Filed by:
G. Scott Shepherd, Property Development Specialist II- SBA Communications
134 Flanders Rd., Suite 125, Westborough, MA 01581
508.251.0720 x 3807 - gshepherd@sbasite.com

May 25, 2021

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

RE: Notice of Exempt Modification
170 Mount Tobe Road, Plymouth, CT 06782
Latitude: 41.630030
Longitude: -73.056553
T-Mobile Site #: CT11363D_L600

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 160-foot level of the existing 160-foot Monopole Tower at 170 Mount Tobe Rd, CT. The 160-foot tower is owned by SBA Properties, LLC. The property is owned by Susan A. and Walter T. MacDonald. T-Mobile now intends to remove (3) L700 MHz antennas and install three (3) new L600/L700 MHz antennas.

- **The new antennas would support 5G services and would be installed at the 160-foot level of the tower**.

Please note: Per the Connecticut Siting Council Website: CSC COVID 19 Guidelines. *In order to prevent the spread of Coronavirus and protect the health and safety of our members and staff, as of March 18, 2020, the Connecticut Siting Council shall convert to full remote operations until March 30, 2020. Please be advised that during this time period, all hard copy filing requirements will be waived in lieu of an electronic filing. Please also be advised that the March 26, 2020 regular meeting shall be held via teleconference. The Council's website is not equipped with an on-line filing fee receipt service. Therefore, filing fees and/or direct cost charges associated with matters received electronically during the above-mentioned time period will be directly invoiced at a later date.*

Planned Modifications:

TOWER

Remove:
- N/A

Remove and Replace:
- (3) Commscope LNX-6515DS-A1M (remove) – (3) APXVAALL24_43-U-NA20 L600/700 MHZ (replace)
- (3) Ericsson RRUS 11 (remove) – (3) Ericsson 4449 B71 + B85 RRU (replace)

- (2) 1-5/8" coax (remove) – (2) 1.9" fiber (replace)

Install New:

- Support Rail w/End connection Kit (MS-HR2375-2375, MS-HR2875-33ECP)
- (1) 1.9" Fiber

Existing Equipment to Remain:

- Low Profile Platform
- (3) Ericsson Air21 B2A/B2P antenna
- (10) 1-5/8" Coax
- (3) Ericsson AIR32 KRD901146-1_B66A_B2A antenna

Entitlements:

- (3) KRY 112 144/1 TMA

GROUND

Install New:

- Radio equipment within existing RBS6131 cabinet
- Battery back-up cabinet on existing concrete pad
- 125A-2P Breaker within existing PPC

Remaining:

- 10' x 15' concrete pad
- Existing S12000 Equipment cabinet
- RBS6131 Equipment cabinet
- Existing Fiber box
- (1) ½" coax for GPS

This facility was approved by the Town of Plymouth's Planning & Zoning Commission on September 27, 2001. Special Permit granted approval for a 160' tower for five carriers with possibility for a sixth. There was to be no lighting except for maintenance and no water or sewer. The tower would be a galvanized gray mat finish with ID # and emergency numbers placed on it. Utilities would be run underground. Bond was to be set by the Town Engineer for the removal of the tower if not used for 12 consecutive months. No further post construction stipulations were set. Please see attached.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16.50j-72(b)(2). In accordance with R.C.S.A. § 16.50j-73, a copy of this letter is being sent to the Town of Plymouth's Mayor, David Merchant, and Zoning & Wetlands Enforcement Officer, Scott Eisenlohr, as well as to the property owner. (Separate notice is not being sent to tower owner, as it belongs to SBA.)

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 modification will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.
4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.
5. The proposed modification will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

G. Scott Shepherd
Property Development Specialist II
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581
508.251.0720 x3807 + T
508.366.2610 + F
508.868.6000 + C
gshepherd@sbasite.com

Attachments
cc: David V. Merchant, Mayor / with attachments
Town of Plymouth, Town Hall, 80 Main Street, Terryville, CT 06786
Scott Eisenlohr, Zoning & Wetlands Enforcement Officer / with attachments
Town of Plymouth, Town Hall, 80 Main Street, Terryville, CT 06786
Susan and Walter MacDonald
42 South Street, Plymouth, CT 06782

EXHIBIT LIST

Exhibit 1	Check Copy	To be invoiced at a later date per Covid guidelines
Exhibit 2	Notification Receipts	x
Exhibit 3	Property Card	x
Exhibit 4	Property Map	x
Exhibit 5	Original Zoning Approval	Town of Plymouth's Planning & Zoning Commission September 27, 2001
Exhibit 6	Construction Drawings	Chappell Engineering 3/19/21
Exhibit 7	Modification Drawings	TES 8/22/19
Exhibit 8	Structural Analysis	TES 5/3/21
Exhibit 9	Mount Analysis	TES 4/20/21
Exhibit 10	EME Report	EBI Consulting 5/14/21

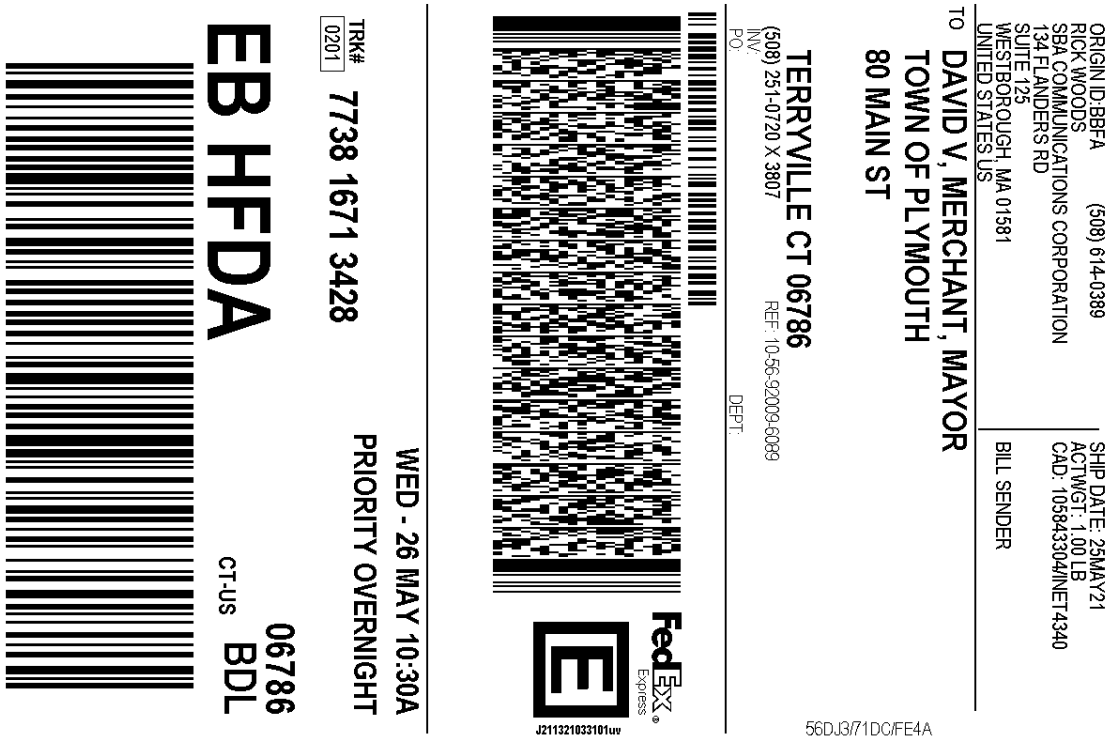
EXHIBIT 1

Normally, Exhibit 1 would contain a copy of the check for the filing fee.

EXHIBIT 2

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



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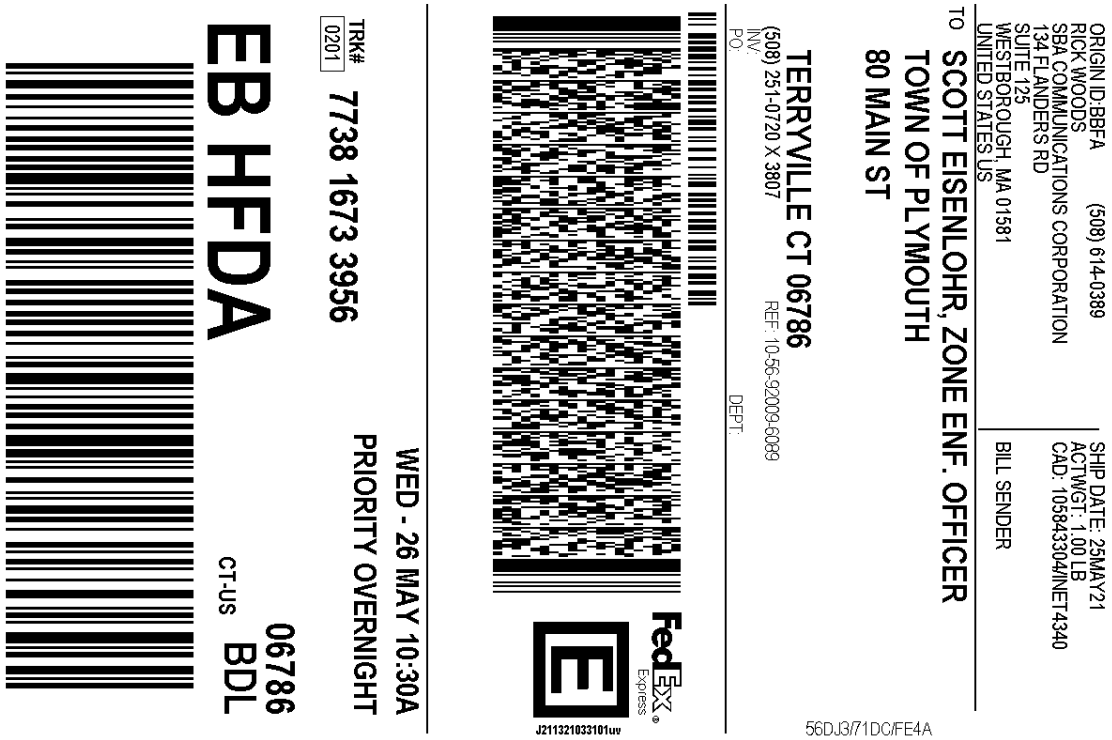

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EXHIBIT 3

Town of Plymouth
Property Listing Report

Parcel ID 093-138-002

Account 00483500

Property Information

Owner	MACDONALD SUSAN A & WALTER T
Address	170 MT TOBE RD
Mailing Address	42 SOUTH ST PLYMOUTH , CT 06782
Land Use	-
Land Class	R

Census Tract	4254
Neighborhood	103
Zoning	RA1
Acreage	117.12
Utilities	
Lot Setting/ Desc	/ 3

Photo

PARCEL VALUATIONS (Assessed value = 70% of Appraised Value)

	Appraised	Assessed
Buildings	142500	
Outbuildings		
Improvements		
Extras		
Land	429400	
Total	251200	175840
Previous		

Construction Details

Year Built	
Stories	
Building Style	
Building Use	
Building Condition	
Total Rooms	
Bedrooms	
Full Bathrooms	
Half Bathrooms	
Bath Style	
Kitchen Style	
Roof Style	
Roof Cover	

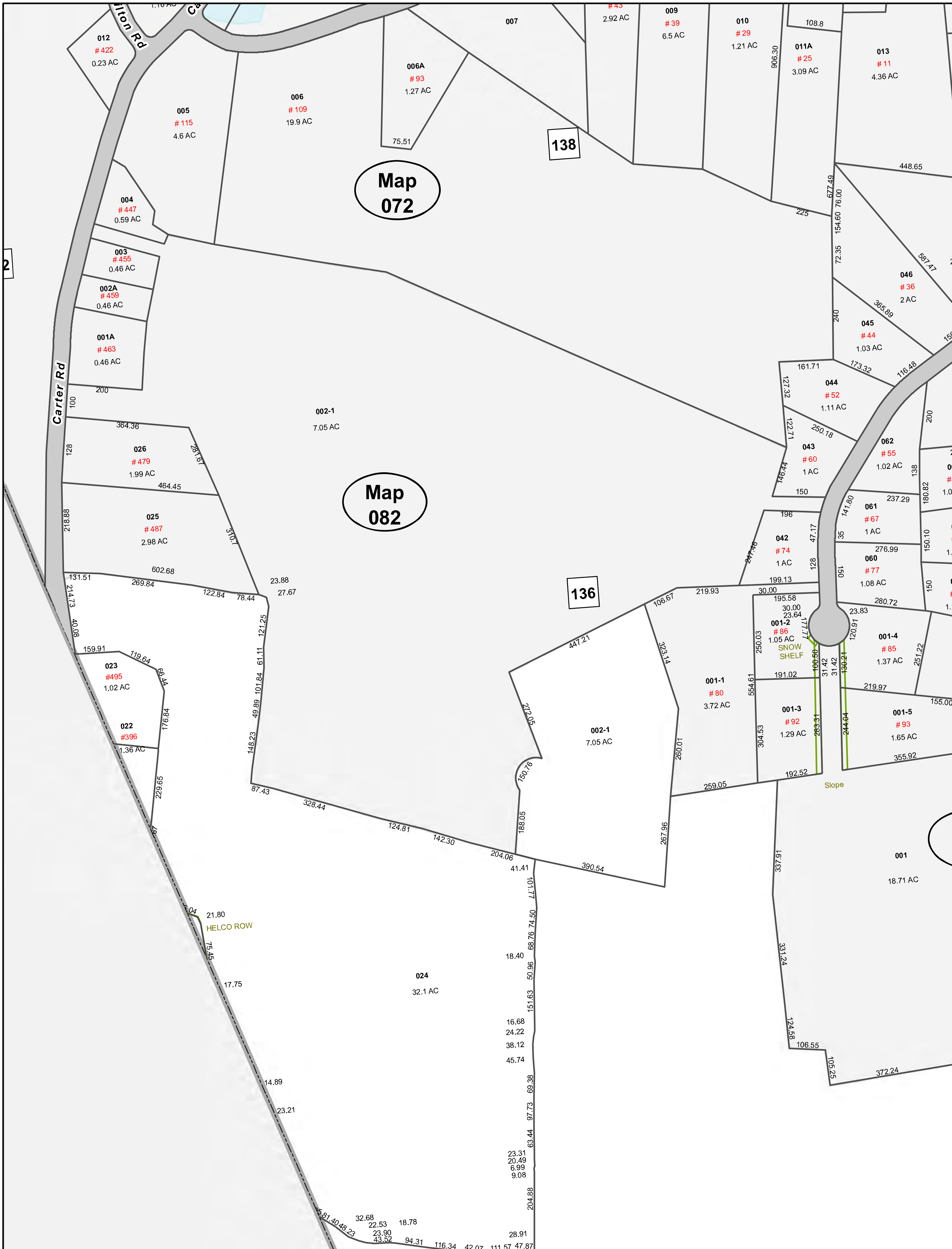
EXTERIOR WALLS:	
Primary	
Secondary	
INTERIOR WALLS:	
Primary	
Secondary	
FLOORS:	
Primary	
Secondary	
HEATING/AC:	
Heating Type	
Heating Fuel	
AC Type	

BUILDING AREA:	
Effective Building Area	
Gross Building Area	
Total Living Area	

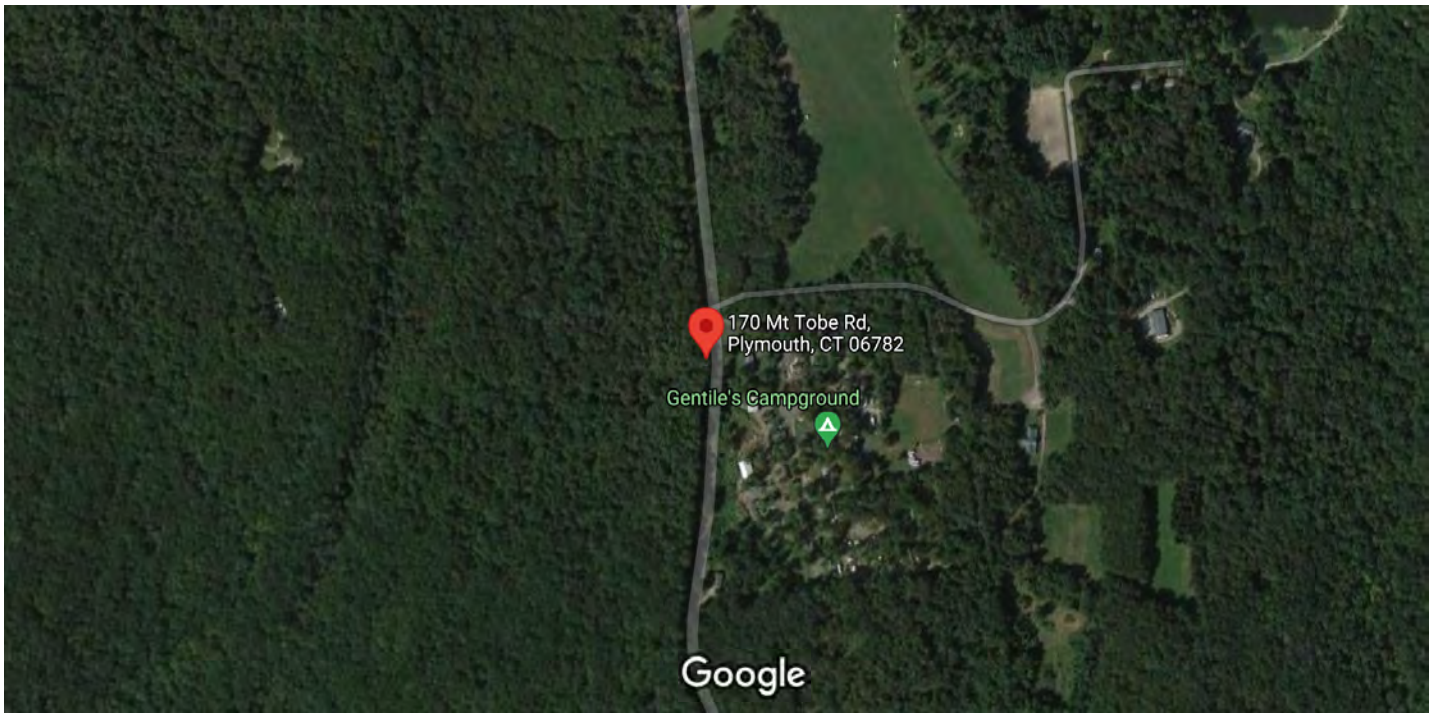
SALES HISTORY:	
Sale Date	19920601
Sale Price	260000
Book/ Page	230/661

Report Created On 6/17/2019

EXHIBIT 4


Carter Rd
Map 072
Map 082
138
136
012
422
0.23 AC
005
115
4.6 AC
006
109
19.9 AC
006A
93
1.27 AC
007
009
39
6.5 AC
010
29
1.21 AC
011A
25
3.09 AC
013
11
4.36 AC
2.92 AC
004
447
0.59 AC
003
455
0.46 AC
002A
459
0.46 AC
001A
463
0.46 AC
002-1
7.05 AC
026
479
1.99 AC
025
487
2.98 AC
023
#495
1.02 AC
022
#396
1.36 AC
024
32.1 AC
HELCO ROW
046
36
2 AC
045
44
1.03 AC
044
52
1.11 AC
043
60
1 AC
062
55
1.02 AC
061
67
1 AC
042
74
1 AC
060
77
1.08 AC
001-2
86
1.05 AC
SNOW SHELF
001-4
85
1.37 AC
001-1
80
3.72 AC
001-3
92
1.29 AC
001-5
93
1.65 AC
Slope
001
18.71 AC

Google Maps 170 Mt Tobe Rd



Imagery ©2021 CNES / Airbus, Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2021 500 ft

170 Mt Tobe Rd

Directions Save Nearby Send to your phone Share

170 Mt Tobe Rd, Plymouth, CT 06782

JWHX+RX Plymouth, Connecticut

Photos

EXHIBIT 5

Minutes on Decision for
Cell Tower at 170 Mount Tobe Road
September 27, 2001
Noted as Item #6

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9. Greystone Road – Special Permit Review – Edwards – Attorney Kenneth Slater, Mr. Edwards and Mr. Massimo were in attendance. Attorney Slater stated that there is no value of an as-built at this time. The project hasn't proceeded at the rate it was supposed to because of the mica schist. Mr. Hrica was engaged to write a report as to what was done and was presented at the last meeting. They had one promising location but it was not permitted. There are some projects coming up where the contractor might be able to get rid of the mica schists. Chairman Herzing stated that it was more than the as-built. They requested a time frame that work was being done because there is a big impact on the neighbors with the traffic, noise and safety. They should have looked into the marketability of the material they had to remove to complete this project and the time restraints. There is a big hole in the side of a mountain causing safety issues with kids playing. It shouldn't be put on hold and let the hole sit there waiting for someone to get hurt. Mica is not a marketable material and research should have been done in advance. Attorney Slater told the Commission that they did not want to come back to them but they learned about the mica when they blasted. Chairman Herzing said they could have created something better than what was there and should clean up the mess and maybe sit on it. Attorney Slater said the engineering report indicated no immediate hazard. This project wouldn't take long to complete if there was a place to bring this material. Chairman Herzing feels they should get in and clean up the gaping hole in the side of the hill. They were supposed to be in 500 feet by the last meeting. Attorney Slater said the General Statutes give 5 years. Properties are left unsafe a lot longer than this. The applicant expected to be ½ done by this time. There is no value in an as-built. Chairman Herzing said that on 7/26/01 the Commission gave them 6 weeks. At that time they needed an as-built so they could see what they had or had not done. Good faith would have had them bring us an as-built. The fear that this was not a driveway – just an excavation operation. Attorney Slater said that they thought they would find a legal location before September but this didn't happen and they have no way to move the material. The Commission said nothing about it being shored up and is reasonably safe right now. When they find a location, the project will continue. The Commission and Attorney Slater went back and forth regarding a time line, a location for the mica schist and the as-built. The permit is over tomorrow (9/28/01) so they have to come in for a renewal. Attorney Slater stated that the permit is effective to 1/11/02. Gaye Zukauskas stated that our special permits run 1 year from the date of approval. Chairman Herzing asked if the Commission could give them a two week extension? Discussion was had. **MOTION:** Gaye Zukauskas made a motion to give a two week extension to Mr. Edwards-Greystone Road-driveway permit to allow them time to prepare a site plan and exhaust all other avenues for solid waste removal. Peter Tonn seconded. VOTE: S. Panasuk – Aye, J. Purney – Aye, P. Tonn – Aye, G. Zukauskas – Aye and Chairman Herzing so voted. It was made clear that the permit stays in effect for the two weeks.

6. 170 Mt. Tobe Road – Special Permit – SBA – Mr. Kuehn informed the Commission that the energy goes horizontal from the antenna and the antenna is vertical to the horizon. It goes parallel to the horizon – not down. Steve Panasuk asked if it met all

FCC regulations and the answer was yes. He also recommended a bond for removing the tower if it is not used for one year. The building is ok in size. The Siting Council has to go over the permit. Discussion was had. **MOTION:** Steve Panasuk made a motion to grant a special permit for SBA for 170 Mt. Tobe Road covering sheet T-1-cover sheet, S-1-site plan, C-1-vicinity plan, C-2-overall site and grading and C-3-site details. Bond to be set by the town engineer for removal of the tower if it is not used for 12 consecutive months. Gaye Zukauskas modified the motion to include: report entitled "Visual Simulations" dated July 9, 2001; View Shed Map, undated, for 160' monopole; and, maps and overlays as submitted to Commission at its meeting of July 26, 2001. Plan sheets for South Plymouth Communications Facility dated 3/16/00, revised 7/16/01 prepared by Erdman Anthony Consulting Engineers. Jamie Purney seconded. VOTE: S. Panasuk – Aye, J. Purney – Aye, G. Zukauskas – Aye and Chairman Herzing so voted. Peter Tonn was not here for the public hearing so didn't vote.

10. 591 Main Street – Site Plan Modification – KCK Properties
11. 10 Todd Hollow Road – Site Plan – KCK Properties – Kim Pelletier of 1 Cynthia Court, Bristol and Brian Ireland represented KCK Properties. They plan to modify 591 Main Street by removing the mountain of rock between 10 Todd Hollow Road and 591 Main Street. This would improve the sight line to Route 6 and provide additional parking area and extend the approved area to the south. This would bring the property up to grade. It would be the same building. Most of the material will be used on site. The rock will be crushed and what is not used will go to Scalia Brothers. Mr. Kuehn told the Commission that he hasn't received all reviews. Ten Todd Hollow Road was changed to Commercial. Gaye Zukauskas asked if they plan to build for themselves or to sell. The back building will be for a shop and executive businesses. Mr. Pelletier installs dump bodies on trucks. The Police Chief would like them to come out on Todd Hollow Road and not Route 6 because of the traffic. Mr. Pelletier said they would like an entrance on both. Mr. Kuehn said they need the elevations for the building on the corner and what it is going to look like – architectural sketches. Also what signage is necessary. Chairman Herzing asked why they were removing the hill. They need more parking area and a place to put dump bodies. Mr. Pelletier asked if it would be possible to make the building 60' by 120' instead of 50' x 100'. They were told to do everything at one time. Item 11 is about the same. They need a landscape design. They are in front of Wetlands on October 3. Discussion was had. **MOTION:** Gaye Zukauskas made a motion to table 591 Main Street-Site Plan Modification-KCK Properties and 10 Todd Hollow Road-Site Plan-KCK Properties until October 11 pending Wetlands approval. VOTE: S. Panasuk – Aye, J. Purney – Aye, P. Tonn – Aye, G. Zukauskas – Aye and Chairman Herzing so voted.

12. 6 Hoye Street – Front Yard Setback – Denski – Mr. Kuehn stated that this is an existing house which encroaches on the front yard. The Commission can allow this if it is consistent with neighboring properties (notes to table 3.12). It will be an additional overhang. Discussion was had. **MOTION:** Gaye Zukauskas made a motion to approve

PLANNING & ZONING REGULAR MEETING
SEPTEMBER 27, 2001

Chairman Herzing called the regular meeting to order at 8:45 p.m.

ATTENDANCE

Steve Panasuk, Jamie Purney, Peter Tonn, William Kuehn-Town Planner, Gaye Zukauskas, Pat Pierzanowski-Recording and Office Secretary and Patrick Herzing-Chairman.

MINUTES

3. July 26, 2001 – Steve Panasuk made a motion to accept the July 26 minutes as mailed. Gaye Zukauskas seconded. VOTE: S. Panasuk – Aye, J. Purney – Aye, G. Zukauskas – Aye and Chairman Herzing so voted.

4. August 15, 2001 - Gaye Zukauskas made a motion to accept the August 15, 2001 minutes. Jamie Purney seconded. VOTE: J. Purney – Aye, G. Zukauskas – Aye and Chairman Herzing so voted.

5. September 13, 2001 – Gaye Zukauskas made a motion to accept the minutes of the September 13, 2001 meeting. Peter Tonn seconded. VOTE: S. Panasuk –-Aye, J. Purney – abstained, P. Tonn – Aye, G. Zukauskas – Aye and Chairman Herzing – abstained. Motion carried.

OLD BUSINESS

6. 170 Mt. Tobe Rd. – Special Permit – SBA – Esther McNany represented SBA. Gaye Zukauskas said that the overlays were great **but** more coverage in the Greystone area would be nice. Steve Panasuk asked staff if they got a letter from SBA of other sites they looked at. Also how many EMF's are generated at 5' and 50' from the tower when it is at maximum output. Discussion was had. **MOTION:** Gaye Zukauskas made a motion to move item #6 - 170 Mt. Tobe Road-Special Permit-SBA to item #9 and items #8 and #9 be moved up. Peter Tonn seconded. VOTE: S. Panasuk – Aye, J. Purney – Aye, P. Tonn – Aye G. Zukauskas – Aye and Vice Chairman Panasuk so voted.

7. a. and b.Public Hearing Items – They were both continued.

8. Proposed Amendment – Signs – Commission – **MOTION:** Steve Panasuk made a motion to table the proposed amendment-signs-Commission. Gaye Zukauskas seconded. VOTE: S. Panasuk – Aye, J. Purney – Aye, P. Tonn – Aye, G. Zukauskas – Aye and Vice Chairman Panasuk so voted.

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Wetlands action. Peter Tonn seconded. VOTE: G. Zukauskas – Aye, P. Tonn – Aye and Vice Chairman Panasuk so voted.

8. Proposed Amendment to the Zoning Regulations – Wireless Communications – Commission – Mr. Kuehn read the existing language and the proposed language into the record. The only difference is 600 sq. ft. The original draft in 1998 was sent to CCRPA and they suggested 150 sq. ft. It was approved as 750 sq. ft. and should have been 150 sq. ft. The Council of Governments of the Central Naugatuck Valley acknowledged receipt of the proposal. Mr. Kuehn read the letter from CCRPA into the record. FOR – No one. AGAINST – No one. FOR NOR AGAINST – No one. Discussion was had. **MOTION:** Gaye Zukauskas made a motion to close the public hearing for Proposed Amendment to the Zoning Regulations-Wireless Communications-Commission. VOTE: G. Zukauskas – Aye, P. Tonn – Aye and Vice Chairman Panasuk so voted.

PLANNING & ZONING REGULAR MEETING
SEPTEMBER 13, 2001
ATTENDANCE

Gaye Zukauskas, William Kuehn-Town Planner, Peter Tonn, Pat Pierzanowski-Recording and Office Secretary and Steve Panasuk-Vice Chairman.

MINUTES

9. July 26, 2001 and 10. August 15, 2001 – **MOTION:** Gaye Zukauskas made a motion to table the minutes of the July 26, 2001 and August 15, 2001 meetings until the next meeting when we have a quorum. Peter Tonn seconded. VOTE: G. Zukauskas - Aye, P. Tonn – Aye and Vice Chairman Panasuk so voted.

OLD BUSINESS

11. 170 Mt. Tobe Rd. – Special Permit – SBA – Esther McNany was here and Mr. Kuehn talked to her. Only two commissioners who were here for this item are in attendance tonight so she asked to have the item continued. Gaye Zukauskas felt the overlays were a big help. Steve Panasuk asked staff to get a letter from SBA of other sites they looked at. He would also like to know how much RFP's will be generated at 5' and 50' when it is at maximum output. **MOTION:** Gaye Zukauskas made a motion to table 170 Mt. Tobe Road-Special Permit-SBA to the next meeting. We have to act on this then. Peter Tonn seconded. VOTE: G. Zukauskas – Aye, P. Tonn – Aye and Vice Chairman Panasuk so voted.

12. a., b., c., d., e., f. and g Public Hearing Items – They were all continued.

12. h. Proposed Amendment to the Zoning Regulations – Wireless Communications – Commission – Discussion was had. **MOTION:** Gaye Zukauskas made a motion to approve the amendment change for wireless communications as written by staff – removing 750 sq. ft. and replacing it with 150 sq. ft. of building area. Peter Tonn seconded. VOTE: G. Zukauskas – Aye, P. Tonn – Aye and Vice Chairman Panasuk seconded.

13. Proposed Amendment – Signs – Commission – **MOTION:** Gaye Zukauskas made a motion to table the proposed amendment-signs-Commission. Peter Tonn seconded. VOTE: G. Zukauskas – Aye, P. Tonn – Aye and Vice Chairman Panasuk so voted.

14. Greystone Road – Special Permit Review – Edwards – No one was in the audience for this item. Gaye Zukauskas would like a special meeting to finalize this item. She is very upset with it and doesn't want to wait 2 weeks. Mr. Kuehn said he would check and set up a special meeting for Monday or Tuesday of next week. People in the audience wanted to speak. Tom Napiello of 385 Greystone Road stated that he is a schoolteacher and was home every day in August. From August 1 to this date, they have worked on the

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PLANNING & ZONING PUBLIC HEARINGS
JULY 26, 2001

Chairman Patrick Herzing called the meeting to order at 7:00 p.m.

ATTENDANCE

Steve Panasuk, Gaye Zukauskas, William Kuehn-Town Planner, Jamie Purney, Pat Pierzanowski-Recording and Office Secretary and Patrick Herzing-Chairman.

Chairman Herzing went over the procedure to be followed for the public hearings.

1. 170 Mt. Tobe Rd. – Special Permit – SBA – The representative from SBA stopped by the office this morning. No one was in attendance for them. FOR – No one. AGAINST – No one. FOR NOR AGAINST – No one. **MOTION:** Gaye Zukauskas made a motion to close the public hearing for 170 Mt. Tobe Rd.-Special Permit-SBA. seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

2. 111 Hosier Road – Special Permit – Russell - Mr. Kuehn read the legal notice for the public hearing into the record. Mark Russell of 111 Hosier Road represented himself. They put on a deck and would now like to enclose it. There is no problem with coverage. It is 12' x 14' and would have a sliding door to the deck. FOR – No one. AGAINST – No one. FOR NOR AGAINST – No one. Discussion was had. **MOTION:** Steve Panasuk made a motion to close the public hearing for 111 Hosier Road – Special Permit – Russell. Gaye Zukauskas seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

MOTION: Gaye Zukauskas made a motion to re-open the public hearing for 170 Mt. Tobe Road – Special Permit – SBA. Steve Panasuk seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

1. 170 Mt. Tobe Road – Special Permit – SBA – Esther McNany represented SBA and apologized for being late. There was a traffic jam on Rt. 84. This is a continuation of a public hearing. At the last meeting there were a number of questions the Commission asked to have information for them. There were four particular items. One, revising their site plan to reflect the changes they made in their application in making all the utilities underground and also reducing the tower height from the initial 195 feet down to a maximum height of 160 feet total and all the changes are reflected in the plan on the appropriate pages. They submitted some visual impact studies so they revised the visual simulations utilizing the160 foot tower. They were previously submitted and dated July 9, 2001. The power lines and the overlapping of the RF studies go together. The power lines north of the site from the mile 39 marker the poles are wood, not the steel lattice poles. Ms. McNany went over the overlays. Chairman Herzing asked how many years are they going to be used before they become obsolete with the satellites and all? Ms. McNany stated that they feel they will be here for a long time and they have raised their

lease time from 15-20 years to 99 years. The town could use the pole at no cost. She did not know why Watertown and Thomaston had denied them. FOR: No one. AGAINST: No one. FOR NOR AGAINST: No one. Discussion was had. **MOTION:** Gaye Zukauskas made a motion to close the public hearing for 170 Mt. Tobe Road-Special Permit-SBA. Steve Panasuk seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

PLANNING & ZONING REGULAR MEETING
JULY 26, 2001

Chairman Patrick Herzing called the meeting to order at 7:25 p.m.

ATTENDANCE

Steve Panasuk, Gaye Zukauskas, William Kuehn-Town Planner, Jamie Purney, Pat Pierzanowski-Recording and Office Secretary and Patrick Herzing-Chairman.

MINUTES

3. July 12, 2001 – MOTION: Gaye Zukauskas made a motion to accept the minutes for July 12, 2001 as mailed. Jamie Purney seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

OLD BUSINESS

4.a. 170 Mt. Tobe Rd. – Special Permit – SBA – Gaye Zukauskas would like more time to go over the information. **MOTION:** Gaye Zukauskas made a motion to table 170 Mt. Tobe Road-Special Permit-SBA until 9/13/01. Jamie Purney seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

4.b. 111 Hosier Rd. – Special Permit – Russell – MOTION: Gaye Zukauskas made a motion to approve 111 Hosier Rd.-Special Permit-Russell for the screened in deck on the porch that is being built. Jamie Purney seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

5. Proposed Amendment – Signs – Commission – MOTION: Gaye Zukauskas made a motion to table Proposed Amendment-Signs-Commission until the next meeting. Steve Panasuk seconded. Steve Panasuk remarked that the Commission keeps postponing this item. Maybe we should have a special meeting to discuss this and get it finished. Mr. Kuehn will get it put together during the month of August. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

6. Wilton Rd. – Subdivision – Zappone – Michael Zappone and his father Joseph Zappone were both in attendance. Mr. Kuehn has been working off maps received on June 6 and dated May 16, 2001. Revised plans were supposedly done to include the easements for wetlands and the culvert crossing the driveway. Mr. Zappone that at the last meeting everything was supposed to be all set except for the wetlands. Mr. Zimbouski stated that the town wants discharge rights onto the property. He would like a map filed which clarifies. Mr. Kuehn is uncomfortable because there are some things he doesn't have his hands on and would like a motion written ahead to be sure everything is taken care of. He wrote a letter to the Commission regarding his concerns. Discussion was had. **MOTION:** Gaye Zukauskas made a motion to table Wilton Rd.-Subdivision-

PLANNING & ZONING PUBLIC HEARINGS
JULY 12, 2001

Chairman Patrick Herzing called the meeting to order at 7:00 p.m.

ATTENDANCE

Steve Panasuk, William Kuehn-Town Planner will be a little late, Gaye Zukauskas, Jamie Purney, Pat Pierzanowski-Recording and Office Secretary and Patrick Herzing-Chairman.

Chairman Herzing went over the procedure to be followed for the public hearings.

1. Proposed Amendment – Signs – Commission – Gaye Zukauskas read the letter from Cindy Scoville, President of the Plymouth Chamber of Commerce dated 7/6/01 regarding a frame signs that could be put out during the day and taken in at night. FOR – No one. AGAINST – No one. FOR NOR AGAINST – No one. Discussion was had. **MOTION:** Gaye Zukauskas made a motion to close the public hearing for Proposed Amendment-Signs-Commission. Steve Panasuk seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

2. 170 Mt. Tobe Rd. – Special Permit – SBA – The representative from SBA was unable to make the meeting so asked that the public hearing be continued until July 26, 2001. FOR – No one. AGAINST – No one. FOR NOR AGAINST – No one. **MOTION:** Gaye Zukauskas made a motion to continue the public hearing for 170 Mt. Tobe Rd.-Special Permit-SBA until 7/26/01. Jamie Purney seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

Chairman Herzing read the legal notice for the next two public hearings into the record.

3. Wilton Road – Subdivision – Zappone – Michael Zappone of 197 Pine Hill Road in Thomaston stated that he is buying a piece of property from his father. He has gone to Wetlands and has made the changes that they want. Chairman Herzing read the letter dated 6/11/01 from Michael Zappone regarding a waiver of sidewalks into the record. Chairman Herzing asked if the rest of the land could be subdivided. Steve Panasuk informed Mr. Zappone that if the sidewalks are waived that he would still have to grade for them and provide a snow shelf. FOR – No one. AGAINST – No one. FOR NOR AGAINST – No one. Wetlands wanted a pipe underneath the driveway to catch the water. Sidewalks now or later was discussed. Open space – on 3 parcels or more. There is no correspondence from the other departments. Discussion was had. **MOTION:** Gaye Zukauskas made a motion to close the public hearing for Wilton Road – Subdivision – Zappone. Steve Panasuk seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

4. Proposed Amendments – Plan of Development – Commission – These amendments are mainly for the preservation of the Waterwheel. Dave Philbrick of 1 Magnolia Lane

P & Z CONTINUED PUBLIC HEARING AND PUBLIC HEARINGS
June 28, 2001

The Public Hearing was called to order at 7:10 p.m. by Chairman Patrick Herzing.

ATTENDANCE: Patrick Herzing, Steven Panasuk, Gaye Zukauskas, William Kuehn, Town Planner, and Robin Gudeczauskas, Recording Secretary.

1. **Proposed Amendment – Signs - Commission** – W. Kuehn gave a brief update and recommended the matter be continued one more meeting. **MOTION**: Gaye Zukauskas made a motion to continue the Public Hearing for the Proposed Amendment, Signs, for two weeks from today. Steve Panasuk seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, and Chairman Herzing so voted.

2. **170 Mt. Tobe Rd. – Special Permit - SBA** – Esther McNany, Territory Manager for SBA stated she has reviewed the 5/24/01 minutes and had the following responses: reviewed the location of utilities stating they will remain underground the additional 6800' to the facility; the stated tower height of 195' has been amended to 155' – 157' and submitted RF Engineering information to backup the request (distributed and reviewed) noting gap in coverage, coverage from the surrounding sites with the Mt. Tobe site at 155', coverage from the proposed SBA site at 170 Mt. Tobe Road, coverage from the Voicestream tower at 150', coverage from the SNET tower at 170'. The main coverage objective from the proposed facility is Rt. 8. Tower heights reviewed, lack of accessibility on Greystone and Wolcott Roads noting restriction is from Waterbury airport, FAA restrictions, and height limitations to reach this area. State forest is restricted for any type of telecommunications. Discussion held. S. Panasuk noted that first priority would be to use existing towers, high tension towers are not mentioned for telecommunication use and if feasible the information submitted will need to be revised. E. McNany reviewed concerns of SBA in utilizing utility lines as being safety of workers and access issues. Commission requested 7 sets of information for next meeting on (a) use of power lines to attach antennae, (b) review of all site plans and update on all visuals to reflect lower height and overlay of all facilities. Commission asked W. Kuehn to obtain from CCRPA a traffic study on Greystone and Rt. 262. Applicant submitted a written request to extend the Public Hearing for 35 days and to continue the public hearing at the next meeting; W. Kuehn read letter dated 6/28/01 into record. **MOTION**: Gaye Zukauskas made a motion to accept the letter requesting a 35-day extension for the public hearing on 170 Mt. Tobe Rd., Special Permit, SBA. Steven Panasuk seconded. VOTE: S. Panasuk – Aye, G. Zukauskas – Aye, and Chairman Herzing so voted. **MOTION**: Gaye Zukauskas made a motion to continue the public hearing on 170 Mt. Tobe Rd., Special Permit, SBA to July 12, 2001. Steve Panasuk seconded. VOTE: : S. Panasuk – Aye, G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

extension of the public hearing for Towill Farms Subdivision – Harwinton Avenue – Towill. Jamie Purney seconded.
VOTE: G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.
MOTION: Gaye Zukauskas made a motion to continue the public hearing for Harwinton Avenue – Towill Farms Subdivision – Towill. Jamie Purney seconded.
VOTE: G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

4. 41 Fall Mountain Lake Road – Special Permit – Hultslander – Mark Hultslander of 41 Fall Mountain Lake Road represented himself. The addition is one floor and will be put on piers. He had the size of the deck corrected at town hall. It was 16 x 20. He wants to change the existing deck into living space. Not going any higher. Vincent Lago of Lago Builders showed the Commission the plans. The existing closed in porch will be changed to a bedroom and the existing deck will be changed to living space. There is nothing else on the property. FOR – No one. AGAINST – No one. FOR NOR AGAINST – No one. Discussion was had. **MOTION:** Gaye Zukauskas made a motion to close the public hearing. Jamie Purney seconded. VOTE: G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted. **MOTION:** Gaye Zukauskas made a motion to accept the application for a special permit – 41 Fall Mountain Lake Road – Hultslander approval based on plans dated March 27, 2001 by Lago Builders designed by Vincent Lago. The whole square footage of the total framing of the house not to exceed 20' x 40'. Silt fence to be put up during building process. Jamie Purney seconded.
VOTE: G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

5. 170 Mt. Tobe Road – Special Permit – SBA – Mr. Thomas Flynn represented SBA Inc. from Glastonbury, CT. Mr. Flynn felt the Commission has been educated on telecommunication towers so would explain why and where they are building it. He showed the Commission a topo map and showed them the locations of towers and how their tower relates to these other towers. They are trying to cover the blind spots up along Route 8. Thomaston recently denied 2 towers. They are proposing a tower on property across from the airport. It is a large parcel of land – over 150 acres – with nothing on it except 1 house. It has an existing road and existing utilities. They will have a lease with the landowner to cross and re-cross. They will be approximately 600' away from the house. It is way back in the property. It is approximately 2000' from Plymouth properties. It is next to the state forest. It is a simple site plan consisting of a compound 100' x 100' with a 70' x 70' compound within it. It will service up to 5 carriers – possibly 6. It will be self contained and fence secured. There will be no lighting except for maintenance and no water or sewer. It will be serviced a couple of times a month. There will be nothing outside the fenced area. The yellow areas on the map are partially visible to the Town of Plymouth. In the green areas, views are screened by vegetation. In the purple areas, views are blocked by topography. The tower will be galvanized, gray mat finish. It will have an ID # and emergency call number on it. It complies with all the regulations in terms of height and tower fall zone. It meets FCC regulations. Utilities are

already underground but would like to propose above ground from there on. Chairman Herzing had concerns as to the
need of the tower and height of the tower. Mr. Flynn stated that the issue in this part of Connecticut is the depth of the river valley. They need the height so they will be able to get it down into the valley. Signals don't roll with the terrain. It varies from carrier to carrier as to where they are on the facility and how high a carrier may need to be. NEXTEL has signed on for this tower. Sprint could probably use this site as well. Chairman Herzing asked how high they need to go to get into the valley. (Since NEXTEL has signed on, what are their requirements?) There are three towers in town that aren't used to their capacity. Mr. Flynn said the lower they put a tower, the smaller the number of co-habitators that can be put on it. They need 10 feet from the mid line separation. Patrick Herzing asked if in the event all antennas are used by your provider, what do you need for height to get into the hole? FOR – Susan Macdonald asked if this tower would cover the dead spot on Route 6 up to Watertown. Mr. Flynn said yes. She also spoke in favor of the tower but she would rather see underground utilities rather than above. There was no one else who wanted to speak for the application. AGAINST – No one. FOR NOR AGAINST – No one. Discussion was had. The Commission would like more information from Mr. Flynn regarding NEXTEL, etc. **MOTION:** Gaye Zukauskas made a motion to continue the public hearing for 170 Mt. Tobe Road-Special Permit-SBA to 6/14. Jamie Purney seconded. VOTE: G. Zukauskas – Aye, J. Purney – Aye and Chairman Herzing so voted.

6. 403 Greystone Road – Modification of Special Permit – Edwards – Connie Massimo of 214 Christian Street, Oxford spoke for the applicant. They would like to extend their hours of operation. The hours at the present time are 8:00 a.m. to 3:00 p.m. which only gives them 6 ½ hours. Chairman Herzing stated that they knew that going into the project. Ms. Massimo stated that it is hard to hire trucks for only 6 ½ hours. They really need more hours. Chairman Herzing stated that he didn't think they were moving that much material from there. The majority was to be used on site to finish the driveway. 35,000 yds. of which 20,000 were to be used on site. This would leave 15,000 yds. to be hauled off. It is 22,000 yds. to be taken out. They had a rough winter and they have a hard time with the blasting because they don't have the time for the blasters to get in and blast. It takes 2 days because by the time they drill their holes, it is 3:00. She really needs to extend the hours. They have been working on this project since January and have had a lot of bad weather and she had a stopping point because of blasting. Chairman Herzing asked her how much material has been removed so far. What percentage of the job is completed. She stated maybe a quarter. Chairman Herzing asked if all that had been removed or has some of it been moved up into the property filling. Some for the road base. Mike Massimo of 214 Christian Street, Oxford stated they took some material out for the swale and some 50' to 75' from the road and then they hit ledge. They have removed about 1000 yds. They have to remove the rock that has been blasted. FOR – No one. AGAINST – Joan Cavalari of 410 Greystone Road lives across the road. Their hours are supposed to be 8-3 and already they have extended them on

EXHIBIT 6

SCOPE OF WORK
REMOVE 1 COAX, REMOVE 1 HYBRID, ADD 1 HYBRID; REMOVE 3 ANTENNAS, ADD 3 ANTENNAS; REMOVE 3 RRHS, REMOVE 3 TMAS, INSTALL 3 RRHS; INSTALL RADIO EQUIPMENT WITHIN EXIST. CABINET

SBA SOUTH PLYMOUTH

170 MOUNT TOBE ROAD
PLYMOUTH, CT 06782
LICHFIELD COUNTY

SITE NO.: CT11363D

SITE TYPE: 160'± MONOPOLE

RF DESIGN GUIDELINE: 67D92DB OUTDOOR

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
SECTOR D:	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

SITE NOTES

1. THIS IS AN UNMANNED AND RESTRICTED ACCESS TELECOMMUNICATION FACILITY, AND IS NOT FOR HUMAN HABITATION. IT WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNAL FOR THE PURPOSE OF PROVIDING PUBLIC CELLULAR SERVICE.
   - ADA COMPLIANCE NOT REQUIRED.
   - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.
   - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.
2. CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.
3. NEW CONSTRUCTION WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
   - BUILDING CODE: 2018 CONNECTICUT STATE BUILDING CODE
   - ELECTRICAL CODE: 2017 NATIONAL ELECTRICAL CODE
   - STRUCTURAL CODE: TIA/EIA-222-G STRUCTURAL STANDARDS FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS.

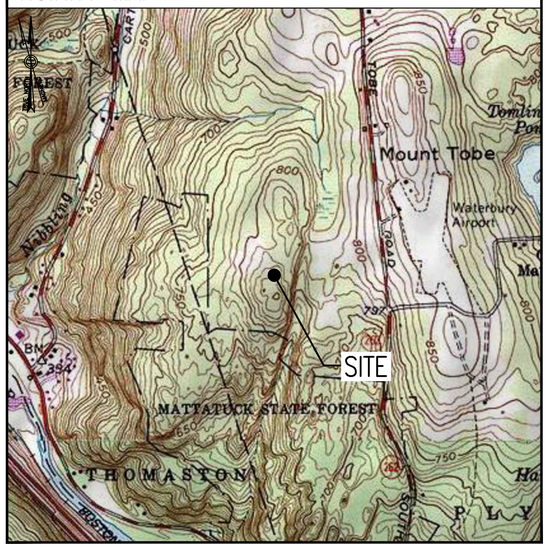
GENERAL NOTES

1. 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.
2. 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.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OMNIPOINT 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. 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.
14. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
15. 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.
16. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
17. 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

TURN LEFT ONTO COMMERCE WAY. TURN LEFT ONTO SOUTH WASHINGTON STREET. TURN RIGHT ONTO MA-123 EAST. TURN LEFT TO MERGE ONTO I-495 NORTH. TAKE EXIT 22 TO MERGE ONTO I-90 WEST. TAKE EXIT 78 FOR I-84 TOWARD HARTFORD CT. KEEP LEFT TO STAY ON I-84. KEEP RIGHT TO STAY ON I-84. TAKE EXIT 20 TO MERGE ONTO CT-8 NORTH TOWARD TORRINGTON. TAKE EXIT 37 TO MERGE ONTO CT-262/STATE HWY 262. TURN RIGHT ONTO CT-262. TURN RIGHT TO STAY ON CT-262. TURN LEFT ONTO SPRUCE BROOK ROAD. CONTINUE STRAIGHT. SITE WILL BE ON THE LEFT.

SHEET INDEX

SHEET NO.	DESCRIPTION	REV. NO.
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GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLAN	1
A-2	TOWER ELEVATIONS & ANTENNA PLAN	1
A-3	SITE DETAILS, ANTENNA & FEEDLINE CHARTS	1
E-1	ELECTRIC & GROUNDING DETAILS	1

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:	CT11363D
SBA SITE NUMBER:	CT03538-S
SBA SITE NAME:	SOUTH PLYMOUTH
SITE ADDRESS:	170 MOUNT TOBE ROAD PLYMOUTH, CT 06782
PROPERTY OWNER:	MACDONALD SUSAN A. & WALTER T. 170 MOUNT TOBE ROAD PLYMOUTH, CT 06782
TOWER OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	LICHFIELD
ZONING DISTRICT:	RA1 (RESIDENTIAL)
STRUCTURE TYPE:	MONOPOLE
STRUCTURE HEIGHT:	160'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
SBA RSM:	RUSS PUTNAM PHONE: 603-210-1000 EMAIL: RPutnam@sbasite.com
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.41.630095° N41°37'48.34" LONGITUDE W.73.056094° W73°03'21.94"

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).

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

CHAPPELL ENGINEERING ASSOCIATES, LLC
Civil ·Structural ·Land Surveying
R.K. EXECUTIVE CENTRE
201 BOSTON POST ROAD WEST, SUITE 101
MARLBOROUGH, MA 01752
(508) 481-7400
www.chappellengineering.com

STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
3/19/2021

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	03/19/21	ISSUED FOR CONSTRUCTION	JRV
0	06/10/19	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11363D

SITE ADDRESS:
170 MOUNT TOBE ROAD
PLYMOUTH, CT 06782

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.079

GENERAL NOTES:

1. 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

2. 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.

3. 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.

4. 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.

5. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.

6. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

7. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

8. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.

9. 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.

10. 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.

11. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.

12. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION AND RETURN DISTURBED AREAS TO ORIGINAL CONDITIONS.

13. 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.

14. 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.

15. CONSTRUCTION SHALL COMPLY WITH ALL T–MOBILE STANDARDS AND SPECIFICATIONS.

16. 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.

17. 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.

18. 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:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.

2. 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.

3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.

4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.

6. 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.

7. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

8. 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.

9. 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.

10. 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.

11. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE T–MOBILE SPECIFICATION FOR SITE SIGNAGE.

CONCRETE AND REINFORCING STEEL NOTES:

1. 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.

2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. A HIGHER STRENGTH (4000PSI) MAY BE USED. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 381 CODE REQUIREMENTS

3. 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.

4. 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 LARGER .....2 IN.
   #5 AND SMALLER & WWF .....1½ IN.
   CONCRETE NOT EXPOSED TO EARTH OR WEATHER
   OR NOT CAST AGAINST THE GROUND:
   SLAB AND WALL .....¾ IN.
   BEAMS AND COLUMNS .....1½ IN.

5. A CHAMFER ¾" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

6. 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.

7. 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.

8. 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.

9. 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:

1. 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".

2. 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.

3. BOLTED CONNECTIONS SHALL USE BEARING TYPE ASTM A325 BOLTS (⅞"ø) AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE GALVANIZED OR STAINLESS STEEL.

4. NON–STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE ⅝" DIA. ASTM A 307 BOLTS (GALV) UNLESS NOTED OTHERWISE.

5. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ENGINEER REVIEW & APPROVAL ON PROJECTS REQUIRING STRUCTURAL STEEL

6. ALL STRUCTURAL STEEL WORK SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.

SOIL COMPACTION NOTES FOR SLAB ON GRADE:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION AND TOPSOIL TO EXPOSE NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.

2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.

3. 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.

4. 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.

5. 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:

1. HAND OPERATED DOUBLE DRUN, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING JACK COMPACTOR.

CONSTRUCTION NOTES:

1. FIELD VERIFICATION:
SUBCONTRACTOR SHALL FIELD VERIFY SCOPE OF WORK, T–MOBILE ANTENNA PLATFORM LOCATION AND UTILITY TRENCHWORK.

2. COORDINATION OF WORK:
SUBCONTRACTOR SHALL COORDINATE RF WORK AND PROCEDURES WITH CONTRACTOR.

3. 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:

1. WIRING, RACEWAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.

2. SUBCONTRACTOR SHALL MODIFY OR INSTALL CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND TRANSPORT CABLING TO THE NEW BTS EQUIPMENT. SUBCONTRACTOR SHALL SUBMIT MODIFICATIONS TO CONTRACTOR FOR APPROVAL.

3. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.

4. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.

5. 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.

6. 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.

7. 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).

8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.

9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.

10. 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.

11. 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.

12. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED OUTDOORS, OR BELOW GRADE, SHALL BE SINGLE CONDUCTOR #2 AWG SOLID TINNED COPPER CABLE, UNLESS OTHERWISE SPECIFIED.

13. 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.

14. 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).

15. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

16. NEW RACEWAY OR CABLE TRAY WILL MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

17. 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.

18. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.

19. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.

20. 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.

21. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.

22. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.

23. CABINETS, BOXES AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.

24. CABINETS, BOXES AND WIREWAYS TO MATCH THE EXISTING INSTALLATION WHERE POSSIBLE.

25. 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.

26. 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.

27. 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.

28. 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.

29. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.

30. 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.

31. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.

32. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED
PROFESSIONAL CIVIL ENGINEER
3/19/2021

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	03/19/21	ISSUED FOR CONSTRUCTION	JRV
0	06/10/19	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11363D

SITE ADDRESS:
170 MOUNT TOBE ROAD
PLYMOUTH, CT 06782

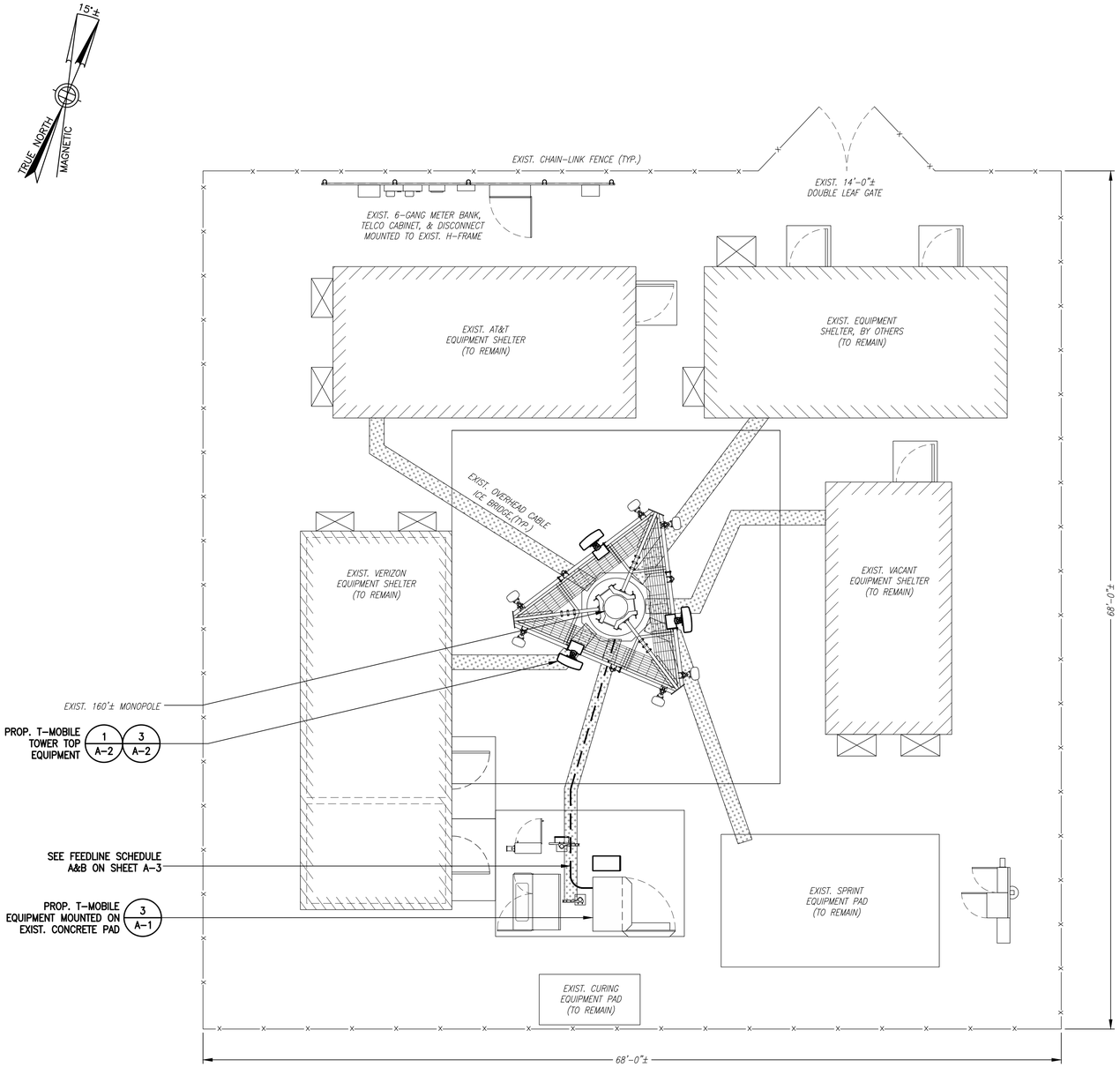
SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-1

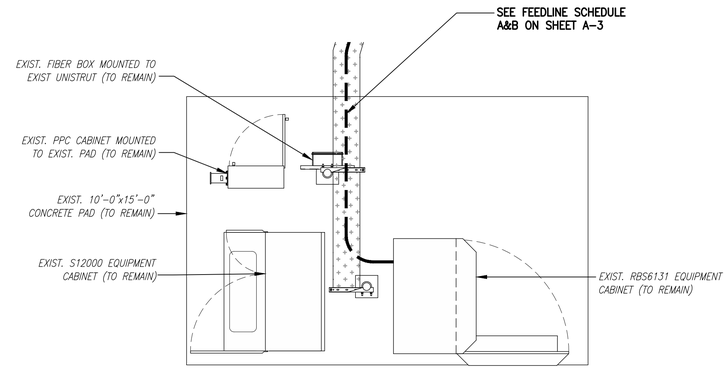
1815.079

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).



COMPOUND PLAN 1 A-1
SCALE: 1" = 5'-0"
0 5'-0" 10'-0 15'-0"



EXISTING EQUIPMENT PLAN 2 A-1
SCALE: 3/8" = 1'-0"
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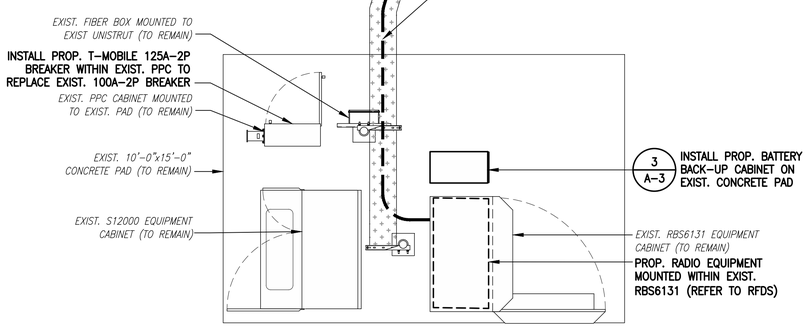

PROPOSED EQUIPMENT PLAN 3 A-1
SCALE: 3/8" = 1'-0"
0 2'-8" 5'-4" 8'-0"

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COMPOUND & EQUIPMENT PLAN

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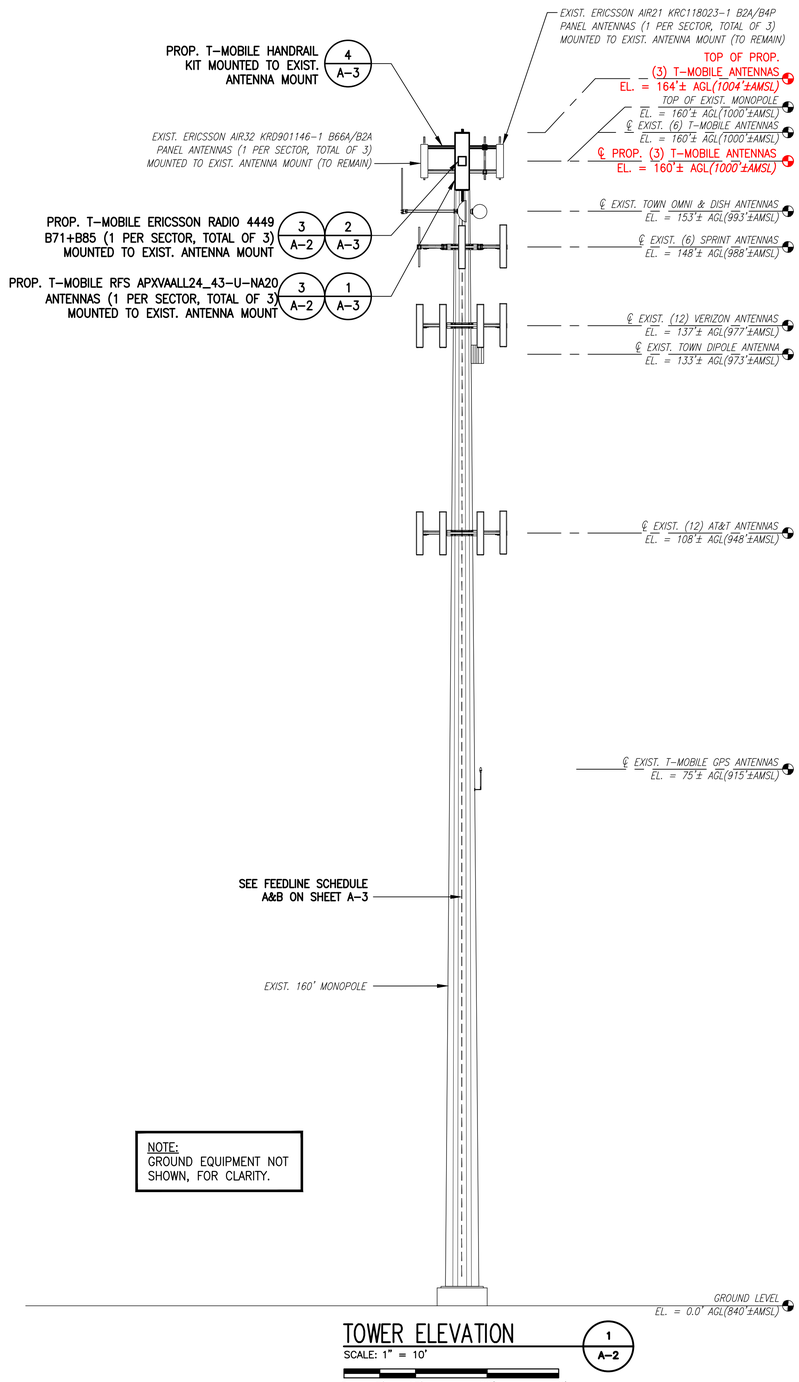
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL SPECIAL OR SUPPLEMENTAL ADDITIONAL TOWER-MOUNTED EQUIPMENT PER RECOMMENDATIONS FROM SBA-PROVIDED TOWER STRUCTURAL ANALYSIS FOR ANY SPECIAL SHIELDING OF TOWER TOP EQUIPMENT AND FOR ANY SPECIAL FEEDLINE BUNDLING OR RELOCATION.

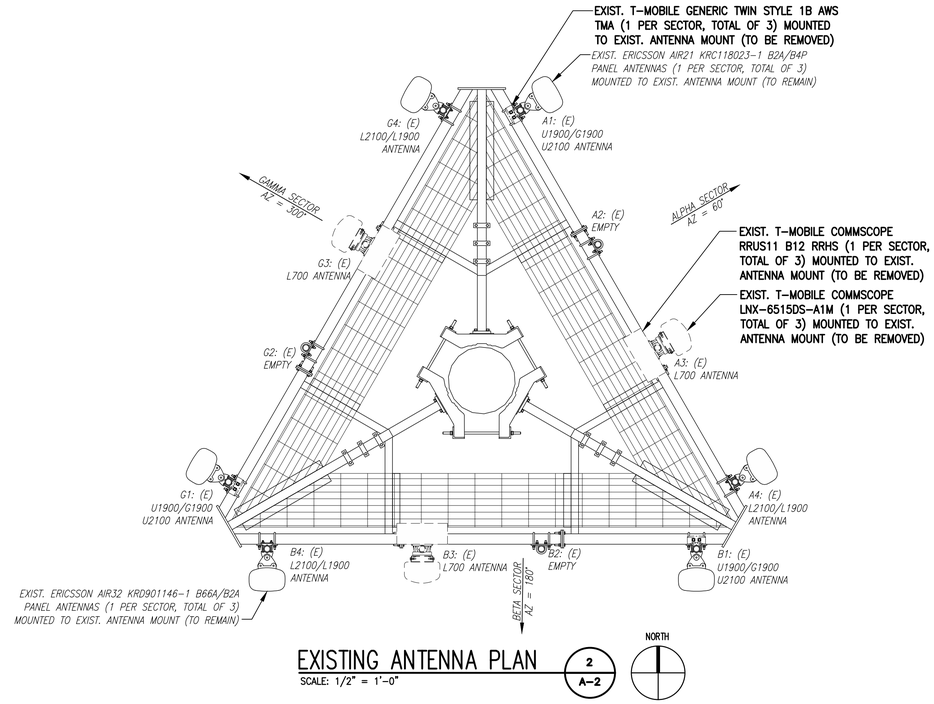
RAD CENTER NOTE:
T-MOBILE RAD CENTER SHOWN IN RED TEXT BASED ON SBA-PROVIDED CO-LOCATION APPLICATION, EQUIPMENT DATABASE, AND STRUCTURAL ANALYSIS. THE SBA-PROVIDED ANTENNA RAD CENTER SHALL SUPERSEDE ANY CONFLICTING INFORMATION DERIVED FROM THE T-MOBILE RFDS.

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).

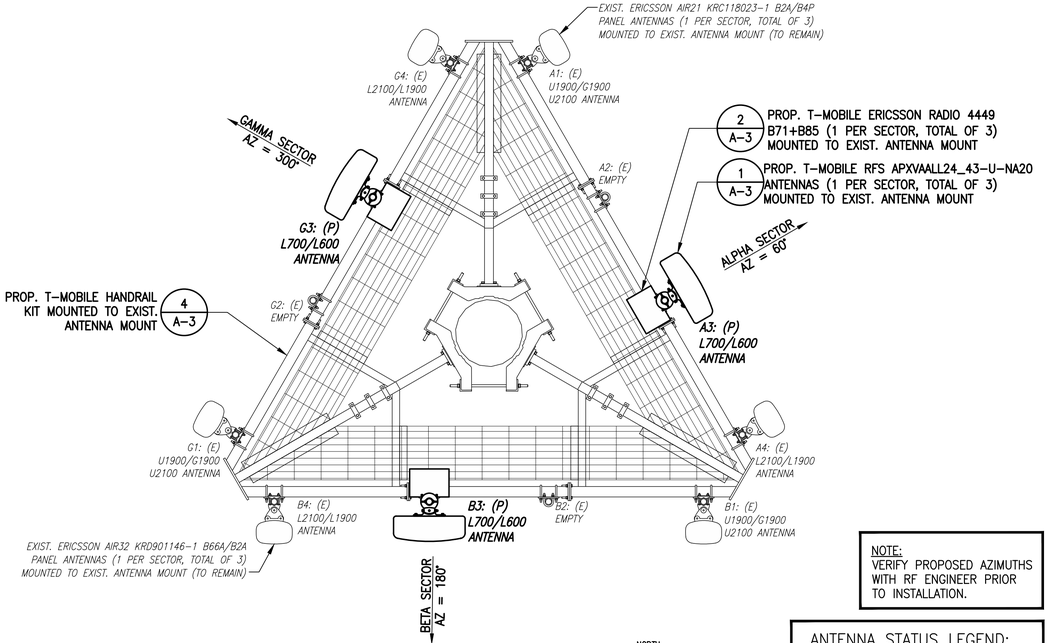


TOWER ELEVATION (1 A-2)
SCALE: 1" = 10'
0 5' 10' 20' 30'

NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.



EXISTING ANTENNA PLAN (2 A-2)
SCALE: 1/2" = 1'-0"



PROPOSED ANTENNA PLAN (3 A-2)
SCALE: 1/2" = 1'-0"

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

ANTENNA STATUS LEGEND:

EMPTY – EMPTY PIPE

(E) – EXISTING
(P) – INSTALL
(F) – FUTURE

T-MOBILE NORTHEAST LLC
15 COMMERCE WAY, SUITE B
NORTON, MA 02766
(508) 286-2700

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STATE OF CONNECTICUT
JAMES M. FITZGERALD
No. 25997
LICENSED PROFESSIONAL CIVIL ENGINEER
3/19/2021

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	03/19/21	ISSUED FOR CONSTRUCTION	JRV
0	06/10/19	ISSUED FOR REVIEW	JRV

SITE NUMBER:
CT11363D

SITE ADDRESS:
170 MOUNT TOBE ROAD
PLYMOUTH, CT 06782

SHEET TITLE
TOWER ELEVATIONS & ANTENNA PLAN

SHEET NUMBER
A-2

1815.079

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).

FINAL ANTENNA CONFIGURATION

SECTOR		ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	SIGNAL CABLES
ALPHA	A1	*ERICSSON AIR21 KRC118023-1 B2A/B4P*	*160'± AGL*	*60°*	*0°*	*2°*	*U1900/G1900*	–	(10) 1⅝" COAX CABLE (2) 1-⅝" (6x12) HCS CABLES **(1) 2" (6x24) HCS FIBER CABLES**
	A3	**RFS APXVAALL24_43-U-NA20**	**160'± AGL**	**60°**	**0°**	**2°**	**L700/L600/N600**	**RADIO 4449 B71+B85**	
	A4	*ERICSSON AIR32 KRD901146-1 B66A/B2A*	*160'± AGL*	*60°*	*0°*	*2°*	*L2100/L1900*	–	
BETA	B1	*ERICSSON AIR21 KRC118023-1 B2A/B4P*	*160'± AGL*	*180°*	*0°*	*2°*	*U1900/G1900*	–	
	B3	**RFS APXVAALL24_43-U-NA20**	**160'± AGL**	**180°**	**0°**	**2°**	**L700/L600/N600**	**RADIO 4449 B71+B85**	
	B4	*ERICSSON AIR32 KRD901146-1 B66A/B2A*	*160'± AGL*	*180°*	*0°*	*2°*	*L2100/L1900*	–	
GAMMA	C1	*ERICSSON AIR21 KRC118023-1 B2A/B4P*	*160'± AGL*	*300°*	*0°*	*2°*	*U1900/G1900*	–	
	C3	**RFS APXVAALL24_43-U-NA20**	**160'± AGL**	**300°**	**0°**	**2°**	**L700/L600/N600**	**RADIO 4449 B71+B85**	
	C4	*ERICSSON AIR32 KRD901146-1 B66A/B2A*	*160'± AGL*	*300°*	*0°*	*2°*	*L2100/L1900*	–	

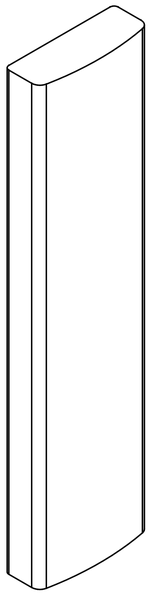
CABLE NOTE: EXISTING (1) 1-⅝" COAX & (1) 9x18 HCS CABLE TO BE REMOVED. CAP AND WRAP ANY UNUSED COAX. SEE FEEDLINE SCHEDULE A & B BELOW.
ANCILLARY NOTE: EXISTING (3) GENERIC TWIN STYLE 1B AWS TMAS TO BE REMOVED.

NOTE: RFDS REV6 – 02/02/21

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES	LOCATION
A	*EXISTING TO REMAIN:* *(1) ½" COAX CABLE FOR GPS ANTENNA* (10) 1⅝" COAX CABLE (2) 1-⅝" (6x12) HCS CABLES *EXISTING TO BE REMOVED:* *(1) 1-⅝" COAX CABLE* *(1) 1-⅝" (9x18) HCS CABLE*	ROUTED PER STRUCTURAL ANALYSIS
B	**PROPOSED:** **(1) 2" (6x24) HCS FIBER CABLES**	

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



RFS APXVAALL24_43-U-NA20 ANTENNA

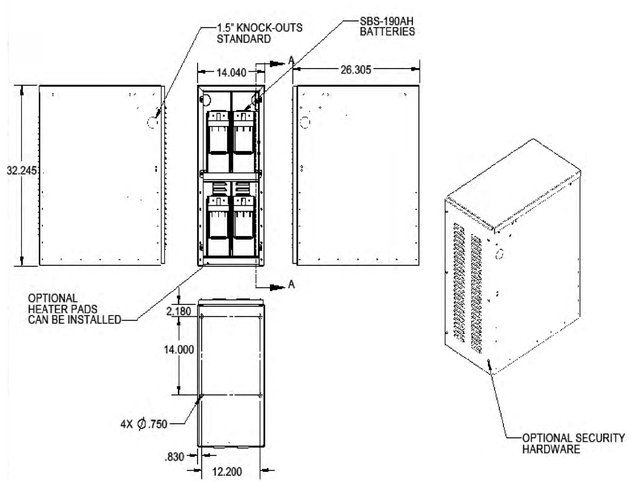
DIMENSIONS: 95.9"H x 24.0"W x 8.7"D
WEIGHT: 128.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

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

ERICSSON RADIO 4449 B71+B85

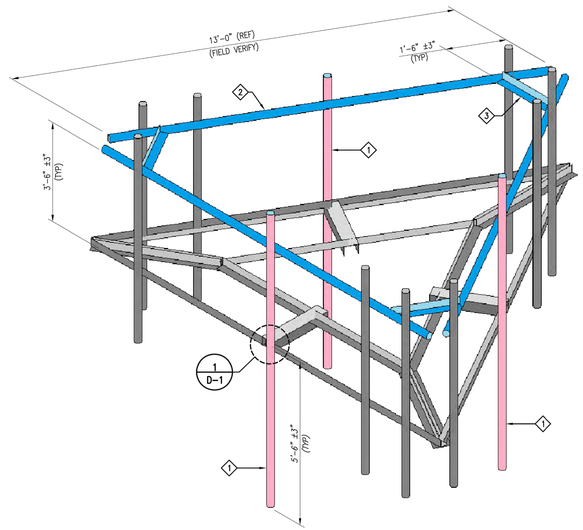
DIMENSIONS: 14.9"H x 13.2"W x 9.3"D
WEIGHT: 74.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

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



PTS8003 190AH BATTERY CABINET
DIMENSIONS: 32.2"H x 14.0"W x 26.3"D
TOTAL OF 1

BATTERY DETAIL — SCALE: N.T.S. — 3 / A-3



MOUNT MOD DETAIL — SCALE: N.T.S. — 4 / A-3

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STATE OF CONNECTICUT * JAMES M. FITZGERALD * No. 25997 LICENSED PROFESSIONAL CIVIL ENGINEER
3/19/2021

CHECKED BY: JMT

APPROVED BY: JMT

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0	06/10/19	ISSUED FOR REVIEW	JRV

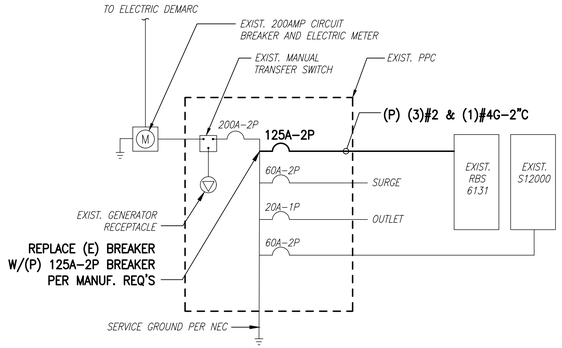
SITE NUMBER:
CT11363D

SITE ADDRESS:
170 MOUNT TOBE ROAD
PLYMOUTH, CT 06782

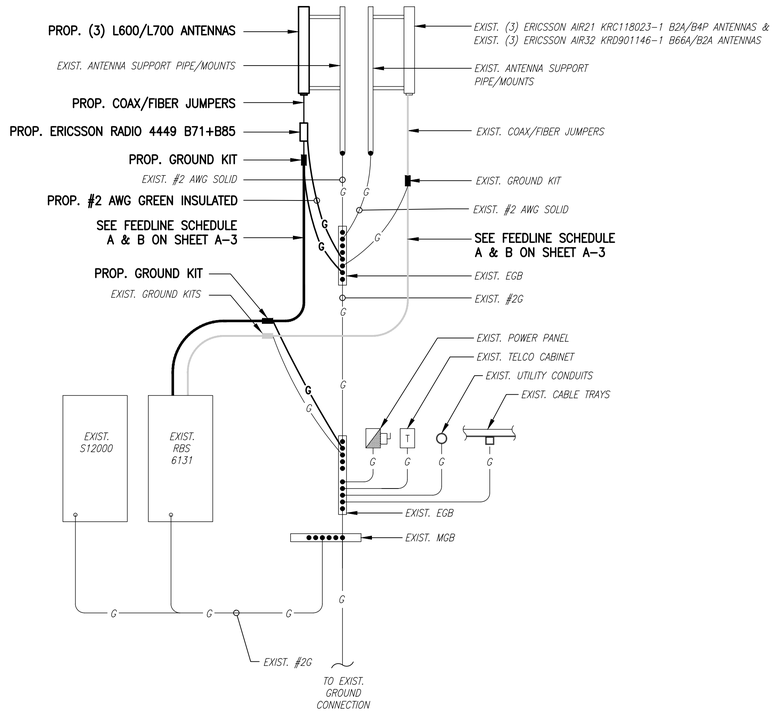
SHEET TITLE
SITE DETAILS, ANTENNA & FEEDLINE CHARTS

SHEET NUMBER
A-3

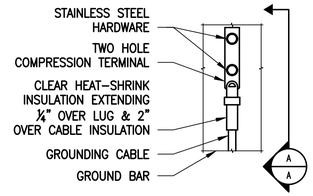
1815.079



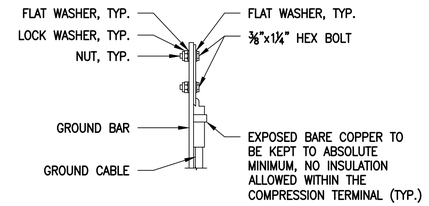
ONE LINE DIAGRAM (1 / E-1)
SCALE: NOT TO SCALE



GROUNDING RISER DIAGRAM (2 / E-1)
SCALE: NOT TO SCALE



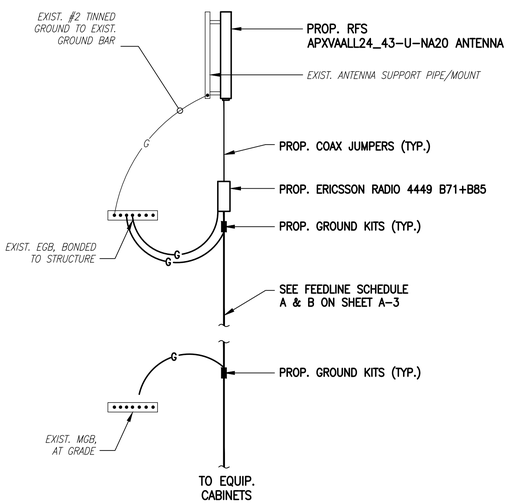
ELEVATION



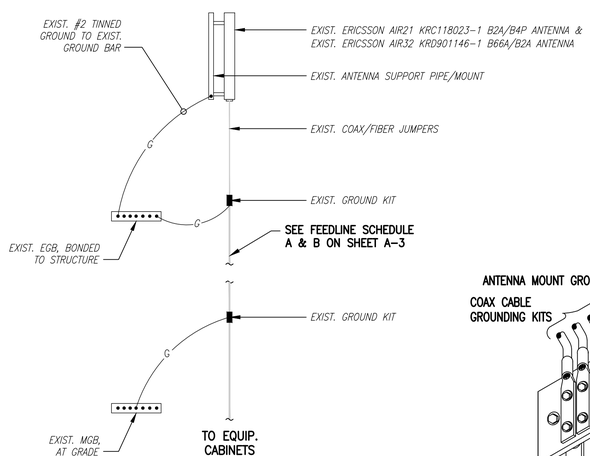
SECTION A-A

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

TYPICAL GROUND BAR CONNECTIONS DETAIL (3 / E-1)
SCALE: NOT TO SCALE

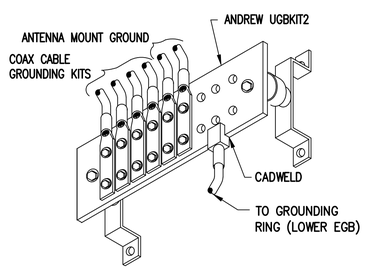


L700/L600/N600 ANTENNA



U1900/G1900 ANTENNA & L2100/L1900 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL (4 / E-1)
SCALE: NOT TO SCALE



GROUND BAR (EGB) (5 / E-1)
SCALE: NOT TO SCALE

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. 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.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THININSULATION.
8. 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.
9. 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.
10. 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.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. PPC SUPPLIED BY PROJECT OWNER.
13. 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".
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY PROJECT OWNER.
15. 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.
16. 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.
17. 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.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. 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.
21. CONTRACTOR SHALL TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION. 5 OHMNS MINIMUM RESISTANCE REQUIRED.
22. CONTRACTOR SHALL CONDUCT ANTENNA, COAX, AND LNA RETURN-LOSS AND DISTANCE- TO-FAULT MEASUREMENTS (SWEEP TESTS) AND RECORD RESULTS FOR PROJECT CLOSE OUT.

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SITE NUMBER:
CT11363D

SITE ADDRESS:
170 MOUNT TOBE ROAD
PLYMOUTH, CT 06782

SHEET TITLE
ELECTRIC & GROUNDING DETAILS

SHEET NUMBER
E-1

1815.079

EXHIBIT 7

MODIFICATION AND DESIGN DRAWINGS FOR EXISTING ANTENNA MOUNTS EXISTING MONOPOLE TOWER

PROPOSED CARRIER: T-MOBILE

TOWER OWNER: SBA / TOWER OWNER SITE #: CT03538-S

CARRIER SITE #/NAME: CT11363D / SOUTH PLYMOUTH

COORDINATES (LATITUDE: 41.630030°, LONGITUDE: -73.056553°)

PLEASE NOTE THIS SET OF DRAWINGS ARE FOR INSTALLATION AND ASSEMBLY ONLY. FABRICATION DETAIL DRAWINGS ARE NOT PROVIDED AND MUST BE COMPLETED BY THE STEEL FABRICATOR SELECTED. TES CAN PROVIDE THE FABRICATION DETAIL DRAWINGS FOR AN ADDITIONAL FEE.

NOTE:

1. THE MODIFICATION DRAWINGS ARE BASED ON THE TES PROJECT NO. 77885 REV1, DATED 07/17/2019.

Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO: 82734

CUSTOMER SITE NO: CT03538-S-SBA

CUSTOMER SITE NAME: SOUTH PLYMOUTH

170 MOUNT TOBE ROAD
PLYMOUTH, CT 06782

STATE OF CONNECTICUT — JAIME HAYES — No. 17534 — LICENSED PROFESSIONAL ENGINEER

8/22/19

DRAWN BY: GA | CHECKED BY: KSP/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	GA	08/22/19

SHEET TITLE: TITLE SHEET

SHEET NUMBER: T-1 | REV #: 0

BILL OF MATERIALS

QUANTITY COUNTED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTIONS	SHEET LIST	PIECE WEIGHT (LBS)	WEIGHT (LB)	NOTES
			MATERIAL & HARDWARE				
1	1	MS-HR2875-33ECP	METROSITE SUPPORT RAIL END CONNECTION KIT	A-1, MS-HR2875-33ECP	82.0	82.0	Galvanized
			FOLLOWING ITEMS ARE "CUSTOM" PARTS				
1	1	MS-HR2375-2375	METROSITE SUPPORT RAIL KIT	A-1	251.00	251.0	GALVANIZED
3	3	PL2375-3	PL 3/8" X 7 1/8" X 10" A36	D-1	7.70	23.1	GALVANIZED
6	7	MS02-625-250-400	RU-BOLT 5/8" X 2 1/2" I.W. X 4" I.L. A36 (OR EQUV)	D-1	1.17	8.6	(2) HHN & LKW-EA GALVANIZED
6	7	---	BOLT 5/8" X 1 3/4" A325	D-1	0.00	0.0	(1) HHN & LKW-EA GALVANIZED

ALL METROSITE PARTS ARE AVAILABLE FROM METROSITE, LLC.

180 IND PARK BLVD COMMERCE, GA 30529
OFFICE: (706) 335-7045
FAX: (706) 335-7056

NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

TOTAL WEIGHT (LBS) = 364.7

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
82734

CUSTOMER SITE NO:
CT03538-S-SBA
CUSTOMER SITE NAME:
SOUTH PLYMOUTH
170 MOUNT TOBE ROAD
PLYMOUTH, CT 06782

DRAWN BY: GA | CHECKED BY: KSP/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	GA	08/22/19

SHEET TITLE:
BILL OF MATERIALS

SHEET NUMBER: BOM
REV #: 0

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48, 2018 CONNECTICUT STATE BUILDING CODE AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.
7. IT IS THE RESPONSIBILITY OF THE GC TO VERIFY THAT THERE IS NO INTERFERENCES (WITH SAFETY CLIMB BRACKETS, TRANSMISSION LINES, ETC.) PRIOR TO MOBILIZATION AND INSTALLATION OF THESE MODIFICATIONS.
8. PLEASE NOTIFY TES IMMEDIATELY IF ANY INSTALLATION ISSUES OCCUR RELATED TO THIS DRAWING @ 972-483-0607 OR EMAIL-TESCONSTRUCTION@TESTOWER.US

FABRICATION

1. ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
2. ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

WELDING

1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

1. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RCSC.
2. FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2015 SECTION 1705 FOR STEEL CONSTRUCTION AND TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

TABLE 8.2 NUT ROTATION FROM SNUG-TIGHT CONDITION FOR TURN-OF-NUT PRETENSIONING [a,b]

BOLT LENGTH [c]	DISPOSITION OF OUTER FACE OF BOLTED PARTS		
	BOTH FACES NORMAL TO BOLT AXIS	ONE FACE NORMAL TO BOLT AXIS, OTHER SLOPED NOT MORE THAN 1:20 [d]	BOTH FACES SLOPED NOT MORE THAN 1:20 FROM NORMAL TO BOLT AXIS [d]
NOT MORE THAN $4d_b$	1/3 TURN	1/2 TURN	2/3 TURN
MORE THAN $4d_b$ BUT NOT MORE THAN $8d_b$	1/2 TURN	2/3 TURN	5/6 TURN
MORE THAN $8d_b$ BUT NOT MORE THAN $12d_b$	2/3 TURN	5/6 TURN	1 TURN

[a] NUT ROTATION IS RELATIVE TO BOLT REGARDLESS OF THE ELEMENT (NUT OR BOLT) BEING TURNED. FOR REQUIRED NUT ROTATIONS OF 1/2 TURN AND LESS, THE TOLERANCE IS PLUS OR MINUS 30 DEGREES; FOR REQUIRED NUT ROTATIONS OF 2/3 TURN AND MORE, THE TOLERANCE IS PLUS OR MINUS 45 DEGREES.

[b] APPLICABLE ONLY TO JOINTS IN WHICH ALL MATERIAL WITHIN THE GRIP IS STEEL.

[c] WHEN THE BOLT LENGTH EXCEEDS $12d_b$, THE REQUIRED NUT ROTATION SHALL BE DETERMINED BY ACTUAL TESTING IN A SUITABLE TENSION CALIBRATOR THAT SIMULATES THE CONDITIONS OF SOLIDLY FITTING STEEL.

[d] BEVELED WASHER NOT USED.

SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, JUNE 30, 2004 RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS

INSTALLATION TORQUE REQUIRED FOR HOLLO BOLTS AND AJAX BOLTS:

1. HB12 HOLLO BOLT: 59 FT-LBS
2. HB16 HOLLO BOLT: 140 FT-LBS
3. HB20 HOLLO BOLT: 221 FT-LBS
4. M20 AJAX BOLT: 280 FT-LBS.

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
5. ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
82734

CUSTOMER SITE NO:
CT03538-S-SBA

CUSTOMER SITE NAME:
SOUTH PLYMOUTH

170 MOUNT TOBE ROAD
PLYMOUTH, CT 06782

DRAWN BY: GA | CHECKED BY: KSP/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	GA	08/22/19

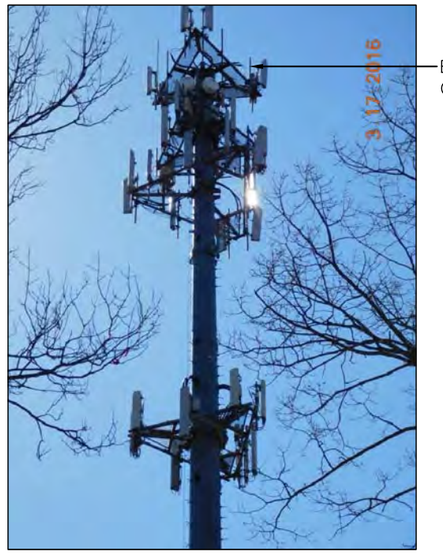
SHEET TITLE:
GENERAL NOTES

SHEET NUMBER: GN-1

REV #: 0

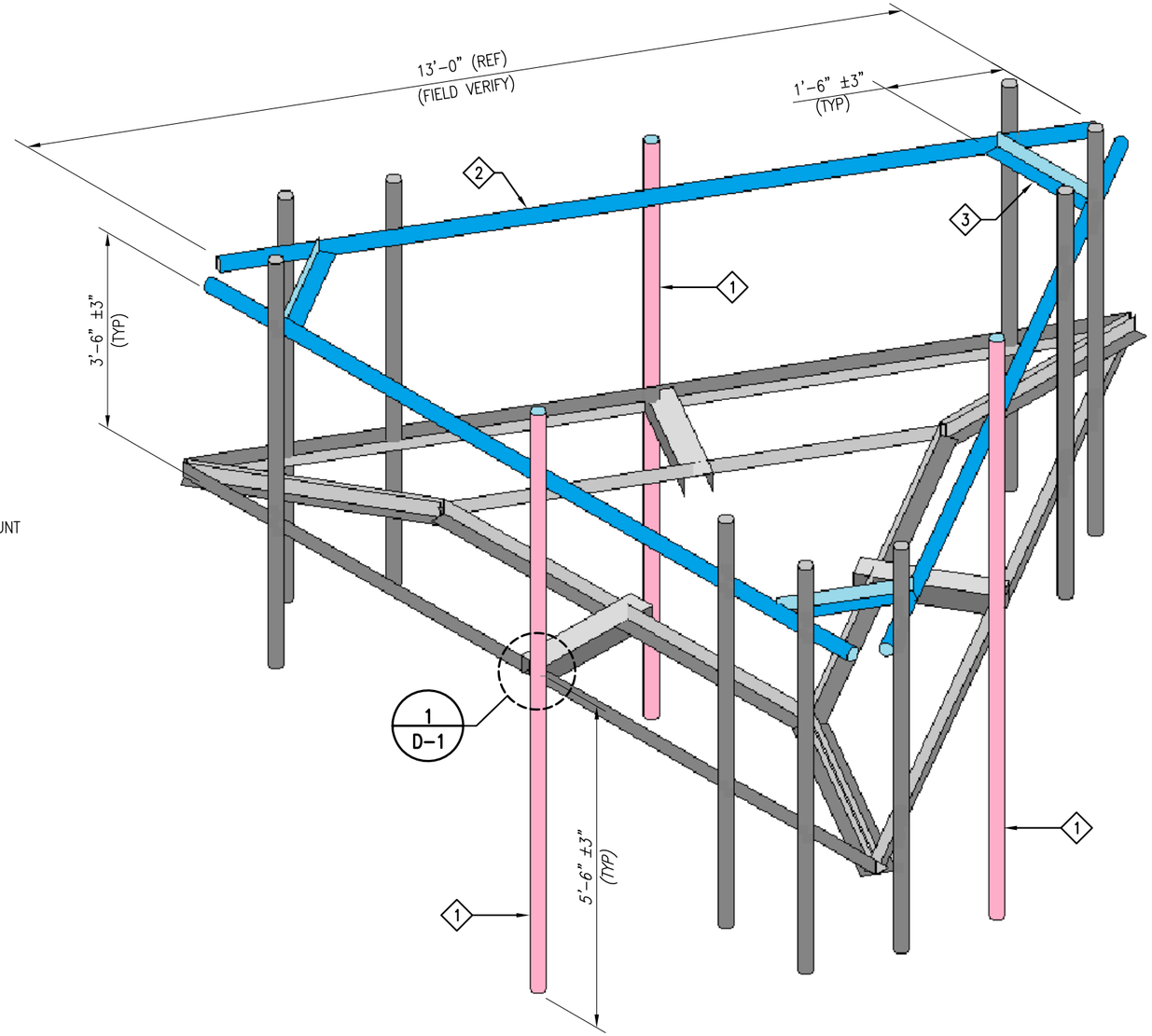
SCOPE OF WORK

1. RELOCATE EXISTING ANTENNA MOUNT PIPE (PINK COLOR) TOWARD THE CENTER AS SHOWN, THEN RELOCATE EXISTING ANTENNA TO THE EXISTING PIPE (TYP). (1) PER SECTOR. EXISTING ANTENNA RAD CENTER TO BE MAINTAINED.
2. INSTALL NEW SUPPORT RAIL KIT. SEE SHEET MS-HR2375-2375 FOR DETAILS.
3. INSTALL NEW SUPPORT RAIL END CONNECTION KIT. SEE SHEET MS-HR2875-33ECP FOR DETAILS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.



EXISTING ANTENNA MOUNT @ 160' ELEV.

PHOTO 1



ISOMETRIC VIEW
EXISTING ANTENNA MOUNT @ 160' ELEV.

GC NOTE:
1. **IT IS THE RESPONSIBILITY OF THE GC TO VERIFY THAT THERE IS NO INTERFERENCES WITH (PORT HOLES, SAFETY CLIMB BRACKETS, TRANSMISSION LINES, ETC.) PRIOR TO MOBILIZATION AND INSTALLATION OF THESE MODIFICATIONS.**
2. **PLEASE NOTIFY TES IMMEDIATELY IF ANY INSTALLATION ISSUES OCCUR RELATED TO THIS DRAWING @ 972-483-0607 OR EMAIL-TESCONSTRUCTION@TESTOWER.US**

NOTES:
1. TEMPORARILY RELOCATE ANY EXISTING COAX ATTACHED TO THE LEGS AND/OR ANY OTHER MEMBERS WHERE OBSTRUCTION WITH THE PROPOSED MODIFICATION MAY OCCUR.
2. WHEN FIELD CUTTING AND DRILLING ANGLES, USE SAME GAGE LINES AND EDGE DISTANCES AS INDICATED ON SHOP CUT AND DRILLED ENDS.
3. APPLY (2) COATS OF ZINC RICH GALVANIZING COMPOUND AS PER THE MANUFACTURER'S SPECIFICATIONS TO ALL FIELD CUT AND DRILLED AREAS.
4. **MEMBERS IN BLUE COLOR ARE NEW REINFORCEMENTS.**

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	1	MS-HR2375-2375	METROSITE SUPPORT RAIL KIT
2	1	MS-HR2875-33ECP	METROSITE SUPPORT RAIL END CONNECTION KIT

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
82734

CUSTOMER SITE NO:
CT03538-S-SBA
CUSTOMER SITE NAME:
SOUTH PLYMOUTH
170 MOUNT TOBE ROAD
PLYMOUTH, CT 06782

DRAWN BY: GA | CHECKED BY: KSP/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	GA	08/22/19

SHEET TITLE:
ANTENNA MOUNT MODIFICATION DETAILS

SHEET NUMBER: A-1
REV #: 0

EXISTING EQUIPMENT MUST BE RELOCATED UP OR DOWN ALONG THE MEMBER TO ACCOMMODATE INSTALLATION OF MOUNT MODIFICATION

PHOTO 1

PHOTO 2

RELOCATE EXISTING ANTENNA MOUNT PIPE TOWARD THE CENTER, THEN RELOCATE EXISTING ANTENNA TO THE EXISTING PIPE (TYP). (1) PER SECTOR. EXISTING ANTENNA RAD CENTER TO BE MAINTAINED. SEE SHEET A-1 FOR DETAILS

PHOTO 3

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
82734

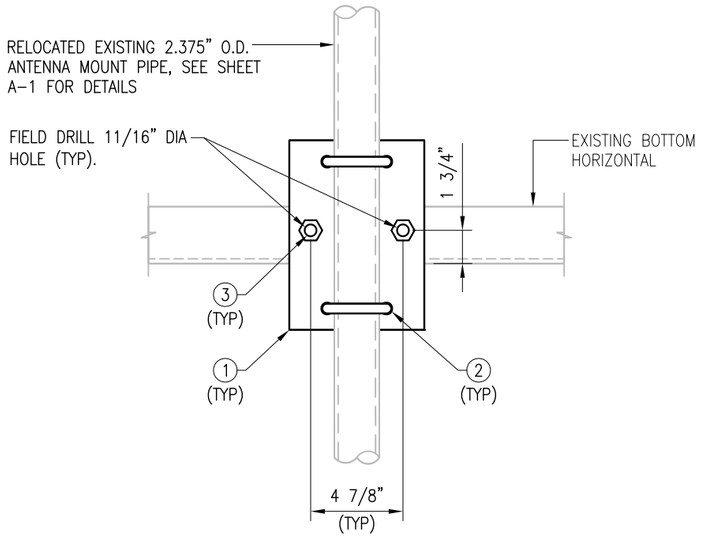
CUSTOMER SITE NO:
CT03538-S-SBA
CUSTOMER SITE NAME:
SOUTH PLYMOUTH
170 MOUNT TOBE ROAD
PLYMOUTH, CT 06782

DRAWN BY: GA | CHECKED BY: KSP/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	GA	08/22/19

SHEET TITLE:
ANTENNA MOUNT PHOTOS

SHEET NUMBER: A-2
REV #: 0



1 / D-1 DETAIL

NOTES:
1. HOT-DIPPED GALVANIZED PER ASTM A123.
2. ALL HOLES ARE 11/16" DIA. U.N.O

ITEM NO.	QTY.	PART NO.	DESCRIPTIONS
1	3	PL2375-3	PL 3/8" X 7 1/8" X 10" A36
2	6	MS02-625-250-400	RU-BOLT 5/8" X 2 1/2" I.W. X 4" I.L. A36 (OR EQUV)
3	6	---	BOLT 5/8" X 1 3/4" A325

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PH: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
82734

CUSTOMER SITE NO:
CT03538-S-SBA
CUSTOMER SITE NAME:
SOUTH PLYMOUTH
170 MOUNT TOBE ROAD
PLYMOUTH, CT 06782

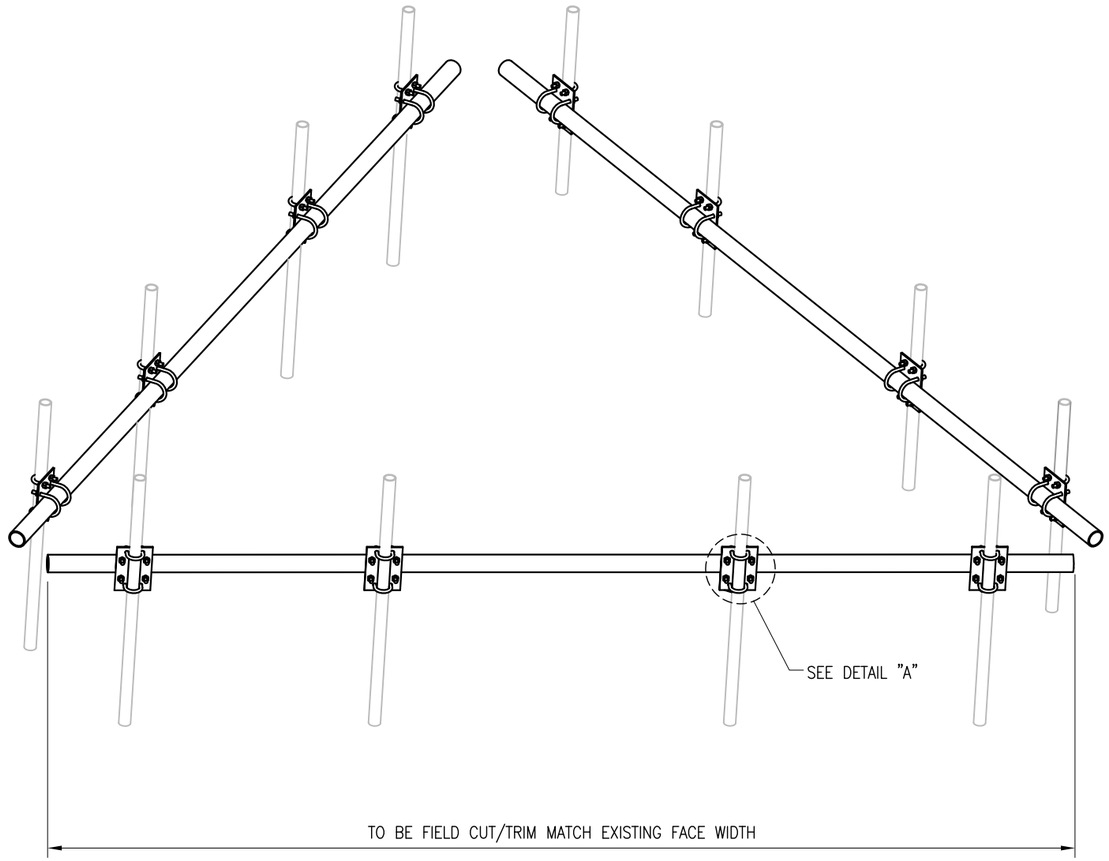
DRAWN BY: GA | CHECKED BY: KSP/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	GA	08/22/19

SHEET TITLE:
STANDARD DETAILS

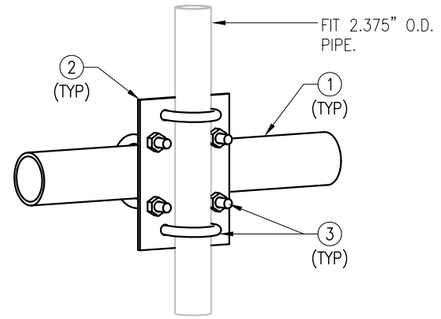
SHEET NUMBER: D-1
REV #: 0

THE FOLLOWING DRAWINGS ARE INCLUDED FOR REFERENCE ONLY
PLEASE REFER TO THE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION DETAILS



ELEVATION VIEW

MS-HR2375-2375						
ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	3	PST2375-14	2" PST (2.375" O.D. X 0.154" THK) X 14'-0"	A53 GR-B	TAF-3	158.3
2	12	PL2375-2375	PL 3/8" X 7 1/8" X 10"	A36	TAF-3	92.4
3	48	MS02-625-250-400	RU-BOLT 5/8" X 2 1/2" I.W. X 4" I.L. A36 (OR EQUIV.)	A36	RBC-1	--
				GALVANIZED WT		251



DETAIL "A"

NOTES:
1. ALL HOLES ARE 11/16" DIA. U.N.O
2. HOT-DIPPED GALVANIZED PER ASTM A123.

THIRD ANGLE PROJECTION

METROSITE FABRICATORS LLC
180 INDUSTRIAL PARK BLVD.
COMMERCE GA 30529

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH

STANDARD SHEET TOLERANCES

DECIMALS	ANGLES
.X ± 0.1	± 1°
.XX ± 0.02	FRACTIONS
.XXX ± 0.005	± 1/32

APPROVAL / SIGNATURES		DATE
DRAWN BY	XXX	05/12/17
REVIEWED	XXX	-
APPROVED	XXX	-

TITLE
MS-HR2375-2375
SUPPORT RAIL KIT

SIZE	DWG NO	REV
B	MS-HR2375-2375	0

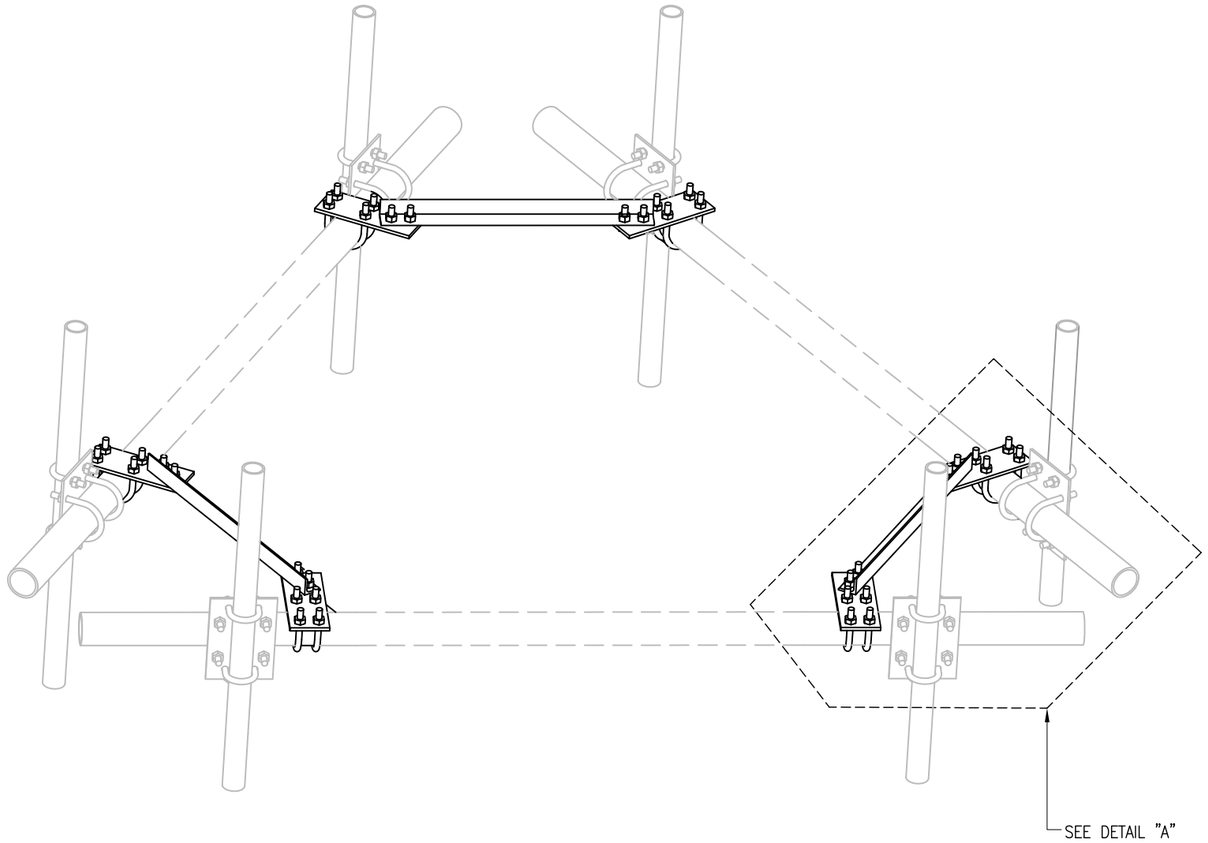
SCALE -

SHEET 1 OF 1

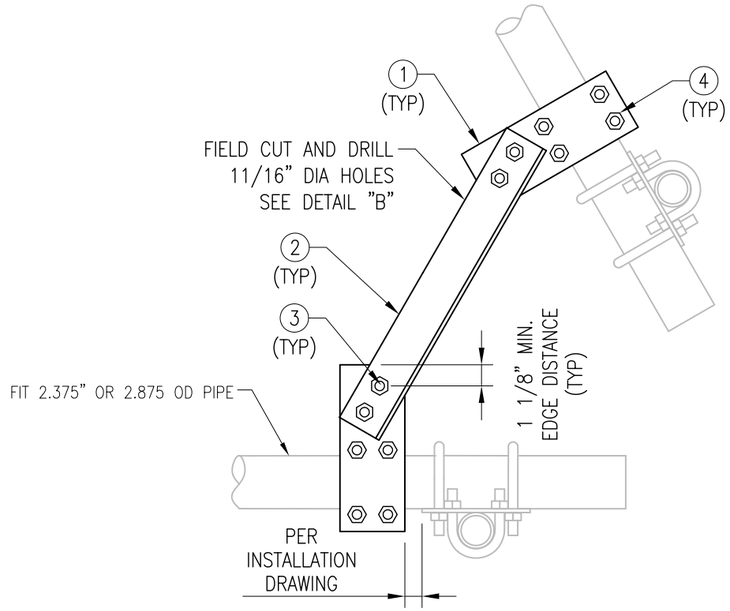
NOTE:
1) FITS 2 3/8" DIA. TO 2 7/8" DIA. PIPE.
2) ALL HOLES ARE 11/16" DIA. U.N.O
3) HOT-DIPPED GALVANIZED PER ASTM A123

MS-HR2875-33ECP

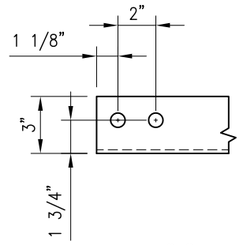
ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	6	PL375-42510	PL 3/8" X 4 1/4" X 0'-10"	A36	BK-1	28.2
2	3	AL-33C	L 3" X 3" X 1/4" X 3'-6"	A36	ECP-1	54.0
3	12	--	BOLT 5/8" X 2" A325 W/ HHN & LKW	A325	--	--
4	12	MS02-625-300-500	RU-BOLT 5/8" X 3" I.W. X 5" I.L. A36 (OR EQUIV.)	A36	RBC-1	--
				GALVANIZED WT		82



ELEVATION VIEW



DETAIL "A"



DETAIL "B"
11/16"ø HOLES FIELD DRILLED

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE FINISH

STANDARD SHEET TOLERANCES

DECIMALS	ANGLES
.X ± 0.1	± 1°
.XX ± 0.02	FRACTIONS
.XXX ± 0.005	± 1/32

APPROVAL / SIGNATURES		DATE
DRAWN BY	XXX	05/12/17
REVIEWED	XXX	-
APPROVED	XXX	-

METROSITE FABRICATORS LLC
180 INDUSTRIAL PARK BLVD.
COMMERCE GA 30529

TITLE
MS-HR2875-33ECP
SUPPORT RAIL END CONNECTION KIT

SIZE	DWG NO	REV
B	MS-HR2875-33ECP	0

SCALE -
SHEET 1 OF 1

EXHIBIT 8

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

Structural Analysis Report

Existing 160 ft SUMMIT Monopole

Customer Name: SBA Communications Corp

Customer Site Number: CT03538-S

Customer Site Name: South Plymouth

Carrier Name: T-Mobile (App#: 117013, V2)

Carrier Site ID / Name: CT11363D / South Plymouth

Site Location: 170 Mount Tobe Road

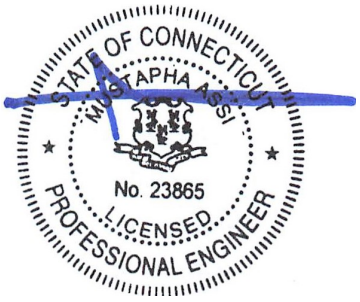
Plymouth, Connecticut

Litchfield County

Latitude: 41.630030

Longitude: -73.056553

Exp.10/31/2021



05/03/2021

Analysis Result:

Max Structural Usage: 75.1% [Pass]

Max Foundation Usage: 60.0% [Pass]

Additional Usage Caused by Mount Modification: +2.3%

Report Prepared By : Delu Zhou

Introduction

The purpose of this report is to summarize the analysis results on the 160 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 Design by Paul J. Ford and Company for Summit Manufacturing, LLC, PJF Job No. 29201-1019, Summit # 15616, dated August 21, 2001
Foundation Drawing	Foundation Design by Paul J. Ford and Company for Summit Manufacturing, LLC, PJF Job No. 29201-1019, Summit # 15616, dated August 21, 2001
Geotechnical Report	Jaworski Geotech, Inc., Project No. 00244G, dated July 31, 2001
Modification Drawings	N/A
Mount Analysis	TES MA Job # 77885 Rev1, dated 07/17/2019

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} = 120.0 mph (3-Sec. Gust)/ Nominal Design Wind Speed V_{asd} = 93.0 mph (3-Sec. Gust)
Wind Speed with Ice:	40 mph (3-Sec. Gust) with 1" 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 = 0.187, S_1 = 0.064

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
-	160.0	3	Ericsson AIR 21 B2A/B4P - Panel	Low Profile Platform	(12) 1 5/8" (1) 1 5/8" Hybrid (1) 1 5/8" Fiber	T-Mobile
-		3	Ericsson AIR 32 - Panel			
-		3	Commscope LNX-6515DS-A1M - Panel			
-		3	Ericsson KRY112 144 - TMA			
-		3	Ericsson RRUS 11 - RRU			
6	156.5	1	Lone Star Electronics LS-230C - Omni	(1) 4 ft. Sidearm	(1) 7/8"	Thomaston P.D.
7	153.0	1	Andrew VHLP-2.6-11 - Dish	(2) Pipe Mounts	(2) EW90	
8		1	Hutton HPD 3.4-4.7 - Dish			
9		3	Motorola ODU-A-RF			
10	150.0	3	RFS APXVTM14-C-120 - Panel	Low Profile Platform	(4) 1 1/4"	Sprint
11	148.0	3	RFS APXVSPP18-C-A20 - Panel			
12		3	ALU 1900MHz - RRU			
13		3	ALU 800 MHz - RRU			
14		3	ALU TD-RRH8x20-25 - RRU			
15		3	ALU 800 MHz Filter			
16		4	RFS ACU-A20-N - RET			
17	137.0	3	Antel BXA-70063-6CF-2 - Panel	Low Profile Platform	(12) 1 5/8" (1) 1 5/8" Hybriflex	Verizon
18		6	Commscope HBXX-6517DS-A2M - Panel			
19		3	Antel BXA-70080-6CF-2 - Panel			
20		1	RFS DB-T1-6Z-8AB-0Z - Distribution Box			
21		3	ALU 2X60-1900 - RRU			
22		3	ALU RRH2X60-AWS - RRU			
23		6	RFS FD9R6004/2C-3 - Diplexer			
24	134.5	1	Bird Technologies CSA 10-67 DIM - Dipole	(1) Pipe Mount	(1) 7/8"	Thomaston P.D.
25	108.0	6	Powerwave - 7770 - Panel	Low Profile Platform	(12) 1 5/8" (4) 3/4" DC (2) 7/16" Fiber	AT&T
26		3	KMW - AM-X-CD-17-65-00T-RET - Panel			
27		3	KMW - EPBQ-652L8H6-L2 - Panel			
28		6	Powerwave LGP21401 TMA			
29		6	Powerwave 21903 Diplexer			
30		12	Powerwave 7020 RET			
31		6	Ericsson RRU 11			
32		3	Ericsson RRUS 32 B2 RRU			
33		3	Ericsson B14 4478 RRU			
34		2	Raycap DC6-48-60-18-8F			
35		3	Andrew ABT-DFDM-ADBH BIAS-T			

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
1	160.0	3	Ericsson Air 21 B2A/B4P Panel	Modified Low Profile Platform with Support rail w/ end connection kit	(10) 1 5/8" (2) 1 5/8" Fiber (1) 1.9" Fiber	T-Mobile
2		3	Ericsson - Air 32 KRD901146-1_B66A_B2A - Panel			
3		3	RFS APXVAARR24_43-U-NA20 Panel			
4		3	Ericsson KRY 112 144/1 TMA			
5		3	Ericsson 4449 B71 + B85 RRUs			

All transmission lines are considered running inside of the pole shafts.

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:	**75.1%**	**0.0%**	**0.0%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	4396.6	36.9	92.9

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):

The maximum twist and sway of the microwave dishes under the operational wind speed as specified in the Analysis Criteria are listed in the table below:

Elevation (ft)	Antenna / Dish	Carrier	Twist (deg)	Sway (deg)
153.0	VHLP-2.6-11 - Dish	Thomaston P.D.	0.000	1.655
153.0	Hutton HPD 3.4-4.7 - Dish	Thomaston P.D.	0.000	1.655

It is recommended that the carriers review the twist and sway values of the microwave dishes.

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 75.11% at 45.0ft

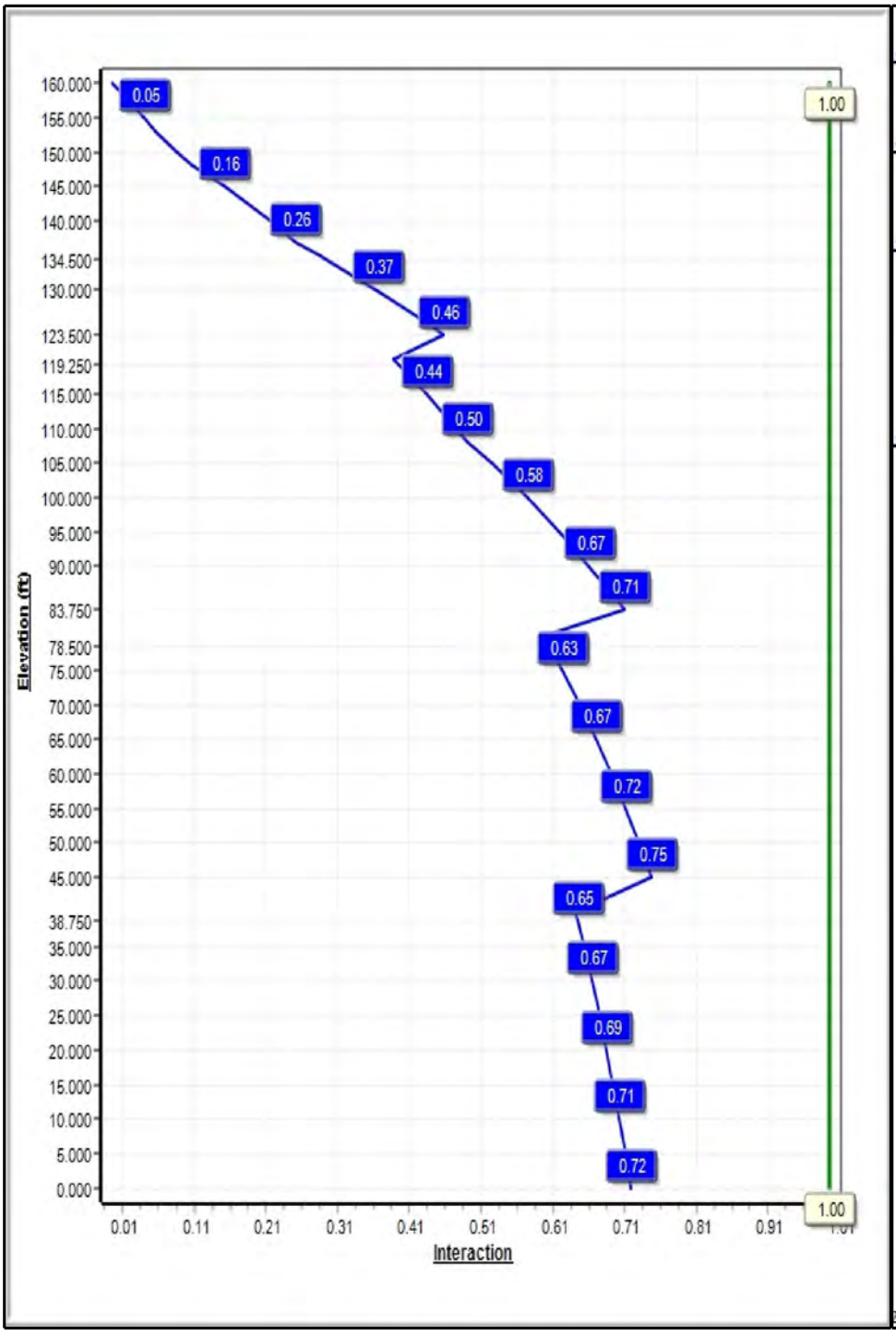
Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021
Site Name:	South Plymouth	**Exposure:**	C	
Height:	160.00 (ft)	**Gh:**	1.1	
Base Elev:	0.000 (ft)			Page: 1

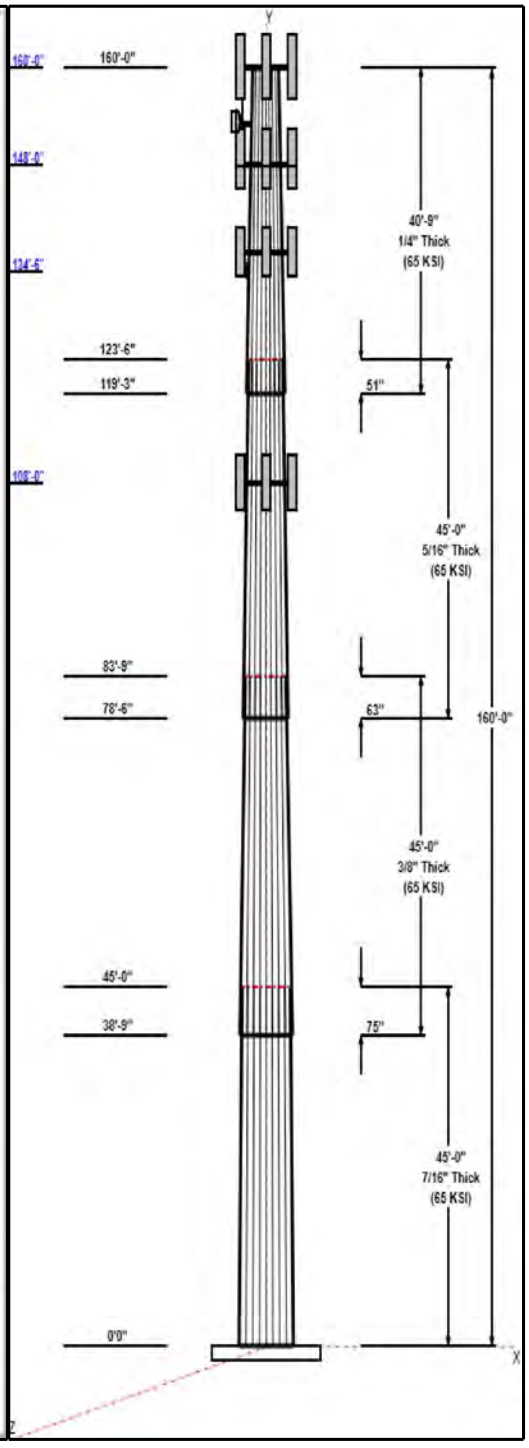
Tower Engineering Solutions

Dead Load Factor:	1.20
Wind Load Factor:	1.60

Load Case : 1.2D + 1.6W 93 mph Wind

Iterations: 25





Structure: CT03538-S-SBA

Type: Tapered
Site Name: South Plymouth
Height: 160.00 (ft)
Base Elev: 0.00 (ft)

Base Shape: 18 Sided
Taper: 0.21503

5/3/2021

Tower Engineering Solutions

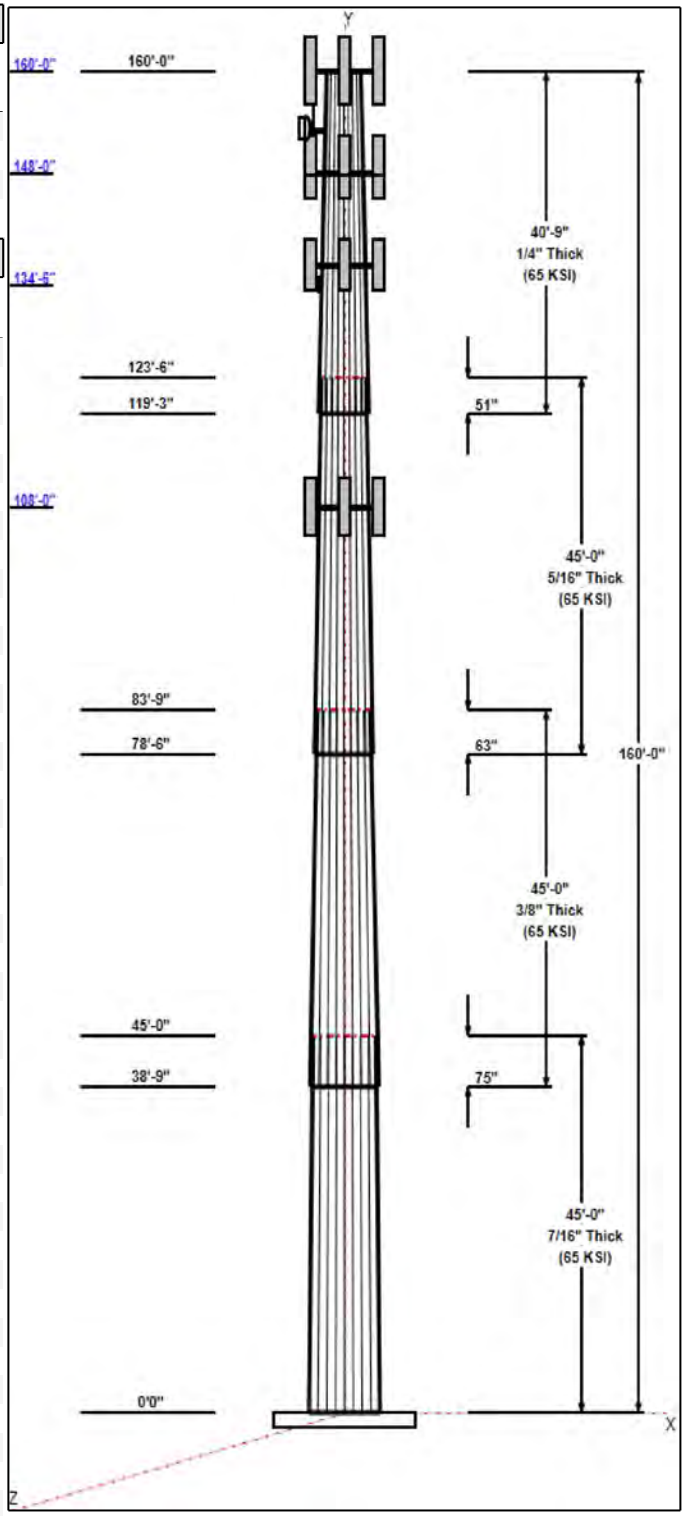
Shaft Properties

Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	45.00	46.85	56.53	0.438		0.21503	65
2	45.00	39.27	48.95	0.375	Slip	0.21503	65
3	45.00	31.35	41.03	0.313	Slip	0.21503	65
4	40.75	24.00	32.76	0.250	Slip	0.21503	65

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
160.00	160.00	1	Low Profile Platform	T-Mobile
160.00	160.00	3	4449 B71 + B85	T-Mobile
160.00	160.00	3	Air 21 B2A/B4P	T-Mobile
160.00	160.00	3	Air 32	T-Mobile
160.00	160.00	3	APXVAARR24_43-U-NA20	T-Mobile
160.00	160.00	3	Ericsson KRY 112 144/1	T-Mobile
160.00	160.00	1	MS-HRECP-35	T-Mobile
153.00	156.50	1	Lone Star Electronics	Thomaston P.D.
153.00	153.00	1	VHLP-2.6-11	Thomaston P.D.
153.00	153.00	1	Hutton HPD 3.4-4.7	Thomaston P.D.
153.00	153.00	3	Motorola ODU-A-RF	Thomaston P.D.
153.00	153.00	2	Pipe Mounts	Thomaston P.D.
153.00	153.00	1	4 ft Sidearm	Thomaston P.D.
148.00	150.00	3	RFS APXVTM14-C-120	Sprint
148.00	148.00	3	RFS APXVSPP18-C-A20	Sprint
148.00	148.00	3	ALU 1900MHz RRH	Sprint
148.00	148.00	3	ALU 800 MHz RRH	Sprint
148.00	148.00	3	ALU TD-RRH8x20-25	Sprint
148.00	148.00	3	ALU 800 MHz Filter	Sprint
148.00	148.00	4	RFS ACU-A20-N	Sprint
148.00	148.00	1	Low Profile Platform	Sprint
137.00	137.00	3	Antel BXA-70063-6CF-2	Verizon
137.00	137.00	6	Commscope	Verizon
137.00	137.00	3	Antel BXA-70080-6CF-2	Verizon
137.00	137.00	1	RFS DB-T1-6Z-8AB-0Z	Verizon
137.00	137.00	3	ALU 2X60-1900	Verizon
137.00	137.00	3	ALU RRH2X60-AWS	Verizon
137.00	137.00	6	RFS FD9R6004/2C-3	Verizon
137.00	137.00	1	Low Profile Platform	Verizon
134.50	134.50	1	Bird Technologies CSA	Thomaston P.D.
134.50	134.50	1	Pipe Mount	Thomaston P.D.
108.00	108.00	6	7770	AT&T
108.00	108.00	3	EPBQ-652L8H6-L2	AT&T
108.00	108.00	12	Powerwave 7020 RET	AT&T
108.00	108.00	3	Ericsson RRUS 32 B2	AT&T
108.00	108.00	3	Ericsson B14 4478 RRU	AT&T
108.00	108.00	3	AM-X-CD-17-65-00T-RET	AT&T
108.00	108.00	6	Powerwave LGP21401	AT&T
108.00	108.00	6	Powerwave 21903 Diplexer	AT&T
108.00	108.00	6	Ericsson RRU 11	AT&T
108.00	108.00	3	Andrew ABT-DFDM-ADBH	AT&T
108.00	108.00	2	Raycap DC6-48-60-18-8F	AT&T
108.00	108.00	1	Low Profile Platform	AT&T

Linear Appurtenances



Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	160.00	Inside	1 5/8" Coax	T-Mobile
0.00	160.00	Inside	1 5/8" Fiber	T-Mobile
0.00	160.00	Inside	1.9" Fiber	T-Mobile
0.00	153.00	Inside	7/8" Coax	Thomaston P.D.
0.00	153.00	Inside	EW90	Thomaston P.D.
0.00	148.00	Inside	1 1/4" Coax	Sprint
0.00	137.00	Inside	1 5/8" Coax	Verizon
0.00	137.00	Inside	1 5/8" Hybriflex	Verizon
0.00	134.50	Inside	7/8" Coax	Thomaston P.D.
0.00	108.00	Inside	1 5/8" Coax	AT&T
0.00	108.00	Inside	3/4" DC	AT&T
0.00	108.00	Inside	7/16" Fiber	AT&T

Anchor Bolts

Qty	Specifications	Grade (ksi)	Arrangement
20	2.25" 18J	75.0	Cluster

Base Plate

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.0000	64.0	50.0	Clipped

Reactions

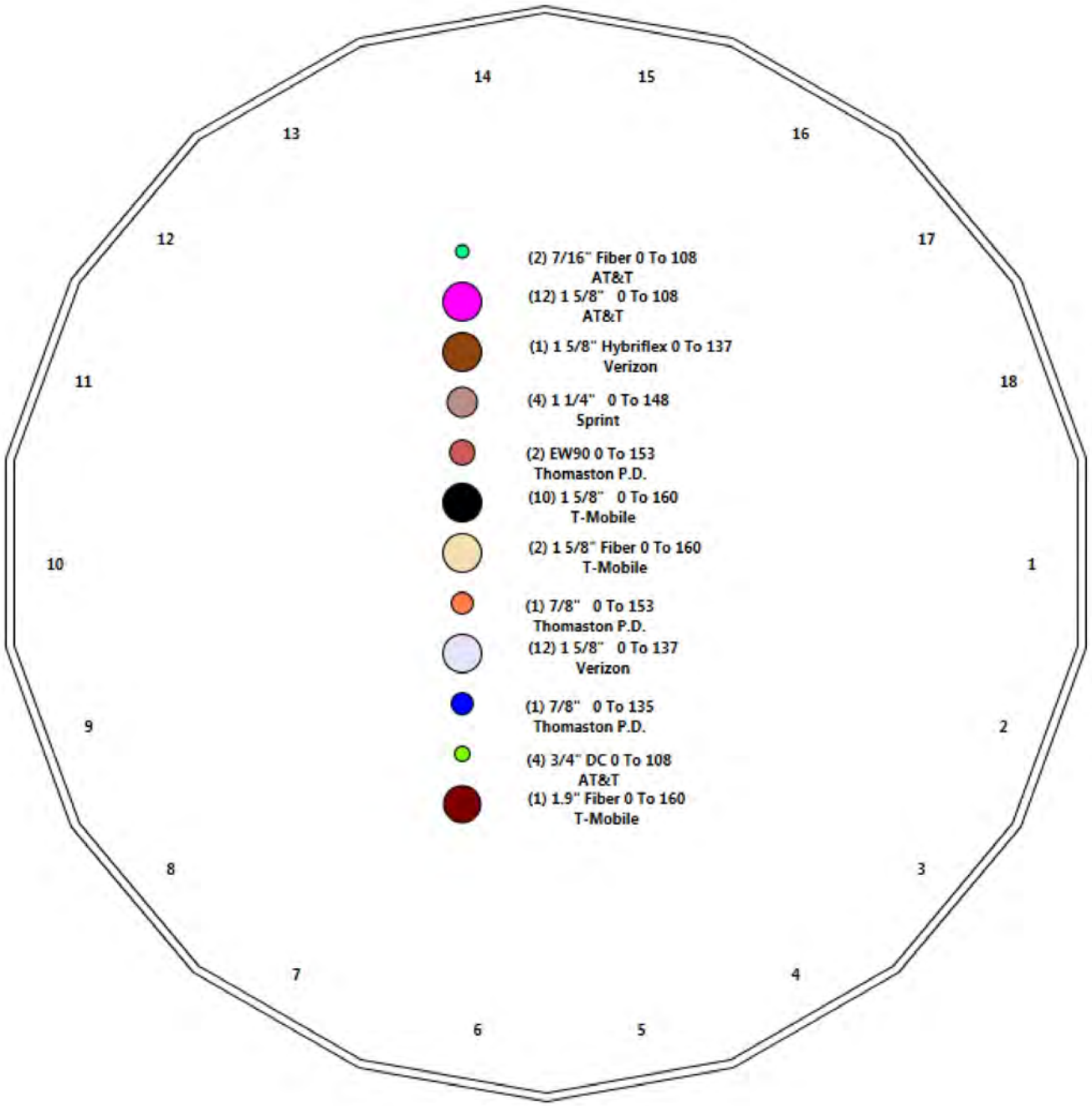
Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.6W 93 mph Wind	4396.6	36.9	54.0
0.9D + 1.6W 93 mph Wind	4345.5	36.9	40.5
1.2D + 1.0Di + 1.0Wi 40 mph Wind	969.3	7.9	92.9
1.2D + 1.0E	293.3	2.3	54.1
0.9D + 1.0E	289.6	2.3	40.6
1.0D + 1.0W 60 mph Wind	1136.7	9.6	45.1

Structure: CT03538-S-SBA - Coax Line Placement

Type: Monopole
Site Name: South Plymouth
Height: 160.00 (ft)

5/3/2021

Tower Engineering Solutions



Shaft Properties

Structure:	CT03538-S-SBA		**Code:**	EIA/TIA-222-G	5/3/2021
Site Name:	South Plymouth		**Exposure:**	C	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 5

Sec. No.	Shape	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Overlap (in)	Weight (lb)
1	18	45.000	0.4375	65		0.00	10,898
2	18	45.000	0.3750	65	Slip	75.00	7,971
3	18	45.000	0.3125	65	Slip	63.00	5,448
4	18	40.750	0.2500	65	Slip	51.00	3,095
					Total Shaft Weight:		**27,412**

	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	56.53	0.00	77.89	30962.56	21.37	129.21	46.85	45.00	64.45	17543.9	17.47	107.0	0.215031
2	48.95	38.75	57.81	17232.49	21.60	130.53	39.27	83.75	46.29	8849.01	17.05	104.7	0.215031
3	41.03	78.50	40.38	8456.28	21.74	131.28	31.35	123.50	30.78	3746.26	16.28	100.3	0.215031
4	32.76	119.2	25.80	3445.37	21.70	131.05	24.00	160.00	18.84	1343.00	15.52	96.00	0.215031

Load Summary

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 6	

Discrete Appurtenances

				No Ice			Ice				
No.	Elev (ft)	Description	Qty	Weight (lb)	CaAa (sf)	CaAa Factor	Weight (lb)	CaAa (sf)	CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
1	160.00	Low Profile Platform	1	1600.00	22.00	1.00	3473.62	45.701	1.00	0.00	0.00
2	160.00	4449 B71 + B85	3	73.20	1.97	0.67	150.69	2.734	0.67	0.00	0.00
3	160.00	Air 21 B2A/B4P	3	91.50	6.09	0.86	333.39	7.596	0.86	0.00	0.00
4	160.00	Air 32 KRD901146-1_B66A_B2A	3	132.20	6.51	0.87	395.35	8.109	0.87	0.00	0.00
5	160.00	APXVAARR24_43-U-NA20	3	128.00	20.24	0.70	713.47	22.823	0.70	0.00	0.00
6	160.00	Ericsson KRY 112 144/1	3	11.00	0.41	0.70	25.47	1.048	0.70	0.00	0.00
7	160.00	MS-HRECP-35	1	514.00	12.25	1.00	1332.58	28.316	1.00	0.00	0.00
8	153.00	Lone Star Electronics LS-230C	1	20.00	2.10	1.00	77.36	4.603	1.00	0.00	3.50
9	153.00	VHLP-2.6-11	1	47.60	8.43	1.00	278.31	10.710	1.00	0.00	0.00
10	153.00	Hutton HPD 3.4-4.7	1	105.00	8.92	1.00	114.79	9.752	1.00	0.00	0.00
11	153.00	Motorola ODU-A-RF	3	10.40	1.44	1.00	52.47	2.586	1.00	0.00	0.00
12	153.00	Pipe Mounts	2	50.00	5.00	1.00	105.96	9.663	1.00	0.00	0.00
13	153.00	4 ft Sidearm	1	50.00	3.50	1.00	184.16	14.179	1.00	0.00	0.00
14	148.00	RFS APXVTM14-C-120	3	96.00	6.34	0.89	324.12	7.854	0.94	0.00	2.00
15	148.00	RFS APXVSPP18-C-A20	3	97.00	8.02	0.93	488.68	11.740	0.98	0.00	0.00
16	148.00	ALU 1900MHz RRH	3	44.00	3.80	0.67	189.36	5.651	0.67	0.00	0.00
17	148.00	ALU 800 MHz RRH	3	53.00	2.49	0.67	151.48	4.013	0.00	0.00	0.00
18	148.00	ALU TD-RRH8x20-25	3	70.00	4.05	0.69	227.46	5.160	0.75	0.00	0.00
19	148.00	ALU 800 MHz Filter	3	10.00	0.42	0.99	45.52	0.879	0.67	0.00	0.00
20	148.00	RFS ACU-A20-N	4	1.00	0.14	0.79	6.72	0.535	0.67	0.00	0.00
21	148.00	Low Profile Platform	1	1200.00	25.00	1.00	2594.30	52.886	1.00	0.00	0.00
22	137.00	Antel BXA-70063-6CF-2	3	17.00	7.57	0.83	212.94	11.222	0.88	0.00	0.00
23	137.00	Commscope HBXX-6517DS-A2M	6	40.80	8.55	0.87	273.67	12.406	0.92	0.00	0.00
24	137.00	Antel BXA-70080-6CF-2	3	18.00	5.76	0.97	185.39	8.895	1.02	0.00	0.00
25	137.00	RFS DB-T1-6Z-8AB-0Z	1	18.90	4.80	0.71	219.89	5.979	0.75	0.00	0.00
26	137.00	ALU 2X60-1900	3	46.00	1.88	0.84	145.19	2.681	0.89	0.00	0.00
27	137.00	ALU RRH2X60-AWS	3	55.00	2.20	0.89	175.32	3.066	0.94	0.00	0.00
28	137.00	RFS FD9R6004/2C-3	6	3.10	0.36	0.50	13.71	0.946	0.50	0.00	0.00
29	137.00	Low Profile Platform	1	1500.00	22.00	1.00	3229.47	45.336	1.00	0.00	0.00
30	134.50	Bird Technologies CSA 10-67 DIM	1	4.60	3.81	1.00	166.47	38.800	1.00	0.00	0.00
31	134.50	Pipe Mount	1	50.00	5.00	1.00	105.24	9.603	1.00	0.00	0.00
32	108.00	7770	6	35.00	5.50	0.83	221.09	6.901	0.88	0.00	0.00
33	108.00	EPBQ-652L8H6-L2	3	99.00	15.71	0.71	533.29	17.905	0.71	0.00	0.00
34	108.00	Powerwave 7020 RET	12	2.20	0.40	1.00	15.40	1.025	1.00	0.00	0.00
35	108.00	Ericsson RRUS 32 B2 RRU	3	77.00	1.65	0.67	145.73	2.419	0.67	0.00	0.00
36	108.00	Ericsson B14 4478 RRU	3	58.00	3.15	0.67	189.12	4.095	0.67	0.00	0.00
37	108.00	AM-X-CD-17-65-00T-RET	3	48.50	8.02	0.75	257.88	11.625	0.75	0.00	0.00
38	108.00	Powerwave LGP21401 TMA	6	14.10	1.29	0.50	46.36	2.368	0.50	0.00	0.00
39	108.00	Powerwave 21903 Diplexer	6	5.50	0.27	0.84	16.37	0.783	0.89	0.00	0.00
40	108.00	Ericsson RRU 11	6	51.00	2.52	0.67	144.25	3.337	0.67	0.00	0.00
41	108.00	Andrew ABT-DFDM-ADBH BIAS-T	3	1.10	0.05	0.98	3.98	0.298	1.00	0.00	0.00
42	108.00	Raycap DC6-48-60-18-8F	2	31.80	0.92	1.00	111.57	1.485	1.00	0.00	0.00
43	108.00	Low Profile Platform	1	1500.00	22.00	1.00	3188.82	44.788	1.00	0.00	0.00
		Totals:	**131**	**11,408.80**			**34,743.23**				

Linear Appurtenances

Discrete Appurtenances

No.	Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	No Ice CaAa Factor	Ice Weight (lb)	Ice CaAa (sf)	Ice CaAa Factor	Hor. Ecc. (ft)	Vert Ecc (ft)
Bottom Elev. (ft)	**Top Elev. (ft)**	**Description**		**Exposed Width**		**Exposed**					
0.00	160.00	(10) 1 5/8" Coax		0.00		Inside					
0.00	160.00	(2) 1 5/8" Fiber		0.00		Inside					
0.00	160.00	(1) 1.9" Fiber		0.00		Inside					
0.00	153.00	(1) 7/8" Coax		0.00		Inside					
0.00	153.00	(2) EW90		0.00		Inside					
0.00	148.00	(4) 1 1/4" Coax		0.00		Inside					
0.00	137.00	(12) 1 5/8" Coax		0.00		Inside					
0.00	137.00	(1) 1 5/8" Hybriflex		0.00		Inside					
0.00	134.50	(1) 7/8" Coax		0.00		Inside					
0.00	108.00	(12) 1 5/8" Coax		0.00		Inside					
0.00	108.00	(4) 3/4" DC		0.00		Inside					
0.00	108.00	(2) 7/16" Fiber		0.00		Inside					

Shaft Section Properties

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 8	

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	56.530	77.889	30962.6	21.37	129.21	76.3	1078.	0.0
5.00		0.4375	55.455	76.396	29216.0	20.94	126.75	76.8	1037.	1312.5
10.00		0.4375	54.380	74.903	27536.5	20.51	124.30	77.3	997.4	1287.1
15.00		0.4375	53.305	73.410	25922.5	20.07	121.84	77.8	957.8	1261.7
20.00		0.4375	52.229	71.917	24372.9	19.64	119.38	78.3	919.1	1236.3
25.00		0.4375	51.154	70.424	22886.3	19.21	116.92	78.8	881.2	1210.9
30.00		0.4375	50.079	68.931	21461.4	18.77	114.47	79.3	844.1	1185.5
35.00		0.4375	49.004	67.438	20097.0	18.34	112.01	79.8	807.8	1160.1
38.75	Bot - Section 2	0.4375	48.198	66.318	19112.5	18.01	110.17	80.2	781.0	853.4
40.00		0.4375	47.929	65.945	18791.6	17.91	109.55	80.3	772.2	526.5
45.00	Top - Section 1	0.3750	47.604	56.212	15841.3	20.97	126.94	0.0	0.0	2076.6
50.00		0.3750	46.528	54.932	14783.9	20.47	124.08	77.3	625.8	945.5
55.00		0.3750	45.453	53.652	13774.6	19.96	121.21	77.9	596.9	923.7
60.00		0.3750	44.378	52.373	12812.3	19.46	118.34	78.5	568.6	902.0
65.00		0.3750	43.303	51.093	11895.9	18.95	115.47	79.1	541.1	880.2
70.00		0.3750	42.228	49.814	11024.3	18.45	112.61	79.7	514.2	858.4
75.00		0.3750	41.153	48.534	10196.3	17.94	109.74	80.3	488.0	836.6
78.50	Bot - Section 3	0.3750	40.400	47.638	9642.1	17.59	107.73	80.7	470.1	572.7
80.00		0.3750	40.077	47.254	9410.9	17.43	106.87	80.9	462.5	447.5
83.75	Top - Section 2	0.3125	39.896	39.261	7772.2	21.10	127.67	0.0	0.0	1102.9
85.00		0.3125	39.627	38.994	7614.9	20.95	126.81	76.8	378.5	166.4
90.00		0.3125	38.552	37.928	7007.1	20.34	123.37	77.5	358.0	654.4
95.00		0.3125	37.477	36.861	6432.5	19.74	119.93	78.2	338.1	636.2
100.00		0.3125	36.402	35.795	5890.2	19.13	116.49	78.9	318.7	618.1
105.00		0.3125	35.327	34.728	5379.3	18.52	113.05	79.6	299.9	599.9
108.00		0.3125	34.682	34.089	5087.4	18.16	110.98	80.0	288.9	351.3
110.00		0.3125	34.252	33.662	4898.8	17.92	109.61	80.3	281.7	230.5
115.00		0.3125	33.176	32.596	4447.9	17.31	106.16	81.0	264.1	563.7
119.25	Bot - Section 4	0.3125	32.263	31.689	4087.0	16.79	103.24	81.6	249.5	464.8
120.00		0.3125	32.101	31.529	4025.5	16.70	102.72	81.8	247.0	146.3
123.50	Top - Section 3	0.2500	31.849	25.073	3162.9	21.05	127.39	0.0	0.0	673.2
125.00		0.2500	31.526	24.817	3067.1	20.82	126.10	76.9	191.6	127.3
130.00		0.2500	30.451	23.964	2761.5	20.07	121.80	77.8	178.6	415.0
134.50		0.2500	29.483	23.196	2504.5	19.38	117.93	78.6	167.3	361.1
135.00		0.2500	29.376	23.110	2476.9	19.31	117.50	78.7	166.1	39.4
137.00		0.2500	28.946	22.769	2368.8	19.01	115.78	79.0	161.2	156.1
140.00		0.2500	28.301	22.257	2212.6	18.55	113.20	79.6	154.0	229.8
145.00		0.2500	27.225	21.404	1967.8	17.79	108.90	80.5	142.4	371.4
148.00		0.2500	26.580	20.892	1830.0	17.34	106.32	81.0	135.6	215.9
150.00		0.2500	26.150	20.551	1741.8	17.03	104.60	81.4	131.2	141.0
153.00		0.2500	25.505	20.039	1614.9	16.58	102.02	81.9	124.7	207.2
155.00		0.2500	25.075	19.698	1533.8	16.28	100.30	82.3	120.5	135.2
160.00		0.2500	24.000	18.845	1343.0	15.52	96.00	82.5	110.2	327.9
										27412.2

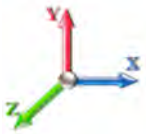
Wind Loading - Shaft

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 9	

Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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	17.879	19.67	410.15	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	402.35	0.650	0.000	5.00	23.690	15.40	484.6	0.0	1575.0
10.00		1.00	0.85	17.879	19.67	394.54	0.650	0.000	5.00	23.235	15.10	475.2	0.0	1544.5
15.00		1.00	0.85	17.879	19.67	386.74	0.650	0.000	5.00	22.780	14.81	465.9	0.0	1514.0
20.00		1.00	0.90	18.971	20.87	390.34	0.650	0.000	5.00	22.325	14.51	484.5	0.0	1483.5
25.00		1.00	0.95	19.883	21.87	391.39	0.650	0.000	5.00	21.871	14.22	497.5	0.0	1453.1
30.00		1.00	0.98	20.661	22.73	390.59	0.650	0.000	5.00	21.416	13.92	506.2	0.0	1422.6
35.00		1.00	1.01	21.343	23.48	388.45	0.650	0.000	5.00	20.961	13.62	511.8	0.0	1392.1
38.75	Bot - Section 2	1.00	1.04	21.805	23.99	386.18	0.650	0.000	3.75	15.422	10.02	384.7	0.0	1024.1
40.00		1.00	1.04	21.951	24.15	385.31	0.650	0.000	1.25	5.163	3.36	129.7	0.0	631.8
45.00	Top - Section 1	1.00	1.07	22.502	24.75	381.36	0.650	0.000	5.00	20.368	13.24	524.3	0.0	2491.9
50.00		1.00	1.09	23.007	25.31	382.94	0.650	0.000	5.00	19.913	12.94	524.1	0.0	1134.6
55.00		1.00	1.12	23.473	25.82	377.87	0.650	0.000	5.00	19.458	12.65	522.5	0.0	1108.5
60.00		1.00	1.14	23.907	26.30	372.32	0.650	0.000	5.00	19.004	12.35	519.7	0.0	1082.3
65.00		1.00	1.16	24.313	26.74	366.38	0.650	0.000	5.00	18.549	12.06	515.9	0.0	1056.2
70.00		1.00	1.17	24.696	27.17	360.08	0.650	0.000	5.00	18.094	11.76	511.2	0.0	1030.1
75.00		1.00	1.19	25.057	27.56	353.47	0.650	0.000	5.00	17.639	11.47	505.6	0.0	1004.0
78.50	Bot - Section 3	1.00	1.20	25.299	27.83	348.67	0.650	0.000	3.50	12.077	7.85	349.5	0.0	687.2
80.00		1.00	1.21	25.400	27.94	346.58	0.650	0.000	1.50	5.187	3.37	150.7	0.0	537.0
83.75	Top - Section 2	1.00	1.22	25.646	28.21	341.25	0.650	0.000	3.75	12.788	8.31	375.2	0.0	1323.5
85.00		1.00	1.22	25.726	28.30	344.88	0.650	0.000	1.25	4.206	2.73	123.8	0.0	199.7
90.00		1.00	1.24	26.037	28.64	337.55	0.650	0.000	5.00	16.539	10.75	492.6	0.0	785.2
95.00		1.00	1.25	26.336	28.97	330.01	0.650	0.000	5.00	16.084	10.45	484.6	0.0	763.5
100.00		1.00	1.27	26.621	29.28	322.27	0.650	0.000	5.00	15.629	10.16	476.0	0.0	741.7
105.00		1.00	1.28	26.896	29.59	314.37	0.650	0.000	5.00	15.174	9.86	466.9	0.0	719.9
108.00	Appurtenance(s)	1.00	1.29	27.056	29.76	309.54	0.650	0.000	3.00	8.886	5.78	275.0	0.0	421.5
110.00		1.00	1.29	27.161	29.88	306.29	0.650	0.000	2.00	5.833	3.79	181.2	0.0	276.6
115.00		1.00	1.30	27.416	30.16	298.07	0.650	0.000	5.00	14.264	9.27	447.4	0.0	676.4
119.25	Bot - Section 4	1.00	1.31	27.627	30.39	290.97	0.650	0.000	4.25	11.767	7.65	371.9	0.0	557.8
120.00		1.00	1.32	27.663	30.43	289.71	0.650	0.000	0.75	2.074	1.35	65.6	0.0	175.6
123.50	Top - Section 3	1.00	1.32	27.831	30.61	283.77	0.650	0.000	3.50	9.544	6.20	303.9	0.0	807.9
125.00		1.00	1.33	27.902	30.69	285.74	0.650	0.000	1.50	4.022	2.61	128.4	0.0	152.8
130.00		1.00	1.34	28.133	30.95	277.14	0.650	0.000	5.00	13.111	8.52	422.0	0.0	498.0
134.50	Appurtenance(s)	1.00	1.35	28.336	31.17	269.29	0.650	0.000	4.50	11.411	7.42	369.9	0.0	433.3
135.00		1.00	1.35	28.358	31.19	268.42	0.650	0.000	0.50	1.245	0.81	40.4	0.0	47.3
137.00	Appurtenance(s)	1.00	1.35	28.446	31.29	264.90	0.650	0.000	2.00	4.935	3.21	160.6	0.0	187.3
140.00		1.00	1.36	28.576	31.43	259.59	0.650	0.000	3.00	7.266	4.72	237.5	0.0	275.8
145.00		1.00	1.37	28.788	31.67	250.65	0.650	0.000	5.00	11.746	7.64	386.8	0.0	445.7
148.00	Appurtenance(s)	1.00	1.37	28.912	31.80	245.24	0.650	0.000	3.00	6.829	4.44	225.9	0.0	259.1
150.00		1.00	1.38	28.994	31.89	241.61	0.650	0.000	2.00	4.462	2.90	148.0	0.0	169.2
153.00	Appurtenance(s)	1.00	1.38	29.115	32.03	236.14	0.650	0.000	3.00	6.557	4.26	218.4	0.0	248.6
155.00		1.00	1.39	29.195	32.11	232.48	0.650	0.000	2.00	4.280	2.78	142.9	0.0	162.3
160.00	Appurtenance(s)	1.00	1.40	29.390	32.33	223.25	0.650	0.000	5.00	10.382	6.75	349.1	0.0	393.5
								Totals:	**160.00**			**14,957.7**		**32,894.6**

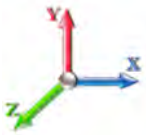
Discrete Appurtenance Forces

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 10	

Load Case: 1.2D + 1.6W 93 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	160.00	MS-HRECP-35	1	29.390	32.329	1.00	1.00	12.25	616.80	0.000	0.000	633.66	0.00	0.00
2	160.00	Ericsson KRY 112 144/1	3	29.390	32.329	0.63	0.90	0.77	39.60	0.000	0.000	40.08	0.00	0.00
3	160.00	APXVAARR24_43-U-NA2	3	29.390	32.329	0.63	0.90	38.25	460.80	0.000	0.000	1978.75	0.00	0.00
4	160.00	Air 32	3	29.390	32.329	0.78	0.90	15.29	475.92	0.000	0.000	791.01	0.00	0.00
5	160.00	Air 21 B2A/B4P	3	29.390	32.329	0.77	0.90	14.14	329.40	0.000	0.000	731.47	0.00	0.00
6	160.00	4449 B71 + B85	3	29.390	32.329	0.60	0.90	3.56	263.52	0.000	0.000	184.34	0.00	0.00
7	160.00	Low Profile Platform	1	29.390	32.329	1.00	1.00	22.00	1920.00	0.000	0.000	1137.99	0.00	0.00
8	153.00	Lone Star Electronics	1	29.254	32.179	1.00	1.00	2.10	24.00	0.000	3.500	108.12	0.00	378.43
9	153.00	VHLP-2.6-11	1	29.115	32.026	1.00	1.00	8.43	57.12	0.000	0.000	431.97	0.00	0.00
10	153.00	Hutton HPD 3.4-4.7	1	29.115	32.026	1.00	1.00	8.92	126.00	0.000	0.000	457.08	0.00	0.00
11	153.00	Pipe Mounts	2	29.115	32.026	1.00	1.00	10.00	120.00	0.000	0.000	512.42	0.00	0.00
12	153.00	4 ft Sidearm	1	29.115	32.026	1.00	1.00	3.50	60.00	0.000	0.000	179.35	0.00	0.00
13	153.00	Motorola ODU-A-RF	3	29.115	32.026	1.00	1.00	4.32	37.44	0.000	0.000	221.37	0.00	0.00
14	148.00	ALU 800 MHz RRH	3	28.912	31.803	0.54	0.80	4.00	190.80	0.000	0.000	203.74	0.00	0.00
15	148.00	RFS APXVTM14-C-120	3	28.994	31.893	0.71	0.80	13.54	345.60	0.000	2.000	691.05	0.00	1382.09
16	148.00	RFS APXVSPP18-C-A20	3	28.912	31.803	0.74	0.80	17.90	349.20	0.000	0.000	910.87	0.00	0.00
17	148.00	ALU 1900MHz RRH	3	28.912	31.803	0.54	0.80	6.11	158.40	0.000	0.000	310.93	0.00	0.00
18	148.00	ALU 800 MHz Filter	3	28.912	31.803	0.79	0.80	1.00	36.00	0.000	0.000	50.78	0.00	0.00
19	148.00	ALU TD-RRH8x20-25	3	28.912	31.803	0.55	0.80	6.71	252.00	0.000	0.000	341.28	0.00	0.00
20	148.00	RFS ACU-A20-N	4	28.912	31.803	0.63	0.80	0.35	4.80	0.000	0.000	18.01	0.00	0.00
21	148.00	Low Profile Platform	1	28.912	31.803	1.00	1.00	25.00	1440.00	0.000	0.000	1272.12	0.00	0.00
22	137.00	Low Profile Platform	1	28.446	31.290	1.00	1.00	22.00	1800.00	0.000	0.000	1101.42	0.00	0.00
23	137.00	RFS FD9R6004/2C-3	6	28.446	31.290	0.40	0.80	0.86	22.32	0.000	0.000	43.26	0.00	0.00
24	137.00	ALU RRH2X60-AWS	3	28.446	31.290	0.71	0.80	4.70	198.00	0.000	0.000	235.26	0.00	0.00
25	137.00	ALU 2X60-1900	3	28.446	31.290	0.67	0.80	3.79	165.60	0.000	0.000	189.75	0.00	0.00
26	137.00	RFS DB-T1-6Z-8AB-0Z	1	28.446	31.290	0.57	0.80	2.73	22.68	0.000	0.000	136.50	0.00	0.00
27	137.00	Antel BXA-70080-6CF-2	3	28.446	31.290	0.78	0.80	13.41	64.80	0.000	0.000	671.33	0.00	0.00
28	137.00	Commscope	6	28.446	31.290	0.70	0.80	35.70	293.76	0.000	0.000	1787.54	0.00	0.00
29	137.00	Antel BXA-70063-6CF-2	3	28.446	31.290	0.66	0.80	15.08	61.20	0.000	0.000	754.94	0.00	0.00
30	134.50	Pipe Mount	1	28.336	31.169	1.00	1.00	5.00	60.00	0.000	0.000	249.35	0.00	0.00
31	134.50	Bird Technologies CSA	1	28.336	31.169	1.00	1.00	3.81	5.52	0.000	0.000	190.01	0.00	0.00
32	108.00	Ericsson RRUS 32 B2	3	27.056	29.762	0.54	0.80	2.65	277.20	0.000	0.000	126.34	0.00	0.00
33	108.00	Powerwave 7020 RET	12	27.056	29.762	0.80	0.80	3.84	31.68	0.000	0.000	182.86	0.00	0.00
34	108.00	Ericsson B14 4478 RRU	3	27.056	29.762	0.54	0.80	5.07	208.80	0.000	0.000	241.20	0.00	0.00
35	108.00	AM-X-CD-17-65-00T-RET	3	27.056	29.762	0.60	0.80	14.44	174.60	0.000	0.000	687.43	0.00	0.00
36	108.00	EPBQ-652L8H6-L2	3	27.056	29.762	0.57	0.80	26.77	356.40	0.000	0.000	1274.76	0.00	0.00
37	108.00	7770	6	27.056	29.762	0.66	0.80	21.91	252.00	0.000	0.000	1043.43	0.00	0.00
38	108.00	Raycap DC6-48-60-18-8F	2	27.056	29.762	0.80	0.80	1.47	76.32	0.000	0.000	70.10	0.00	0.00
39	108.00	Powerwave LGP21401	6	27.056	29.762	0.40	0.80	3.10	101.52	0.000	0.000	147.43	0.00	0.00
40	108.00	Powerwave 21903	6	27.056	29.762	0.67	0.80	1.09	39.60	0.000	0.000	51.84	0.00	0.00
41	108.00	Ericsson RRU 11	6	27.056	29.762	0.54	0.80	8.10	367.20	0.000	0.000	385.92	0.00	0.00
42	108.00	Andrew ABT-DFDM-ADBH	3	27.056	29.762	0.78	0.80	0.12	3.96	0.000	0.000	5.60	0.00	0.00
43	108.00	Low Profile Platform	1	27.056	29.762	1.00	1.00	22.00	1800.00	0.000	0.000	1047.62	0.00	0.00
							Totals:		**13,690.56**			**21,830.25**		

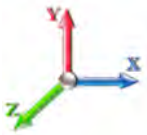
Total Applied Force Summary

Structure:	CT03538-S-SBA		**Code:**	EIA/TIA-222-G	5/3/2021
Site Name:	South Plymouth		**Exposure:**	C	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 11

Load Case: 1.2D + 1.6W 93 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		484.55	1850.63	0.00	0.00
10.00		475.25	1820.15	0.00	0.00
15.00		465.94	1789.66	0.00	0.00
20.00		484.51	1759.18	0.00	0.00
25.00		497.47	1728.70	0.00	0.00
30.00		506.18	1698.22	0.00	0.00
35.00		511.77	1667.74	0.00	0.00
38.75		384.70	1230.80	0.00	0.00
40.00		129.66	700.72	0.00	0.00
45.00		524.33	2767.50	0.00	0.00
50.00		524.12	1410.23	0.00	0.00
55.00		522.52	1384.11	0.00	0.00
60.00		519.74	1357.98	0.00	0.00
65.00		515.92	1331.86	0.00	0.00
70.00		511.18	1305.73	0.00	0.00
75.00		505.62	1279.60	0.00	0.00
78.50		349.52	880.18	0.00	0.00
80.00		150.71	619.65	0.00	0.00
83.75		375.18	1530.26	0.00	0.00
85.00		123.78	268.62	0.00	0.00
90.00		492.64	1060.88	0.00	0.00
95.00		484.57	1039.11	0.00	0.00
100.00		475.98	1017.34	0.00	0.00
105.00		466.89	995.57	0.00	0.00
108.00	(54) attachments	5539.57	4276.17	0.00	0.00
110.00		181.25	352.34	0.00	0.00
115.00		447.39	865.62	0.00	0.00
119.25		371.89	718.66	0.00	0.00
120.00		65.64	204.00	0.00	0.00
123.50		303.87	940.34	0.00	0.00
125.00		128.38	209.56	0.00	0.00
130.00		421.97	687.21	0.00	0.00
134.50	(2) attachments	809.26	669.11	0.00	0.00
135.00		40.39	65.88	0.00	0.00
137.00	(26) attachments	5080.58	2890.15	0.00	0.00
140.00		237.54	338.57	0.00	0.00
145.00		386.84	550.35	0.00	0.00
148.00	(23) attachments	4024.66	3098.65	0.00	1382.09
150.00		148.00	204.75	0.00	0.00
153.00	(9) attachments	2128.69	726.46	0.00	378.43
155.00		142.95	195.00	0.00	0.00
160.00	(17) attachments	5846.36	4581.34	0.00	0.00
	Totals:	**36,787.99**	**54,068.59**	**0.00**	**1,760.52**

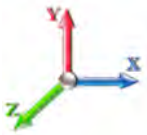
Calculated Forces

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 12	

Load Case: 1.2D + 1.6W 93 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.60



Iterations 25

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	-54.00	-36.88	0.00	-4396.6	0.00	4396.64	5345.98	2672.99	12322.4	6170.37	0.00	0.000	0.000	0.723
5.00	-52.03	-36.58	0.00	-4212.2	0.00	4212.23	5278.55	2639.27	11931.9	5974.86	0.11	-0.198	0.000	0.715
10.00	-50.08	-36.27	0.00	-4029.3	0.00	4029.35	5209.75	2604.88	11544.5	5780.84	0.42	-0.398	0.000	0.707
15.00	-48.17	-35.96	0.00	-3848.0	0.00	3848.01	5139.58	2569.79	11160.2	5588.39	0.95	-0.602	0.000	0.698
20.00	-46.29	-35.62	0.00	-3668.2	0.00	3668.22	5068.05	2534.02	10779.2	5397.62	1.69	-0.808	0.000	0.689
25.00	-44.44	-35.26	0.00	-3490.1	0.00	3490.11	4995.14	2497.57	10401.7	5208.61	2.65	-1.017	0.000	0.679
30.00	-42.62	-34.88	0.00	-3313.8	0.00	3313.82	4920.87	2460.43	10028.0	5021.46	3.83	-1.228	0.000	0.669
35.00	-40.85	-34.46	0.00	-3139.4	0.00	3139.43	4845.22	2422.61	9658.13	4836.24	5.23	-1.442	0.000	0.658
38.75	-39.57	-34.12	0.00	-3010.2	0.00	3010.20	4787.59	2393.79	9383.39	4698.67	6.43	-1.606	0.000	0.649
40.00	-38.79	-34.06	0.00	-2967.5	0.00	2967.55	4768.21	2384.10	9292.33	4653.07	6.85	-1.661	0.000	0.646
45.00	-35.91	-33.59	0.00	-2797.2	0.00	2797.24	3881.96	1940.98	7532.86	3772.03	8.71	-1.879	0.000	0.751
50.00	-34.38	-33.16	0.00	-2629.2	0.00	2629.28	3822.99	1911.49	7248.21	3629.49	10.80	-2.099	0.000	0.734
55.00	-32.88	-32.72	0.00	-2463.4	0.00	2463.49	3762.64	1881.32	6966.27	3488.31	13.13	-2.344	0.000	0.715
60.00	-31.41	-32.28	0.00	-2299.8	0.00	2299.87	3700.92	1850.46	6687.23	3348.59	15.71	-2.590	0.000	0.696
65.00	-29.97	-31.83	0.00	-2138.4	0.00	2138.46	3637.84	1818.92	6411.28	3210.40	18.56	-2.837	0.000	0.675
70.00	-28.55	-31.38	0.00	-1979.3	0.00	1979.30	3573.38	1786.69	6138.59	3073.86	21.66	-3.083	0.000	0.652
75.00	-27.19	-30.90	0.00	-1822.4	0.00	1822.41	3507.56	1753.78	5869.35	2939.04	25.02	-3.328	0.000	0.628
78.50	-26.27	-30.56	0.00	-1714.2	0.00	1714.27	3460.67	1730.33	5683.03	2845.74	27.52	-3.501	0.000	0.610
80.00	-25.59	-30.42	0.00	-1668.4	0.00	1668.43	3440.37	1720.18	5603.74	2806.03	28.64	-3.576	0.000	0.602
83.75	-24.02	-30.00	0.00	-1554.3	0.00	1554.34	2706.01	1353.00	4401.17	2203.86	31.52	-3.758	0.000	0.715
85.00	-23.68	-29.93	0.00	-1516.8	0.00	1516.84	2693.89	1346.95	4351.48	2178.97	32.51	-3.820	0.000	0.705
90.00	-22.52	-29.47	0.00	-1367.1	0.00	1367.19	2644.58	1322.29	4154.08	2080.13	36.65	-4.090	0.000	0.666
95.00	-21.38	-29.01	0.00	-1219.8	0.00	1219.83	2593.89	1296.95	3958.97	1982.43	41.07	-4.352	0.000	0.624
100.00	-20.28	-28.54	0.00	-1074.7	0.00	1074.79	2541.84	1270.92	3766.36	1885.98	45.77	-4.606	0.000	0.578
105.00	-19.24	-28.06	0.00	-932.08	0.00	932.08	2488.42	1244.21	3576.41	1790.86	50.72	-4.848	0.000	0.529
108.00	-15.41	-22.20	0.00	-847.90	0.00	847.90	2455.70	1227.85	3463.79	1734.47	53.81	-4.989	0.000	0.495
110.00	-15.01	-22.03	0.00	-803.50	0.00	803.50	2433.62	1216.81	3389.31	1697.17	55.91	-5.082	0.000	0.480
115.00	-14.12	-21.56	0.00	-693.33	0.00	693.33	2377.46	1188.73	3205.24	1605.00	61.35	-5.299	0.000	0.438
119.25	-13.40	-21.14	0.00	-601.71	0.00	601.71	2328.64	1164.32	3051.30	1527.92	66.14	-5.475	0.000	0.400
120.00	-13.17	-21.08	0.00	-585.85	0.00	585.85	2319.93	1159.96	3024.39	1514.44	67.00	-5.506	0.000	0.393
123.50	-12.23	-20.71	0.00	-512.07	0.00	512.07	1729.39	864.70	2245.31	1124.33	71.08	-5.642	0.000	0.463
125.00	-11.99	-20.58	0.00	-481.01	0.00	481.01	1717.71	858.86	2207.21	1105.25	72.86	-5.698	0.000	0.443
130.00	-11.28	-20.13	0.00	-378.09	0.00	378.09	1677.90	838.95	2081.35	1042.22	78.93	-5.898	0.000	0.370
134.50	-10.68	-19.27	0.00	-287.50	0.00	287.50	1640.90	820.45	1969.70	986.31	84.56	-6.052	0.000	0.299
135.00	-10.60	-19.23	0.00	-277.87	0.00	277.87	1636.72	818.36	1957.39	980.15	85.19	-6.068	0.000	0.291
137.00	-8.25	-13.88	0.00	-239.41	0.00	239.41	1619.86	809.93	1908.38	955.61	87.74	-6.127	0.000	0.256
140.00	-7.92	-13.62	0.00	-197.76	0.00	197.76	1594.17	797.08	1835.53	919.13	91.61	-6.206	0.000	0.220
145.00	-7.40	-13.19	0.00	-129.65	0.00	129.65	1550.24	775.12	1715.94	859.24	98.16	-6.311	0.000	0.156
148.00	-4.75	-8.85	0.00	-88.70	0.00	88.70	1523.23	761.62	1645.35	823.90	102.14	-6.359	0.000	0.111
150.00	-4.56	-8.68	0.00	-71.01	0.00	71.01	1504.95	752.48	1598.80	800.59	104.80	-6.384	0.000	0.092
153.00	-4.08	-6.49	0.00	-44.59	0.00	44.59	1477.12	738.56	1529.77	766.02	108.81	-6.412	0.000	0.061
155.00	-3.90	-6.32	0.00	-31.62	0.00	31.62	1458.29	729.15	1484.30	743.26	111.50	-6.426	0.000	0.045
160.00	0.00	-5.85	0.00	0.00	0.00	0.00	1400.09	700.04	1362.73	682.38	118.22	-6.440	0.000	0.000

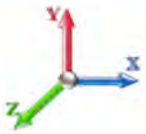
Wind Loading - Shaft

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 13	

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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	17.879	19.67	410.15	0.650	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	17.879	19.67	402.35	0.650	0.000	5.00	23.690	15.40	484.6	0.0	1181.2
10.00		1.00	0.85	17.879	19.67	394.54	0.650	0.000	5.00	23.235	15.10	475.2	0.0	1158.4
15.00		1.00	0.85	17.879	19.67	386.74	0.650	0.000	5.00	22.780	14.81	465.9	0.0	1135.5
20.00		1.00	0.90	18.971	20.87	390.34	0.650	0.000	5.00	22.325	14.51	484.5	0.0	1112.7
25.00		1.00	0.95	19.883	21.87	391.39	0.650	0.000	5.00	21.871	14.22	497.5	0.0	1089.8
30.00		1.00	0.98	20.661	22.73	390.59	0.650	0.000	5.00	21.416	13.92	506.2	0.0	1066.9
35.00		1.00	1.01	21.343	23.48	388.45	0.650	0.000	5.00	20.961	13.62	511.8	0.0	1044.1
38.75	Bot - Section 2	1.00	1.04	21.805	23.99	386.18	0.650	0.000	3.75	15.422	10.02	384.7	0.0	768.1
40.00		1.00	1.04	21.951	24.15	385.31	0.650	0.000	1.25	5.163	3.36	129.7	0.0	473.9
45.00	Top - Section 1	1.00	1.07	22.502	24.75	381.36	0.650	0.000	5.00	20.368	13.24	524.3	0.0	1868.9
50.00		1.00	1.09	23.007	25.31	382.94	0.650	0.000	5.00	19.913	12.94	524.1	0.0	850.9
55.00		1.00	1.12	23.473	25.82	377.87	0.650	0.000	5.00	19.458	12.65	522.5	0.0	831.4
60.00		1.00	1.14	23.907	26.30	372.32	0.650	0.000	5.00	19.004	12.35	519.7	0.0	811.8
65.00		1.00	1.16	24.313	26.74	366.38	0.650	0.000	5.00	18.549	12.06	515.9	0.0	792.2
70.00		1.00	1.17	24.696	27.17	360.08	0.650	0.000	5.00	18.094	11.76	511.2	0.0	772.6
75.00		1.00	1.19	25.057	27.56	353.47	0.650	0.000	5.00	17.639	11.47	505.6	0.0	753.0
78.50	Bot - Section 3	1.00	1.20	25.299	27.83	348.67	0.650	0.000	3.50	12.077	7.85	349.5	0.0	515.4
80.00		1.00	1.21	25.400	27.94	346.58	0.650	0.000	1.50	5.187	3.37	150.7	0.0	402.7
83.75	Top - Section 2	1.00	1.22	25.646	28.21	341.25	0.650	0.000	3.75	12.788	8.31	375.2	0.0	992.6
85.00		1.00	1.22	25.726	28.30	344.88	0.650	0.000	1.25	4.206	2.73	123.8	0.0	149.8
90.00		1.00	1.24	26.037	28.64	337.55	0.650	0.000	5.00	16.539	10.75	492.6	0.0	588.9
95.00		1.00	1.25	26.336	28.97	330.01	0.650	0.000	5.00	16.084	10.45	484.6	0.0	572.6
100.00		1.00	1.27	26.621	29.28	322.27	0.650	0.000	5.00	15.629	10.16	476.0	0.0	556.3
105.00		1.00	1.28	26.896	29.59	314.37	0.650	0.000	5.00	15.174	9.86	466.9	0.0	539.9
108.00	Appurtenance(s)	1.00	1.29	27.056	29.76	309.54	0.650	0.000	3.00	8.886	5.78	275.0	0.0	316.1
110.00		1.00	1.29	27.161	29.88	306.29	0.650	0.000	2.00	5.833	3.79	181.2	0.0	207.5
115.00		1.00	1.30	27.416	30.16	298.07	0.650	0.000	5.00	14.264	9.27	447.4	0.0	507.3
119.25	Bot - Section 4	1.00	1.31	27.627	30.39	290.97	0.650	0.000	4.25	11.767	7.65	371.9	0.0	418.4
120.00		1.00	1.32	27.663	30.43	289.71	0.650	0.000	0.75	2.074	1.35	65.6	0.0	131.7
123.50	Top - Section 3	1.00	1.32	27.831	30.61	283.77	0.650	0.000	3.50	9.544	6.20	303.9	0.0	605.9
125.00		1.00	1.33	27.902	30.69	285.74	0.650	0.000	1.50	4.022	2.61	128.4	0.0	114.6
130.00		1.00	1.34	28.133	30.95	277.14	0.650	0.000	5.00	13.111	8.52	422.0	0.0	373.5
134.50	Appurtenance(s)	1.00	1.35	28.336	31.17	269.29	0.650	0.000	4.50	11.411	7.42	369.9	0.0	325.0
135.00		1.00	1.35	28.358	31.19	268.42	0.650	0.000	0.50	1.245	0.81	40.4	0.0	35.5
137.00	Appurtenance(s)	1.00	1.35	28.446	31.29	264.90	0.650	0.000	2.00	4.935	3.21	160.6	0.0	140.5
140.00		1.00	1.36	28.576	31.43	259.59	0.650	0.000	3.00	7.266	4.72	237.5	0.0	206.8
145.00		1.00	1.37	28.788	31.67	250.65	0.650	0.000	5.00	11.746	7.64	386.8	0.0	334.3
148.00	Appurtenance(s)	1.00	1.37	28.912	31.80	245.24	0.650	0.000	3.00	6.829	4.44	225.9	0.0	194.3
150.00		1.00	1.38	28.994	31.89	241.61	0.650	0.000	2.00	4.462	2.90	148.0	0.0	126.9
153.00	Appurtenance(s)	1.00	1.38	29.115	32.03	236.14	0.650	0.000	3.00	6.557	4.26	218.4	0.0	186.5
155.00		1.00	1.39	29.195	32.11	232.48	0.650	0.000	2.00	4.280	2.78	142.9	0.0	121.7
160.00	Appurtenance(s)	1.00	1.40	29.390	32.33	223.25	0.650	0.000	5.00	10.382	6.75	349.1	0.0	295.1
								Totals:	**160.00**			**14,957.7**		**24,670.9**

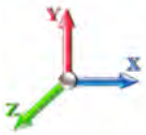
Discrete Appurtenance Forces

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 14	

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

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	160.00	MS-HRECP-35	1	29.390	32.329	1.00	1.00	12.25	462.60	0.000	0.000	633.66	0.00	0.00
2	160.00	Ericsson KRY 112 144/1	3	29.390	32.329	0.63	0.90	0.77	29.70	0.000	0.000	40.08	0.00	0.00
3	160.00	APXVAARR24_43-U-NA2	3	29.390	32.329	0.63	0.90	38.25	345.60	0.000	0.000	1978.75	0.00	0.00
4	160.00	Air 32	3	29.390	32.329	0.78	0.90	15.29	356.94	0.000	0.000	791.01	0.00	0.00
5	160.00	Air 21 B2A/B4P	3	29.390	32.329	0.77	0.90	14.14	247.05	0.000	0.000	731.47	0.00	0.00
6	160.00	4449 B71 + B85	3	29.390	32.329	0.60	0.90	3.56	197.64	0.000	0.000	184.34	0.00	0.00
7	160.00	Low Profile Platform	1	29.390	32.329	1.00	1.00	22.00	1440.00	0.000	0.000	1137.99	0.00	0.00
8	153.00	Lone Star Electronics	1	29.254	32.179	1.00	1.00	2.10	18.00	0.000	3.500	108.12	0.00	378.43
9	153.00	VHLP-2.6-11	1	29.115	32.026	1.00	1.00	8.43	42.84	0.000	0.000	431.97	0.00	0.00
10	153.00	Hutton HPD 3.4-4.7	1	29.115	32.026	1.00	1.00	8.92	94.50	0.000	0.000	457.08	0.00	0.00
11	153.00	Pipe Mounts	2	29.115	32.026	1.00	1.00	10.00	90.00	0.000	0.000	512.42	0.00	0.00
12	153.00	4 ft Sidearm	1	29.115	32.026	1.00	1.00	3.50	45.00	0.000	0.000	179.35	0.00	0.00
13	153.00	Motorola ODU-A-RF	3	29.115	32.026	1.00	1.00	4.32	28.08	0.000	0.000	221.37	0.00	0.00
14	148.00	ALU 800 MHz RRH	3	28.912	31.803	0.54	0.80	4.00	143.10	0.000	0.000	203.74	0.00	0.00
15	148.00	RFS APXVTM14-C-120	3	28.994	31.893	0.71	0.80	13.54	259.20	0.000	2.000	691.05	0.00	1382.09
16	148.00	RFS APXVSPP18-C-A20	3	28.912	31.803	0.74	0.80	17.90	261.90	0.000	0.000	910.87	0.00	0.00
17	148.00	ALU 1900MHz RRH	3	28.912	31.803	0.54	0.80	6.11	118.80	0.000	0.000	310.93	0.00	0.00
18	148.00	ALU 800 MHz Filter	3	28.912	31.803	0.79	0.80	1.00	27.00	0.000	0.000	50.78	0.00	0.00
19	148.00	ALU TD-RRH8x20-25	3	28.912	31.803	0.55	0.80	6.71	189.00	0.000	0.000	341.28	0.00	0.00
20	148.00	RFS ACU-A20-N	4	28.912	31.803	0.63	0.80	0.35	3.60	0.000	0.000	18.01	0.00	0.00
21	148.00	Low Profile Platform	1	28.912	31.803	1.00	1.00	25.00	1080.00	0.000	0.000	1272.12	0.00	0.00
22	137.00	Low Profile Platform	1	28.446	31.290	1.00	1.00	22.00	1350.00	0.000	0.000	1101.42	0.00	0.00
23	137.00	RFS FD9R6004/2C-3	6	28.446	31.290	0.40	0.80	0.86	16.74	0.000	0.000	43.26	0.00	0.00
24	137.00	ALU RRH2X60-AWS	3	28.446	31.290	0.71	0.80	4.70	148.50	0.000	0.000	235.26	0.00	0.00
25	137.00	ALU 2X60-1900	3	28.446	31.290	0.67	0.80	3.79	124.20	0.000	0.000	189.75	0.00	0.00
26	137.00	RFS DB-T1-6Z-8AB-0Z	1	28.446	31.290	0.57	0.80	2.73	17.01	0.000	0.000	136.50	0.00	0.00
27	137.00	Antel BXA-70080-6CF-2	3	28.446	31.290	0.78	0.80	13.41	48.60	0.000	0.000	671.33	0.00	0.00
28	137.00	Commscope	6	28.446	31.290	0.70	0.80	35.70	220.32	0.000	0.000	1787.54	0.00	0.00
29	137.00	Antel BXA-70063-6CF-2	3	28.446	31.290	0.66	0.80	15.08	45.90	0.000	0.000	754.94	0.00	0.00
30	134.50	Pipe Mount	1	28.336	31.169	1.00	1.00	5.00	45.00	0.000	0.000	249.35	0.00	0.00
31	134.50	Bird Technologies CSA	1	28.336	31.169	1.00	1.00	3.81	4.14	0.000	0.000	190.01	0.00	0.00
32	108.00	Ericsson RRUS 32 B2	3	27.056	29.762	0.54	0.80	2.65	207.90	0.000	0.000	126.34	0.00	0.00
33	108.00	Powerwave 7020 RET	12	27.056	29.762	0.80	0.80	3.84	23.76	0.000	0.000	182.86	0.00	0.00
34	108.00	Ericsson B14 4478 RRU	3	27.056	29.762	0.54	0.80	5.07	156.60	0.000	0.000	241.20	0.00	0.00
35	108.00	AM-X-CD-17-65-00T-RET	3	27.056	29.762	0.60	0.80	14.44	130.95	0.000	0.000	687.43	0.00	0.00
36	108.00	EPBQ-652L8H6-L2	3	27.056	29.762	0.57	0.80	26.77	267.30	0.000	0.000	1274.76	0.00	0.00
37	108.00	7770	6	27.056	29.762	0.66	0.80	21.91	189.00	0.000	0.000	1043.43	0.00	0.00
38	108.00	Raycap DC6-48-60-18-8F	2	27.056	29.762	0.80	0.80	1.47	57.24	0.000	0.000	70.10	0.00	0.00
39	108.00	Powerwave LGP21401	6	27.056	29.762	0.40	0.80	3.10	76.14	0.000	0.000	147.43	0.00	0.00
40	108.00	Powerwave 21903	6	27.056	29.762	0.67	0.80	1.09	29.70	0.000	0.000	51.84	0.00	0.00
41	108.00	Ericsson RRU 11	6	27.056	29.762	0.54	0.80	8.10	275.40	0.000	0.000	385.92	0.00	0.00
42	108.00	Andrew ABT-DFDM-ADBH	3	27.056	29.762	0.78	0.80	0.12	2.97	0.000	0.000	5.60	0.00	0.00
43	108.00	Low Profile Platform	1	27.056	29.762	1.00	1.00	22.00	1350.00	0.000	0.000	1047.62	0.00	0.00
							Totals:		**10,267.92**			**21,830.25**		

Total Applied Force Summary

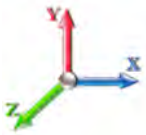
Structure:	CT03538-S-SBA		**Code:**	EIA/TIA-222-G	5/3/2021
Site Name:	South Plymouth		**Exposure:**	C	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 15

Tower Engineering Solutions

Load Case: 0.9D + 1.6W 93 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		484.55	1387.97	0.00	0.00
10.00		475.25	1365.11	0.00	0.00
15.00		465.94	1342.25	0.00	0.00
20.00		484.51	1319.39	0.00	0.00
25.00		497.47	1296.53	0.00	0.00
30.00		506.18	1273.67	0.00	0.00
35.00		511.77	1250.81	0.00	0.00
38.75		384.70	923.10	0.00	0.00
40.00		129.66	525.54	0.00	0.00
45.00		524.33	2075.63	0.00	0.00
50.00		524.12	1057.68	0.00	0.00
55.00		522.52	1038.08	0.00	0.00
60.00		519.74	1018.49	0.00	0.00
65.00		515.92	998.89	0.00	0.00
70.00		511.18	979.30	0.00	0.00
75.00		505.62	959.70	0.00	0.00
78.50		349.52	660.13	0.00	0.00
80.00		150.71	464.74	0.00	0.00
83.75		375.18	1147.70	0.00	0.00
85.00		123.78	201.47	0.00	0.00
90.00		492.64	795.66	0.00	0.00
95.00		484.57	779.33	0.00	0.00
100.00		475.98	763.00	0.00	0.00
105.00		466.89	746.67	0.00	0.00
108.00	(54) attachments	5539.57	3207.13	0.00	0.00
110.00		181.25	264.26	0.00	0.00
115.00		447.39	649.22	0.00	0.00
119.25		371.89	539.00	0.00	0.00
120.00		65.64	153.00	0.00	0.00
123.50		303.87	705.25	0.00	0.00
125.00		128.38	157.17	0.00	0.00
130.00		421.97	515.40	0.00	0.00
134.50	(2) attachments	809.26	501.83	0.00	0.00
135.00		40.39	49.41	0.00	0.00
137.00	(26) attachments	5080.58	2167.61	0.00	0.00
140.00		237.54	253.93	0.00	0.00
145.00		386.84	412.76	0.00	0.00
148.00	(23) attachments	4024.66	2323.99	0.00	1382.09
150.00		148.00	153.56	0.00	0.00
153.00	(9) attachments	2128.69	544.84	0.00	378.43
155.00		142.95	146.25	0.00	0.00
160.00	(17) attachments	5846.36	3436.00	0.00	0.00
	Totals:	**36,787.99**	**40,551.44**	**0.00**	**1,760.52**

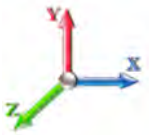
Calculated Forces

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 16	

Load Case: 0.9D + 1.6W 93 mph Wind

Dead Load Factor 0.90

Wind Load Factor 1.60



Iterations 25

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	-40.49	-36.86	0.00	-4345.5	0.00	4345.52	5345.98	2672.99	12322.4	6170.37	0.00	0.000	0.000	0.712
5.00	-38.97	-36.51	0.00	-4161.2	0.00	4161.23	5278.55	2639.27	11931.9	5974.86	0.11	-0.195	0.000	0.704
10.00	-37.49	-36.15	0.00	-3978.7	0.00	3978.70	5209.75	2604.88	11544.5	5780.84	0.42	-0.394	0.000	0.696
15.00	-36.02	-35.80	0.00	-3797.9	0.00	3797.94	5139.58	2569.79	11160.2	5588.39	0.94	-0.594	0.000	0.687
20.00	-34.58	-35.43	0.00	-3618.9	0.00	3618.92	5068.05	2534.02	10779.2	5397.62	1.67	-0.798	0.000	0.677
25.00	-33.17	-35.03	0.00	-3441.7	0.00	3441.79	4995.14	2497.57	10401.7	5208.61	2.61	-1.004	0.000	0.668
30.00	-31.78	-34.62	0.00	-3266.6	0.00	3266.64	4920.87	2460.43	10028.0	5021.46	3.78	-1.212	0.000	0.657
35.00	-30.43	-34.17	0.00	-3093.5	0.00	3093.57	4845.22	2422.61	9658.13	4836.24	5.16	-1.423	0.000	0.646
38.75	-29.45	-33.82	0.00	-2965.4	0.00	2965.42	4787.59	2393.79	9383.39	4698.67	6.34	-1.584	0.000	0.637
40.00	-28.85	-33.74	0.00	-2923.1	0.00	2923.15	4768.21	2384.10	9292.33	4653.07	6.77	-1.639	0.000	0.634
45.00	-26.67	-33.26	0.00	-2754.4	0.00	2754.43	3881.96	1940.98	7532.86	3772.03	8.60	-1.854	0.000	0.737
50.00	-25.50	-32.80	0.00	-2588.1	0.00	2588.14	3822.99	1911.49	7248.21	3629.49	10.66	-2.070	0.000	0.720
55.00	-24.34	-32.34	0.00	-2424.1	0.00	2424.15	3762.64	1881.32	6966.27	3488.31	12.95	-2.312	0.000	0.702
60.00	-23.21	-31.88	0.00	-2262.4	0.00	2262.45	3700.92	1850.46	6687.23	3348.59	15.50	-2.554	0.000	0.682
65.00	-22.11	-31.41	0.00	-2103.0	0.00	2103.07	3637.84	1818.92	6411.28	3210.40	18.31	-2.796	0.000	0.661
70.00	-21.02	-30.94	0.00	-1946.0	0.00	1946.03	3573.38	1786.69	6138.59	3073.86	21.36	-3.038	0.000	0.639
75.00	-19.99	-30.45	0.00	-1791.3	0.00	1791.35	3507.56	1753.78	5869.35	2939.04	24.67	-3.279	0.000	0.616
78.50	-19.28	-30.10	0.00	-1684.7	0.00	1684.78	3460.67	1730.33	5683.03	2845.74	27.14	-3.449	0.000	0.598
80.00	-18.76	-29.97	0.00	-1639.6	0.00	1639.62	3440.37	1720.18	5603.74	2806.03	28.24	-3.522	0.000	0.590
83.75	-17.58	-29.56	0.00	-1527.2	0.00	1527.25	2706.01	1353.00	4401.17	2203.86	31.07	-3.702	0.000	0.700
85.00	-17.30	-29.47	0.00	-1490.3	0.00	1490.30	2693.89	1346.95	4351.48	2178.97	32.05	-3.763	0.000	0.691
90.00	-16.41	-29.00	0.00	-1342.9	0.00	1342.95	2644.58	1322.29	4154.08	2080.13	36.13	-4.027	0.000	0.652
95.00	-15.54	-28.53	0.00	-1197.9	0.00	1197.96	2593.89	1296.95	3958.97	1982.43	40.49	-4.285	0.000	0.611
100.00	-14.70	-28.06	0.00	-1055.3	0.00	1055.32	2541.84	1270.92	3766.36	1885.98	45.11	-4.534	0.000	0.566
105.00	-13.90	-27.58	0.00	-915.03	0.00	915.03	2488.42	1244.21	3576.41	1790.86	49.98	-4.772	0.000	0.517
108.00	-11.13	-21.81	0.00	-832.30	0.00	832.30	2455.70	1227.85	3463.79	1734.47	53.02	-4.911	0.000	0.485
110.00	-10.82	-21.63	0.00	-788.68	0.00	788.68	2433.62	1216.81	3389.31	1697.17	55.10	-5.001	0.000	0.469
115.00	-10.15	-21.17	0.00	-680.51	0.00	680.51	2377.46	1188.73	3205.24	1605.00	60.44	-5.215	0.000	0.429
119.25	-9.61	-20.76	0.00	-590.55	0.00	590.55	2328.64	1164.32	3051.30	1527.92	65.16	-5.388	0.000	0.391
120.00	-9.43	-20.70	0.00	-574.98	0.00	574.98	2319.93	1159.96	3024.39	1514.44	66.01	-5.418	0.000	0.384
123.50	-8.73	-20.34	0.00	-502.55	0.00	502.55	1729.39	864.70	2245.31	1124.33	70.02	-5.551	0.000	0.453
125.00	-8.54	-20.22	0.00	-472.04	0.00	472.04	1717.71	858.86	2207.21	1105.25	71.77	-5.607	0.000	0.433
130.00	-8.01	-19.77	0.00	-370.95	0.00	370.95	1677.90	838.95	2081.35	1042.22	77.75	-5.802	0.000	0.361
134.50	-7.56	-18.92	0.00	-281.99	0.00	281.99	1640.90	820.45	1969.70	986.31	83.28	-5.954	0.000	0.291
135.00	-7.51	-18.88	0.00	-272.53	0.00	272.53	1636.72	818.36	1957.39	980.15	83.91	-5.969	0.000	0.283
137.00	-5.86	-13.61	0.00	-234.76	0.00	234.76	1619.86	809.93	1908.38	955.61	86.42	-6.028	0.000	0.250
140.00	-5.62	-13.36	0.00	-193.93	0.00	193.93	1594.17	797.08	1835.53	919.13	90.22	-6.105	0.000	0.215
145.00	-5.23	-12.94	0.00	-127.14	0.00	127.14	1550.24	775.12	1715.94	859.24	96.66	-6.208	0.000	0.152
148.00	-3.35	-8.68	0.00	-86.95	0.00	86.95	1523.23	761.62	1645.35	823.90	100.57	-6.255	0.000	0.108
150.00	-3.21	-8.52	0.00	-69.58	0.00	69.58	1504.95	752.48	1598.80	800.59	103.19	-6.279	0.000	0.089
153.00	-2.90	-6.35	0.00	-43.64	0.00	43.64	1477.12	738.56	1529.77	766.02	107.14	-6.307	0.000	0.059
155.00	-2.77	-6.19	0.00	-30.95	0.00	30.95	1458.29	729.15	1484.30	743.26	109.78	-6.320	0.000	0.044
160.00	0.00	-5.85	0.00	0.00	0.00	0.00	1400.09	700.04	1362.73	682.38	116.40	-6.334	0.000	0.000

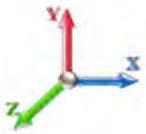
Wind Loading - Shaft

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 17	

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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	3.308	3.64	0.00	1.200	0.000	0.00	0.000	0.00	0.0	0.0	0.0
5.00		1.00	0.85	3.308	3.64	0.00	1.200	1.656	5.00	25.070	30.08	109.5	592.4	2167.4
10.00		1.00	0.85	3.308	3.64	0.00	1.200	1.775	5.00	24.714	29.66	107.9	624.3	2168.8
15.00		1.00	0.85	3.308	3.64	0.00	1.200	1.848	5.00	24.321	29.18	106.2	638.5	2152.5
20.00		1.00	0.90	3.509	3.86	0.00	1.200	1.902	5.00	23.911	28.69	110.8	645.0	2128.5
25.00		1.00	0.95	3.678	4.05	0.00	1.200	1.945	5.00	23.492	28.19	114.1	646.9	2100.0
30.00		1.00	0.98	3.822	4.20	0.00	1.200	1.981	5.00	23.066	27.68	116.4	645.9	2068.5
35.00		1.00	1.01	3.948	4.34	0.00	1.200	2.012	5.00	22.637	27.16	118.0	642.8	2034.9
38.75	Bot - Section 2	1.00	1.04	4.034	4.44	0.00	1.200	2.032	3.75	16.692	20.03	88.9	479.5	1503.6
40.00		1.00	1.04	4.061	4.47	0.00	1.200	2.039	1.25	5.588	6.71	30.0	161.9	793.7
45.00	Top - Section 1	1.00	1.07	4.163	4.58	0.00	1.200	2.063	5.00	22.087	26.50	121.4	641.7	3133.6
50.00		1.00	1.09	4.256	4.68	0.00	1.200	2.085	5.00	21.651	25.98	121.6	634.7	1769.3
55.00		1.00	1.12	4.342	4.78	0.00	1.200	2.105	5.00	21.212	25.45	121.6	626.9	1735.3
60.00		1.00	1.14	4.423	4.86	0.00	1.200	2.123	5.00	20.773	24.93	121.3	618.3	1700.6
65.00		1.00	1.16	4.498	4.95	0.00	1.200	2.140	5.00	20.332	24.40	120.7	609.1	1665.3
70.00		1.00	1.17	4.569	5.03	0.00	1.200	2.156	5.00	19.891	23.87	119.9	599.3	1629.4
75.00		1.00	1.19	4.635	5.10	0.00	1.200	2.171	5.00	19.448	23.34	119.0	589.0	1593.0
78.50	Bot - Section 3	1.00	1.20	4.680	5.15	0.00	1.200	2.181	3.50	13.349	16.02	82.5	407.1	1094.3
80.00		1.00	1.21	4.699	5.17	0.00	1.200	2.185	1.50	5.733	6.88	35.6	176.1	713.0
83.75	Top - Section 2	1.00	1.22	4.744	5.22	0.00	1.200	2.195	3.75	14.160	16.99	88.7	433.9	1757.5
85.00		1.00	1.22	4.759	5.24	0.00	1.200	2.198	1.25	4.664	5.60	29.3	143.9	343.7
90.00		1.00	1.24	4.817	5.30	0.00	1.200	2.211	5.00	18.381	22.06	116.9	564.4	1349.6
95.00		1.00	1.25	4.872	5.36	0.00	1.200	2.223	5.00	17.936	21.52	115.3	552.6	1316.1
100.00		1.00	1.27	4.925	5.42	0.00	1.200	2.234	5.00	17.491	20.99	113.7	540.5	1282.2
105.00		1.00	1.28	4.976	5.47	0.00	1.200	2.245	5.00	17.045	20.45	111.9	528.2	1248.1
108.00	Appurtenance(s)	1.00	1.29	5.005	5.51	0.00	1.200	2.252	3.00	10.012	12.01	66.1	312.4	733.9
110.00		1.00	1.29	5.025	5.53	0.00	1.200	2.256	2.00	6.585	7.90	43.7	206.2	482.9
115.00		1.00	1.30	5.072	5.58	0.00	1.200	2.266	5.00	16.152	19.38	108.1	502.8	1179.2
119.25	Bot - Section 4	1.00	1.31	5.111	5.62	0.00	1.200	2.274	4.25	13.378	16.05	90.2	418.0	975.8
120.00		1.00	1.32	5.117	5.63	0.00	1.200	2.276	0.75	2.359	2.83	15.9	74.5	250.1
123.50	Top - Section 3	1.00	1.32	5.149	5.66	0.00	1.200	2.282	3.50	10.875	13.05	73.9	341.3	1149.2
125.00		1.00	1.33	5.162	5.68	0.00	1.200	2.285	1.50	4.593	5.51	31.3	145.1	297.9
130.00		1.00	1.34	5.204	5.72	0.00	1.200	2.294	5.00	15.023	18.03	103.2	470.2	968.2
134.50	Appurtenance(s)	1.00	1.35	5.242	5.77	0.00	1.200	2.302	4.50	13.137	15.76	90.9	412.2	845.4
135.00		1.00	1.35	5.246	5.77	0.00	1.200	2.303	0.50	1.437	1.72	10.0	45.7	92.9
137.00	Appurtenance(s)	1.00	1.35	5.262	5.79	0.00	1.200	2.306	2.00	5.704	6.84	39.6	180.4	367.8
140.00		1.00	1.36	5.286	5.81	0.00	1.200	2.311	3.00	8.422	10.11	58.8	265.7	541.5
145.00		1.00	1.37	5.325	5.86	0.00	1.200	2.319	5.00	13.679	16.41	96.2	428.9	874.6
148.00	Appurtenance(s)	1.00	1.37	5.348	5.88	0.00	1.200	2.324	3.00	7.991	9.59	56.4	252.2	511.3
150.00		1.00	1.38	5.364	5.90	0.00	1.200	2.327	2.00	5.238	6.29	37.1	165.9	335.1
153.00	Appurtenance(s)	1.00	1.38	5.386	5.92	0.00	1.200	2.332	3.00	7.722	9.27	54.9	243.7	492.3
155.00		1.00	1.39	5.401	5.94	0.00	1.200	2.335	2.00	5.058	6.07	36.1	160.2	322.5
160.00	Appurtenance(s)	1.00	1.40	5.437	5.98	0.00	1.200	2.342	5.00	12.333	14.80	88.5	386.1	779.5
								Totals:	**160.00**			**3,541.9**		**50,649.0**

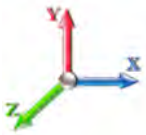
Discrete Appurtenance Forces

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 18	

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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	160.00	MS-HRECP-35	1	5.437	5.981	1.00	1.00	28.32	1949.38	0.000	0.000	169.35	0.00	0.00
2	160.00	Ericsson KRY 112 144/1	3	5.437	5.981	0.63	0.90	1.98	73.70	0.000	0.000	11.84	0.00	0.00
3	160.00	APXVAARR24_43-U-NA2	3	5.437	5.981	0.63	0.90	43.13	2217.21	0.000	0.000	257.97	0.00	0.00
4	160.00	Air 32	3	5.437	5.981	0.78	0.90	19.05	1265.36	0.000	0.000	113.92	0.00	0.00
5	160.00	Air 21 B2A/B4P	3	5.437	5.981	0.77	0.90	17.64	1055.08	0.000	0.000	105.49	0.00	0.00
6	160.00	4449 B71 + B85	3	5.437	5.981	0.60	0.90	4.95	320.79	0.000	0.000	29.58	0.00	0.00
7	160.00	Low Profile Platform	1	5.437	5.981	1.00	1.00	45.70	3393.62	0.000	0.000	273.33	0.00	0.00
8	153.00	Lone Star Electronics	1	5.412	5.953	1.00	1.00	4.60	69.36	0.000	3.500	27.40	0.00	95.90
9	153.00	VHLP-2.6-11	1	5.386	5.925	1.00	1.00	10.71	238.43	0.000	0.000	63.45	0.00	0.00
10	153.00	Hutton HPD 3.4-4.7	1	5.386	5.925	1.00	1.00	9.75	240.79	0.000	0.000	57.78	0.00	0.00
11	153.00	Pipe Mounts	2	5.386	5.925	1.00	1.00	19.33	131.92	0.000	0.000	114.50	0.00	0.00
12	153.00	4 ft Sidearm	1	5.386	5.925	1.00	1.00	14.18	160.16	0.000	0.000	84.00	0.00	0.00
13	153.00	Motorola ODU-A-RF	3	5.386	5.925	1.00	1.00	7.76	166.64	0.000	0.000	45.96	0.00	0.00
14	148.00	ALU 800 MHz RRH	3	5.348	5.883	0.00	0.80	12.04	422.94	0.000	0.000	70.83	0.00	0.00
15	148.00	RFS APXVTM14-C-120	3	5.364	5.900	0.75	0.80	17.72	1029.96	0.000	2.000	104.54	0.00	209.08
16	148.00	RFS APXVSPP18-C-A20	3	5.348	5.883	0.78	0.80	27.61	1495.73	0.000	0.000	162.45	0.00	0.00
17	148.00	ALU 1900MHz RRH	3	5.348	5.883	0.54	0.80	9.09	500.87	0.000	0.000	53.46	0.00	0.00
18	148.00	ALU 800 MHz Filter	3	5.348	5.883	0.54	0.80	1.41	142.56	0.000	0.000	8.32	0.00	0.00
19	148.00	ALU TD-RRH8x20-25	3	5.348	5.883	0.60	0.80	9.29	724.39	0.000	0.000	54.65	0.00	0.00
20	148.00	RFS ACU-A20-N	4	5.348	5.883	0.54	0.80	1.15	22.48	0.000	0.000	6.75	0.00	0.00
21	148.00	Low Profile Platform	1	5.348	5.883	1.00	1.00	52.89	2534.30	0.000	0.000	311.15	0.00	0.00
22	137.00	Low Profile Platform	1	5.262	5.788	1.00	1.00	45.34	3229.47	0.000	0.000	262.43	0.00	0.00
23	137.00	RFS FD9R6004/2C-3	6	5.262	5.788	0.40	0.80	2.27	72.15	0.000	0.000	13.14	0.00	0.00
24	137.00	ALU RRH2X60-AWS	3	5.262	5.788	0.75	0.80	6.92	558.96	0.000	0.000	40.03	0.00	0.00
25	137.00	ALU 2X60-1900	3	5.262	5.788	0.71	0.80	5.73	463.18	0.000	0.000	33.15	0.00	0.00
26	137.00	RFS DB-T1-6Z-8AB-0Z	1	5.262	5.788	0.60	0.80	3.59	223.67	0.000	0.000	20.77	0.00	0.00
27	137.00	Antel BXA-70080-6CF-2	3	5.262	5.788	0.82	0.80	21.77	458.07	0.000	0.000	126.04	0.00	0.00
28	137.00	Commscope	6	5.262	5.788	0.74	0.80	54.79	1388.60	0.000	0.000	317.13	0.00	0.00
29	137.00	Antel BXA-70063-6CF-2	3	5.262	5.788	0.70	0.80	23.70	521.53	0.000	0.000	137.19	0.00	0.00
30	134.50	Pipe Mount	1	5.242	5.766	1.00	1.00	9.60	65.24	0.000	0.000	55.37	0.00	0.00
31	134.50	Bird Technologies CSA	1	5.242	5.766	1.00	1.00	38.80	132.19	0.000	0.000	223.73	0.00	0.00
32	108.00	Ericsson RRUS 32 B2	3	5.005	5.506	0.54	0.80	3.89	483.39	0.000	0.000	21.41	0.00	0.00
33	108.00	Powerwave 7020 RET	12	5.005	5.506	0.80	0.80	9.84	155.24	0.000	0.000	54.16	0.00	0.00
34	108.00	Ericsson B14 4478 RRU	3	5.005	5.506	0.54	0.80	6.59	602.15	0.000	0.000	36.26	0.00	0.00
35	108.00	AM-X-CD-17-65-00T-RET	3	5.005	5.506	0.60	0.80	20.92	663.23	0.000	0.000	115.20	0.00	0.00
36	108.00	EPBQ-652L8H6-L2	3	5.005	5.506	0.57	0.80	30.51	1659.26	0.000	0.000	167.98	0.00	0.00
37	108.00	7770	6	5.005	5.506	0.70	0.80	29.15	1368.52	0.000	0.000	160.48	0.00	0.00
38	108.00	Raycap DC6-48-60-18-8F	2	5.005	5.506	0.80	0.80	2.38	200.46	0.000	0.000	13.08	0.00	0.00
39	108.00	Powerwave LGP21401	6	5.005	5.506	0.40	0.80	5.68	252.47	0.000	0.000	31.29	0.00	0.00
40	108.00	Powerwave 21903	6	5.005	5.506	0.71	0.80	3.35	90.44	0.000	0.000	18.42	0.00	0.00
41	108.00	Ericsson RRU 11	6	5.005	5.506	0.54	0.80	10.73	830.70	0.000	0.000	59.09	0.00	0.00
42	108.00	Andrew ABT-DFDM-ADBH	3	5.005	5.506	0.80	0.80	0.72	10.49	0.000	0.000	3.94	0.00	0.00
43	108.00	Low Profile Platform	1	5.005	5.506	1.00	1.00	44.79	3188.82	0.000	0.000	246.59	0.00	0.00
							Totals:		**34,773.89**			**4,283.59**		

Total Applied Force Summary

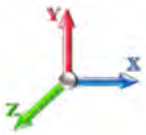
Structure:	CT03538-S-SBA		**Code:**	EIA/TIA-222-G	5/3/2021
Site Name:	South Plymouth		**Exposure:**	C	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 19

Tower Engineering Solutions

Load Case: 1.2D + 1.0Di + 1.0Wi 40 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		109.45	2443.06	0.00	0.00
10.00		107.90	2444.44	0.00	0.00
15.00		106.18	2428.18	0.00	0.00
20.00		110.76	2404.15	0.00	0.00
25.00		114.06	2375.63	0.00	0.00
30.00		116.38	2344.14	0.00	0.00
35.00		117.98	2310.52	0.00	0.00
38.75		88.88	1710.31	0.00	0.00
40.00		29.95	862.62	0.00	0.00
45.00		121.37	3409.19	0.00	0.00
50.00		121.63	2044.96	0.00	0.00
55.00		121.59	2010.99	0.00	0.00
60.00		121.27	1976.27	0.00	0.00
65.00		120.71	1940.92	0.00	0.00
70.00		119.95	1905.01	0.00	0.00
75.00		119.00	1868.60	0.00	0.00
78.50		82.47	1287.25	0.00	0.00
80.00		35.56	795.70	0.00	0.00
83.75		88.68	1964.20	0.00	0.00
85.00		29.30	412.57	0.00	0.00
90.00		116.87	1625.23	0.00	0.00
95.00		115.35	1591.71	0.00	0.00
100.00		113.70	1557.88	0.00	0.00
105.00		111.95	1523.77	0.00	0.00
108.00	(54) attachments	994.06	10404.47	0.00	0.00
110.00		43.67	558.59	0.00	0.00
115.00		108.14	1368.41	0.00	0.00
119.25		90.25	1136.61	0.00	0.00
120.00		15.93	278.53	0.00	0.00
123.50		73.91	1281.67	0.00	0.00
125.00		31.30	354.65	0.00	0.00
130.00		103.20	1157.41	0.00	0.00
134.50	(2) attachments	370.00	1213.19	0.00	0.00
135.00		9.95	111.54	0.00	0.00
137.00	(26) attachments	989.49	7357.86	0.00	0.00
140.00		58.77	604.26	0.00	0.00
145.00		96.16	979.21	0.00	0.00
148.00	(23) attachments	828.56	7447.32	0.00	209.08
150.00		37.08	370.65	0.00	0.00
153.00	(9) attachments	447.99	1552.91	0.00	95.90
155.00		36.06	355.19	0.00	0.00
160.00	(17) attachments	1049.99	11136.53	0.00	0.00
	Totals:	**7,825.45**	**92,906.31**	**0.00**	**304.98**

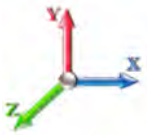
Calculated Forces

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 20	

Load Case: 1.2D + 1.0Di + 1.0Wi 40 mph Wind

Dead Load Factor 1.20

Wind Load Factor 1.00



Iterations 24

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	-92.90	-7.86	0.00	-969.28	0.00	969.28	5345.98	2672.99	12322.4	6170.37	0.00	0.000	0.000	0.174
5.00	-90.45	-7.82	0.00	-929.98	0.00	929.98	5278.55	2639.27	11931.9	5974.86	0.02	-0.044	0.000	0.173
10.00	-88.00	-7.78	0.00	-890.88	0.00	890.88	5209.75	2604.88	11544.5	5780.84	0.09	-0.088	0.000	0.171
15.00	-85.57	-7.73	0.00	-851.99	0.00	851.99	5139.58	2569.79	11160.2	5588.39	0.21	-0.133	0.000	0.169
20.00	-83.16	-7.68	0.00	-813.32	0.00	813.32	5068.05	2534.02	10779.2	5397.62	0.37	-0.179	0.000	0.167
25.00	-80.78	-7.63	0.00	-774.90	0.00	774.90	4995.14	2497.57	10401.7	5208.61	0.58	-0.225	0.000	0.165
30.00	-78.43	-7.57	0.00	-736.76	0.00	736.76	4920.87	2460.43	10028.0	5021.46	0.85	-0.272	0.000	0.163
35.00	-76.11	-7.49	0.00	-698.93	0.00	698.93	4845.22	2422.61	9658.13	4836.24	1.16	-0.320	0.000	0.160
38.75	-74.40	-7.42	0.00	-670.84	0.00	670.84	4787.59	2393.79	9383.39	4698.67	1.42	-0.356	0.000	0.158
40.00	-73.53	-7.43	0.00	-661.56	0.00	661.56	4768.21	2384.10	9292.33	4653.07	1.52	-0.368	0.000	0.158
45.00	-70.12	-7.34	0.00	-624.42	0.00	624.42	3881.96	1940.98	7532.86	3772.03	1.93	-0.417	0.000	0.184
50.00	-68.07	-7.27	0.00	-587.70	0.00	587.70	3822.99	1911.49	7248.21	3629.49	2.39	-0.466	0.000	0.180
55.00	-66.05	-7.19	0.00	-551.37	0.00	551.37	3762.64	1881.32	6966.27	3488.31	2.91	-0.521	0.000	0.176
60.00	-64.07	-7.11	0.00	-515.41	0.00	515.41	3700.92	1850.46	6687.23	3348.59	3.48	-0.576	0.000	0.171
65.00	-62.12	-7.03	0.00	-479.84	0.00	479.84	3637.84	1818.92	6411.28	3210.40	4.12	-0.631	0.000	0.167
70.00	-60.21	-6.95	0.00	-444.68	0.00	444.68	3573.38	1786.69	6138.59	3073.86	4.81	-0.687	0.000	0.162
75.00	-58.34	-6.85	0.00	-409.93	0.00	409.93	3507.56	1753.78	5869.35	2939.04	5.56	-0.742	0.000	0.156
78.50	-57.05	-6.78	0.00	-385.95	0.00	385.95	3460.67	1730.33	5683.03	2845.74	6.12	-0.781	0.000	0.152
80.00	-56.25	-6.76	0.00	-375.77	0.00	375.77	3440.37	1720.18	5603.74	2806.03	6.36	-0.797	0.000	0.150
83.75	-54.29	-6.67	0.00	-350.41	0.00	350.41	2706.01	1353.00	4401.17	2203.86	7.01	-0.839	0.000	0.179
85.00	-53.87	-6.67	0.00	-342.07	0.00	342.07	2693.89	1346.95	4351.48	2178.97	7.23	-0.852	0.000	0.177
90.00	-52.24	-6.59	0.00	-308.70	0.00	308.70	2644.58	1322.29	4154.08	2080.13	8.15	-0.913	0.000	0.168
95.00	-50.64	-6.50	0.00	-275.77	0.00	275.77	2593.89	1296.95	3958.97	1982.43	9.14	-0.973	0.000	0.159
100.00	-49.08	-6.40	0.00	-243.28	0.00	243.28	2541.84	1270.92	3766.36	1885.98	10.19	-1.030	0.000	0.148
105.00	-47.56	-6.30	0.00	-211.26	0.00	211.26	2488.42	1244.21	3576.41	1790.86	11.30	-1.085	0.000	0.137
108.00	-37.17	-5.12	0.00	-192.37	0.00	192.37	2455.70	1227.85	3463.79	1734.47	11.99	-1.117	0.000	0.126
110.00	-36.61	-5.09	0.00	-182.12	0.00	182.12	2433.62	1216.81	3389.31	1697.17	12.47	-1.138	0.000	0.122
115.00	-35.24	-4.98	0.00	-156.67	0.00	156.67	2377.46	1188.73	3205.24	1605.00	13.68	-1.187	0.000	0.112
119.25	-34.10	-4.88	0.00	-135.49	0.00	135.49	2328.64	1164.32	3051.30	1527.92	14.76	-1.227	0.000	0.103
120.00	-33.82	-4.87	0.00	-131.83	0.00	131.83	2319.93	1159.96	3024.39	1514.44	14.95	-1.234	0.000	0.102
123.50	-32.54	-4.78	0.00	-114.78	0.00	114.78	1729.39	864.70	2245.31	1124.33	15.87	-1.264	0.000	0.121
125.00	-32.19	-4.76	0.00	-107.61	0.00	107.61	1717.71	858.86	2207.21	1105.25	16.27	-1.277	0.000	0.116
130.00	-31.03	-4.65	0.00	-83.82	0.00	83.82	1677.90	838.95	2081.35	1042.22	17.63	-1.321	0.000	0.099
134.50	-29.82	-4.26	0.00	-62.89	0.00	62.89	1640.90	820.45	1969.70	986.31	18.89	-1.355	0.000	0.082
135.00	-29.71	-4.25	0.00	-60.76	0.00	60.76	1636.72	818.36	1957.39	980.15	19.04	-1.359	0.000	0.080
137.00	-22.38	-3.09	0.00	-52.26	0.00	52.26	1619.86	809.93	1908.38	955.61	19.61	-1.372	0.000	0.069
140.00	-21.77	-3.03	0.00	-42.97	0.00	42.97	1594.17	797.08	1835.53	919.13	20.48	-1.389	0.000	0.060
145.00	-20.80	-2.91	0.00	-27.83	0.00	27.83	1550.24	775.12	1715.94	859.24	21.94	-1.412	0.000	0.046
148.00	-13.37	-1.90	0.00	-18.87	0.00	18.87	1523.23	761.62	1645.35	823.90	22.83	-1.422	0.000	0.032
150.00	-13.00	-1.86	0.00	-15.07	0.00	15.07	1504.95	752.48	1598.80	800.59	23.43	-1.427	0.000	0.027
153.00	-11.46	-1.37	0.00	-9.39	0.00	9.39	1477.12	738.56	1529.77	766.02	24.33	-1.433	0.000	0.020
155.00	-11.11	-1.33	0.00	-6.65	0.00	6.65	1458.29	729.15	1484.30	743.26	24.93	-1.436	0.000	0.017
160.00	0.00	-1.05	0.00	0.00	0.00	0.00	1400.09	700.04	1362.73	682.38	26.44	-1.439	0.000	0.000

Seismic Segment Forces (Factored)

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 21	

Load Case:	1.2D + 1.0E							**Iterations**	22
Gust Response Factor	1.10				**Sds**	0.20		**Ss**	0.19
Dead Load Factor	1.20	**Seismic Load Factor**	1.00		**Sd1**	0.10		**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.33		**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		1312.4	0.00	0.03	0.02	25.37	
10.00		1287.0	0.01	0.05	0.03	36.18	
15.00		1261.6	0.02	0.06	0.04	41.05	
20.00		1236.2	0.03	0.07	0.04	43.11	
25.00		1210.8	0.05	0.07	0.04	43.84	
30.00		1185.4	0.07	0.07	0.04	44.04	
35.00		1160.0	0.09	0.07	0.04	44.08	
38.75	Bot - Section 2	853.39	0.11	0.07	0.04	32.98	
40.00		526.51	0.12	0.07	0.03	20.46	
45.00	Top - Section 1	2076.5	0.15	0.07	0.03	82.31	
50.00		945.50	0.18	0.06	0.03	37.89	
55.00		923.72	0.22	0.06	0.02	36.71	
60.00		901.95	0.27	0.05	0.02	34.33	
65.00		880.18	0.31	0.04	0.01	30.19	
70.00		858.41	0.36	0.03	0.01	23.79	
75.00		836.64	0.42	0.01	0.01	14.97	
78.50	Bot - Section 3	572.69	0.45	0.00	0.01	5.27	
80.00		447.46	0.47	-0.01	0.01	2.30	
83.75	Top - Section 2	1102.9	0.52	-0.02	0.01	-6.09	
85.00		166.43	0.53	-0.03	0.01	-1.52	
90.00		654.37	0.60	-0.05	0.01	-14.81	
95.00		636.22	0.67	-0.08	0.02	-21.16	
100.00		618.08	0.74	-0.10	0.04	-24.51	
105.00		599.94	0.81	-0.11	0.06	-24.75	
108.00	Appurtenance(s)	3425.6	0.86	-0.12	0.07	-136.67	
110.00		230.54	0.89	-0.12	0.08	-8.77	
115.00		563.65	0.98	-0.12	0.12	-16.97	
119.25	Bot - Section 4	464.84	1.05	-0.09	0.16	-9.17	
120.00		146.34	1.06	-0.09	0.17	-2.57	
123.50	Top - Section 3	673.22	1.13	-0.05	0.20	-4.10	
125.00		127.32	1.15	-0.03	0.22	-0.06	
130.00		414.97	1.25	0.05	0.29	8.77	
134.50	Appurtenance(s)	415.66	1.34	0.17	0.37	18.50	
135.00		39.39	1.35	0.19	0.38	1.86	
137.00	Appurtenance(s)	2346.4	1.39	0.26	0.42	138.70	
140.00		229.82	1.45	0.38	0.48	17.97	
145.00		371.43	1.55	0.64	0.61	42.27	
148.00	Appurtenance(s)	2529.8	1.62	0.83	0.69	347.83	
150.00		141.02	1.66	0.98	0.76	21.75	
153.00	Appurtenance(s)	560.98	1.73	1.23	0.86	101.49	
155.00		135.22	1.77	1.42	0.93	27.00	
160.00	Appurtenance(s)	3749.5	1.89	1.98	1.14	938.13	
	Totals:	**38,821.0**				**1,992.0**	**Total Wind:** **36,788.0**

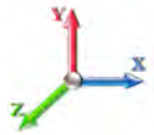
Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 22	

Tower Engineering Solutions

Load Case: 1.2D + 1.0E



Gust Response Factor	1.10			**Sds**	0.20			**Iterations**	22
Dead Load Factor	1.20	**Seismic Load Factor**	1.00	**Sd1**	0.10			**Ss**	0.19
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.33	**SA**	0.03			**S1**	0.06
								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	-54.07	-2.27	0.00	-293.29	0.00	293.29	5345.98	2672.99	12322.4	6170.37		0.00	0.00	0.058
5.00	-52.22	-2.25	0.00	-281.95	0.00	281.95	5278.55	2639.27	11931.9	5974.86		0.01	-0.01	0.057
10.00	-50.40	-2.23	0.00	-270.68	0.00	270.68	5209.75	2604.88	11544.5	5780.84		0.03	-0.03	0.056
15.00	-48.61	-2.20	0.00	-259.53	0.00	259.53	5139.58	2569.79	11160.2	5588.39		0.06	-0.04	0.056
20.00	-46.85	-2.17	0.00	-248.53	0.00	248.53	5068.05	2534.02	10779.2	5397.62		0.11	-0.05	0.055
25.00	-45.12	-2.13	0.00	-237.70	0.00	237.70	4995.14	2497.57	10401.7	5208.61		0.18	-0.07	0.055
30.00	-43.42	-2.10	0.00	-227.04	0.00	227.04	4920.87	2460.43	10028.0	5021.46		0.26	-0.08	0.054
35.00	-41.75	-2.06	0.00	-216.56	0.00	216.56	4845.22	2422.61	9658.13	4836.24		0.35	-0.10	0.053
38.75	-40.52	-2.03	0.00	-208.84	0.00	208.84	4787.59	2393.79	9383.39	4698.67		0.43	-0.11	0.053
40.00	-39.82	-2.01	0.00	-206.30	0.00	206.30	4768.21	2384.10	9292.33	4653.07		0.46	-0.11	0.053
45.00	-37.05	-1.94	0.00	-196.23	0.00	196.23	3881.96	1940.98	7532.86	3772.03		0.59	-0.13	0.062
50.00	-35.64	-1.91	0.00	-186.55	0.00	186.55	3822.99	1911.49	7248.21	3629.49		0.73	-0.14	0.061
55.00	-34.26	-1.88	0.00	-177.02	0.00	177.02	3762.64	1881.32	6966.27	3488.31		0.89	-0.16	0.060
60.00	-32.90	-1.85	0.00	-167.64	0.00	167.64	3700.92	1850.46	6687.23	3348.59		1.07	-0.18	0.059
65.00	-31.56	-1.82	0.00	-158.41	0.00	158.41	3637.84	1818.92	6411.28	3210.40		1.27	-0.20	0.058
70.00	-30.26	-1.80	0.00	-149.29	0.00	149.29	3573.38	1786.69	6138.59	3073.86		1.48	-0.22	0.057
75.00	-28.98	-1.79	0.00	-140.27	0.00	140.27	3507.56	1753.78	5869.35	2939.04		1.72	-0.23	0.056
78.50	-28.10	-1.79	0.00	-134.00	0.00	134.00	3460.67	1730.33	5683.03	2845.74		1.89	-0.25	0.055
80.00	-27.48	-1.79	0.00	-131.32	0.00	131.32	3440.37	1720.18	5603.74	2806.03		1.97	-0.25	0.055
83.75	-25.95	-1.79	0.00	-124.61	0.00	124.61	2706.01	1353.00	4401.17	2203.86		2.18	-0.27	0.066
85.00	-25.68	-1.79	0.00	-122.38	0.00	122.38	2693.89	1346.95	4351.48	2178.97		2.25	-0.27	0.066
90.00	-24.62	-1.79	0.00	-113.43	0.00	113.43	2644.58	1322.29	4154.08	2080.13		2.55	-0.29	0.064
95.00	-23.58	-1.80	0.00	-104.45	0.00	104.45	2593.89	1296.95	3958.97	1982.43		2.87	-0.32	0.062
100.00	-22.56	-1.80	0.00	-95.46	0.00	95.46	2541.84	1270.92	3766.36	1885.98		3.21	-0.34	0.059
105.00	-21.56	-1.80	0.00	-86.46	0.00	86.46	2488.42	1244.21	3576.41	1790.86		3.58	-0.36	0.057
108.00	-17.29	-1.78	0.00	-81.05	0.00	81.05	2455.70	1227.85	3463.79	1734.47		3.81	-0.37	0.054
110.00	-16.93	-1.78	0.00	-77.50	0.00	77.50	2433.62	1216.81	3389.31	1697.17		3.97	-0.38	0.053
115.00	-16.07	-1.78	0.00	-68.60	0.00	68.60	2377.46	1188.73	3205.24	1605.00		4.38	-0.40	0.050
119.25	-15.35	-1.78	0.00	-61.04	0.00	61.04	2328.64	1164.32	3051.30	1527.92		4.75	-0.42	0.047
120.00	-15.14	-1.78	0.00	-59.70	0.00	59.70	2319.93	1159.96	3024.39	1514.44		4.81	-0.43	0.046
123.50	-14.20	-1.77	0.00	-53.48	0.00	53.48	1729.39	864.70	2245.31	1124.33		5.13	-0.44	0.056
125.00	-13.99	-1.78	0.00	-50.82	0.00	50.82	1717.71	858.86	2207.21	1105.25		5.27	-0.45	0.054
130.00	-13.31	-1.77	0.00	-41.95	0.00	41.95	1677.90	838.95	2081.35	1042.22		5.75	-0.47	0.048
134.50	-12.64	-1.74	0.00	-34.00	0.00	34.00	1640.90	820.45	1969.70	986.31		6.20	-0.48	0.042
135.00	-12.57	-1.74	0.00	-33.13	0.00	33.13	1636.72	818.36	1957.39	980.15		6.25	-0.49	0.041
137.00	-9.68	-1.58	0.00	-29.65	0.00	29.65	1619.86	809.93	1908.38	955.61		6.45	-0.49	0.037
140.00	-9.34	-1.56	0.00	-24.91	0.00	24.91	1594.17	797.08	1835.53	919.13		6.77	-0.50	0.033
145.00	-8.79	-1.52	0.00	-17.10	0.00	17.10	1550.24	775.12	1715.94	859.24		7.30	-0.52	0.026
148.00	-5.70	-1.14	0.00	-12.55	0.00	12.55	1523.23	761.62	1645.35	823.90		7.63	-0.52	0.019
150.00	-5.49	-1.12	0.00	-10.27	0.00	10.27	1504.95	752.48	1598.80	800.59		7.85	-0.53	0.016
153.00	-4.77	-1.01	0.00	-6.92	0.00	6.92	1477.12	738.56	1529.77	766.02		8.18	-0.53	0.012
155.00	-4.57	-0.98	0.00	-4.90	0.00	4.90	1458.29	729.15	1484.30	743.26		8.40	-0.53	0.010
160.00	0.00	-0.94	0.00	0.00	0.00	0.00	1400.09	700.04	1362.73	682.38		8.96	-0.54	0.000

Seismic Segment Forces (Factored)

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 23	

Load Case:	0.9D + 1.0E					**Iterations**	22
Gust Response Factor	1.10			**Sds**	0.20	**Ss**	0.19
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10	**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.33	**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		1312.4	0.00	0.03	0.02	25.37	
10.00		1287.0	0.01	0.05	0.03	36.18	
15.00		1261.6	0.02	0.06	0.04	41.05	
20.00		1236.2	0.03	0.07	0.04	43.11	
25.00		1210.8	0.05	0.07	0.04	43.84	
30.00		1185.4	0.07	0.07	0.04	44.04	
35.00		1160.0	0.09	0.07	0.04	44.08	
38.75	Bot - Section 2	853.39	0.11	0.07	0.04	32.98	
40.00		526.51	0.12	0.07	0.03	20.46	
45.00	Top - Section 1	2076.5	0.15	0.07	0.03	82.31	
50.00		945.50	0.18	0.06	0.03	37.89	
55.00		923.72	0.22	0.06	0.02	36.71	
60.00		901.95	0.27	0.05	0.02	34.33	
65.00		880.18	0.31	0.04	0.01	30.19	
70.00		858.41	0.36	0.03	0.01	23.79	
75.00		836.64	0.42	0.01	0.01	14.97	
78.50	Bot - Section 3	572.69	0.45	0.00	0.01	5.27	
80.00		447.46	0.47	-0.01	0.01	2.30	
83.75	Top - Section 2	1102.9	0.52	-0.02	0.01	-6.09	
85.00		166.43	0.53	-0.03	0.01	-1.52	
90.00		654.37	0.60	-0.05	0.01	-14.81	
95.00		636.22	0.67	-0.08	0.02	-21.16	
100.00		618.08	0.74	-0.10	0.04	-24.51	
105.00		599.94	0.81	-0.11	0.06	-24.75	
108.00	Appurtenance(s)	3425.6	0.86	-0.12	0.07	-136.67	
110.00		230.54	0.89	-0.12	0.08	-8.77	
115.00		563.65	0.98	-0.12	0.12	-16.97	
119.25	Bot - Section 4	464.84	1.05	-0.09	0.16	-9.17	
120.00		146.34	1.06	-0.09	0.17	-2.57	
123.50	Top - Section 3	673.22	1.13	-0.05	0.20	-4.10	
125.00		127.32	1.15	-0.03	0.22	-0.06	
130.00		414.97	1.25	0.05	0.29	8.77	
134.50	Appurtenance(s)	415.66	1.34	0.17	0.37	18.50	
135.00		39.39	1.35	0.19	0.38	1.86	
137.00	Appurtenance(s)	2346.4	1.39	0.26	0.42	138.70	
140.00		229.82	1.45	0.38	0.48	17.97	
145.00		371.43	1.55	0.64	0.61	42.27	
148.00	Appurtenance(s)	2529.8	1.62	0.83	0.69	347.83	
150.00		141.02	1.66	0.98	0.76	21.75	
153.00	Appurtenance(s)	560.98	1.73	1.23	0.86	101.49	
155.00		135.22	1.77	1.42	0.93	27.00	
160.00	Appurtenance(s)	3749.5	1.89	1.98	1.14	938.13	
	Totals:	**38,821.0**				**1,992.0**	**Total Wind:** **36,788.0**

Seismic Base Shear is Less Than 50% of Wind Force - An Analysis is NOT Required

Calculated Forces

Structure:	CT03538-S-SBA		**Code:**	EIA/TIA-222-G	5/3/2021
Site Name:	South Plymouth		**Exposure:**	C	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 24

Load Case:	0.9D + 1.0E							**Iterations**	22
Gust Response Factor	1.10			**Sds**	0.20			**Ss**	0.19
Dead Load Factor	0.90	**Seismic Load Factor**	1.00	**Sd1**	0.10			**S1**	0.06
Wind Load Factor	0.00	**Structure Frequency (f1)**	0.33	**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	-40.55	-2.27	0.00	-289.55	0.00	289.55	5345.98	2672.99	12322.4	6170.37		0.00	0.00	0.055
5.00	-39.16	-2.25	0.00	-278.22	0.00	278.22	5278.55	2639.27	11931.9	5974.86		0.01	-0.01	0.054
10.00	-37.80	-2.22	0.00	-266.97	0.00	266.97	5209.75	2604.88	11544.5	5780.84		0.03	-0.03	0.053
15.00	-36.45	-2.19	0.00	-255.86	0.00	255.86	5139.58	2569.79	11160.2	5588.39		0.06	-0.04	0.053
20.00	-35.13	-2.15	0.00	-244.92	0.00	244.92	5068.05	2534.02	10779.2	5397.62		0.11	-0.05	0.052
25.00	-33.84	-2.12	0.00	-234.15	0.00	234.15	4995.14	2497.57	10401.7	5208.61		0.18	-0.07	0.052
30.00	-32.56	-2.08	0.00	-223.57	0.00	223.57	4920.87	2460.43	10028.0	5021.46		0.25	-0.08	0.051
35.00	-31.31	-2.04	0.00	-213.17	0.00	213.17	4845.22	2422.61	9658.13	4836.24		0.35	-0.10	0.051
38.75	-30.39	-2.01	0.00	-205.52	0.00	205.52	4787.59	2393.79	9383.39	4698.67		0.43	-0.11	0.050
40.00	-29.86	-1.99	0.00	-203.01	0.00	203.01	4768.21	2384.10	9292.33	4653.07		0.46	-0.11	0.050
45.00	-27.79	-1.91	0.00	-193.05	0.00	193.05	3881.96	1940.98	7532.86	3772.03		0.58	-0.13	0.058
50.00	-26.73	-1.88	0.00	-183.48	0.00	183.48	3822.99	1911.49	7248.21	3629.49		0.72	-0.14	0.058
55.00	-25.69	-1.85	0.00	-174.08	0.00	174.08	3762.64	1881.32	6966.27	3488.31		0.88	-0.16	0.057
60.00	-24.67	-1.82	0.00	-164.83	0.00	164.83	3700.92	1850.46	6687.23	3348.59		1.05	-0.18	0.056
65.00	-23.67	-1.79	0.00	-155.74	0.00	155.74	3637.84	1818.92	6411.28	3210.40		1.25	-0.19	0.055
70.00	-22.69	-1.77	0.00	-146.77	0.00	146.77	3573.38	1786.69	6138.59	3073.86		1.46	-0.21	0.054
75.00	-21.73	-1.76	0.00	-137.91	0.00	137.91	3507.56	1753.78	5869.35	2939.04		1.69	-0.23	0.053
78.50	-21.07	-1.76	0.00	-131.74	0.00	131.74	3460.67	1730.33	5683.03	2845.74		1.87	-0.24	0.052
80.00	-20.61	-1.76	0.00	-129.11	0.00	129.11	3440.37	1720.18	5603.74	2806.03		1.94	-0.25	0.052
83.75	-19.46	-1.75	0.00	-122.53	0.00	122.53	2706.01	1353.00	4401.17	2203.86		2.14	-0.26	0.063
85.00	-19.26	-1.76	0.00	-120.34	0.00	120.34	2693.89	1346.95	4351.48	2178.97		2.21	-0.27	0.062
90.00	-18.46	-1.76	0.00	-111.55	0.00	111.55	2644.58	1322.29	4154.08	2080.13		2.51	-0.29	0.061
95.00	-17.68	-1.76	0.00	-102.75	0.00	102.75	2593.89	1296.95	3958.97	1982.43		2.82	-0.31	0.059
100.00	-16.92	-1.77	0.00	-93.93	0.00	93.93	2541.84	1270.92	3766.36	1885.98		3.16	-0.33	0.056
105.00	-16.17	-1.77	0.00	-85.11	0.00	85.11	2488.42	1244.21	3576.41	1790.86		3.52	-0.36	0.054
108.00	-12.96	-1.75	0.00	-79.81	0.00	79.81	2455.70	1227.85	3463.79	1734.47		3.75	-0.37	0.051
110.00	-12.70	-1.75	0.00	-76.32	0.00	76.32	2433.62	1216.81	3389.31	1697.17		3.91	-0.38	0.050
115.00	-12.05	-1.75	0.00	-67.57	0.00	67.57	2377.46	1188.73	3205.24	1605.00		4.31	-0.40	0.047
119.25	-11.51	-1.75	0.00	-60.14	0.00	60.14	2328.64	1164.32	3051.30	1527.92		4.67	-0.42	0.044
120.00	-11.36	-1.75	0.00	-58.83	0.00	58.83	2319.93	1159.96	3024.39	1514.44		4.74	-0.42	0.044
123.50	-10.65	-1.74	0.00	-52.71	0.00	52.71	1729.39	864.70	2245.31	1124.33		5.05	-0.43	0.053
125.00	-10.49	-1.75	0.00	-50.09	0.00	50.09	1717.71	858.86	2207.21	1105.25		5.19	-0.44	0.051
130.00	-9.98	-1.74	0.00	-41.36	0.00	41.36	1677.90	838.95	2081.35	1042.22		5.66	-0.46	0.046
134.50	-9.47	-1.72	0.00	-33.55	0.00	33.55	1640.90	820.45	1969.70	986.31		6.10	-0.48	0.040
135.00	-9.42	-1.71	0.00	-32.69	0.00	32.69	1636.72	818.36	1957.39	980.15		6.15	-0.48	0.039
137.00	-7.26	-1.56	0.00	-29.26	0.00	29.26	1619.86	809.93	1908.38	955.61		6.35	-0.49	0.035
140.00	-7.00	-1.54	0.00	-24.59	0.00	24.59	1594.17	797.08	1835.53	919.13		6.66	-0.50	0.031
145.00	-6.59	-1.49	0.00	-16.89	0.00	16.89	1550.24	775.12	1715.94	859.24		7.19	-0.51	0.024
148.00	-4.27	-1.13	0.00	-12.41	0.00	12.41	1523.23	761.62	1645.35	823.90		7.51	-0.52	0.018
150.00	-4.12	-1.10	0.00	-10.15	0.00	10.15	1504.95	752.48	1598.80	800.59		7.73	-0.52	0.015
153.00	-3.57	-1.00	0.00	-6.84	0.00	6.84	1477.12	738.56	1529.77	766.02		8.05	-0.52	0.011
155.00	-3.43	-0.97	0.00	-4.85	0.00	4.85	1458.29	729.15	1484.30	743.26		8.27	-0.52	0.009
160.00	0.00	-0.94	0.00	0.00	0.00	0.00	1400.09	700.04	1362.73	682.38		8.82	-0.53	0.000

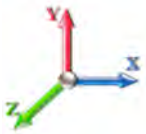
Wind Loading - Shaft

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 25	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

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	264.61	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	259.58	0.650	0.000	5.00	23.690	15.40	126.1	0.0	1312.5
10.00		1.00	0.85	7.442	8.19	254.55	0.650	0.000	5.00	23.235	15.10	123.6	0.0	1287.1
15.00		1.00	0.85	7.442	8.19	249.51	0.650	0.000	5.00	22.780	14.81	121.2	0.0	1261.7
20.00		1.00	0.90	7.896	8.69	251.83	0.650	0.000	5.00	22.325	14.51	126.0	0.0	1236.3
25.00		1.00	0.95	8.276	9.10	252.51	0.650	0.000	5.00	21.871	14.22	129.4	0.0	1210.9
30.00		1.00	0.98	8.600	9.46	251.99	0.650	0.000	5.00	21.416	13.92	131.7	0.0	1185.5
35.00		1.00	1.01	8.883	9.77	250.62	0.650	0.000	5.00	20.961	13.62	133.1	0.0	1160.1
38.75	Bot - Section 2	1.00	1.04	9.076	9.98	249.15	0.650	0.000	3.75	15.422	10.02	100.1	0.0	853.4
40.00		1.00	1.04	9.137	10.05	248.59	0.650	0.000	1.25	5.163	3.36	33.7	0.0	526.5
45.00	Top - Section 1	1.00	1.07	9.366	10.30	246.04	0.650	0.000	5.00	20.368	13.24	136.4	0.0	2076.6
50.00		1.00	1.09	9.576	10.53	247.06	0.650	0.000	5.00	19.913	12.94	136.3	0.0	945.5
55.00		1.00	1.12	9.770	10.75	243.78	0.650	0.000	5.00	19.458	12.65	135.9	0.0	923.7
60.00		1.00	1.14	9.951	10.95	240.21	0.650	0.000	5.00	19.004	12.35	135.2	0.0	902.0
65.00		1.00	1.16	10.120	11.13	236.37	0.650	0.000	5.00	18.549	12.06	134.2	0.0	880.2
70.00		1.00	1.17	10.279	11.31	232.31	0.650	0.000	5.00	18.094	11.76	133.0	0.0	858.4
75.00		1.00	1.19	10.430	11.47	228.04	0.650	0.000	5.00	17.639	11.47	131.5	0.0	836.6
78.50	Bot - Section 3	1.00	1.20	10.530	11.58	224.95	0.650	0.000	3.50	12.077	7.85	90.9	0.0	572.7
80.00		1.00	1.21	10.572	11.63	223.60	0.650	0.000	1.50	5.187	3.37	39.2	0.0	447.5
83.75	Top - Section 2	1.00	1.22	10.675	11.74	220.16	0.650	0.000	3.75	12.788	8.31	97.6	0.0	1102.9
85.00		1.00	1.22	10.708	11.78	222.50	0.650	0.000	1.25	4.206	2.73	32.2	0.0	166.4
90.00		1.00	1.24	10.838	11.92	217.77	0.650	0.000	5.00	16.539	10.75	128.2	0.0	654.4
95.00		1.00	1.25	10.962	12.06	212.91	0.650	0.000	5.00	16.084	10.45	126.1	0.0	636.2
100.00		1.00	1.27	11.081	12.19	207.92	0.650	0.000	5.00	15.629	10.16	123.8	0.0	618.1
105.00		1.00	1.28	11.195	12.31	202.82	0.650	0.000	5.00	15.174	9.86	121.5	0.0	599.9
108.00	Appurtenance(s)	1.00	1.29	11.262	12.39	199.70	0.650	0.000	3.00	8.886	5.78	71.6	0.0	351.3
110.00		1.00	1.29	11.305	12.44	197.61	0.650	0.000	2.00	5.833	3.79	47.2	0.0	230.5
115.00		1.00	1.30	11.412	12.55	192.30	0.650	0.000	5.00	14.264	9.27	116.4	0.0	563.7
119.25	Bot - Section 4	1.00	1.31	11.499	12.65	187.72	0.650	0.000	4.25	11.767	7.65	96.7	0.0	464.8
120.00		1.00	1.32	11.514	12.67	186.91	0.650	0.000	0.75	2.074	1.35	17.1	0.0	146.3
123.50	Top - Section 3	1.00	1.32	11.584	12.74	183.08	0.650	0.000	3.50	9.544	6.20	79.0	0.0	673.2
125.00		1.00	1.33	11.614	12.78	184.35	0.650	0.000	1.50	4.022	2.61	33.4	0.0	127.3
130.00		1.00	1.34	11.710	12.88	178.80	0.650	0.000	5.00	13.111	8.52	109.8	0.0	415.0
134.50	Appurtenance(s)	1.00	1.35	11.794	12.97	173.74	0.650	0.000	4.50	11.411	7.42	96.2	0.0	361.1
135.00		1.00	1.35	11.803	12.98	173.17	0.650	0.000	0.50	1.245	0.81	10.5	0.0	39.4
137.00	Appurtenance(s)	1.00	1.35	11.840	13.02	170.90	0.650	0.000	2.00	4.935	3.21	41.8	0.0	156.1
140.00		1.00	1.36	11.894	13.08	167.47	0.650	0.000	3.00	7.266	4.72	61.8	0.0	229.8
145.00		1.00	1.37	11.982	13.18	161.71	0.650	0.000	5.00	11.746	7.64	100.6	0.0	371.4
148.00	Appurtenance(s)	1.00	1.37	12.034	13.24	158.22	0.650	0.000	3.00	6.829	4.44	58.8	0.0	215.9
150.00		1.00	1.38	12.068	13.27	155.88	0.650	0.000	2.00	4.462	2.90	38.5	0.0	141.0
153.00	Appurtenance(s)	1.00	1.38	12.119	13.33	152.35	0.650	0.000	3.00	6.557	4.26	56.8	0.0	207.2
155.00		1.00	1.39	12.152	13.37	149.99	0.650	0.000	2.00	4.280	2.78	37.2	0.0	135.2
160.00	Appurtenance(s)	1.00	1.40	12.233	13.46	144.03	0.650	0.000	5.00	10.382	6.75	90.8	0.0	327.9
								Totals:	**160.00**			**3,891.2**		**27,412.2**

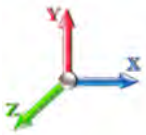
Discrete Appurtenance Forces

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 26	

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	160.00	MS-HRECP-35	1	12.233	13.457	1.00	1.00	12.25	514.00	0.000	0.000	164.84	0.00	0.00
2	160.00	Ericsson KRY 112 144/1	3	12.233	13.457	0.63	0.90	0.77	33.00	0.000	0.000	10.43	0.00	0.00
3	160.00	APXVAARR24_43-U-NA2	3	12.233	13.457	0.63	0.90	38.25	384.00	0.000	0.000	514.76	0.00	0.00
4	160.00	Air 32	3	12.233	13.457	0.78	0.90	15.29	396.60	0.000	0.000	205.78	0.00	0.00
5	160.00	Air 21 B2A/B4P	3	12.233	13.457	0.77	0.90	14.14	274.50	0.000	0.000	190.29	0.00	0.00
6	160.00	4449 B71 + B85	3	12.233	13.457	0.60	0.90	3.56	219.60	0.000	0.000	47.96	0.00	0.00
7	160.00	Low Profile Platform	1	12.233	13.457	1.00	1.00	22.00	1600.00	0.000	0.000	296.04	0.00	0.00
8	153.00	Lone Star Electronics	1	12.176	13.394	1.00	1.00	2.10	20.00	0.000	3.500	28.13	0.00	98.45
9	153.00	VHLP-2.6-11	1	12.119	13.330	1.00	1.00	8.43	47.60	0.000	0.000	112.38	0.00	0.00
10	153.00	Hutton HPD 3.4-4.7	1	12.119	13.330	1.00	1.00	8.92	105.00	0.000	0.000	118.91	0.00	0.00
11	153.00	Pipe Mounts	2	12.119	13.330	1.00	1.00	10.00	100.00	0.000	0.000	133.30	0.00	0.00
12	153.00	4 ft Sidearm	1	12.119	13.330	1.00	1.00	3.50	50.00	0.000	0.000	46.66	0.00	0.00
13	153.00	Motorola ODU-A-RF	3	12.119	13.330	1.00	1.00	4.32	31.20	0.000	0.000	57.59	0.00	0.00
14	148.00	ALU 800 MHz RRH	3	12.034	13.238	0.54	0.80	4.00	159.00	0.000	0.000	53.00	0.00	0.00
15	148.00	RFS APXVTM14-C-120	3	12.068	13.275	0.71	0.80	13.54	288.00	0.000	2.000	179.77	0.00	359.55
16	148.00	RFS APXVSPP18-C-A20	3	12.034	13.238	0.74	0.80	17.90	291.00	0.000	0.000	236.96	0.00	0.00
17	148.00	ALU 1900MHz RRH	3	12.034	13.238	0.54	0.80	6.11	132.00	0.000	0.000	80.89	0.00	0.00
18	148.00	ALU 800 MHz Filter	3	12.034	13.238	0.79	0.80	1.00	30.00	0.000	0.000	13.21	0.00	0.00
19	148.00	ALU TD-RRH8x20-25	3	12.034	13.238	0.55	0.80	6.71	210.00	0.000	0.000	88.78	0.00	0.00
20	148.00	RFS ACU-A20-N	4	12.034	13.238	0.63	0.80	0.35	4.00	0.000	0.000	4.69	0.00	0.00
21	148.00	Low Profile Platform	1	12.034	13.238	1.00	1.00	25.00	1200.00	0.000	0.000	330.94	0.00	0.00
22	137.00	Low Profile Platform	1	11.840	13.024	1.00	1.00	22.00	1500.00	0.000	0.000	286.53	0.00	0.00
23	137.00	RFS FD9R6004/2C-3	6	11.840	13.024	0.40	0.80	0.86	18.60	0.000	0.000	11.25	0.00	0.00
24	137.00	ALU RRH2X60-AWS	3	11.840	13.024	0.71	0.80	4.70	165.00	0.000	0.000	61.20	0.00	0.00
25	137.00	ALU 2X60-1900	3	11.840	13.024	0.67	0.80	3.79	138.00	0.000	0.000	49.36	0.00	0.00
26	137.00	RFS DB-T1-6Z-8AB-0Z	1	11.840	13.024	0.57	0.80	2.73	18.90	0.000	0.000	35.51	0.00	0.00
27	137.00	Antel BXA-70080-6CF-2	3	11.840	13.024	0.78	0.80	13.41	54.00	0.000	0.000	174.64	0.00	0.00
28	137.00	Commscope	6	11.840	13.024	0.70	0.80	35.70	244.80	0.000	0.000	465.02	0.00	0.00
29	137.00	Antel BXA-70063-6CF-2	3	11.840	13.024	0.66	0.80	15.08	51.00	0.000	0.000	196.39	0.00	0.00
30	134.50	Pipe Mount	1	11.794	12.974	1.00	1.00	5.00	50.00	0.000	0.000	64.87	0.00	0.00
31	134.50	Bird Technologies CSA	1	11.794	12.974	1.00	1.00	3.81	4.60	0.000	0.000	49.43	0.00	0.00
32	108.00	Ericsson RRUS 32 B2	3	11.262	12.388	0.54	0.80	2.65	231.00	0.000	0.000	32.87	0.00	0.00
33	108.00	Powerwave 7020 RET	12	11.262	12.388	0.80	0.80	3.84	26.40	0.000	0.000	47.57	0.00	0.00
34	108.00	Ericsson B14 4478 RRU	3	11.262	12.388	0.54	0.80	5.07	174.00	0.000	0.000	62.75	0.00	0.00
35	108.00	AM-X-CD-17-65-00T-RET	3	11.262	12.388	0.60	0.80	14.44	145.50	0.000	0.000	178.83	0.00	0.00
36	108.00	EPBQ-652L8H6-L2	3	11.262	12.388	0.57	0.80	26.77	297.00	0.000	0.000	331.62	0.00	0.00
37	108.00	7770	6	11.262	12.388	0.66	0.80	21.91	210.00	0.000	0.000	271.44	0.00	0.00
38	108.00	Raycap DC6-48-60-18-8F	2	11.262	12.388	0.80	0.80	1.47	63.60	0.000	0.000	18.24	0.00	0.00
39	108.00	Powerwave LGP21401	6	11.262	12.388	0.40	0.80	3.10	84.60	0.000	0.000	38.35	0.00	0.00
40	108.00	Powerwave 21903	6	11.262	12.388	0.67	0.80	1.09	33.00	0.000	0.000	13.49	0.00	0.00
41	108.00	Ericsson RRU 11	6	11.262	12.388	0.54	0.80	8.10	306.00	0.000	0.000	100.40	0.00	0.00
42	108.00	Andrew ABT-DFDM-ADBH	3	11.262	12.388	0.78	0.80	0.12	3.30	0.000	0.000	1.46	0.00	0.00
43	108.00	Low Profile Platform	1	11.262	12.388	1.00	1.00	22.00	1500.00	0.000	0.000	272.53	0.00	0.00
							Totals:		**11,408.80**			**5,679.05**		

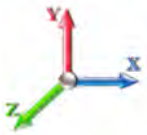
Total Applied Force Summary

Structure:	CT03538-S-SBA		**Code:**	EIA/TIA-222-G	5/3/2021
Site Name:	South Plymouth		**Exposure:**	C	
Height:	160.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	1.1	**Topography:** 1	**Struct Class:**	II	Page: 27

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		126.05	1542.19	0.00	0.00
10.00		123.63	1516.79	0.00	0.00
15.00		121.21	1491.39	0.00	0.00
20.00		126.04	1465.99	0.00	0.00
25.00		129.41	1440.59	0.00	0.00
30.00		131.68	1415.19	0.00	0.00
35.00		133.14	1389.78	0.00	0.00
38.75		100.08	1025.67	0.00	0.00
40.00		33.73	583.93	0.00	0.00
45.00		136.40	2306.25	0.00	0.00
50.00		136.35	1175.20	0.00	0.00
55.00		135.93	1153.42	0.00	0.00
60.00		135.21	1131.65	0.00	0.00
65.00		134.22	1109.88	0.00	0.00
70.00		132.98	1088.11	0.00	0.00
75.00		131.54	1066.34	0.00	0.00
78.50		90.93	733.48	0.00	0.00
80.00		39.21	516.37	0.00	0.00
83.75		97.60	1275.22	0.00	0.00
85.00		32.20	223.85	0.00	0.00
90.00		128.16	884.07	0.00	0.00
95.00		126.06	865.92	0.00	0.00
100.00		123.82	847.78	0.00	0.00
105.00		121.46	829.64	0.00	0.00
108.00	(54) attachments	1441.10	3563.47	0.00	0.00
110.00		47.15	293.62	0.00	0.00
115.00		116.39	721.35	0.00	0.00
119.25		96.75	598.88	0.00	0.00
120.00		17.08	170.00	0.00	0.00
123.50		79.05	783.61	0.00	0.00
125.00		33.40	174.63	0.00	0.00
130.00		109.77	572.67	0.00	0.00
134.50	(2) attachments	210.53	557.59	0.00	0.00
135.00		10.51	54.90	0.00	0.00
137.00	(26) attachments	1321.69	2408.46	0.00	0.00
140.00		61.79	282.14	0.00	0.00
145.00		100.64	458.63	0.00	0.00
148.00	(23) attachments	1047.00	2582.21	0.00	359.55
150.00		38.50	170.62	0.00	0.00
153.00	(9) attachments	553.77	605.38	0.00	98.45
155.00		37.19	162.50	0.00	0.00
160.00	(17) attachments	1520.91	3817.78	0.00	0.00
	Totals:	**9,570.24**	**45,057.16**	**0.00**	**457.99**

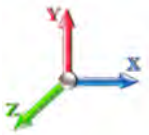
Calculated Forces

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 28	

Load Case: 1.0D + 1.0W 60 mph Wind

Dead Load Factor 1.00

Wind Load Factor 1.00



Iterations 23

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	-45.05	-9.59	0.00	-1136.6	0.00	1136.66	5345.98	2672.99	12322.4	6170.37	0.00	0.000	0.000	0.193
5.00	-43.50	-9.50	0.00	-1088.7	0.00	1088.72	5278.55	2639.27	11931.9	5974.86	0.03	-0.051	0.000	0.190
10.00	-41.98	-9.41	0.00	-1041.2	0.00	1041.21	5209.75	2604.88	11544.5	5780.84	0.11	-0.103	0.000	0.188
15.00	-40.48	-9.33	0.00	-994.14	0.00	994.14	5139.58	2569.79	11160.2	5588.39	0.24	-0.156	0.000	0.186
20.00	-39.00	-9.23	0.00	-947.50	0.00	947.50	5068.05	2534.02	10779.2	5397.62	0.44	-0.209	0.000	0.183
25.00	-37.55	-9.13	0.00	-901.34	0.00	901.34	4995.14	2497.57	10401.7	5208.61	0.68	-0.263	0.000	0.181
30.00	-36.13	-9.03	0.00	-855.68	0.00	855.68	4920.87	2460.43	10028.0	5021.46	0.99	-0.317	0.000	0.178
35.00	-34.73	-8.92	0.00	-810.53	0.00	810.53	4845.22	2422.61	9658.13	4836.24	1.35	-0.373	0.000	0.175
38.75	-33.71	-8.83	0.00	-777.09	0.00	777.09	4787.59	2393.79	9383.39	4698.67	1.66	-0.415	0.000	0.172
40.00	-33.12	-8.81	0.00	-766.06	0.00	766.06	4768.21	2384.10	9292.33	4653.07	1.77	-0.429	0.000	0.172
45.00	-30.80	-8.68	0.00	-722.02	0.00	722.02	3881.96	1940.98	7532.86	3772.03	2.25	-0.485	0.000	0.199
50.00	-29.62	-8.57	0.00	-678.60	0.00	678.60	3822.99	1911.49	7248.21	3629.49	2.79	-0.542	0.000	0.195
55.00	-28.46	-8.45	0.00	-635.76	0.00	635.76	3762.64	1881.32	6966.27	3488.31	3.39	-0.605	0.000	0.190
60.00	-27.32	-8.34	0.00	-593.49	0.00	593.49	3700.92	1850.46	6687.23	3348.59	4.06	-0.669	0.000	0.185
65.00	-26.20	-8.22	0.00	-551.82	0.00	551.82	3637.84	1818.92	6411.28	3210.40	4.79	-0.732	0.000	0.179
70.00	-25.11	-8.10	0.00	-510.74	0.00	510.74	3573.38	1786.69	6138.59	3073.86	5.60	-0.796	0.000	0.173
75.00	-24.03	-7.97	0.00	-470.25	0.00	470.25	3507.56	1753.78	5869.35	2939.04	6.46	-0.859	0.000	0.167
78.50	-23.30	-7.88	0.00	-442.35	0.00	442.35	3460.67	1730.33	5683.03	2845.74	7.11	-0.904	0.000	0.162
80.00	-22.78	-7.85	0.00	-430.53	0.00	430.53	3440.37	1720.18	5603.74	2806.03	7.40	-0.923	0.000	0.160
83.75	-21.50	-7.74	0.00	-401.09	0.00	401.09	2706.01	1353.00	4401.17	2203.86	8.14	-0.970	0.000	0.190
85.00	-21.27	-7.72	0.00	-391.42	0.00	391.42	2693.89	1346.95	4351.48	2178.97	8.40	-0.986	0.000	0.188
90.00	-20.38	-7.60	0.00	-352.81	0.00	352.81	2644.58	1322.29	4154.08	2080.13	9.47	-1.056	0.000	0.177
95.00	-19.51	-7.48	0.00	-314.79	0.00	314.79	2593.89	1296.95	3958.97	1982.43	10.61	-1.124	0.000	0.166
100.00	-18.66	-7.36	0.00	-277.38	0.00	277.38	2541.84	1270.92	3766.36	1885.98	11.82	-1.189	0.000	0.154
105.00	-17.82	-7.24	0.00	-240.56	0.00	240.56	2488.42	1244.21	3576.41	1790.86	13.10	-1.252	0.000	0.142
108.00	-14.29	-5.73	0.00	-218.85	0.00	218.85	2455.70	1227.85	3463.79	1734.47	13.90	-1.288	0.000	0.132
110.00	-13.99	-5.68	0.00	-207.39	0.00	207.39	2433.62	1216.81	3389.31	1697.17	14.45	-1.312	0.000	0.128
115.00	-13.27	-5.56	0.00	-178.98	0.00	178.98	2377.46	1188.73	3205.24	1605.00	15.85	-1.368	0.000	0.117
119.25	-12.67	-5.46	0.00	-155.34	0.00	155.34	2328.64	1164.32	3051.30	1527.92	17.09	-1.413	0.000	0.107
120.00	-12.50	-5.44	0.00	-151.25	0.00	151.25	2319.93	1159.96	3024.39	1514.44	17.31	-1.421	0.000	0.105
123.50	-11.71	-5.35	0.00	-132.21	0.00	132.21	1729.39	864.70	2245.31	1124.33	18.37	-1.456	0.000	0.124
125.00	-11.54	-5.32	0.00	-124.19	0.00	124.19	1717.71	858.86	2207.21	1105.25	18.83	-1.471	0.000	0.119
130.00	-10.96	-5.20	0.00	-97.62	0.00	97.62	1677.90	838.95	2081.35	1042.22	20.40	-1.522	0.000	0.100
134.50	-10.41	-4.98	0.00	-74.22	0.00	74.22	1640.90	820.45	1969.70	986.31	21.85	-1.562	0.000	0.082
135.00	-10.36	-4.97	0.00	-71.74	0.00	71.74	1636.72	818.36	1957.39	980.15	22.02	-1.566	0.000	0.080
137.00	-7.98	-3.58	0.00	-61.80	0.00	61.80	1619.86	809.93	1908.38	955.61	22.68	-1.582	0.000	0.070
140.00	-7.70	-3.52	0.00	-51.05	0.00	51.05	1594.17	797.08	1835.53	919.13	23.68	-1.602	0.000	0.060
145.00	-7.24	-3.41	0.00	-33.47	0.00	33.47	1550.24	775.12	1715.94	859.24	25.37	-1.629	0.000	0.044
148.00	-4.69	-2.29	0.00	-22.90	0.00	22.90	1523.23	761.62	1645.35	823.90	26.40	-1.642	0.000	0.031
150.00	-4.52	-2.24	0.00	-18.33	0.00	18.33	1504.95	752.48	1598.80	800.59	27.09	-1.648	0.000	0.026
153.00	-3.93	-1.67	0.00	-11.50	0.00	11.50	1477.12	738.56	1529.77	766.02	28.12	-1.655	0.000	0.018
155.00	-3.77	-1.63	0.00	-8.15	0.00	8.15	1458.29	729.15	1484.30	743.26	28.82	-1.659	0.000	0.014
160.00	0.00	-1.52	0.00	0.00	0.00	0.00	1400.09	700.04	1362.73	682.38	30.56	-1.663	0.000	0.000

Final Analysis Summary

Structure:	CT03538-S-SBA	**Code:**	EIA/TIA-222-G	5/3/2021	
Site Name:	South Plymouth	**Exposure:**	C		
Height:	160.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	1.1 **Topography:** 1	**Struct Class:**	II	Page: 29	

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 93 mph Wind	36.9	0.00	54.00	0.00	0.00	4396.64
0.9D + 1.6W 93 mph Wind	36.9	0.00	40.49	0.00	0.00	4345.52
1.2D + 1.0Di + 1.0Wi 40 mph Wind	7.9	0.00	92.90	0.00	0.00	969.28
1.2D + 1.0E	2.3	0.00	54.07	0.00	0.00	293.29
0.9D + 1.0E	2.3	0.00	40.55	0.00	0.00	289.55
1.0D + 1.0W 60 mph Wind	9.6	0.00	45.05	0.00	0.00	1136.66

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 93 mph Wind	-35.91	-33.59	0.00	-2797.2	0.00	-2797.2	3881.96	1940.9	7532.86	3772.03	45.00	0.751
0.9D + 1.6W 93 mph Wind	-26.67	-33.26	0.00	-2754.4	0.00	-2754.4	3881.96	1940.9	7532.86	3772.03	45.00	0.737
1.2D + 1.0Di + 1.0Wi 40 mph Wind	-70.12	-7.34	0.00	-624.42	0.00	-624.42	3881.96	1940.9	7532.86	3772.03	45.00	0.184
1.2D + 1.0E	-25.95	-1.79	0.00	-124.61	0.00	-124.61	2706.01	1353.0	4401.17	2203.86	83.75	0.066
0.9D + 1.0E	-19.46	-1.75	0.00	-122.53	0.00	-122.53	2706.01	1353.0	4401.17	2203.86	83.75	0.063
1.0D + 1.0W 60 mph Wind	-30.80	-8.68	0.00	-722.02	0.00	-722.02	3881.96	1940.9	7532.86	3772.03	45.00	0.199

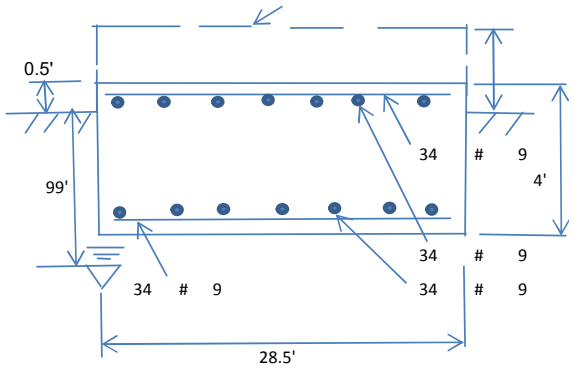
Monopole Mat Foundation Design

				Date
				5/3/2021
Customer Name:	SBA Communication Corp	**EIA/TIA Standard:**	EIA-222-G
Site Name:		**Structure Height (Ft.):**	160
Site Number:	CT03538	**Engineer Name:**	D. Zhou
Engr. Number:	107186	**Engineer Login ID:**	

Foundation Info Obtained from: Mapping Operation

Structure Type: Monopole

Analysis or Design? Analysis

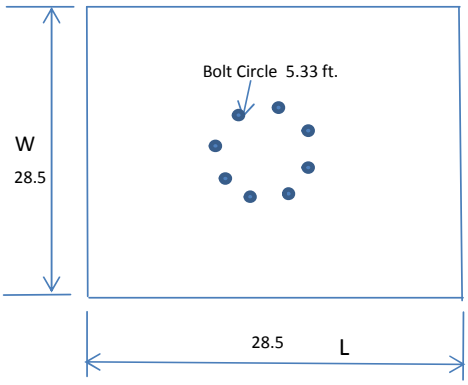


Base Reactions (Factored):

Axial Load (Kips):	92.9	Shear Force (Kips):	36.9
Uplift Force (Kips):	0.0	Moment (Kips-ft):	4396.6
Allowable overstress %:	5.0%		

Foundation Geometries:

		Mods required -Yes/No ?:	No
Anchor Bolt Circle (ft.):	5.33	Depth of Base BG (ft.):	3.50
Thickness of Pad (ft):	4.00		
Length of Pad (ft.):	28.5	Width of Pad (ft.):	28.5
Final Length of pad (ft)	28.5	Final width of pad (ft):	28.5



Material Properties and Reabr Info:

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Pad Rebar Yield (Ksi):	60	Tie Spacing (in):	6.0	
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):	34	Qty. of Rebar in Pad (W):	34

Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	34	Qty. of Rebar in Pad (W):	34
Apply 1.35 factor for e/w Per G:	1.35		

Soil Design Parameters:

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):	20000	Ultimate Skin Friction:		Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	No		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	No	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.):	0.00	Total Dry Soil Weight (Kips):	0.00
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	0.00	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	3249.00	Total Dry Concrete Weight (Kips):	487.35
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	487.35	Total Vertical Load on Base (Kips):	580.25

Check Soil Capacities:

				Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):	2500	<	Allowable Factored Soil Bearing (psf): 15000	0.17	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	7574.1	>	Design Factored Momont (kips-ft): 4546	0.60	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.67	OK!			

Check the capacities of Reinforceing Concrete:

Strength reduction factor (Flexure and axial tension):	0.90	Strength reduction factor (Shear):	0.75
Strength reduction factor (Axial compresion):	0.65	Wind Load Factor on Concrete Design:	1.00

Concrete Pad:

One-Way Design Shear Capacity (L-Direction, Kips):	1248.6	>	One-Way Factored Shear (L-D. Kips):	329.0	0.26	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1248.6	>	One-Way Factored Shear (W-D., Kips)	329.0	0.26	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	1510.4	>	One-Way Factored Shear (C-C, Kips):	555.9	0.37	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct.):	0.0022	OK!	Lower Steel Pad Reinf. Ratio (W-Direc	0.0022		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	6620.0	>	Moment at Bottom (L-Direct. K-Ft):	1255.3	0.19	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	6620.0	>	Moment at Bottom (W-Direct. K-Ft):	1255.3	0.19	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	9319.3	>	Moment at Bottom (C-C Dir. K-Ft):	1775.3	0.19	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct.):	0.0022	OK!	Upper Steel Reinf. Ratio (W-Direct.):	0.0022		
Upper Steel Pad Moment Capacity (L-Direction. Kips-ft):	6620.0	>	Moment at the top (L-Dir Kips-Ft):	183.2	0.03	OK!
Upper Steel Pad Moment Capacity (W-Direction. Kips-ft):	6620.0	>	Moment at the top (W-Dir Kips-Ft):	183.2	0.03	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	9319.3	>	Moment at the top (C-C Direc. K-Ft):	615.1	0.07	OK!

EXHIBIT 9

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

Antenna Mount Analysis Report

Existing 160-Ft Monopole Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT03538-S-SBA / South Plymouth

Customer Site Name: South Plymouth

Carrier Name: T-Mobile (App#: 117013-2, V#)

Carrier Site ID / Name: CT11363D / South Plymouth

Site Location: 170 Mount Tobe Road

Plymouth, Connecticut

Litchfield County

Latitude: 41.630030

Longitude: -73.056553

4/20/21

Analysis Result:

Max Structural Usage: 86.7% [Pass]

Report Prepared By : Mariana Franco

NOTE: The proposed mount reinforcement was assumed to be installed per TES drawings instructions. The analysis results are void if the proposed modification is not installed in accordance with TES modification drawings listed in the sources of information

Introduction

The purpose of this report is to summarize the analysis results on the (1) Low Profile Platform at 160.00' 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 4/27/2019
Antenna Loading	Provided by SBA Application #: 117013, v1, Dated 6/3/2019
Modification Drawings	TES Project No. 82734 Dated: 08/22/19

Analysis Criteria

Basic Wind Speed Used in the Analysis: V_{ULT} = 120 mph (3-Sec. Gust) / Equivalent to
V_{ASD} = 93 mph (3-Sec. Gust)
Basic Wind Speed with Ice: 50 mph (3-Sec. Gust) with 0.75" radial ice concurrent
Operational Wind Speed: 60 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-G/ 2015 IBC/ 2018 CSBC
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) Low Profile Platform at 160.00' elevation
(1) Support rail kit: MS-HR2375-2375
(1) Support rail end connection kit: MS-HR2875-33ECP

Final Antenna Configuration

3 Ericsson Air 21 B2A/B4P
3 Ericsson Air 32 KRD901146-1_B66A_B2A
3 RFS APXVAALL24_43-U-NA20
3 Ericsson KRY 112 144/1
3 Ericsson 4449 B71 + B85

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 86.7%, 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.

NOTE: The proposed mount reinforcement was assumed to be installed per TES drawings instructions. The analysis results are void if the proposed modification is not installed in accordance with TES modification drawings listed in the sources of information

Attachments

1. Mount Photos Before Modification
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.


04.27.2019 09:38

Structure: CT03538-S-SBA - South Plymouth

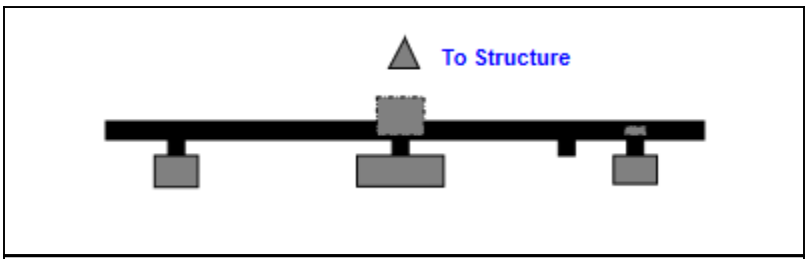
Sector: A

Structure Type: Monopole

Mount Elev: 160.00

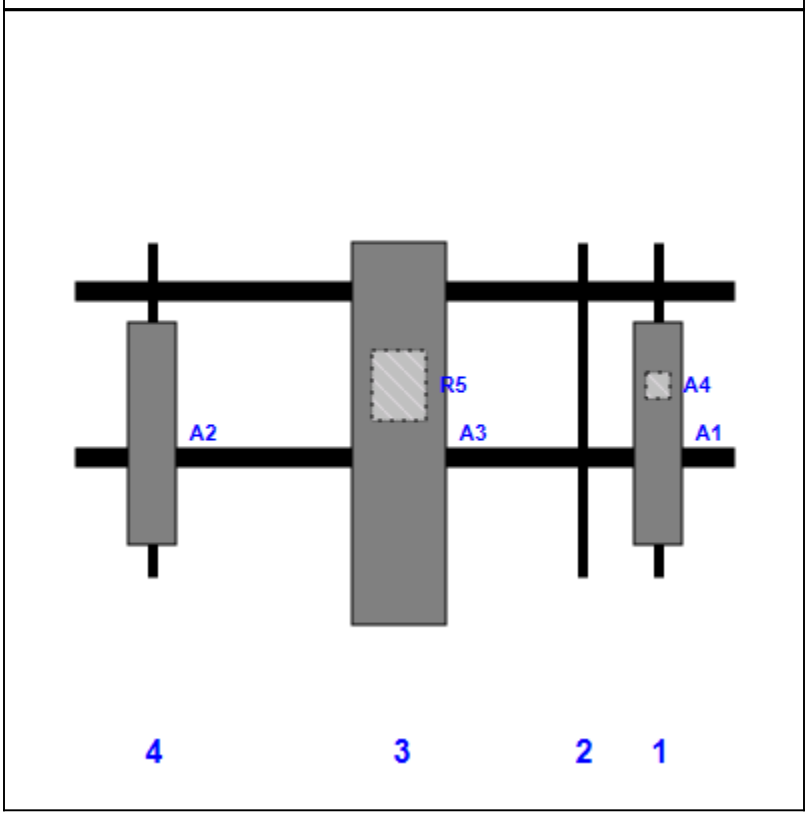
4/20/2021

Plan View



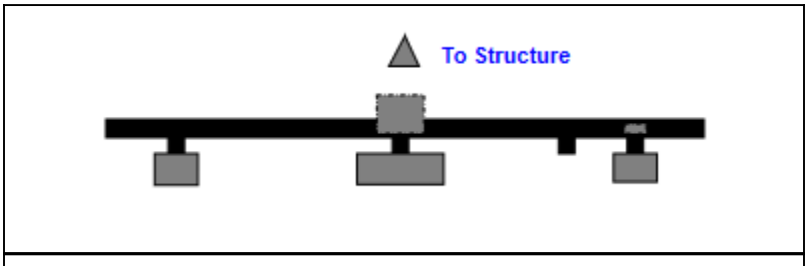
Front View

Looking Toward Structure



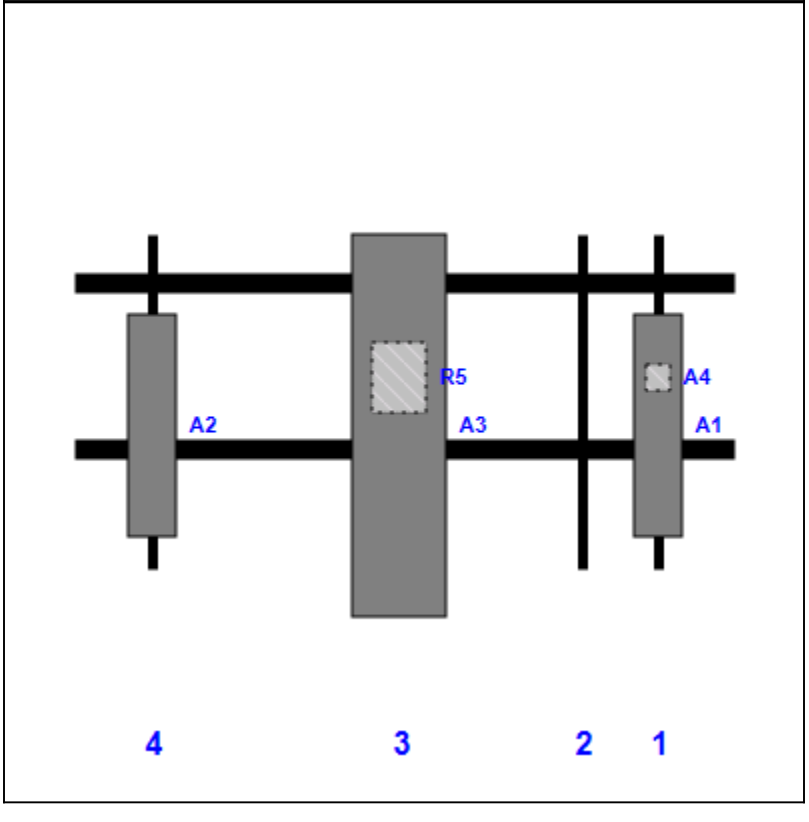
Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	Air 21 B2A/B4P	55.90	12.00	147.00	1	a	Front	48.00			
A4	KRY 112 144/1	6.90	6.10	147.00	1	a	Behind	36.00			
A3	APXVAALL24_43-U-NA20	95.90	24.00	82.00	3	a	Front	48.00			
R5	4449 B71 + B85	17.90	13.10	82.00	3	a	Behind	36.00			
A2	Air 32 KRD901146-1_B66A_B2A	56.00	12.00	20.00	4	a	Front	48.00			

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
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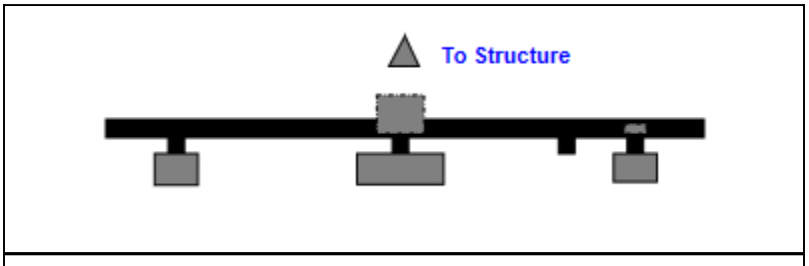
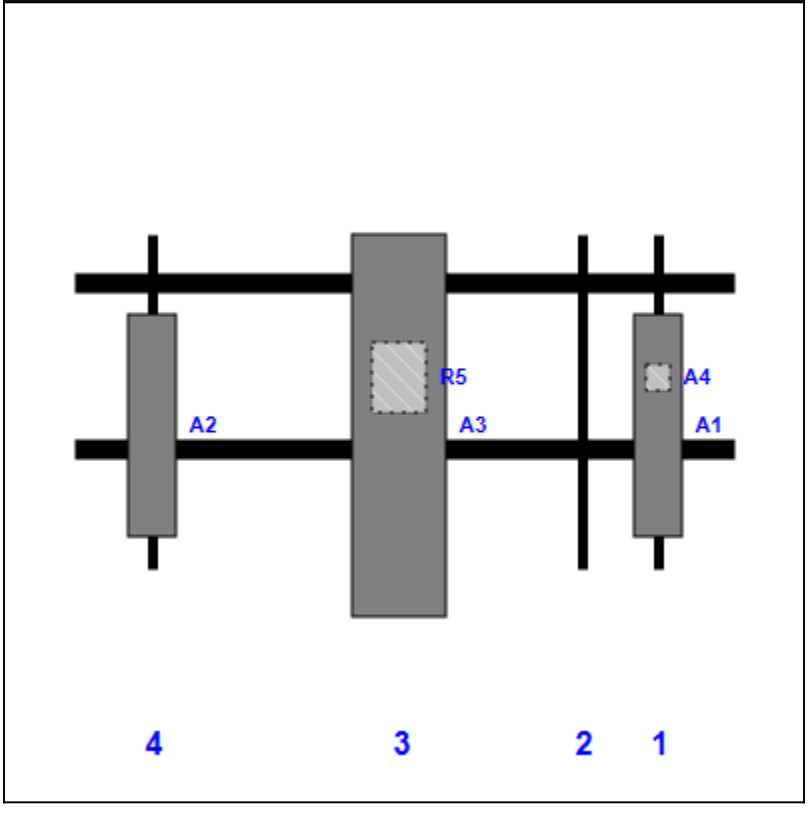
A4	KRY 112 144/1	6.90	6.10	147.00	1	a	Behind	36.00			
A3	APXVAALL24_43-U-NA20	95.90	24.00	82.00	3	a	Front	48.00			
R5	4449 B71 + B85	17.90	13.10	82.00	3	a	Behind	36.00			
A2	Air 32 KRD901146-1_B66A_B2A	56.00	12.00	20.00	4	a	Front	48.00			

Plan View



Front View

Looking Toward Structure

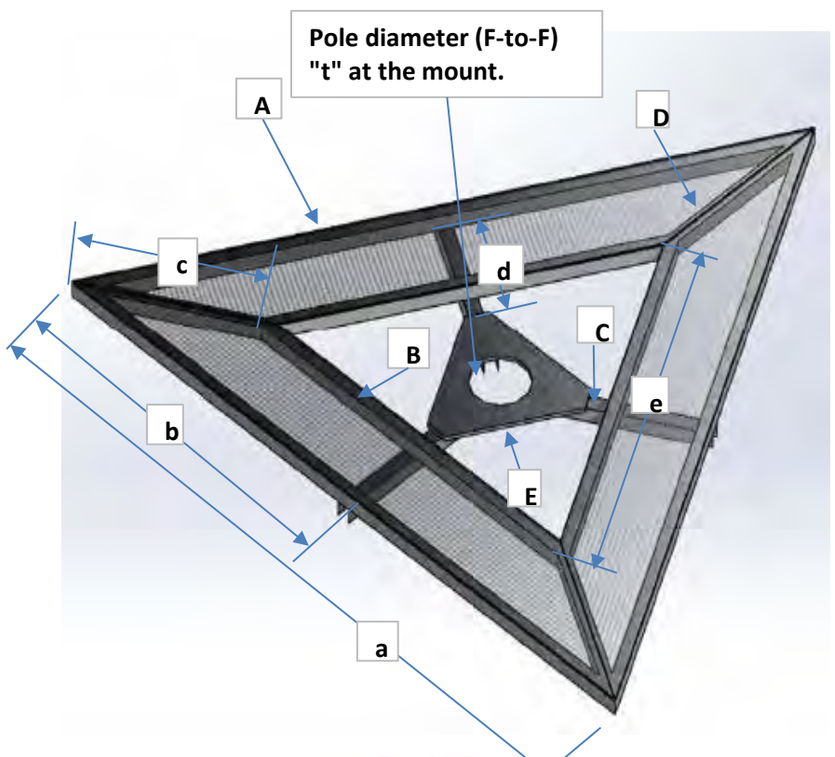


Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	Air 21 B2A/B4P	55.90	12.00	147.00	1	a	Front	48.00			
A4	KRY 112 144/1	6.90	6.10	147.00	1	a	Behind	36.00			
A3	APXVAALL24_43-U-NA20	95.90	24.00	82.00	3	a	Front	48.00			
R5	4449 B71 + B85	17.90	13.10	82.00	3	a	Behind	36.00			
A2	Air 32 KRD901146-1_B66A_B2A	56.00	12.00	20.00	4	a	Front	48.00			

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

FCC # 1231144

Tower Owner:	SBA Communications	**Mapping Date:**	4/27/19
Site Name:	South Plymouth	**Structure Type:**	Monopole
Site Number or ID:	CT03538-S-SBA	**Structure Height (Ft.):**	163
Mapping Contractor:	Full Metal Tower Services	**Mount Height (Ft.):**	162.1

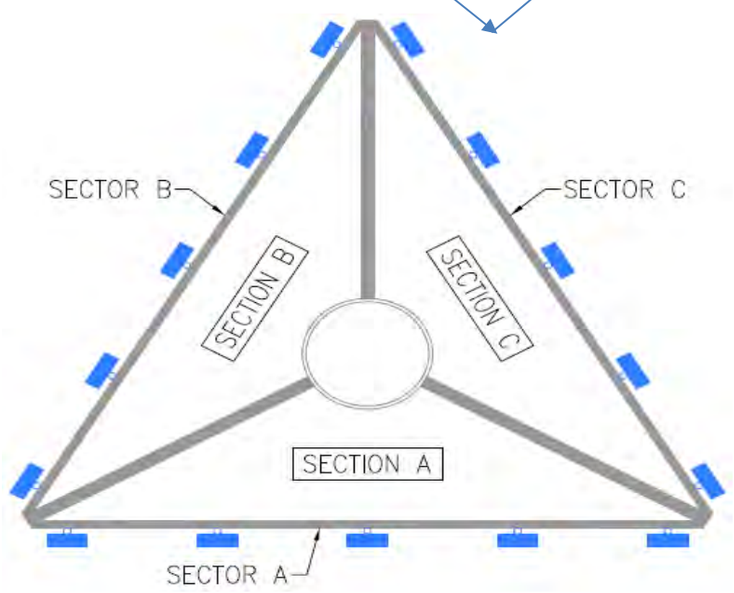


Geometries (Unit: inches)									
a	166	e	88	j		o		s	
b	82	f		k		p		t	18
c	46	g		m		q		u *	54
d	26	h		n		r		v *	84

Members/Bolts (Unit: inches) *** - See Ant. Layout for "u", "v" and member "K" (pipe)**

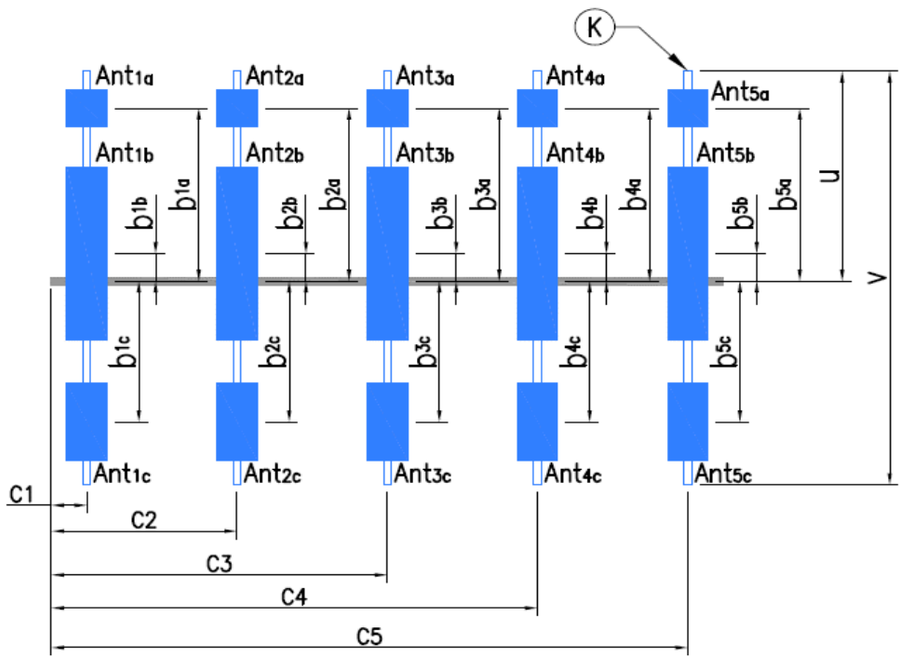
Items	Member	Lx (O.D.)	Ly (I.D.)	T	Items	Member	Lx (O.D.)	Ly (I.D.)	T
A	L3x3x1/4	3	3	0.25	F				
B	L3x3x1/4	3	3	0.25	G				
C	C4x7.25	4	1.721	0.3125	H				
D	L3x3x1/4	3	3	0.25	J				
E	3/4" Thick. Plate	0	0	0.75	K* (pipe)	2.375 OD x 0.154 Pipe	2.375	2.067	0.154
Distance from top of main platform member to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)									N/A
Distance from top of main platform member to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)									9'

Please enter the infomation below if members can't be found from the drop down lists



Climbing ladder is Located at Section A, at 110° Degree Azimuth

Ants. Items	Enter antenna model. If not labled, 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}	Antenna A	12	8	56	1/2" (2)	+10"	6	147	
Ant_{1b}	TMA A	6	3	8	1/2" (2)	+15"		147	
Ant_{1c}									
Ant_{2a}	Empty							128	
Ant_{2b}									
Ant_{2c}									
Ant_{3a}	Antenna B	12	7.5	96.5	1/2" (2)	+4"	7	64	
Ant_{3b}	RRH A	17	7	20	1/2" (2)	+29"		64	
Ant_{3c}									
Ant_{4a}	Antenna A	13	9	57	1/2" (2)	+6"	7	20	
Ant_{4b}									
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**							

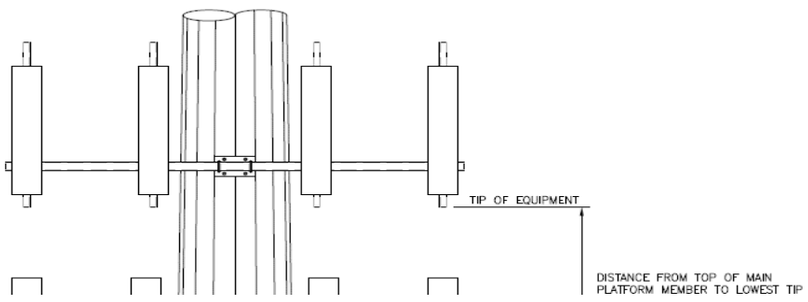


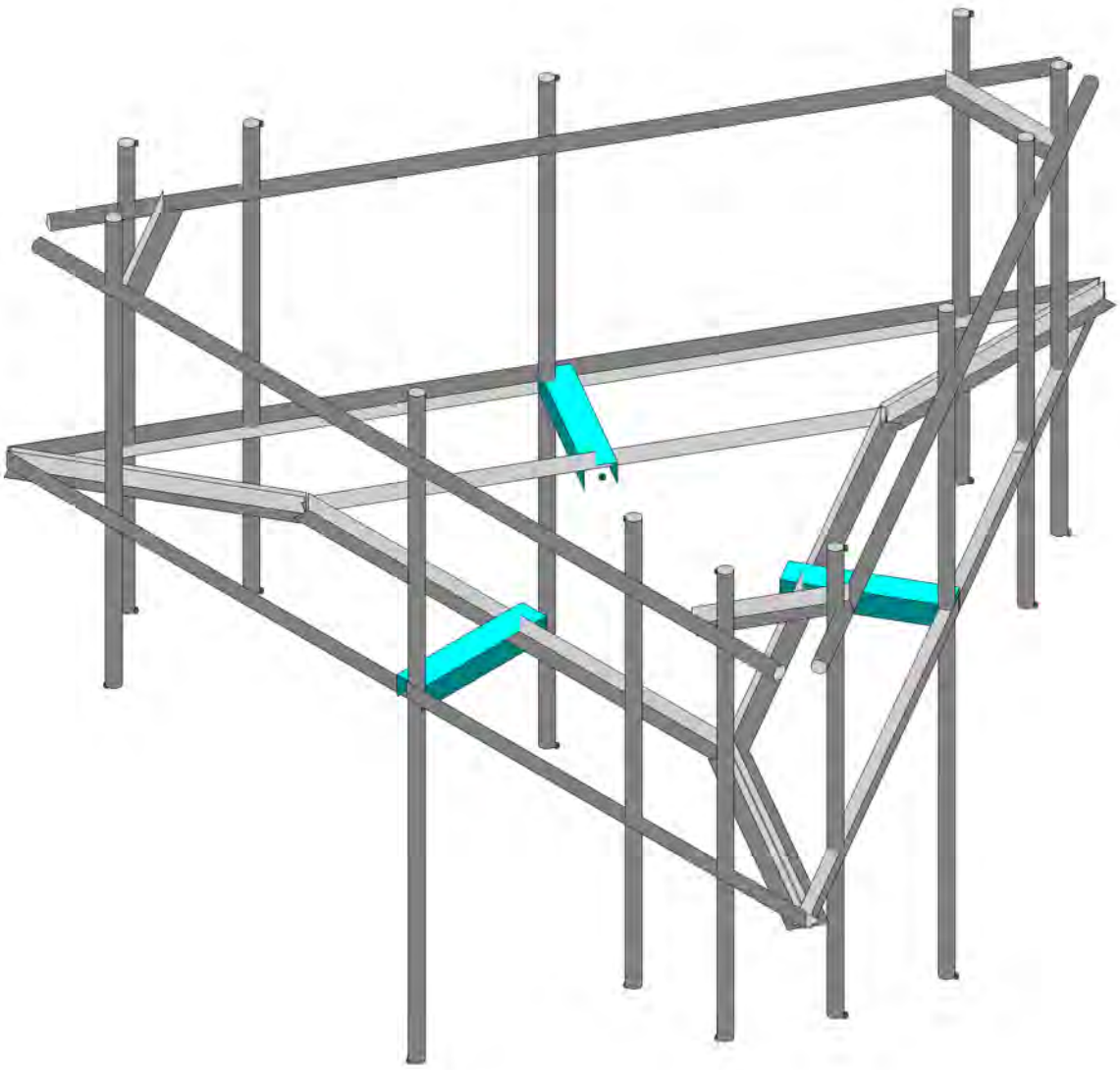
Antenna Layout

Azimuth (Degree) of Each Sector and Climbing Information

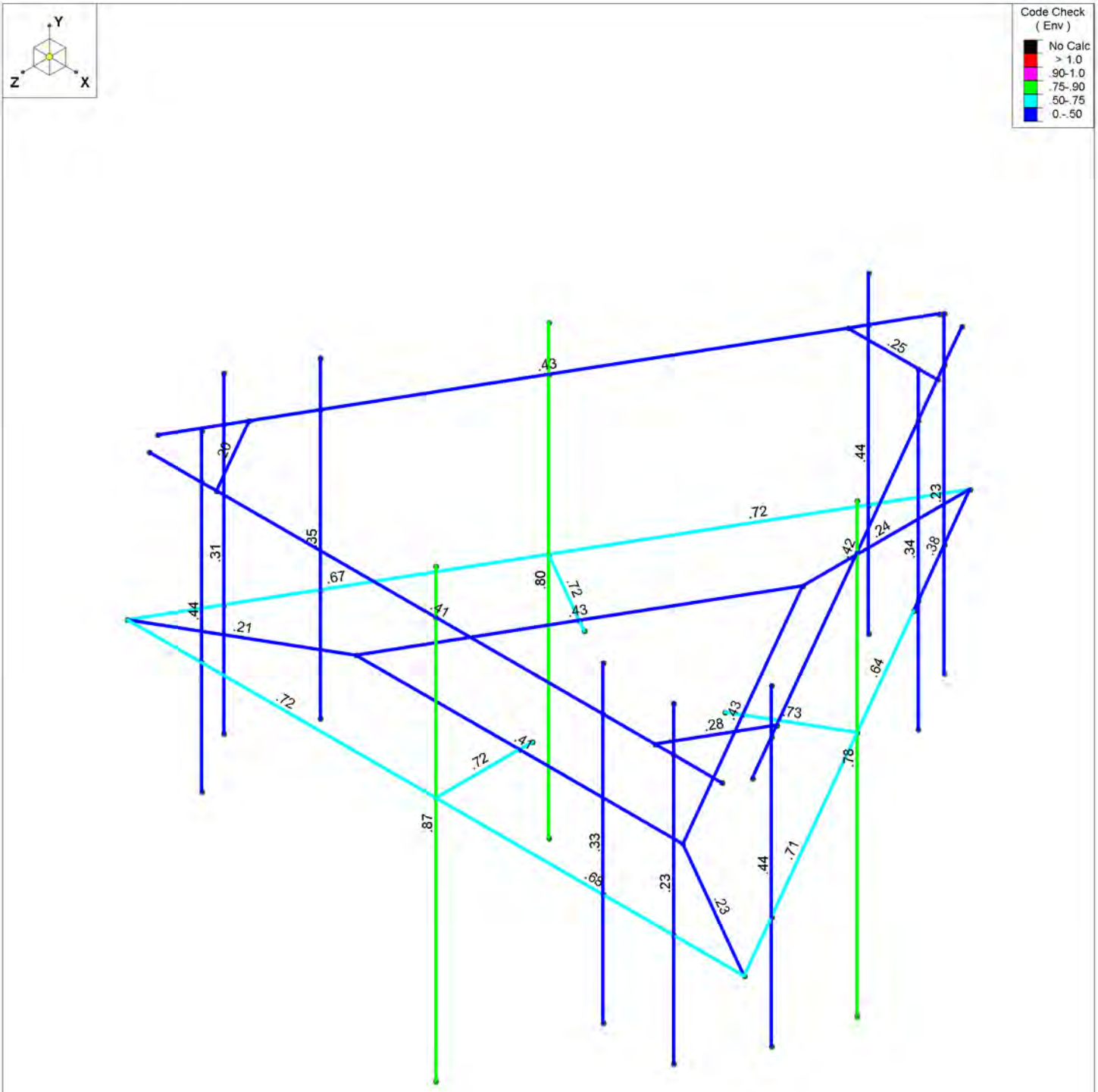
Sector A:	60°	Deg	
Sector B:	180°	Deg	
Sector C:	310°	Deg	
Climbing	110°	Deg	Located at Section A
Climbing Facility	Corrosion Type:		No corrosion observed
	Access:		Climbing path was unobstructed.
	Condition:		N/A

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



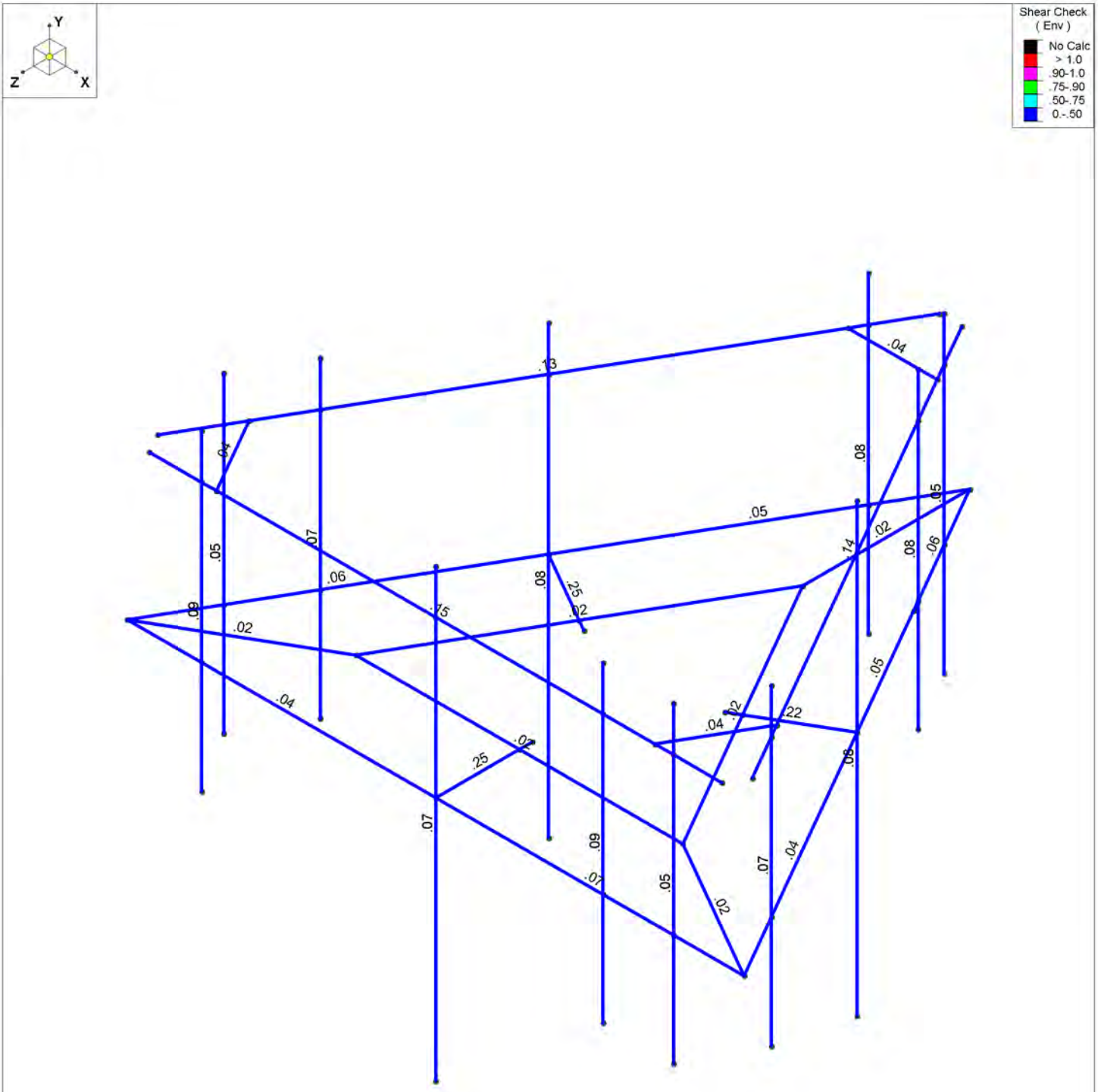


Tower Engineering Solutio...	CT03538-S-SBA_MT_LO_Loads Only_G	SK - 1
		Apr 20, 2021 at 3:06 PM
TES Project No. 105707		CT03538-S-SBA_105707_G_RISA_...



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

Tower Engineering Solutio...	CT03538-S-SBA_MT_LO_Loads Only_G	SK - 2
		Apr 20, 2021 at 3:07 PM
TES Project No. 105707		CT03538-S-SBA_105707_G_RISA_...



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

Tower Engineering Solutio...	CT03538-S-SBA_MT_LO_Loads Only_G	SK - 3
		Apr 20, 2021 at 3:07 PM
TES Project No. 105707		CT03538-S-SBA_105707_G_RISA_...

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Antenna D	None					24			
2	Antenna Di	None					24			
3	Antenna W Front	None					24			
4	Antenna Wi Front	None					24			
5	Antenna W Side	None					24			
6	Antenna Wi Side	None					24			
7	Service Lm1	None					1			
8	Service Lm2	None					1			
9	Structure D	None		-1					3	
10	Structure Di	None						34	3	
11	Structure W Front	None						34		
12	Structure Wi Front	None						34		
13	Structure W Side	None						34		
14	Structure Wi Side	None						34		
15	BLC 9 Transient Area Loads	None								
16	BLC 10 Transient Area Loads	None						29		

Load Combinations

	Description	So..	P...	S...	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac..	BLC	Fac...
1	1.2D+1.6W (Front)	Yes	Y		1	1.2	9	1.2	3	1.6	11	1.6												
2	1.2D+1.6W (Back)	Yes	Y		1	1.2	9	1.2	3	-1.6	11	-1.6												
3	1.2D+1.6W (Left)	Yes	Y		1	1.2	9	1.2	5	1.6	13	1.6												
4	1.2D+1.6W (Right)	Yes	Y		1	1.2	9	1.2	5	-1.6	13	-1.6												
5	1.2D+1.0Di+1.0Wi (Front)	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	1	12	1								
6	1.2D+1.0Di+1.0Wi (Back)	Yes	Y		1	1.2	9	1.2	2	1	10	1	4	-1	12	-1								
7	1.2D+1.0Di+1.0Wi (Left)	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	1	14	1								
8	1.2D+1.0Di+1.0Wi (Right)	Yes	Y		1	1.2	9	1.2	2	1	10	1	6	-1	14	-1								
9	1.2D+1.5L1+.16W (Mai...	Yes	Y		1	1.2	9	1.2	7	1.5	3	.16	11	.16										
10	1.2D+1.5L2+.16W (Mai...	Yes	Y		1	1.2	9	1.2	8	1.5	3	.16	11	.16										
11	1.4D	Yes	Y		1	1.4	9	1.4																

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0	0	1.826673	0	
2	N2	1.581945	0	-0.913336	0	
3	N3	-1.581945	0	-0.913336	0	
4	N4	-6.916667	0	3.993339	0	
5	N5	6.916667	0	3.993339	0	
6	N6	-2e-14	0	-7.986679	0	
7	N7	-0.	0	3.993339	0	
8	N8	3.458334	0	-1.996669	0	
9	N9	-3.458333	0	-1.99667	0	
10	N10	-3.666667	0	2.116951	0	
11	N11	3.666667	0	2.116951	0	
12	N12	-1e-14	0	-4.233902	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
13	NP1	5.333333	4.5	3.993339	0	
14	NP2	5.333333	-2.5	3.993339	0	
15	NP3	3.75	4.5	3.993339	0	
16	NP4	3.75	-2.5	3.993339	0	
17	NP5	-0.	4.5	3.993339	0	
18	NP6	0	-5.5	3.993339	0	
19	NP7	-5.25	4.5	3.993339	0	
20	NP8	-5.25	-2.5	3.993339	0	
21	NP11	-6.125	4.5	2.622132	0	
22	NP12	-6.125	-2.5	2.622132	0	
23	NP13	-5.333333	4.5	1.250926	0	
24	NP14	-5.333333	-2.5	1.250926	0	
25	NP15	-3.458333	4.5	-1.99667	0	
26	NP16	-3.458334	-5.5	-1.99667	0	
27	NP17	-0.833333	4.5	-6.543303	0	
28	NP18	-0.833333	-2.5	-6.543303	0	
29	NP21	0.791667	4.5	-6.615472	0	
30	NP22	0.791667	-2.5	-6.615472	0	
31	NP23	1.583333	4.5	-5.244265	0	
32	NP24	1.583333	-2.5	-5.244265	0	
33	NP25	3.458334	4.5	-1.996669	0	
34	NP26	3.458334	-5.5	-1.99667	0	
35	NP27	6.083333	4.5	2.549964	0	
36	NP28	6.083333	-2.5	2.549964	0	
37	N37	5.333333	0	3.993339	0	
38	N38	3.75	0	3.993339	0	
39	N40	-5.25	0	3.993339	0	
40	N41	0.791667	0	-6.615472	0	
41	N42	1.583333	0	-5.244265	0	
42	N44	6.083333	0	2.549964	0	
43	N45	-6.125	0	2.622132	0	
44	N46	-5.333333	0	1.250926	0	
45	N48	-0.833333	0	-6.543303	0	
46	N49	0	0	2.116951	0	
47	N50	1.833333	0	-1.058475	0	
48	N51	-1.833333	0	-1.058475	0	
49	N54	-6.416667	3.5	3.993339	0	
50	N55	6.416667	3.5	3.993339	0	
51	N54A	-4.916667	3.5	3.993339	0	
52	N56	4.916667	3.5	3.993339	0	
53	N56A	6.666667	3.5	3.560327	0	
54	N57	0.25	3.5	-7.553666	0	
55	N58	5.916667	3.5	2.261289	0	
56	N59	1.	3.5	-6.254628	0	
57	N60	-0.25	3.5	-7.553666	0	
58	N61	-6.666667	3.5	3.560327	0	
59	N62	-1.	3.5	-6.254628	0	
60	N63	-5.916667	3.5	2.261289	0	
61	N64	5.333333	3.5	3.993339	0	
62	N65	3.75	3.5	3.993339	0	
63	N66	-0.	3.5	3.993339	0	
64	N67	-5.25	3.5	3.993339	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
65	N68	-6.125	3.5	2.622132	0	
66	N69	-5.333333	3.5	1.250926	0	
67	N70	-3.458333	3.5	-1.99667	0	
68	N71	-0.833333	3.5	-6.543303	0	
69	N72	0.791667	3.5	-6.615472	0	
70	N73	1.583333	3.5	-5.244265	0	
71	N74	3.458334	3.5	-1.996669	0	
72	N75	6.083333	3.5	2.549964	0	
73	N76	1.729167	0	-4.991674	0	

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	xxxxx	HSS16x0.438	Beam	None	A572 Gr.50	Typical	19.9	606	606	1210

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Standoff Ar...	5CU4X438	Beam	CU	A570 Gr.33	Typical	4.981	7.806	18.786	.319

Aluminum Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	AL1A	AACS14X13.9	Beam	AA Channel	3003-H14	Typical	11.8	44.7	401	1.19

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E...	Density[k/ft...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Cold Formed Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]	Fu[ksi]
1	A570 Gr.33	29500	11346	.3	.65	.49	33	52
2	A607 C1 Gr.55	29500	11346	.3	.65	.49	55	70

Aluminum Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (...	Density[...	Table B.4	kt	Ftu[ksi]	Fty[ksi]	Fcy[ksi]	Fsu[ksi]	Ct
1	3003-H14	10100	3787.5	.33	1.3	.173	Table B...	1	19	16	13	12	141
2	6061-T6	10100	3787.5	.33	1.3	.173	Table B...	1	38	35	35	24	141
3	6063-T5	10100	3787.5	.33	1.3	.173	Table B...	1	22	16	16	13	141
4	6063-T6	10100	3787.5	.33	1.3	.173	Table B...	1	30	25	25	19	141

Aluminum Properties (Continued)

	Label	E [ksi]	G [ksi]	Nu	Therm (...	Density[...	Table B.4	kt	Ftu[ksi]	Fty[ksi]	Fcy[ksi]	Fsu[ksi]	Ct
5	5052-H34	10200	3787.5	.33	1.3	.173	Table B...	1	34	26	24	20	141
6	6061-T6 W	10100	3787.5	.33	1.3	.173	Table B...	1	24	15	15	15	141

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N4	N7		270	L3x3x4	Beam	Single Angle	A36 Gr.36	DR1
2	M2	N5	N8		270	L3x3x4	Beam	Single Angle	A36 Gr.36	DR1
3	M3	N6	N9		270	L3x3x4	Beam	Single Angle	A36 Gr.36	DR1
4	M4	N1	N7		90	5CU4X438	Beam	CU	A570 Gr.33	Typical
5	M5	N2	N8		90	5CU4X438	Beam	CU	A570 Gr.33	Typical
6	M6	N3	N9		90	5CU4X438	Beam	CU	A570 Gr.33	Typical
7	M7	N4	N10		180	LL3x3x3x3	Beam	Double Angle (...	A36 Gr.36	DR1
8	M8	N5	N11		180	LL3x3x3x3	Beam	Double Angle (...	A36 Gr.36	DR1
9	M9	N6	N12		180	LL3x3x3x3	Beam	Double Angle (...	A36 Gr.36	DR1
10	M10	N10	N11			L3x3x4	Beam	Single Angle	A36 Gr.36	DR1
11	M11	N11	N12			L3x3x4	Beam	Single Angle	A36 Gr.36	DR1
12	M12	N12	N10			L3x3x4	Beam	Single Angle	A36 Gr.36	DR1
13	MP1A	NP1	NP2			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
14	MP2A	NP3	NP4			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
15	MP3A	NP5	NP6			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
16	MP4A	NP7	NP8			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
17	MP1B	NP11	NP12		300	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
18	MP2B	NP13	NP14		300	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
19	MP3B	NP15	NP16		300	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
20	MP4B	NP17	NP18		300	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
21	MP1C	NP21	NP22		60	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
22	MP2C	NP23	NP24		60	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
23	MP3C	NP25	NP26		60	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
24	MP4C	NP27	NP28		60	PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
25	M25	N54	N55			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
26	M26	N56A	N57			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
27	M27	N60	N61			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
28	M28	N54A	N63			L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
29	M29	N62	N59			L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
30	M30	N56	N58			L3x3x4	Beam	Single Angle	A36 Gr.36	Typical
31	M31	N7	N5		270	L3x3x4	Beam	Single Angle	A36 Gr.36	DR1
32	M32	N9	N4		270	L3x3x4	Beam	Single Angle	A36 Gr.36	DR1
33	M33	N8	N76		270	L3x3x4	Beam	Single Angle	A36 Gr.36	DR1
34	M34	N76	N6		270	L3x3x4	Beam	Single Angle	A36 Gr.36	DR1

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
1	M1						Yes			None
2	M2						Yes			None
3	M3						Yes			None
4	M4						Yes			None
5	M5						Yes			None
6	M6						Yes			None
7	M7						Yes			None

Member Advanced Data (Continued)

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Analysis ...	Inactive	Seismic Design ...
8	M8						Yes			None
9	M9						Yes			None
10	M10						Yes			None
11	M11						Yes			None
12	M12						Yes			None
13	MP1A						Yes	-z		None
14	MP2A						Yes	-z		None
15	MP3A						Yes	-z		None
16	MP4A						Yes	-z		None
17	MP1B						Yes	+z		None
18	MP2B						Yes	+z		None
19	MP3B						Yes	+z		None
20	MP4B						Yes	+z		None
21	MP1C						Yes	+z		None
22	MP2C						Yes	+z		None
23	MP3C						Yes	+z		None
24	MP4C						Yes	+z		None
25	M25						Yes			None
26	M26						Yes			None
27	M27						Yes			None
28	M28						Yes			None
29	M29						Yes			None
30	M30						Yes			None
31	M31						Yes			None
32	M32						Yes			None
33	M33						Yes			None
34	M34						Yes			None

Hot Rolled Steel Design Parameters

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torq...	Kyy	Kzz	Cb	Funct...
1	M1	L3x3x4	6.917			Lbyy						Gravity
2	M2	L3x3x4	6.917			Lbyy						Gravity
3	M3	L3x3x4	6.917			Lbyy						Gravity
4	M7	LL3x3x3x3	3.753			Lbyy						Gravity
5	M8	LL3x3x3x3	3.753			Lbyy						Gravity
6	M9	LL3x3x3x3	3.753			Lbyy						Gravity
7	M10	L3x3x4	7.333			Lbyy						Gravity
8	M11	L3x3x4	7.333			Lbyy						Gravity
9	M12	L3x3x4	7.333			Lbyy						Gravity
10	MP1A	PIPE_2.0	7			Lbyy						Gravity
11	MP2A	PIPE_2.0	7			Lbyy						Gravity
12	MP3A	PIPE_2.0	10			Lbyy						Gravity
13	MP4A	PIPE_2.0	7			Lbyy						Gravity
14	MP1B	PIPE_2.0	7			Lbyy						Gravity
15	MP2B	PIPE_2.0	7			Lbyy						Gravity
16	MP3B	PIPE_2.0	10			Lbyy						Gravity
17	MP4B	PIPE_2.0	7			Lbyy						Gravity
18	MP1C	PIPE_2.0	7			Lbyy						Gravity
19	MP2C	PIPE_2.0	7			Lbyy						Gravity
20	MP3C	PIPE_2.0	10			Lbyy						Gravity

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length...	Lbyy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torq...	Kyy	Kzz	Cb	Funct...
21	MP4C	PIPE_2.0	7			Lbyy						Gravity
22	M25	PIPE_2.0	12.833			Lbyy						Lateral
23	M26	PIPE_2.0	12.833			Lbyy						Lateral
24	M27	PIPE_2.0	12.833			Lbyy						Lateral
25	M28	L3x3x4	2			Lbyy						Lateral
26	M29	L3x3x4	2			Lbyy						Lateral
27	M30	L3x3x4	2			Lbyy						Lateral
28	M31	L3x3x4	6.917			Lbyy						Gravity
29	M32	L3x3x4	6.917			Lbyy						Gravity
30	M33	L3x3x4	3.458			Lbyy						Gravity
31	M34	L3x3x4	3.458			Lbyy						Gravity

Cold Formed Steel Design Parameters

	Label	Shape	Lengt...	Lbyy[ft]	Lbzz[ft]	Lcomp t...	Lcomp ...	L-torque...	Kyy	Kzz	Cm-...	Cm-...	Cb	R	a[ft]	y sw...	z sw...
1	M4	5CU4X...	2.167			Lbyy											
2	M5	5CU4X...	2.167			Lbyy											
3	M6	5CU4X...	2.167			Lbyy											

Aluminum Design Parameters

Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
No Data to Print ...											

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N2	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N3	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N1	max	2712.378	4	2972.063	6	1634.566	1	-.334	1	.874	4	.18	3
2		min	-2747.009	3	224.472	1	-1574.694	2	-5.501	6	-.795	3	-.245	9
3	N2	max	2206.336	4	2941.183	7	2740.917	1	2.701	7	1.473	3	4.753	7
4		min	-2131.115	3	219.816	9	-2730.875	2	.166	9	-1.403	4	.259	9
5	N3	max	2151.859	4	2950.165	8	2687.129	1	2.709	8	1.508	3	-.36	3
6		min	-2192.449	3	319.257	3	-2757.043	2	.259	2	-1.432	4	-4.723	8
7	Totals:	max	7070.573	4	8315.91	6	7062.612	1						
8		min	-7070.573	3	2715.18	1	-7062.612	2						

Envelope Member Section Forces

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
1	M1	1	max	965.282	2	459.007	2	148.818	10	.007	10	.276	1	.342	2
2			min	-1043.679	1	-399.312	1	-240.845	9	-.002	3	-.449	2	-.347	1
3		2	max	1248.961	2	120.227	6	253.511	10	.002	2	.487	2	.539	7

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
4			min	-1090.228	1	25.368	1	-313.886	6	-.003	1	-.225	1	.034	4
5		3	max	1248.961	2	117.248	5	36.029	1	.002	2	.452	10	.507	10
6			min	-1090.228	1	11.318	2	-355.755	6	-.003	1	-.116	1	-.102	2
7		4	max	1248.961	2	131.004	5	25.862	1	.002	2	.035	1	.035	1
8			min	-1090.228	1	-33.404	2	-516.824	10	-.003	1	-.175	6	-.611	6
9		5	max	1248.961	2	159.535	1	15.694	1	.002	2	.228	1	-.107	1
10			min	-1090.228	1	-78.127	2	-526.991	10	-.003	1	-.591	6	-1.237	6
11	M2	1	max	1256.969	3	371.868	3	108.974	9	.007	2	.185	4	.275	3
12			min	-1344.789	4	-307.804	4	8.638	4	-.004	1	-.362	3	-.271	4
13		2	max	1246.041	3	113.684	7	34.548	9	.002	1	.439	5	.555	5
14			min	-1092.32	4	-8.606	9	-310.706	5	-.002	2	-.163	2	-.013	2
15		3	max	1226.675	3	115.543	8	24.381	9	.002	1	.183	1	.163	4
16			min	-1072.955	4	-9.724	9	-352.575	5	-.002	2	-.094	2	-.158	3
17		4	max	1207.31	3	125.86	8	14.213	9	.002	1	.041	4	.071	9
18			min	-1053.59	4	-20.499	3	-400.009	5	-.002	2	-.176	7	-.609	7
19		5	max	1187.945	3	136.177	8	4.046	9	.002	1	.151	4	.096	9
20			min	-1034.224	4	-54.041	3	-441.582	5	-.002	2	-.574	7	-1.223	7
21	M3	1	max	1265.204	1	398.963	4	71.766	4	.006	3	.242	3	.285	4
22			min	-1341.151	2	-340.742	3	-70.257	9	-.003	4	-.413	4	-.294	3
23		2	max	1060.657	1	119.808	8	51.071	3	.002	4	.51	4	.554	8
24			min	-899.296	2	29.22	3	-319.556	8	-.003	3	-.249	3	.013	3
25		3	max	1041.291	1	116.819	7	40.904	3	.002	4	.224	4	.14	2
26			min	-879.93	2	19.705	4	-361.425	8	-.003	3	-.137	3	-.133	1
27		4	max	1021.926	1	127.136	7	30.736	3	.002	4	.005	2	-.038	2
28			min	-860.565	2	-13.837	4	-408.859	8	-.003	3	-.169	8	-.6	8
29		5	max	1002.561	1	137.453	7	20.569	3	.002	4	.174	3	-.147	3
30			min	-841.2	2	-47.379	4	-450.432	8	-.003	3	-.583	8	-1.243	8
31	M4	1	max	1634.566	1	2747.015	3	-224.533	1	.18	3	5.501	6	.795	3
32			min	-1574.694	2	-2712.387	4	-2971.849	6	-.245	9	.334	1	-.874	4
33		2	max	1570.016	1	43.516	2	-224.319	1	.015	3	4.003	6	.143	3
34			min	-1401.72	2	-64.579	10	-2512.423	6	-.025	10	.212	1	-.232	4
35		3	max	1570.016	1	43.516	2	-213.301	1	.015	3	2.651	6	.151	3
36			min	-1401.72	2	-64.579	10	-2479.011	6	-.025	10	.094	1	-.238	4
37		4	max	1570.016	1	46.03	4	-202.283	1	.015	3	1.317	6	.173	3
38			min	-1401.72	2	-64.579	10	-2445.598	6	-.025	10	-.019	1	-.257	4
39		5	max	1570.016	1	69.379	4	-191.266	1	.015	3	.092	9	.207	3
40			min	-1401.72	2	-74.211	3	-2412.186	6	-.025	10	-.16	5	-.288	4
41	M5	1	max	1363.267	4	2836.259	1	-219.817	9	.136	4	5.467	7	1.403	4
42			min	-1304.627	3	-2793.034	2	-2941.011	7	-.134	3	.307	9	-1.473	3
43		2	max	1327.046	4	405.551	4	-264.68	9	.012	5	3.983	7	.856	4
44			min	-1159.755	3	-414.095	3	-2492.889	7	-.001	9	.176	9	-.94	3
45		3	max	1316.935	4	399.714	4	-253.662	9	.012	5	2.641	7	.638	4
46			min	-1149.644	3	-408.258	3	-2459.642	7	-.001	9	.036	9	-.717	3
47		4	max	1306.825	4	393.876	4	-242.644	9	.012	5	1.318	7	.423	4
48			min	-1139.534	3	-402.421	3	-2426.395	7	-.001	9	-.099	9	-.498	3
49		5	max	1296.714	4	388.039	4	-231.626	9	.012	5	.176	3	.212	4
50			min	-1129.423	3	-396.583	3	-2393.148	7	-.001	9	-.227	9	-.281	3
51	M6	1	max	1368.585	3	2826.692	2	-319.326	3	.234	9	5.445	8	1.432	4
52			min	-1300.102	4	-2783.46	1	-2950.001	8	-.18	1	.443	3	-1.508	3
53		2	max	1308.565	3	489.628	4	-324.022	3	.043	9	3.959	8	.813	4
54			min	-1131.376	4	-495.103	3	-2488.999	8	-.003	1	.269	3	-.9	3
55		3	max	1298.454	3	483.791	4	-313.005	3	.043	9	2.62	8	.549	4

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
56			min	-1121.265	4	-489.266	3	-2455.586	8	-.003	1	.096	3	-.634	3
57		4	max	1288.344	3	477.954	4	-301.987	3	.043	9	1.299	8	.354	2
58			min	-1111.155	4	-483.429	3	-2422.174	8	-.003	1	-.07	3	-.432	1
59		5	max	1278.234	3	472.117	4	-290.969	3	.043	9	.175	4	.251	2
60			min	-1101.045	4	-477.591	3	-2388.761	8	-.003	1	-.231	3	-.325	1
61	M7	1	max	2093.04	3	131.077	10	189.053	1	.002	2	.756	2	.346	10
62			min	-1962.142	4	-8.649	1	-213.384	2	-.001	1	-.671	1	.015	9
63		2	max	2103.547	3	139.429	10	207.251	1	.002	2	.548	2	.223	7
64			min	-1972.649	4	-.298	1	-231.583	2	-.001	1	-.485	1	-.109	9
65		3	max	2114.054	3	147.78	10	225.45	1	.002	2	.322	2	.136	3
66			min	-1983.156	4	8.054	1	-249.782	2	-.001	1	-.282	1	-.242	9
67		4	max	2124.561	3	177.363	6	243.649	1	.002	2	.079	2	.115	3
68			min	-1993.663	4	16.405	1	-267.98	2	-.001	1	-.062	1	-.382	9
69		5	max	2135.068	3	219.721	6	261.848	1	.002	2	.175	1	.087	3
70			min	-2004.17	4	24.757	1	-286.179	2	-.001	1	-.181	2	-.53	9
71	M8	1	max	2151.11	4	89.436	3	199.4	2	.002	1	.779	1	.291	5
72			min	-2007.996	3	-20.092	4	-220.558	1	-.002	2	-.704	2	.046	2
73		2	max	2161.617	4	108.096	7	217.599	2	.002	1	.563	1	.22	5
74			min	-2018.503	3	-11.741	4	-238.757	1	-.002	2	-.508	2	.003	2
75		3	max	2172.124	4	141.601	7	235.798	2	.002	1	.331	1	.126	8
76			min	-2029.01	3	-3.389	4	-256.956	1	-.002	2	-.295	2	-.067	3
77		4	max	2182.631	4	179.532	7	253.996	2	.002	1	.081	1	.122	4
78			min	-2039.517	3	4.962	4	-275.155	1	-.002	2	-.066	2	-.171	3
79		5	max	2193.138	4	221.891	7	272.195	2	.002	1	.181	2	.114	4
80			min	-2050.024	3	13.314	4	-293.353	1	-.002	2	-.186	1	-.282	3
81	M9	1	max	2485.127	2	86.393	1	239.807	3	.002	4	.908	4	.291	8
82			min	-2355.261	1	-18.293	2	-262.461	4	-.002	3	-.828	3	.051	3
83		2	max	2485.127	2	107.867	5	264.072	3	.002	4	.65	4	.219	6
84			min	-2355.261	1	-9.941	2	-286.726	4	-.002	3	-.592	3	.005	1
85		3	max	2485.127	2	141.61	5	288.337	3	.002	4	.37	4	.143	2
86			min	-2355.261	1	-1.59	2	-310.991	4	-.002	3	-.333	3	-.088	1
87		4	max	2485.127	2	179.888	5	312.602	3	.002	4	.067	4	.141	2
88			min	-2355.261	1	6.762	2	-335.256	4	-.002	3	-.051	3	-.188	1
89		5	max	2485.127	2	222.701	5	336.867	3	.002	4	.254	3	.131	2
90			min	-2355.261	1	15.113	2	-359.521	4	-.002	3	-.259	4	-.297	1
91	M10	1	max	1401.849	3	28.734	1	96.738	5	.003	9	.037	3	.34	9
92			min	-1273.396	4	-124.449	6	-6.691	2	-.001	3	-.089	9	-.096	1
93		2	max	1401.849	3	17.954	1	92.615	6	.003	9	.018	1	.517	9
94			min	-1273.396	4	-171.392	6	13.164	1	-.001	3	-.127	9	-.078	1
95		3	max	1414.971	4	118.312	9	107.2	6	.003	9	.02	1	.857	6
96			min	-351.839	2	-218.487	6	-54.025	9	-.002	3	-.232	6	-.108	1
97		4	max	1414.971	4	167.456	6	-6.833	4	.001	9	.008	4	.456	6
98			min	-1325.981	3	-14.638	1	-94.211	7	-.002	3	-.107	6	-.037	1
99		5	max	1414.971	4	120.513	6	10.034	2	.001	9	.039	2	.174	2
100			min	-1325.981	3	-25.418	1	-98.712	5	-.002	3	-.073	1	-.064	1
101	M11	1	max	1141.223	4	49.474	9	91.282	6	.002	3	.062	1	.2	3
102			min	-1001.719	3	-121.071	5	-20.601	9	0	4	-.093	2	-.092	4
103		2	max	1161.755	4	38.694	9	95.96	7	.002	3	.022	4	.472	7
104			min	-1022.251	3	-168.014	5	-19.416	9	0	4	-.11	7	-.077	9
105		3	max	1476.314	2	182.38	8	106.899	7	.002	3	.038	9	.848	7
106			min	-1392.669	1	-215.145	5	-81.657	8	-.002	5	-.228	5	-.145	9
107		4	max	1455.782	2	162.539	7	15.057	9	0	2	.023	2	.471	5

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
108			min	-1372.137	1	-38.913	9	-98.426	5	-.002	5	-.112	5	-.087	2
109		5	max	1435.25	2	115.943	7	27.414	3	0	2	.08	3	.187	1
110			min	-1351.605	1	-49.693	9	-103.534	8	-.002	5	-.116	4	-.085	2
111	M12	1	max	1450.541	2	33.809	3	98.608	7	.002	1	.072	4	.185	1
112			min	-1320.624	1	-125.77	8	-12.676	4	-.001	2	-.103	3	-.08	2
113		2	max	1471.072	2	23.029	3	93.211	5	.002	1	.008	2	.461	8
114			min	-1341.156	1	-172.713	8	10.243	2	-.001	2	-.106	5	-.028	3
115		3	max	1491.604	2	215.01	8	96.858	5	.002	1	.037	3	.856	8
116			min	-1361.688	1	-202.96	5	-109.989	8	-.003	9	-.237	8	-.145	3
117		4	max	1143.178	1	167.916	8	9.577	3	0	1	.026	3	.53	9
118			min	-1063.851	2	-15.476	3	-99.05	8	-.003	9	-.132	9	-.096	3
119		5	max	1122.646	1	120.972	8	7.144	1	0	1	.066	1	.346	9
120			min	-1043.319	2	-26.256	3	-97.869	6	-.003	9	-.101	2	-.08	3
121	MP1A	1	max	0	1	.012	4	.02	5	0	7	0	1	0	1
122			min	0	1	-.028	7	-.014	2	0	4	0	1	0	1
123		2	max	156.415	2	199.052	6	41.415	7	.049	9	.131	2	.186	8
124			min	-365.527	5	10.548	1	-31.325	9	-.037	4	-.186	1	-.064	3
125		3	max	226.704	2	232.709	4	185.655	1	.049	9	.067	1	.056	3
126			min	-292.15	1	-100.785	3	-161.346	2	-.037	4	-.08	2	-.198	8
127		4	max	-57.089	4	131.752	3	179.169	2	0	4	.137	1	.102	3
128			min	-156.779	7	-131.681	4	-179.22	1	0	7	-.137	2	-.102	4
129		5	max	0	4	.386	7	.161	2	0	4	0	4	0	2
130			min	0	7	-.109	4	-.364	5	0	7	0	7	0	1
131	MP2A	1	max	0	1	.009	4	.025	5	0	7	0	1	0	1
132			min	0	1	-.034	7	-.018	2	0	4	0	1	0	1
133		2	max	166.687	5	342.874	8	24.679	7	.073	1	.03	4	.339	8
134			min	-45.204	2	-75.716	3	-8.351	4	-.099	2	-.051	3	-.097	3
135		3	max	189.491	5	352.503	8	40.294	1	.073	1	.019	9	.055	3
136			min	-37.915	2	-97.215	3	-26.221	2	-.099	2	-.016	2	-.269	8
137		4	max	-7.289	4	21.535	3	21.543	2	0	4	.019	1	.019	3
138			min	-22.805	7	-21.521	4	-21.549	1	0	7	-.019	2	-.019	4
139		5	max	0	4	.089	7	.044	2	0	4	0	4	0	3
140			min	0	7	-.022	4	-.067	5	0	7	0	7	0	2
141	MP3A	1	max	0	1	.011	4	.034	1	0	7	0	1	0	1
142			min	0	1	-.015	7	-.034	2	0	4	0	1	0	1
143		2	max	923.465	6	308.168	4	544.241	1	.024	4	.436	1	.025	4
144			min	-5.089	1	-361.795	3	-518.9	2	-.039	3	-.359	2	-.037	3
145		3	max	-94.505	1	287.122	3	584.374	2	0	9	1.197	1	.604	3
146			min	-354.246	6	-287.1	4	-584.269	1	0	8	-1.198	2	-.604	4
147		4	max	-10.413	1	30.54	3	30.183	2	0	9	.037	1	.038	3
148			min	-32.578	6	-30.518	4	-30.078	1	0	8	-.037	2	-.038	4
149		5	max	0	1	.303	8	1.068	5	0	9	0	2	0	3
150			min	0	6	-.216	9	-.53	2	0	8	0	1	0	4
151	MP4A	1	max	0	1	.013	8	.014	1	0	3	0	1	0	1
152			min	0	1	-.012	3	-.023	6	0	8	0	1	0	1
153		2	max	140.851	2	46.694	1	45.686	10	.012	2	.079	2	.116	4
154			min	-295.391	10	-393.062	9	-19.925	1	-.079	9	-.148	10	-.295	6
155		3	max	227.46	2	131.818	4	169.946	1	.012	2	.117	1	.453	9
156			min	-208.782	10	-398.859	7	-144.483	2	-.079	9	-.113	2	-.066	4
157		4	max	-86.609	1	141.952	3	190.112	2	0	9	.145	1	.109	3
158			min	-190.095	6	-142.036	4	-190.075	1	0	3	-.146	2	-.109	4
159		5	max	0	1	.136	3	.27	6	0	9	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
160			min	0	9	-.413	9	-.205	1	0	3	0	9	0	6
161	MP1B	1	max	0	1	.026	6	.012	4	0	6	0	1	0	1
162			min	0	1	-.01	1	-.016	7	0	1	0	1	0	1
163		2	max	88.976	4	-5.21	2	22.113	3	.032	2	.174	2	.099	2
164			min	-471.857	9	-274.661	9	-49.122	4	-.034	4	-.11	1	-.212	9
165		3	max	159.265	4	123.914	2	111.151	4	.032	2	.082	4	.286	9
166			min	-401.569	9	-287.574	9	-138.16	3	-.034	4	-.065	3	-.069	2
167		4	max	-57.089	3	124.304	1	144.91	3	0	1	.111	4	.096	1
168			min	-156.779	8	-124.376	2	-144.861	4	0	6	-.111	3	-.096	2
169		5	max	0	3	.089	1	.303	7	0	1	0	9	0	1
170			min	0	9	-.374	6	-.106	4	0	6	0	3	0	2
171	MP2B	1	max	0	1	.032	6	.015	4	0	6	0	1	0	1
172			min	0	1	-.006	1	-.021	7	0	1	0	1	0	1
173		2	max	265.34	9	151.078	2	17.354	1	.075	3	.082	2	.167	2
174			min	-.675	1	-365.261	5	-35.414	2	-.094	4	-.051	1	-.364	1
175		3	max	272.629	9	169.696	2	28.103	1	.075	3	.022	4	.286	5
176			min	6.614	1	-373.6	5	-46.163	2	-.094	4	-.022	3	-.114	2
177		4	max	-7.289	3	18.634	1	18.658	3	0	1	.016	4	.016	1
178			min	-22.805	8	-18.648	2	-18.651	4	0	6	-.016	3	-.016	2
179		5	max	0	3	.015	1	.058	7	0	1	0	9	0	1
180			min	0	9	-.083	6	-.033	4	0	6	0	3	0	2
181	MP3B	1	max	0	1	.015	6	.028	4	0	6	0	1	0	1
182			min	0	1	-.01	1	-.028	3	0	1	0	1	0	1
183		2	max	904.568	8	356.177	2	408.62	4	.016	9	.271	4	.023	6
184			min	62.817	3	-300.808	1	-440.436	3	-.033	2	-.351	3	-.008	1
185		3	max	-94.505	3	313.003	1	441.622	3	0	4	.909	4	.652	1
186			min	-354.246	8	-313.028	2	-441.726	4	0	7	-.908	3	-.652	2
187		4	max	-10.413	3	26.362	1	26.113	3	0	4	.032	4	.033	1
188			min	-32.578	8	-26.387	2	-26.217	4	0	7	-.032	3	-.033	2
189		5	max	0	2	.258	4	.382	4	0	4	0	3	0	3
190			min	0	8	-.352	7	-.955	7	0	7	0	4	0	4
191	MP4B	1	max	0	1	.013	2	.021	8	0	2	0	1	0	1
192			min	0	1	-.013	5	-.012	3	0	5	0	1	0	1
193		2	max	143.216	4	400.826	8	16.361	9	.003	4	.165	3	.382	4
194			min	-236.449	3	-94.681	3	-40.893	1	-.082	9	-.126	4	-.206	3
195		3	max	229.825	4	423.089	4	138.916	4	.003	4	.067	4	.086	3
196			min	-149.84	3	-183.609	3	-163.89	3	-.082	9	-.071	3	-.406	8
197		4	max	-86.609	2	133.451	1	154.266	3	0	5	.118	4	.103	1
198			min	-190.095	5	-133.368	2	-154.302	4	0	2	-.118	3	-.103	2
199		5	max	0	2	.408	5	.237	3	0	5	0	5	0	4
200			min	0	5	-.148	2	-.282	8	0	2	0	2	0	3
201	MP1C	1	max	0	1	.028	5	.012	3	0	5	0	1	0	1
202			min	0	1	-.011	2	-.016	8	0	2	0	1	0	1
203		2	max	135.073	3	47.499	9	10.481	2	.038	4	.199	4	.083	4
204			min	-368.582	8	-200.148	7	-60.718	9	-.063	9	-.134	3	-.189	3
205		3	max	205.362	3	91.928	4	143.415	3	.038	4	.056	1	.193	7
206			min	-275.812	4	-223.194	7	-171.174	4	-.063	9	-.04	2	-.05	9
207		4	max	-57.088	1	124.31	2	144.959	4	0	2	.111	3	.096	2
208			min	-156.777	6	-124.38	1	-144.909	3	0	5	-.111	4	-.096	1
209		5	max	.001	5	.095	2	.341	8	0	2	0	3	0	3
210			min	0	2	-.384	5	-.154	3	0	5	0	4	0	4
211	MP2C	1	max	0	1	.035	5	.016	3	0	5	0	1	0	1

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
212			min	0	1	-.009	2	-.021	8	0	2	0	1	0	1
213		2	max	179.163	8	151.276	4	12.323	3	.05	4	.066	4	.16	4
214			min	-41.046	3	-362.855	7	-32.171	8	-.073	9	-.033	3	-.357	3
215		3	max	201.968	8	162.025	4	30.942	3	.05	4	.021	9	.284	7
216			min	-33.757	3	-367.669	7	-49.249	4	-.073	9	-.019	2	-.114	4
217		4	max	-7.288	1	18.641	2	18.665	4	0	2	.016	3	.016	2
218			min	-22.804	6	-18.655	1	-18.658	3	0	5	-.016	4	-.016	1
219		5	max	0	5	.022	2	.064	8	0	2	0	3	0	3
220			min	0	2	-.091	5	-.039	3	0	5	0	4	0	4
221	MP3C	1	max	0	1	.015	5	.028	3	0	5	0	1	0	1
222			min	0	1	-.009	2	-.028	4	0	2	0	1	0	1
223		2	max	913.121	7	397.951	1	407.432	3	.019	2	.269	3	.022	4
224			min	7.796	4	-340.719	2	-431.924	4	-.039	1	-.348	4	-.01	3
225		3	max	-94.505	4	312.967	2	441.624	4	0	1	.909	3	.652	2
226			min	-354.246	7	-312.989	1	-441.728	3	0	6	-.908	4	-.652	1
227		4	max	-10.413	4	26.326	2	26.115	4	0	1	.032	3	.033	2
228			min	-32.578	7	-26.348	1	-26.219	3	0	6	-.032	4	-.033	1
229		5	max	0	4	.25	1	.379	3	0	1	0	4	0	3
230			min	0	7	-.361	6	-.955	8	0	6	0	2	0	4
231	MP4C	1	max	0	1	.01	4	.018	7	0	4	0	1	0	1
232			min	0	1	-.011	7	-.011	4	0	7	0	1	0	1
233		2	max	101.509	1	396.364	5	18.709	4	.049	9	.13	2	.368	1
234			min	-190.403	2	-63.405	9	-46.742	9	-.057	6	-.109	1	-.186	2
235		3	max	188.117	1	436.908	1	116.5	3	.049	9	.09	3	.113	2
236			min	-103.795	2	-196.565	2	-135.319	4	-.057	6	-.101	4	-.407	5
237		4	max	-86.608	3	133.386	2	154.19	4	0	7	.118	3	.103	2
238			min	-190.094	8	-133.302	1	-154.227	3	0	4	-.118	4	-.102	1
239		5	max	.001	7	.361	7	.181	9	0	7	0	1	0	1
240			min	0	4	-.104	4	-.243	7	0	4	0	6	0	2
241	M25	1	max	0	1	0	1	0	1	0	1	0	1	0	1
242			min	0	1	0	1	0	1	0	1	0	1	0	1
243		2	max	-13.662	1	42.948	1	39.041	1	.198	1	.101	4	.02	4
244			min	-443.899	6	-254.615	6	-55.433	2	-.167	2	-.085	3	-.15	7
245		3	max	-13.662	1	299.719	6	33.807	3	.198	1	.127	1	.743	6
246			min	-534.179	9	-289.476	7	-34.719	5	.01	3	-.178	2	-.131	1
247		4	max	-1.065	1	257.911	6	65.022	2	.192	2	.086	3	.118	3
248			min	-534.179	9	-72.927	1	-50.223	1	-.173	1	-.095	4	-.284	8
249		5	max	0	1	0	1	0	1	0	1	0	1	0	1
250			min	0	1	0	1	0	1	0	1	0	1	0	1
251	M26	1	max	0	1	.016	3	.008	3	0	1	0	1	0	1
252			min	0	1	0	11	-.008	2	0	1	0	1	0	1
253		2	max	160.979	9	84.502	2	45.101	1	.16	4	.123	2	.038	2
254			min	-440.87	7	-265.162	5	-53.848	2	-.136	3	-.126	1	-.151	5
255		3	max	171.759	9	316.556	7	54.955	1	.16	4	.095	4	.767	5
256			min	-512.858	7	-306.971	5	-18.935	8	.014	11	-.146	9	-.268	4
257		4	max	173.466	9	296.057	3	52.837	9	.149	3	.086	4	.191	4
258			min	-520.502	7	-149.651	4	-9.973	2	-.132	4	-.079	3	-.343	3
259		5	max	0	1	.002	7	.011	3	0	1	0	1	0	1
260			min	0	1	-.02	1	-.003	1	0	1	0	1	0	1
261	M27	1	max	0	1	.019	1	.002	2	0	1	0	1	0	1
262			min	0	1	-.001	9	-.011	3	0	1	0	1	0	1
263		2	max	-42.592	2	93.859	3	16.826	2	.163	3	.105	3	.022	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
264			min	-505.405	9	-270.544	8	-32.723	1	-.131	4	-.089	4	-.153	8
265		3	max	-81.231	3	316.17	5	55.393	2	.163	3	.08	3	.782	8
266			min	-559.917	9	-312.353	8	-35.256	1	-.016	9	-.138	4	-.257	3
267		4	max	-76.996	2	283.929	1	57.274	4	.159	4	.111	2	.19	2
268			min	-561.624	9	-138.349	2	-37.832	3	-.145	3	-.106	1	-.341	1
269		5	max	0	1	.002	9	.009	1	0	1	0	1	0	1
270			min	0	1	-.018	2	-.01	4	0	1	0	1	0	1
271	M28	1	max	119.394	3	324.331	2	130.963	4	.004	1	.183	1	.142	3
272			min	-181.799	4	-298.009	1	-106.358	3	-.004	2	-.192	2	-.282	4
273		2	max	113.794	3	321.391	2	121.264	4	.004	1	.117	1	.041	3
274			min	-176.199	4	-300.949	1	-96.659	3	-.004	2	-.111	2	-.222	8
275		3	max	108.195	3	318.451	2	118.159	1	.004	1	.082	3	.022	1
276			min	-170.6	4	-303.889	1	-96.584	2	-.004	2	-.062	4	-.215	6
277		4	max	102.595	3	315.511	2	121.392	1	.004	1	.116	3	.172	1
278			min	-165	4	-306.829	1	-99.817	2	-.004	2	-.083	4	-.306	2
279		5	max	96.996	3	312.571	2	124.625	1	.004	1	.152	3	.325	1
280			min	-159.455	2	-309.769	1	-103.05	2	-.004	2	-.109	4	-.453	2
281	M29	1	max	75.947	2	377.254	4	132.704	9	.005	3	.146	3	.222	4
282			min	-137.586	1	-351.131	3	-106.301	4	-.005	4	-.238	9	-.363	3
283		2	max	75.947	2	374.314	4	131.411	9	.005	3	.068	3	.052	4
284			min	-137.586	1	-354.071	3	-106.301	4	-.005	4	-.124	9	-.231	7
285		3	max	75.947	2	371.374	4	131.048	3	.005	3	.059	2	-.02	3
286			min	-137.586	1	-357.011	3	-106.301	4	-.005	4	-.038	1	-.206	8
287		4	max	75.947	2	368.434	4	131.048	3	.005	3	.125	4	.153	3
288			min	-137.586	1	-359.951	3	-106.301	4	-.005	4	-.092	3	-.286	4
289		5	max	75.947	2	365.494	4	131.048	3	.005	3	.217	4	.327	3
290			min	-137.586	1	-362.891	3	-106.301	4	-.005	4	-.173	3	-.453	4
291	M30	1	max	106.263	4	307.355	2	126.596	2	.004	2	.334	1	.243	2
292			min	-153.798	3	-310.048	1	-116.125	9	-.004	1	-.265	2	-.296	1
293		2	max	100.663	4	304.415	2	129.829	2	.004	2	.188	1	.18	2
294			min	-148.199	3	-312.988	1	-116.448	9	-.004	1	-.111	2	-.221	1
295		3	max	95.063	4	301.475	2	133.061	2	.004	2	.123	7	.12	2
296			min	-142.599	3	-315.928	1	-116.772	9	-.004	1	.013	4	-.147	1
297		4	max	93.722	1	298.535	2	136.294	2	.004	2	.196	2	.128	3
298			min	-143.103	2	-318.868	1	-117.095	9	-.004	1	-.111	1	-.141	4
299		5	max	99.322	1	295.595	2	139.527	2	.004	2	.35	2	.175	3
300			min	-148.703	2	-321.808	1	-117.418	9	-.004	1	-.263	1	-.179	9
301	M31	1	max	1271.84	2	149.594	2	492.301	6	.006	1	.229	1	-.179	1
302			min	-1056.711	1	-198.091	1	19.118	1	-.004	2	-.623	6	-1.02	6
303		2	max	1271.84	2	104.872	2	450.728	6	.006	1	.031	1	.053	1
304			min	-1056.711	1	-153.368	1	8.95	1	-.004	2	-.08	2	-.406	6
305		3	max	1271.84	2	60.15	2	403.294	6	.006	1	.392	6	.27	8
306			min	-1056.711	1	-108.646	1	-1.217	1	-.004	2	-.124	1	-.125	3
307		4	max	1006.696	2	15.957	1	274.181	2	.003	2	.27	2	.137	5
308			min	-999.65	1	-75.993	6	-186.465	1	-.002	1	-.213	1	-.002	2
309		5	max	884.649	2	448.347	1	95.217	9	.004	2	.272	1	.37	2
310			min	-1010.002	1	-463.698	2	-28.188	2	-.009	5	-.395	2	-.427	1
311	M32	1	max	1145.044	4	100.769	4	492.819	5	.005	3	.181	3	-.076	3
312			min	-921.282	3	-155.161	3	39.777	2	-.003	4	-.597	8	-1.048	8
313		2	max	1164.409	4	67.227	4	451.246	5	.005	3	.073	3	.155	3
314			min	-940.647	3	-121.62	3	29.61	2	-.003	4	-.121	4	-.425	8
315		3	max	1183.774	4	33.685	4	403.812	5	.005	3	.389	5	.331	3

Envelope Member Section Forces (Continued)

	Member	Sec		Axial[lb]	LC	y Shear[lb]	LC	z Shear[lb]	LC	Torque[k-...	LC	y-y Mome...	LC	z-z Mome...	LC
316			min	-960.012	3	-102.942	7	19.442	2	-.003	4	-.138	2	-.186	4
317		4	max	1110.528	4	7.646	3	210.283	1	.003	4	.211	4	.15	7
318			min	-1092.293	3	-72.494	8	-133.425	2	-.002	3	-.16	3	-.088	9
319		5	max	1224.809	4	342.867	3	379.945	9	.004	1	.209	3	.279	4
320			min	-1338.761	3	-357.224	4	-45.827	4	-.008	6	-.325	4	-.339	3
321	M33	1	max	1088.029	3	124.664	3	495.845	7	.006	4	.159	4	.056	9
322			min	-866.931	4	-178.112	4	-14.852	9	-.004	3	-.6	7	-1.044	5
323		2	max	1078.346	3	107.893	3	481.599	7	.006	4	.064	4	.037	9
324			min	-857.248	4	-161.341	4	-19.936	9	-.004	3	-.325	7	-.726	5
325		3	max	1068.664	3	91.122	3	457.184	7	.006	4	.064	2	.126	2
326			min	-847.566	4	-144.57	4	-25.019	9	-.004	3	-.112	1	-.419	5
327		4	max	1058.981	3	74.351	3	432.509	7	.006	4	.194	3	.223	2
328			min	-837.883	4	-127.799	4	-30.103	9	-.004	3	-.105	4	-.274	1
329		5	max	1049.298	3	57.58	3	407.834	7	.006	4	.401	7	.314	2
330			min	-828.2	4	-111.028	4	-35.187	9	-.004	3	-.179	4	-.169	1
331	M34	1	max	1049.298	3	55.355	3	407.161	7	.006	4	.401	7	.314	2
332			min	-828.2	4	-111.886	4	-35.187	9	-.004	3	-.179	4	-.169	1
333		2	max	1012.885	1	30.461	9	278.287	3	.003	9	.103	3	.169	4
334			min	-995.189	2	-67.687	7	-189.912	4	-.002	4	-.08	4	-.162	3
335		3	max	1022.568	1	29.902	9	273.203	3	.003	9	.248	3	.145	6
336			min	-1004.872	2	-72.846	7	-194.996	4	-.002	4	-.199	4	.002	9
337		4	max	1243.821	1	359.457	4	50.232	2	.005	3	-.013	9	.075	3
338			min	-1356.5	2	-369.645	3	-90.32	9	-.009	4	-.167	7	-.15	4
339		5	max	1253.504	1	376.227	4	45.148	2	.005	3	.216	4	.303	3
340			min	-1366.183	2	-386.415	3	-95.404	9	-.009	4	-.333	3	-.369	4

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
1	M1	L3x3x4	.725	6.917	6	.045	0	y	1	16160.6...	46656	1.688	3.645	2...	H2-1
2	M2	L3x3x4	.709	6.917	7	.039	0	y	2	16160.6...	46656	1.688	3.646	2...	H2-1
3	M3	L3x3x4	.717	6.917	8	.049	0	y	3	16160.6...	46656	1.688	3.649	2...	H2-1
4	M7	LL3x3x3x3	.207	0	2	.020	3.753	z	2	46321.1...	70632	5.543	2.345	1...	H1-1b
5	M8	LL3x3x3x3	.229	0	1	.021	3.753	z	1	46321.1...	70632	5.543	2.345	1...	H1-1b
6	M9	LL3x3x3x3	.239	0	4	.025	3.753	z	4	46321.1...	70632	5.543	2.345	1...	H1-1b
7	M10	L3x3x4	.413	3.667	7	.022	3.667	y	7	14376.3...	46656	1.688	3.197	1...	H2-1
8	M11	L3x3x4	.433	3.667	5	.023	3.667	y	5	14376.3...	46656	1.688	3.192	1...	H2-1
9	M12	L3x3x4	.430	3.667	8	.022	3.667	y	9	14376.3...	46656	1.688	3.187	1...	H2-1
10	MP1A	PIPE_2.0	.225	4.448	8	.048	1.021		9	17855.0...	32130	1.872	1.872	2...	H1-1b
11	MP2A	PIPE_2.0	.329	4.448	8	.087	4.448		2	17855.0...	32130	1.872	1.872	2...	H1-1b
12	MP3A	PIPE_2.0	.867	4.479	1	.072	4.479		3	9836.597	32130	1.872	1.872	3...	H1-1b
13	MP4A	PIPE_2.0	.443	4.448	9	.088	4.448		9	17855.0...	32130	1.872	1.872	2...	H1-1b
14	MP1B	PIPE_2.0	.306	4.448	9	.049	4.448		1	17855.0...	32130	1.872	1.872	2...	H1-1b
15	MP2B	PIPE_2.0	.348	4.448	5	.070	1.021		4	17855.0...	32130	1.872	1.872	2...	H1-1b
16	MP3B	PIPE_2.0	.803	4.479	3	.080	4.479		4	9836.597	32130	1.872	1.872	2...	H1-1b
17	MP4B	PIPE_2.0	.435	4.448	8	.085	1.021		9	17855.0...	32130	1.872	1.872	2...	H1-1b
18	MP1C	PIPE_2.0	.229	4.448	3	.052	4.448		3	17855.0...	32130	1.872	1.872	1...	H1-1b
19	MP2C	PIPE_2.0	.343	4.448	7	.082	4.448		3	17855.0...	32130	1.872	1.872	2...	H1-1b
20	MP3C	PIPE_2.0	.779	4.479	4	.077	4.479		4	9836.597	32130	1.872	1.872	2...	H1-1b
21	MP4C	PIPE_2.0	.440	4.448	5	.072	4.448		5	17855.0...	32130	1.872	1.872	2...	H1-1b
22	M25	PIPE_2.0	.409	6.417	6	.153	11.2...		1	5972.635	32130	1.872	1.872	1...	H1-1b

Envelope AISC 14th(360-10): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear Check	Loc[ft]	Dir	LC	phi*Pnc...	phi*Pnt ...	phi*Mn ...	phi*Mn ...	Cb	Eqn
23	M26	PIPE_2.0	.419	6.417	5	.144	10.2...		3	5972.635	32130	1.872	1.872	1...	H1-1b
24	M27	PIPE_2.0	.429	6.417	8	.134	11.3...		2	5972.635	32130	1.872	1.872	1...	H1-1b
25	M28	L3x3x4	.196	2	2	.039	0	y	2	42699.8...	46656	1.688	3.756	2...	H2-1
26	M29	L3x3x4	.250	2	4	.045	0	y	4	42699.8...	46656	1.688	3.756	2...	H2-1
27	M30	L3x3x4	.278	0	1	.040	2	y	1	42699.8...	46656	1.688	3.756	1...	H2-1
28	M31	L3x3x4	.682	0	6	.065	6.917	y	1	16160.6...	46656	1.688	3.718	2...	H2-1
29	M32	L3x3x4	.672	0	8	.059	5.404	z	9	16160.6...	46656	1.688	3.725	2...	H2-1
30	M33	L3x3x4	.638	0	7	.047	0	z	8	35797.1...	46656	1.688	3.756	2...	H2-1
31	M34	L3x3x4	.381	.288	7	.064	3.458	y	4	35797.14	46656	1.688	3.756	2...	H2-1

Envelope AISI S100-10: LRFD Cold Formed Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear...	Loc[ft]	Dir	LC	phi*Pn[lb]	phi*Tn[lb]	phi*Mn...	phi*Mn...	Cb	Cmyy	Cmzz	Eqn
1	M4	5CU4X4...	.720	0	6	.250	0	y	3	131587...	147945...	7.684	18.596	1.087	.85	.864	C3.3.2-1
2	M5	5CU4X4...	.735	0	7	.218	0	y	1	131587...	147945...	7.684	18.596	1.48	.85	.85	C5.1.2-2
3	M6	5CU4X4...	.723	0	8	.255	0	y	2	131587...	147945...	7.684	18.596	2.835	.85	.85	C5.1.2-2

Envelope AA ADM1-10: ASD - Building Aluminum Code Checks

Member	Shape	Code C...	Loc[ft]	LC	Shear ...	Loc[ft]	Dir	LC	Pnc/O...	Pnt/Om...	Mny/O...	Mnz/O...	Vny/O...	Vnz/O...	Cb	Eqn
No Data to Print ...																

EXHIBIT 10

EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CT11363D

SBA South Plymouth
170 Mount Tobe Road
Plymouth, Connecticut 06782

May 14, 2021

EBI Project Number: 6221002329

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**11.36%**

May 14, 2021

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

Emissions Analysis for Site: CT11363D - SBA South Plymouth

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **170 Mount Tobe Road** in **Plymouth, 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 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu W/cm^2$). The number of $\mu W/cm^2$ 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 ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 170 Mount Tobe Road in Plymouth, 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 UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

6) 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.

7) 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.

8) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

9) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna 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.

10) The antennas used in this modeling are the Ericsson AIR 21 for the 1900 MHz / 1900 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 2100 MHz channel(s) in Sector A, the Ericsson AIR 21 for the 1900 MHz / 1900 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 2100 MHz channel(s) in Sector B, the Ericsson AIR 21 for the 1900 MHz / 1900 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz channel(s), the Ericsson AIR 32 for the 1900 MHz / 2100 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.

11) The antenna mounting height centerline of the proposed antennas is 160 feet above ground level (AGL).

12) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

13) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 21	Make / Model:	Ericsson AIR 21	Make / Model:	Ericsson AIR 21
Frequency Bands:	1900 MHz / 1900 MHz	Frequency Bands:	1900 MHz / 1900 MHz	Frequency Bands:	1900 MHz / 1900 MHz
Gain:	15.35 dBd / 15.35 dBd	Gain:	15.35 dBd / 15.35 dBd	Gain:	15.35 dBd / 15.35 dBd
Height (AGL):	160 feet	Height (AGL):	160 feet	Height (AGL):	160 feet
Channel Count:	6	Channel Count:	6	Channel Count:	6
Total TX Power (W):	180 Watts	Total TX Power (W):	180 Watts	Total TX Power (W):	180 Watts
ERP (W):	6,169.82	ERP (W):	6,169.82	ERP (W):	6,169.82
Antenna A1 MPE %:	**0.94%**	Antenna B1 MPE %:	**0.94%**	Antenna C1 MPE %:	**0.94%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd
Height (AGL):	160 feet	Height (AGL):	160 feet	Height (AGL):	160 feet
Channel Count:	5	Channel Count:	5	Channel Count:	5
Total TX Power (W):	200 Watts	Total TX Power (W):	200 Watts	Total TX Power (W):	200 Watts
ERP (W):	4,151.83	ERP (W):	4,151.83	ERP (W):	4,151.83
Antenna A2 MPE %:	**1.50%**	Antenna B2 MPE %:	**1.50%**	Antenna C2 MPE %:	**1.50%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32	Make / Model:	Ericsson AIR 32
Frequency Bands:	1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.85 dBd
Height (AGL):	160 feet	Height (AGL):	160 feet	Height (AGL):	160 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	8,728.31	ERP (W):	8,728.31	ERP (W):	8,728.31
Antenna A3 MPE %:	**1.32%**	Antenna B3 MPE %:	**1.32%**	Antenna C3 MPE %:	**1.32%**

Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	3.76%
Sprint	0.01%
Metro PCS	0.55%
Nextel	0.39%
Verizon	3.06%
AT&T	3.59%
Site Total MPE % :	11.36%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	3.76%
T-Mobile Sector B Total:	3.76%
T-Mobile Sector C Total:	3.76%
Site Total MPE % :	11.36%

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 (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 1900 MHz GSM	4	1028.30	160.0	6.24	1900 MHz GSM	1000	0.62%
T-Mobile 1900 MHz UMTS	2	1028.30	160.0	3.12	1900 MHz UMTS	1000	0.31%
T-Mobile 600 MHz LTE	2	591.73	160.0	1.79	600 MHz LTE	400	0.45%
T-Mobile 600 MHz NR	1	1577.94	160.0	2.39	600 MHz NR	400	0.60%
T-Mobile 700 MHz LTE	2	695.22	160.0	2.11	700 MHz LTE	467	0.45%
T-Mobile 1900 MHz LTE	2	2056.61	160.0	6.24	1900 MHz LTE	1000	0.62%
T-Mobile 2100 MHz LTE	2	2307.55	160.0	7.00	2100 MHz LTE	1000	0.70%
						Total:	**3.76%**

• 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:	3.76%
Sector B:	3.76%
Sector C:	3.76%
T-Mobile Maximum MPE % (Sector A):	3.76%
Site Total:	11.36%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **11.36%** 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.