) 684-0066

FORESITE LLC

SITE DESIGN SERVICES
462 WALNUT STREET
NEWTON, MA 02460
TEL: 617-527-3031

SUBMITTALS

DATE	DESCRIPTION	REVISION
06/16/16	ISSUED FOR REVIEW	A
07/1/16	FINAL CD	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO:	CT11821E
DRAWN BY:	MS
CHECKED BY:	SW



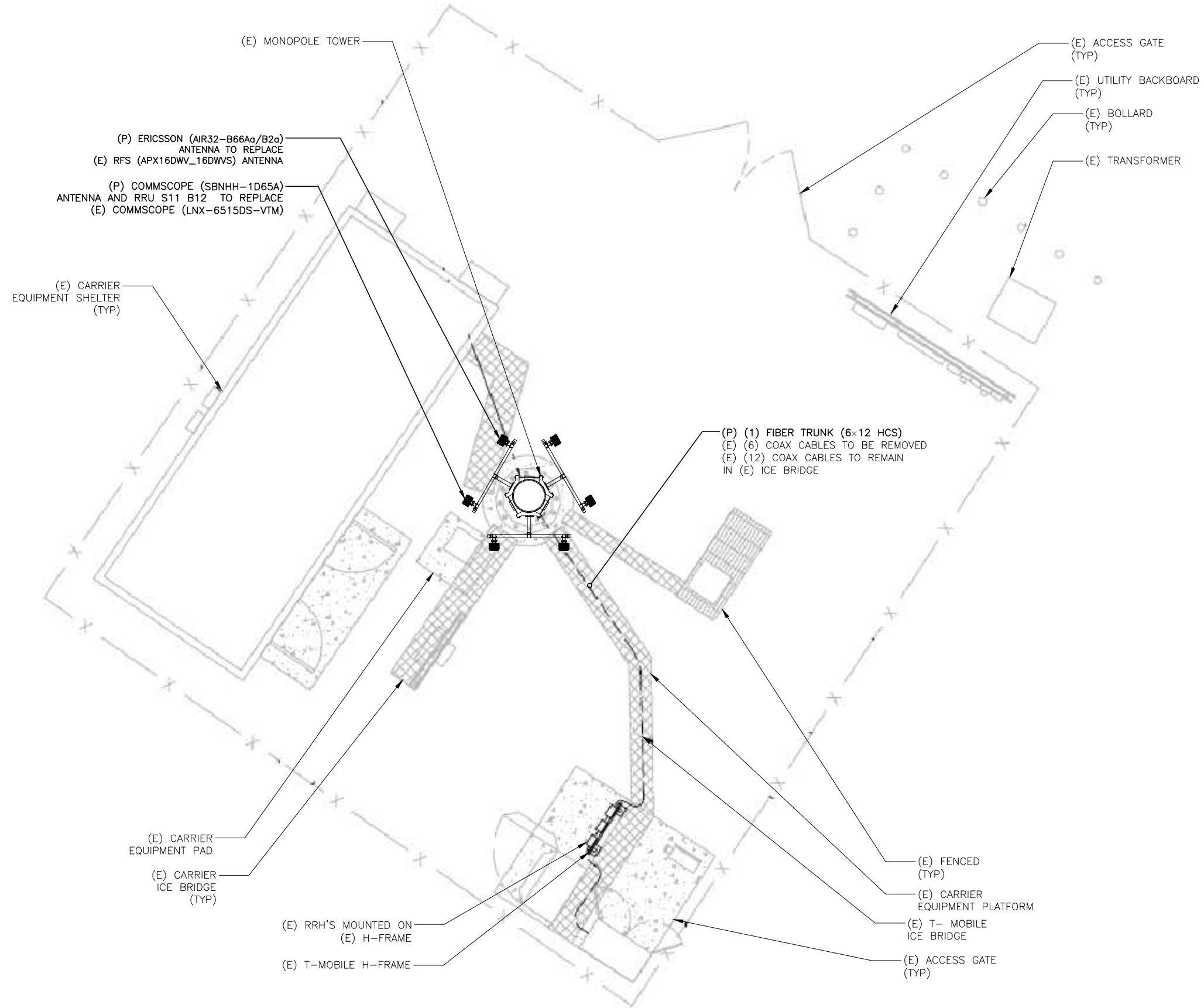
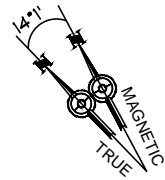
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SITE NUMBER**CT11821E****SITE NAME**

CT821/D&B FLOWER FARM

SITE ADDRESS668 JONES HILL RD
WEST HAVEN, CT 06516**SHEET TITLE****CONTRACTOR'S NOTES****SHEET NUMBER****N-1**

REFER TO STRUCTURAL ANALYSIS REPORT BY AMERICAN TOWER CORPORATION, DATED JUNE 9, 2016 PENDING MODIFICATIONS.



(P) ERICSSON (AIR32-B66Aa/B2a) ANTENNA TO REPLACE
(E) RFS (APX16DWV_16DWVS) ANTENNA

(P) COMMSCOPE (SBNHH-1D65A) ANTENNA AND RRU S11 B12 TO REPLACE
(E) COMMSCOPE (LNX-6515DS-VTM)

(E) CARRIER EQUIPMENT SHELTER (TYP)

(E) CARRIER EQUIPMENT PAD
(E) CARRIER ICE BRIDGE (TYP)

(E) RRH'S MOUNTED ON (E) H-FRAME
(E) T-MOBILE H-FRAME

(P) (1) FIBER TRUNK (6x12 HCS)
(E) (6) COAX CABLES TO BE REMOVED
(E) (12) COAX CABLES TO REMAIN IN (E) ICE BRIDGE

(E) ACCESS GATE (TYP)
(E) UTILITY BACKBOARD (TYP)
(E) BOLLARD (TYP)
(E) TRANSFORMER

(E) FENCED (TYP)
(E) CARRIER EQUIPMENT PLATFORM
(E) T-MOBILE ICE BRIDGE
(E) ACCESS GATE (TYP)

GENERAL SITE NOTES

1. SITE INFORMATION WAS OBTAINED FROM A FIELD INVESTIGATION PERFORMED BY ATLANTIS GROUP, INC. CONTRACTOR TO FIELD VERIFY DIMENSIONS AS NECESSARY BEFORE CONSTRUCTION.
2. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE SIGNS OF ADVERTISING.
3. THE PROPOSED DEVELOPMENT IS UNMANNED AND THEREFORE DOES NOT REQUIRE A MEANS OF WATER SUPPLY OR SEWAGE DISPOSAL.
4. NO LANDSCAPING WORK IS PROPOSED IN CONJUNCTION WITH THIS DEVELOPMENT OTHER THAN THAT WHICH IS SHOWN.
5. THE PROPOSED DEVELOPMENT DOES NOT INCLUDE OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES.
6. UTILITIES SHOWN ON PLAN ARE TAKEN FROM OWNERS RECORDS AND FIELD LOCATION OF VISIBLE SURFACE FEATURES. THE EXISTENCE, EXTENT AND EXACT HORIZONTAL AND VERTICAL LOCATIONS OF UTILITIES HAS NOT BEEN VERIFIED. ANY CONTRACTOR PERFORMING WORK ON THIS SITE MUST CONTACT CALL BEFORE YOU DIG THREE WORKING DAYS PRIOR TO COMMENCING WORK.
7. ALL OBSOLETE OR UNUSED FACILITIES SHALL BE REMOVED WITHIN 12 MONTHS OF CESSATION OF OPERATIONS.

SITE LEGEND

- SITE PROPERTY LINE
- STREET OR ROAD
- x - CHAIN LINK FENCE
- o — OPAQUE WOODEN FENCE
- □ — BOARD ON BOARD FENCE
- DECIDUOUS TREES/SHRUBS
- EVERGREEN TREES/SHRUBS
- TREE LINE
- UTILITY POLE
- (E) EXISTING
- (N) NEW
- (P) PROPOSED
- (F) FUTURE
- PROP. LTE ANTENNA
- PROP. UMS/GSM ANTENNA
- EX. GSM ANTENNA
- EX. UMS ANTENNA

T-Mobile
T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
FAX: (860) 692-7159

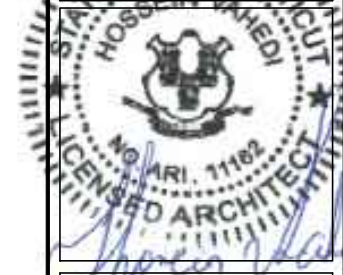
Transcend Wireless
10 INDUSTRIAL AVE
MAHWAH NJ 07430
TRANSCEND@TRANSCENDWIRELESS.COM
TELEPHONE: (201) 684-0066

FORESITE LLC
SITE DESIGN SERVICES
462 WALNUT STREET
NEWTON, MA 02460
TEL: 617-527-3031

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RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: CT11821E
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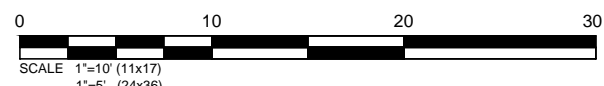
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SITE NAME
CT821/D&B FLOWER FARM
SITE ADDRESS
668 JONES HILL RD
WEST HAVEN, CT 06516

SHEET TITLE
SITE PLAN

SHEET NUMBER
A-1

SITE PLAN
SCALE 1"=10' (11x17)
1"=5' (24x36)

1
A-1



REFER TO STRUCTURAL ANALYSIS REPORT BY AMERICAN TOWER CORPORATION, DATED JUNE 9, 2016 PENDING MODIFICATIONS.



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35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
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MAHWAH NJ 07430
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TELEPHONE: (201) 684-0066

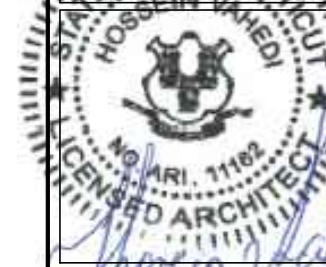
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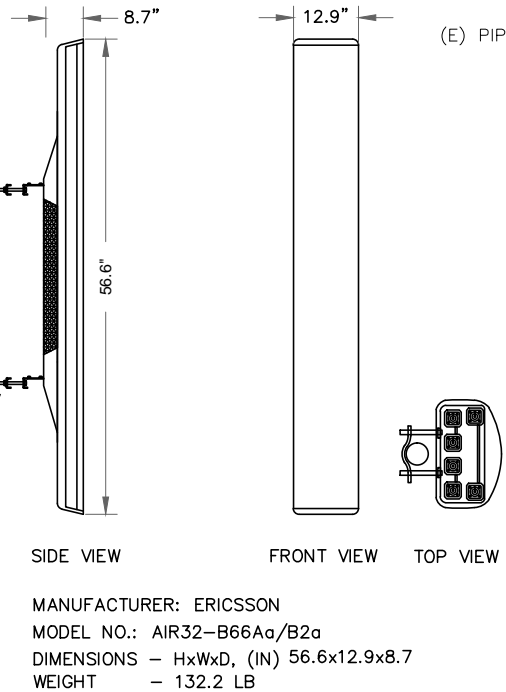
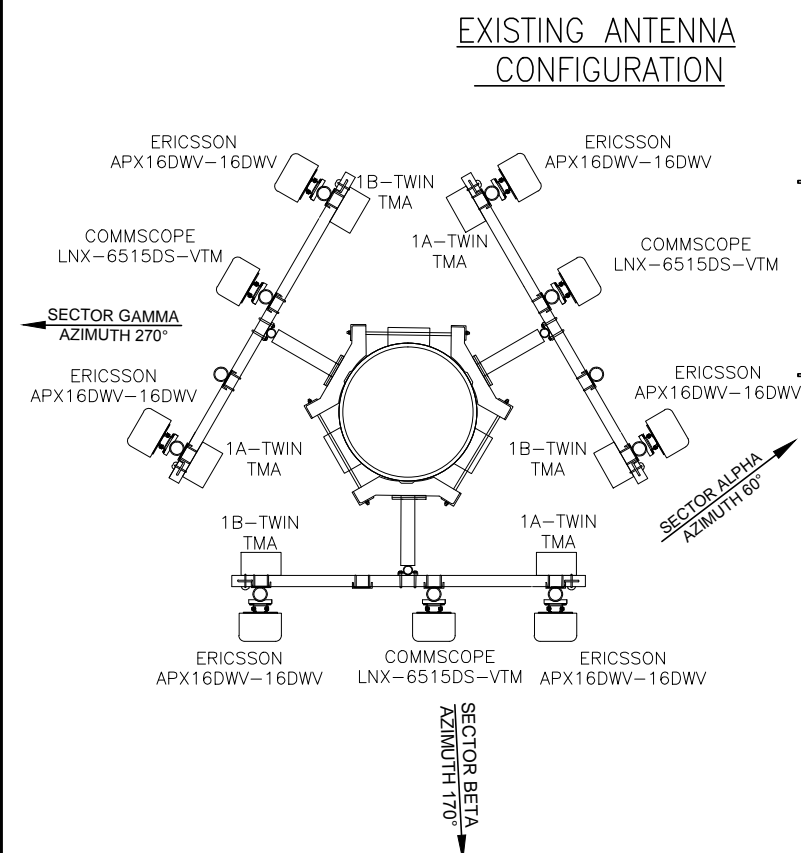


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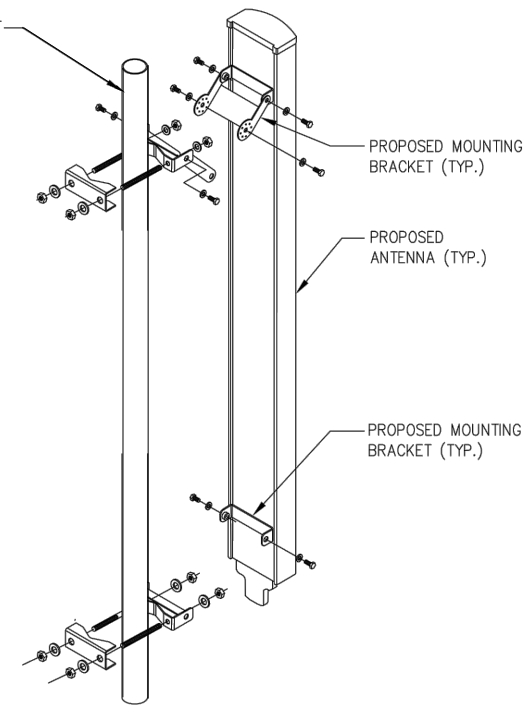
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ELEVATION

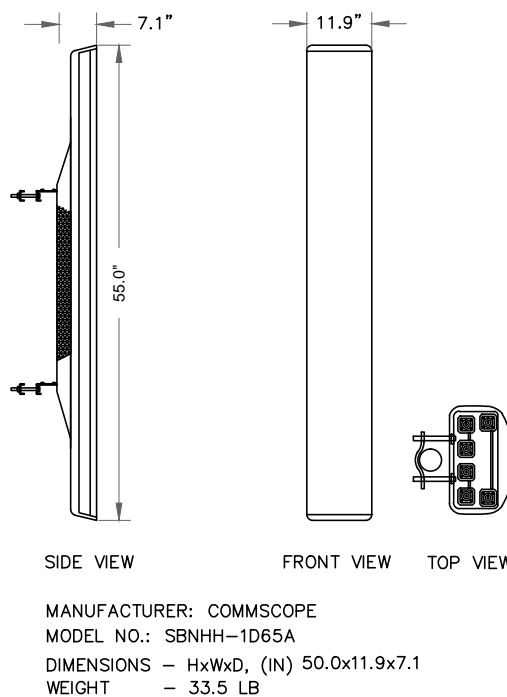
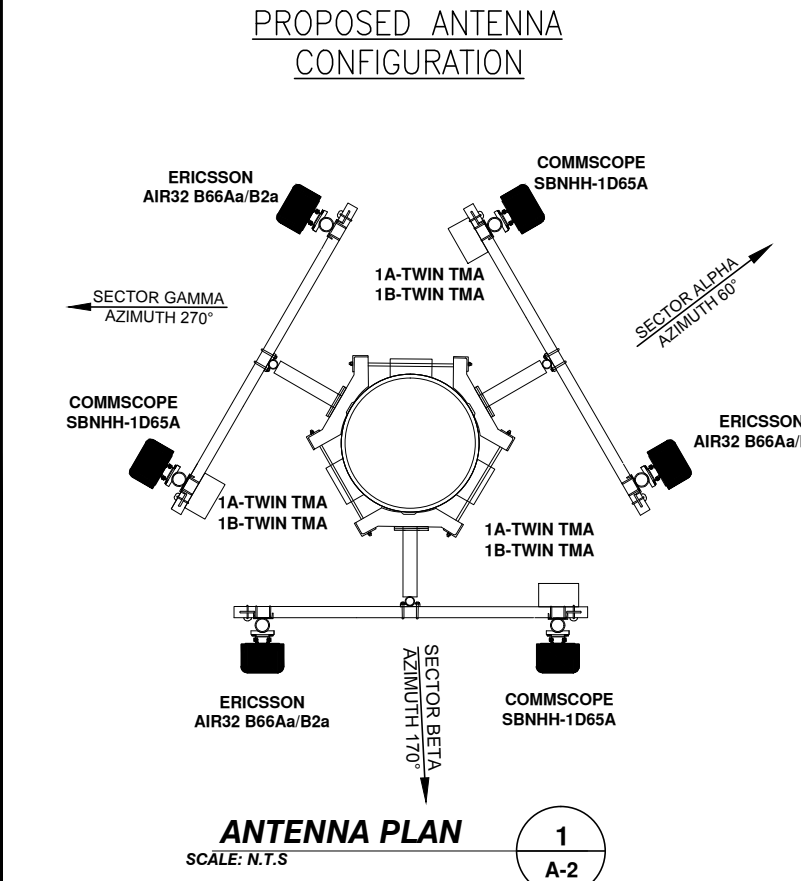
SHEET NUMBER
A-2



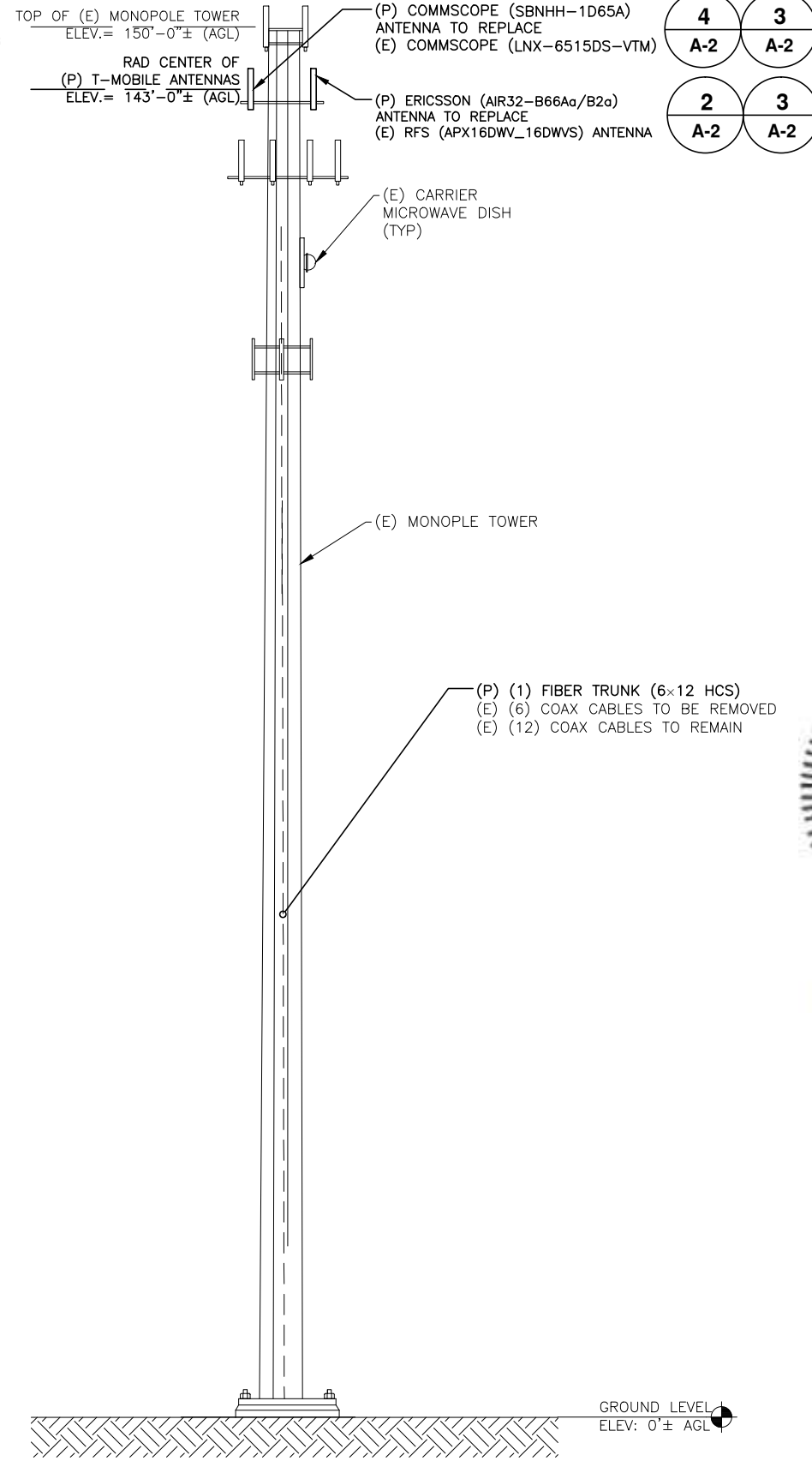
ERICSSON AIR32- B66Aa/B2a ANTENNA DETAIL
SCALE: N.T.S. 2
A-2



MOUNTING DETAIL 3
A-2



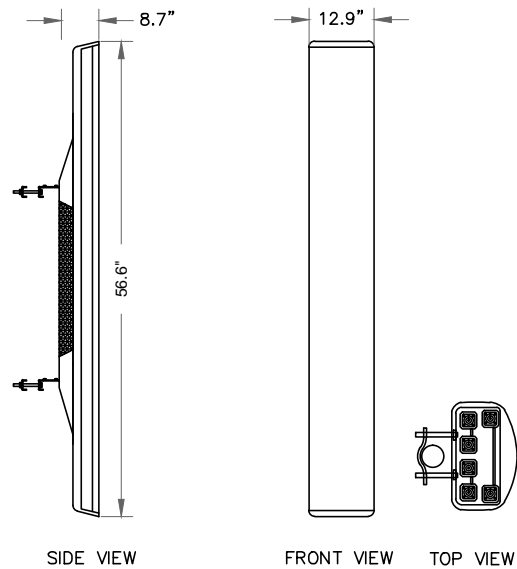
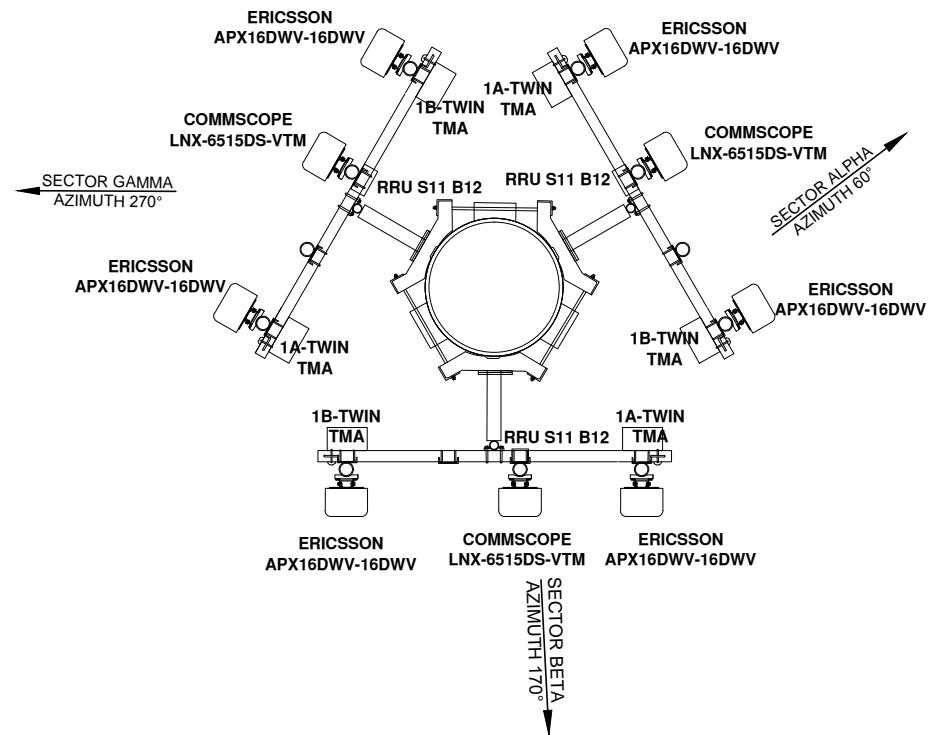
COMMSCOPE SBNHH-1D65A ANTENNA DETAIL
SCALE: N.T.S. 4
A-2



ELEVATION
SCALE: N.T.S. 5
A-2

REFER TO STRUCTURAL ANALYSIS REPORT BY AMERICAN TOWER CORPORATION, DATED JUNE 9, 2016 PENDING MODIFICATIONS.

EXISTING ANTENNA CONFIGURATION

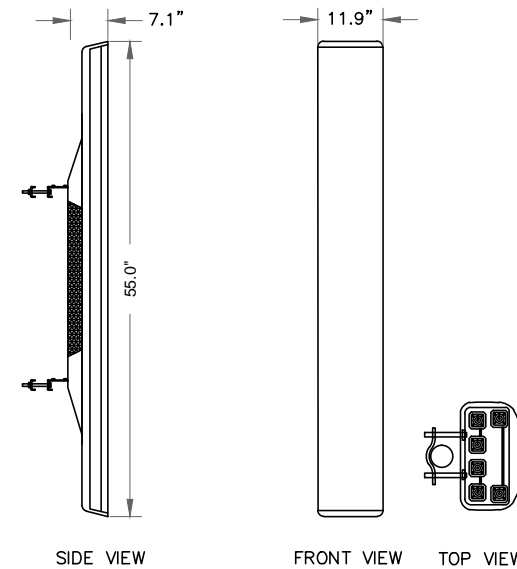


MANUFACTURER: ERICSSON
 MODEL NO.: AIR32-B66Aa/B2a
 DIMENSIONS - HxWxD, (IN) 56.6x12.9x8.7
 WEIGHT - 132.2 LB

ERICSSON AIR32- B66Aa/B2a ANTENNA DETAIL

SCALE: N.T.S

2
A-3



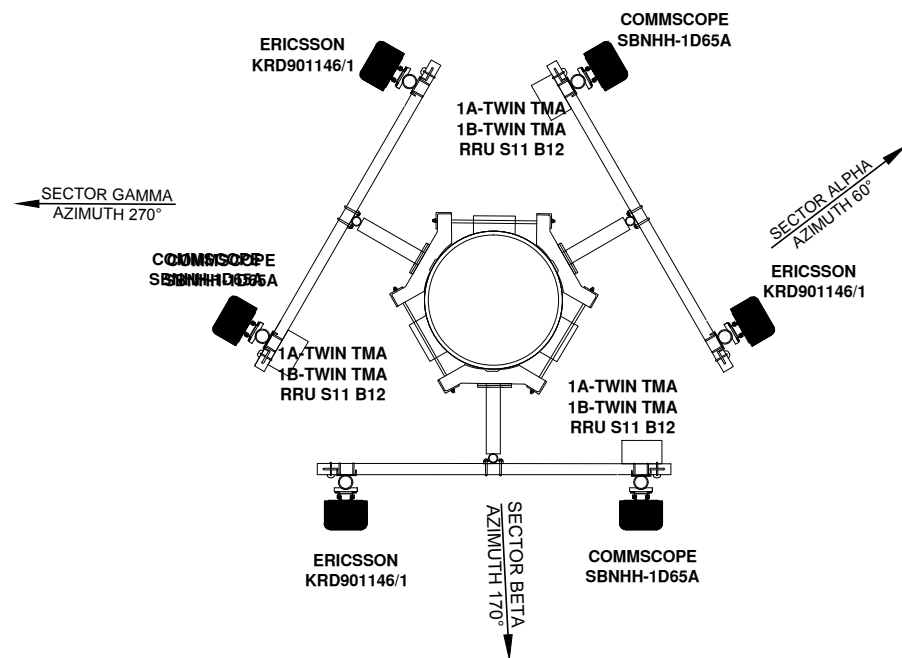
MANUFACTURER: COMMSCOPE
 MODEL NO.: SBNHH-1D65A
 DIMENSIONS - HxWxD, (IN) 50.0x11.9x7.1
 WEIGHT - 33.5 LB

COMMSCOPE SBNHH-1D65A ANTENNA DETAIL

SCALE: N.T.S

3
A-3

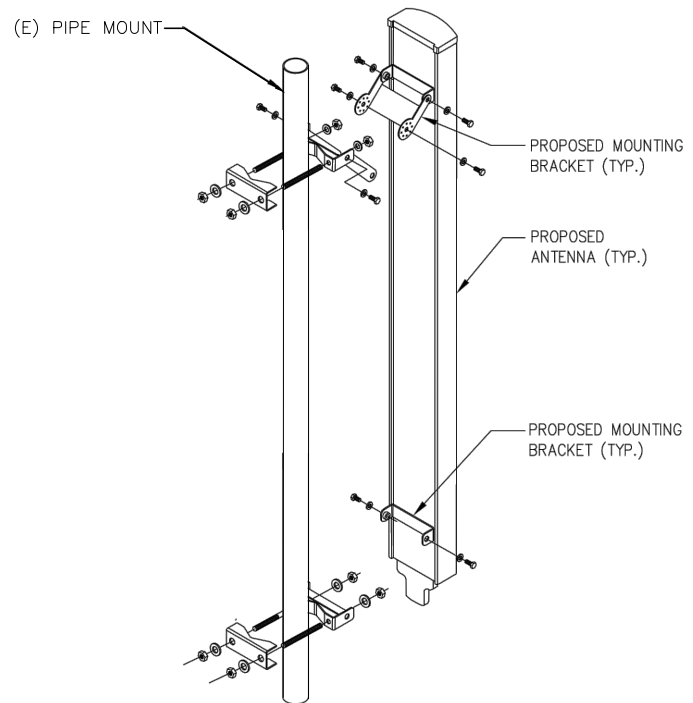
PROPOSED ANTENNA CONFIGURATION



ANTENNA PLAN

SCALE: N.T.S

1
A-2



MOUNTING DETAIL

4
A-3



T-MOBILE NORTHEAST, LLC
 35 GRIFFIN ROAD SOUTH
 BLOOMFIELD, CT 06002
 OFFICE: (860) 692-7100
 FAX: (860) 692-7159



10 INDUSTRIAL AVE
 MAHWAH NJ 07430
 TRANSCEND@TRANSCENDWIRELESS.COM
 TELEPHONE: (201) 684-0066

FORESITE LLC

SITE DESIGN SERVICES
 462 WALNUT STREET
 NEWTON, MA 02460
 TEL: 617-527-3031

SUBMITTALS		
DATE	DESCRIPTION	REVISION
06/14/16	ISSUED FOR REVIEW	A
07/11/16	FINAL CD	0

DEPT.	DATE	APP'D	REVISIONS
RFE			
RF MAN.			
ZONING			
OPS			
CONSTR.			
SITE AC.			

PROJECT NO: CT11821E
 DRAWN BY: MS
 CHECKED BY: SW



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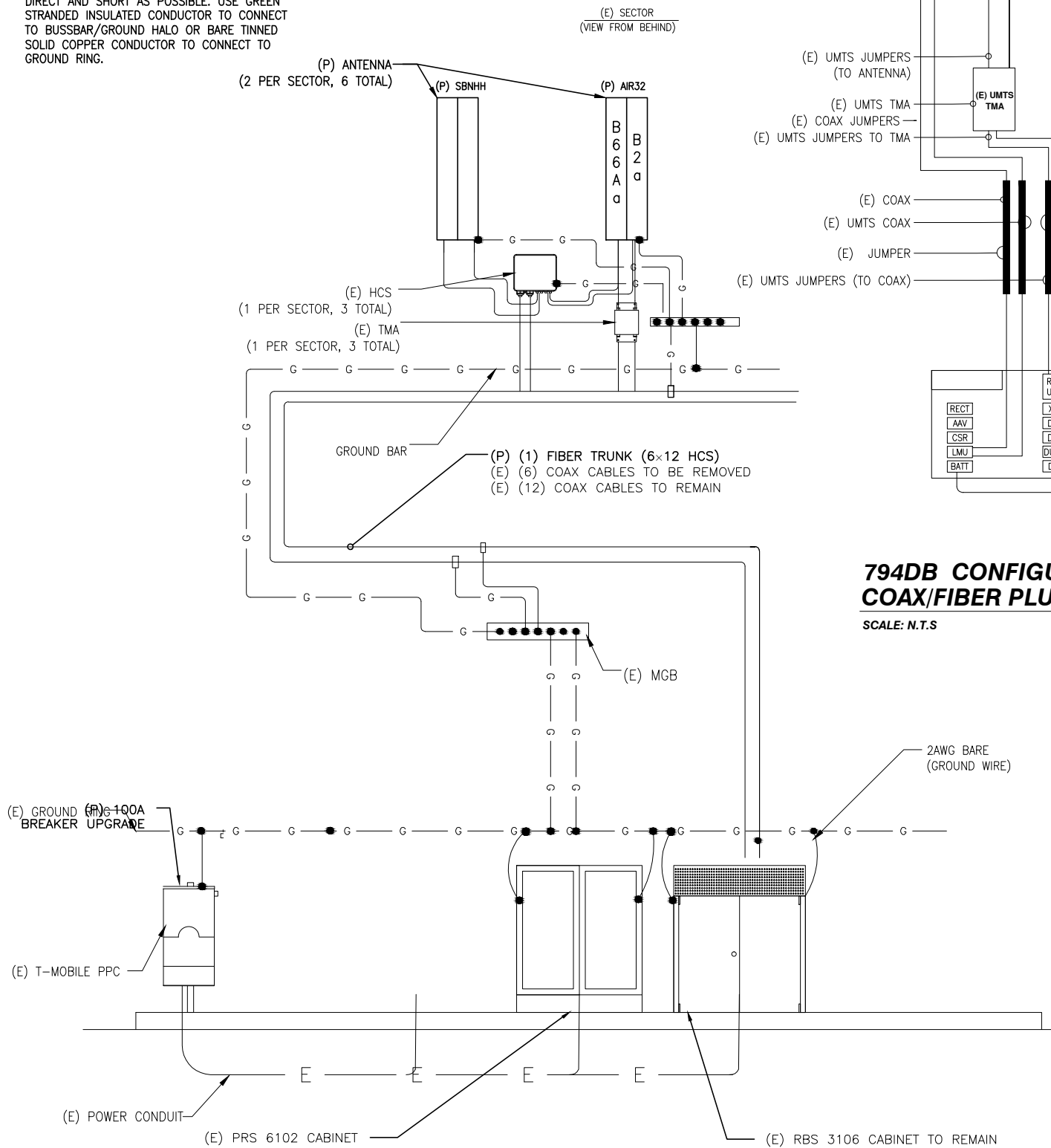
SITE NUMBER
CT11821E
 SITE NAME
 CT821/D&B FLOWER FARM
 SITE ADDRESS
 668 JONES HILL RD
 WEST HAVEN, CT 06516

SHEET TITLE
ANTENNA PLAN AND DETAILS

SHEET NUMBER
A-2

NOTES:

- PROVIDE #2AWG GROUNDING CONDUCTOR, U.O.N.
- DO NOT INSTALL GROUND KIT AT BEND. DIRECT GROUND WIRE DOWN TO ANTENNA BUSSBAR.
- PROVIDE GROUNDING ELECTRODES IN QUANTITY, TYPE AND SIZE AS INDICATED ON SITE GROUNDING PLAN.
- ADD COAX GROUND KIT CONNECTION TO BUSSBAR WHEN LENGTH OF COAX RUN (FROM EQUIPMENT TO ANTENNA) IS GREATER THAN 20'-0".
- GROUND HCS BOX W/ #2AWG GROUNDING CONDUCTOR ATTACHED TO GOOD GROUND AS DIRECT AND SHORT AS POSSIBLE. USE GREEN STRANDED INSULATED CONDUCTOR TO CONNECT TO BUSSBAR/GROUND HALO OR BARE TINNED SOLID COPPER CONDUCTOR TO CONNECT TO GROUND RING.



GROUNDING DIGRAM

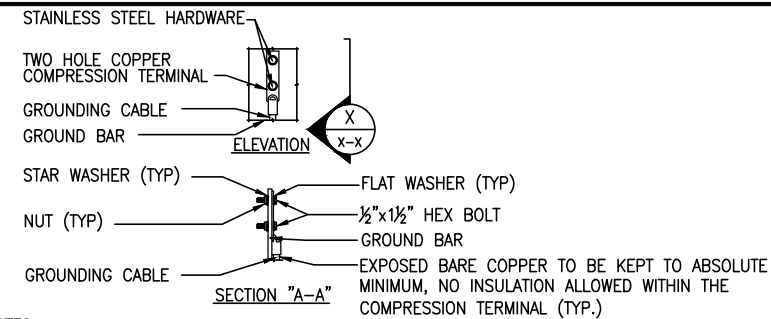
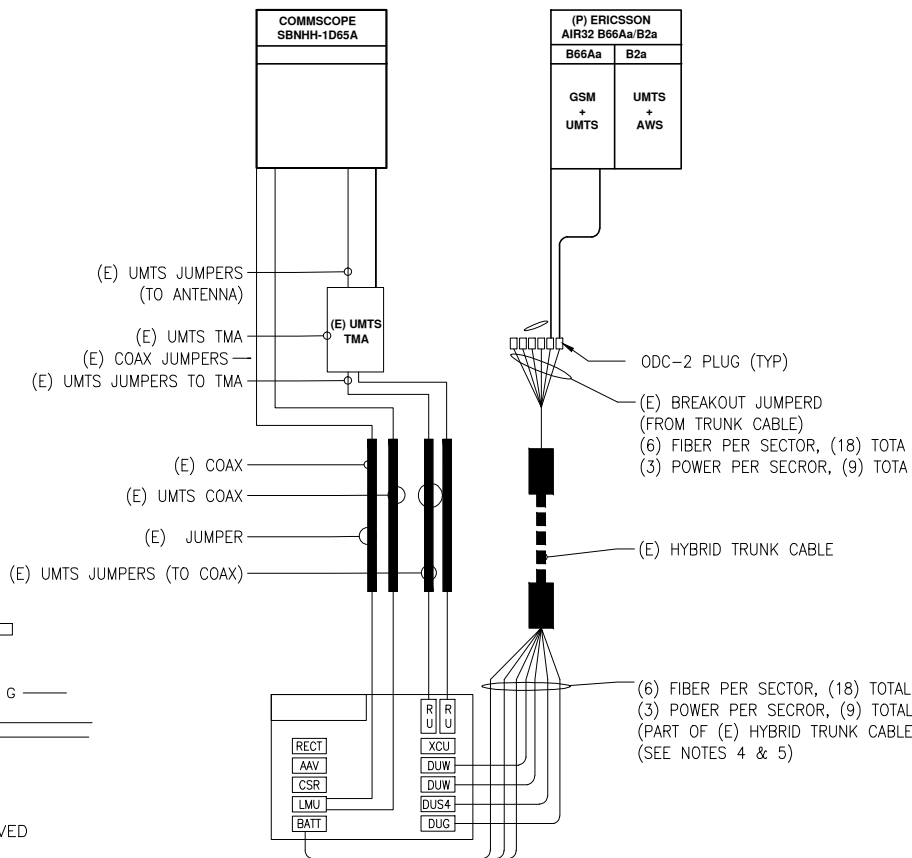
SCALE: N.T.S

1
E-1

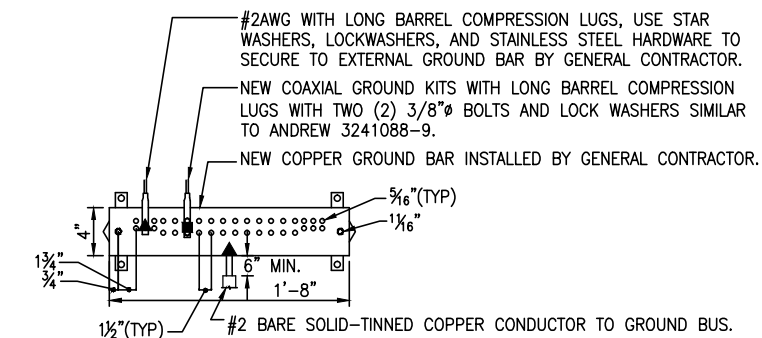
794DB CONFIGURATION COAX/FIBER PLUMBING DIAGRAM

SCALE: N.T.S

2
E-1



- NOTES:
- OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.



- NOTES:
- ALL HARDWARE STAINLESS STEEL COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
 - FOR GROUND BOND TO STEEL ONLY: INSERT A TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
 - ALL HOLES ARE COUNTERSUNK 1/16".

TYPICAL GROUND BAR CONNECTIONS DETAIL

SCALE: N.T.S

3
E-1

TRUNK FIBER NOTES:

- IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO 3/8" COAXIAL CABLE, AND SIMILAR INSTALLATION TECHNIQUES APPLY. ALL CABLES ARE INDIVIDUALLY SERIALIZED, BE SURE TO WRITE DOWN THE CABLE SERIAL NUMBER FOR FUTURE REFERENCE.
- THE TERMINATED FIBER ENDS (THE BROKEN OUT FIBERS PLUS CONNECTORS) HOWEVER ARE FRAGILE, AND THESE MUST BE PROTECTED DURING THE INSTALLATION PROCESS.
- LEAVE THE PROTECTIVE TUBE AND SOCK AROUND THE FIBER TAILS AND CONNECTORS IN PLACE DURING HOISTING AND SECURING THE CABLE. REMOVE THIS ONLY JUST PRIOR TO MAKING THE FINAL CONNECTIONS TO THE OVP BOX.
- DO NOT BEND THE FIBER ENDS (IN THE ORANGE FURCATION TUBES) TIGHTER THAN 3/4" (19MM) BEND RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS FIBERS.
- BE SURE THAT THE LACE UP ENDS AND FIBER CONNECTORS ARE NOT DAMAGED BY ATTACHMENT OF A HOISTING GRIP OR DURING THE HOISTING PROCESS. ATTACH A HOISTING GRIP ON THE JACKETED CABLE NO LESS THAN 6 INCHES BELOW THE FIBER BREAKOUT POINT. IF A HOISTING GRIP IS NOT EASILY ATTACHED, USE A SIMPLE LINE ATTACHED BELOW THE FIBER BREAK-OUT POINT (I.E. AT THE CABLE OUTER JACKET). PREVENT THE FIBER TAILS (IN PROTECTIVE TUBE) AT THE CABLE END FROM UNDUE MOVEMENT DURING HOISTING BY SECURING THE PROTECTIVE TUBE (WITH OUTER SOCK) TO THE HOISTING LINE.
- DURING HOISTING ENSURE THAT THERE IS A FREE PATH AND THAT THE CABLE, AND ESPECIALLY THE FIBER ENDS, WILL NOT BE SNAGGED ON TOWER MEMBERS OR OTHER OBSTACLES.
- INSTALLATION TEMPERATURE RANGE IS -22F TO 158F (-30C TO +70C).
- MINIMUM CABLE BEND RADII ARE 22.2" (565MM) LOADED (WITH TENSION ON THE CABLE) AND 11.1" (280MM) UNLOADED.
- MAXIMUM CABLE TENSILE LOAD IS 3560 N (800 LB) SHORT TERM (DURING INSTALLATION) AND 1070 N (240 LB) LONG TERM.
- COMMSCOPE NON LACE UP GRIP RECOMMENDED FOR MONOPOLE INSTALLATIONS.
- MAXIMUM HANGER SPACING 3FT (0.9 M).

HYBRID FIBER/POWER JUMPER NOTES:

- IN GENERAL THIS CABLE WILL HANDLE SIMILARLY TO A 3/8" COAXIAL CABLE.
- THE TERMINATED FIBER ENDS HOWEVER ARE FRAGILE AND MUST BE PROTECTED DURING INSTALLATION. LEAVE THE PACKAGING AROUND THE FIBER ENDS IN PLACE UNTIL READY TO CONNECT THE JUMPER BETWEEN OVP AND RRU OR BBU.
- DO NOT BEND THE FIBER BREAKOUT CABLE (BETWEEN THE MAIN CABLE AND THE FIBER CONNECTOR) TIGHTER THAN 3/4" (19MM) RADIUS, ELSE THERE IS A RISK OF BREAKING THE GLASS.
- ATTACH THE MAIN CABLE SECURELY TO THE STRUCTURE OR EQUIPMENT USING HANGERS AND/OR CABLE TIES TO PREVENT STRAIN ON CONNECTIONS FROM MOVEMENT IN WIND OR SNOW/ICE CONDITIONS.
- ENSURE THE LC FIBER CONNECTORS ARE SEATED FIRMLY IN PANEL IN OVP OR IN EQUIPMENT.
- INSTALLATION TEMPERATURE RANGE IS -22F TO 158F (-30C TO 70C).
- MINIMUM CABLE BEND RADII ARE 10.3 INCH (265MM) LOADED (WITH TENSION ON THE CABLE) AND 5.2 INCH (130MM) UNLOADED.
- MAXIMUM CABLE TENSILE LOAD IS 350 LB (1560N) SHORT TERM (DURING INSTALLATION) AND 105 LB (470N) LONG TERM.
- STANDARD LENGTHS AVAILABLE ARE 6 FEET, 15 FEET AND 20 FEET

COAX/FIBER NOTES

SCALE: N.T.S

4
E-1



T-MOBILE NORTHEAST, LLC
35 GRIFFIN ROAD SOUTH
BLOOMFIELD, CT 06002
OFFICE: (860) 692-7100
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10 INDUSTRIAL AVE
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DRAWN BY: MS
CHECKED BY: SW



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SITE NUMBER

CT11821E

SITE NAME

CT821/D&B FLOWER FARM

SITE ADDRESS

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WEST HAVEN, CT 06516

SHEET TITLE

GROUNDING AND ONE
LINE DIAGRAM
COAX/FIBER DIAGRAM

SHEET NUMBER

E-1