



NSS **NORTHEAST**
SITE SOLUTIONS
Turnkey Wireless Development

Northeast Site Solutions
Denise Sabo
4 Angela's Way, Burlington CT 06013
203-435-3640
denise@northeastsitesolutions.com

May 2, 2022

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

RE: Exempt Modification Application
1279 Long Hill Road, Middletown, CT 06457
Latitude: 41.511219
Longitude: -72.670786
Site #: CT01080-S_CT11247E_SBA/T-Mobile

Dear Ms. Bachman:

T-Mobile is requesting to file an exempt modification for an existing tower located at 1279 Long Hill Road (a/k/a 1825 South Main Street), Middletown, CT 06457. T-Mobile currently maintains six (6) antennas at the 137-foot level of the existing 158-foot monopole tower. The property and the tower are owned by SBA. T-Mobile now intends to replace (3) existing antennas with (3) new antennas. The new antennas would be installed at the 137-foot level of the tower. This modification includes B2, B5 hardware that is both 4G (LTE), and 5G capable.

T-Mobile Planned Modifications:

Remove: None

Remove and Replace:

(3) ERICSSON AIR21 KRD901146-1 Antennas (Remove) – (3) ERICSSON AIR6419 B41 Antennas (Replace)

Install New:

(3) ERICSSON 4460 B25+B66 RRU

(1) HCS Fiber Cable 1.9”

Existing to Remain:

(3) RFS APXVAALL24-43-U-NA20 Antennas

(3) ERICSSON 4449 B71+B85 RRU

(3) HCS Fiber Cable 1.9”

(9) ALLEN FE15501P77/75 TMAs

(7) Coax – 1-5/8” *

(6) Twin TMAs – KRY 112 489/2 *

(3) KATHREIN Bias Ts - 782 11056 *

*Equipment listed for entitlement purposed only



The facility was approved by the City of Middletown Planning & Zoning Commission on September 8, 1999. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-72(b)(2), 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 Mayor Ben Florsheim and Marek Kozikowski, Director of Land Use for the City of Middletown, as well as the property owner and the 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 modifications 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 modifications 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,

Denise Sabo
Mobile: 203-435-3640
Fax: 413-521-0558
Office: 4 Angela's Way, Burlington CT 06013
Email: denise@northeastsitesolutions.com



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Attachments

Cc: Mayor Ben Florsheim
City of Middletown
245 deKoven Drive
Room 209
Middletown, CT 06457

Marek Kozikowski, Director of Land Use
City of Middletown
245 deKoven Drive
Room 209
Middletown, CT 06457

SBA Properties Inc. - Tower & Property Owner
8051 Congress Ave
Boca Raton, FL 33487

Exhibit A

Original Facility Approval

LEGAL NOTICE

NOTICE OF DECISION BY THE MIDDLETOWN PLANNING AND ZONING COMMISSION at its meeting of September 8, 1999

1. Granted a waiver of the road and sidewalk standards for Steeplegate Subdivision (formerly Sunrise Farms) with the condition that: 1) the Association maintain the sidewalks; and 2) each lot have a hammerhead or circle to allow turning and a fifty (50) foot setback. Applicant/agent Attorney Michael Dowley S95-15
2. Approved a request for reduction of the cash bond for Old Farms Subdivision, Phase 3. Applicant/agent Old Farms Associates/Robert C. Fusari, President S88-7
3. Granted Final Approval of the first portion of Greenview Terrace in The Meadows at Riverbend Subdivision, Section 4 with the condition that a cash bond in the amount of \$75,000 be posted. Applicant/agent Tuttle Road Associates/Robert C. Fusari, President S95-6
4. Granted a Special Exception for a wireless communication facility to be located on the west side of South Main Street south of Brush Hill Road. Applicant/agent SBA Inc./Sprint PCS SE99-7
5. Granted a Special Exception for a golf course, clubhouse and maintenance facilities, and uses accessory, thereto to be located between Mile Lane, Tuttle Road, Ridgewood Road and Newfield Street. Applicant/agent Quattro Development Corp./Mark H. Quattro SE99-6

W. Lee Osborne, Chairman
Planning and Zoning Commission

P. O. No. 2000-00673, Account No. 067419

The above legal notice to appear in the Hartford Courant ONCE

Thursday, September 16, 1999

THE MUNICIPAL BUILDING IS WHEELCHAIR ACCESSIBLE

Exhibit B

Property Card

CURRENT OWNER		TOPO	UTILITIES	STRT / ROAD	LOCATION	CURRENT ASSESSMENT				
SBA PROPERTIES INC		2 Above Street		1 Paved	3 Heavy Traf	Description	Code	Appraised	Assessed	6083 MIDDLETOWN, CT VISION
8051 CONGRESS AVE					COM LAND	2-1	228,000	159,600		
BOCA RATON FL 33487					VAC RS LN	5-1	117,500	82,250		
					VAC OUTBL	5-5	49,460	34,620		
SUPPLEMENTAL DATA										
Alt Prcl ID 31 41-2 2AA		Class Res								
P		State Clas 130								
Color 0		Supl Info								
Census 5422		Unsold P: 9.4								
District 1:City Fire		Assoc Pid#								
GIS ID R02249										
Total							394,960	276,470		

RECORD OF OWNERSHIP		BK-VOL/PAGE	SALE DATE	Q/U	V/I	SALE PRICE	VC	PREVIOUS ASSESSMENTS (HISTORY)								
SBA PROPERTIES INC		1289 0876	12-21-2001	U	I	0	29	Year	Code	Assessed	Year	Code	Assessed	Year	Code	Assessed
SBA TOWERS INC		1289 0872	12-21-2001	U	V	275,000	25	2018	2-1	159,600	2018	2-1	159,600	2017	2-1	159,600
CONN LIGHT & POWER CO		0624 0211	07-02-1982	U	I	0	29		5-1	82,250		5-1	82,250		5-1	82,250
									5-5	34,620		5-5	34,620		5-5	34,620
Total								276470	Total	276470	Total	276470	Total	276470		

EXEMPTIONS				OTHER ASSESSMENTS				This signature acknowledges a visit by a Data Collector or Assessor										
Year	Code	Description	Amount	Code	Description	Number	Amount	Comm Int										
Total			0.00															

ASSESSING NEIGHBORHOOD				APPRAISED VALUE SUMMARY											
Nbhd	Nbhd Name	B	Tracing	Batch											
0001					Appraised Bldg. Value (Card)	0									
					Appraised Xf (B) Value (Bldg)	0									
					Appraised Ob (B) Value (Bldg)	49,460									
					Appraised Land Value (Bldg)	345,500									
					Special Land Value	0									
					Total Appraised Parcel Value	394,960									
					Valuation Method	C									
					Total Appraised Parcel Value	394,960									

NOTES											VISIT / CHANGE HISTORY					
4/30/13 - CELL PHONE TOWER				-SPRINT-VERIZON-OCS-CINGULAR-POCKET							Date	Id	Type	Is	Cd	Purpost/Result
SBA TOWERS - WWW.SBASITE.COM				WIRELESS-AT+T-NEXTELL							09-01-2013	KL			41	Field Review
LEASING PHONE#800-487-SITE(7483)				CELL SITE VALUE BASED ON MARKET RENTS							04-30-2013	RH			99	Vacant Land
CSHD - EST - FENCE				24000-5% VAC-10% EXP/.09 CAP = \$228,000												
SITE ID#CT01080																
FCC#1218900																

BUILDING PERMIT RECORD											LAND LINE VALUATION SECTION					
Permit Id	Issue Date	Type	Description	Amount	Insp Date	% Comp	Date Comp	Comments	Date	Id	Type	Is	Cd	Purpost/Result		
201811355	06-15-2018	GN	Generator	7,500		100	10-01-2018	15 KW GENERATOR	09-01-2013	KL			41	Field Review		
201710376	11-30-2017	EL	Electric	40,000		100	10-01-2018	CITY EMERGENCY COMMU	04-30-2013	RH			99	Vacant Land		
20168862	01-19-2017	EL	Electric	15,000		100	10-01-2017	3 RADIO UNITS								
20167523	04-05-2016	EL	Electric	15,000		100	10-01-2016	SWAP OUT THREE ANTENN								
20167292	02-17-2016	EL	Electric	15,000		100	10-01-2016	REPLACE ANTENNA PANELS								
20155795	05-05-2015	EL	Electric	15,000		100	10-01-2015	INSTALL 3 NEW CELL ANTEN								
20144319	06-24-2014	EL	Electric	15,000	11-12-2014	100	11-12-2014	3 NEW ANTENNA & ASSOC.								

B	Use Code	Description	Zone	Land Type	Land Units	Unit Price	Size Adj	Site Index	Cond.	Nbhd.	Nbhd. Adj	Notes	Location Adjustment	Adj Unit P	Land Value	
1	100	Resid Vacant	I-4	Undevelop	9.400	AC	12,500.00	1.00000	0	1.00				1.0000	12,500.00	
1	204	Cell Site	I-4		1.000	BL	228,000.00	1.00000	0	1.00	12	1.000	CELL SITE	1.0000	228,000.0	
Total Card Land Units					9.400	AC	Parcel Total Land Area					9.4000	Total Land Value			345,500

CONSTRUCTION DETAIL			CONSTRUCTION DETAIL (CONTINUED)		
Element	Cd	Description	Element	Cd	Description
Style	94	Outbuildings	Bsmt Garage		
Model	00	Vacant	In Law		
Grade					
Stories					
Occupancy					
Exterior Wall 1					
Exterior Wall 2					
Roof Structure					
Roof Cover					
Interior Wall 1					
Interior Wall 2					
Interior Floor 1					
Interior Floor 2					
Heat Fuel					
Heat Type					
Bedrooms					
Full Baths					
Half Baths					
Extra Fixtures					
Total Rooms					
Bath Remodel					
Kitchen Remod					
Extra Kitchens					
Fireplaces					
Extra Openings					
Gas Fireplace					
Int vs Ext					
A/C Type					
A/C %					
Fin Bsmt Area					
FBM grade					
Bsmt Garage					
In Law					
MIXED USE					
	Code	Description	Percentage		
	100	Resid Vacant	100		
			0		
			0		
COST / MARKET VALUATION					
	Building Value New				
	Year Built		0		
	Effective Year Built		0		
	Depreciation Code		A		
	Remodel Rating				
	Year Remodeled				
	Depreciation %				
	Functional Obsol				
	External Obsol				
	Trend Factor		1		
	Condition				
	Condition %				
	Percent Good				
	Cns Sect Rcnld				
	Dep % Ovr				
	Dep Ovr Comment				
	Misc Imp Ovr				
	Misc Imp Ovr Comment				
	Cost to Cure Ovr				
	Cost to Cure Ovr Comment				

No Sketch

OB - OUTBUILDING & YARD ITEMS(L) / XF - BUILDING EXTRA FEATURES(B)

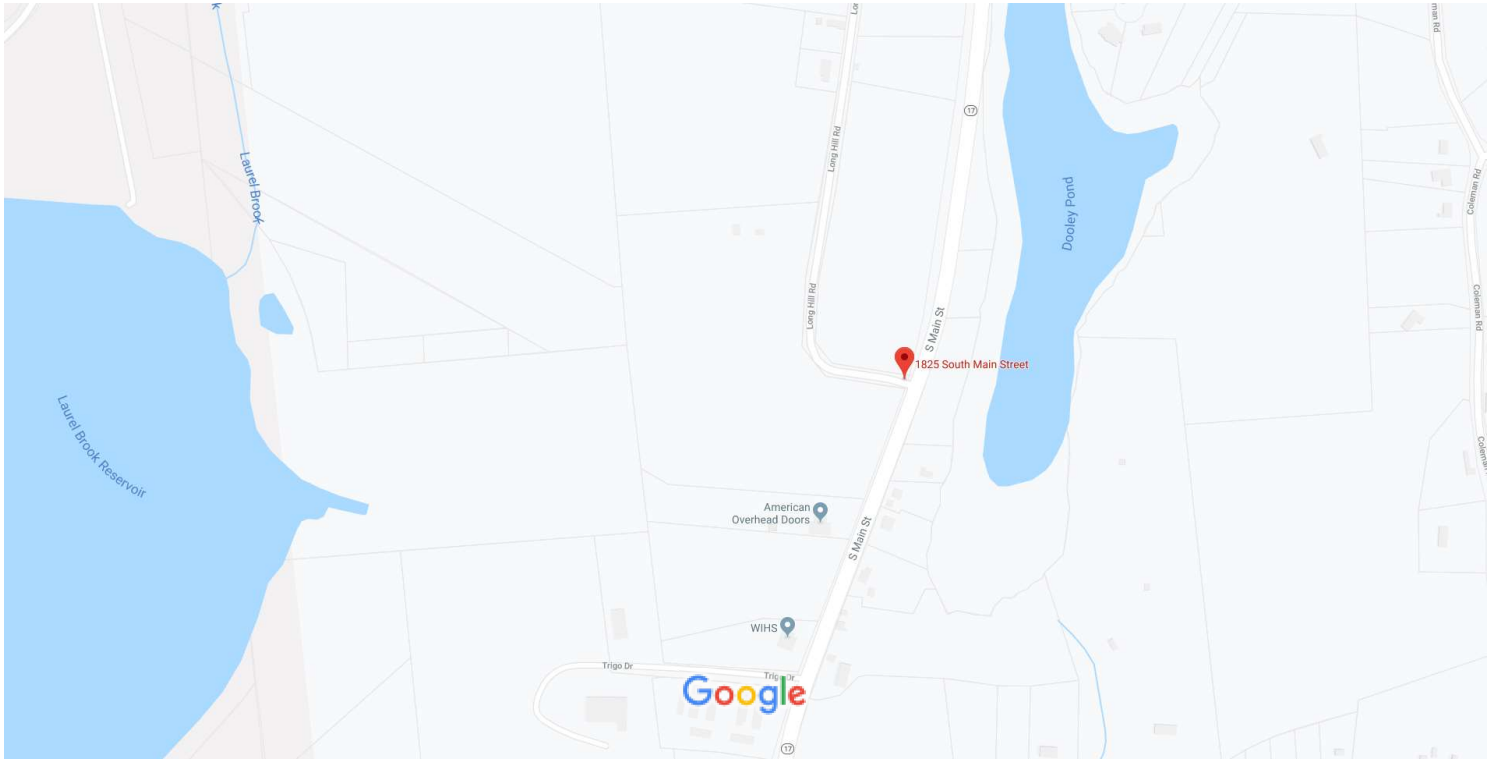
Code	Description	L/B	Units	Unit Price	Yr Blt	Cond. Cd	% Gd	Grade	Grade Adj.	Appr. Value
FN3	Fence-6' Chai	L	360	22.00	2013	5	45	C	1.00	3,560
CSHD	Cell Shed	L	336	125.00	2013	5	45	C	1.00	18,900
CSHD	Cell Shed	L	240	125.00	2013	5	45	C	1.00	13,500
CSHD	Cell Shed	L	240	125.00	2013	5	45	C	1.00	13,500

BUILDING SUB-AREA SUMMARY SECTION

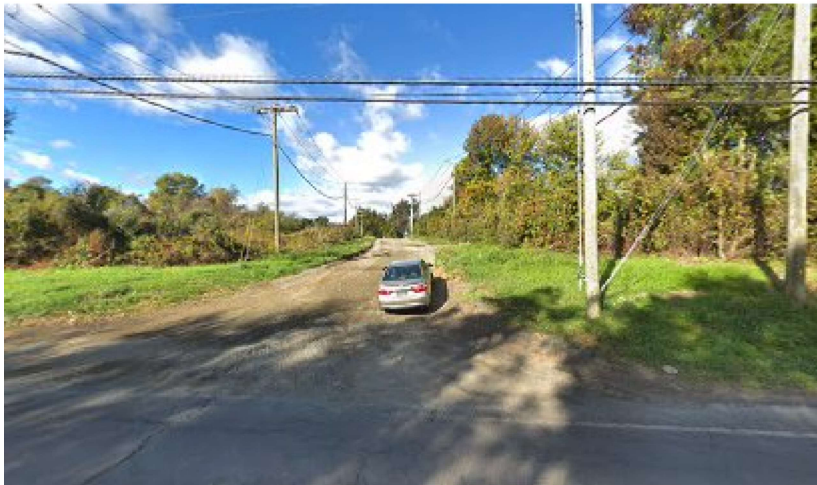
Code	Description	Living Area	Floor Area	Eff Area	Unit Cost	Undeprec Value
Ttl Gross Liv / Lease Area		0	0	0		0



Google Maps 1825 S Main St



Map data ©2019 200 ft



1825 S Main St

Middletown, CT 06457



Directions



Save



Nearby



Send to your phone



Share



G85H+XR Middletown, Connecticut

Photos

Exhibit C

Construction Drawings

SPECIAL CONSTRUCTION NOTE:
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).

MIDDLETOWN

1279 LONG HILL ROAD
 MIDDLETOWN, CT 06457
 MIDDLESEX COUNTY

SITE NO.: CT11247E

SITE TYPE: 158'± MONOPOLE

RF DESIGN GUIDELINE: 67D5D998E ODE+6160

SCOPE OF WORK

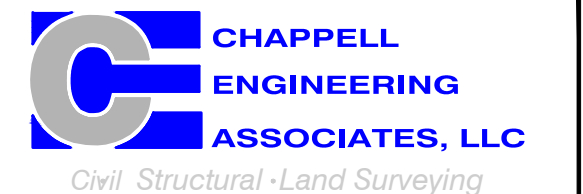
- REMOVE:
- 3 ANTENNAS
 - 3 TMAs
 - 1 6102 MUAC CABINET
 - ALL COAX CABLES
 - 1 100A-2P BREAKER
- INSTALL:
- 3 ANTENNAS
 - 3 RRU's
 - 1 B160 BATTERY CABINET
 - 1 6160 CABINET
 - 1 SLACKBOX
 - 1 HYBRID CABLE
 - 1 150A-2P BREAKER
 - 1 125A-2P BREAKER
 - 1 25A-1P BREAKER

T-MOBILE NORTHEAST LLC

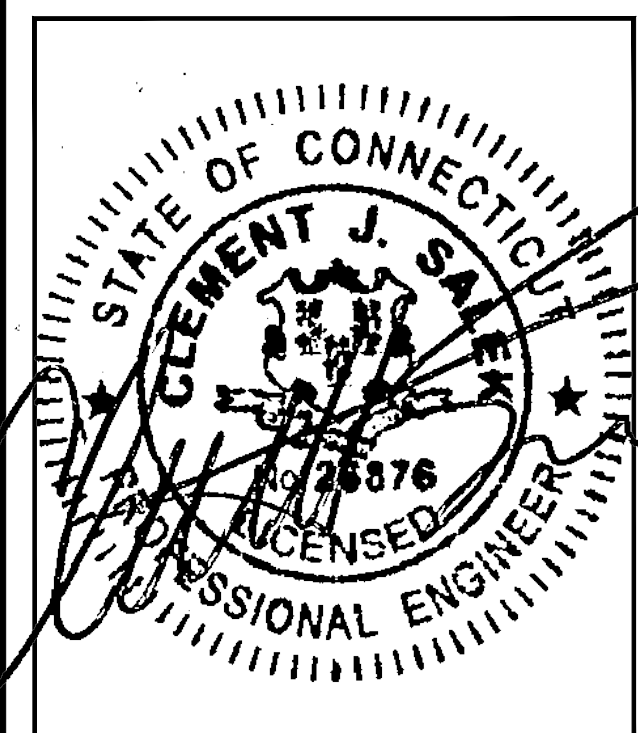
15 COMMERCE WAY, SUITE B
 NORTON, MA 02766
 (508) 286-2700



SBA COMMUNICATIONS CORP.
 134 FLANDERS ROAD, SUITE 125
 WESTBOROUGH, MA 01581
 (508) 251-0720



R.K. EXECUTIVE CENTRE
 201 BOSTON POST ROAD WEST, SUITE 101
 MARLBOROUGH, MA 01752
 (508) 481-7400
 www.chappellengineering.com



APPROVALS

PROJECT MANAGER:	DATE:	ZONING/SITE ACQ.:	DATE:
CONSTRUCTION:	DATE:	OPERATIONS:	DATE:
RF ENGINEERING:	DATE:	TOWER OWNER:	DATE:

T-MOBILE TECHNICIAN SITE SAFETY NOTES

LOCATION	SPECIAL RESTRICTIONS
SECTOR A:	ACCESS BY CERTIFIED CLIMBER
SECTOR B:	ACCESS BY CERTIFIED CLIMBER
SECTOR C:	ACCESS BY CERTIFIED CLIMBER
GPS/LMU:	UNRESTRICTED
RADIO CABINETS:	UNRESTRICTED
PPC DISCONNECT:	UNRESTRICTED
MAIN CIRCUIT D/C:	UNRESTRICTED
NIU/T DEMARC:	UNRESTRICTED
OTHER/SPECIAL:	NONE

GENERAL NOTES

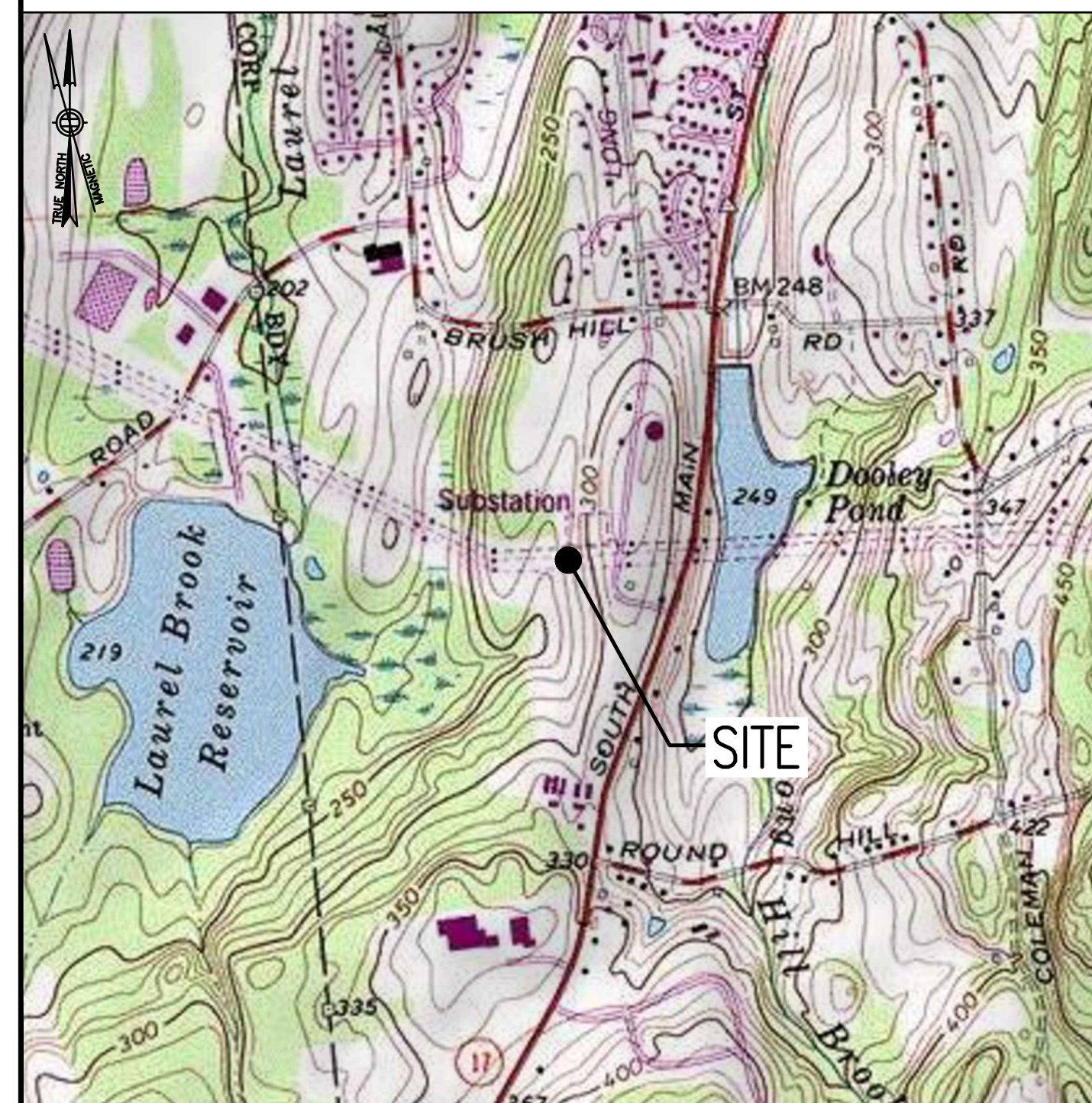
- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT 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 CONTRACT 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 ON-SITE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
- THE SCOPE OF WORK SHALL INCLUDE FURNISHING 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 ADDENDUMS 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 THE CONTRACT.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY CONSTRUCTION CONTROL SURVEYS, ESTABLISHING AND MAINTAINING ALL LINES AND GRADES REQUIRED TO CONSTRUCT ALL IMPROVEMENTS AS SHOWN HEREIN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE 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 THE 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 THEY APPLY TO THIS PROJECT.
- THE CONTRACTOR SHALL NOTIFY THE PROJECT OWNER'S 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 LESSEE/LICENSEE REPRESENTATIVE.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
- ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK.

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811



VICINITY MAP

SCALE: 1" = 1000'-0"



DIRECTIONS

MERGE ONTO I-495 NORTH TOWARD MANSFIELD/MARLBORO. TAKE EXIT 33B TO MERGE ONTO I-95 SOUTH. TAKE EXIT 69 FOR CT-9 NORTH. TAKE EXIT 11 CT CT-155 WEST. TURN LEFT ONTO CT-155 WEST/RANDOLPH ROAD. TURN LEFT ONTO SOUTH MAIN STREET. TURN RIGHT ONTO LONG HILL ROAD. SITE IS LOCATED AT THE LEFT.

SHEET INDEX

SHT. NO.	DESCRIPTION	VER.
T-1	TITLE SHEET	0
GN-1	GENERAL NOTES	0
A-1	COMPOUND & EQUIPMENT PLAN	0
A-2	TOWER ELEVATIONS & ANTENNA PLAN	0
A-3	SITE DETAILS	0
A-4	ANTENNA & FEEDLINE CHARTS	0
E-1	ELECTRIC & GROUNDING DETAILS	0

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE PROJECT OWNER'S REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

PROJECT SUMMARY

SITE NUMBER:	CT11247E
SITE NAME:	MIDDLETOWN
SBA SITE NUMBER:	CT01080-S
SBA SITE NAME:	LONG HILL #1
SITE ADDRESS:	1279 LONG HILL ROAD MIDDLETOWN, CT 06457
PROPERTY OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
TOWER OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	MIDDLESEX
ZONING DISTRICT:	I-4 (INDUSTRIAL)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	158'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: N.41.511221° W.72.670719° N.41°30'40.40" W.72°40'14.59"

SPECIAL ZONING NOTE:

BASED ON INFORMATION PROVIDED BY T-MOBILE REGULATORY COMPLIANCE PROFESSIONALS AND LEGAL COUNSEL, THIS TELECOMMUNICATIONS EQUIPMENT DEPLOYMENT IS CONSIDERED AN ELIGIBLE FACILITY UNDER THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012, 47 USC 1455(A), SECTION 6409(A), AND IS SUBJECT TO AN ELIGIBLE FACILITY REQUEST, EXPEDITED REVIEW, AND LIMITED/PARTIAL ZONING PRE-EMPTION FOR LOCAL DISCRETIONARY PERMITS (VARIANCE, SPECIAL PERMIT, SITE PLAN REVIEW, OR ADMINISTRATIVE REVIEW).

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
0	04/11/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11247E

SITE ADDRESS:
 1279 LONG HILL ROAD
 MIDDLETOWN, CT 06457

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:
CONTRACTOR – T–MOBILE
SUBCONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)
OWNER – T–MOBILE
OEM – ORIGINAL EQUIPMENT MANUFACTURER
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL, STATE AND FEDERAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER, T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR AND/OR LANDLORD PRIOR TO CONSTRUCTION.
- THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.
- THE SUBCONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE SUBCONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- SUBCONTRACTOR SHALL NOTIFY CHAPPELL ENGINEERING ASSOCIATES, LLC 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING TRENCHES, SEALING ROOF AND WALL PENETRATIONS AND POST DOWNS, FINISHING NEW WALLS OR FINAL ELECTRICAL CONNECTIONS FOR ENGINEERING REVIEW.
- CONSTRUCTION SHALL COMPLY WITH ALL T–MOBILE STANDARDS AND SPECIFICATIONS.
- SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITES ARE IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- IF THE EXISTING CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

SITE WORK GENERAL NOTES:

- THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T–MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (400PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER2 IN.
#5 AND SMALLER & WWF1½ IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL¾ IN.
BEAMS AND COLUMNS½ IN.
- A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHORS SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO THE MANUFACTURERS RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. EXPANSION BOLTS SHALL BE PROVIDED BY SIMPSON OR APPROVED EQUAL.
- CONCRETE CYLINDER TIES ARE NOT REQUIRED FOR SLAB ON GRADE WHEN CONCRETE IS LESS THAN 50 CUBIC YARDS (IBC1905.6.2.3) IN THAT EVENT THE FOLLOWING RECORDS SHALL BE PROVIDED BY THE CONCRETE SUPPLIER;
(A) RESULTS OF CONCRETE CYLINDER TEST PERFORMED AT THE SUPPLIERS PLANT.
(B) CERTIFICATION OF MINIMUM COMPRESSIVE STRENGTH FOR THE CONCRETE GRADE SUPPLIED.
FOR GREATER THAN 50 CUBIC YARDS THE GC SHALL PERFORM THE CONCRETE CYLINDER TEST.
- AS AN ALTERNATIVE TO ITEM 7. TEST CYLINDERS SHALL BE TAKEN INITIALLY AND THEREAFTER FOR EVERY 50 YARDS OF CONCRETE FROM EACH DIFFERENT BATCH PLANT.
- EQUIPMENT SHALL NOT BE PLACED ON NEW PADS FOR SEVEN DAYS AFTER PAD IS POURED, UNLESS IT IS VERIFIED BY CYLINDER TESTS THAT COMPRESSIVE STRENGTH HAS BEEN ATTAINED.

STRUCTURAL STEEL NOTES:

- ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND T–MOBILE SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM–A–36 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION".
- ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION. PAINTED SURFACES SHALL BE TOUCHED UP.
- BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (¾") AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.
- NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ¾" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL.
- ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

- EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
- COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
- AS AN ALTERNATE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
- COMPACTED SUBBASE SHALL BE UNIFORM AND LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100% PASSING #1 SIEVE.
- AS AN ALTERNATE TO ITEMS 2 AND 3, THE SUBGRADE SOILS WITH 5 PASSES OR A MEDIUM SIZED VIBRATORY PLATE COMPACTOR (SUCH AS BOMAG BPR 30/38) OR HAND–OPERATED SINGLE DRUM VIBRATORY ROLLER (SUCH AS BOMAG BW 55E). AND SOFT AREAS THAT ARE ENCOUNTERED SHOULD BE REMOVED AND REPLACED WITH A WELL–GRADED GRANULAR FILL AND COMPACTED AS STATED ABOVE.

COMPACTION EQUIPMENT:

- HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

- FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T–MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.
- COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.
- CABLE LADDER RACK:
SUBCONTRACTOR SHALL FURNISH AND INSTALL CABLE LADDER RACK, CABLE TRAY AND/OR ICE BRIDGE, AND CONDUIT AS REQUIRED TO SUPPORT CABLES TO THE NEW BTS LOCATION.

ELECTRICAL INSTALLATION NOTES:

- WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TERCORDIA.
- SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLE TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TERCORDIA.
- CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.
- EACH END OF EVERY POWER, GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA, AND MATCH INSTALLATION REQUIREMENTS.
- POWER PHASE CONDUCTORS (I.E., HOTS) SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, ½ INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). PHASE CONDUCTOR COLOR CODES SHALL CONFORM WITH THE NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
- PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#34 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY HARGER (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE AND NEC.
- NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
- RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
- LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANS/IEEE AND NEC.
- CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.
- WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED, OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
- CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

**T-MOBILE
NORTHEAST LLC**

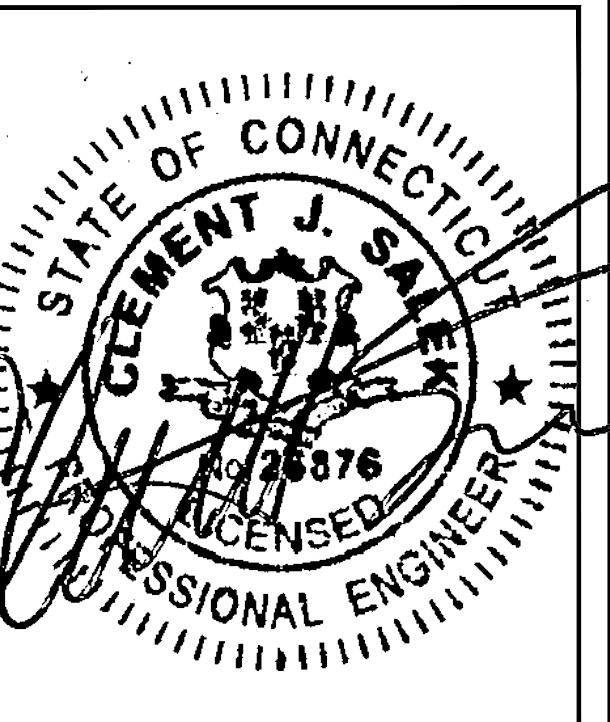
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CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	04/11/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11247E

SITE ADDRESS:
1279 LONG HILL ROAD
MIDDLETOWN, CT 06457

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-1

SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

SPECIAL CONSTRUCTION NOTE:
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED BY OTHERS).



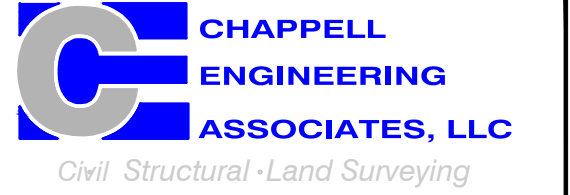
EXISTING EQUIPMENT PHOTO 2
 SCALE: N.T.S.

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 NORTHEAST LLC**

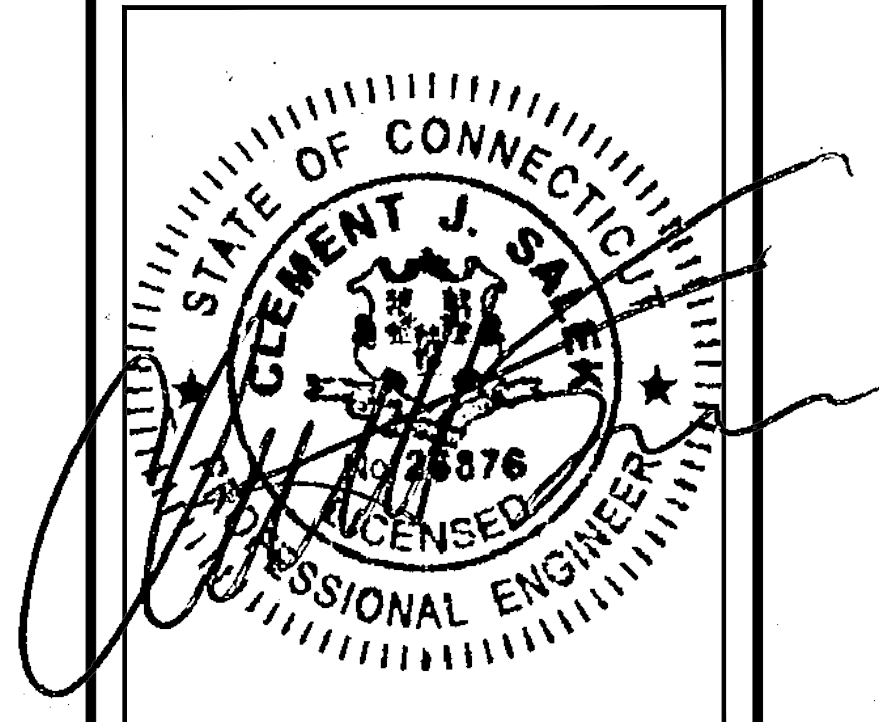
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CHECKED BY: JMT

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SUBMITTALS

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0	04/11/22	ISSUED FOR REVIEW	JRV

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CT11247E

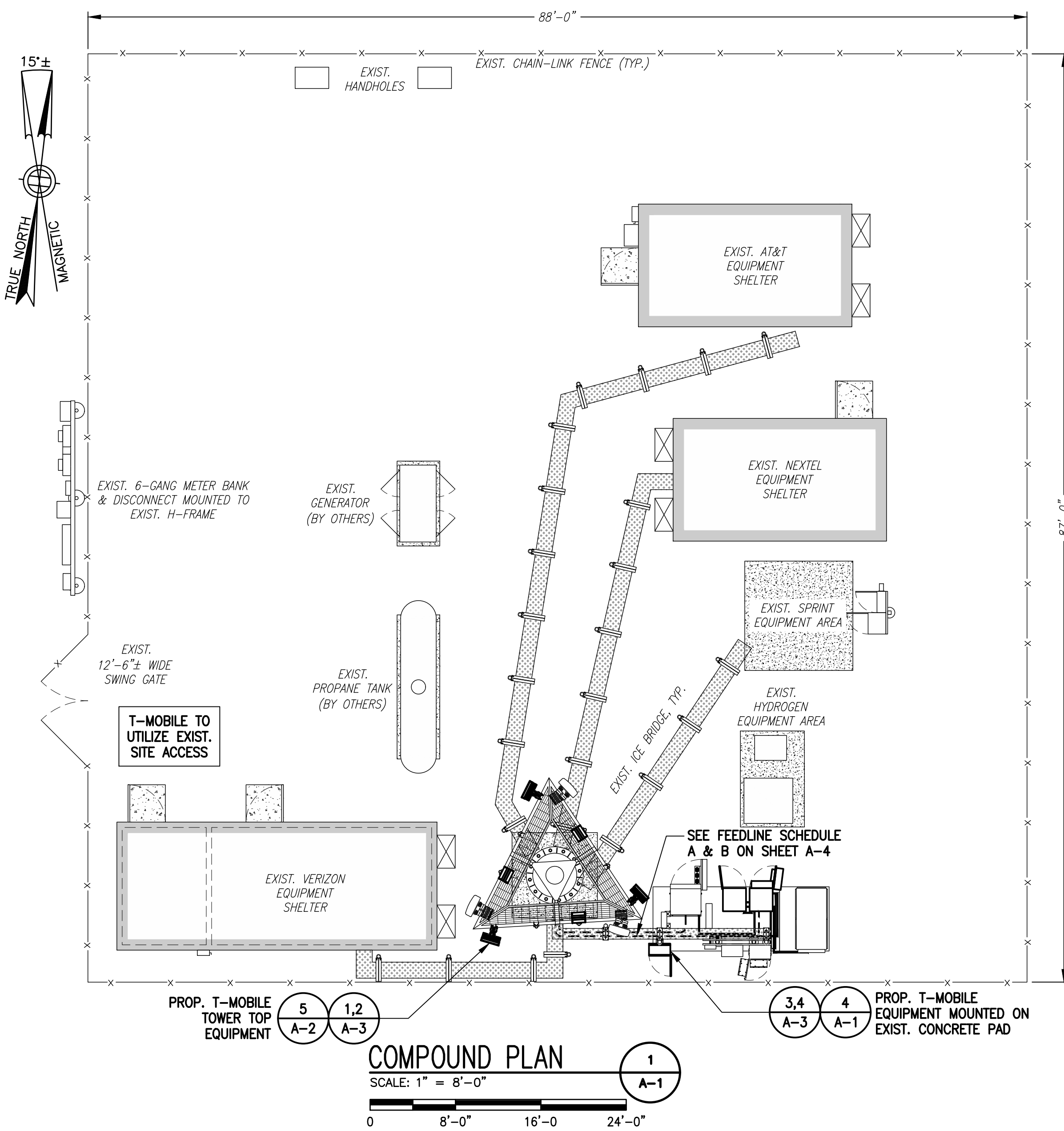
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 MIDDLETOWN, CT 06457

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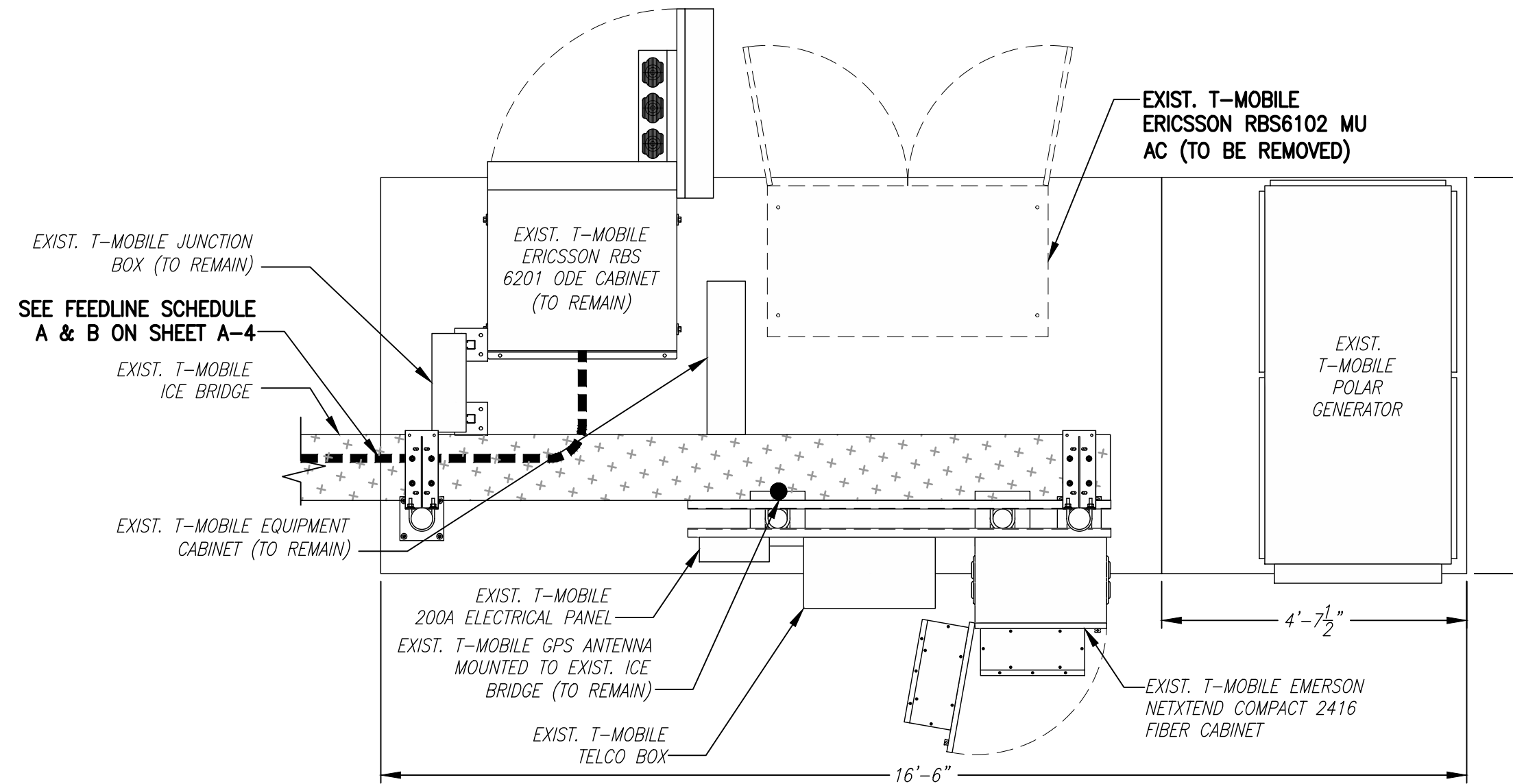
**COMPOUND &
 EQUIPMENT PLANS**

SHEET NUMBER

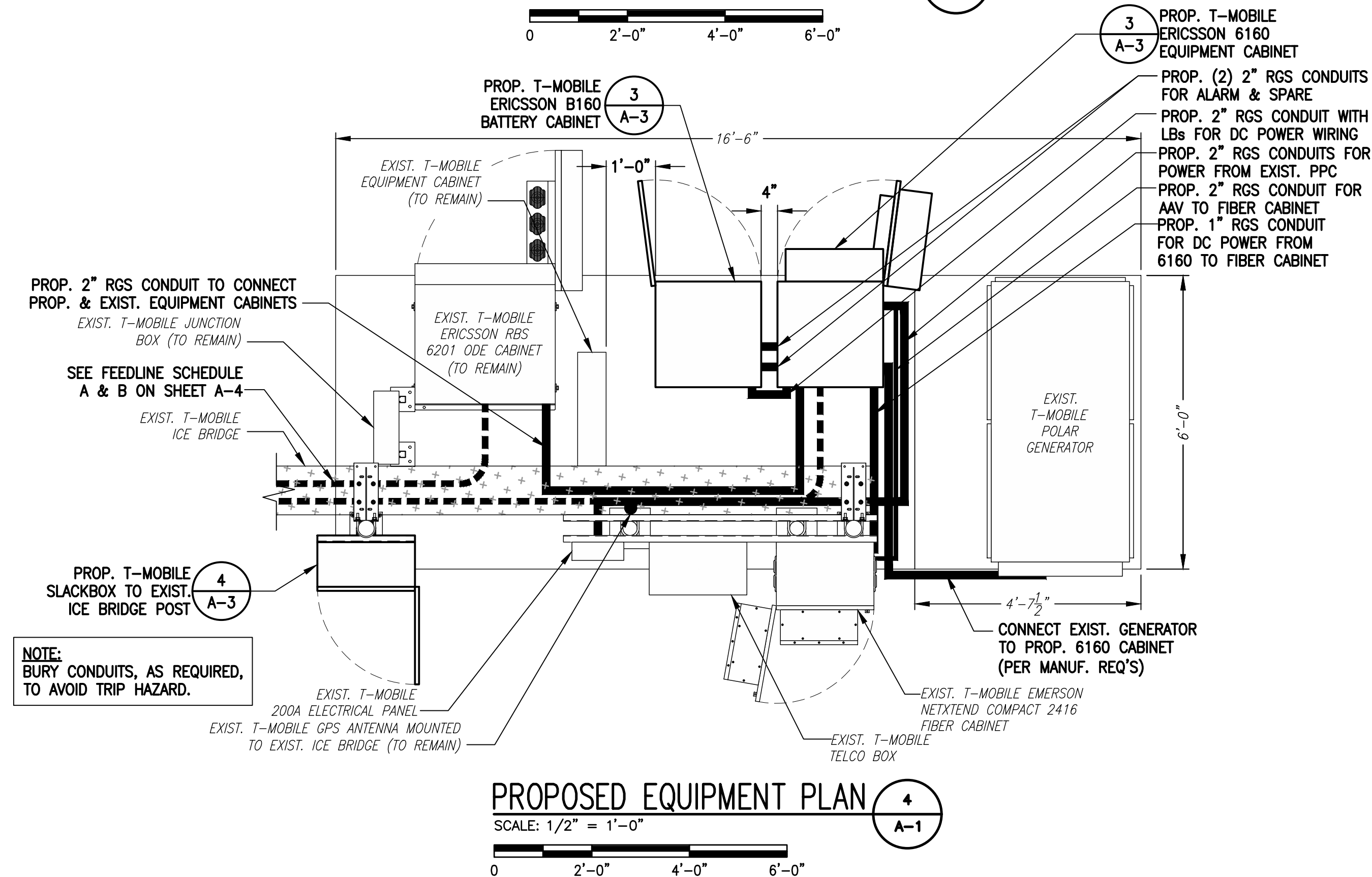
A-1



COMPOUND PLAN 1
 SCALE: 1" = 8'-0"



EXISTING EQUIPMENT CABINET 3
 SCALE: 1/2" = 1'-0"



PROPOSED EQUIPMENT PLAN 4
 SCALE: 1/2" = 1'-0"

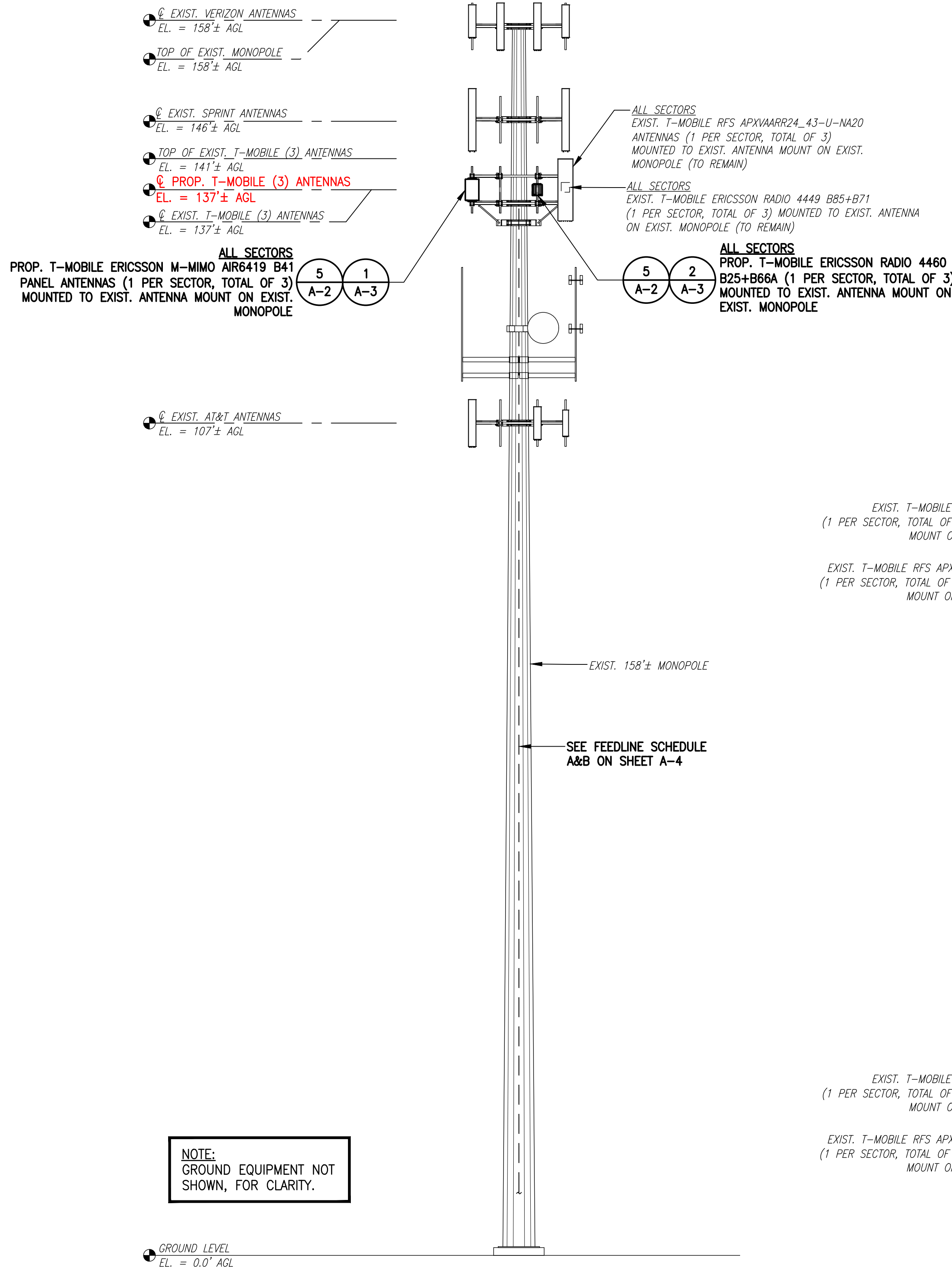
SPECIAL PRE-CONSTRUCTION WORK NOTE (SBA-PROVIDED TOWER STRUCTURAL ANALYSIS SPECIAL EQUIPMENT INSTALLATION REQUIREMENTS):
 GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

SPECIAL CONSTRUCTION NOTE:
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RAD CENTER NOTE:
 T-MOBILE RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED CO-LOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA RAD CENTER SHALL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM THE T-MOBILE RFDS.



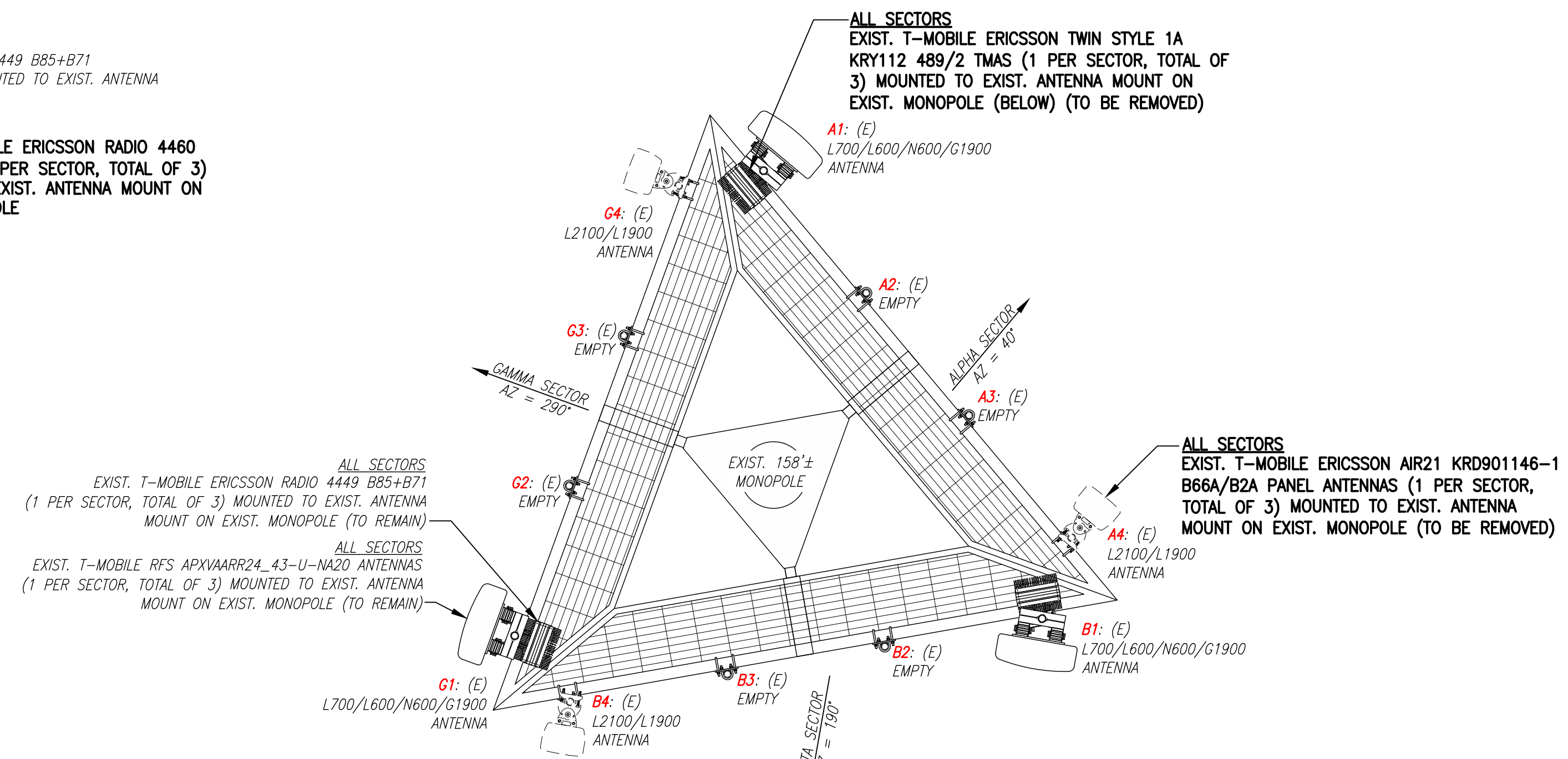
EXISTING TOWER PHOTO
 SCALE: N.T.S.



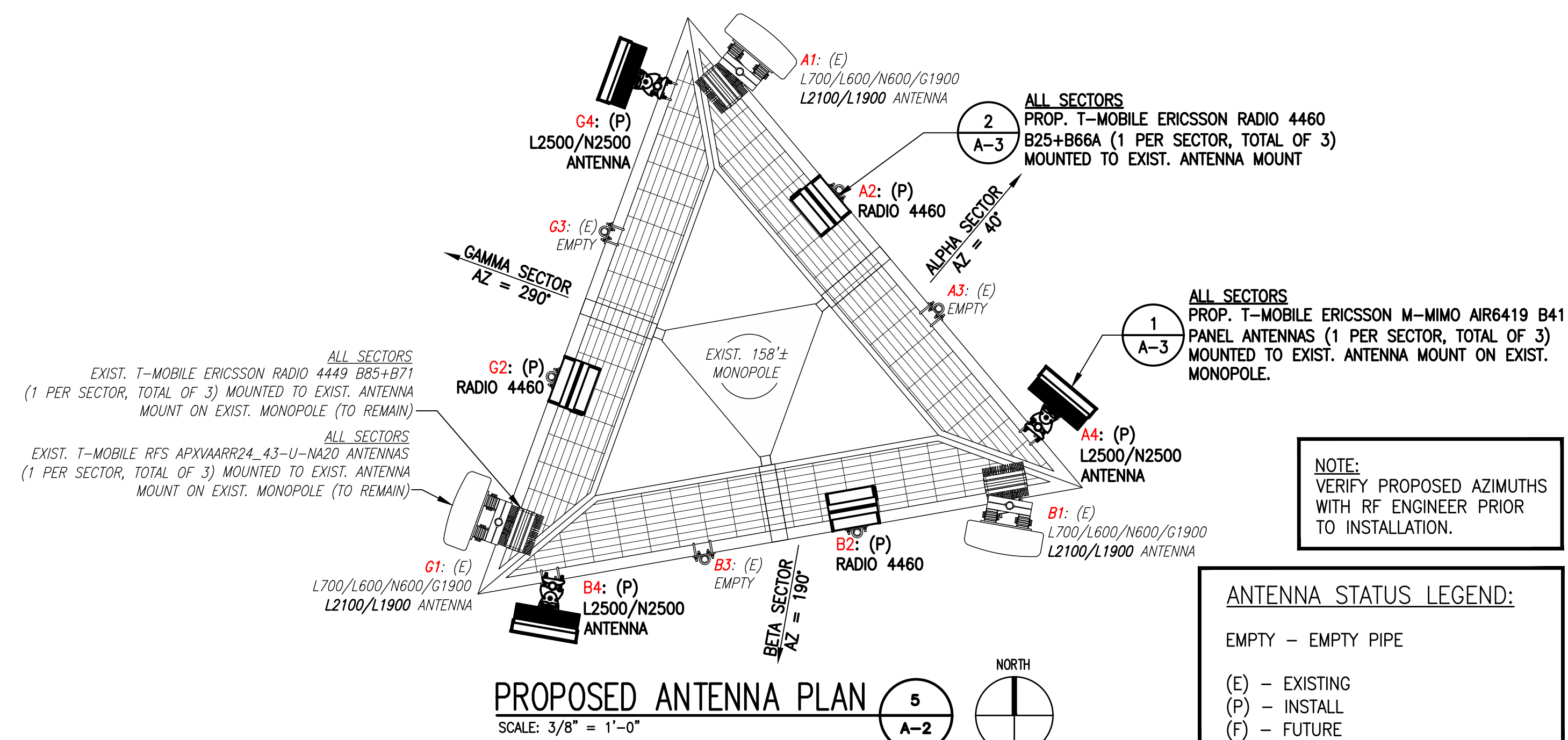
TOWER ELEVATION
 SCALE: 1" = 10'-0"
 0 10' 20' 30'



EXISTING ANTENNA PHOTO
 SCALE: N.T.S.



EXISTING ANTENNA PLAN
 SCALE: 3/8" = 1'-0"



PROPOSED ANTENNA PLAN
 SCALE: 3/8" = 1'-0"

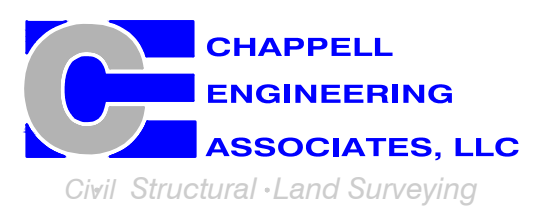
NOTE:
 VERIFY PROPOSED AZIMUTHS WITH RF ENGINEER PRIOR TO INSTALLATION.

ANTENNA STATUS LEGEND:
 EMPTY - EMPTY PIPE
 (E) - EXISTING
 (P) - INSTALL
 (F) - FUTURE

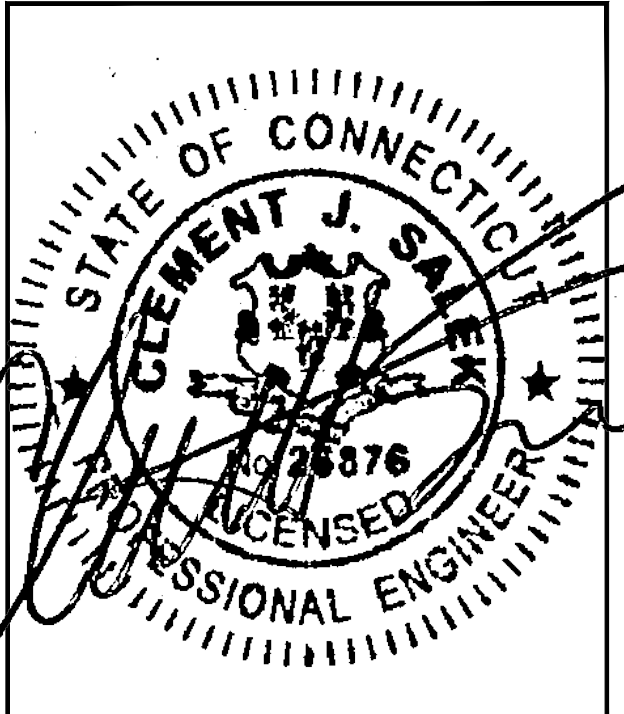
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 (508) 481-7400
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SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	04/11/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11247E
 SITE ADDRESS:
 1279 LONG HILL ROAD
 MIDDLETOWN, CT 06457

SHEET TITLE
TOWER ELEVATIONS & ANTENNA PLAN

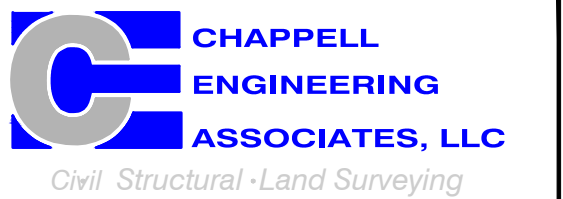
SHEET NUMBER
A-2

**T-MOBILE
NORTHEAST LLC**

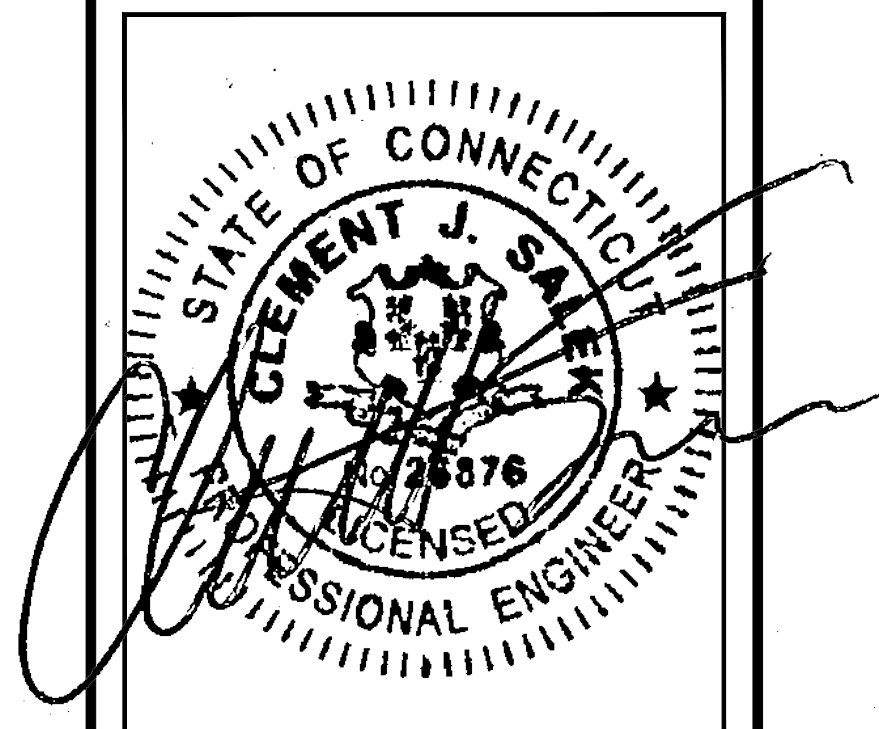
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700



SBA COMMUNICATIONS CORP.
134 FLANDERS ROAD, SUITE 125
WESTBOROUGH, MA 01581
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SITE NUMBER:
CT11247E

SITE ADDRESS:
1279 LONG HILL ROAD
MIDDLETOWN, CT 06457

SHEET TITLE

SITE DETAILS

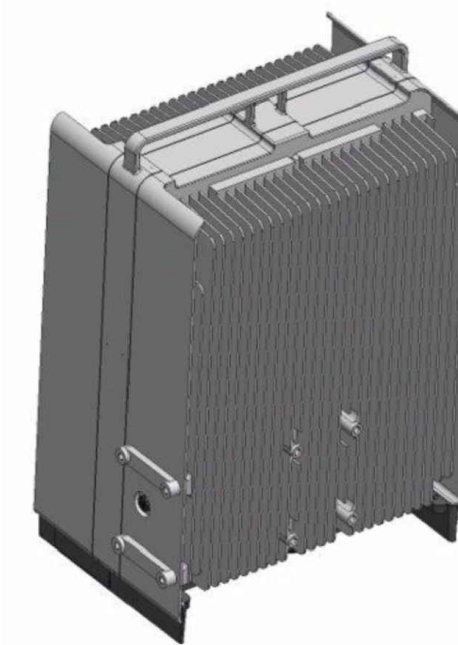
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A-3



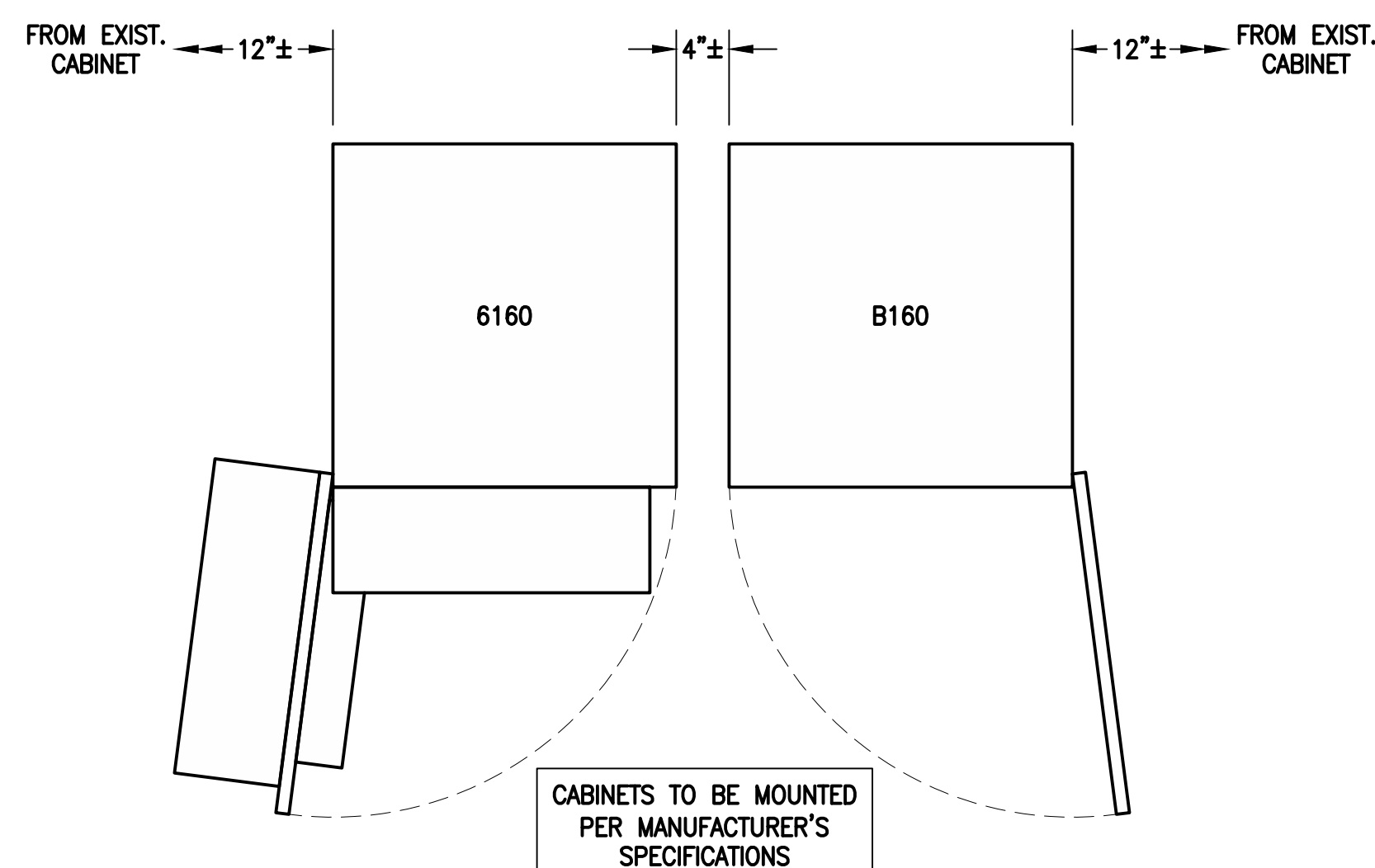
ERICSSON M-MIMO AIR6419 B41 ANTENNA
DIMENSIONS: 36.3"H x 20.9"W x 9.0"D
WEIGHT: 83.3 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ANTENNA DETAILS 1
SCALE: N.T.S. A-3



ERICSSON RADIO 4460 B25+B66
DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

RADIO DETAILS 2
SCALE: N.T.S. A-3



ERICSSON 6160 SITE SUPPORT CABINET
DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
WEIGHT: 680.0 lbs
QUANTITY: TOTAL OF 1

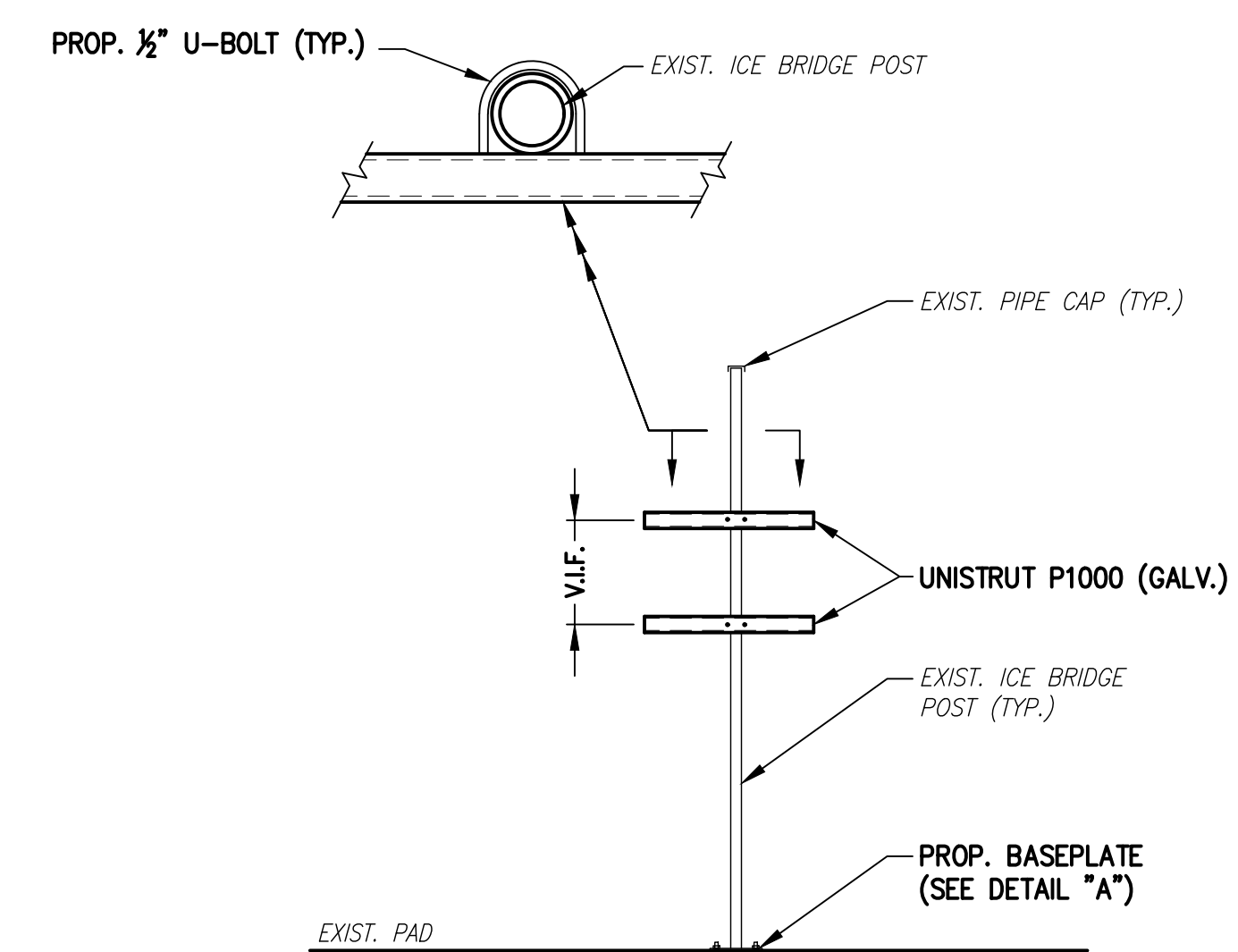
ERICSSON B160 BATTERY CABINET
DIMENSIONS: 63.25"H x 26.0"W x 26.0"D
WEIGHT: 1771.0 lbs
QUANTITY: TOTAL OF 1

EQUIPMENT DETAIL 3
SCALE: N.T.S. A-3



SLACKBOX - HOFFMAN 32FH91 NEMA 3R ENCLOSURE
DIMENSIONS: 24.0"H x 24.0"W x 12.0"D
QUANTITY: TOTAL OF 1

SSC DETAILS 4
SCALE: N.T.S. A-3



H-FRAME DETAIL 5
SCALE: N.T.S. A-3

FINAL ANTENNA CONFIGURATION								
SECTOR	ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	A1 <i>RFS</i> APXVAARR24_43-U-NA20	137'± AGL	40°	0°	0°	L700/L600/N600 L1900/G1900/L2100	RADIO 4449 B71+B85 RADIO 4460 B25+B66	(3) 1-5/8" (6x12) HCS FIBER CABLES (1) 2" (6x24) HCS FIBER CABLE
	A2 ERICSSON RADIO 4460 B25+B66	-	-	-	-	-	-	
	A3 EMPTY PIPE	-	-	-	-	-	-	
	A4 ERICSSON M-MIMO AIR6419 B41	137'± AGL	40°	0°	0°	L2500/N2500	-	
BETA	B1 <i>RFS</i> APXVAARR24_43-U-NA20	137'± AGL	190°	0°	0°	L700/L600/N600 L1900/G1900/L2100	RADIO 4449 B71+B85 RADIO 4460 B25+B66	
	B2 ERICSSON RADIO 4460 B25+B66	-	-	-	-	-	-	
	B3 EMPTY PIPE	-	-	-	-	-	-	
	B4 ERICSSON M-MIMO AIR6419 B41	137'± AGL	190°	0°	0°	L2500/N2500	-	
GAMMA	G1 <i>RFS</i> APXVAARR24_43-U-NA20	137'± AGL	290°	0°	0°	L700/L600/N600 L1900/G1900/L2100	RADIO 4449 B71+B85 RADIO 4460 B25+B66	
	G2 ERICSSON RADIO 4460 B25+B66	-	-	-	-	-	-	
	G3 EMPTY PIPE	-	-	-	-	-	-	
	G4 ERICSSON M-MIMO AIR6419 B41	137'± AGL	290°	0°	0°	L2500/N2500	-	

CABLE NOTE: ALL EXISTING 1-5/8" COAX CABLES TO BE REMOVED. SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV7 - 03/10/22

FEEDLINE SCHEDULE		
SCHEDULE	FEEDLINES	LOCATION
A	EXISTING TO REMAIN: (1) 1/2" COAX CABLE FOR GPS ANTENNA (3) 1-5/8" (6x12) HCS FIBER CABLES EXISTING TO BE REMOVED: ALL 1-5/8" COAX CABLES	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: (1) 2" (6x24) HCS FIBER CABLE	

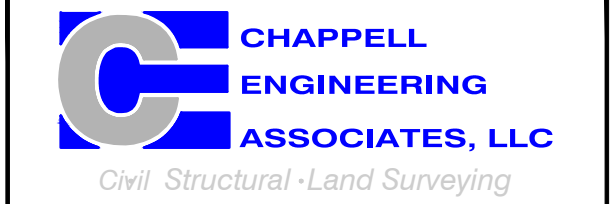
NOTE: EXISTING T-MOBILE EQUIPMENT FEEDLINE INVENTORY BASED ON OBSERVED FIELD CONDITIONS. RFDS AND FEEDLINE LEASING ENTITLEMENTS MAY DIFFER.

T-MOBILE NORTHEAST LLC

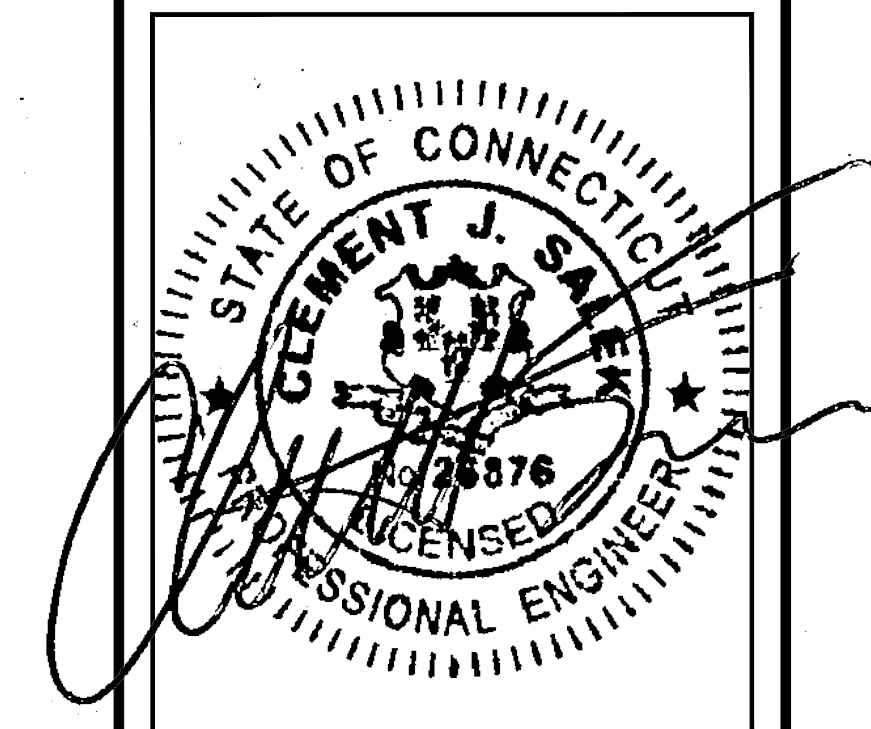
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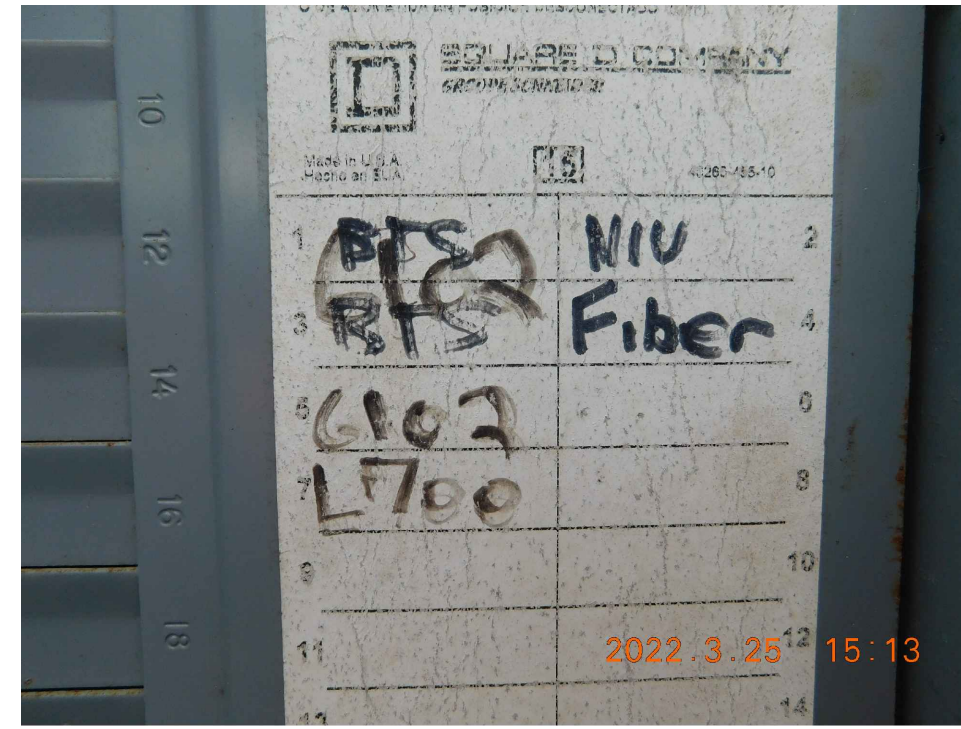
SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	04/11/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11247E

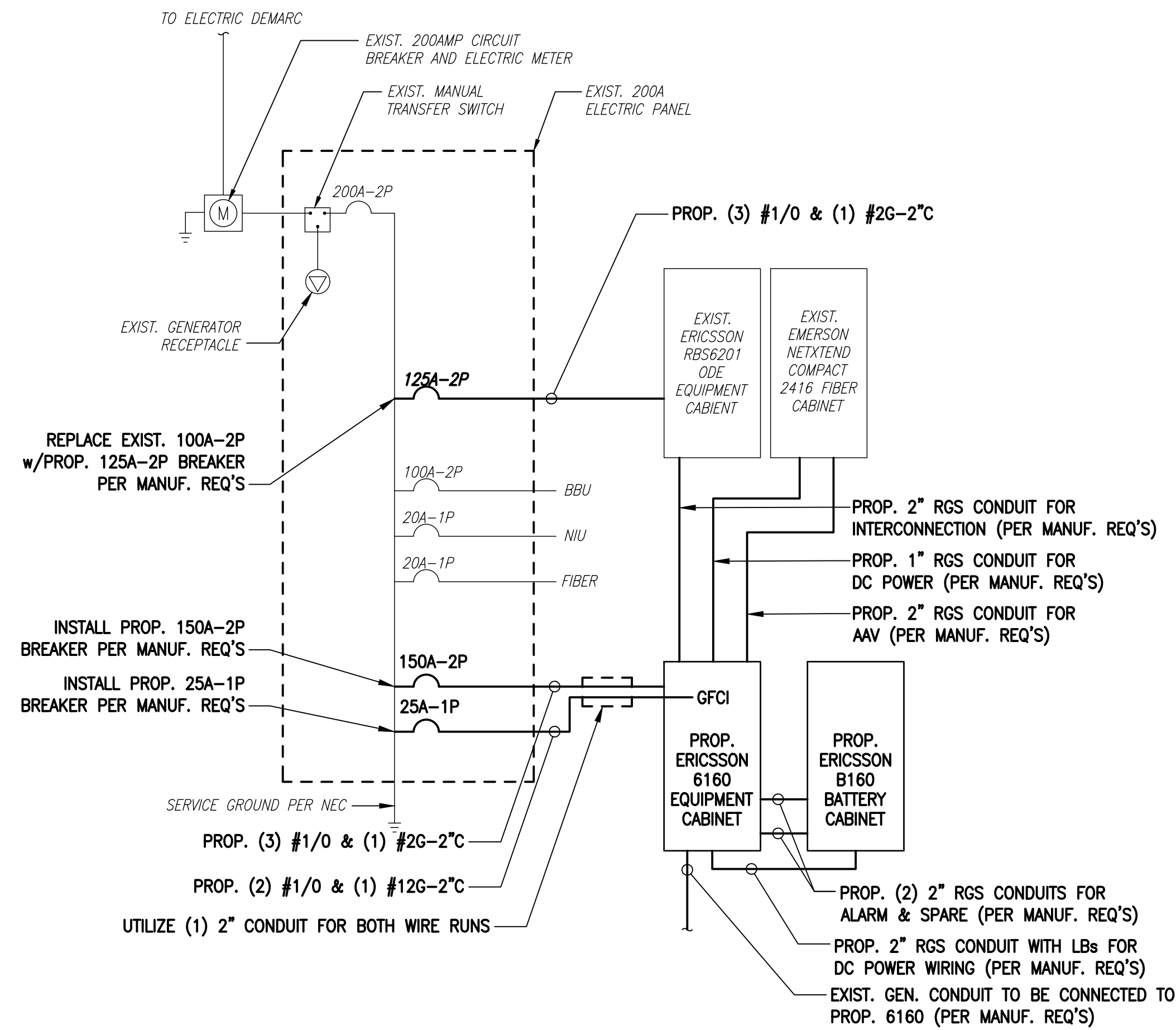
SITE ADDRESS:
1279 LONG HILL ROAD
MIDDLETOWN, CT 06457

SHEET TITLE
**ANTENNA &
FEEDLINE CHARTS**

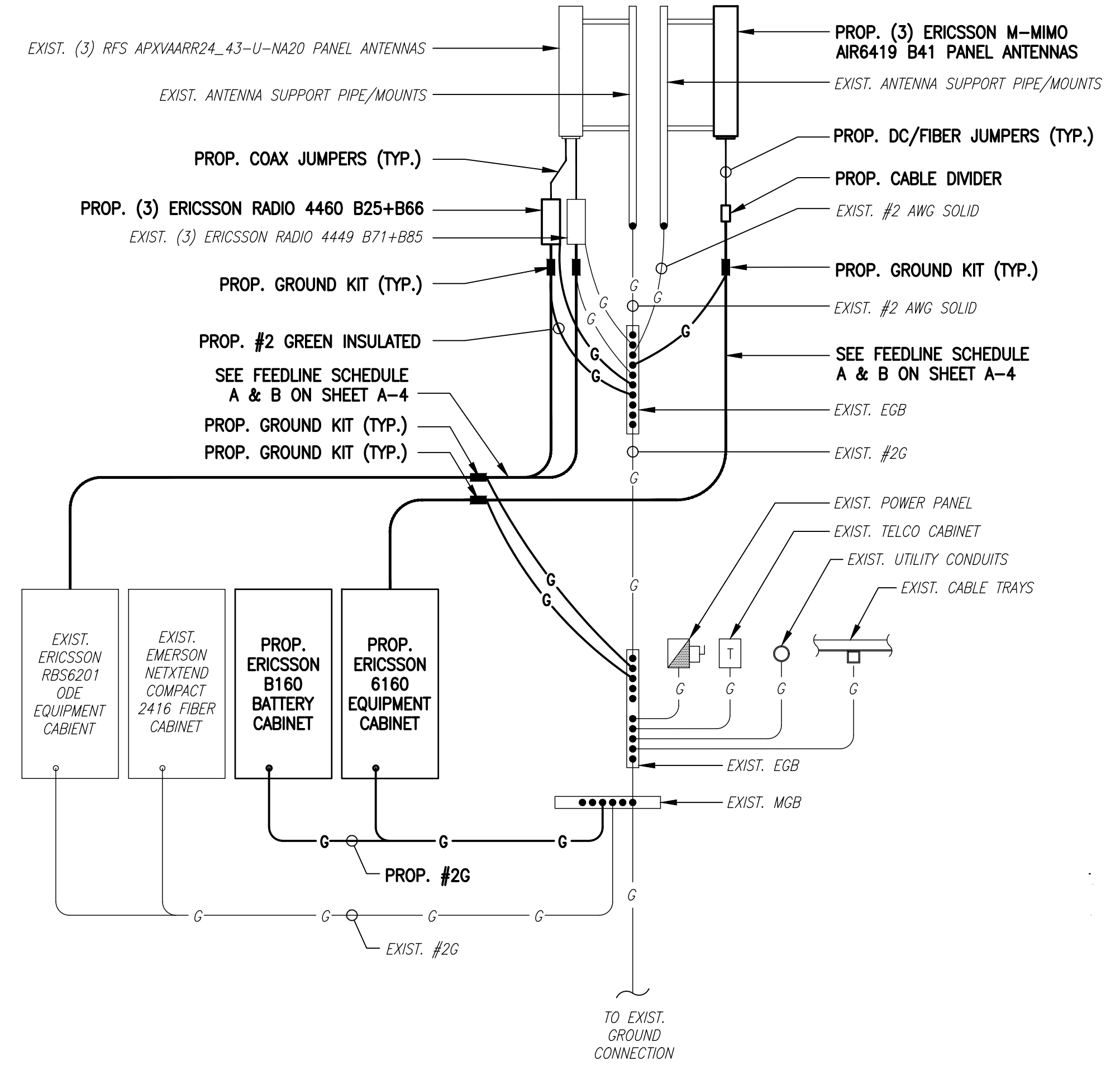
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A-4



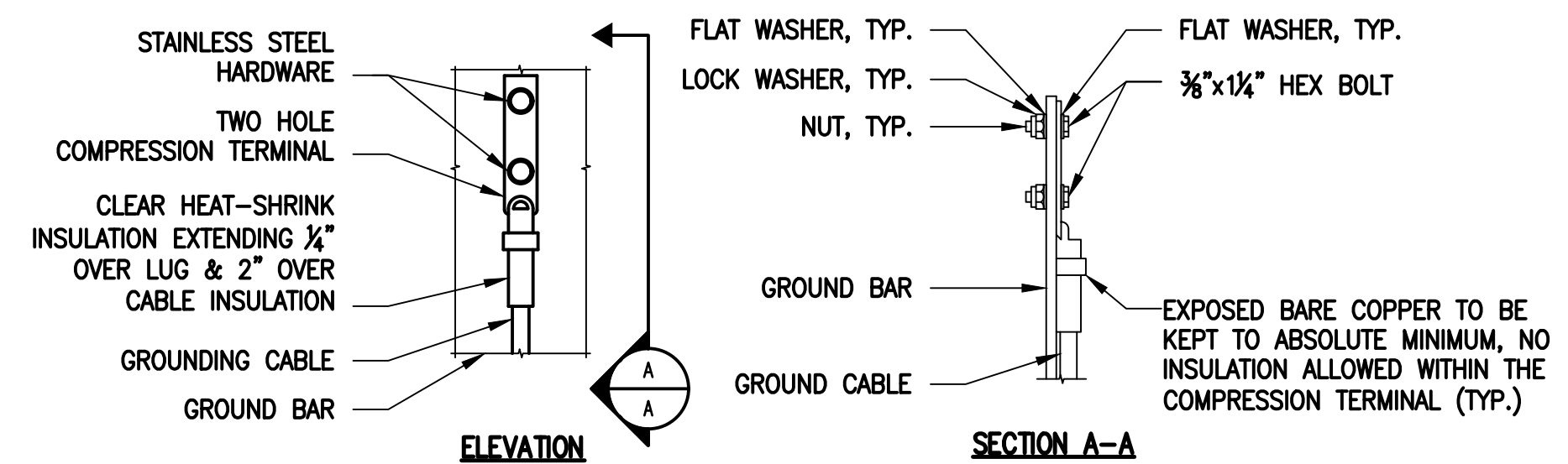
EXISTING POWER PANEL PHOTOS
SCALE: NOT TO SCALE



ONE LINE DIAGRAM
SCALE: NOT TO SCALE

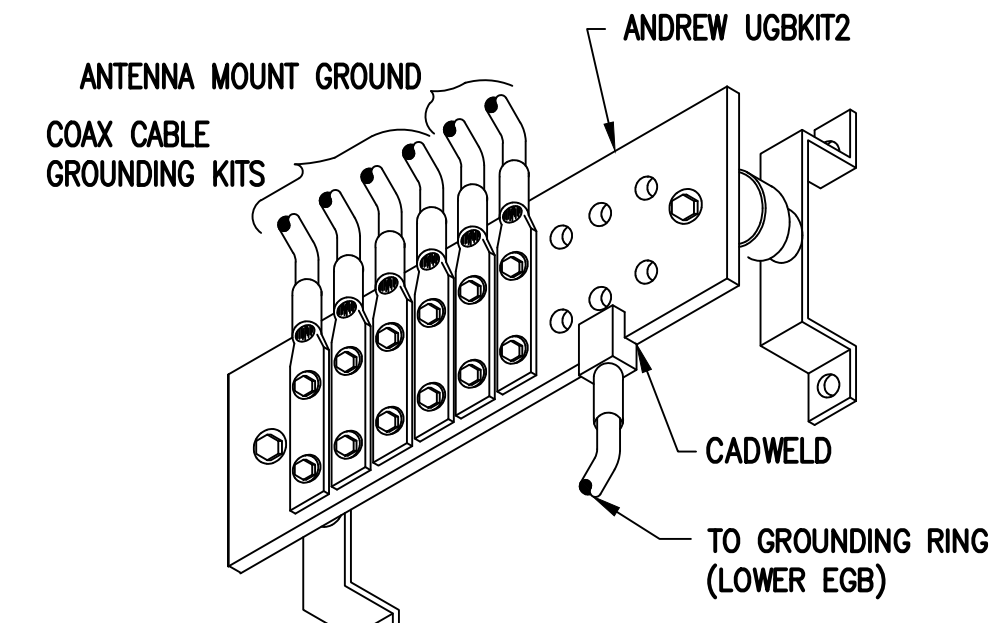


GROUNDING RISER DIAGRAM
SCALE: NOT TO SCALE

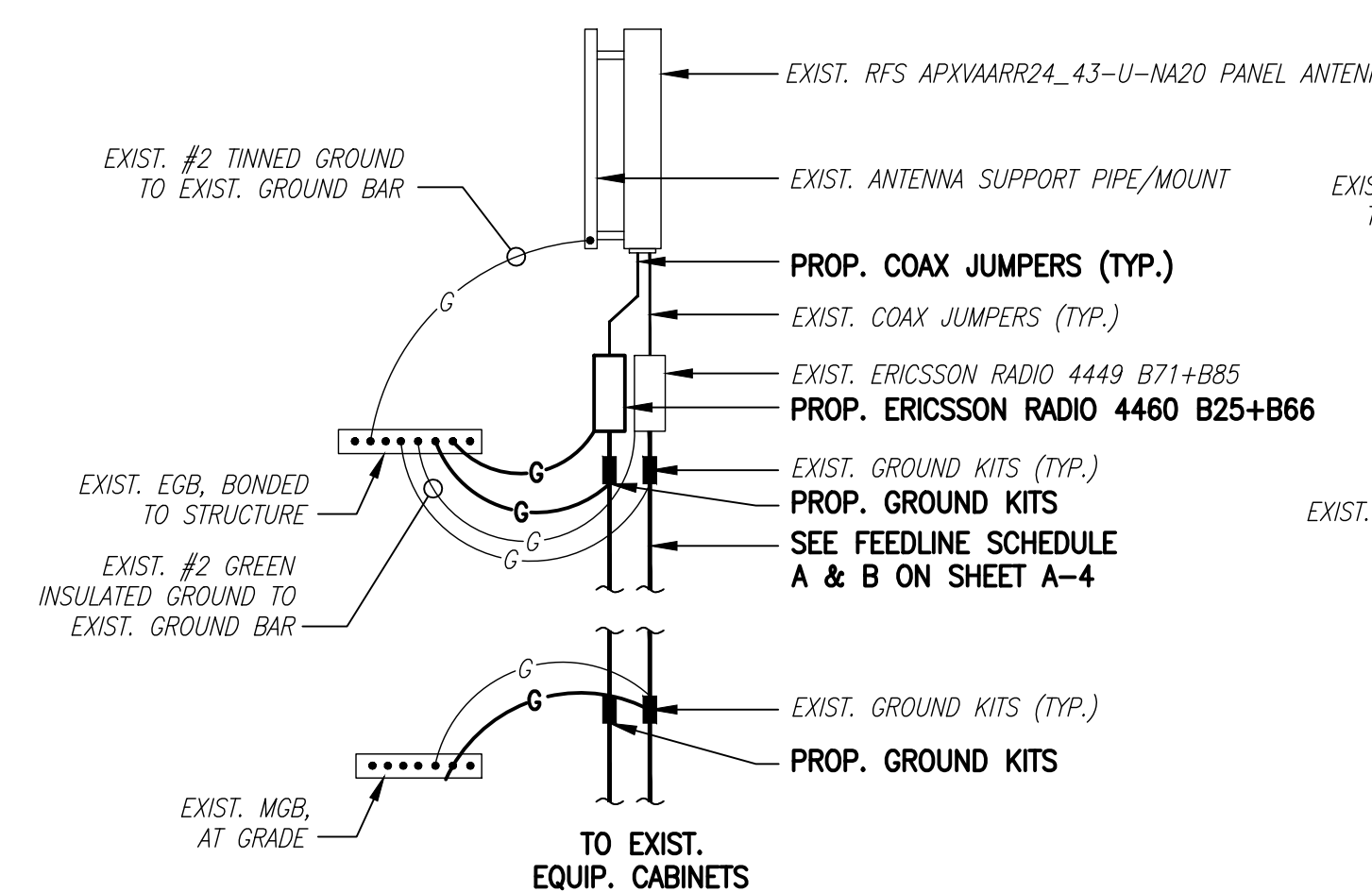


- NOTES:**
- "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
 - CADWELL DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.

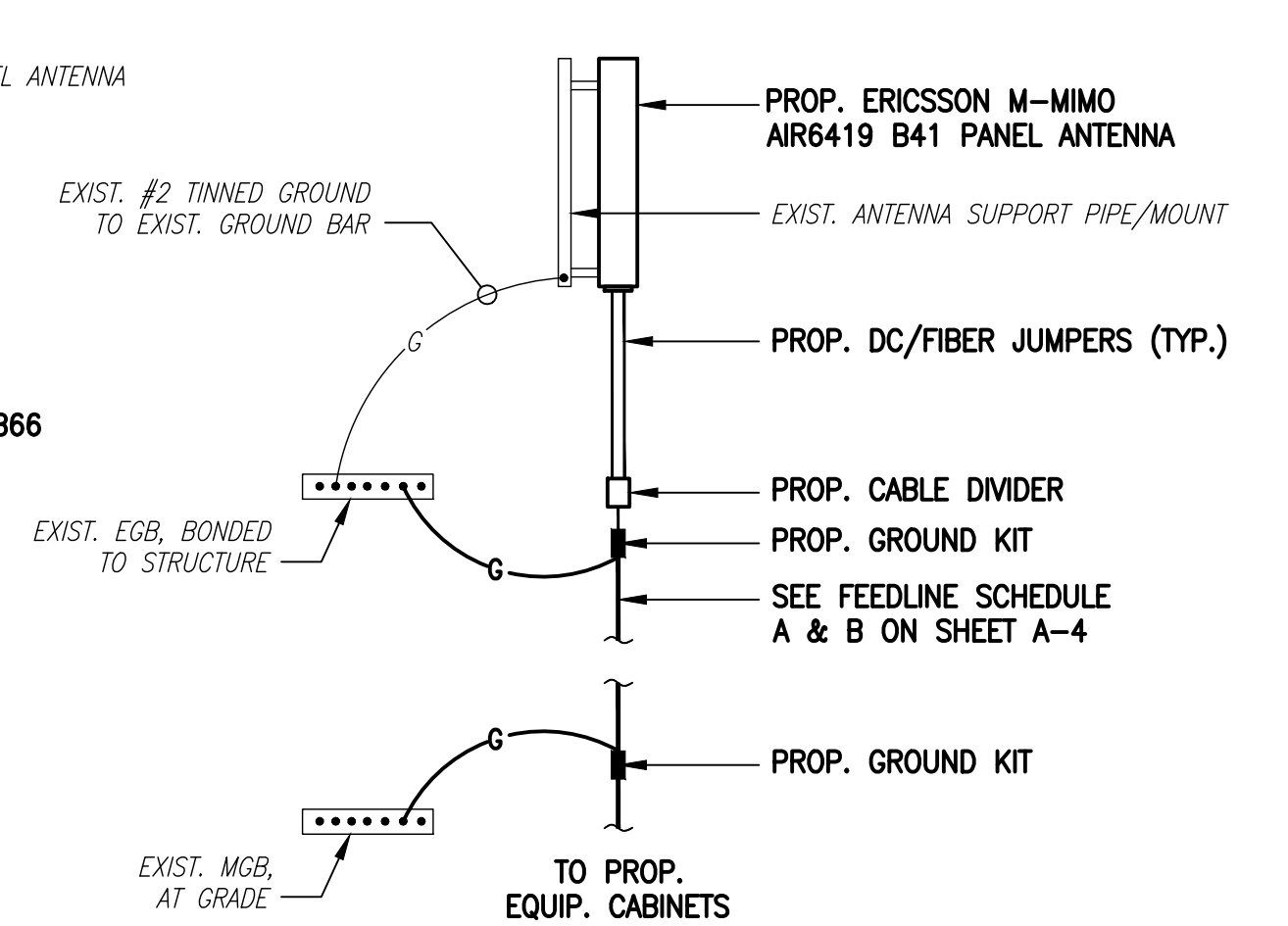
TYPICAL GROUND BAR CONNECTIONS DETAIL
SCALE: NOT TO SCALE



GROUND BAR (EGB)
SCALE: NOT TO SCALE



**L700/L600/N600
L1900/G1900/L2100 ANTENNA**



L2500/N2500 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL
SCALE: NOT TO SCALE

ELECTRICAL AND GROUNDING NOTES

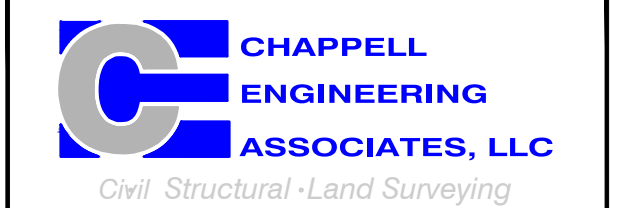
- ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
- THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
- GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
- ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
- BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
- ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
- RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE PPC AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
- RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND PROJECT OWNER CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
- WHERE CONDUIT BETWEEN BTS AND PROJECT OWNER CELL SITE PPC AND BETWEEN BTS AND PROJECT OWNER CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
- ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
- PPC SUPPLIED BY PROJECT OWNER.
- GROUNDING SHALL COMPLY WITH NEC ART. 250. ADDITIONALLY, GROUNDING, BONDING AND LIGHTNING PROTECTION SHALL BE DONE IN ACCORDANCE WITH "T-MOBILE BTS SITE GROUNDING STANDARDS".
- GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
- USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
- ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 6 FEET OF PROJECT OWNER EQUIPMENT OR CABINET TO MASTER GROUND BAR OR GROUNDING RING.
- CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
- APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
- CONTRACTOR SHALL PROVIDE AND INSTALL OMNI DIRECTIONAL ELECTRONIC MARKER SYSTEM (EMS) BALLS OVER EACH GROUND ROD AND BONDING POINT BETWEEN EXIST. TOWER/ MONOPOLE GROUNDING RING AND EQUIPMENT GROUNDING RING.
- CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMS MINIMUM RESISTANCE REQUIRED.
- CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE-OUT.

**T-MOBILE
NORTHEAST LLC**

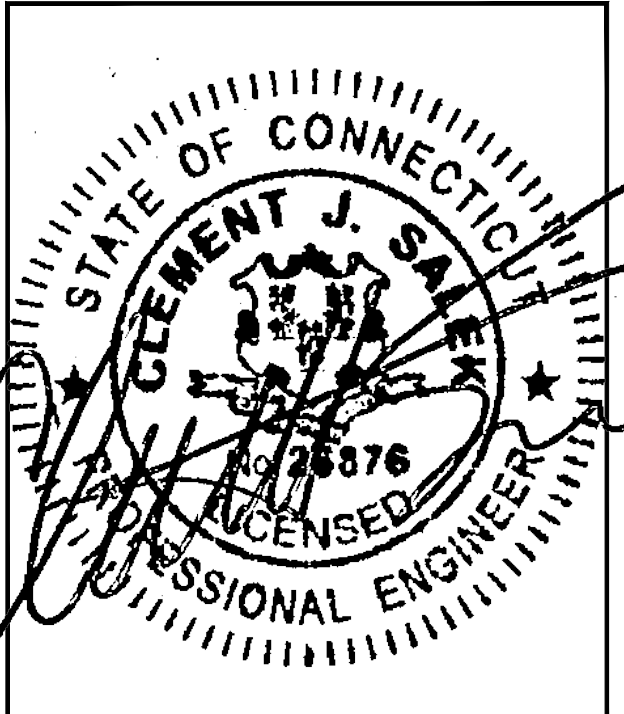
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SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
0	04/11/22	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11247E

SITE ADDRESS:
1279 LONG HILL ROAD
MIDDLETOWN, CT 06457

SHEET TITLE
**ELECTRIC & GROUNDING
DETAILS**

SHEET NUMBER
E-1

Exhibit D

Structural Analysis Report



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

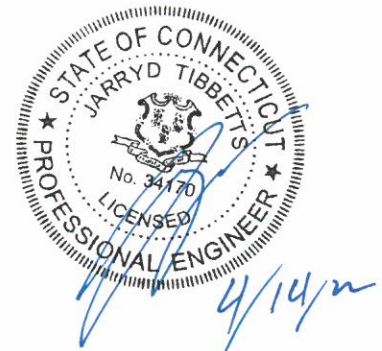
Existing 158 ft SUMMIT Monopole
Customer Name: SBA Communications Corp
Customer Site Number: CT01080-S
Customer Site Name: Long Hill #1
Carrier Name: T-Mobile (App#: 193212-1)
Carrier Site ID / Name: CT11247E / Middletown
Site Location: 1279 Long Hill Road
Middletown, Connecticut
Middlesex County
Latitude: 41.511231
Longitude: -72.670744

Analysis Result:

Max Structural Usage: 96.2% [Pass]

Max Foundation Usage: 65.0% [Pass]

Additional Usage Caused by New Mount/Mount Modification: N/A



Report Prepared By: Kevin Azisllari



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

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Report Prepared By: Kevin Azisllari

Introduction

The purpose of this report is to summarize the analysis results on the 158 ft SUMMIT Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Tower drawings prepared by Summit Manufacturing, Inc., Job No. 5173 dated 11/08/1999
Foundation Drawing	Foundation drawings prepared by Paul J. Ford & Company, Job No. 29299-641 dated 10/22/1999
Geotechnical Report	Geotechnical report prepared by Jawarski Geotech, Inc., Project No. C98590G dated 02/04/1999
Modification Drawings	N/A
Mount Analysis	TES 127327, dated 04/06/2022

Analysis Criteria

The rigorous analysis was performed in accordance with the requirements and stipulations of the TIA-222-G-2. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 130.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 101.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-G-2 / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_s = 0.18$, $S_1 = 0.062$

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	158.0	6	Commscope SBNHH-1D65B - Panel	Low Profile Platform w/ mount modifications	(12) 1 5/8" (1) 1 5/8" Hybrid (1) 1/2"	Verizon
2		2	Antel LPA-80063-6CF-EDIN-5 - Panel			
3		4	RFS APL866513-42T0 w/ Mount Pipe - Panel			
4		6	RFS FD9R6004/2CL-3CL Diplexer			
5		2	Raycap RRFDC-3315-PF-48			
6		3	Samsung MT6407-77A - Panel			
7		3	Samsung RF4439d-25A			
8		3	Samsung RF4440d-13A			
9	50.0	1	Lucent L112 GPS Receiver			
10	151.0	1	Andrew VHL2.5 - Dish	(1) Pipe Mount	(1) 1/2"	Clearwire
11		1	ODU			
12	146.0	3	RFS APXVSP18-C-A20 w/ Mount Pipe - Panel	(1) Low Profile Platform	(3) 1 1/4" (1) 1-1/4" Power / Fiber	Sprint
13		3	RFS APXVTM14-C-120 w/ Mount Pipe - Panel			
14		3	Alcatel TD-RRH8x20-25			
15		3	Alcatel 1900MHz RRH			
16		3	Alcatel 800 MHz RRH			
17		3	Alcatel 800MHz Filters			
18		4	RFS ACU-A20-N RET			
19		1	GPS			
20		3	Kathrein Scala 840 10054 - Panel			
21		3	RRUs			
-	137.0	3	RFS APXVAARR24_43-U-NA20	Low Profile Platform w/ Support rail w/ end connection MS-HRECP-35	(9) 1 5/8" (3) 1 5/8" Fiber	T-Mobile
-		3	Ericsson Air32 KRD901146-1_B66A_B2A			
-		9	Allen Telecom FE15501P77/75			
-		3	Ericsson KRY 112 489/2			
-		3	Ericsson Radio 4449 B71+B12			
-		3	Kathrein 782 11056			
29	124.583	1	SC229-DFLN - Omni	(1) Pipe Mount	(1) 1/2" (3) 7/8"	City of Middletown
30	120.225	2	SC479-HF1LDF(D00-E5749) - Omni			
31	113.0	1	DS428E83I01T - TTA			
32	120.0	1	Cambium Network HP3-11- Dish	(1) Ring Mount (DCH8)	(1) EW90	

Continued...

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
33	108.8	3	Ericsson AIR 6419 B77G - Panel	(3) SitePro1 VFA14-H10-2120 (Sector Frame) (2) SitePro1 LWRM (Ring Mount) (6) SitePro1 MM01 (Stand-Off)	(12) 1 5/8" DC Power (3) 3/8" Fiber (3) 2" Conduit*	AT&T
34	107.0	3	Cci TPA65R-BU6DA-K - Panel			
35		3	Cci DMP65R-BU6DA - Panel			
36		3	Powerwave TT19-08BP111-001 TMA			
37		3	Cci DTMABP7819VG12A TMA			
38		6	Powerwave LGP21903 Diplexer			
39		6	Powerwave 7020.00 RET			
40		3	Ericsson RRUS 4478 B14			
41		3	Ericsson RRUS 8843 B2 B66A			
42		3	Ericsson RRUS 4449 B5/B12			
43		3	Raycap DC6-48-60-18-8F			
44	105.2	3	Ericsson Air 6449 B77D - Panel	Platform w/HRK Commscope MC-PK8-DSH	(1) 1.6" Hybrid	Dish Wireless
45	97.0	3	JMA Wireless MX08FRO665-21			
46		3	Fujitsu TA08025-B605			
47		3	Fujitsu TA08025-B604			
48		1	Raycap RDIDC-9181-PF-48			
49	50.0	1	Lucent L112 GPS Receiver			Verizon

*Each conduit housing (2) DC and (1) Fiber listed above.

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
22	137.0	3	Ericsson AIR6419 B41 - Panel	Low Profile Platform w/ Support rail w/ end connection MS-HRECP-35	(7) 1 5/8" (3) 1 5/8" Fiber (1) 1.9" Fiber	T-Mobile
23		3	Ericsson KRY 112 489/2			
24		9	Allen Telecom FE15501P77/75			
25		3	Ericsson 4449 B71 + B85			
26		3	Ericsson 4460 B25 + B66			
27		3	Kathrein 782 11056			
28		3	RFS APXVAARR24_43-U-NA20			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	90.7%	65.5%	96.2%
Pass/Fail	Pass	Pass	Pass

Foundations

	Moment (Kip-Ft)	Shear (Kips)
Original Design Reactions	4350.0	37.5
Analysis Reactions	5362.0	46.4
Factored Reactions*	5872.5	50.6
% of Design Reactions	91.3%	91.7%

* Per section 15.5.1 of the TIA-222-G standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.6292 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222 Standard under the design basic wind speed as specified in the Analysis Criteria.

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Usage Diagram - Max Ratio 90.72% at 96.5ft

Structure: CT01080-S-SBA
Site Name: Long Hill #1
Height: 158.00 (ft)
Base Elev: 0.000 (ft)

Code: EIA/TIA-222-G
Exposure: C
Gh: 1.1

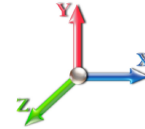
4/14/2022



Page: 1

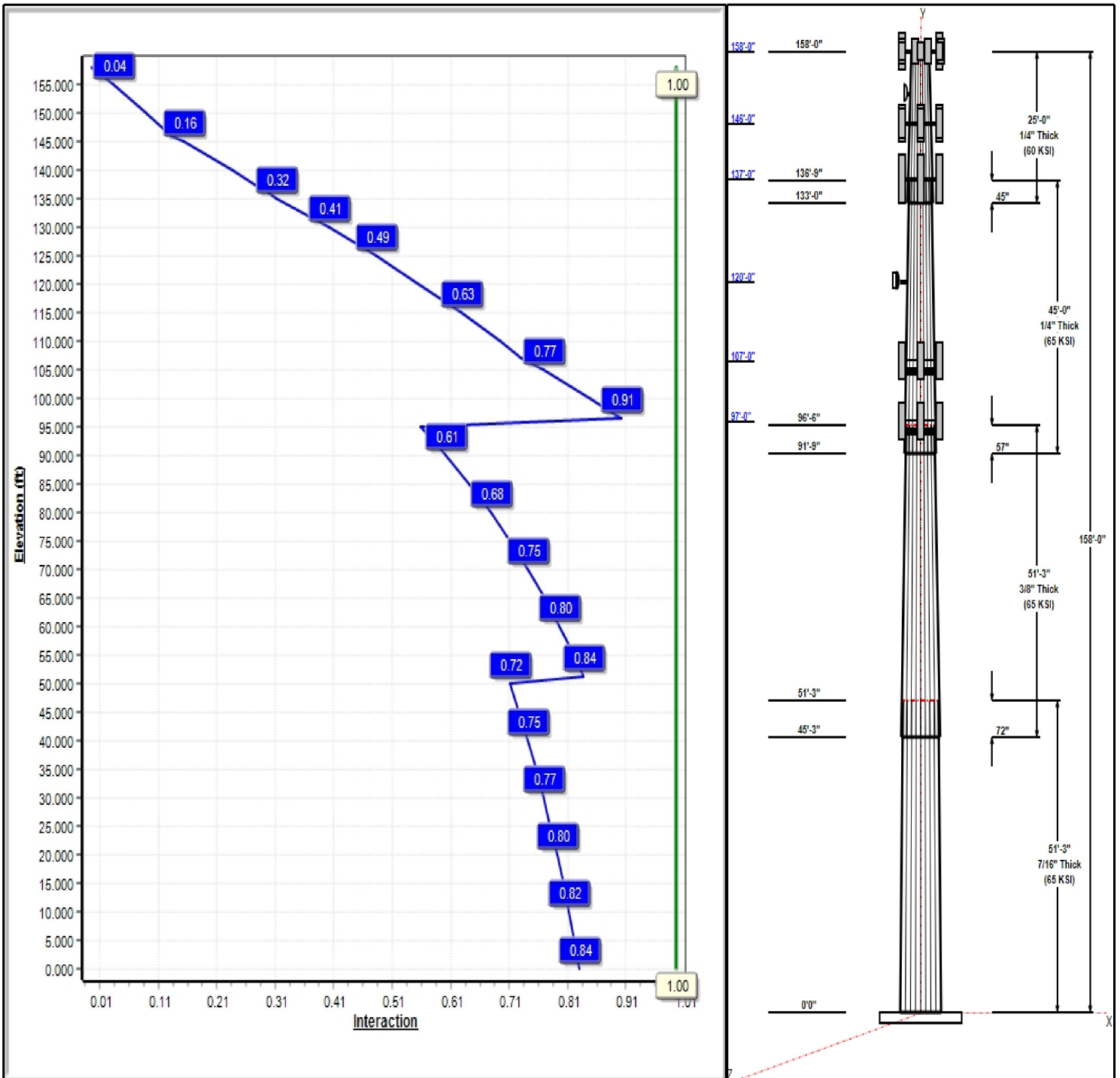
Dead Load Factor: 1.20
 Wind Load Factor: 1.60

Load Case : 1.2D + 1.6W 101 mph Wind



Iterations: 25

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Structure: CT01080-S-SBA

Type: Tapered
Site Name: Long Hill #1
Height: 158.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23500

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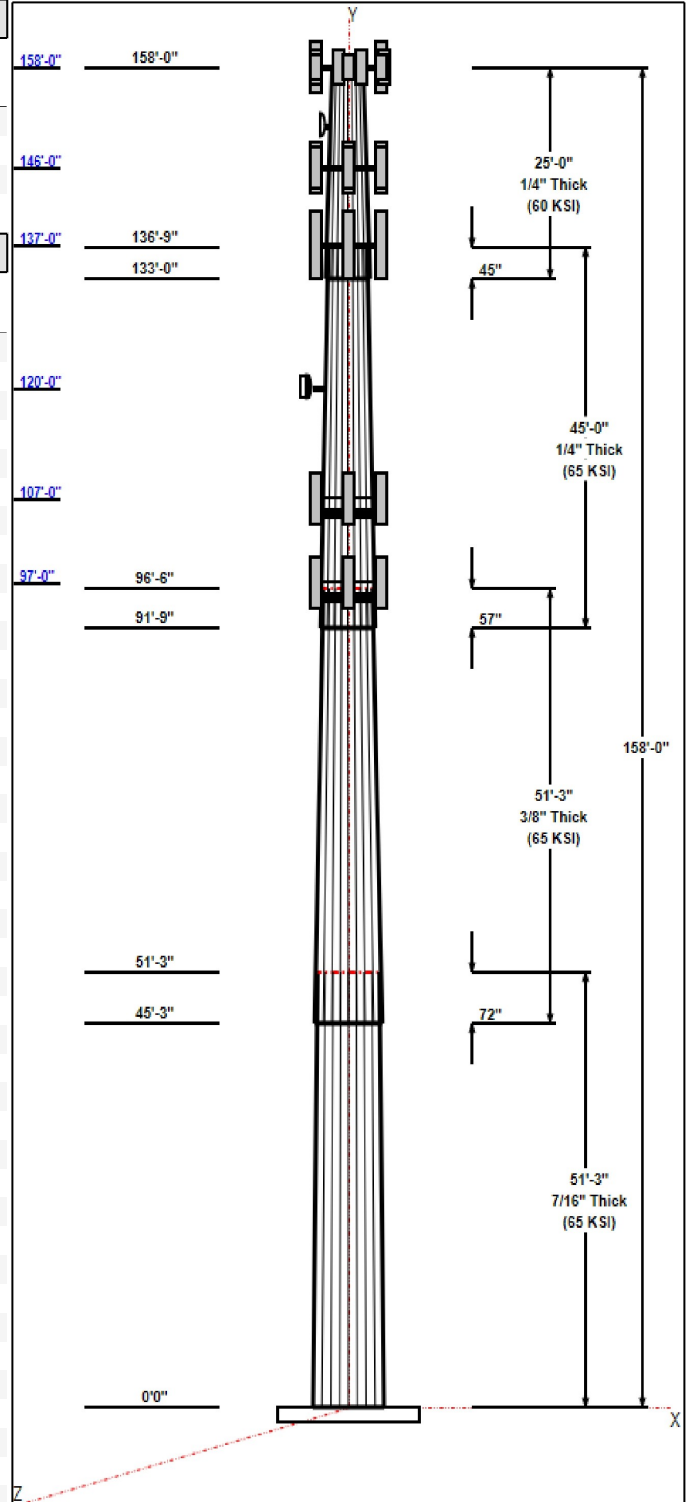


Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	51.25	46.34	58.38	0.438		0.23500	65
2	51.25	36.45	48.50	0.375	Slip	0.23500	65
3	45.00	27.49	38.07	0.250	Slip	0.23500	65
4	25.00	23.00	28.88	0.250	Slip	0.23500	60

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
158.00	158.00	1	6' Lightning rod	
158.00	158.00	6	Commscope	Verizon
158.00	158.00	2	Antel	Verizon
158.00	158.00	4	RFS APL866513-42T0 w/	Verizon
158.00	158.00	6	RFS FD9R6004/2CL-3CL	Verizon
158.00	158.00	2	Raycap	Verizon
158.00	158.00	1	Low Profile Platform	Verizon
158.00	158.00	3	Samsung MT6407-77A	Verizon
158.00	158.00	3	Samsung RF4439d-25A	Verizon
158.00	158.00	3	Samsung RF4440d-13A	Verizon
151.00	151.00	1	Andrew VHLP2.5	Clearwire
151.00	151.00	1	Pipe Mount	Clearwire
151.00	151.00	1	ODU	Clearwire
146.00	146.00	3	RFS APXVTM14-C-120 w/	Sprint
146.00	146.00	3	Alcatel TD-RRH8x20-25	Sprint
146.00	146.00	3	Alcatel 1900MHz RRH	Sprint
146.00	146.00	3	Alcatel 800 MHz RRH	Sprint
146.00	146.00	3	Alcatel 800MHz Filters	Sprint
146.00	146.00	4	RFS ACU-A20-N RET	Sprint
146.00	146.00	1	GPS	Sprint
146.00	146.00	3	Kathrein Scala 840 10054	Clearwire
146.00	146.00	3	RRUs	Clearwire
146.00	146.00	1	Low Profile Platform	Sprint
146.00	146.00	3	RFS APXVSP18-C-A20	Sprint
137.00	137.00	1	Low Profile Platform w/	T-Mobile
137.00	137.00	1	HRK12 (Handrail Kit)	T-Mobile
137.00	137.00	3	Ericsson AIR6419 B41	T-Mobile
137.00	137.00	3	RFS	T-Mobile
137.00	137.00	3	Ericsson KRY 112 489/2	T-Mobile
137.00	137.00	9	Allen Telecom	T-Mobile
137.00	137.00	3	Ericsson 4449 B71 + B85	T-Mobile
137.00	137.00	3	Ericsson 4460 B25 + B66	T-Mobile
137.00	137.00	3	Kathrein 782 11056	T-Mobile
120.00	120.00	1	Cambium Network	city of middletown
120.00	120.00	1	Flush Mount	City of Middletown
120.00	120.00	1	Pipe Mount	City Of Middletown
120.00	120.00	1	DS428E83101T - TTA	City of Middletown
107.00	107.00	3	Raycap DC6-48-60-18-8F	AT&T
107.00	107.00	3	Powerwave	AT&T
107.00	107.00	6	Powerwave LGP21903	AT&T
107.00	107.00	3	RRUS 4478 B14	AT&T
107.00	107.00	3	B2 B66A 8843	AT&T
107.00	107.00	3	4449 B5/B12	AT&T
107.00	107.00	6	Powerwave 7020.00 RET's	AT&T
107.00	107.00	3	TPA65R-BU6DA-K	AT&T



Structure: CT01080-S-SBA

Type: Tapered
Site Name: Long Hill #1
Height: 158.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.23500

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107.00	107.00	3	DMP65R-BU6DA	AT&T
107.00	108.80	3	AIR 6419 B77G	AT&T
107.00	105.20	3	AIR 6449 B77D	AT&T
107.00	107.00	1	(3) VFA14-H10-2120	AT&T
107.00	107.00	2	Collar Mount (3-Sided)	AT&T
107.00	107.00	6	SitePro1 MM01	AT&T
107.00	107.00	3	CCI DTMAP7819VG12A	AT&T
97.00	97.00	3	MX08FRO665-21	Dish Wireless
97.00	97.00	3	TA08025-B605	Dish Wireless
97.00	97.00	3	TA08025-B604	Dish Wireless
97.00	97.00	1	RDIDC-9181-OF-48	Dish Wireless
97.00	97.00	1	MC-PK8-DSH	Dish Wireless

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
3.00	158.00	Inside	1 5/8" Coax	Verizon
3.00	158.00	Inside	1 5/8" Hybrid	Verizon
3.00	158.00	Outside	1/2" Coax	Verizon
3.00	151.00	Inside	1/2" Coax	Clearwire
3.00	146.00	Inside	1 1/4" Coax	Sprint
3.00	146.00	Inside	1-1/4" Power / Fiber	Sprint
3.00	146.00	Inside	1/2" Coax	Clearwire
3.00	146.00	Inside	5/16" Coax	Clearwire
3.00	137.00	Inside	1 5/8" Coax	T-Mobile
3.00	137.00	Inside	1 5/8" Fiber	T-Mobile
3.00	137.00	Inside	1.9" Fiber	T-Mobile
3.00	120.00	Inside	1/2" Coax	City Of Middletown
3.00	120.00	Inside	7/8" Coax	City Of Middletown
3.00	120.00	Inside	EW90	City Of Middletown
3.00	107.00	Inside	0.92" DC	AT&T
3.00	107.00	Inside	1 5/8" Coax	AT&T
3.00	107.00	Inside	2" Conduit	AT&T
3.00	107.00	Inside	3/8" Fiber	
3.00	97.00	Inside	1.6" Hybrid	Dish Wireless

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
24	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
2.7500	67.0	50.0	Clipped

Reactions

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 101 mph Wind	5362.0	46.4	60.5
0.9D + 1.6W 101 mph Wind	5299.0	46.4	45.4
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1406.5	12.1	94.9
1.2D + 1.0E	266.5	2.1	60.6
0.9D + 1.0E	263.0	2.1	45.4
1.0D + 1.0W 60 mph Wind	1175.7	10.2	50.5

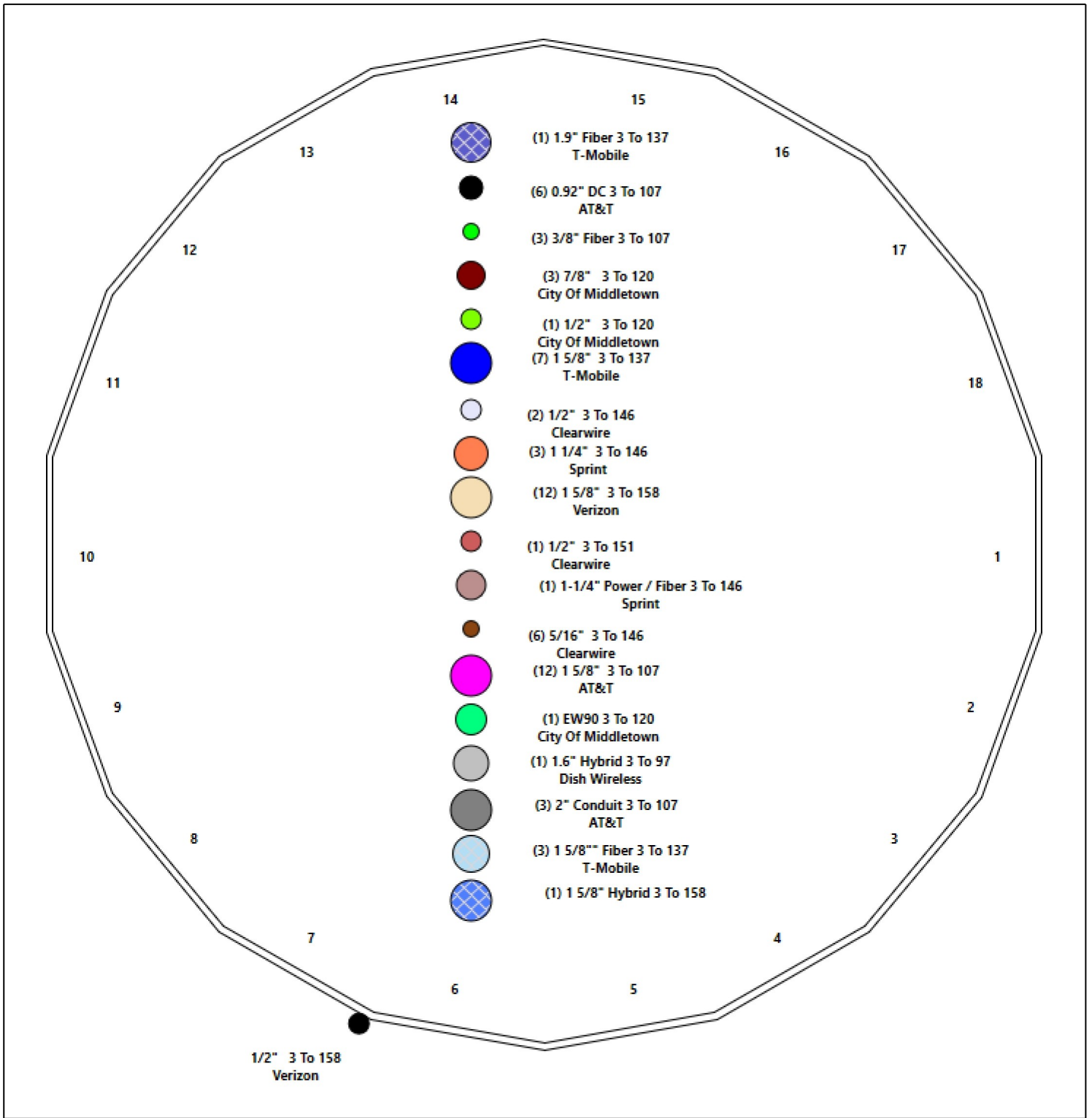
Structure: CT01080-S-SBA - Coax Line Placement

Type: Monopole
Site Name: Long Hill #1
Height: 158.00 (ft)

4/14/2022



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Shaft Properties

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	51.250	0.4375	65		0.00	12,573
2	18	51.250	0.3750	65	Slip	72.00	8,738
3	18	45.000	0.2500	65	Slip	57.00	3,953
4	18	25.000	0.2500	60	Slip	45.00	1,734
Total Shaft Weight:							26,998

Bottom

Top

Sec. No.	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (sqin)	Ix (in^4)	W/t Ratio	D/t Ratio	Taper
1	58.38	0.00	80.46	34128.26	22.12	133.44	46.34	51.25	63.73	16963.8	17.26	105.9	0.235000
2	48.50	45.25	57.27	16756.62	21.39	129.32	36.45	96.50	42.94	7061.30	15.73	97.21	0.235000
3	38.07	91.75	30.01	5422.58	25.44	152.28	27.49	136.75	21.62	2027.15	17.98	109.9	0.235000
4	28.88	133.0	22.71	2351.37	18.96	115.50	23.00	158.00	18.05	1180.40	14.81	92.00	0.235000

Load Summary

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
1	158.00	6' Lightning rod	1	6.50	0.38	1.00	42.99	1.473	1.00	0.00	0.00
2	158.00	Commscope SBNHH-1D65B	6	50.71	8.05	0.83	253.10	9.351	0.83	0.00	0.00
3	158.00	Antel LPA-80063-6CF-EDIN-5	2	27.00	9.73	0.93	289.85	12.488	0.93	0.00	0.00
4	158.00	RFS APL866513-42T0 w/ Mount	4	48.70	5.65	0.93	389.21	8.263	0.93	0.00	0.00
5	158.00	RFS FD9R6004/2CL-3CL Diplexer	6	3.00	0.31	0.50	10.81	0.694	0.50	0.00	0.00
6	158.00	Raycap RRFDC-3315-PF-48	2	44.00	4.80	0.50	289.15	5.743	0.50	0.00	0.00
7	158.00	Low Profile Platform	1	1600.00	35.00	1.00	3003.45	64.472	1.00	0.00	0.00
8	158.00	Samsung MT6407-77A	3	79.40	4.69	0.70	199.70	5.642	0.70	0.00	0.00
9	158.00	Samsung RF4439d-25A	3	33.00	1.82	0.67	74.80	2.801	0.67	0.00	0.00
10	158.00	Samsung RF4440d-13A	3	70.40	1.88	0.67	122.86	2.434	0.67	0.00	0.00
11	151.00	Andrew VHLP2.5	1	47.60	8.43	1.00	220.41	10.138	1.00	1.00	0.00
12	151.00	Pipe Mount	1	40.00	2.63	1.00	120.33	8.603	1.00	0.00	0.00
13	151.00	ODU	1	13.20	1.24	0.50	42.82	2.041	0.50	0.00	0.00
14	146.00	RFS APXVTM14-C-120 w/ Mount	3	89.00	7.94	0.78	248.89	7.450	0.78	0.00	0.00
15	146.00	Alcatel TD-RRHx20-25	3	70.00	4.05	0.50	180.10	4.861	0.50	0.00	0.00
16	146.00	Alcatel 1900MHz RRH	3	44.00	2.38	0.50	152.87	3.248	0.50	0.00	0.00
17	146.00	Alcatel 800 MHz RRH	3	53.00	2.13	0.50	126.76	3.106	0.50	0.00	0.00
18	146.00	Alcatel 800MHz Filters	3	8.80	0.67	0.50	26.40	1.224	0.50	0.00	0.00
19	146.00	RFS ACU-A20-N RET	4	1.00	0.12	0.50	5.28	0.374	0.50	0.00	0.00
20	146.00	GPS	1	10.00	1.00	1.00	39.24	1.710	1.00	0.00	0.00
21	146.00	Kathrein Scala 840 10054	3	35.00	4.59	0.61	119.04	6.258	0.61	0.00	0.00
22	146.00	RRUs	3	3.13	2.92	0.50	8.71	4.207	0.50	0.00	0.00
23	146.00	Low Profile Platform	1	1600.00	30.00	1.00	2992.40	55.063	1.00	0.00	0.00
24	146.00	RFS APXVSPP18-C-A20 w/ Mount	3	90.00	9.62	0.83	362.19	12.962	0.83	0.00	0.00
25	137.00	Low Profile Platform w/ Support Kit	1	1200.00	25.00	1.00	2237.68	45.754	1.00	0.00	0.00
26	137.00	HRK12 (Handrail Kit)	1	261.72	6.75	1.00	569.51	13.287	1.00	0.00	0.00
27	137.00	Ericsson AIR6419 B41	3	66.10	3.80	0.76	161.44	4.589	0.76	0.00	0.00
28	137.00	RFS APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	541.69	22.122	0.70	0.00	0.00
29	137.00	Ericsson KRY 112 489/2	3	15.20	0.90	0.67	38.05	1.623	0.67	0.00	0.00
30	137.00	Allen Telecom FE15501P77/75	9	15.20	0.90	0.67	38.05	1.623	0.67	0.00	0.00
31	137.00	Ericsson 4449 B71 + B85	3	73.20	1.97	0.67	130.42	2.534	0.67	0.00	0.00
32	137.00	Ericsson 4460 B25 + B66	3	109.00	2.85	0.67	180.26	3.518	0.67	0.00	0.00
33	137.00	Kathrein 782 11056	3	2.90	0.13	0.67	6.86	0.419	0.67	0.00	0.00
34	120.00	Cambium Network HP3-11- Dish	1	50.00	8.92	1.00	228.42	10.637	1.00	0.00	0.00
35	120.00	Flush Mount	1	350.00	5.00	1.00	636.73	8.413	1.00	0.00	0.00
36	120.00	Pipe Mount	1	400.00	10.00	1.00	673.07	18.534	1.00	0.00	0.00
37	120.00	DS428E83101T - TTA	1	50.00	8.92	0.50	388.68	12.051	0.50	0.00	0.00
38	107.00	Raycap DC6-48-60-18-8F	3	32.80	2.20	0.67	94.45	3.213	0.67	0.00	0.00
39	107.00	Powerwave TT19-08BP111-001	3	16.00	0.55	0.60	35.57	1.043	0.60	0.00	0.00
40	107.00	Powerwave LGP21903 Diplexer	6	5.30	0.23	0.60	13.15	0.557	0.60	0.00	0.00
41	107.00	RRUS 4478 B14	3	59.40	2.02	0.67	99.49	2.634	0.67	0.00	0.00
42	107.00	B2 B66A 8843	3	72.00	1.64	0.67	117.73	2.139	0.67	0.00	0.00
43	107.00	4449 B5/B12	3	73.00	1.64	0.67	126.06	2.080	0.67	0.00	0.00
44	107.00	Powerwave 7020.00 RET's	6	2.20	0.34	0.60	12.10	0.738	0.60	0.00	0.00
45	107.00	TPA65R-BU6DA-K	3	69.00	12.71	0.72	364.05	14.117	0.72	0.00	0.00
46	107.00	DMP65R-BU6DA	3	79.40	12.71	0.72	364.16	14.125	0.72	0.00	0.00
47	107.00	AIR 6419 B77G	3	66.10	3.66	0.76	159.11	4.401	0.76	0.00	1.80
48	107.00	AIR 6449 B77D	3	106.00	4.02	0.85	220.86	4.833	0.85	0.00	-1.80
49	107.00	(3) VFA14-H10-2120	1	2736.00	50.70	0.75	5321.13	12.291	0.75	0.00	0.00
50	107.00	Collar Mount (3-Sided)	2	264.35	2.00	1.00	621.17	4.025	1.00	0.00	0.00

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice			Ice			Hor. Ecc. (ft)	Vert Ecc (ft)
				Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor		
51	107.00	SitePro1 MM01	6	26.06	0.10	1.00	34.85	0.134	1.00	0.00	0.00
52	107.00	CCI DTMAP7819VG12A TMA's	3	19.18	0.98	0.60	43.83	1.620	0.60	0.00	0.00
53	97.00	MX08FRO665-21	3	64.50	12.49	0.74	342.96	13.892	0.74	0.00	0.00
54	97.00	TA08025-B605	3	75.00	1.96	0.67	125.07	2.497	0.67	0.00	0.00
55	97.00	TA08025-B604	3	63.90	1.96	0.67	112.37	2.497	0.67	0.00	0.00
56	97.00	RDIDC-9181-OF-48	1	21.90	2.01	1.00	72.88	2.554	1.00	0.00	0.00
57	97.00	MC-PK8-DSH	1	1727.00	37.59	1.00	3342.84	82.809	1.00	0.00	0.00
Totals:			159	16,943.07			40,857.62				

Linear Appurtenances

Bottom Elev. (ft)	Top Elev. (ft)	Description	Exposed Width	Exposed
3.00	158.00	(12) 1 5/8" Coax	0.00	Inside
3.00	158.00	(1) 1 5/8" Hybrid	0.00	Inside
3.00	158.00	(1) 1/2" Coax	0.00	Outside
3.00	151.00	(1) 1/2" Coax	0.00	Inside
3.00	146.00	(3) 1 1/4" Coax	0.00	Inside
3.00	146.00	(1) 1-1/4" Power / Fiber	0.00	Inside
3.00	146.00	(2) 1/2" Coax	0.00	Inside
3.00	146.00	(6) 5/16" Coax	0.00	Inside
3.00	137.00	(7) 1 5/8" Coax	0.00	Inside
3.00	137.00	(3) 1 5/8" Fiber	0.00	Inside
3.00	137.00	(1) 1.9" Fiber	0.00	Inside
3.00	120.00	(1) 1/2" Coax	0.00	Inside
3.00	120.00	(3) 7/8" Coax	0.00	Inside
3.00	120.00	(1) EW90	0.00	Inside
3.00	107.00	(6) 0.92" DC	0.00	Inside
3.00	107.00	(12) 1 5/8" Coax	0.00	Inside
3.00	107.00	(3) 2" Conduit	0.00	Inside
3.00	107.00	(3) 3/8" Fiber	0.00	Inside
3.00	97.00	(1) 1.6" Hybrid	0.00	Inside

Shaft Section Properties

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Increment Length: 5 (ft)

Elev (ft)	Description	Thick (in)	Dia (in)	Area (in^2)	Ix (in^4)	W/t Ratio	D/t Ratio	Fpy (ksi)	S (in^3)	Weight (lb)
0.00		0.4375	58.380	80.458	34128.3	22.12	133.44	75.4	1151.	0.0
5.00		0.4375	57.205	78.826	32093.8	21.64	130.75	75.9	1105.	1355.0
10.00		0.4375	56.030	77.194	30141.9	21.17	128.07	76.5	1059.	1327.3
15.00		0.4375	54.855	75.563	28270.8	20.70	125.38	77.1	1015.	1299.5
20.00		0.4375	53.680	73.931	26478.8	20.22	122.70	77.6	971.6	1271.7
25.00		0.4375	52.505	72.300	24764.1	19.75	120.01	78.2	929.0	1244.0
30.00		0.4375	51.330	70.668	23125.1	19.28	117.33	78.7	887.3	1216.2
35.00		0.4375	50.155	69.036	21560.1	18.80	114.64	79.3	846.7	1188.5
40.00		0.4375	48.980	67.405	20067.3	18.33	111.95	79.8	807.0	1160.7
45.00		0.4375	47.805	65.773	18645.1	17.86	109.27	80.4	768.2	1132.9
45.25	Bot - Section 2	0.4375	47.746	65.692	18575.8	17.83	109.13	80.4	766.3	55.9
50.00		0.4375	46.630	64.142	17291.7	17.38	106.58	81.0	730.4	1964.3
51.25	Top - Section 1	0.3750	47.086	55.596	15326.4	20.73	125.56	0.0	0.0	509.2
55.00		0.3750	46.205	54.547	14475.2	20.32	123.21	77.5	617.0	702.7
60.00		0.3750	45.030	53.149	13390.2	19.76	120.08	78.2	585.7	916.2
65.00		0.3750	43.855	51.750	12360.7	19.21	116.95	78.8	555.1	892.4
70.00		0.3750	42.680	50.352	11385.5	18.66	113.81	79.5	525.4	868.6
75.00		0.3750	41.505	48.953	10462.9	18.11	110.68	80.1	496.5	844.8
80.00		0.3750	40.330	47.555	9591.6	17.55	107.55	80.8	468.4	821.0
85.00		0.3750	39.155	46.156	8770.0	17.00	104.41	81.4	441.2	797.2
90.00		0.3750	37.980	44.758	7996.7	16.45	101.28	82.1	414.7	773.4
91.75	Bot - Section 3	0.3750	37.569	44.268	7737.2	16.25	100.18	82.3	405.6	265.1
95.00		0.3750	36.805	43.359	7270.3	15.90	98.15	82.5	389.1	813.0
96.50	Top - Section 2	0.2500	36.953	29.122	4956.5	24.65	147.81	0.0	0.0	369.6
97.00		0.2500	36.835	29.029	4909.0	24.57	147.34	72.5	262.5	49.5
100.00		0.2500	36.130	28.470	4630.6	24.07	144.52	73.1	252.4	293.5
105.00		0.2500	34.955	27.537	4190.4	23.24	139.82	74.1	236.1	476.4
107.00		0.2500	34.485	27.164	4022.5	22.91	137.94	74.5	229.7	186.1
110.00		0.2500	33.780	26.605	3779.1	22.41	135.12	75.0	220.3	274.4
115.00		0.2500	32.605	25.673	3395.5	21.59	130.42	76.0	205.1	444.7
120.00		0.2500	31.430	24.740	3038.9	20.76	125.72	77.0	190.4	428.9
125.00		0.2500	30.255	23.808	2708.1	19.93	121.02	78.0	176.3	413.0
130.00		0.2500	29.080	22.876	2402.3	19.10	116.32	78.9	162.7	397.1
133.00	Bot - Section 4	0.2500	28.375	22.316	2230.3	18.60	113.50	79.5	154.8	230.7
135.00		0.2500	27.905	21.943	2120.3	18.27	111.62	79.9	149.7	303.9
136.75	Top - Section 3	0.2500	27.994	22.014	2140.8	18.33	111.97	0.0	0.0	261.8
137.00		0.2500	27.935	21.967	2127.2	18.29	111.74	74.5	150.0	18.7
140.00		0.2500	27.230	21.408	1968.8	17.79	108.92	75.0	142.4	221.4
145.00		0.2500	26.055	20.476	1722.6	16.97	104.22	75.9	130.2	356.3
146.00		0.2500	25.820	20.289	1676.0	16.80	103.28	76.1	127.9	69.4
150.00		0.2500	24.880	19.543	1497.9	16.14	99.52	76.2	118.6	271.1
151.00		0.2500	24.645	19.357	1455.4	15.97	98.58	76.2	116.3	66.2
155.00		0.2500	23.705	18.611	1293.6	15.31	94.82	76.2	107.5	258.4
158.00		0.2500	23.000	18.051	1180.4	14.81	92.00	76.2	101.1	187.1

26997.7

Wind Loading - Shaft

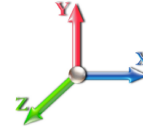
Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 25

Dead Load Factor 1.20
Wind Load Factor 1.60



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	21.088	23.20	460.00	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	450.75	0.650	0.000	5.00	24.452	15.89	589.9	0.0	1626.0
10.00		1.00	0.85	21.088	23.20	441.49	0.650	0.000	5.00	23.955	15.57	577.9	0.0	1592.7
15.00		1.00	0.85	21.088	23.20	432.23	0.650	0.000	5.00	23.457	15.25	565.9	0.0	1559.4
20.00		1.00	0.90	22.375	24.61	435.69	0.650	0.000	5.00	22.960	14.92	587.7	0.0	1526.1
25.00		1.00	0.95	23.451	25.80	436.28	0.650	0.000	5.00	22.463	14.60	602.6	0.0	1492.8
30.00		1.00	0.98	24.369	26.81	434.78	0.650	0.000	5.00	21.966	14.28	612.4	0.0	1459.5
35.00		1.00	1.01	25.172	27.69	431.78	0.650	0.000	5.00	21.469	13.95	618.2	0.0	1426.2
40.00		1.00	1.04	25.890	28.48	427.63	0.650	0.000	5.00	20.972	13.63	621.1	0.0	1392.8
45.00		1.00	1.07	26.540	29.19	422.58	0.650	0.000	5.00	20.475	13.31	621.6	0.0	1359.5
45.25	Bot - Section 2	1.00	1.07	26.571	29.23	422.31	0.650	0.000	0.25	1.011	0.66	30.7	0.0	67.1
50.00		1.00	1.09	27.135	29.85	416.79	0.650	0.000	4.75	19.268	12.52	598.1	0.0	2357.1
51.25	Top - Section 1	1.00	1.10	27.277	30.00	415.24	0.650	0.000	1.25	4.996	3.25	155.9	0.0	611.0
55.00		1.00	1.12	27.685	30.45	417.16	0.650	0.000	3.75	14.802	9.62	468.8	0.0	843.3
60.00		1.00	1.14	28.197	31.02	410.29	0.650	0.000	5.00	19.301	12.55	622.6	0.0	1099.4
65.00		1.00	1.16	28.676	31.54	402.96	0.650	0.000	5.00	18.803	12.22	616.9	0.0	1070.8
70.00		1.00	1.17	29.127	32.04	395.24	0.650	0.000	5.00	18.306	11.90	610.0	0.0	1042.3
75.00		1.00	1.19	29.553	32.51	387.16	0.650	0.000	5.00	17.809	11.58	602.1	0.0	1013.7
80.00		1.00	1.21	29.958	32.95	378.76	0.650	0.000	5.00	17.312	11.25	593.3	0.0	985.2
85.00		1.00	1.22	30.342	33.38	370.08	0.650	0.000	5.00	16.815	10.93	583.7	0.0	956.6
90.00		1.00	1.24	30.710	33.78	361.14	0.650	0.000	5.00	16.318	10.61	573.3	0.0	928.1
91.75	Bot - Section 3	1.00	1.24	30.834	33.92	357.96	0.650	0.000	1.75	5.594	3.64	197.3	0.0	318.1
95.00		1.00	1.25	31.061	34.17	351.97	0.650	0.000	3.25	10.364	6.74	368.3	0.0	975.7
96.50	Top - Section 2	1.00	1.26	31.164	34.28	349.17	0.650	0.000	1.50	4.713	3.06	168.0	0.0	443.5
97.00	Appurtenance(s)	1.00	1.26	31.198	34.32	353.03	0.650	0.000	0.50	1.561	1.01	55.7	0.0	59.4
100.00		1.00	1.27	31.399	34.54	347.38	0.650	0.000	3.00	9.261	6.02	332.7	0.0	352.2
105.00		1.00	1.28	31.723	34.89	337.82	0.650	0.000	5.00	15.038	9.77	545.7	0.0	571.7
107.00	Appurtenance(s)	1.00	1.28	31.849	35.03	333.94	0.650	0.000	2.00	5.876	3.82	214.1	0.0	223.4
110.00		1.00	1.29	32.035	35.24	328.06	0.650	0.000	3.00	8.665	5.63	317.5	0.0	329.3
115.00		1.00	1.30	32.336	35.57	318.14	0.650	0.000	5.00	14.044	9.13	519.5	0.0	533.7
120.00	Appurtenance(s)	1.00	1.32	32.627	35.89	308.05	0.650	0.000	5.00	13.546	8.81	505.6	0.0	514.6
125.00		1.00	1.33	32.909	36.20	297.81	0.650	0.000	5.00	13.049	8.48	491.3	0.0	495.6
130.00		1.00	1.34	33.182	36.50	287.43	0.650	0.000	5.00	12.552	8.16	476.5	0.0	476.6
133.00	Bot - Section 4	1.00	1.34	33.341	36.68	281.13	0.650	0.000	3.00	7.293	4.74	278.2	0.0	276.8
135.00		1.00	1.35	33.446	36.79	276.91	0.650	0.000	2.00	4.847	3.15	185.5	0.0	364.7
136.75	Top - Section 3	1.00	1.35	33.537	36.89	273.20	0.650	0.000	1.75	4.176	2.71	160.2	0.0	314.1
137.00	Appurtenance(s)	1.00	1.35	33.550	36.90	277.64	0.650	0.000	0.25	0.592	0.38	22.7	0.0	22.4
140.00		1.00	1.36	33.703	37.07	271.25	0.650	0.000	3.00	7.002	4.55	270.0	0.0	265.7
145.00		1.00	1.37	33.953	37.35	260.51	0.650	0.000	5.00	11.272	7.33	437.8	0.0	427.6
146.00	Appurtenance(s)	1.00	1.37	34.002	37.40	258.34	0.650	0.000	1.00	2.195	1.43	85.4	0.0	83.2
150.00		1.00	1.38	34.196	37.62	249.65	0.650	0.000	4.00	8.580	5.58	335.7	0.0	325.3
151.00	Appurtenance(s)	1.00	1.38	34.244	37.67	247.46	0.650	0.000	1.00	2.095	1.36	82.1	0.0	79.4
155.00		1.00	1.39	34.433	37.88	238.68	0.650	0.000	4.00	8.183	5.32	322.3	0.0	310.1
158.00	Appurtenance(s)	1.00	1.39	34.573	38.03	232.05	0.650	0.000	3.00	5.928	3.85	234.5	0.0	224.6
Totals:									158.00			17,459.3	32,397.2	

Discrete Appurtenance Forces

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

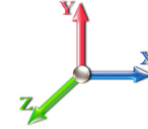


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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	158.00	RFS FD9R6004/2CL-3CL	6	34.573	38.030	0.38	0.75	0.70	21.60	0.000	0.000	42.44	0.00	0.00
2	158.00	6' Lightning rod	1	34.573	38.030	1.00	1.00	0.38	7.80	0.000	0.000	23.12	0.00	0.00
3	158.00	Commscope	6	34.573	38.030	0.62	0.75	30.07	365.11	0.000	0.000	1829.49	0.00	0.00
4	158.00	Antel	2	34.573	38.030	0.70	0.75	13.57	64.80	0.000	0.000	825.91	0.00	0.00
5	158.00	RFS APL866513-42T0 w/	4	34.573	38.030	0.70	0.75	15.76	233.76	0.000	0.000	959.17	0.00	0.00
6	158.00	Samsung RF4440d-13A	3	34.573	38.030	0.50	0.75	2.83	253.44	0.000	0.000	172.45	0.00	0.00
7	158.00	Raycap	2	34.573	38.030	0.38	0.75	3.60	105.60	0.000	0.000	219.05	0.00	0.00
8	158.00	Low Profile Platform	1	34.573	38.030	1.00	1.00	35.00	1920.00	0.000	0.000	2129.67	0.00	0.00
9	158.00	Samsung MT6407-77A	3	34.573	38.030	0.52	0.75	7.39	285.84	0.000	0.000	449.47	0.00	0.00
10	158.00	Samsung RF4439d-25A	3	34.573	38.030	0.50	0.75	2.74	118.80	0.000	0.000	166.94	0.00	0.00
11	151.00	ODU	1	34.244	37.669	0.50	1.00	0.62	15.84	0.000	0.000	37.37	0.00	0.00
12	151.00	Pipe Mount	1	34.244	37.669	1.00	1.00	2.63	48.00	0.000	0.000	158.51	0.00	0.00
13	151.00	Andrew VHLP2.5	1	34.244	37.669	1.00	1.00	8.43	57.12	2.043	0.000	508.08	648.66	0.00
14	146.00	Alcatel 800 MHz RRH	3	34.002	37.403	0.40	0.80	2.56	190.80	0.000	0.000	152.96	0.00	0.00
15	146.00	Alcatel 1900MHz RRH	3	34.002	37.403	0.40	0.80	2.86	158.40	0.000	0.000	170.92	0.00	0.00
16	146.00	Alcatel 800MHz Filters	3	34.002	37.403	0.40	0.80	0.80	31.68	0.000	0.000	48.11	0.00	0.00
17	146.00	Alcatel TD-RRH8x20-25	3	34.002	37.403	0.40	0.80	4.86	252.00	0.000	0.000	290.84	0.00	0.00
18	146.00	RFS APXVTM14-C-120 w/	3	34.002	37.403	0.62	0.80	14.86	320.40	0.000	0.000	889.51	0.00	0.00
19	146.00	RFS APXVSP18-C-A20	3	34.002	37.403	0.66	0.80	19.16	324.00	0.000	0.000	1146.80	0.00	0.00
20	146.00	RFS ACU-A20-N RET	4	34.002	37.403	0.40	0.80	0.19	4.80	0.000	0.000	11.49	0.00	0.00
21	146.00	GPS	1	34.002	37.403	1.00	1.00	1.00	12.00	0.000	0.000	59.84	0.00	0.00
22	146.00	Kathrein Scala 840 10054	3	34.002	37.403	0.49	0.80	6.72	126.00	0.000	0.000	402.14	0.00	0.00
23	146.00	RRUs	3	34.002	37.403	0.40	0.80	3.50	11.27	0.000	0.000	209.69	0.00	0.00
24	146.00	Low Profile Platform	1	34.002	37.403	1.00	1.00	30.00	1920.00	0.000	0.000	1795.33	0.00	0.00
25	137.00	Kathrein 782 11056	3	33.550	36.905	0.50	0.75	0.20	10.44	0.000	0.000	11.57	0.00	0.00
26	137.00	Ericsson 4460 B25 + B66	3	33.550	36.905	0.50	0.75	4.30	392.40	0.000	0.000	253.69	0.00	0.00
27	137.00	Ericsson 4449 B71 + B85	3	33.550	36.905	0.50	0.75	2.97	263.52	0.000	0.000	175.36	0.00	0.00
28	137.00	Allen Telecom	9	33.550	36.905	0.50	0.75	4.07	164.16	0.000	0.000	240.34	0.00	0.00
29	137.00	Ericsson KRY 112 489/2	3	33.550	36.905	0.50	0.75	1.36	54.72	0.000	0.000	80.11	0.00	0.00
30	137.00	RFS	3	33.550	36.905	0.52	0.75	31.88	460.80	0.000	0.000	1882.33	0.00	0.00
31	137.00	Ericsson AIR6419 B41	3	33.550	36.905	0.57	0.75	6.50	237.96	0.000	0.000	383.69	0.00	0.00
32	137.00	HRK12 (Handrail Kit)	1	33.550	36.905	1.00	1.00	6.75	314.06	0.000	0.000	398.57	0.00	0.00
33	137.00	Low Profile Platform w/	1	33.550	36.905	1.00	1.00	25.00	1440.00	0.000	0.000	1476.20	0.00	0.00
34	120.00	DS428E83101T - TTA	1	32.627	35.890	0.40	0.80	3.57	60.00	0.000	0.000	204.89	0.00	0.00
35	120.00	Pipe Mount	1	32.627	35.890	1.00	1.00	10.00	480.00	0.000	0.000	574.24	0.00	0.00
36	120.00	Flush Mount	1	32.627	35.890	1.00	1.00	5.00	420.00	0.000	0.000	287.12	0.00	0.00
37	120.00	Cambium Network	1	32.627	35.890	1.00	1.00	8.92	60.00	0.000	0.000	512.22	0.00	0.00
38	107.00	B2 B66A 8843	3	31.849	35.034	0.54	0.80	2.64	259.20	0.000	0.000	147.82	0.00	0.00
39	107.00	RRUS 4478 B14	3	31.849	35.034	0.54	0.80	3.25	213.84	0.000	0.000	182.07	0.00	0.00
40	107.00	4449 B5/B12	3	31.849	35.034	0.54	0.80	2.64	262.80	0.000	0.000	147.82	0.00	0.00
41	107.00	Powerwave 7020.00	6	31.849	35.034	0.48	0.80	0.98	15.84	0.000	0.000	54.89	0.00	0.00
42	107.00	Powerwave LGP21903	6	31.849	35.034	0.48	0.80	0.66	38.16	0.000	0.000	37.13	0.00	0.00
43	107.00	Powerwave	3	31.849	35.034	0.48	0.80	0.79	57.60	0.000	0.000	44.39	0.00	0.00
44	107.00	Raycap DC6-48-60-18-8F	3	31.849	35.034	0.54	0.80	3.54	118.08	0.000	0.000	198.30	0.00	0.00
45	107.00	AIR 6419 B77G	3	31.961	35.157	0.61	0.80	6.68	237.96	0.000	1.800	375.53	0.00	675.95
46	107.00	Collar Mount (3-Sided)	2	31.849	35.034	1.00	1.00	4.00	634.44	0.000	0.000	224.22	0.00	0.00
47	107.00	CCI DTMAP7819VG12A	3	31.849	35.034	0.48	0.80	1.41	69.05	0.000	0.000	79.10	0.00	0.00

Discrete Appurtenance Forces

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 11
	Struct Class: II	



48	107.00	SitePro1	MM01	6	31.849	35.034	1.00	1.00	0.60	187.63	0.000	0.000	33.63	0.00	0.00	
49	107.00	TPA65R-BU6DA-K		3	31.849	35.034	0.58	0.80	21.96	248.40	0.000	0.000	1231.11	0.00	0.00	
50	107.00	(3) VFA14-H10-2120		1	31.849	35.034	0.56	0.75	28.52	3283.20	0.000	0.000	1598.59	0.00	0.00	
51	107.00	AIR 6449	B77D	3	31.735	34.909	0.68	0.80	8.20	381.60	0.000	-1.800	458.05	0.00	-824.49	
52	107.00	DMP65R-BU6DA		3	31.849	35.034	0.58	0.80	21.96	285.84	0.000	0.000	1231.11	0.00	0.00	
53	97.00	MC-PK8-DSH		1	31.198	34.318	1.00	1.00	37.59	2072.40	0.000	0.000	2064.00	0.00	0.00	
54	97.00	RDIDC-9181-OF-48		1	31.198	34.318	0.75	0.75	1.51	26.28	0.000	0.000	82.77	0.00	0.00	
55	97.00	TA08025-B604		3	31.198	34.318	0.50	0.75	2.95	230.04	0.000	0.000	162.24	0.00	0.00	
56	97.00	TA08025-B605		3	31.198	34.318	0.50	0.75	2.95	270.00	0.000	0.000	162.24	0.00	0.00	
57	97.00	MX08FRO665-21		3	31.198	34.318	0.55	0.75	20.80	232.20	0.000	0.000	1141.86	0.00	0.00	
Totals:										20,331.68						28,836.53

Total Applied Force Summary

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

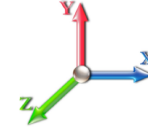


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Load Case: 1.2D + 1.6W 101 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		589.88	1750.20	0.00	0.00
10.00		577.88	1903.17	0.00	0.00
15.00		565.89	1869.86	0.00	0.00
20.00		587.71	1836.55	0.00	0.00
25.00		602.64	1803.24	0.00	0.00
30.00		612.36	1769.93	0.00	0.00
35.00		618.24	1736.61	0.00	0.00
40.00		621.14	1703.30	0.00	0.00
45.00		621.65	1669.99	0.00	0.00
45.25		30.72	82.63	0.00	0.00
50.00		598.14	2652.05	0.00	0.00
51.25		155.90	688.63	0.00	0.00
55.00		468.80	1076.13	0.00	0.00
60.00		622.59	1409.86	0.00	0.00
65.00		616.86	1381.31	0.00	0.00
70.00		609.99	1352.75	0.00	0.00
75.00		602.11	1324.20	0.00	0.00
80.00		593.31	1295.65	0.00	0.00
85.00		583.67	1267.10	0.00	0.00
90.00		573.27	1238.54	0.00	0.00
91.75		197.32	426.74	0.00	0.00
95.00		368.29	1177.46	0.00	0.00
96.50		168.01	536.66	0.00	0.00
97.00	(11) attachments	3668.82	2921.33	0.00	0.00
100.00		332.67	531.91	0.00	0.00
105.00		545.73	871.28	0.00	0.00
107.00	(51) attachments	6257.86	6636.82	0.00	-148.54
110.00		317.55	437.57	0.00	0.00
115.00		519.51	714.05	0.00	0.00
120.00	(4) attachments	2084.09	1715.02	0.00	0.00
125.00		491.27	663.74	0.00	0.00
130.00		476.48	644.71	0.00	0.00
133.00		278.16	377.69	0.00	0.00
135.00		185.46	431.95	0.00	0.00
136.75		160.21	372.96	0.00	0.00
137.00	(29) attachments	4924.58	3368.92	0.00	0.00
140.00		269.97	329.15	0.00	0.00
145.00		437.84	533.36	0.00	0.00
146.00	(30) attachments	5263.01	3455.74	0.00	0.00
150.00		335.67	392.02	0.00	0.00
151.00	(3) attachments	786.04	217.06	648.66	0.00
155.00		322.33	376.02	0.00	0.00
158.00	(31) attachments	7052.19	3650.77	0.00	0.00
Totals:		46,295.79	60,594.66	648.66	-148.54

Linear Appurtenance Segment Forces (Factored)

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



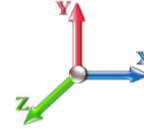
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Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.60



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	0.38
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	0.96
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	0.96
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.375	0.00	0.96
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.451	0.00	0.96
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.369	0.00	0.96
35.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.172	0.00	0.96
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.890	0.00	0.96
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.540	0.00	0.96
45.25	1/2" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.000	0.000	26.571	0.00	0.05
50.00	1/2" Coax	Yes	4.75	0.000	0.00	0.00	0.00	0.000	0.000	27.135	0.00	0.91
51.25	1/2" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	27.277	0.00	0.24
55.00	1/2" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	27.685	0.00	0.72
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.197	0.00	0.96
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.676	0.00	0.96
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.127	0.00	0.96
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.553	0.00	0.96
80.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.958	0.00	0.96
85.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.342	0.00	0.96
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.710	0.00	0.96
91.75	1/2" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	30.834	0.00	0.34
95.00	1/2" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	31.061	0.00	0.62
96.50	1/2" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	31.164	0.00	0.29
97.00	1/2" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	31.198	0.00	0.10
100.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	31.399	0.00	0.58
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.723	0.00	0.96
107.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.849	0.00	0.38
110.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	32.035	0.00	0.58
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.336	0.00	0.96
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.627	0.00	0.96
125.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.909	0.00	0.96
130.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.182	0.00	0.96
133.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	33.341	0.00	0.58
135.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	33.446	0.00	0.38
136.75	1/2" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	33.537	0.00	0.34
137.00	1/2" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.000	0.000	33.550	0.00	0.05
140.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	33.703	0.00	0.58
145.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.953	0.00	0.96
146.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	34.002	0.00	0.19
150.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	34.196	0.00	0.77
151.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	34.244	0.00	0.19
155.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	34.433	0.00	0.77
158.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	34.573	0.00	0.58
Totals:											0.0	29.8

Calculated Forces

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



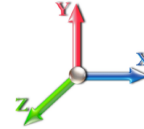
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Load Case: 1.2D + 1.6W 101 mph Wind

Iterations 25

Dead Load Factor 1.20

Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-60.50	-46.41	-0.63	-5361.9	-0.02	5361.96	5458.79	2729.40	13000.6	6509.99	0.00	0.000	0.000	0.835
5.00	-58.58	-46.05	-0.63	-5129.9	-0.02	5129.90	5387.61	2693.80	12568.9	6293.83	0.12	-0.219	0.000	0.826
10.00	-56.50	-45.68	-0.63	-4899.6	-0.02	4899.67	5314.79	2657.39	12140.4	6079.27	0.47	-0.441	0.000	0.817
15.00	-54.46	-45.31	-0.63	-4671.2	-0.02	4671.28	5240.33	2620.17	11715.4	5866.42	1.05	-0.667	0.000	0.807
20.00	-52.45	-44.91	-0.63	-4444.7	-0.02	4444.73	5164.24	2582.12	11294.0	5655.41	1.87	-0.896	0.000	0.796
25.00	-50.47	-44.48	-0.63	-4220.1	-0.02	4220.18	5086.52	2543.26	10876.5	5446.36	2.94	-1.129	0.000	0.785
30.00	-48.53	-44.03	-0.63	-3997.7	-0.02	3997.77	5007.16	2503.58	10463.2	5239.39	4.24	-1.365	0.000	0.773
35.00	-46.63	-43.57	-0.63	-3777.6	-0.02	3777.60	4926.16	2463.08	10054.2	5034.61	5.80	-1.604	0.000	0.760
40.00	-44.77	-43.09	-0.63	-3559.7	-0.02	3559.77	4843.52	2421.76	9649.95	4832.15	7.61	-1.846	0.000	0.746
45.00	-43.02	-42.50	-0.63	-3344.3	-0.02	3344.34	4759.26	2379.63	9250.49	4632.12	9.68	-2.091	0.000	0.731
45.25	-42.85	-42.56	-0.63	-3333.7	-0.02	3333.72	4755.00	2377.50	9230.65	4622.19	9.79	-2.104	0.000	0.731
50.00	-40.11	-41.97	-0.63	-3131.5	-0.02	3131.55	4673.35	2336.67	8856.13	4434.65	12.00	-2.339	0.000	0.715
51.25	-39.34	-41.87	-0.63	-3079.0	-0.02	3079.09	3853.76	1926.88	7395.56	3703.28	12.62	-2.403	0.000	0.842
55.00	-38.12	-41.51	-0.63	-2922.0	-0.02	2922.09	3804.98	1902.49	7163.10	3586.87	14.58	-2.591	0.000	0.825
60.00	-36.54	-41.00	-0.63	-2714.5	-0.03	2714.54	3738.51	1869.25	6856.06	3433.13	17.45	-2.868	0.000	0.801
65.00	-35.00	-40.48	-0.63	-2509.5	-0.03	2509.55	3670.40	1835.20	6552.57	3281.16	20.60	-3.146	-0.001	0.775
70.00	-33.49	-39.96	-0.63	-2307.1	-0.03	2307.16	3600.66	1800.33	6252.87	3131.08	24.04	-3.423	-0.001	0.747
75.00	-32.02	-39.43	-0.63	-2107.3	-0.03	2107.39	3529.28	1764.64	5957.19	2983.02	27.77	-3.699	-0.001	0.716
80.00	-30.58	-38.89	-0.63	-1910.2	-0.03	1910.26	3456.27	1728.13	5665.78	2837.10	31.79	-3.972	-0.001	0.683
85.00	-29.18	-38.36	-0.63	-1715.8	-0.04	1715.80	3381.62	1690.81	5378.88	2693.44	36.10	-4.241	-0.001	0.646
90.00	-27.87	-37.77	-0.63	-1524.0	-0.04	1524.03	3305.34	1652.67	5096.71	2552.14	40.68	-4.503	-0.001	0.606
91.75	-27.38	-37.61	-0.63	-1457.9	-0.04	1457.93	3278.25	1639.13	4999.12	2503.28	42.34	-4.596	-0.001	0.591
95.00	-26.15	-37.20	-0.63	-1335.7	-0.04	1335.71	3221.38	1610.69	4810.51	2408.83	45.53	-4.763	-0.001	0.563
96.50	-25.60	-37.01	-0.63	-1279.9	-0.04	1279.91	1897.75	948.88	2865.01	1434.63	47.03	-4.840	-0.001	0.907
97.00	-22.93	-33.15	-0.63	-1261.4	-0.04	1261.41	1894.22	947.11	2850.46	1427.35	47.54	-4.866	-0.001	0.897
100.00	-22.27	-32.88	-0.64	-1161.9	-0.04	1161.95	1872.71	936.35	2763.41	1383.76	50.67	-5.076	-0.001	0.853
105.00	-21.33	-32.35	-0.64	-997.53	-0.05	997.53	1835.54	917.77	2619.24	1311.57	56.16	-5.408	-0.001	0.773
107.00	-15.25	-25.53	-0.64	-932.84	-0.05	932.84	1820.21	910.11	2561.95	1282.88	58.45	-5.539	-0.002	0.736
110.00	-14.73	-25.23	-0.64	-856.27	-0.05	856.27	1796.73	898.37	2476.44	1240.06	61.99	-5.729	-0.002	0.700
115.00	-13.95	-24.71	-0.64	-730.12	-0.05	730.12	1756.29	878.14	2335.25	1169.36	68.14	-6.027	-0.002	0.633
120.00	-12.37	-22.51	-0.64	-606.56	-0.06	606.56	1714.21	857.11	2195.89	1099.58	74.59	-6.307	-0.002	0.560
125.00	-11.67	-22.00	-0.64	-494.00	-0.06	494.00	1670.50	835.25	2058.61	1030.84	81.33	-6.565	-0.002	0.487
130.00	-11.02	-21.49	-0.64	-384.00	-0.06	384.00	1625.15	812.57	1923.65	963.25	88.31	-6.796	-0.003	0.406
133.00	-10.64	-21.18	-0.64	-319.54	-0.06	319.54	1597.15	798.58	1843.89	923.31	92.62	-6.921	-0.003	0.353
135.00	-10.21	-20.96	-0.64	-277.18	-0.07	277.18	1578.16	789.08	1791.25	896.95	95.53	-6.997	-0.003	0.316
136.75	-9.84	-20.76	-0.64	-240.50	-0.07	240.50	1475.57	737.78	1680.22	841.36	98.10	-7.057	-0.003	0.293
137.00	-7.09	-15.46	-0.64	-235.31	-0.07	235.31	1473.30	736.65	1674.05	838.27	98.47	-7.066	-0.003	0.286
140.00	-6.77	-15.17	-0.64	-188.92	-0.07	188.92	1445.77	722.89	1600.57	801.47	102.92	-7.151	-0.004	0.241
145.00	-6.28	-14.67	-0.64	-113.08	-0.07	113.08	1398.74	699.37	1480.44	741.32	110.46	-7.260	-0.004	0.157
146.00	-3.52	-9.02	-0.64	-98.41	-0.08	98.41	1389.16	694.58	1456.78	729.47	111.98	-7.277	-0.004	0.138
150.00	-3.17	-8.64	-0.64	-62.34	-0.08	62.34	1340.27	670.14	1353.35	677.68	118.08	-7.332	-0.005	0.095
151.00	-3.05	-7.83	0.00	-53.71	0.00	53.71	1327.48	663.74	1327.52	664.75	119.62	-7.343	-0.005	0.083
155.00	-2.71	-7.46	0.00	-22.39	0.00	22.39	1276.33	638.17	1226.69	614.25	125.77	-7.373	-0.005	0.039
158.00	0.00	-7.05	0.00	0.00	0.00	0.00	1237.97	618.99	1153.67	577.69	130.39	-7.380	-0.005	0.000

Wind Loading - Shaft

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



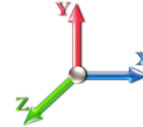
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Load Case: 0.9D + 1.6W 101 mph Wind

Iterations 25

Dead Load Factor 0.90

Wind Load Factor 1.60



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	21.088	23.20	460.00	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	21.088	23.20	450.75	0.650	0.000	5.00	24.452	15.89	589.9	0.0	1219.5
10.00		1.00	0.85	21.088	23.20	441.49	0.650	0.000	5.00	23.955	15.57	577.9	0.0	1194.5
15.00		1.00	0.85	21.088	23.20	432.23	0.650	0.000	5.00	23.457	15.25	565.9	0.0	1169.5
20.00		1.00	0.90	22.375	24.61	435.69	0.650	0.000	5.00	22.960	14.92	587.7	0.0	1144.6
25.00		1.00	0.95	23.451	25.80	436.28	0.650	0.000	5.00	22.463	14.60	602.6	0.0	1119.6
30.00		1.00	0.98	24.369	26.81	434.78	0.650	0.000	5.00	21.966	14.28	612.4	0.0	1094.6
35.00		1.00	1.01	25.172	27.69	431.78	0.650	0.000	5.00	21.469	13.95	618.2	0.0	1069.6
40.00		1.00	1.04	25.890	28.48	427.63	0.650	0.000	5.00	20.972	13.63	621.1	0.0	1044.6
45.00		1.00	1.07	26.540	29.19	422.58	0.650	0.000	5.00	20.475	13.31	621.6	0.0	1019.6
45.25	Bot - Section 2	1.00	1.07	26.571	29.23	422.31	0.650	0.000	0.25	1.011	0.66	30.7	0.0	50.3
50.00		1.00	1.09	27.135	29.85	416.79	0.650	0.000	4.75	19.268	12.52	598.1	0.0	1767.8
51.25	Top - Section 1	1.00	1.10	27.277	30.00	415.24	0.650	0.000	1.25	4.996	3.25	155.9	0.0	458.3
55.00		1.00	1.12	27.685	30.45	417.16	0.650	0.000	3.75	14.802	9.62	468.8	0.0	632.5
60.00		1.00	1.14	28.197	31.02	410.29	0.650	0.000	5.00	19.301	12.55	622.6	0.0	824.5
65.00		1.00	1.16	28.676	31.54	402.96	0.650	0.000	5.00	18.803	12.22	616.9	0.0	803.1
70.00		1.00	1.17	29.127	32.04	395.24	0.650	0.000	5.00	18.306	11.90	610.0	0.0	781.7
75.00		1.00	1.19	29.553	32.51	387.16	0.650	0.000	5.00	17.809	11.58	602.1	0.0	760.3
80.00		1.00	1.21	29.958	32.95	378.76	0.650	0.000	5.00	17.312	11.25	593.3	0.0	738.9
85.00		1.00	1.22	30.342	33.38	370.08	0.650	0.000	5.00	16.815	10.93	583.7	0.0	717.5
90.00		1.00	1.24	30.710	33.78	361.14	0.650	0.000	5.00	16.318	10.61	573.3	0.0	696.1
91.75	Bot - Section 3	1.00	1.24	30.834	33.92	357.96	0.650	0.000	1.75	5.594	3.64	197.3	0.0	238.6
95.00		1.00	1.25	31.061	34.17	351.97	0.650	0.000	3.25	10.364	6.74	368.3	0.0	731.7
96.50	Top - Section 2	1.00	1.26	31.164	34.28	349.17	0.650	0.000	1.50	4.713	3.06	168.0	0.0	332.6
97.00	Appurtenance(s)	1.00	1.26	31.198	34.32	353.03	0.650	0.000	0.50	1.561	1.01	55.7	0.0	44.5
100.00		1.00	1.27	31.399	34.54	347.38	0.650	0.000	3.00	9.261	6.02	332.7	0.0	264.1
105.00		1.00	1.28	31.723	34.89	337.82	0.650	0.000	5.00	15.038	9.77	545.7	0.0	428.8
107.00	Appurtenance(s)	1.00	1.28	31.849	35.03	333.94	0.650	0.000	2.00	5.876	3.82	214.1	0.0	167.5
110.00		1.00	1.29	32.035	35.24	328.06	0.650	0.000	3.00	8.665	5.63	317.5	0.0	247.0
115.00		1.00	1.30	32.336	35.57	318.14	0.650	0.000	5.00	14.044	9.13	519.5	0.0	400.3
120.00	Appurtenance(s)	1.00	1.32	32.627	35.89	308.05	0.650	0.000	5.00	13.546	8.81	505.6	0.0	386.0
125.00		1.00	1.33	32.909	36.20	297.81	0.650	0.000	5.00	13.049	8.48	491.3	0.0	371.7
130.00		1.00	1.34	33.182	36.50	287.43	0.650	0.000	5.00	12.552	8.16	476.5	0.0	357.4
133.00	Bot - Section 4	1.00	1.34	33.341	36.68	281.13	0.650	0.000	3.00	7.293	4.74	278.2	0.0	207.6
135.00		1.00	1.35	33.446	36.79	276.91	0.650	0.000	2.00	4.847	3.15	185.5	0.0	273.5
136.75	Top - Section 3	1.00	1.35	33.537	36.89	273.20	0.650	0.000	1.75	4.176	2.71	160.2	0.0	235.6
137.00	Appurtenance(s)	1.00	1.35	33.550	36.90	277.64	0.650	0.000	0.25	0.592	0.38	22.7	0.0	16.8
140.00		1.00	1.36	33.703	37.07	271.25	0.650	0.000	3.00	7.002	4.55	270.0	0.0	199.3
145.00		1.00	1.37	33.953	37.35	260.51	0.650	0.000	5.00	11.272	7.33	437.8	0.0	320.7
146.00	Appurtenance(s)	1.00	1.37	34.002	37.40	258.34	0.650	0.000	1.00	2.195	1.43	85.4	0.0	62.4
150.00		1.00	1.38	34.196	37.62	249.65	0.650	0.000	4.00	8.580	5.58	335.7	0.0	244.0
151.00	Appurtenance(s)	1.00	1.38	34.244	37.67	247.46	0.650	0.000	1.00	2.095	1.36	82.1	0.0	59.6
155.00		1.00	1.39	34.433	37.88	238.68	0.650	0.000	4.00	8.183	5.32	322.3	0.0	232.6
158.00	Appurtenance(s)	1.00	1.39	34.573	38.03	232.05	0.650	0.000	3.00	5.928	3.85	234.5	0.0	168.4
Totals:									158.00			17,459.3		24,297.9

Discrete Appurtenance Forces

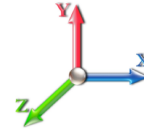
Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.6W 101 mph Wind

Iterations 25

Dead Load Factor 0.90
Wind Load Factor 1.60



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor	x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	158.00	RFS FD9R6004/2CL-3CL	6	34.573	38.030	0.38	0.75	0.70	16.20	0.000	0.000	42.44	0.00	0.00	
2	158.00	6' Lightning rod	1	34.573	38.030	1.00	1.00	0.38	5.85	0.000	0.000	23.12	0.00	0.00	
3	158.00	Commscope	6	34.573	38.030	0.62	0.75	30.07	273.83	0.000	0.000	1829.49	0.00	0.00	
4	158.00	Antel	2	34.573	38.030	0.70	0.75	13.57	48.60	0.000	0.000	825.91	0.00	0.00	
5	158.00	RFS APL866513-42T0 w/	4	34.573	38.030	0.70	0.75	15.76	175.32	0.000	0.000	959.17	0.00	0.00	
6	158.00	Samsung RF4440d-13A	3	34.573	38.030	0.50	0.75	2.83	190.08	0.000	0.000	172.45	0.00	0.00	
7	158.00	Raycap	2	34.573	38.030	0.38	0.75	3.60	79.20	0.000	0.000	219.05	0.00	0.00	
8	158.00	Low Profile Platform	1	34.573	38.030	1.00	1.00	35.00	1440.00	0.000	0.000	2129.67	0.00	0.00	
9	158.00	Samsung MT6407-77A	3	34.573	38.030	0.52	0.75	7.39	214.38	0.000	0.000	449.47	0.00	0.00	
10	158.00	Samsung RF4439d-25A	3	34.573	38.030	0.50	0.75	2.74	89.10	0.000	0.000	166.94	0.00	0.00	
11	151.00	ODU	1	34.244	37.669	0.50	1.00	0.62	11.88	0.000	0.000	37.37	0.00	0.00	
12	151.00	Pipe Mount	1	34.244	37.669	1.00	1.00	2.63	36.00	0.000	0.000	158.51	0.00	0.00	
13	151.00	Andrew VHLP2.5	1	34.244	37.669	1.00	1.00	8.43	42.84	2.043	0.000	508.08	648.66	0.00	
14	146.00	Alcatel 800 MHz RRH	3	34.002	37.403	0.40	0.80	2.56	143.10	0.000	0.000	152.96	0.00	0.00	
15	146.00	Alcatel 1900MHz RRH	3	34.002	37.403	0.40	0.80	2.86	118.80	0.000	0.000	170.92	0.00	0.00	
16	146.00	Alcatel 800MHz Filters	3	34.002	37.403	0.40	0.80	0.80	23.76	0.000	0.000	48.11	0.00	0.00	
17	146.00	Alcatel TD-RRH8x20-25	3	34.002	37.403	0.40	0.80	4.86	189.00	0.000	0.000	290.84	0.00	0.00	
18	146.00	RFS APXVTM14-C-120 w/	3	34.002	37.403	0.62	0.80	14.86	240.30	0.000	0.000	889.51	0.00	0.00	
19	146.00	RFS APXVSP18-C-A20	3	34.002	37.403	0.66	0.80	19.16	243.00	0.000	0.000	1146.80	0.00	0.00	
20	146.00	RFS ACU-A20-N RET	4	34.002	37.403	0.40	0.80	0.19	3.60	0.000	0.000	11.49	0.00	0.00	
21	146.00	GPS	1	34.002	37.403	1.00	1.00	1.00	9.00	0.000	0.000	59.84	0.00	0.00	
22	146.00	Kathrein Scala 840 10054	3	34.002	37.403	0.49	0.80	6.72	94.50	0.000	0.000	402.14	0.00	0.00	
23	146.00	RRUs	3	34.002	37.403	0.40	0.80	3.50	8.45	0.000	0.000	209.69	0.00	0.00	
24	146.00	Low Profile Platform	1	34.002	37.403	1.00	1.00	30.00	1440.00	0.000	0.000	1795.33	0.00	0.00	
25	137.00	Kathrein 782 11056	3	33.550	36.905	0.50	0.75	0.20	7.83	0.000	0.000	11.57	0.00	0.00	
26	137.00	Ericsson 4460 B25 + B66	3	33.550	36.905	0.50	0.75	4.30	294.30	0.000	0.000	253.69	0.00	0.00	
27	137.00	Ericsson 4449 B71 + B85	3	33.550	36.905	0.50	0.75	2.97	197.64	0.000	0.000	175.36	0.00	0.00	
28	137.00	Allen Telecom	9	33.550	36.905	0.50	0.75	4.07	123.12	0.000	0.000	240.34	0.00	0.00	
29	137.00	Ericsson KRY 112 489/2	3	33.550	36.905	0.50	0.75	1.36	41.04	0.000	0.000	80.11	0.00	0.00	
30	137.00	RFS	3	33.550	36.905	0.52	0.75	31.88	345.60	0.000	0.000	1882.33	0.00	0.00	
31	137.00	Ericsson AIR6419 B41	3	33.550	36.905	0.57	0.75	6.50	178.47	0.000	0.000	383.69	0.00	0.00	
32	137.00	HRK12 (Handrail Kit)	1	33.550	36.905	1.00	1.00	6.75	235.55	0.000	0.000	398.57	0.00	0.00	
33	137.00	Low Profile Platform w/	1	33.550	36.905	1.00	1.00	25.00	1080.00	0.000	0.000	1476.20	0.00	0.00	
34	120.00	DS428E83101T - TTA	1	32.627	35.890	0.40	0.80	3.57	45.00	0.000	0.000	204.89	0.00	0.00	
35	120.00	Pipe Mount	1	32.627	35.890	1.00	1.00	10.00	360.00	0.000	0.000	574.24	0.00	0.00	
36	120.00	Flush Mount	1	32.627	35.890	1.00	1.00	5.00	315.00	0.000	0.000	287.12	0.00	0.00	
37	120.00	Cambium Network	1	32.627	35.890	1.00	1.00	8.92	45.00	0.000	0.000	512.22	0.00	0.00	
38	107.00	B2 B66A 8843	3	31.849	35.034	0.54	0.80	2.64	194.40	0.000	0.000	147.82	0.00	0.00	
39	107.00	RRUS 4478 B14	3	31.849	35.034	0.54	0.80	3.25	160.38	0.000	0.000	182.07	0.00	0.00	
40	107.00	4449 B5/B12	3	31.849	35.034	0.54	0.80	2.64	197.10	0.000	0.000	147.82	0.00	0.00	
41	107.00	Powerwave 7020.00	6	31.849	35.034	0.48	0.80	0.98	11.88	0.000	0.000	54.89	0.00	0.00	
42	107.00	Powerwave LGP21903	6	31.849	35.034	0.48	0.80	0.66	28.62	0.000	0.000	37.13	0.00	0.00	
43	107.00	Powerwave	3	31.849	35.034	0.48	0.80	0.79	43.20	0.000	0.000	44.39	0.00	0.00	
44	107.00	Raycap DC6-48-60-18-8F	3	31.849	35.034	0.54	0.80	3.54	88.56	0.000	0.000	198.30	0.00	0.00	
45	107.00	AIR 6419 B77G	3	31.961	35.157	0.61	0.80	6.68	178.47	0.000	1.800	375.53	0.00	675.95	
46	107.00	Collar Mount (3-Sided)	2	31.849	35.034	1.00	1.00	4.00	475.83	0.000	0.000	224.22	0.00	0.00	
47	107.00	CCI DMAP7819VG12A	3	31.849	35.034	0.48	0.80	1.41	51.79	0.000	0.000	79.10	0.00	0.00	

Discrete Appurtenance Forces

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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48	107.00	SitePro1	MM01	6	31.849	35.034	1.00	1.00	0.60	140.72	0.000	0.000	33.63	0.00	0.00
49	107.00	TPA65R-BU6DA-K		3	31.849	35.034	0.58	0.80	21.96	186.30	0.000	0.000	1231.11	0.00	0.00
50	107.00	(3) VFA14-H10-2120		1	31.849	35.034	0.56	0.75	28.52	2462.40	0.000	0.000	1598.59	0.00	0.00
51	107.00	AIR 6449	B77D	3	31.735	34.909	0.68	0.80	8.20	286.20	0.000	-1.800	458.05	0.00	-824.49
52	107.00	DMP65R-BU6DA		3	31.849	35.034	0.58	0.80	21.96	214.38	0.000	0.000	1231.11	0.00	0.00
53	97.00	MC-PK8-DSH		1	31.198	34.318	1.00	1.00	37.59	1554.30	0.000	0.000	2064.00	0.00	0.00
54	97.00	RDIDC-9181-OF-48		1	31.198	34.318	0.75	0.75	1.51	19.71	0.000	0.000	82.77	0.00	0.00
55	97.00	TA08025-B604		3	31.198	34.318	0.50	0.75	2.95	172.53	0.000	0.000	162.24	0.00	0.00
56	97.00	TA08025-B605		3	31.198	34.318	0.50	0.75	2.95	202.50	0.000	0.000	162.24	0.00	0.00
57	97.00	MX08FRO665-21		3	31.198	34.318	0.55	0.75	20.80	174.15	0.000	0.000	1141.86	0.00	0.00

Totals: 15,248.76

28,836.53

Total Applied Force Summary

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

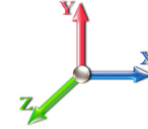


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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		589.88	1312.65	0.00	0.00
10.00		577.88	1427.38	0.00	0.00
15.00		565.89	1402.39	0.00	0.00
20.00		587.71	1377.41	0.00	0.00
25.00		602.64	1352.43	0.00	0.00
30.00		612.36	1327.44	0.00	0.00
35.00		618.24	1302.46	0.00	0.00
40.00		621.14	1277.48	0.00	0.00
45.00		621.65	1252.49	0.00	0.00
45.25		30.72	61.97	0.00	0.00
50.00		598.14	1989.04	0.00	0.00
51.25		155.90	516.47	0.00	0.00
55.00		468.80	807.10	0.00	0.00
60.00		622.59	1057.39	0.00	0.00
65.00		616.86	1035.98	0.00	0.00
70.00		609.99	1014.57	0.00	0.00
75.00		602.11	993.15	0.00	0.00
80.00		593.31	971.74	0.00	0.00
85.00		583.67	950.32	0.00	0.00
90.00		573.27	928.91	0.00	0.00
91.75		197.32	320.06	0.00	0.00
95.00		368.29	883.09	0.00	0.00
96.50		168.01	402.50	0.00	0.00
97.00	(11) attachments	3668.82	2191.00	0.00	0.00
100.00		332.67	398.93	0.00	0.00
105.00		545.73	653.46	0.00	0.00
107.00	(51) attachments	6257.86	4977.62	0.00	-148.54
110.00		317.55	328.18	0.00	0.00
115.00		519.51	535.54	0.00	0.00
120.00	(4) attachments	2084.09	1286.26	0.00	0.00
125.00		491.27	497.81	0.00	0.00
130.00		476.48	483.53	0.00	0.00
133.00		278.16	283.27	0.00	0.00
135.00		185.46	323.96	0.00	0.00
136.75		160.21	279.72	0.00	0.00
137.00	(29) attachments	4924.58	2526.69	0.00	0.00
140.00		269.97	246.87	0.00	0.00
145.00		437.84	400.02	0.00	0.00
146.00	(30) attachments	5263.01	2591.80	0.00	0.00
150.00		335.67	294.01	0.00	0.00
151.00	(3) attachments	786.04	162.80	648.66	0.00
155.00		322.33	282.02	0.00	0.00
158.00	(31) attachments	7052.19	2738.08	0.00	0.00
	Totals:	46,295.79	45,445.99	648.66	-148.54

Linear Appurtenance Segment Forces (Factored)

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.6W 101 mph Wind

Dead Load Factor 0.90
Wind Load Factor 1.60



Iterations 25

Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	0.29
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	0.72
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	21.088	0.00	0.72
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	22.375	0.00	0.72
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	23.451	0.00	0.72
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	24.369	0.00	0.72
35.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.172	0.00	0.72
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	25.890	0.00	0.72
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	26.540	0.00	0.72
45.25	1/2" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.000	0.000	26.571	0.00	0.04
50.00	1/2" Coax	Yes	4.75	0.000	0.00	0.00	0.00	0.000	0.000	27.135	0.00	0.68
51.25	1/2" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	27.277	0.00	0.18
55.00	1/2" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	27.685	0.00	0.54
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.197	0.00	0.72
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	28.676	0.00	0.72
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.127	0.00	0.72
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.553	0.00	0.72
80.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	29.958	0.00	0.72
85.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.342	0.00	0.72
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	30.710	0.00	0.72
91.75	1/2" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	30.834	0.00	0.25
95.00	1/2" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	31.061	0.00	0.47
96.50	1/2" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	31.164	0.00	0.22
97.00	1/2" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	31.198	0.00	0.07
100.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	31.399	0.00	0.43
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	31.723	0.00	0.72
107.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	31.849	0.00	0.29
110.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	32.035	0.00	0.43
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.336	0.00	0.72
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.627	0.00	0.72
125.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	32.909	0.00	0.72
130.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.182	0.00	0.72
133.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	33.341	0.00	0.43
135.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	33.446	0.00	0.29
136.75	1/2" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	33.537	0.00	0.25
137.00	1/2" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.000	0.000	33.550	0.00	0.04
140.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	33.703	0.00	0.43
145.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	33.953	0.00	0.72
146.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	34.002	0.00	0.14
150.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	34.196	0.00	0.58
151.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	34.244	0.00	0.14
155.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	34.433	0.00	0.58
158.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	34.573	0.00	0.43
Totals:											0.0	22.3

Calculated Forces

Structure: CT01080-S-SBA
Site Name: Long Hill #1
Height: 158.00 (ft)
Base Elev: 0.000 (ft)
Gh: 1.1

Topography: 1

Code: TIA-222-G
Exposure: C
Crest Height: 0.00
Site Class: D - Stiff Soil
Struct Class: II

4/14/2022

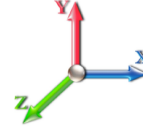
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Load Case: 0.9D + 1.6W 101 mph Wind

Iterations 25

Dead Load Factor 0.90
Wind Load Factor 1.60



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-45.36	-46.38	-0.63	-5298.9	-0.01	5298.99	5458.79	2729.40	13000.6	6509.99	0.00	0.000	0.000	0.823
5.00	-43.87	-45.96	-0.63	-5067.0	-0.01	5067.08	5387.61	2693.80	12568.9	6293.83	0.12	-0.216	0.000	0.814
10.00	-42.27	-45.54	-0.63	-4837.2	-0.01	4837.29	5314.79	2657.39	12140.4	6079.27	0.46	-0.436	0.000	0.804
15.00	-40.70	-45.12	-0.63	-4609.6	-0.01	4609.62	5240.33	2620.17	11715.4	5866.42	1.04	-0.658	0.000	0.794
20.00	-39.15	-44.67	-0.63	-4384.0	-0.01	4384.04	5164.24	2582.12	11294.0	5655.41	1.85	-0.885	0.000	0.783
25.00	-37.63	-44.19	-0.63	-4160.7	-0.01	4160.71	5086.52	2543.26	10876.5	5446.36	2.90	-1.114	0.000	0.772
30.00	-36.14	-43.70	-0.63	-3939.7	-0.02	3939.76	5007.16	2503.58	10463.2	5239.39	4.19	-1.347	0.000	0.759
35.00	-34.67	-43.19	-0.63	-3721.2	-0.02	3721.26	4926.16	2463.08	10054.2	5034.61	5.73	-1.583	0.000	0.746
40.00	-33.24	-42.67	-0.63	-3505.3	-0.02	3505.31	4843.52	2421.76	9649.95	4832.15	7.51	-1.821	0.000	0.733
45.00	-31.91	-42.08	-0.63	-3291.9	-0.02	3291.95	4759.26	2379.63	9250.49	4632.12	9.55	-2.062	0.000	0.718
45.25	-31.76	-42.11	-0.63	-3281.4	-0.02	3281.43	4755.00	2377.50	9230.65	4622.19	9.66	-2.074	0.000	0.717
50.00	-29.69	-41.52	-0.63	-3081.3	-0.02	3081.39	4673.35	2336.67	8856.13	4434.65	11.84	-2.306	0.000	0.702
51.25	-29.09	-41.40	-0.63	-3029.5	-0.02	3029.50	3853.76	1926.88	7395.56	3703.28	12.45	-2.369	0.000	0.826
55.00	-28.14	-41.01	-0.63	-2874.2	-0.02	2874.24	3804.98	1902.49	7163.10	3586.87	14.39	-2.554	0.000	0.809
60.00	-26.92	-40.47	-0.63	-2669.1	-0.02	2669.18	3738.51	1869.25	6856.06	3433.13	17.21	-2.827	0.000	0.785
65.00	-25.73	-39.92	-0.63	-2466.8	-0.02	2466.83	3670.40	1835.20	6552.57	3281.16	20.32	-3.100	-0.001	0.759
70.00	-24.57	-39.37	-0.63	-2267.2	-0.03	2267.22	3600.66	1800.33	6252.87	3131.08	23.71	-3.372	-0.001	0.731
75.00	-23.43	-38.82	-0.63	-2070.3	-0.03	2070.35	3529.28	1764.64	5957.19	2983.02	27.38	-3.643	-0.001	0.701
80.00	-22.32	-38.27	-0.63	-1876.2	-0.03	1876.24	3456.27	1728.13	5665.78	2837.10	31.34	-3.911	-0.001	0.668
85.00	-21.24	-37.72	-0.63	-1684.8	-0.03	1684.88	3381.62	1690.81	5378.88	2693.44	35.58	-4.175	-0.001	0.632
90.00	-20.25	-37.14	-0.63	-1496.2	-0.03	1496.29	3305.34	1652.67	5096.71	2552.14	40.09	-4.433	-0.001	0.593
91.75	-19.86	-36.96	-0.63	-1431.3	-0.03	1431.30	3278.25	1639.13	4999.12	2503.28	41.73	-4.524	-0.001	0.578
95.00	-18.93	-36.56	-0.63	-1311.1	-0.04	1311.18	3221.38	1610.69	4810.51	2408.83	44.86	-4.688	-0.001	0.551
96.50	-18.51	-36.38	-0.63	-1256.3	-0.04	1256.33	1897.75	948.88	2865.01	1434.63	46.35	-4.764	-0.001	0.887
97.00	-16.57	-32.57	-0.63	-1238.1	-0.04	1238.15	1894.22	947.11	2850.46	1427.35	46.85	-4.789	-0.001	0.877
100.00	-16.05	-32.28	-0.64	-1140.4	-0.04	1140.43	1872.71	936.35	2763.41	1383.76	49.92	-4.996	-0.001	0.834
105.00	-15.32	-31.74	-0.64	-979.01	-0.04	979.01	1835.54	917.77	2619.24	1311.57	55.32	-5.321	-0.001	0.756
107.00	-10.89	-25.07	-0.64	-915.52	-0.04	915.52	1820.21	910.11	2561.95	1282.88	57.58	-5.450	-0.002	0.720
110.00	-10.49	-24.77	-0.64	-840.30	-0.05	840.30	1796.73	898.37	2476.44	1240.06	61.06	-5.636	-0.002	0.684
115.00	-9.89	-24.25	-0.64	-716.45	-0.05	716.45	1756.29	878.14	2335.25	1169.36	67.11	-5.929	-0.002	0.619
120.00	-8.73	-22.08	-0.64	-595.21	-0.05	595.21	1714.21	857.11	2195.89	1099.58	73.46	-6.204	-0.002	0.547
125.00	-8.20	-21.57	-0.64	-484.80	-0.06	484.80	1670.50	835.25	2058.61	1030.84	80.08	-6.456	-0.002	0.476
130.00	-7.71	-21.07	-0.64	-376.94	-0.06	376.94	1625.15	812.57	1923.65	963.25	86.96	-6.683	-0.003	0.397
133.00	-7.42	-20.77	-0.64	-313.74	-0.06	313.74	1597.15	798.58	1843.89	923.31	91.19	-6.806	-0.003	0.345
135.00	-7.10	-20.56	-0.64	-272.20	-0.06	272.20	1578.16	789.08	1791.25	896.95	94.05	-6.880	-0.003	0.309
136.75	-6.83	-20.37	-0.64	-236.23	-0.07	236.23	1475.57	737.78	1680.22	841.36	96.58	-6.940	-0.003	0.286
137.00	-4.90	-15.18	-0.64	-231.14	-0.07	231.14	1473.30	736.65	1674.05	838.27	96.94	-6.948	-0.003	0.279
140.00	-4.67	-14.89	-0.64	-185.60	-0.07	185.60	1445.77	722.89	1600.57	801.47	101.33	-7.032	-0.004	0.235
145.00	-4.31	-14.41	-0.64	-111.17	-0.07	111.17	1398.74	699.37	1480.44	741.32	108.73	-7.139	-0.004	0.153
146.00	-2.39	-8.86	-0.64	-96.76	-0.07	96.76	1389.16	694.58	1456.78	729.47	110.23	-7.156	-0.004	0.135
150.00	-2.13	-8.50	-0.64	-61.31	-0.08	61.31	1340.27	670.14	1353.35	677.68	116.23	-7.210	-0.005	0.092
151.00	-2.07	-7.70	0.00	-52.81	0.00	52.81	1327.48	663.74	1327.52	664.75	117.74	-7.221	-0.005	0.081
155.00	-1.83	-7.34	0.00	-22.02	0.00	22.02	1276.33	638.17	1226.69	614.25	123.79	-7.250	-0.005	0.037
158.00	0.00	-7.05	0.00	0.00	0.00	0.00	1237.97	618.99	1153.67	577.69	128.34	-7.257	-0.005	0.000

Wind Loading - Shaft

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20
Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	5.168	5.68	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	5.168	5.68	0.00	1.200	1.242	5.00	25.487	30.58	173.9	454.8	2080.8
10.00		1.00	0.85	5.168	5.68	0.00	1.200	1.331	5.00	25.064	30.08	171.0	478.3	2071.1
15.00		1.00	0.85	5.168	5.68	0.00	1.200	1.386	5.00	24.613	29.54	167.9	488.4	2047.8
20.00		1.00	0.90	5.483	6.03	0.00	1.200	1.427	5.00	24.149	28.98	174.8	492.5	2018.6
25.00		1.00	0.95	5.747	6.32	0.00	1.200	1.459	5.00	23.679	28.41	179.6	493.2	1985.9
30.00		1.00	0.98	5.972	6.57	0.00	1.200	1.486	5.00	23.204	27.84	182.9	491.5	1951.0
35.00		1.00	1.01	6.169	6.79	0.00	1.200	1.509	5.00	22.726	27.27	185.1	488.3	1914.4
40.00		1.00	1.04	6.345	6.98	0.00	1.200	1.529	5.00	22.246	26.70	186.3	483.8	1876.6
45.00		1.00	1.07	6.504	7.15	0.00	1.200	1.547	5.00	21.764	26.12	186.9	478.3	1837.8
45.25	Bot - Section 2	1.00	1.07	6.512	7.16	0.00	1.200	1.548	0.25	1.075	1.29	9.2	23.9	91.0
50.00		1.00	1.09	6.650	7.32	0.00	1.200	1.564	4.75	20.506	24.61	180.0	455.4	2812.5
51.25	Top - Section 1	1.00	1.10	6.685	7.35	0.00	1.200	1.568	1.25	5.323	6.39	47.0	119.4	730.4
55.00		1.00	1.12	6.785	7.46	0.00	1.200	1.579	3.75	15.788	18.95	141.4	354.4	1197.6
60.00		1.00	1.14	6.910	7.60	0.00	1.200	1.592	5.00	20.628	24.75	188.2	465.0	1564.4
65.00		1.00	1.16	7.028	7.73	0.00	1.200	1.605	5.00	20.141	24.17	186.8	457.1	1527.9
70.00		1.00	1.17	7.138	7.85	0.00	1.200	1.617	5.00	19.654	23.58	185.2	448.7	1491.0
75.00		1.00	1.19	7.243	7.97	0.00	1.200	1.628	5.00	19.166	23.00	183.2	439.9	1453.6
80.00		1.00	1.21	7.342	8.08	0.00	1.200	1.639	5.00	18.678	22.41	181.0	430.8	1416.0
85.00		1.00	1.22	7.436	8.18	0.00	1.200	1.649	5.00	18.189	21.83	178.5	421.4	1378.0
90.00		1.00	1.24	7.526	8.28	0.00	1.200	1.658	5.00	17.700	21.24	175.8	411.7	1339.7
91.75	Bot - Section 3	1.00	1.24	7.557	8.31	0.00	1.200	1.662	1.75	6.078	7.29	60.6	142.9	461.0
95.00		1.00	1.25	7.612	8.37	0.00	1.200	1.667	3.25	11.267	13.52	113.2	264.5	1240.2
96.50	Top - Section 2	1.00	1.26	7.637	8.40	0.00	1.200	1.670	1.50	5.130	6.16	51.7	121.2	564.7
97.00	Appurtenance(s)	1.00	1.26	7.646	8.41	0.00	1.200	1.671	0.50	1.700	2.04	17.2	40.3	99.7
100.00		1.00	1.27	7.695	8.46	0.00	1.200	1.676	3.00	10.099	12.12	102.6	238.1	590.2
105.00		1.00	1.28	7.774	8.55	0.00	1.200	1.684	5.00	16.441	19.73	168.7	386.4	958.1
107.00	Appurtenance(s)	1.00	1.28	7.805	8.59	0.00	1.200	1.687	2.00	6.438	7.73	66.3	152.9	376.2
110.00		1.00	1.29	7.851	8.64	0.00	1.200	1.692	3.00	9.511	11.41	98.6	225.5	554.8
115.00		1.00	1.30	7.925	8.72	0.00	1.200	1.699	5.00	15.460	18.55	161.7	365.1	898.7
120.00	Appurtenance(s)	1.00	1.32	7.996	8.80	0.00	1.200	1.707	5.00	14.969	17.96	158.0	354.1	868.8
125.00		1.00	1.33	8.065	8.87	0.00	1.200	1.714	5.00	14.477	17.37	154.1	343.0	838.6
130.00		1.00	1.34	8.132	8.95	0.00	1.200	1.720	5.00	13.986	16.78	150.1	331.8	808.4
133.00	Bot - Section 4	1.00	1.34	8.171	8.99	0.00	1.200	1.724	3.00	8.155	9.79	88.0	195.0	471.8
135.00		1.00	1.35	8.197	9.02	0.00	1.200	1.727	2.00	5.423	6.51	58.7	130.3	495.0
136.75	Top - Section 3	1.00	1.35	8.219	9.04	0.00	1.200	1.729	1.75	4.680	5.62	50.8	112.6	426.7
137.00	Appurtenance(s)	1.00	1.35	8.222	9.04	0.00	1.200	1.729	0.25	0.664	0.80	7.2	16.1	38.5
140.00		1.00	1.36	8.260	9.09	0.00	1.200	1.733	3.00	7.869	9.44	85.8	188.6	454.3
145.00		1.00	1.37	8.321	9.15	0.00	1.200	1.739	5.00	12.722	15.27	139.7	302.7	730.2
146.00	Appurtenance(s)	1.00	1.37	8.333	9.17	0.00	1.200	1.741	1.00	2.485	2.98	27.3	60.1	143.3
150.00		1.00	1.38	8.381	9.22	0.00	1.200	1.745	4.00	9.744	11.69	107.8	232.7	558.0
151.00	Appurtenance(s)	1.00	1.38	8.392	9.23	0.00	1.200	1.746	1.00	2.386	2.86	26.4	57.7	137.1
155.00		1.00	1.39	8.439	9.28	0.00	1.200	1.751	4.00	9.350	11.22	104.1	223.2	533.3
158.00	Appurtenance(s)	1.00	1.39	8.473	9.32	0.00	1.200	1.754	3.00	6.805	8.17	76.1	163.1	387.7
Totals:									158.00			5,339.6	45,421.5	

Discrete Appurtenance Forces

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II

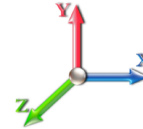


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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20
Wind Load Factor 1.00



No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	158.00	RFS FD9R6004/2CL-3CL	6	8.473	9.320	0.38	0.75	1.56	54.05	0.000	0.000	14.55	0.00	0.00
2	158.00	6' Lightning rod	1	8.473	9.320	1.00	1.00	1.47	38.99	0.000	0.000	13.73	0.00	0.00
3	158.00	Commscope	6	8.473	9.320	0.62	0.75	34.92	1579.45	0.000	0.000	325.50	0.00	0.00
4	158.00	Antel	2	8.473	9.320	0.70	0.75	17.42	440.69	0.000	0.000	162.37	0.00	0.00
5	158.00	RFS APL866513-42T0 w/	4	8.473	9.320	0.70	0.75	23.05	1602.59	0.000	0.000	214.86	0.00	0.00
6	158.00	Samsung RF4440d-13A	3	8.473	9.320	0.50	0.75	3.67	371.53	0.000	0.000	34.20	0.00	0.00
7	158.00	Raycap	2	8.473	9.320	0.38	0.75	4.31	581.71	0.000	0.000	40.14	0.00	0.00
8	158.00	Low Profile Platform	1	8.473	9.320	1.00	1.00	64.47	3423.45	0.000	0.000	600.89	0.00	0.00
9	158.00	Samsung MT6407-77A	3	8.473	9.320	0.52	0.75	8.89	646.73	0.000	0.000	82.83	0.00	0.00
10	158.00	Samsung RF4439d-25A	3	8.473	9.320	0.50	0.75	4.22	208.49	0.000	0.000	39.35	0.00	0.00
11	151.00	ODU	1	8.392	9.232	0.50	1.00	1.02	36.96	0.000	0.000	9.42	0.00	0.00
12	151.00	Pipe Mount	1	8.392	9.232	1.00	1.00	8.60	105.33	0.000	0.000	79.42	0.00	0.00
13	151.00	Andrew VHLP2.5	1	8.392	9.232	1.00	1.00	10.14	180.53	2.043	0.000	93.59	191.17	0.00
14	146.00	Alcatel 800 MHz RRH	3	8.333	9.166	0.40	0.80	3.73	348.78	0.000	0.000	34.16	0.00	0.00
15	146.00	Alcatel 1900MHz RRH	3	8.333	9.166	0.40	0.80	3.90	391.41	0.000	0.000	35.73	0.00	0.00
16	146.00	Alcatel 800MHz Filters	3	8.333	9.166	0.40	0.80	1.47	69.47	0.000	0.000	13.47	0.00	0.00
17	146.00	Alcatel TD-RRH8x20-25	3	8.333	9.166	0.40	0.80	5.83	582.31	0.000	0.000	53.47	0.00	0.00
18	146.00	RFS APXVTM14-C-120 w/	3	8.333	9.166	0.62	0.80	13.95	800.07	0.000	0.000	127.84	0.00	0.00
19	146.00	RFS APXVSP18-C-A20	3	8.333	9.166	0.66	0.80	25.82	1091.06	0.000	0.000	236.68	0.00	0.00
20	146.00	RFS ACU-A20-N RET	4	8.333	9.166	0.40	0.80	0.60	16.74	0.000	0.000	5.48	0.00	0.00
21	146.00	GPS	1	8.333	9.166	1.00	1.00	1.71	33.24	0.000	0.000	15.68	0.00	0.00
22	146.00	Kathrein Scala 840 10054	3	8.333	9.166	0.49	0.80	9.16	305.83	0.000	0.000	83.98	0.00	0.00
23	146.00	RRUs	3	8.333	9.166	0.40	0.80	5.05	-157.59	0.000	0.000	46.27	0.00	0.00
24	146.00	Low Profile Platform	1	8.333	9.166	1.00	1.00	55.06	3412.40	0.000	0.000	504.73	0.00	0.00
25	137.00	Kathrein 782 11056	3	8.222	9.044	0.50	0.75	0.63	19.01	0.000	0.000	5.72	0.00	0.00
26	137.00	Ericsson 4460 B25 + B66	3	8.222	9.044	0.50	0.75	5.30	555.17	0.000	0.000	47.97	0.00	0.00
27	137.00	Ericsson 4449 B71 + B85	3	8.222	9.044	0.50	0.75	3.82	259.99	0.000	0.000	34.55	0.00	0.00
28	137.00	Allen Telecom	9	8.222	9.044	0.50	0.75	7.34	310.40	0.000	0.000	66.41	0.00	0.00
29	137.00	Ericsson KRY 112 489/2	3	8.222	9.044	0.50	0.75	2.45	103.47	0.000	0.000	22.14	0.00	0.00
30	137.00	RFS	3	8.222	9.044	0.52	0.75	34.84	1701.86	0.000	0.000	315.13	0.00	0.00
31	137.00	Ericsson AIR6419 B41	3	8.222	9.044	0.57	0.75	7.85	455.88	0.000	0.000	70.97	0.00	0.00
32	137.00	HRK12 (Handrail Kit)	1	8.222	9.044	1.00	1.00	13.29	314.06	0.000	0.000	120.18	0.00	0.00
33	137.00	Low Profile Platform w/	1	8.222	9.044	1.00	1.00	45.75	2177.68	0.000	0.000	413.82	0.00	0.00
34	120.00	DS428E83101T - TTA	1	7.996	8.796	0.40	0.80	4.82	398.68	0.000	0.000	42.40	0.00	0.00
35	120.00	Pipe Mount	1	7.996	8.796	1.00	1.00	18.53	673.07	0.000	0.000	163.01	0.00	0.00
36	120.00	Flush Mount	1	7.996	8.796	1.00	1.00	8.41	606.73	0.000	0.000	74.00	0.00	0.00
37	120.00	Cambium Network	1	7.996	8.796	1.00	1.00	10.64	186.22	0.000	0.000	93.56	0.00	0.00
38	107.00	B2 B66A 8843	3	7.805	8.586	0.54	0.80	3.44	368.48	0.000	0.000	29.53	0.00	0.00
39	107.00	RRUS 4478 B14	3	7.805	8.586	0.54	0.80	4.23	305.91	0.000	0.000	36.36	0.00	0.00
40	107.00	4449 B5/B12	3	7.805	8.586	0.54	0.80	3.35	387.18	0.000	0.000	28.72	0.00	0.00
41	107.00	Powerwave 7020.00	6	7.805	8.586	0.48	0.80	2.12	57.82	0.000	0.000	18.24	0.00	0.00
42	107.00	Powerwave LGP21903	6	7.805	8.586	0.48	0.80	1.61	69.67	0.000	0.000	13.79	0.00	0.00
43	107.00	Powerwave	3	7.805	8.586	0.48	0.80	1.50	98.90	0.000	0.000	12.89	0.00	0.00
44	107.00	Raycap DC6-48-60-18-8F	3	7.805	8.586	0.54	0.80	5.17	252.93	0.000	0.000	44.35	0.00	0.00
45	107.00	AIR 6419 B77G	3	7.833	8.616	0.61	0.80	8.03	448.90	0.000	1.800	69.17	0.00	124.50
46	107.00	Collar Mount (3-Sided)	2	7.805	8.586	1.00	1.00	8.05	1242.78	0.000	0.000	69.11	0.00	0.00
47	107.00	CCI DMAP7819VG12A	3	7.805	8.586	0.48	0.80	2.33	121.03	0.000	0.000	20.02	0.00	0.00

Discrete Appurtenance Forces

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 23
	Struct Class: II	



48	107.00	SitePro1	MM01	6	7.805	8.586	1.00	1.00	0.80	396.76	0.000	0.000	6.89	0.00	0.00
49	107.00	TPA65R-BU6DA-K		3	7.805	8.586	0.58	0.80	24.39	933.16	0.000	0.000	209.44	0.00	0.00
50	107.00	(3) VFA14-H10-2120		1	7.805	8.586	0.56	0.75	63.16	5784.33	0.000	0.000	542.32	0.00	0.00
51	107.00	AIR 6449	B77D	3	7.778	8.555	0.68	0.80	9.86	726.19	0.000	-1.800	84.35	0.00	-151.84
52	107.00	DMP65R-BU6DA		3	7.805	8.586	0.58	0.80	24.41	938.22	0.000	0.000	209.57	0.00	0.00
53	97.00	MC-PK8-DSH		1	7.646	8.410	1.00	1.00	82.81	3315.24	0.000	0.000	696.45	0.00	0.00
54	97.00	RDIDC-9181-OF-48		1	7.646	8.410	0.75	0.75	1.92	64.56	0.000	0.000	16.11	0.00	0.00
55	97.00	TA08025-B604		3	7.646	8.410	0.50	0.75	3.76	339.15	0.000	0.000	31.66	0.00	0.00
56	97.00	TA08025-B605		3	7.646	8.410	0.50	0.75	3.76	382.42	0.000	0.000	31.66	0.00	0.00
57	97.00	MX08FRO665-21		3	7.646	8.410	0.55	0.75	23.13	865.99	0.000	0.000	194.54	0.00	0.00
Totals:									41,026.04				6,703.37		

Total Applied Force Summary

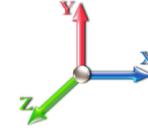
Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Dead Load Factor 1.20
Wind Load Factor 1.00



Iterations 24

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		173.86	2210.07	0.00	0.00
10.00		170.98	2395.88	0.00	0.00
15.00		167.90	2373.68	0.00	0.00
20.00		174.80	2345.27	0.00	0.00
25.00		179.64	2313.27	0.00	0.00
30.00		182.92	2278.89	0.00	0.00
35.00		185.06	2242.80	0.00	0.00
40.00		186.32	2205.41	0.00	0.00
45.00		186.86	2167.00	0.00	0.00
45.25		9.24	107.46	0.00	0.00
50.00		180.01	3125.55	0.00	0.00
51.25		46.97	812.84	0.00	0.00
55.00		141.40	1445.03	0.00	0.00
60.00		188.16	1894.56	0.00	0.00
65.00		186.84	1858.33	0.00	0.00
70.00		185.19	1821.66	0.00	0.00
75.00		183.24	1784.58	0.00	0.00
80.00		181.01	1747.15	0.00	0.00
85.00		178.54	1709.41	0.00	0.00
90.00		175.84	1671.37	0.00	0.00
91.75		60.63	577.05	0.00	0.00
95.00		113.22	1455.86	0.00	0.00
96.50		51.72	664.26	0.00	0.00
97.00	(11) attachments	987.58	5100.20	0.00	0.00
100.00		102.58	782.91	0.00	0.00
105.00		168.72	1279.44	0.00	0.00
107.00	(51) attachments	1461.10	12637.04	0.00	-27.34
110.00		98.56	676.23	0.00	0.00
115.00		161.72	1101.23	0.00	0.00
120.00	(4) attachments	530.97	2936.13	0.00	0.00
125.00		154.12	1029.23	0.00	0.00
130.00		150.13	999.10	0.00	0.00
133.00		87.96	586.29	0.00	0.00
135.00		58.67	571.38	0.00	0.00
136.75		50.78	493.57	0.00	0.00
137.00	(29) attachments	1104.08	5945.59	0.00	0.00
140.00		85.79	531.48	0.00	0.00
145.00		139.73	859.08	0.00	0.00
146.00	(30) attachments	1184.82	7062.78	0.00	0.00
150.00		107.79	643.29	0.00	0.00
151.00	(3) attachments	208.86	481.27	191.17	0.00
155.00		104.15	617.91	0.00	0.00
158.00	(31) attachments	1604.53	9398.85	0.00	0.00
	Totals:	12,042.98	94,940.37	191.17	-27.34

Linear Appurtenance Segment Forces (Factored)

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	5.48
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	15.33
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.168	0.00	16.38
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.483	0.00	17.18
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.747	0.00	17.83
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	5.972	0.00	18.38
35.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.169	0.00	18.86
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.345	0.00	19.29
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.504	0.00	19.67
45.25	1/2" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.000	0.000	6.512	0.00	0.98
50.00	1/2" Coax	Yes	4.75	0.000	0.00	0.00	0.00	0.000	0.000	6.650	0.00	19.02
51.25	1/2" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	6.685	0.00	5.03
55.00	1/2" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	6.785	0.00	15.26
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	6.910	0.00	20.65
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.028	0.00	20.93
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.138	0.00	21.20
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.243	0.00	21.45
80.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.342	0.00	21.69
85.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.436	0.00	21.91
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.526	0.00	22.13
91.75	1/2" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	7.557	0.00	7.77
95.00	1/2" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	7.612	0.00	14.52
96.50	1/2" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	7.637	0.00	6.72
97.00	1/2" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	7.646	0.00	2.24
100.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.695	0.00	13.52
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.774	0.00	22.72
107.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.805	0.00	9.12
110.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	7.851	0.00	13.74
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.925	0.00	23.07
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.996	0.00	23.24
125.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.065	0.00	23.41
130.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.132	0.00	23.57
133.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.171	0.00	14.20
135.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	8.197	0.00	9.49
136.75	1/2" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	8.219	0.00	8.32
137.00	1/2" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.000	0.000	8.222	0.00	1.19
140.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.260	0.00	14.32
145.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.321	0.00	24.01
146.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.333	0.00	4.81
150.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.381	0.00	19.32
151.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	8.392	0.00	4.84
155.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	8.439	0.00	19.43
158.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	8.473	0.00	14.62
Totals:											0.0	656.8

Calculated Forces

Structure: CT01080-S-SBA

Code: TIA-222-G

4/14/2022

Site Name: Long Hill #1

Exposure: C

Height: 158.00 (ft)

Crest Height: 0.00

Base Elev: 0.000 (ft)

Site Class: D - Stiff Soil

Gh: 1.1

Topography: 1

Struct Class: II

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Load Case: 1.2D + 1.0Di + 1.0Wi 50 mph Wind

Iterations 24

Dead Load Factor 1.20

Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-94.93	-12.09	-0.19	-1406.5	0.00	1406.50	5458.79	2729.40	13000.6	6509.99	0.00	0.000	0.000	0.233
5.00	-92.71	-12.01	-0.19	-1346.0	0.00	1346.04	5387.61	2693.80	12568.9	6293.83	0.03	-0.057	0.000	0.231
10.00	-90.30	-11.93	-0.19	-1286.0	0.00	1286.00	5314.79	2657.39	12140.4	6079.27	0.12	-0.116	0.000	0.229
15.00	-87.92	-11.85	-0.19	-1226.3	0.00	1226.36	5240.33	2620.17	11715.4	5866.42	0.28	-0.175	0.000	0.226
20.00	-85.56	-11.75	-0.19	-1167.1	0.00	1167.13	5164.24	2582.12	11294.0	5655.41	0.49	-0.235	0.000	0.223
25.00	-83.24	-11.65	-0.19	-1108.3	0.00	1108.37	5086.52	2543.26	10876.5	5446.36	0.77	-0.296	0.000	0.220
30.00	-80.95	-11.54	-0.19	-1050.1	0.00	1050.11	5007.16	2503.58	10463.2	5239.39	1.11	-0.358	0.000	0.217
35.00	-78.69	-11.43	-0.19	-992.39	0.00	992.39	4926.16	2463.08	10054.2	5034.61	1.52	-0.421	0.000	0.213
40.00	-76.48	-11.31	-0.19	-935.24	0.00	935.24	4843.52	2421.76	9649.95	4832.15	2.00	-0.485	0.000	0.209
45.00	-74.30	-11.15	-0.19	-878.67	0.00	878.67	4759.26	2379.63	9250.49	4632.12	2.54	-0.549	0.000	0.205
45.25	-74.19	-11.18	-0.19	-875.89	0.00	875.89	4755.00	2377.50	9230.65	4622.19	2.57	-0.552	0.000	0.205
50.00	-71.06	-11.02	-0.19	-822.77	0.00	822.77	4673.35	2336.67	8856.13	4434.65	3.15	-0.614	0.000	0.201
51.25	-70.24	-11.00	-0.19	-809.00	0.00	809.00	3853.76	1926.88	7395.56	3703.28	3.31	-0.631	0.000	0.237
55.00	-68.79	-10.92	-0.19	-767.74	0.00	767.74	3804.98	1902.49	7163.10	3586.87	3.83	-0.681	0.000	0.232
60.00	-66.88	-10.79	-0.19	-713.15	0.00	713.15	3738.51	1869.25	6856.06	3433.13	4.58	-0.753	0.000	0.226
65.00	-65.01	-10.66	-0.19	-659.18	0.00	659.18	3670.40	1835.20	6552.57	3281.16	5.41	-0.826	0.000	0.219
70.00	-63.18	-10.53	-0.19	-605.87	0.00	605.87	3600.66	1800.33	6252.87	3131.08	6.31	-0.899	0.000	0.211
75.00	-61.38	-10.40	-0.19	-553.22	0.00	553.22	3529.28	1764.64	5957.19	2983.02	7.30	-0.971	0.000	0.203
80.00	-59.63	-10.26	-0.19	-501.25	0.00	501.25	3456.27	1728.13	5665.78	2837.10	8.35	-1.043	0.000	0.194
85.00	-57.91	-10.12	-0.19	-449.96	0.00	449.96	3381.62	1690.81	5378.88	2693.44	9.48	-1.114	0.000	0.184
90.00	-56.23	-9.95	-0.19	-399.38	0.00	399.38	3305.34	1652.67	5096.71	2552.14	10.69	-1.182	0.000	0.174
91.75	-55.65	-9.91	-0.19	-381.96	0.00	381.96	3278.25	1639.13	4999.12	2503.28	11.12	-1.207	0.000	0.170
95.00	-54.19	-9.80	-0.19	-349.74	0.00	349.74	3221.38	1610.69	4810.51	2408.83	11.96	-1.251	0.000	0.162
96.50	-53.53	-9.75	-0.19	-335.04	0.00	335.04	1897.75	948.88	2865.01	1434.63	12.36	-1.271	0.000	0.262
97.00	-48.45	-8.67	-0.19	-330.17	0.00	330.17	1894.22	947.11	2850.46	1427.35	12.49	-1.277	0.000	0.257
100.00	-47.66	-8.61	-0.19	-304.16	0.00	304.16	1872.71	936.35	2763.41	1383.76	13.31	-1.332	0.000	0.245
105.00	-46.37	-8.46	-0.19	-261.11	0.00	261.11	1835.54	917.77	2619.24	1311.57	14.75	-1.419	0.000	0.224
107.00	-33.77	-6.71	-0.19	-244.19	0.00	244.19	1820.21	910.11	2561.95	1282.88	15.36	-1.454	0.000	0.209
110.00	-33.09	-6.63	-0.19	-224.07	0.00	224.07	1796.73	898.37	2476.44	1240.06	16.29	-1.503	-0.001	0.199
115.00	-31.99	-6.48	-0.19	-190.93	-0.01	190.93	1756.29	878.14	2335.25	1169.36	17.90	-1.581	-0.001	0.182
120.00	-29.06	-5.90	-0.19	-158.54	-0.01	158.54	1714.21	857.11	2195.89	1099.58	19.60	-1.655	-0.001	0.161
125.00	-28.03	-5.75	-0.19	-129.04	-0.01	129.04	1670.50	835.25	2058.61	1030.84	21.37	-1.722	-0.001	0.142
130.00	-27.03	-5.59	-0.19	-100.30	-0.01	100.30	1625.15	812.57	1923.65	963.25	23.21	-1.782	-0.001	0.121
133.00	-26.44	-5.49	-0.19	-83.53	-0.01	83.53	1597.15	798.58	1843.89	923.31	24.34	-1.815	-0.001	0.107
135.00	-25.87	-5.43	-0.19	-72.54	-0.01	72.54	1578.16	789.08	1791.25	896.95	25.10	-1.835	-0.001	0.097
136.75	-25.38	-5.36	-0.19	-63.05	-0.01	63.05	1475.57	737.78	1680.22	841.36	25.78	-1.851	-0.001	0.092
137.00	-19.47	-4.07	-0.19	-61.71	-0.01	61.71	1473.30	736.65	1674.05	838.27	25.87	-1.853	-0.001	0.087
140.00	-18.94	-3.98	-0.19	-49.50	-0.01	49.50	1445.77	722.89	1600.57	801.47	27.05	-1.875	-0.001	0.075
145.00	-18.09	-3.81	-0.19	-29.61	-0.01	29.61	1398.74	699.37	1480.44	741.32	29.03	-1.904	-0.001	0.053
146.00	-11.07	-2.40	-0.19	-25.80	-0.01	25.80	1389.16	694.58	1456.78	729.47	29.42	-1.908	-0.001	0.043
150.00	-10.43	-2.27	-0.19	-16.21	-0.01	16.21	1340.27	670.14	1353.35	677.68	31.03	-1.923	-0.001	0.032
151.00	-9.95	-2.05	0.00	-13.94	0.00	13.94	1327.48	663.74	1327.52	664.75	31.43	-1.925	-0.001	0.028
155.00	-9.34	-1.92	0.00	-5.76	0.00	5.76	1276.33	638.17	1226.69	614.25	33.05	-1.933	-0.001	0.017
158.00	0.00	-1.60	0.00	0.00	0.00	0.00	1237.97	618.99	1153.67	577.69	34.27	-1.935	-0.001	0.000

Seismic Segment Forces (Factored)

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.2D + 1.0E						Iterations 22
Gust Response Factor	1.10			Sds	0.19	Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.32	SA	0.03	Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1355.0	0.00	0.03	0.02	25.78	
10.00		1327.2	0.01	0.05	0.03	36.50	
15.00		1299.5	0.02	0.06	0.04	41.24	
20.00		1271.7	0.03	0.07	0.04	43.16	
25.00		1243.9	0.05	0.07	0.04	43.79	
30.00		1216.2	0.07	0.07	0.04	43.92	
35.00		1188.4	0.09	0.07	0.04	43.91	
40.00		1160.7	0.12	0.07	0.03	43.87	
45.00		1132.9	0.15	0.07	0.03	43.67	
45.25	Bot - Section 2	55.92	0.16	0.07	0.03	2.16	
50.00		1964.2	0.19	0.06	0.02	76.45	
51.25	Top - Section 1	509.18	0.20	0.06	0.02	19.81	
55.00		702.74	0.23	0.06	0.02	27.03	
60.00		916.16	0.27	0.05	0.01	33.50	
65.00		892.37	0.32	0.04	0.01	28.95	
70.00		868.58	0.37	0.03	0.01	22.04	
75.00		844.78	0.43	0.01	0.01	12.66	
80.00		820.99	0.48	-0.01	0.01	1.51	
85.00		797.19	0.55	-0.03	0.01	-9.86	
90.00		773.40	0.61	-0.06	0.02	-19.53	
91.75	Bot - Section 3	265.07	0.64	-0.07	0.02	-7.70	
95.00		813.05	0.68	-0.08	0.03	-28.27	
96.50	Top - Section 2	369.60	0.71	-0.09	0.03	-13.59	
97.00	Appurtenance(s)	2408.5	0.71	-0.09	0.03	-89.98	
100.00		293.48	0.76	-0.10	0.04	-11.69	
105.00		476.45	0.83	-0.12	0.06	-19.09	
107.00	Appurtenance(s)	5430.8	0.87	-0.12	0.08	-210.80	
110.00		274.45	0.92	-0.12	0.09	-9.76	
115.00		444.72	1.00	-0.11	0.13	-11.75	
120.00	Appurtenance(s)	1278.8	1.09	-0.08	0.18	-16.37	
125.00		413.00	1.18	-0.01	0.24	2.18	
130.00		397.14	1.28	0.09	0.32	11.06	
133.00	Bot - Section 4	230.67	1.34	0.18	0.37	10.05	
135.00		303.91	1.38	0.25	0.41	16.70	
136.75	Top - Section 3	261.76	1.42	0.31	0.45	17.15	
137.00	Appurtenance(s)	2800.4	1.42	0.32	0.45	187.83	
140.00		221.39	1.48	0.46	0.52	19.19	
145.00		356.30	1.59	0.75	0.66	43.86	
146.00	Appurtenance(s)	2862.1	1.61	0.82	0.69	374.80	
150.00		271.08	1.70	1.14	0.82	44.55	
151.00	Appurtenance(s)	166.98	1.73	1.22	0.86	28.92	
155.00		258.39	1.82	1.63	1.01	54.40	
158.00	Appurtenance(s)	3001.0	1.89	1.98	1.14	722.29	
Totals:		43,940.7				1,674.5	Total Wind: 46,295.8

Calculated Forces

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 1.2D + 1.0E										Iterations 22
Gust Response Factor	1.10						Sds	0.19		Ss 0.18
Dead Load Factor	1.20	Seismic Load Factor	1.00	Sd1	0.10					S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.32	SA	0.03	Seismic Importance Factor	1.00			



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-60.59	-2.13	0.00	-266.53	0.00	266.53	5458.79	2729.40	13000.6	6509.99	0.00	0.00	0.00	0.052
5.00	-58.84	-2.11	0.00	-255.89	0.00	255.89	5387.61	2693.80	12568.9	6293.83	0.01	-0.01	0.052	
10.00	-56.94	-2.09	0.00	-245.32	0.00	245.32	5314.79	2657.39	12140.4	6079.27	0.02	-0.02	0.051	
15.00	-55.07	-2.06	0.00	-234.89	0.00	234.89	5240.33	2620.17	11715.4	5866.42	0.05	-0.03	0.051	
20.00	-53.23	-2.02	0.00	-224.61	0.00	224.61	5164.24	2582.12	11294.0	5655.41	0.09	-0.04	0.050	
25.00	-51.43	-1.99	0.00	-214.49	0.00	214.49	5086.52	2543.26	10876.5	5446.36	0.15	-0.06	0.049	
30.00	-49.66	-1.95	0.00	-204.56	0.00	204.56	5007.16	2503.58	10463.2	5239.39	0.21	-0.07	0.049	
35.00	-47.92	-1.92	0.00	-194.79	0.00	194.79	4926.16	2463.08	10054.2	5034.61	0.29	-0.08	0.048	
40.00	-46.22	-1.88	0.00	-185.21	0.00	185.21	4843.52	2421.76	9649.95	4832.15	0.38	-0.09	0.048	
45.00	-44.55	-1.84	0.00	-175.81	0.00	175.81	4759.26	2379.63	9250.49	4632.12	0.49	-0.11	0.047	
45.25	-44.47	-1.84	0.00	-175.35	0.00	175.35	4755.00	2377.50	9230.65	4622.19	0.49	-0.11	0.047	
50.00	-41.81	-1.77	0.00	-166.60	0.00	166.60	4673.35	2336.67	8856.13	4434.65	0.61	-0.12	0.047	
51.25	-41.12	-1.75	0.00	-164.39	0.00	164.39	3853.76	1926.88	7395.56	3703.28	0.64	-0.12	0.055	
55.00	-40.05	-1.73	0.00	-157.83	0.00	157.83	3804.98	1902.49	7163.10	3586.87	0.74	-0.13	0.055	
60.00	-38.64	-1.70	0.00	-149.18	0.00	149.18	3738.51	1869.25	6856.06	3433.13	0.89	-0.15	0.054	
65.00	-37.26	-1.68	0.00	-140.67	0.00	140.67	3670.40	1835.20	6552.57	3281.16	1.05	-0.16	0.053	
70.00	-35.90	-1.66	0.00	-132.27	0.00	132.27	3600.66	1800.33	6252.87	3131.08	1.23	-0.18	0.052	
75.00	-34.58	-1.66	0.00	-123.96	0.00	123.96	3529.28	1764.64	5957.19	2983.02	1.42	-0.20	0.051	
80.00	-33.28	-1.66	0.00	-115.67	0.00	115.67	3456.27	1728.13	5665.78	2837.10	1.64	-0.21	0.050	
85.00	-32.01	-1.66	0.00	-107.37	0.00	107.37	3381.62	1690.81	5378.88	2693.44	1.87	-0.23	0.049	
90.00	-30.78	-1.67	0.00	-99.05	0.00	99.05	3305.34	1652.67	5096.71	2552.14	2.12	-0.24	0.048	
91.75	-30.35	-1.67	0.00	-96.14	0.00	96.14	3278.25	1639.13	4999.12	2503.28	2.21	-0.25	0.048	
95.00	-29.17	-1.67	0.00	-90.72	0.00	90.72	3221.38	1610.69	4810.51	2408.83	2.38	-0.26	0.047	
96.50	-28.63	-1.67	0.00	-88.22	0.00	88.22	1897.75	948.88	2865.01	1434.63	2.46	-0.27	0.077	
97.00	-25.71	-1.66	0.00	-87.38	0.00	87.38	1894.22	947.11	2850.46	1427.35	2.49	-0.27	0.075	
100.00	-25.18	-1.66	0.00	-82.41	0.00	82.41	1872.71	936.35	2763.41	1383.76	2.67	-0.28	0.073	
105.00	-24.31	-1.67	0.00	-74.10	0.00	74.10	1835.54	917.77	2619.24	1311.57	2.98	-0.31	0.070	
107.00	-17.67	-1.63	0.00	-70.77	0.00	70.77	1820.21	910.11	2561.95	1282.88	3.11	-0.32	0.065	
110.00	-17.23	-1.64	0.00	-65.88	0.00	65.88	1796.73	898.37	2476.44	1240.06	3.31	-0.33	0.063	
115.00	-16.52	-1.64	0.00	-57.70	0.00	57.70	1756.29	878.14	2335.25	1169.36	3.67	-0.36	0.059	
120.00	-14.80	-1.63	0.00	-49.50	0.00	49.50	1714.21	857.11	2195.89	1099.58	4.06	-0.38	0.054	
125.00	-14.14	-1.63	0.00	-41.34	0.00	41.34	1670.50	835.25	2058.61	1030.84	4.46	-0.40	0.049	
130.00	-13.49	-1.62	0.00	-33.18	0.00	33.18	1625.15	812.57	1923.65	963.25	4.89	-0.42	0.043	
133.00	-13.12	-1.61	0.00	-28.33	0.00	28.33	1597.15	798.58	1843.89	923.31	5.16	-0.43	0.039	
135.00	-12.68	-1.59	0.00	-25.11	0.00	25.11	1578.16	789.08	1791.25	896.95	5.34	-0.44	0.036	
136.75	-12.31	-1.57	0.00	-22.33	0.00	22.33	1475.57	737.78	1680.22	841.36	5.50	-0.44	0.035	
137.00	-8.94	-1.36	0.00	-21.93	0.00	21.93	1473.30	736.65	1674.05	838.27	5.53	-0.44	0.032	
140.00	-8.61	-1.34	0.00	-17.86	0.00	17.86	1445.77	722.89	1600.57	801.47	5.81	-0.45	0.028	
145.00	-8.08	-1.29	0.00	-11.18	0.00	11.18	1398.74	699.37	1480.44	741.32	6.29	-0.46	0.021	
146.00	-4.63	-0.89	0.00	-9.89	0.00	9.89	1389.16	694.58	1456.78	729.47	6.38	-0.46	0.017	
150.00	-4.24	-0.84	0.00	-6.34	0.00	6.34	1340.27	670.14	1353.35	677.68	6.77	-0.47	0.013	
151.00	-4.02	-0.81	0.00	-5.50	0.00	5.50	1327.48	663.74	1327.52	664.75	6.87	-0.47	0.011	
155.00	-3.64	-0.75	0.00	-2.26	0.00	2.26	1276.33	638.17	1226.69	614.25	7.27	-0.47	0.007	
158.00	0.00	-0.72	0.00	0.00	0.00	0.00	1237.97	618.99	1153.67	577.69	7.56	-0.47	0.000	

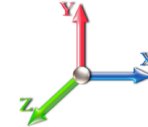
Seismic Segment Forces (Factored)

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 0.9D + 1.0E				Iterations 22
Gust Response Factor	1.10	Sds	0.19	Ss 0.18
Dead Load Factor	0.90	Seismic Load Factor	1.00	S1 0.06
Wind Load Factor	0.00	Structure Frequency (f1)	0.32	SA 0.03
				Seismic Importance Factor 1.00



Top Elev (ft)	Description	Wz (lb)	a	b	c	Lateral Fs (lb)	R: 1.50
0.00		0.00	0.00	0.00	0.00	0.00	
5.00		1355.0	0.00	0.03	0.02	25.78	
10.00		1327.2	0.01	0.05	0.03	36.50	
15.00		1299.5	0.02	0.06	0.04	41.24	
20.00		1271.7	0.03	0.07	0.04	43.16	
25.00		1243.9	0.05	0.07	0.04	43.79	
30.00		1216.2	0.07	0.07	0.04	43.92	
35.00		1188.4	0.09	0.07	0.04	43.91	
40.00		1160.7	0.12	0.07	0.03	43.87	
45.00		1132.9	0.15	0.07	0.03	43.67	
45.25	Bot - Section 2	55.92	0.16	0.07	0.03	2.16	
50.00		1964.2	0.19	0.06	0.02	76.45	
51.25	Top - Section 1	509.18	0.20	0.06	0.02	19.81	
55.00		702.74	0.23	0.06	0.02	27.03	
60.00		916.16	0.27	0.05	0.01	33.50	
65.00		892.37	0.32	0.04	0.01	28.95	
70.00		868.58	0.37	0.03	0.01	22.04	
75.00		844.78	0.43	0.01	0.01	12.66	
80.00		820.99	0.48	-0.01	0.01	1.51	
85.00		797.19	0.55	-0.03	0.01	-9.86	
90.00		773.40	0.61	-0.06	0.02	-19.53	
91.75	Bot - Section 3	265.07	0.64	-0.07	0.02	-7.70	
95.00		813.05	0.68	-0.08	0.03	-28.27	
96.50	Top - Section 2	369.60	0.71	-0.09	0.03	-13.59	
97.00	Appurtenance(s)	2408.5	0.71	-0.09	0.03	-89.98	
100.00		293.48	0.76	-0.10	0.04	-11.69	
105.00		476.45	0.83	-0.12	0.06	-19.09	
107.00	Appurtenance(s)	5430.8	0.87	-0.12	0.08	-210.80	
110.00		274.45	0.92	-0.12	0.09	-9.76	
115.00		444.72	1.00	-0.11	0.13	-11.75	
120.00	Appurtenance(s)	1278.8	1.09	-0.08	0.18	-16.37	
125.00		413.00	1.18	-0.01	0.24	2.18	
130.00		397.14	1.28	0.09	0.32	11.06	
133.00	Bot - Section 4	230.67	1.34	0.18	0.37	10.05	
135.00		303.91	1.38	0.25	0.41	16.70	
136.75	Top - Section 3	261.76	1.42	0.31	0.45	17.15	
137.00	Appurtenance(s)	2800.4	1.42	0.32	0.45	187.83	
140.00		221.39	1.48	0.46	0.52	19.19	
145.00		356.30	1.59	0.75	0.66	43.86	
146.00	Appurtenance(s)	2862.1	1.61	0.82	0.69	374.80	
150.00		271.08	1.70	1.14	0.82	44.55	
151.00	Appurtenance(s)	166.98	1.73	1.22	0.86	28.92	
155.00		258.39	1.82	1.63	1.01	54.40	
158.00	Appurtenance(s)	3001.0	1.89	1.98	1.14	722.29	
Totals:		43,940.7				1,674.5	Total Wind: 46,295.8

Calculated Forces

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



Load Case: 0.9D + 1.0E		Iterations 22
Gust Response Factor 1.10	Sds 0.19	Ss 0.18
Dead Load Factor 0.90	Seismic Load Factor 1.00	S1 0.06
Wind Load Factor 0.00	Structure Frequency (f1) 0.32	SA 0.03
	Seismic Importance Factor 1.00	



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-45.45	-2.13	0.00	-263.05	0.00	263.05	5458.79	2729.40	13000.6	6509.99	0.00	0.00	0.00	0.049
5.00	-44.13	-2.11	0.00	-252.42	0.00	252.42	5387.61	2693.80	12568.9	6293.83	0.01	-0.01	0.048	
10.00	-42.70	-2.08	0.00	-241.87	0.00	241.87	5314.79	2657.39	12140.4	6079.27	0.02	-0.02	0.048	
15.00	-41.30	-2.05	0.00	-231.47	0.00	231.47	5240.33	2620.17	11715.4	5866.42	0.05	-0.03	0.047	
20.00	-39.92	-2.01	0.00	-221.24	0.00	221.24	5164.24	2582.12	11294.0	5655.41	0.09	-0.04	0.047	
25.00	-38.57	-1.97	0.00	-211.19	0.00	211.19	5086.52	2543.26	10876.5	5446.36	0.14	-0.06	0.046	
30.00	-37.24	-1.94	0.00	-201.32	0.00	201.32	5007.16	2503.58	10463.2	5239.39	0.21	-0.07	0.046	
35.00	-35.94	-1.90	0.00	-191.64	0.00	191.64	4926.16	2463.08	10054.2	5034.61	0.29	-0.08	0.045	
40.00	-34.66	-1.86	0.00	-182.16	0.00	182.16	4843.52	2421.76	9649.95	4832.15	0.38	-0.09	0.045	
45.00	-33.41	-1.82	0.00	-172.86	0.00	172.86	4759.26	2379.63	9250.49	4632.12	0.48	-0.10	0.044	
45.25	-33.35	-1.82	0.00	-172.40	0.00	172.40	4755.00	2377.50	9230.65	4622.19	0.49	-0.11	0.044	
50.00	-31.36	-1.74	0.00	-163.76	0.00	163.76	4673.35	2336.67	8856.13	4434.65	0.60	-0.12	0.044	
51.25	-30.84	-1.73	0.00	-161.59	0.00	161.59	3853.76	1926.88	7395.56	3703.28	0.63	-0.12	0.052	
55.00	-30.04	-1.70	0.00	-155.11	0.00	155.11	3804.98	1902.49	7163.10	3586.87	0.73	-0.13	0.051	
60.00	-28.98	-1.67	0.00	-146.60	0.00	146.60	3738.51	1869.25	6856.06	3433.13	0.87	-0.15	0.050	
65.00	-27.94	-1.65	0.00	-138.22	0.00	138.22	3670.40	1835.20	6552.57	3281.16	1.03	-0.16	0.050	
70.00	-26.93	-1.63	0.00	-129.97	0.00	129.97	3600.66	1800.33	6252.87	3131.08	1.21	-0.18	0.049	
75.00	-25.93	-1.62	0.00	-121.80	0.00	121.80	3529.28	1764.64	5957.19	2983.02	1.40	-0.19	0.048	
80.00	-24.96	-1.63	0.00	-113.68	0.00	113.68	3456.27	1728.13	5665.78	2837.10	1.61	-0.21	0.047	
85.00	-24.01	-1.63	0.00	-105.55	0.00	105.55	3381.62	1690.81	5378.88	2693.44	1.84	-0.22	0.046	
90.00	-23.08	-1.63	0.00	-97.40	0.00	97.40	3305.34	1652.67	5096.71	2552.14	2.08	-0.24	0.045	
91.75	-22.76	-1.63	0.00	-94.55	0.00	94.55	3278.25	1639.13	4999.12	2503.28	2.17	-0.25	0.045	
95.00	-21.88	-1.63	0.00	-89.24	0.00	89.24	3221.38	1610.69	4810.51	2408.83	2.34	-0.26	0.044	
96.50	-21.47	-1.63	0.00	-86.80	0.00	86.80	1897.75	948.88	2865.01	1434.63	2.43	-0.26	0.072	
97.00	-19.28	-1.62	0.00	-85.98	0.00	85.98	1894.22	947.11	2850.46	1427.35	2.45	-0.26	0.070	
100.00	-18.88	-1.63	0.00	-81.11	0.00	81.11	1872.71	936.35	2763.41	1383.76	2.62	-0.28	0.069	
105.00	-18.23	-1.63	0.00	-72.97	0.00	72.97	1835.54	917.77	2619.24	1311.57	2.93	-0.30	0.066	
107.00	-13.25	-1.61	0.00	-69.71	0.00	69.71	1820.21	910.11	2561.95	1282.88	3.06	-0.31	0.062	
110.00	-12.92	-1.61	0.00	-64.89	0.00	64.89	1796.73	898.37	2476.44	1240.06	3.26	-0.33	0.060	
115.00	-12.39	-1.61	0.00	-56.84	0.00	56.84	1756.29	878.14	2335.25	1169.36	3.61	-0.35	0.056	
120.00	-11.10	-1.61	0.00	-48.79	0.00	48.79	1714.21	857.11	2195.89	1099.58	3.99	-0.37	0.051	
125.00	-10.60	-1.60	0.00	-40.76	0.00	40.76	1670.50	835.25	2058.61	1030.84	4.39	-0.39	0.046	
130.00	-10.12	-1.59	0.00	-32.73	0.00	32.73	1625.15	812.57	1923.65	963.25	4.82	-0.41	0.040	
133.00	-9.83	-1.58	0.00	-27.96	0.00	27.96	1597.15	798.58	1843.89	923.31	5.08	-0.42	0.036	
135.00	-9.51	-1.56	0.00	-24.79	0.00	24.79	1578.16	789.08	1791.25	896.95	5.26	-0.43	0.034	
136.75	-9.23	-1.55	0.00	-22.05	0.00	22.05	1475.57	737.78	1680.22	841.36	5.42	-0.44	0.032	
137.00	-6.71	-1.34	0.00	-21.67	0.00	21.67	1473.30	736.65	1674.05	838.27	5.44	-0.44	0.030	
140.00	-6.46	-1.32	0.00	-17.65	0.00	17.65	1445.77	722.89	1600.57	801.47	5.72	-0.44	0.026	
145.00	-6.06	-1.27	0.00	-11.05	0.00	11.05	1398.74	699.37	1480.44	741.32	6.19	-0.45	0.019	
146.00	-3.47	-0.88	0.00	-9.78	0.00	9.78	1389.16	694.58	1456.78	729.47	6.28	-0.46	0.016	
150.00	-3.18	-0.83	0.00	-6.27	0.00	6.27	1340.27	670.14	1353.35	677.68	6.67	-0.46	0.012	
151.00	-3.01	-0.80	0.00	-5.44	0.00	5.44	1327.48	663.74	1327.52	664.75	6.76	-0.46	0.010	
155.00	-2.73	-0.74	0.00	-2.23	0.00	2.23	1276.33	638.17	1226.69	614.25	7.15	-0.47	0.006	
158.00	0.00	-0.72	0.00	0.00	0.00	0.00	1237.97	618.99	1153.67	577.69	7.44	-0.47	0.000	

Wind Loading - Shaft

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 23

Dead Load Factor 1.00

Wind Load Factor 1.00



Elev (ft)	Description	Kzt	Kz	qz (psf)	qzGh (psf)	C (mph-ft)	Cf	Ice Thick (in)	Tributary (ft)	Aa (sf)	CfAa (sf)	Wind Force X (lb)	Dead Load Ice (lb)	Tot Dead Load (lb)
0.00		1.00	0.85	7.442	8.19	273.27	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	7.442	8.19	267.77	0.650	0.000	5.00	24.452	15.89	130.1	0.0	1355.0
10.00		1.00	0.85	7.442	8.19	262.27	0.650	0.000	5.00	23.955	15.57	127.5	0.0	1327.3
15.00		1.00	0.85	7.442	8.19	256.77	0.650	0.000	5.00	23.457	15.25	124.8	0.0	1299.5
20.00		1.00	0.90	7.896	8.69	258.83	0.650	0.000	5.00	22.960	14.92	129.6	0.0	1271.7
25.00		1.00	0.95	8.276	9.10	259.18	0.650	0.000	5.00	22.463	14.60	132.9	0.0	1244.0
30.00		1.00	0.98	8.600	9.46	258.29	0.650	0.000	5.00	21.966	14.28	135.1	0.0	1216.2
35.00		1.00	1.01	8.883	9.77	256.50	0.650	0.000	5.00	21.469	13.95	136.4	0.0	1188.5
40.00		1.00	1.04	9.137	10.05	254.04	0.650	0.000	5.00	20.972	13.63	137.0	0.0	1160.7
45.00		1.00	1.07	9.366	10.30	251.04	0.650	0.000	5.00	20.475	13.31	137.1	0.0	1132.9
45.25	Bot - Section 2	1.00	1.07	9.377	10.31	250.88	0.650	0.000	0.25	1.011	0.66	6.8	0.0	55.9
50.00		1.00	1.09	9.576	10.53	247.60	0.650	0.000	4.75	19.268	12.52	131.9	0.0	1964.3
51.25	Top - Section 1	1.00	1.10	9.626	10.59	246.68	0.650	0.000	1.25	4.996	3.25	34.4	0.0	509.2
55.00		1.00	1.12	9.770	10.75	247.82	0.650	0.000	3.75	14.802	9.62	103.4	0.0	702.7
60.00		1.00	1.14	9.951	10.95	243.74	0.650	0.000	5.00	19.301	12.55	137.3	0.0	916.2
65.00		1.00	1.16	10.120	11.13	239.38	0.650	0.000	5.00	18.803	12.22	136.1	0.0	892.4
70.00		1.00	1.17	10.279	11.31	234.80	0.650	0.000	5.00	18.306	11.90	134.5	0.0	868.6
75.00		1.00	1.19	10.430	11.47	230.00	0.650	0.000	5.00	17.809	11.58	132.8	0.0	844.8
80.00		1.00	1.21	10.572	11.63	225.01	0.650	0.000	5.00	17.312	11.25	130.9	0.0	821.0
85.00		1.00	1.22	10.708	11.78	219.85	0.650	0.000	5.00	16.815	10.93	128.7	0.0	797.2
90.00		1.00	1.24	10.838	11.92	214.54	0.650	0.000	5.00	16.318	10.61	126.4	0.0	773.4
91.75	Bot - Section 3	1.00	1.24	10.882	11.97	212.65	0.650	0.000	1.75	5.594	3.64	43.5	0.0	265.1
95.00		1.00	1.25	10.962	12.06	209.09	0.650	0.000	3.25	10.364	6.74	81.2	0.0	813.0
96.50	Top - Section 2	1.00	1.26	10.998	12.10	207.43	0.650	0.000	1.50	4.713	3.06	37.1	0.0	369.6
97.00	Appurtenance(s)	1.00	1.26	11.010	12.11	209.72	0.650	0.000	0.50	1.561	1.01	12.3	0.0	49.5
100.00		1.00	1.27	11.081	12.19	206.37	0.650	0.000	3.00	9.261	6.02	73.4	0.0	293.5
105.00		1.00	1.28	11.195	12.31	200.68	0.650	0.000	5.00	15.038	9.77	120.4	0.0	476.4
107.00	Appurtenance(s)	1.00	1.28	11.240	12.36	198.38	0.650	0.000	2.00	5.876	3.82	47.2	0.0	186.1
110.00		1.00	1.29	11.305	12.44	194.89	0.650	0.000	3.00	8.665	5.63	70.0	0.0	274.4
115.00		1.00	1.30	11.412	12.55	188.99	0.650	0.000	5.00	14.044	9.13	114.6	0.0	444.7
120.00	Appurtenance(s)	1.00	1.32	11.514	12.67	183.00	0.650	0.000	5.00	13.546	8.81	111.5	0.0	428.9
125.00		1.00	1.33	11.614	12.78	176.92	0.650	0.000	5.00	13.049	8.48	108.4	0.0	413.0
130.00		1.00	1.34	11.710	12.88	170.75	0.650	0.000	5.00	12.552	8.16	105.1	0.0	397.1
133.00	Bot - Section 4	1.00	1.34	11.766	12.94	167.01	0.650	0.000	3.00	7.293	4.74	61.4	0.0	230.7
135.00		1.00	1.35	11.803	12.98	164.50	0.650	0.000	2.00	4.847	3.15	40.9	0.0	303.9
136.75	Top - Section 3	1.00	1.35	11.835	13.02	162.30	0.650	0.000	1.75	4.176	2.71	35.3	0.0	261.8
137.00	Appurtenance(s)	1.00	1.35	11.840	13.02	164.93	0.650	0.000	0.25	0.592	0.38	5.0	0.0	18.7
140.00		1.00	1.36	11.894	13.08	161.14	0.650	0.000	3.00	7.002	4.55	59.5	0.0	221.4
145.00		1.00	1.37	11.982	13.18	154.76	0.650	0.000	5.00	11.272	7.33	96.6	0.0	356.3
146.00	Appurtenance(s)	1.00	1.37	12.000	13.20	153.47	0.650	0.000	1.00	2.195	1.43	18.8	0.0	69.4
150.00		1.00	1.38	12.068	13.27	148.31	0.650	0.000	4.00	8.580	5.58	74.0	0.0	271.1
151.00	Appurtenance(s)	1.00	1.38	12.085	13.29	147.01	0.650	0.000	1.00	2.095	1.36	18.1	0.0	66.2
155.00		1.00	1.39	12.152	13.37	141.79	0.650	0.000	4.00	8.183	5.32	71.1	0.0	258.4
158.00	Appurtenance(s)	1.00	1.39	12.201	13.42	137.85	0.650	0.000	3.00	5.928	3.85	51.7	0.0	187.1
Totals:									158.00			3,850.9		26,997.7

Discrete Appurtenance Forces

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 23

No.	Elev (ft)	Description	Qty	qz (psf)	qzGh (psf)	Orient Factor x Ka	Ka	Total CaAa (sf)	Dead Load (lb)	Horiz Ecc (ft)	Vert Ecc (ft)	Wind FX (lb)	Mom Y (lb-ft)	Mom Z (lb-ft)
1	158.00	RFS FD9R6004/2CL-3CL	6	12.201	13.421	0.38	0.75	0.70	18.00	0.000	0.000	9.36	0.00	0.00
2	158.00	6' Lightning rod	1	12.201	13.421	1.00	1.00	0.38	6.50	0.000	0.000	5.10	0.00	0.00
3	158.00	Commscope	6	12.201	13.421	0.62	0.75	30.07	304.26	0.000	0.000	403.53	0.00	0.00
4	158.00	Antel	2	12.201	13.421	0.70	0.75	13.57	54.00	0.000	0.000	182.17	0.00	0.00
5	158.00	RFS APL866513-42T0 w/	4	12.201	13.421	0.70	0.75	15.76	194.80	0.000	0.000	211.56	0.00	0.00
6	158.00	Samsung RF4440d-13A	3	12.201	13.421	0.50	0.75	2.83	211.20	0.000	0.000	38.04	0.00	0.00
7	158.00	Raycap	2	12.201	13.421	0.38	0.75	3.60	88.00	0.000	0.000	48.32	0.00	0.00
8	158.00	Low Profile Platform	1	12.201	13.421	1.00	1.00	35.00	1600.00	0.000	0.000	469.73	0.00	0.00
9	158.00	Samsung MT6407-77A	3	12.201	13.421	0.52	0.75	7.39	238.20	0.000	0.000	99.14	0.00	0.00
10	158.00	Samsung RF4439d-25A	3	12.201	13.421	0.50	0.75	2.74	99.00	0.000	0.000	36.82	0.00	0.00
11	151.00	ODU	1	12.085	13.294	0.50	1.00	0.62	13.20	0.000	0.000	8.24	0.00	0.00
12	151.00	Pipe Mount	1	12.085	13.294	1.00	1.00	2.63	40.00	0.000	0.000	34.96	0.00	0.00
13	151.00	Andrew VHLP2.5	1	12.085	13.294	1.00	1.00	8.43	47.60	2.043	0.000	112.06	228.92	0.00
14	146.00	Alcatel 800 MHz RRH	3	12.000	13.200	0.40	0.80	2.56	159.00	0.000	0.000	33.74	0.00	0.00
15	146.00	Alcatel 1900MHz RRH	3	12.000	13.200	0.40	0.80	2.86	132.00	0.000	0.000	37.70	0.00	0.00
16	146.00	Alcatel 800MHz Filters	3	12.000	13.200	0.40	0.80	0.80	26.40	0.000	0.000	10.61	0.00	0.00
17	146.00	Alcatel TD-RRH8x20-25	3	12.000	13.200	0.40	0.80	4.86	210.00	0.000	0.000	64.15	0.00	0.00
18	146.00	RFS APXVTM14-C-120 w/	3	12.000	13.200	0.62	0.80	14.86	267.00	0.000	0.000	196.20	0.00	0.00
19	146.00	RFS APXVSP18-C-A20	3	12.000	13.200	0.66	0.80	19.16	270.00	0.000	0.000	252.95	0.00	0.00
20	146.00	RFS ACU-A20-N RET	4	12.000	13.200	0.40	0.80	0.19	4.00	0.000	0.000	2.53	0.00	0.00
21	146.00	GPS	1	12.000	13.200	1.00	1.00	1.00	10.00	0.000	0.000	13.20	0.00	0.00
22	146.00	Kathrein Scala 840 10054	3	12.000	13.200	0.49	0.80	6.72	105.00	0.000	0.000	88.70	0.00	0.00
23	146.00	RRUs	3	12.000	13.200	0.40	0.80	3.50	9.39	0.000	0.000	46.25	0.00	0.00
24	146.00	Low Profile Platform	1	12.000	13.200	1.00	1.00	30.00	1600.00	0.000	0.000	395.99	0.00	0.00
25	137.00	Kathrein 782 11056	3	11.840	13.024	0.50	0.75	0.20	8.70	0.000	0.000	2.55	0.00	0.00
26	137.00	Ericsson 4460 B25 + B66	3	11.840	13.024	0.50	0.75	4.30	327.00	0.000	0.000	55.96	0.00	0.00
27	137.00	Ericsson 4449 B71 + B85	3	11.840	13.024	0.50	0.75	2.97	219.60	0.000	0.000	38.68	0.00	0.00
28	137.00	Allen Telecom	9	11.840	13.024	0.50	0.75	4.07	136.80	0.000	0.000	53.01	0.00	0.00
29	137.00	Ericsson KRY 112 489/2	3	11.840	13.024	0.50	0.75	1.36	45.60	0.000	0.000	17.67	0.00	0.00
30	137.00	RFS	3	11.840	13.024	0.52	0.75	31.88	384.00	0.000	0.000	415.18	0.00	0.00
31	137.00	Ericsson AIR6419 B41	3	11.840	13.024	0.57	0.75	6.50	198.30	0.000	0.000	84.63	0.00	0.00
32	137.00	HRK12 (Handrail Kit)	1	11.840	13.024	1.00	1.00	6.75	261.72	0.000	0.000	87.91	0.00	0.00
33	137.00	Low Profile Platform w/	1	11.840	13.024	1.00	1.00	25.00	1200.00	0.000	0.000	325.60	0.00	0.00
34	120.00	DS428E83101T - TTA	1	11.514	12.666	0.40	0.80	3.57	50.00	0.000	0.000	45.19	0.00	0.00
35	120.00	Pipe Mount	1	11.514	12.666	1.00	1.00	10.00	400.00	0.000	0.000	126.66	0.00	0.00
36	120.00	Flush Mount	1	11.514	12.666	1.00	1.00	5.00	350.00	0.000	0.000	63.33	0.00	0.00
37	120.00	Cambium Network	1	11.514	12.666	1.00	1.00	8.92	50.00	0.000	0.000	112.98	0.00	0.00
38	107.00	B2 B66A 8843	3	11.240	12.364	0.54	0.80	2.64	216.00	0.000	0.000	32.60	0.00	0.00
39	107.00	RRUS 4478 B14	3	11.240	12.364	0.54	0.80	3.25	178.20	0.000	0.000	40.16	0.00	0.00
40	107.00	4449 B5/B12	3	11.240	12.364	0.54	0.80	2.64	219.00	0.000	0.000	32.60	0.00	0.00
41	107.00	Powerwave 7020.00	6	11.240	12.364	0.48	0.80	0.98	13.20	0.000	0.000	12.11	0.00	0.00
42	107.00	Powerwave LGP21903	6	11.240	12.364	0.48	0.80	0.66	31.80	0.000	0.000	8.19	0.00	0.00
43	107.00	Powerwave	3	11.240	12.364	0.48	0.80	0.79	48.00	0.000	0.000	9.79	0.00	0.00
44	107.00	Raycap DC6-48-60-18-8F	3	11.240	12.364	0.54	0.80	3.54	98.40	0.000	0.000	43.74	0.00	0.00
45	107.00	AIR 6419 B77G	3	11.279	12.407	0.61	0.80	6.68	198.30	0.000	1.800	82.83	0.00	149.09
46	107.00	Collar Mount (3-Sided)	2	11.240	12.364	1.00	1.00	4.00	528.70	0.000	0.000	49.45	0.00	0.00
47	107.00	CCI DMAP7819VG12A	3	11.240	12.364	0.48	0.80	1.41	57.54	0.000	0.000	17.45	0.00	0.00

Discrete Appurtenance Forces

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Page: 33
	Struct Class: II	



48	107.00	SitePro1 MM01	6	11.240	12.364	1.00	1.00	0.60	156.36	0.000	0.000	7.42	0.00	0.00	
49	107.00	TPA65R-BU6DA-K	3	11.240	12.364	0.58	0.80	21.96	207.00	0.000	0.000	271.54	0.00	0.00	
50	107.00	(3) VFA14-H10-2120	1	11.240	12.364	0.56	0.75	28.52	2736.00	0.000	0.000	352.60	0.00	0.00	
51	107.00	AIR 6449 B77D	3	11.200	12.320	0.68	0.80	8.20	318.00	0.000	-1.800	101.03	0.00	-181.86	
52	107.00	DMP65R-BU6DA	3	11.240	12.364	0.58	0.80	21.96	238.20	0.000	0.000	271.54	0.00	0.00	
53	97.00	MC-PK8-DSH	1	11.010	12.111	1.00	1.00	37.59	1727.00	0.000	0.000	455.25	0.00	0.00	
54	97.00	RDIDC-9181-OF-48	1	11.010	12.111	0.75	0.75	1.51	21.90	0.000	0.000	18.26	0.00	0.00	
55	97.00	TA08025-B604	3	11.010	12.111	0.50	0.75	2.95	191.70	0.000	0.000	35.78	0.00	0.00	
56	97.00	TA08025-B605	3	11.010	12.111	0.50	0.75	2.95	225.00	0.000	0.000	35.78	0.00	0.00	
57	97.00	MX08FRO665-21	3	11.010	12.111	0.55	0.75	20.80	193.50	0.000	0.000	251.86	0.00	0.00	
Totals:									16,943.07						6,360.38

Total Applied Force Summary

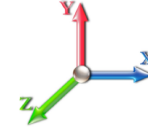
Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00
Wind Load Factor 1.00



Iterations 23

Elev (ft)	Description	Lateral FX (-) (lb)	Axial FY (-) (lb)	Torsion MY (lb-ft)	Moment MZ (lb-ft)
0.00		0.00	0.00	0.00	0.00
5.00		130.11	1458.50	0.00	0.00
10.00		127.46	1585.98	0.00	0.00
15.00		124.82	1558.22	0.00	0.00
20.00		129.63	1530.46	0.00	0.00
25.00		132.92	1502.70	0.00	0.00
30.00		135.07	1474.94	0.00	0.00
35.00		136.36	1447.18	0.00	0.00
40.00		137.00	1419.42	0.00	0.00
45.00		137.11	1391.66	0.00	0.00
45.25		6.78	68.85	0.00	0.00
50.00		131.93	2210.04	0.00	0.00
51.25		34.39	573.86	0.00	0.00
55.00		103.40	896.78	0.00	0.00
60.00		137.32	1174.88	0.00	0.00
65.00		136.06	1151.09	0.00	0.00
70.00		134.54	1127.30	0.00	0.00
75.00		132.80	1103.50	0.00	0.00
80.00		130.86	1079.71	0.00	0.00
85.00		128.74	1055.91	0.00	0.00
90.00		126.44	1032.12	0.00	0.00
91.75		43.52	355.62	0.00	0.00
95.00		81.23	981.21	0.00	0.00
96.50		37.06	447.22	0.00	0.00
97.00	(11) attachments	809.22	2434.44	0.00	0.00
100.00		73.38	443.26	0.00	0.00
105.00		120.37	726.07	0.00	0.00
107.00	(51) attachments	1380.28	5530.69	0.00	-32.76
110.00		70.04	364.64	0.00	0.00
115.00		114.59	595.04	0.00	0.00
120.00	(4) attachments	459.68	1429.18	0.00	0.00
125.00		108.36	553.12	0.00	0.00
130.00		105.09	537.26	0.00	0.00
133.00		61.35	314.74	0.00	0.00
135.00		40.91	359.96	0.00	0.00
136.75		35.34	310.80	0.00	0.00
137.00	(29) attachments	1086.20	2807.43	0.00	0.00
140.00		59.55	274.30	0.00	0.00
145.00		96.57	444.47	0.00	0.00
146.00	(30) attachments	1160.84	2879.78	0.00	0.00
150.00		74.04	326.68	0.00	0.00
151.00	(3) attachments	173.37	180.88	228.92	0.00
155.00		71.09	313.35	0.00	0.00
158.00	(31) attachments	1555.48	3042.31	0.00	0.00
	Totals:	10,211.31	50,495.55	228.92	-32.76

Linear Appurtenance Segment Forces (Factored)

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



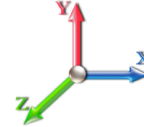
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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 23

Dead Load Factor 1.00

Wind Load Factor 1.00



Top Elev (ft)	Description	Wind Exposed	Length (ft)	Ca	Exposed Width (in)	Area (sqft)	CaAa (sqft)	Ra	Cf Adjust Factor	qz (psf)	F X (lb)	Dead Load (lb)
5.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	0.32
10.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	0.80
15.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.442	0.00	0.80
20.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	7.896	0.00	0.80
25.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.276	0.00	0.80
30.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.600	0.00	0.80
35.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	8.883	0.00	0.80
40.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.137	0.00	0.80
45.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.366	0.00	0.80
45.25	1/2" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.000	0.000	9.377	0.00	0.04
50.00	1/2" Coax	Yes	4.75	0.000	0.00	0.00	0.00	0.000	0.000	9.576	0.00	0.76
51.25	1/2" Coax	Yes	1.25	0.000	0.00	0.00	0.00	0.000	0.000	9.626	0.00	0.20
55.00	1/2" Coax	Yes	3.75	0.000	0.00	0.00	0.00	0.000	0.000	9.770	0.00	0.60
60.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	9.951	0.00	0.80
65.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.120	0.00	0.80
70.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.279	0.00	0.80
75.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.430	0.00	0.80
80.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.572	0.00	0.80
85.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.708	0.00	0.80
90.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	10.838	0.00	0.80
91.75	1/2" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	10.882	0.00	0.28
95.00	1/2" Coax	Yes	3.25	0.000	0.00	0.00	0.00	0.000	0.000	10.962	0.00	0.52
96.50	1/2" Coax	Yes	1.50	0.000	0.00	0.00	0.00	0.000	0.000	10.998	0.00	0.24
97.00	1/2" Coax	Yes	0.50	0.000	0.00	0.00	0.00	0.000	0.000	11.010	0.00	0.08
100.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.081	0.00	0.48
105.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.195	0.00	0.80
107.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.240	0.00	0.32
110.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.305	0.00	0.48
115.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.412	0.00	0.80
120.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.514	0.00	0.80
125.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.614	0.00	0.80
130.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.710	0.00	0.80
133.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.766	0.00	0.48
135.00	1/2" Coax	Yes	2.00	0.000	0.00	0.00	0.00	0.000	0.000	11.803	0.00	0.32
136.75	1/2" Coax	Yes	1.75	0.000	0.00	0.00	0.00	0.000	0.000	11.835	0.00	0.28
137.00	1/2" Coax	Yes	0.25	0.000	0.00	0.00	0.00	0.000	0.000	11.840	0.00	0.04
140.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	11.894	0.00	0.48
145.00	1/2" Coax	Yes	5.00	0.000	0.00	0.00	0.00	0.000	0.000	11.982	0.00	0.80
146.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	12.000	0.00	0.16
150.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	12.068	0.00	0.64
151.00	1/2" Coax	Yes	1.00	0.000	0.00	0.00	0.00	0.000	0.000	12.085	0.00	0.16
155.00	1/2" Coax	Yes	4.00	0.000	0.00	0.00	0.00	0.000	0.000	12.152	0.00	0.64
158.00	1/2" Coax	Yes	3.00	0.000	0.00	0.00	0.00	0.000	0.000	12.201	0.00	0.48
Totals:											0.0	24.8

Calculated Forces

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Load Case: 1.0D + 1.0W 60 mph Wind

Iterations 23

Dead Load Factor 1.00
Wind Load Factor 1.00



Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation Sway (deg)	Rotation Twist (deg)	Stress Ratio
0.00	-50.49	-10.23	-0.23	-1175.7	0.00	1175.73	5458.79	2729.40	13000.6	6509.99	0.00	0.000	0.000	0.190
5.00	-49.02	-10.14	-0.23	-1124.5	0.00	1124.57	5387.61	2693.80	12568.9	6293.83	0.03	-0.048	0.000	0.188
10.00	-47.43	-10.05	-0.23	-1073.8	0.00	1073.86	5314.79	2657.39	12140.4	6079.27	0.10	-0.097	0.000	0.186
15.00	-45.86	-9.97	-0.23	-1023.5	0.00	1023.59	5240.33	2620.17	11715.4	5866.42	0.23	-0.146	0.000	0.183
20.00	-44.32	-9.87	-0.23	-973.76	0.00	973.76	5164.24	2582.12	11294.0	5655.41	0.41	-0.196	0.000	0.181
25.00	-42.81	-9.77	-0.23	-924.41	0.00	924.41	5086.52	2543.26	10876.5	5446.36	0.64	-0.247	0.000	0.178
30.00	-41.33	-9.67	-0.23	-875.56	0.00	875.56	5007.16	2503.58	10463.2	5239.39	0.93	-0.299	0.000	0.175
35.00	-39.88	-9.56	-0.23	-827.23	0.00	827.23	4926.16	2463.08	10054.2	5034.61	1.27	-0.351	0.000	0.172
40.00	-38.45	-9.45	-0.23	-779.45	0.00	779.45	4843.52	2421.76	9649.95	4832.15	1.67	-0.404	0.000	0.169
45.00	-37.05	-9.32	-0.23	-732.21	0.00	732.21	4759.26	2379.63	9250.49	4632.12	2.12	-0.458	0.000	0.166
45.25	-36.98	-9.33	-0.23	-729.88	0.00	729.88	4755.00	2377.50	9230.65	4622.19	2.14	-0.461	0.000	0.166
50.00	-34.77	-9.20	-0.23	-685.58	0.00	685.58	4673.35	2336.67	8856.13	4434.65	2.63	-0.512	0.000	0.162
51.25	-34.19	-9.17	-0.23	-674.08	0.00	674.08	3853.76	1926.88	7395.56	3703.28	2.77	-0.526	0.000	0.191
55.00	-33.28	-9.09	-0.23	-639.68	0.00	639.68	3804.98	1902.49	7163.10	3586.87	3.20	-0.568	0.000	0.187
60.00	-32.10	-8.98	-0.23	-594.22	0.00	594.22	3738.51	1869.25	6856.06	3433.13	3.82	-0.628	0.000	0.182
65.00	-30.94	-8.86	-0.23	-549.34	0.00	549.34	3670.40	1835.20	6552.57	3281.16	4.51	-0.689	0.000	0.176
70.00	-29.81	-8.74	-0.23	-505.05	0.00	505.05	3600.66	1800.33	6252.87	3131.08	5.27	-0.750	0.000	0.170
75.00	-28.70	-8.62	-0.23	-461.33	0.00	461.33	3529.28	1764.64	5957.19	2983.02	6.09	-0.810	0.000	0.163
80.00	-27.61	-8.51	-0.23	-418.21	0.00	418.21	3456.27	1728.13	5665.78	2837.10	6.97	-0.870	0.000	0.155
85.00	-26.55	-8.39	-0.23	-375.68	0.00	375.68	3381.62	1690.81	5378.88	2693.44	7.91	-0.929	0.000	0.147
90.00	-25.51	-8.26	-0.23	-333.74	0.00	333.74	3305.34	1652.67	5096.71	2552.14	8.91	-0.986	0.000	0.139
91.75	-25.15	-8.22	-0.23	-319.28	0.00	319.28	3278.25	1639.13	4999.12	2503.28	9.28	-1.007	0.000	0.135
95.00	-24.17	-8.14	-0.23	-292.55	0.00	292.55	3221.38	1610.69	4810.51	2408.83	9.98	-1.043	0.000	0.129
96.50	-23.72	-8.10	-0.23	-280.34	0.00	280.34	1897.75	948.88	2865.01	1434.63	10.31	-1.060	0.000	0.208
97.00	-21.30	-7.25	-0.23	-276.30	0.00	276.30	1894.22	947.11	2850.46	1427.35	10.42	-1.066	0.000	0.205
100.00	-20.85	-7.19	-0.23	-254.54	0.00	254.54	1872.71	936.35	2763.41	1383.76	11.10	-1.112	0.000	0.195
105.00	-20.12	-7.07	-0.23	-218.58	0.00	218.58	1835.54	917.77	2619.24	1311.57	12.31	-1.184	-0.001	0.178
107.00	-14.62	-5.59	-0.23	-204.43	0.00	204.43	1820.21	910.11	2561.95	1282.88	12.81	-1.213	-0.001	0.167
110.00	-14.25	-5.52	-0.23	-187.67	0.00	187.67	1796.73	898.37	2476.44	1240.06	13.59	-1.255	-0.001	0.159
115.00	-13.65	-5.41	-0.23	-160.05	0.00	160.05	1756.29	878.14	2335.25	1169.36	14.94	-1.320	-0.001	0.145
120.00	-12.23	-4.93	-0.23	-133.00	0.00	133.00	1714.21	857.11	2195.89	1099.58	16.35	-1.381	-0.001	0.128
125.00	-11.67	-4.82	-0.23	-108.34	0.00	108.34	1670.50	835.25	2058.61	1030.84	17.83	-1.438	-0.001	0.112
130.00	-11.14	-4.71	-0.23	-84.25	0.00	84.25	1625.15	812.57	1923.65	963.25	19.36	-1.489	-0.001	0.094
133.00	-10.82	-4.64	-0.23	-70.13	-0.01	70.13	1597.15	798.58	1843.89	923.31	20.31	-1.516	-0.001	0.083
135.00	-10.46	-4.59	-0.23	-60.84	-0.01	60.84	1578.16	789.08	1791.25	896.95	20.95	-1.533	-0.001	0.074
136.75	-10.15	-4.55	-0.23	-52.80	-0.01	52.80	1475.57	737.78	1680.22	841.36	21.51	-1.546	-0.001	0.070
137.00	-7.37	-3.39	-0.23	-51.66	-0.01	51.66	1473.30	736.65	1674.05	838.27	21.59	-1.548	-0.001	0.067
140.00	-7.10	-3.33	-0.23	-41.49	-0.01	41.49	1445.77	722.89	1600.57	801.47	22.57	-1.567	-0.001	0.057
145.00	-6.66	-3.22	-0.23	-24.85	-0.01	24.85	1398.74	699.37	1480.44	741.32	24.23	-1.591	-0.001	0.038
146.00	-3.81	-1.98	-0.23	-21.62	-0.01	21.62	1389.16	694.58	1456.78	729.47	24.56	-1.594	-0.002	0.032
150.00	-3.48	-1.90	-0.23	-13.70	-0.01	13.70	1340.27	670.14	1353.35	677.68	25.90	-1.606	-0.002	0.023
151.00	-3.31	-1.72	0.00	-11.80	0.00	11.80	1327.48	663.74	1327.52	664.75	26.24	-1.609	-0.002	0.020
155.00	-3.00	-1.64	0.00	-4.92	0.00	4.92	1276.33	638.17	1226.69	614.25	27.59	-1.615	-0.002	0.010
158.00	0.00	-1.56	0.00	0.00	0.00	0.00	1237.97	618.99	1153.67	577.69	28.61	-1.617	-0.002	0.000

Final Analysis Summary

Structure: CT01080-S-SBA	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II



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Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.6W 101 mph Wind	46.4	0.00	60.50	0.02	0.63	5361.96
0.9D + 1.6W 101 mph Wind	46.4	0.00	45.36	0.01	0.63	5298.99
1.2D + 1.0Di + 1.0Wi 50 mph Wind	12.1	0.00	94.93	0.00	0.19	1406.50
1.2D + 1.0E	2.1	0.00	60.59	0.00	0.00	266.53
0.9D + 1.0E	2.1	0.00	45.45	0.00	0.00	263.05
1.0D + 1.0W 60 mph Wind	10.2	0.00	50.49	0.00	0.23	1175.73

Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.6W 101 mph Wind	-25.60	-37.01	-0.63	-1279.9	-0.04	-1279.9	1897.75	948.88	2865.01	1434.63	96.50	0.907
0.9D + 1.6W 101 mph Wind	-18.51	-36.38	-0.63	-1256.3	-0.04	-1256.3	1897.75	948.88	2865.01	1434.63	96.50	0.887
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-53.53	-9.75	-0.19	-335.04	0.00	-335.04	1897.75	948.88	2865.01	1434.63	96.50	0.262
1.2D + 1.0E	-28.63	-1.67	0.00	-88.22	0.00	-88.22	1897.75	948.88	2865.01	1434.63	96.50	0.077
0.9D + 1.0E	-21.47	-1.63	0.00	-86.80	0.00	-86.80	1897.75	948.88	2865.01	1434.63	96.50	0.072
1.0D + 1.0W 60 mph Wind	-23.72	-8.10	-0.23	-280.34	0.00	-280.34	1897.75	948.88	2865.01	1434.63	96.50	0.208

Base Plate Summary

Structure: CT01080-S-SB	Code: TIA-222-G	4/14/2022
Site Name: Long Hill #1	Exposure: C	
Height: 158.00 (ft)	Crest Height: 0.00	
Base Elev: 0.000 (ft)	Site Class: D - Stiff Soil	
Gh: 1.1	Topography: 1	Struct Class: II
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Reactions	Base Plate	Anchor Bolts
Original Design	Yield (ksi): 50.00	Bolt Circle: 66.00
Moment (kip-ft): 4350.00	Width (in): 67.00	Number Bolts: 24.00
Axial (kip): 51.00	Style: Clipped	Bolt Type: 2.25" 18J
Shear (kip): 37.50	Polygon Sides: 0.00	Bolt Diameter (in): 2.25
Analysis (1.2D + 1.6W)	Clip Length (in): 13.00	Yield (ksi): 75.00
Moment (kip-ft): 5361.96	Effective Len (in): 7.75	Ultimate (ksi): 100.00
Axial (kip): 60.50	Moment (kip-in): 634.13	Arrangement: Clustered
Shear (kip): 46.41	Allow Stress (ksi): 67.50	Cluster Dist (in): 6.00
	Applied Stress (ksi): 64.80	Start Angle (deg): 45.00
	Stress Ratio: 0.96	Compression
		Force (kip): 166.44
		Allowable (kip): 260.00
		Ratio: 0.66
		Tension
		Force (kip): 158.53
		Allowable (kip): 260.00
		Ratio: 0.62



Monopole Mat Foundation Design

Date

4/14/2022

Customer Name:	T-Mobile	TIA Standard:	TIA-222-G
Site Name:		Structure Height (Ft.):	158
Site Number:	CT01080-S-SBA	Engineer Name:	K. Azizllari
Engr. Number:	127497	Engineer Login ID:	

Foundation Info Obtained from:

Drawings/Calculations
Monopole
Analysis

Structure Type:

Analysis or Design?

Base Reactions (Factored):

Axial Load (Kips):	60.5	Shear Force (Kips):	46.4
Uplift Force (Kips):	0.0	Moment (Kips-ft):	5362.0

Allowable overstress %: 5.0%

Foundation Geometries:

Diameter of Pier (ft.):	8.0	Mods required -Yes/No ?:	No
Pier Height A. G. (ft.):	0.50	Depth of Base BG (ft.):	10.0
Length of Pad (ft.):	23	Thickness of Pad (ft.):	3.50
		Width of Pad (ft.):	23

Final Length of pad (ft)	23.0	Final width of pad (ft):	23.0
--------------------------	------	--------------------------	------

Material Properties and Rebar Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	40	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	36	Tie Spacing (in):	6.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:			
Qty. of Rebar in Pad (L):	39	Qty. of Rebar in Pad (W):	39

Rebar at the top of the concrete pad:			
Qty. of Rebar in Pad (L):	39	Qty. of Rebar in Pad (W):	39

Apply 1.35 factor for e/w Per G: 1.35

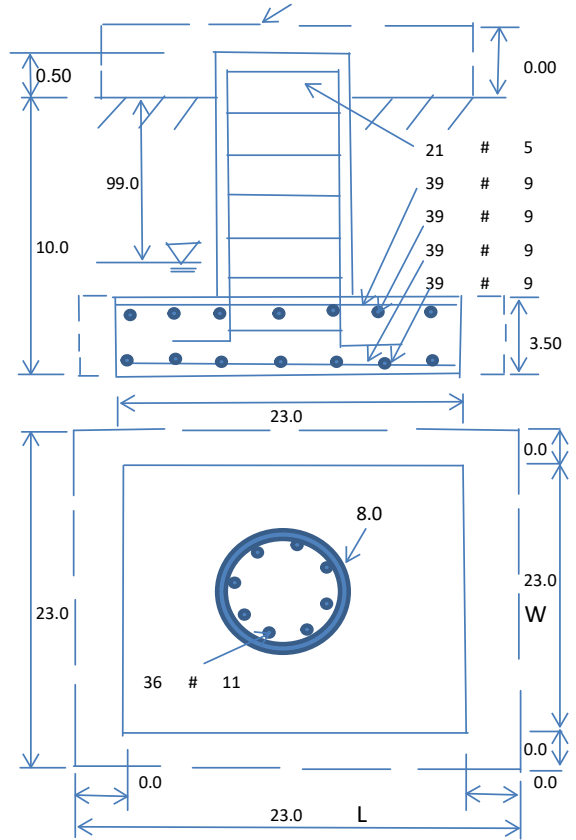
Soil Design Parameters:

Soil Unit Weight (pcf):	125.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	99.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	16000	Ultimate Skin Friction:	425	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00			

Foundation Analysis and Design:	Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):		3111.77	Total Dry Soil Weight (Kips):	388.97
Total Buoyant Soil Volume (cu. Ft.):		0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):		388.97	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):		2203.36	Total Dry Concrete Weight (Kips):	330.50
Total Buoyant Concrete Volume (cu. Ft.):		0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):		330.50	Total Vertical Load on Base (Kips):	779.98

Check Soil Capacities:

Calculated Maxium Net Soil Pressure under the base (psf):	4154	<	Allowable Factored Soil Bearing (psf):	12000	0.35	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	8142.3	>	Design Factored Momont (kips-ft):	5284	0.65	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.54					OK!



Check the capacities of Reinforcing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75		
Strength reduction factor (Axial compression):	0.65	Wind Load Factor on Concrete Design:	1.00		
				Load/ Capacity Ratio	
(1) Concrete Pier:					
Vertical Steel Rebar Area (sq. in./each):	1.56	Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	10388.7	> Design Factored Moment (Mu, Kips-F	5686.8	0.55	OK!
Calculated Shear Capacity (Kips):	912.1	> Design Factored Shear (Kips):	46.4	0.05	OK!
Calculated Tension Capacity (Tn, Kips):	3032.6	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9523.4	> Design Factored Axial Load (Pu Kips):	60.5	0.01	OK!
Moment & Axial Strength Combination:	0.55	OK! Check Tie Spacing (Design/Required):	0.5		OK!
Pier Reinforcement Ratio:	0.008	Reinforcement Ratio is satisfied per ACI			
(2).Concrete Pad:					
One-Way Design Shear Capacity (L-Direction, Kips):	871.6	> One-Way Factored Shear (L-D. Kips):	269.3	0.31	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	871.6	> One-Way Factored Shear (W-D., Kips)	269.3	0.31	OK!
One-Way Design Shear Capacity (Corner-Corner, Kips):	686.7	> One-Way Factored Shear (C-C, Kips):	260.2	0.38	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0037	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0037		
Lower Steel Pad Moment Capacity (L-Direction, Kips-ft):	6454.0	> Moment at Bottom (L-Dir. K-Ft):	1430.5	0.22	OK!
Lower Steel Pad Moment Capacity (W-Direction, Kips-ft):	6454.0	> Moment at Bottom (W-Dir. K-Ft):	1430.5	0.22	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	8992.8	> Moment at Bottom (C-C Dir. K-Ft):	2023.0	0.22	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0037	OK! Upper Steel Reinf. Ratio (W-Dir.):	0.0037		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	6454.0	> Moment at the top (L-Dir K-Ft):	673.8	0.10	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	6454.0	> Moment at the top (W-Dir K-Ft):	673.8	0.10	OK!
Upper Steel Pad Moment Capacity (Corner-Corner, K-ft):	8992.8	> Moment at the top (C-C Dir. K-Ft):	640.4	0.07	OK!
(3).Check Punching Shear Capacity due to Moment in the Pier:					
Moment transferred by punching shear:	2144.8	k-ft. Max. factored shear stress $v_{u,CD}$:	3.8	Psi	
Max. factored shear stress $v_{u,AB}$:	9.6	Psi Factored shear Strength ϕv_n :	164.3	Psi	
Max. factored shear stress v_u :	9.6	Psi Check Usage of Punching Shear Capacity:	0.06		OK!

Exhibit E

Mount Analysis



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Antenna Mount Analysis Report

Existing 158-Ft Monopole Tower
Customer Name: SBA Communications Corp
Customer Site Number: CT01080-S-SBA
Customer Site Name: Long Hill #1
Carrier Name: T-Mobile (App#: 193212-1)
Carrier Site ID / Name: CT11247E / Middletown
Site Location: 1279 Long Hill Road
Middletown, Connecticut
Middlesex County
Latitude: 41.511231
Longitude: -72.670744

Analysis Result:

Max Structural Usage: 84.1% [Pass]

Report Prepared By: Sandesh Khawas Bhujel





Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Antenna Mount Analysis Report

Existing 158-Ft Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT01080-S-SBA

Customer Site Name: Long Hill #1

Carrier Name: T-Mobile (App#: 193212-1)

Carrier Site ID / Name: CT11247E / Middletown

Site Location: 1279 Long Hill Road

Middletown, Connecticut

Middlesex County

Latitude: 41.511231

Longitude: -72.670744

Analysis Result:

Max Structural Usage: 84.1% [Pass]

Report Prepared By: Sandesh Khawas Bhujel

Introduction

The purpose of this report is to summarize the analysis results on the (1) Modified platform at 137.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Mount Drawings	Mount Mapping by Full Metal Tower Services, dated 04/26/2019.
Antenna Loading	SBA, Application #: 193212, v1, dated 4/5/2022
Existing Modifications	TES Job #80044, dated 7/1/2019

Analysis Criteria

Basic Wind Speed Used in the Analysis: $V_{ULT} = 130$ mph (3-Sec. Gust) / Equivalent to
 $V_{ASD} = 101$ mph (3-Sec. Gust)

Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 0.75" radial ice concurrent

Operational Wind Speed: 30 mph +0" Radial ice

Standard/Codes: ANSI/TIA/EIA 222-G / 2015 IBC

Exposure Category: C

Structure Class: II

Topographic Category: 1

Crest Height (Ft): 0

The site is a Risk Category II structure per IBC Table 1604.5. This site does not support emergency communication equipment for first responders such as fire departments, police, hospitals, ambulance services or any of the facilities listed for Risk Categories III and IV. The scope of work detailed in this structural analysis does not include items that are a part of emergency service as the 911 or essential facility service of an emergency response system.

Mount Information

(1) Modified platform at 137.00' elevation

Final Antenna Configuration

3	RFS APXVAARR24_43-U-NA20
3	Ericsson AIR6419 B41
9	Allen Telecom FE15501P77/75
3	Ericsson KRY 112 489/2
3	Ericsson 4449 B71 + B85
3	Kathrein Scala 782 11056
3	Ericsson 4460 B25 + B66

In addition to the proposed equipment loading, a 500 lb serviceability load was also considered in this analysis in accordance with TIA requirements.

Analysis Results

Our calculations have determined that under design wind load the existing mounts will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 84.1%, which occurs in the mount pipe. The proposed equipment must be installed as stipulated in the Final Antenna Configuration section of this report. The analysis results are void if the proposed equipment is not installed in accordance with this report.

Attachments

1. Mount Photos
2. Antenna Placement Diagram
3. Mount Mapping Information
4. Analysis Calculations

Standard Conditions

1. The loading configuration as analyzed in this report is as provided from the customer. Any deviation from this design shall be communicated to TES to verify deviation will not adversely impact the analysis.
2. The analysis is based on the presumption that the antenna mount members and components along with any existing reinforcement items have been correctly and properly designed, manufactured, installed and maintained.
3. All the existing structural members were assumed to be in good condition with no physical damage or deterioration associated with corrosion. The mount analysis is not a condition assessment of the mount.
4. The mount analysis was performed in accordance with the loading provided, and if applicable the modification required to support the additional loading.
5. If the mount is modified, installation must adhere to the configuration communicated in the modification drawings.
6. The modification drawings are not intended to convey means or methods. These are the responsibility of the installing contractor.
7. Rigging plan review is available if the contractor requires for a construction class IV or other if required. Review fee would apply.
8. The mount modification package was created based upon information provided for the mount loading. The underlying tower is assumed to provide support and sufficient rigidity to support the mount loads as a tower analysis was not part of the mount analysis.
9. TES is not responsible for modifications to climbing facilities unless communicated to TES in writing.



Structure: CT01080-S-SBA - Long Hill #1

Sector: A

4/6/2022

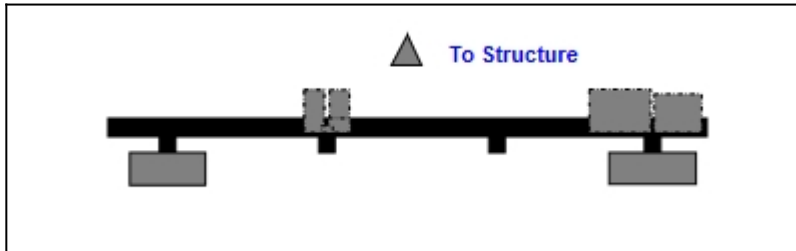
Structure Type: Monopole

Mount Elev: 137.00

Page: 1

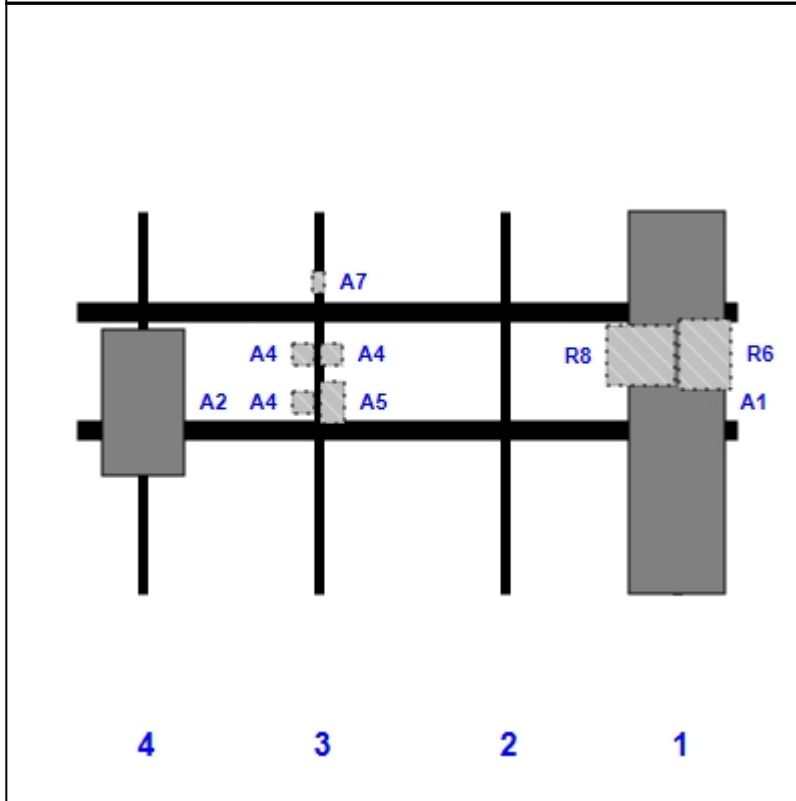


Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	APXVAARR24_43-U-NA20	95.90	24.00	151.00	1	a	Front	48.00		Retained	
R6	4449 B71 + B85	17.90	13.10	151.00	1	a	Behind	36.00	7.00	Added	
R8	4460 B25 + B66	15.10	17.00	151.00	1	a	Behind	36.00	-9.00	Retained	
A4	FE15501P77/75	5.40	5.50	61.00	3	a	Behind	36.00	-3.50	Retained	
A5	KRY 112 489/2	11.00	6.10	61.00	3	a	Behind	48.00	3.50	Retained	
A7	782 11056	5.50	3.20	61.00	3	a	Behind	18.00		Added	
A4	FE15501P77/75	5.40	5.50	61.00	3	b	Behind	36.00	3.50	Retained	
A4	FE15501P77/75	5.40	5.50	61.00	3	c	Behind	48.00	-3.50	Retained	
A2	AIR6419 B41	36.30	20.90	17.00	4	a	Front	48.00		Added	

Structure: CT01080-S-SBA - Long Hill #1

Sector: B

4/6/2022

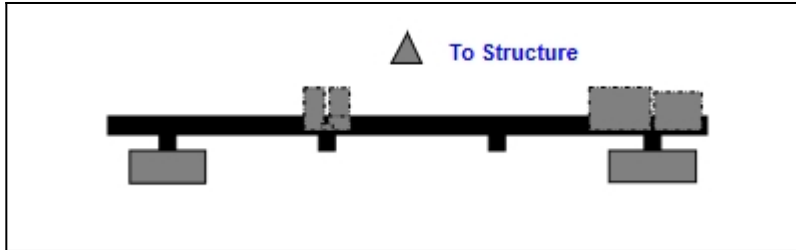
Structure Type: Monopole

Mount Elev: 137.00

Page: 2

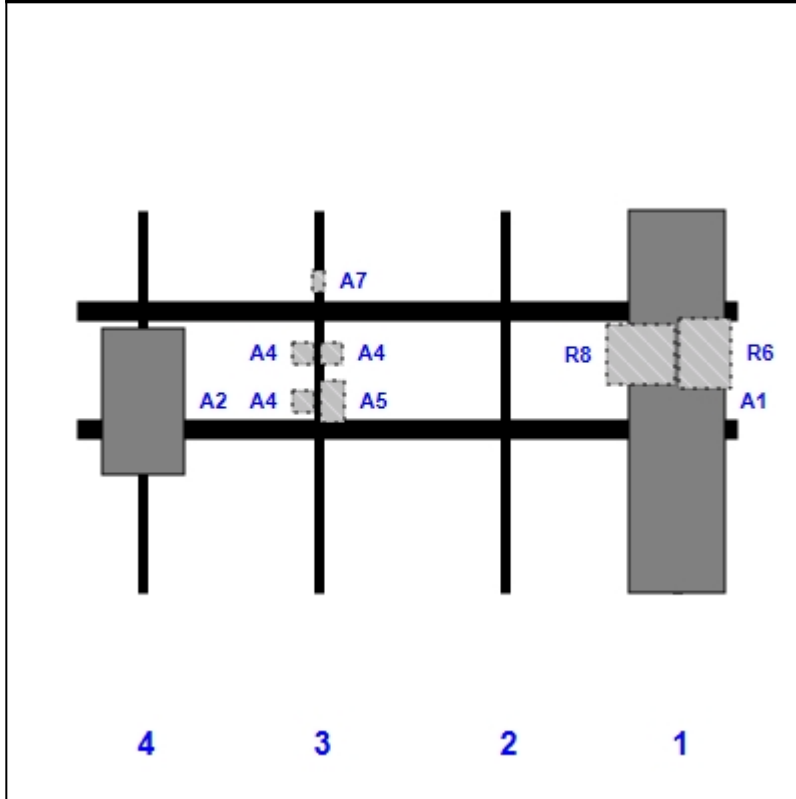


Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	APXVAARR24_43-U-NA20	95.90	24.00	151.00	1	a	Front	48.00		Retained	
R6	4449 B71 + B85	17.90	13.10	151.00	1	a	Behind	36.00	7.00	Added	
R8	4460 B25 + B66	15.10	17.00	151.00	1	a	Behind	36.00	-9.00	Retained	
A4	FE15501P77/75	5.40	5.50	61.00	3	a	Behind	36.00	-3.50	Retained	
A5	KRY 112 489/2	11.00	6.10	61.00	3	a	Behind	48.00	3.50	Retained	
A7	782 11056	5.50	3.20	61.00	3	a	Behind	18.00		Added	
A4	FE15501P77/75	5.40	5.50	61.00	3	b	Behind	36.00	3.50	Retained	
A4	FE15501P77/75	5.40	5.50	61.00	3	c	Behind	48.00	-3.50	Retained	
A2	AIR6419 B41	36.30	20.90	17.00	4	a	Front	48.00		Added	

Structure: CT01080-S-SBA - Long Hill #1

Sector: C

4/6/2022

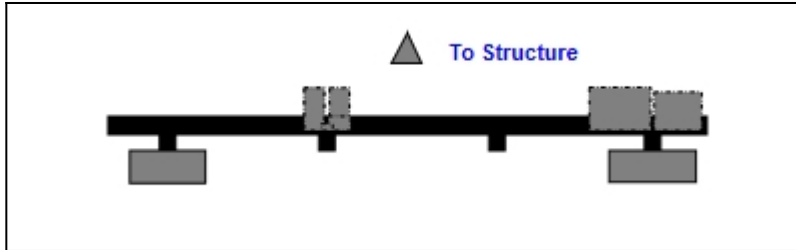
Structure Type: Monopole

Mount Elev: 137.00

Page: 3

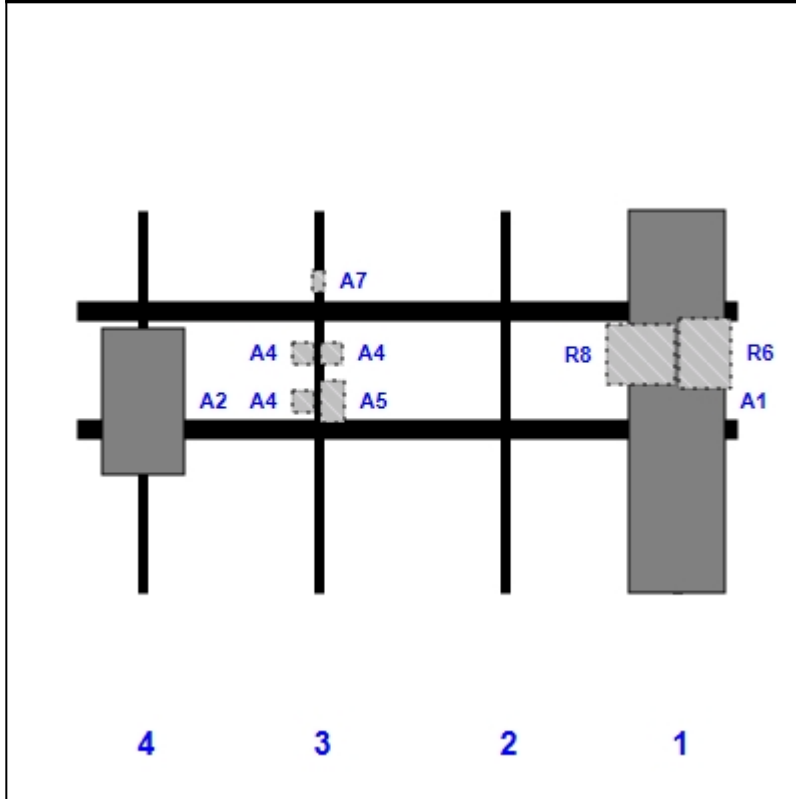


Plan View



Front View

Looking Toward Structure



Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	APXVAARR24_43-U-NA20	95.90	24.00	151.00	1	a	Front	48.00		Retained	
R6	4449 B71 + B85	17.90	13.10	151.00	1	a	Behind	36.00	7.00	Added	
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A4	FE15501P77/75	5.40	5.50	61.00	3	b	Behind	36.00	3.50	Retained	
A4	FE15501P77/75	5.40	5.50	61.00	3	c	Behind	48.00	-3.50	Retained	
A2	AIR6419 B41	36.30	20.90	17.00	4	a	Front	48.00		Added	

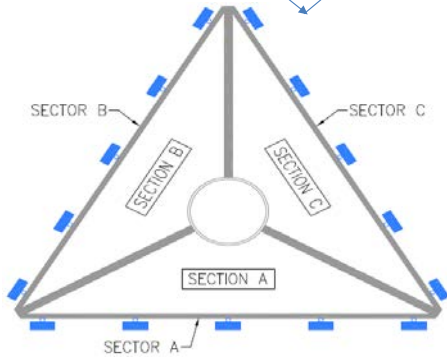
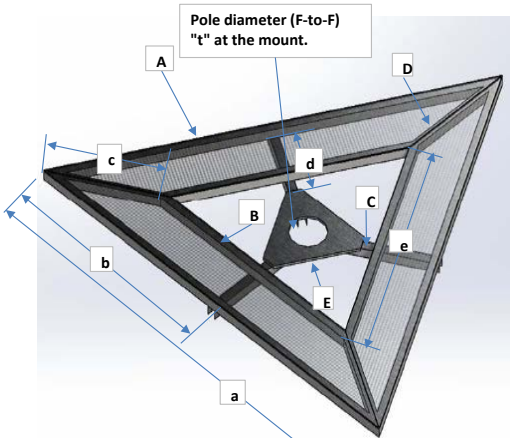


Antenna Mount Type "MT-U" Mapping Form (PATENT PENDING)

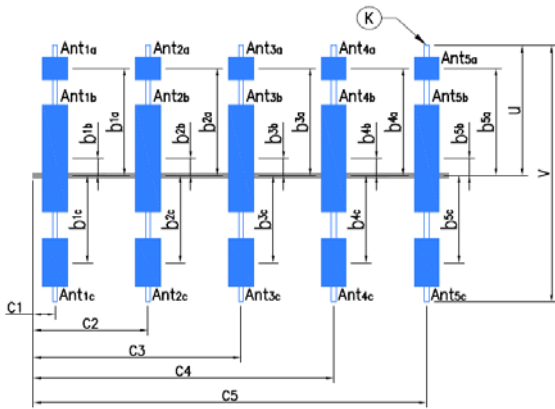
FCC #
1218900

Tower Owner:	SBA Communications	Mapping Date:	4/26/19
Site Name:	Long Hill #1	Structure Type:	Monopole
Site Number or ID:	CT01080-S-SBA	Structure Height (Ft.):	158
Mapping Contractor:	Full Metal Tower Services	Mount Height (Ft.):	138.6

This antenna mapping form is the property of TES and under **PATENT PENDING**. The formation contained herein is considered confidential in nature and is to be used only for the specific customer it was intended for. Reproduction, transmission, publication, modification or disclosure by any method is prohibited except by express written permission of TES. All means and methods are the responsibility of the contractor and the work shall be compliant with ANSI/ASSE A 10.48, OSHA, FCC, FAA and other safety requirements that may apply. TES is not warranting the usability of the safety climb as it must be assessed prior to each use in compliance with OSHA requirements.



Climbing ladder is Located at Section C, at 310° Degree Azimuth



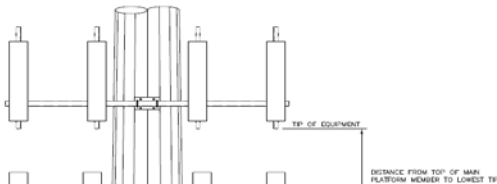
Antenna Layout

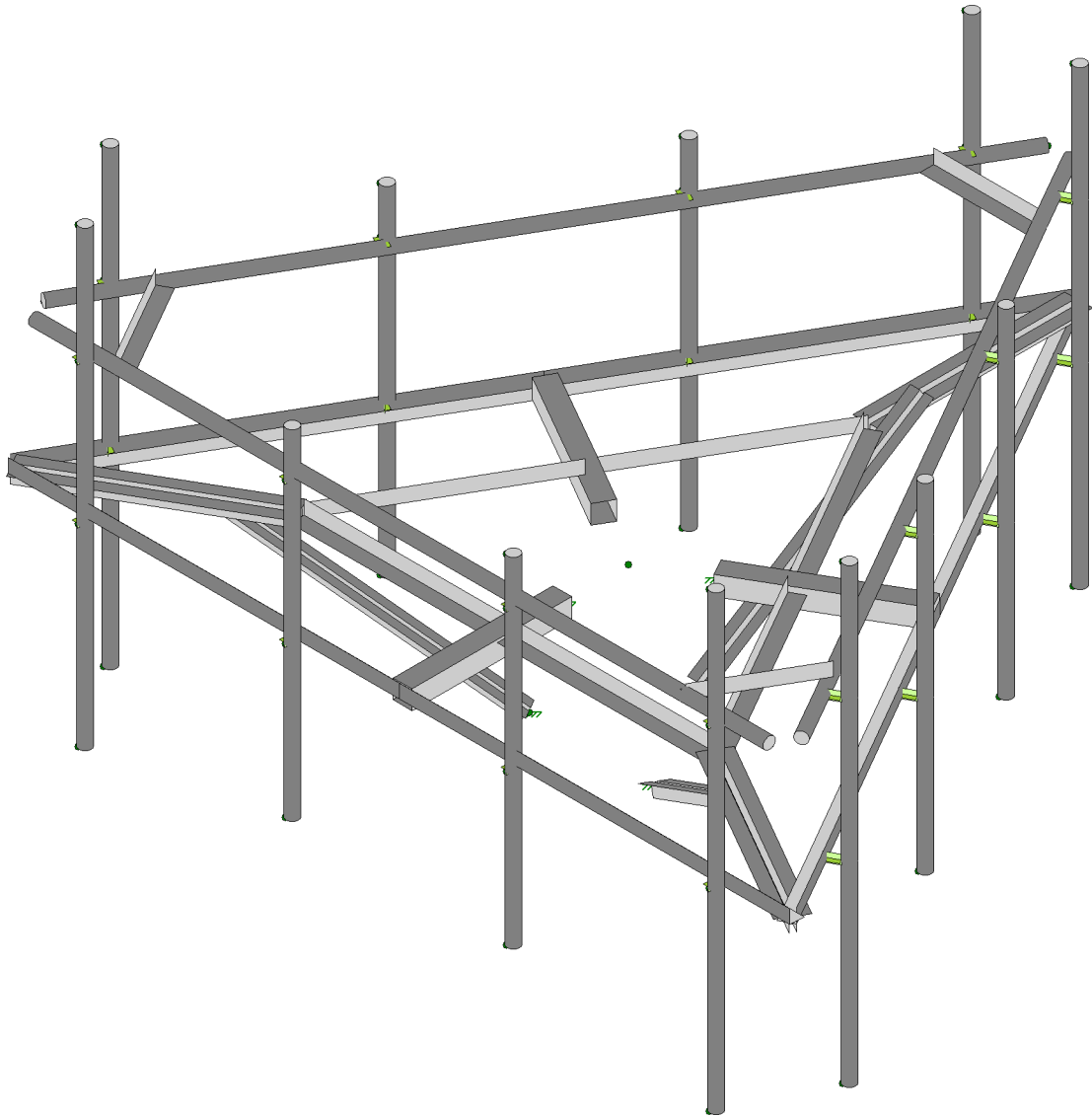
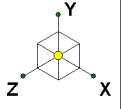
Geometries (Unit: inches)									
a	166	e	88	j	N/A	o	N/A	s	N/A
b	85	f	N/A	k	N/A	p	N/A	t	23
c	46	g	N/A	m	N/A	q	N/A	u*	46
d	34	h	N/A	n	N/A	r	N/A	v*	96
Members/Bolts (Unit: inches) * - See Ant. Layout for "u", "v" and member "K" (pipe)									
Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	L3x3x1/4	3	3	0.25	F				
B	L3x3x1/4	3	3	0.25	G				
C	Tubing 4x4x1/4	4	4	0.25	H				
D	L3x3x1/4	3	3	0.25	J				
E	1/2" Thick. Plate	0	0	0.5	K* (pipe)	2.375 OD x 0.154 Pipe	2.375	2.067	0.154
Distance from top of main platform member to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)									
4.5'									
Distance from top of main platform member to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)									
N/A									
Please enter the information below if members can't be found from the drop down lists									
Collar All-Thread: 3/4"x16"									

Ants. Items	Enter antenna model. If not labeled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.					Mounting Locations (Unit: inches)			Photos of antennas
	Antenna Models if Known	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Vertical Distances "b _{1a} , b _{2a} , b _{3a} , b _{1b} ..." (in.)	Horiz. offset (Use "-" if Ant. is inside)	Horiz. offset "C ₁ , C ₂ , C ₃ , C ₄ , C ₅ " (in.)	Photo Numbers
Sector A									
Ant _{1a}									
Ant _{1b}	Antenna A	12	7.5	96.5	1/2" (2)	+15"	7	17	
Ant _{1c}									
Ant _{2a}									
Ant _{2b}	Empty Mast	N/A	N/A	N/A	N/A	N/A	N/A	61	
Ant _{2c}									
Ant _{3a}									
Ant _{3b}	Empty Mast	N/A	N/A	N/A	N/A	N/A	N/A	108	
Ant _{3c}									
Ant _{4a}									
Ant _{4b}	Antenna B	7	3.5	73	1/2" (2)	+13"	6	151	
Ant _{4c}									
Ant _{5a}									
Ant _{5b}									
Ant _{5c}									
Are Ant same as sector A? Yes Antennas on Sector B are the same as Sector A									

Azimuth (Degree) of Each Sector and Climbing Information		
Sector A:	30°	Deg
Sector B:	200°	Deg
Sector C:	300°	Deg
Climbing:	310°	Deg Located at Section C
Climbing Facility	Corrosion Type:	No corrosion observed
	Access:	Climbing path was unobstructed.
	Condition:	N/A

Are Ant same as sector A/B? Same As A Antennas on Sector C are the same as Sector A





Tower Engineering Solutio...

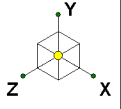
CT01080-S-SBA_MT_LO_Loads Only_G

SK - 1

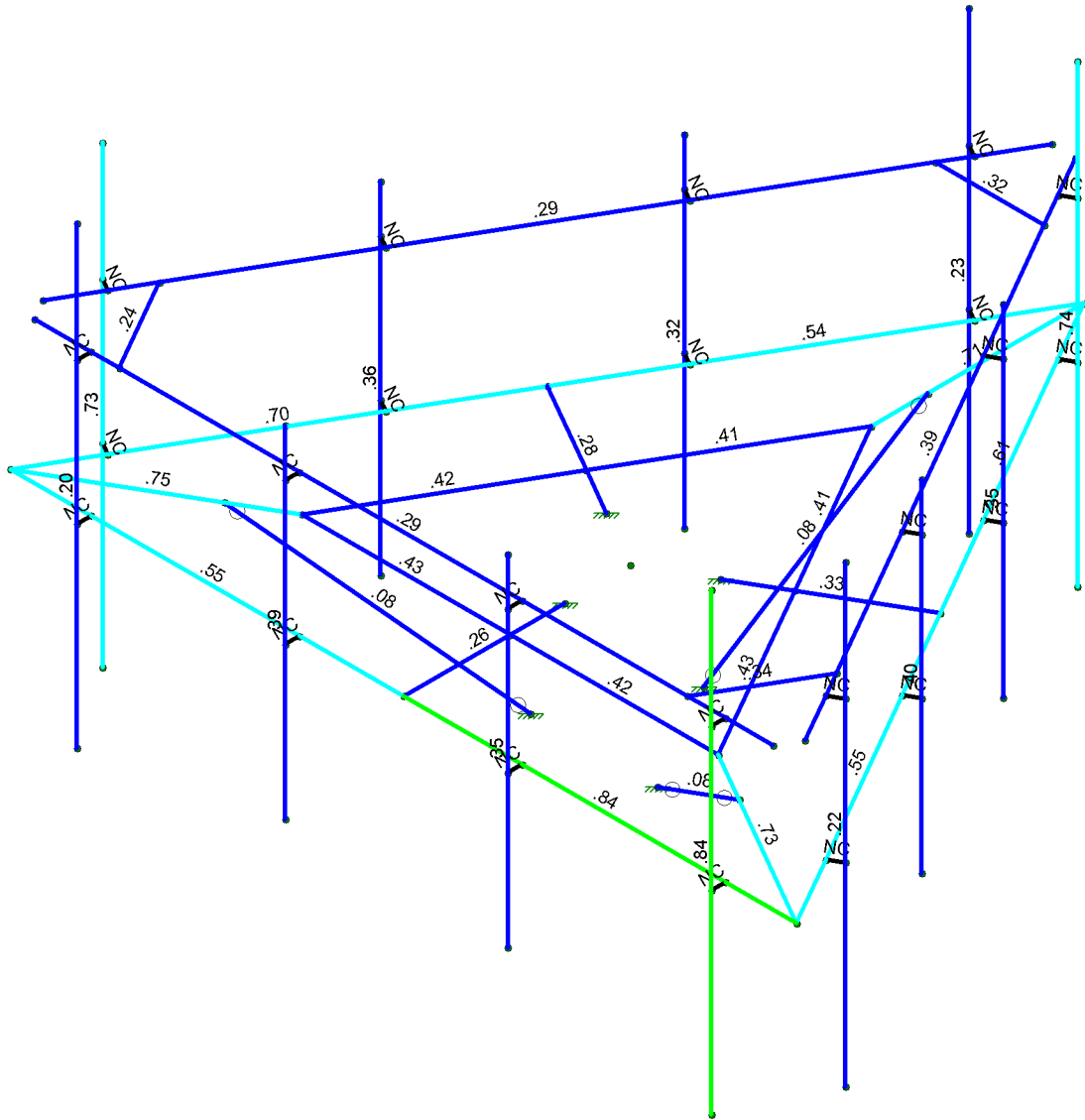
Apr 6, 2022 at 9:27 AM

TES Project No. 127327

CT01080-S-SBA_127327_G_RISA_...



Code Check (Env)	
Black	No Calc
Red	> 1.0
Magenta	.90-1.0
Green	.75-90
Cyan	.50-.75
Blue	0-.50



Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.6W (Front)

Tower Engineering Solutio...

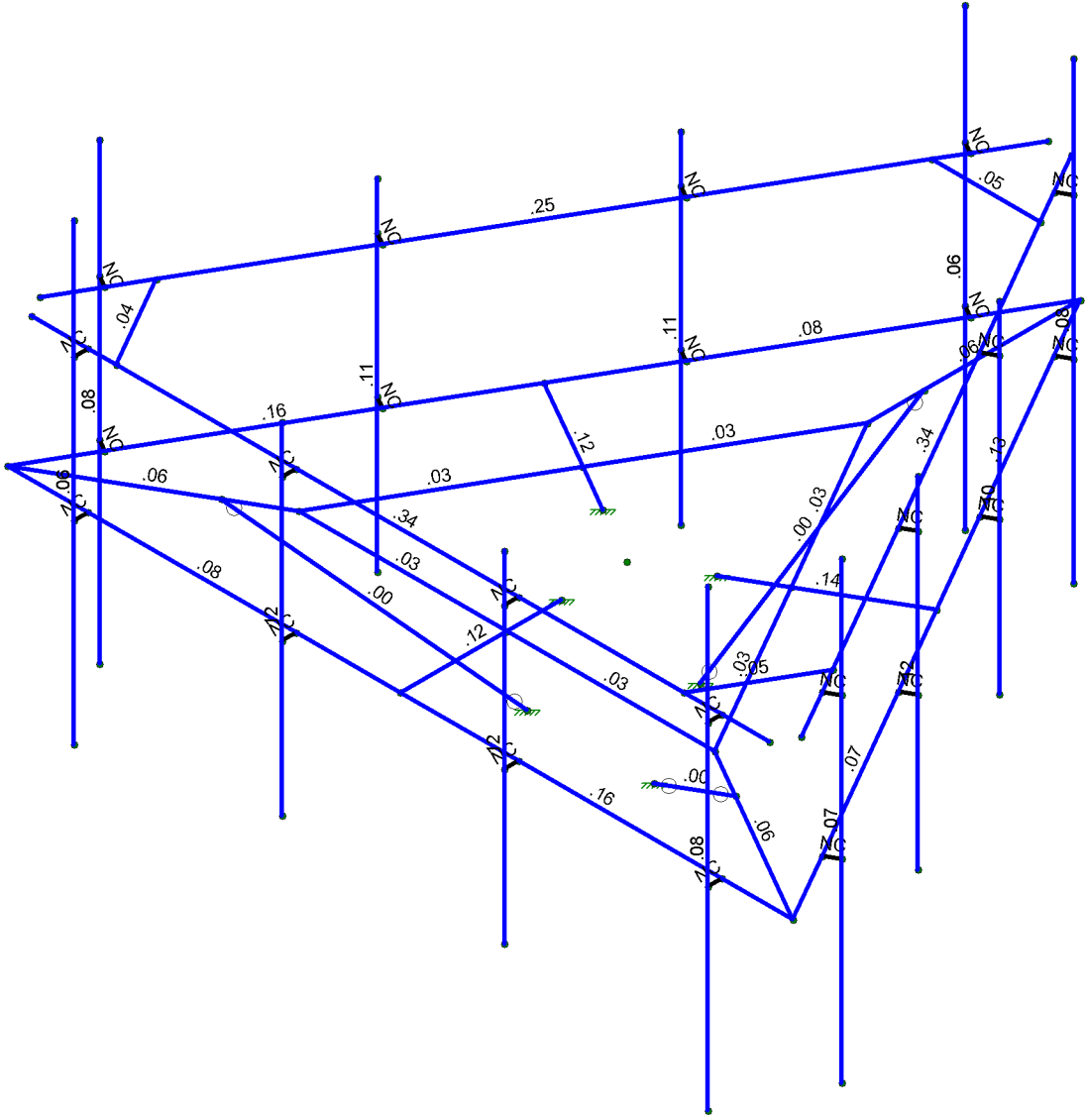
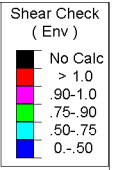
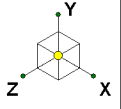
CT01080-S-SBA_MT_LO_Loads Only_G

SK - 2

Apr 6, 2022 at 9:27 AM

TES Project No. 127327

CT01080-S-SBA_127327_G_RISA_...



Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.6W (Front)

Tower Engineering Solutio...		SK - 3
	CT01080-S-SBA_MT_LO_Loads Only_G	Apr 6, 2022 at 9:27 AM
TES Project No. 127327		CT01080-S-SBA_127327_G_RISA_...



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	Šaa^	YÄca	YÄca	ZÄca	V^ ÄÖa	Ö^ca&Ö { / Öa} E
FH	PUF	I E I I I I	I E I H H H	I E G H H U	€	
FI	PUG	I E I I I I	E E F I I I	I E G H H U	€	
FÍ	PUH	G E I H H H	H E H H H H	I E G H H U	€	
FĪ	PUI	G E I H H H	E G E I I I I	I E G H H U	€	
FĪ	PÚÍ	E E E H H H	H E H H H H	I E G H H U	€	
FĪ	PŪÍ	E E E H H H	E G E I I I I	I E G H H U	€	
FJ	PŪÍ	E E	I E I H H H	I E G H H U	€	
Œ	PŪÍ	E E	E E F I I I	I E G H H U	€	
GF	PĤ	I E I I I I	€	I E G H H U	€	
GG	PĤ	G E I H H H	€	I E G H H U	€	
GH	PĤJ	E E E H H H	€	I E G H H U	€	
G	PÍ€	E E	€	I E G H H U	€	
Ḡ	PÍJ	€	€	G E F I J F	€	
Ḡ	PÍ€	F E H H H H	€	E E I I I I	€	
Ḡ	PÍF	E E E H H H	€	E E I I I I	€	
Ḡ	PÍG	€	€	E E G H U G	€	
GJ	PÍH	€	€	€	€	
H€	PÍÍ	€	E E	E E G E I H	€	
HF	PÍÍÖ	E E H G J G	€	G E F I J F	€	
HG	PÍÍ	E E F I I I	E E	E E I G F	€	
HH	PÍÍ	I E H G J G	€	G E F I J F	€	
H	PÍÍ	F E F I I I	E E	E E I G F	€	
H̄	PÍJ	E E	G E	H E J H H U	€	
H̄	PÍ€	I E	G E	H E J H H U	€	
H̄	PÍF	I E G H H H	G E	H E H G J I	€	
H̄	PÍG	E G G H H H	G E	E E G I H	€	
HJ	PÍH	E E G H H H	G E	E E G I H	€	
I€	PÍÍ	E E G H H H	G E	H E H G J I	€	
IF	PÍÍ	I E I I I I	G E	I E G H H U	€	
IG	PÍÍ	G E I H H H	G E	I E G H H U	€	
IH	PÍÍ	E E E H H H	G E	I E G H H U	€	
IÍ	PÍÍ	E E	G E	I E G H H U	€	
IĪ	PÍÍ	E	G E	H E J H H U	€	
IĪ	PÍÍ	I	G E	H E J H H U	€	
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IJ	PÍF	E E I I H H	G E	E E G I J I	€	
I€	PÍG	E E I I H H	G E	G E H I I I	€	
ÍF	PÍFÖ	I E I I I I	€	H E J H H U	€	
ÍG	PÍÖE	G E I H H H	€	H E J H H U	€	
ÍH	PÍHÖ	E E E H H H	€	H E J H H U	€	
ÍÍ	PÍÍ	E E	€	H E J H H U	€	
ÍĪ	PÍÍÖ	I E I I I I	G E	H E J H H U	€	
ÍĪ	PÍÍÖ	G E I H H H	G E	H E J H H U	€	
ÍĪ	PÍÍÖ	E E E H H H	G E	H E J H H U	€	
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ÍG	PÍÖE	G E H F I H	E G E I I I I	E E G I I J	€	
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ÍÍ	PÍÍÓE	ÉÉIFIÉ	€	ÉÉGFII	€	
ÍÍ	PÍÍÓE	GÉHFÍH	€	ÉÉGÍIJ	€	
ÍJ	PÍJ	IÉJFIÉ	€	ÉÉHUÍÍ	€	
Í€	PÍ€	IÉGII	€	GÉIFIÍ	€	
ÍF	PÍF	ÉÉIFIÉ	GÉ	ÉÉGFII	€	
ÍG	PÍG	GÉHFÍH	GÉ	ÉÉGÍIJ	€	
ÍH	PÍH	IÉJFIÉ	GÉ	ÉÉHUÍÍ	€	
ÍI	PÍI	IÉGII	GÉ	GÉIFIÍ	€	
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ÍÍ	PÍÍÓE	IÉÍ	€	ÉÉÉJÍ	€	
ÍÍ	PÍÍÓE	IÉÉHH	€	GÉÍÍÍ	€	
ÍJ	PÍJÓE	ÉÉÍ	GÉ	ÉÉÉFIÍ	€	
Í€	PÍ€ÓE	GÉFIÍÍ	GÉ	ÉÉÉÍJ	€	
ÍF	PÍFÓE	IÉÍ	GÉ	ÉÉÉJÍ	€	
ÍG	PÍGÓE	IÉÉHH	GÉ	GÉÍÍÍ	€	
ÍH	PÍH	ÉÉÉFIH	IÉIHHH	GÉÍÍÉ	€	
ÍI	PÍI	ÉÉÉFIH	ÉÉFIÍÍ	GÉÍÍÉ	€	
ÍÍ	PÍÍ	ÉÉFIÉ	HÉHHH	ÉÉFIÍ	€	
ÍÍ	PÍÍ	ÉÉFIÉ	ÉÉÍÍÍ	ÉÉFIÍ	€	
ÍÍ	PÍÍ	ÉÉÍFIH	HÉHHH	ÉÉÉHÍH	€	
ÍÍ	PÍÍ	ÉÉÍFIH	ÉÉÍÍÍ	ÉÉÉHÍH	€	
ÍJ	PÍJ	ÉÉGII	IÉIHHH	ÉÉÍÍÉ	€	
J€	PJ€	ÉÉGII	ÉÉFIÍÍ	ÉÉÍÍÉ	€	
JF	PJF	ÉÉÉFIH	€	GÉÍÍÉ	€	
JG	PJG	ÉÉFIÉ	€	ÉÉFIÍ	€	
JH	PJH	ÉÉÍFIH	€	ÉÉÉHÍH	€	
JI	PJI	ÉÉGII	€	ÉÉÍÍÉ	€	
JÍ	PJÍ	ÉÉÉFIH	GÉ	GÉÍÍÉ	€	
JÍ	PJÍ	ÉÉFIÉ	GÉ	ÉÉFIÍ	€	
JÍ	PJÍ	ÉÉÍFIH	GÉ	ÉÉÉHÍH	€	
JÌ	PJÌ	ÉÉGII	GÉ	ÉÉÍÍÉ	€	
JJ	PJJ	ÉÉGFII	€	GÉFEÉ	€	
F€€	PF€€	ÉÉ	€	ÉÉJGÍ	€	
F€F	PF€F	ÉÉIFIÍ	€	ÉÉÍHÍH	€	
F€G	PF€G	ÉÉÉHH	€	ÉÉÍJÍÉ	€	
F€H	PF€H	ÉÉGFII	GÉ	GÉFEÉ	€	
F€I	PF€I	ÉÉ	GÉ	ÉÉJGÍ	€	
F€Í	PF€Í	ÉÉIFIÍ	GÉ	ÉÉÍHÍH	€	
F€Ì	PF€Ì	ÉÉÉHH	GÉ	ÉÉÍJÍÉ	€	

<chFc`YX'GhYY'GYW]cb'GYlg

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F	PÜ	ÚQÚÓGÉ	Ó•æ	Úã ^	GÉHÓ:ÉÓ	V^] aæ	FÉEG	ÉÉ	ÉÉ	FÉG
G	Ó } áÁÓ [] }	ŠHÝHYI	Ó•æ	Úã * ^ Ó * ^	GÉHÓ:ÉH	V^] aæ	FÉI	FÉH	FÉH	ÉHF

9bj YcdY>c]bhFYUM]cbg]f7 cb]hbi YXL

	Rǎ c	Yǎǎá	ŠÓ	Yǎǎá	ŠÓ	Zǎǎá	ŠÓ	T Yǎǎ Écǎ	ŠÓ	T Yǎǎ Écǎ	ŠÓ	T Zǎǎ Écǎ	ŠÓ	
Í		{ ǎ	ÉGHÉIG	H	FHÉJÍ	H	ÉÉÉÉ	G	ÉGÍ	H	ÉÉJ	G	ÉÉG	Í
Ì	PIÍ	{ æ	ÉHFÉÉ	H	GÍÉÉF	Ì	FJFGÉH	Ì	É	Ì	É	H	É	H
Î		{ ǎ	ÉHÉFGÍ	Í	HÉHÉÍ	H	GÍHÉÍ	H	É	H	É	Ì	É	Ì
J	PIÍ	{ æ	HGÍÉUG	Í	GÍÍÉG	Í	FJÉHÉH	Í	É	F	É	F	É	F
F€		{ ǎ	ÍÍGÉFG	Ì	ÍGÉÉÍ	Ì	HFHÉG	Ì	É	G	É	G	É	G
FF	PIÍ	{ æ	ÍÍÉGJ	Ì	GÍFÍÉ	Í	ÉÍÉHÍF	G	É	FF	É	Ì	É	H
FG		{ ǎ	ÉÍÉHG	H	GÍÉHÍ	G	ÉHÍFGÉ	Í	É	F	É	H	É	Ì
FH	V[ǎǎ K	{ æ	ÍJJÉÍF	Ì	JFÍÉÍ	Í	ÍFÍHÉHG	F						
FI		{ ǎ	ÉJJÉÍH	H	HHFÉIF	F	ÉFÍHÉHG	G						

9bj YcdYA Ya VyfGYM]cbˆ: cfWg

	T ǎ ǎ!	Ú&	Óǎǎǎá	ŠÓ	ǎÁ@ǎǎá	ŠÓ	ǎÁ@ǎǎá	ŠÓ	V[] ǎǎ ŠÓ	ǎÁ [] ǎǎ ŠÓ	ǎÁ [] ǎǎ ŠÓ				
F	TF	F	{ æ	FÉÉÍ	G	ÍGHÉFJ	G	ÍÉÉGF	J	ÉÉ	J	ÉGH	F	ÉÉJ	G
G			{ ǎ	ÉJÍÉÍ	F	ÉÍÉHÍ	F	ÉÍÉÉ	F	ÉÉ	G	ÉJ	G	ÉÉGH	Í
H		G	{ æ	FÉÉJ	G	HÉÍG	H	FÍÉÉH	Ì	ÉÉG	F	ÉÍ	G	ÉÍ	H
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Í		H	{ æ	FÉÉJ	G	HÉÍ	F	FHÉGÍ	Ì	ÉÉG	F	ÉG	G	ÉH	F
Î			{ ǎ	ÉÍJÉHU	F	ÉÍÉHÍ	G	ÉHÉJH	H	ÉÉH	G	ÉÉÍ	F	ÉHÍ	G
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J		Í	{ æ	FÍÉÉÍ	G	ÍHÉ	F	ÉJÉHÍ	Ì	ÉFG	G	ÉÍ	F	ÉFF	G
F€			{ ǎ	ÉÍHÉJ	F	ÉGÉÉÍ	G	ÉHÉÉG	Ì	ÉÉFG	F	ÉÉF	G	ÉÍ	Ì
FF	TG	F	{ æ	FJÍHÉÍ	H	GÍÉÍG	H	ÍHÉGÍ	Ì	ÉÉ	Í	ÉÍ	Ì	ÉÉÍ	F
FG			{ ǎ	ÉGÍÉÍ	Ì	ÉHÉHÍ	Ì	ÉHÉH	Ì	ÉÉG	F	ÉÍG	Ì	ÉÉJG	Í
FH		G	{ æ	FÍÉÉÍ	H	HÉÍG	F	FÍÉH	G	ÉÉG	Ì	ÉGÍ	F	ÉÍ	Ì
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FÍ			{ ǎ	ÉÉÉÉG	Ì	ÉHÉÉ	H	ÉÍJÉU	F	ÉÉH	H	ÉÉÍ	Ì	ÉHÍ	H
FÍ		Ì	{ æ	FHÉH	H	HGÉÍF	Ì	GÉH	G	ÉÉ	H	ÉÍ	F	É	F
FÌ			{ ǎ	ÉÍFÉÍ	Ì	ÉHÉÉG	H	ÉÍÉJF	Í	ÉÉF	G	ÉHÍ	G	ÉHÍ	G
FJ		Í	{ æ	F FFÉHÍ	H	HÍJÉH	Ì	FFÉG	G	ÉÉ	H	ÉÍ	Ì	ÉÉÍ	H
G€			{ ǎ	ÉÍGJÉG	Ì	ÉHÉÉUF	H	ÉÉÉHÍ	Ì	ÉÉF	G	ÉGÍ	Ì	ÉÉÍ	Ì
GF	TH	F	{ æ	FJHÉÍJ	F	HÍFÉÍ	Ì	ÍÉÉHÍ	Ì	ÉÉ	H	ÉÍJ	H	ÉÉGF	Ì
GG			{ ǎ	ÉGHÉUG	G	ÉGÉHÉF	H	ÉUÉÍ	H	ÉÉ	Ì	ÉÍ	Ì	ÉÉF	Ì
GH		G	{ æ	FÍÍÉH	F	GÍÉÍ	Ì	FHÉGJ	H	ÉÉG	H	ÉÍ	Ì	ÉÉJ	G
G			{ ǎ	ÉJÍÉFG	G	ÉHÉJ	H	ÉÉÉÍ	Ì	ÉÉG	Ì	ÉGÍ	H	ÉGJ	F
G		H	{ æ	FÍHÉG	F	HÉÍ	G	FFÉÍG	H	ÉÉG	H	ÉG	Ì	ÉÉÍ	H
G			{ ǎ	ÉJHÍÉÉ	G	ÉÍÉH	F	ÉGÉHÍ	Ì	ÉÉG	Ì	ÉÉÍ	H	ÉHÍ	G
G		Ì	{ æ	FÍÍÉG	Ì	GJÉFH	H	ÉHÉÍ	H	ÉF	Ì	ÉFÍ	Ì	ÉHG	G
G			{ ǎ	ÉÍFGÉÍ	H	ÉJÉJ	Ì	ÉJÉJ	Ì	ÉÉH	H	ÉHÍ	H	ÉÉJ	F
GJ		Í	{ æ	FJJÉÉ	Ì	HHÉÉG	H	ÉHÉJ	H	ÉF	Ì	ÉFI	H	ÉFÍ	Ì
H€			{ ǎ	ÉHÍÉG	H	ÉHGÉÍ	Ì	ÉÍFÉÉ	Ì	ÉÉH	H	ÉHÍ	Ì	ÉHÍ	Ì
HF	TI	F	{ æ	JÍGÉÍ	F	ÍÍÉG	Ì	ÍÉÉÍ	H	ÉÉ	J	ÉÉÍ	Ì	HÉGF	Í
HG			{ ǎ	ÉHÉÍ	G	FJFÉ	Ì	ÉÍGÉÍG	Ì	ÉÉJ	F€	ÉGÉÍ	H	ÉHU	F
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HÍ			{ ǎ	ÉHÉÍ	G	HÉGÍ	F	ÉJHÉG	H	ÉHÍ	J	ÉÉFÍ	Ì	ÉHÍ	F
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9bj YcdYA Ya Vyf GYW]cb: cfWg f7 cbh]bi YXL

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JF	TFE	F	{ æ	GHI EU	H	I E E I I	I	E E H	F	€	I	E J	H	E I I	I
JG			{ ä	E H U I E I I	I	I H E I I	H	E G E H H	I	€	H	E G I	I	E U I	H
JH		G	{ æ	GHI EU	H	H I I E I J	I	E I E E F	F	€	I	E H	H	E I G	I
JI			{ ä	E H U I E I I	I	I G E J H	H	E G E I G	I	€	H	E H G	I	E E I	H
JÍ		H	{ æ	GHI EU	H	H I I G I	I	E I E H I	I	€	I	E F G	H	E I F	I
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Jĵ			{ ä	E H U I E I I	I	G E I J I	H	E G E E H	I	€	H	E E G	H	E I J	I
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Jķ			{ ä	E U I G E I I	G	I H E I I	I	E G E E H I	I	€	I	E G H	G	E H G	I
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Jŀ		H	{ æ	F J G E U I	F	H H E I F	I	F E H	G	€	F E	E G F	F	E I I	H
JŁ			{ ä	E U I I E I I	G	I F E I I	I	E G E E G	I	€	I	E E H	G	E E U	I
Jł		I	{ æ	F J I E E F H	F	H E E I I	I	H E H	G	€	F E	E I	G	E I G	H
JŃ			{ ä	E U I I E E	G	I E E I	I	E G E E H	I	€	I	E E H	F	E G	I
Jń		Í	{ æ	F J I F E H F	F	G U G E H I	I	G E E H	H	€	F E	E J	H	E E G	H
JŅ			{ ä	E E E U E G	G	I I E G I	I	E G E E G G	I	€	I	E E	I	E I G	I
Jņ	TFG	F	{ æ	G I E E E F	G	H U G E G H	I	I I E E H	H	€	I	E U J	I	E G	I
JŇ			{ ä	E I I G E H F	F	I H E E F	G	E F I E F I	I	€	H	E G	H	E I H	G
Jň		G	{ æ	G I G E H G	G	H I F E H I	I	I I E E I	H	€	I	E I H	I	E I G	I
Jŉ			{ ä	E H I I E I	F	I G E H F	G	E G E E I I	I	€	H	E E H F	H	E E I	G
Jġ		H	{ æ	G J I E U	G	H G E I H	I	G E E I	H	€	I	E F H	I	E I I	F
JĢ			{ ä	E H I I E I I	F	H F E I G	G	E G E E J I	I	€	H	E E H	H	E E F H	G
Jģ		I	{ æ	G E E E I I	G	G U I E I I	I	I E E F	H	€	I	E I F	I	E G	F
Jĵ			{ ä	E H I I E I I	F	G E E G G	G	E F J I E H I	I	€	H	E E G	G	E G J	I
Jĵ		Í	{ æ	G F E E I I	G	G H E G H I	I	E I E E I	H	€	I	E I G	F	E E I	H
JŇ			{ ä	E H I J E E	F	F I E H G	G	E F J H E I	I	€	H	E E J	G	E I H	I
JŰ	T U F O E	F	{ æ	€	I	E G H	I	E I I	F	€	I	€	F E	€	FF
Jű			{ ä	€	F	E E G	I	E E G	I	€	I	€	F	€	F
JŲ		G	{ æ	H F I E I	I	G U E E I	I	I G E E G	F	€	I	E G	F	E U F	H
Jų			{ ä	I I E H	I	E U E E H F	H	E G E E F I	G	€	I	E G	G	E G F	I
JŴ		H	{ æ	I J E E I I	G	I G E H E I	I	I I E E G	F	E J	H	F E I	F	E I	H
Jŵ			{ ä	E G E E F I	F	E G I E U G	H	E F I E J I	G	E E H	I	E E F I	G	E E H I	I
JŶ		I	{ æ	E I E H	G	G U E G J	H	I G E I I	G	€	H	E G	F	E U	H
Jŷ			{ ä	E F I E I	I	E U E E G I	I	E G E E J I	F	€	I	E G	G	E G	I
JŸ		Í	{ æ	€	I	E G	I	E F J	F	€	H	€	FF	€	FF
JŹ			{ ä	€	F	E E F I	H	E I I	G	€	I	€	F	€	F
JŰ	T U G O E	F	{ æ	€	FF	E E I	I	E E I	F	€	I	€	FF	€	FF
Jű			{ ä	€	I	E E E I	I	E E I	I	€	I	€	F	€	F
JŲ		G	{ æ	G J E I I	I	I I I E F F	I	I H E F I	F	E F I	F	E J I	I	E I	I
Jų			{ ä	G E G H	H	E G E E G	H	E H E I I	G	E E H	H	E E G	F	E E F	H
JŴ		H	{ æ	G I E I	I	I E E I I	I	J I E I I	F	E F I	F	E F I	I	E I I	H
Jŵ			{ ä	H E E H F	H	E G H G G	H	E I E E H	G	E E H	H	E E F I	G	E E J I	I
JŶ		I	{ æ	E E G I	F E	G F E H	H	G F E J I	G	€	I	E E I	F	E E I	H
Jŷ			{ ä	E J E G I	I	E G F E H	I	E G F E H	F	€	I	E E F I	G	E E F I	I
JŸ		Í	{ æ	€	FF	E I F	I	E I I	I	€	I	€	FF	€	FF
JŹ			{ ä	€	F	E E E I	I	E E I	F	€	I	€	F	€	F
JŰ	T U H O E	F	{ æ	€	FF	E E I	I	E E I	F	€	H	€	FF	€	FF
Jű			{ ä	€	I	E E E I	H	E E F I	G	€	I	€	F	€	F



Ô{ }æ^ K V[, ^I\A) *ã^A\ã *ÁU{ }ç) •ÆSSÔ
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 RãÁ~{ à^I K VÒUÁU{ }b&ÁP[ÆFG[HÇ
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G €			{ ä IÍ HÇ IÍ	I	ÈÈ HÈ F I	I	ÈÈ È J	G	ÈÈ EF	G	€	F	€	F
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G G			{ ä €	F	€	F	€	F	€	F	€	F	€	F
G H		G	{ æ GG È I F	H	JGÈ I	I	I I È J I	H	ÈÈ I G	F	ÈÈ J I	I	ÈÈ I	H
G I			{ ä È I È H	I	ÈÈ I È I	H	ÈÈ HÈ È I	I	ÈÈ I	G	ÈÈ G	H	ÈÈ G	I
G I		H	{ æ È I È I J	G	FG È I I	I	I I È I	H	ÈÈ F J	H	ÈÈ H	F	ÈÈ G	I
G I			{ ä È I HÈ I	I	ÈÈ HÈ I J	H	ÈÈ È I I	I	ÈÈ H	I	ÈÈ	G	ÈÈ F	H
G I		I	{ æ HÈ È H	I	G I È G H	I	I HÈ J I	H	ÈÈ	G	ÈÈ H	F	ÈÈ FG	I
G I			{ ä È I FÈ I I	H	ÈÈ FÈ È G	H	ÈÈ È È I	I	ÈÈ G H	F	ÈÈ J	G	ÈÈ È I	H
G J		I	{ æ €	FF	€	FF	€	FF	€	FF	€	FF	€	FF
G €			{ ä €	F	€	F	€	F	€	F	€	F	€	F
G F	TH	F	{ æ €	FF	ÈÈ F I	G	ÈÈ F	I	€	FF	€	FF	€	FF
G G			{ ä €	F	€	FÈ	ÈÈ F I	G	€	F	€	F	€	F
G H		G	{ æ G I È H F	F	FGÈ I F	G	I I È G J	F	ÈÈ F H	G	ÈÈ I	G	ÈÈ I	F
G I			{ ä È I È H J	G	ÈÈ È È H	F	ÈÈ I È I G	G	ÈÈ È I	F	ÈÈ È I	F	ÈÈ H	G
G I		H	{ æ FFÈ H	H	FF È I	G	H È È G	I	ÈÈ G F	I	ÈÈ H	I	ÈÈ H	G
G I			{ ä È I J È I I	I	ÈÈ HÈ I G	F	ÈÈ È J	H	ÈÈ G	H	ÈÈ H	H	ÈÈ F	F
G I		I	{ æ I G È I I	H	G F È G H	G	I I È F	F	ÈÈ I	H	ÈÈ I	I	ÈÈ F H	I
G I			{ ä È I FÈ È F	I	ÈÈ G È FG	F	ÈÈ FÈ I	G	ÈÈ J I	I	ÈÈ I	H	ÈÈ G	I
G J		I	{ æ €	FF	€	I	ÈÈ FF	H	€	FF	€	FF	€	FF
G €			{ ä €	F	ÈÈ G G	F	ÈÈ È I	F	€	F	€	F	€	F
G F	TH	F	{ æ €	FF	ÈÈ F I	F	€	I	€	FF	€	FF	€	FF
G G			{ ä €	F	€	J	ÈÈ F I	I	€	F	€	F	€	F
G H		G	{ æ GG È I I	I	I FÈ FF	F	I HÈ J I	G	ÈÈ I G	H	ÈÈ G H	H	ÈÈ F	I
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Exhibit F

Power Density/RF Emissions Report

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

T-Mobile Existing Facility

Site ID: CT11247E

Middletown
1279 Long Hill Road
Middletown, Connecticut 06457

April 27, 2022

EBI Project Number: 6222002978

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	21.84%

April 27, 2022

T-Mobile

Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CT11247E - Middletown

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1279 Long Hill Road** in **Middletown, Connecticut** 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 population 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 population 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 limits for the 600 MHz and 700 MHz frequency bands are approximately $400 \mu\text{W}/\text{cm}^2$ and $467 \mu\text{W}/\text{cm}^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency 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 1279 Long Hill Road in Middletown, Connecticut 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 manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, 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 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.
- 3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 4) 4 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.
- 5) 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.
- 6) 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.

- 7) I LTE Traffic channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.
- 8) I LTE Broadcast channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.
- 9) I NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.
- 10) I NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.
- 11) 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.
- 12) 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 manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, 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.
- 13) The antennas used in this modeling are the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector A, the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector B, the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6419 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, 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.

- 14) The antenna mounting height centerline of the proposed antennas is 137 feet above ground level (AGL).
- 15) 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.
- 16) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXVAARR24_43- U-NA20	Make / Model:	RFS APXVAARR24_43- U-NA20	Make / Model:	RFS APXVAARR24_43- U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.35 dBd / 15.65 dBd / 15.65 dBd / 16.35 dBd
Height (AGL):	137 feet	Height (AGL):	137 feet	Height (AGL):	137 feet
Channel Count:	13	Channel Count:	13	Channel Count:	13
Total TX Power (W):	560.00 Watts	Total TX Power (W):	560.00 Watts	Total TX Power (W):	560.00 Watts
ERP (W):	18,052.03	ERP (W):	18,052.03	ERP (W):	18,052.03
Antenna A1 MPE %:	4.96%	Antenna B1 MPE %:	4.96%	Antenna C1 MPE %:	4.96%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419	Make / Model:	Ericsson AIR 6419
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd	Gain:	22.05 dBd / 15.55 dBd / 22.05 dBd / 15.55 dBd
Height (AGL):	137 feet	Height (AGL):	137 feet	Height (AGL):	137 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts	Total TX Power (W):	240.00 Watts
ERP (W):	31,011.95	ERP (W):	31,011.95	ERP (W):	31,011.95
Antenna A2 MPE %:	6.50%	Antenna B2 MPE %:	6.50%	Antenna C2 MPE %:	6.50%

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	11.46%
Nextel	0.4%
Sprint	0.32%
Clearwire	0.09%
Verizon	2.26%
Metro PCS	0.56%
AT&T	6.75%
Site Total MPE % :	21.84%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	11.46%
T-Mobile Sector B Total:	11.46%
T-Mobile Sector C Total:	11.46%
Site Total MPE % :	21.84%

T-Mobile Maximum MPE Power Values (Sector A)							
T-Mobile Frequency Band / Technology (Sector A)	# 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 600 MHz LTE	2	591.73	137.0	2.48	600 MHz LTE	400	0.62%
T-Mobile 600 MHz NR	1	1577.94	137.0	3.31	600 MHz NR	400	0.83%
T-Mobile 700 MHz LTE	2	648.82	137.0	2.72	700 MHz LTE	467	0.58%
T-Mobile 1900 MHz GSM	4	1101.85	137.0	9.23	1900 MHz GSM	1000	0.92%
T-Mobile 1900 MHz LTE	2	2203.69	137.0	9.23	1900 MHz LTE	1000	0.92%
T-Mobile 2100 MHz LTE	2	2589.11	137.0	10.85	2100 MHz LTE	1000	1.08%
T-Mobile 2500 MHz LTE IC & 2C Traffic	1	9619.47	137.0	20.15	2500 MHz LTE IC & 2C Traffic	1000	2.02%
T-Mobile 2500 MHz LTE IC & 2C Broadcast	1	717.84	137.0	1.50	2500 MHz LTE IC & 2C Broadcast	1000	0.15%
T-Mobile 2500 MHz NR Traffic	1	19238.94	137.0	40.30	2500 MHz NR Traffic	1000	4.03%
T-Mobile 2500 MHz NR Broadcast	1	1435.69	137.0	3.01	2500 MHz NR Broadcast	1000	0.30%
						Total:	11.46%

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population 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 population exposure to RF Emissions are shown here:

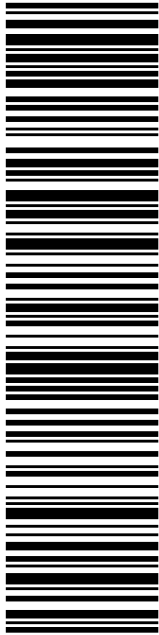
T-Mobile Sector	Power Density Value (%)
Sector A:	11.46%
Sector B:	11.46%
Sector C:	11.46%
T-Mobile Maximum MPE % (Sector A):	11.46%
Site Total:	21.84%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **21.84%** of the allowable FCC established general population 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.

Exhibit G

Recipient Mailings



USPS TRACKING #

9405 5036 9930 0238 4183 17

Electronic Rate Approved #038555749

SHIP

TO: BENJAMIN D FLORSHEIM
MAYOR- MIDDLETOWN
245 DEKOVEN DR
MIDDLETOWN CT 06457-3460

Expected Delivery Date: 05/05/22

Ref#: SBCT-247E
0006

P

05/02/2022

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Mailed from 01566

PRIORITY MAIL 2-DAY™

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359



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2. Place your label so it does not wrap around the edge of the package.
3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0238 4183 17

Trans. #: 562609254	Priority Mail® Postage: \$8.95
Print Date: 05/02/2022	Total: \$8.95
Ship Date: 05/02/2022	
Expected Delivery Date: 05/05/2022	

From: DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

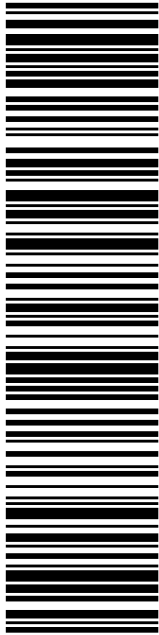
Ref#: SBCT-247E

To: BENJAMIN D FLORSHEIM
MAYOR- MIDDLETOWN
245 DEKOVEN DR
MIDDLETOWN CT 06457-3460

* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.



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USPS TRACKING #

9405 5036 9930 0238 4183 24

Electronic Rate Approved #038555749

SHIP TO: MAREK KOZIKOWSKI
DIRECTOR OF LAND USE & CITY PLANNER
245 DEKOVEN DR
MIDDLETOWN CT 06457-3460

P

05/02/2022

PRIORITY MAIL 2-DAY™

DEBORAH CHASE
NORTHEAST SITE SOLUTIONS
420 MAIN ST
STE 1
STURBRIDGE MA 01566-1359

Expected Delivery Date: 05/05/22
Ref#: SBCT-247E
0006

C002

UNITED STATES POSTAL SERVICE®

Click-N-Ship®

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US POSTAGE
Flat Rate Env
U.S. POSTAGE PAID
click-n-ship®

Mailed from 01566



Cut on dotted line.

Instructions

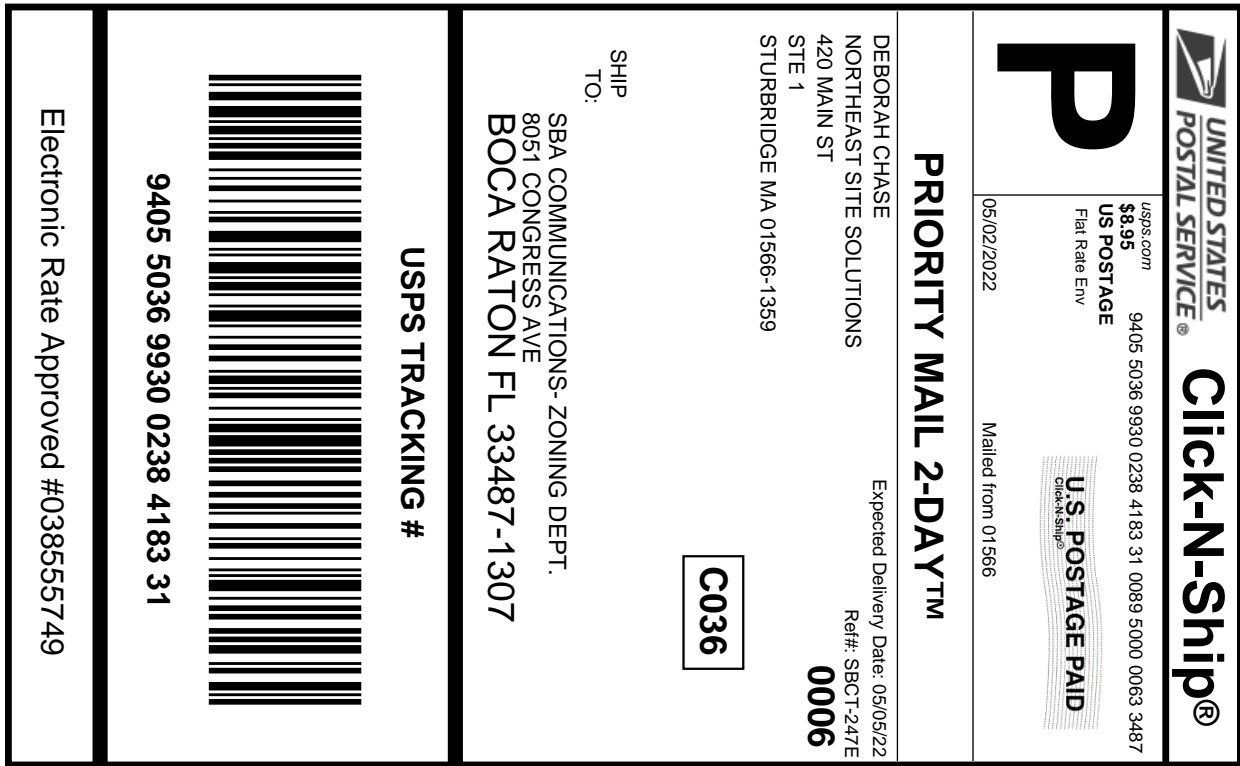
- Each Click-N-Ship® label is unique. Labels are to be used as printed and used only once. DO NOT PHOTO COPY OR ALTER LABEL.
- Place your label so it does not wrap around the edge of the package.
- Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
- To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
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Click-N-Ship® Label Record

USPS TRACKING # :	
9405 5036 9930 0238 4183 24	
Trans. #: 562609254	Priority Mail® Postage: \$8.95
Print Date: 05/02/2022	Total: \$8.95
Ship Date: 05/02/2022	
Expected Delivery Date: 05/05/2022	
<hr/>	
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	Ref#: SBCT-247E
To: MAREK KOZIKOWSKI DIRECTOR OF LAND USE & CITY PLANNER 245 DEKOVEN DR MIDDLETOWN CT 06457-3460	
* Retail Pricing Priority Mail rates apply. There is no fee for USPS Tracking® service on Priority Mail service with use of this electronic rate shipping label. Refunds for unused postage paid labels can be requested online 30 days from the print date.	



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3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, **DO NOT TAPE OVER BARCODE.** Be sure all edges are secure.
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5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :	
9405 5036 9930 0238 4183 31	
Trans. #:	562609254
Print Date:	05/02/2022
Ship Date:	05/02/2022
Expected Delivery Date:	05/05/2022
Priority Mail® Postage:	\$8.95
Total:	\$8.95
From: DEBORAH CHASE NORTHEAST SITE SOLUTIONS 420 MAIN ST STE 1 STURBRIDGE MA 01566-1359	
To: SBA COMMUNICATIONS- ZONING DEPT. 8051 CONGRESS AVE BOCA RATON FL 33487-1307	
Ref#: SBCT-247E	

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CITIZENE SBA
TMO



FARMINGTON
210 MAIN ST
FARMINGTON, CT 06032-9998
(800)275-8777

05/02/2022 04:21 PM

Product	Qty	Unit Price	Price
Prepaid Mail Boca Raton, FL 33487 Weight: 0 lb 2.00 oz Acceptance Date: Mon 05/02/2022 Tracking #: 9405 5036 9930 0238 4183 31	1		\$0.00
Prepaid Mail Middletown, CT 06457 Weight: 0 lb 8.60 oz Acceptance Date: Mon 05/02/2022 Tracking #: 9405 5036 9930 0238 4183 24	1		\$0.00
Prepaid Mail Middletown, CT 06457 Weight: 0 lb 8.70 oz Acceptance Date: Mon 05/02/2022 Tracking #: 9405 5036 9930 0238 4183 17	1		\$0.00
Grand Total:			\$0.00

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