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

January 31, 2022

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

RE: Notice of Exempt Modification
173 South Broad Street, Pawcatuck, (Stonington) CT
Latitude: 41.369066
Longitude: -71.862361
T-Mobile Site #: CT11442A_Anchor

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 140-foot level of the existing 180-foot Self Support Tower located at 173 South Broad St., Pawcatuck, CT. The 180-foot tower is owned by SBA Properties, LLC. The property is owned by the Town of Stonington. T-Mobile now intends to remove six (6) 1900/2100 MHz antennas install three (3) new 1900/2100 antennas and three (3) 2500MHz antennas. The total amount of antennas will remain at nine (9).

- **The new antennas support 5G services and would be installed at the 140-foot level of the tower**.

Planned Modifications:

TOWER

Remove:

- N/A

Remove and Replace:

- (3) Ericsson AIR21 B2P/B4P antennas (remove) – (3) Ericsson AIR6449 B41 2500MHz antennas (replace)
- (3) Ericsson 21 B4P/B2P antennas (remove) – (3) Commscope VV-65A-R1 antennas (replace)

Install New:

- (3) Ericsson 4460 B25+B66 RRUs

Existing Equipment to Remain:

- (3) RFS APXVAALL24_43-U-NA20 600/700 MHz antennas
- (9) 1-5/8" coax
- (3) 1.9" fiber
- (3) Sector Frames (w/mods, no change from existing)
- (3) Ericsson KRY 112 144/1 TMAs
- (3) Ericsson 444p B71+B85 RRUs

Entitlements:

- N/A

GROUND

Install New:

- (1) 2" RGS conduit for Power from existing PPC to Proposed equip. Cabinet
- T-Mobile Ericsson 6160 Equip. Cabinet mounted exist. Concrete pad
- (1) 2" RGS conduit for AAV from existing Fiber cabinet to Proposed equip. cabinet
- (1) 1" RGS conduit for DC power from existing fiber cabinet to proposed equip. cabinet
- Emerson Netxtend Compact 2416 Fiber Cabinet mounted to existing H-Frame
- (2) 2" RGS conduit for alarm & Spare
- T-Mobile Ericsson B160 Battery Cabinet mounted to existing concrete pad
- T-Mobile Slackbox mounted to Proposed Unistrut secured to existing Ice Bridge Post
- (1) 2" RGS conduit w/LBs for DC Power wiring per Manuf. Req's

Remain:

- 8' x 16' concrete Pad
- GPS antenna mounted existing Ice Bridge
- Ice Bridge
- Ice Shield
- T-Mobile 200A Electric Panel mounted to existing H-Frame
- T-Mobile Polar Generator
- T-Mobile Junction Box mounted to rear of existing Equip. cabinet (to be relocated)

Remove:

- Ericsson RBS6131 Equipment Cabinet
- Conduits to Existing Equip. Cabinet

This facility was originally located at 166 South Broad Street. The Police Department built a new station across the street at 171 So. Broad St. (now #173), and the tower was relocated to that location. The original approval for the 166 South Broad location, under Special Use Application PZ8855SUP, is missing in Town files, but the PZC minutes showing 12/1/88 approval is contained herein. Per the Town, when the tower was relocated, the zoning officer issued the 2007 Zoning Permit based on the 1988 PZC approval. Approval was for a 180' radio tower for use by the Town and SBA. No 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 Stonington's First Selectman, Danielle Chesebrough, and Keith Brynes, Planning and Zoning Commission. (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,

Scott Shepherd
Site Development Specialist II
SBA COMMUNICATIONS CORPORATION
134 Flanders Rd., Suite 125
Westborough, MA 01581

508.251.0720 x3804 + T
508.366.2610 + F
508.868.6000 + C
gshepherd@sbasite.com

Attachments

cc: Danielle Chesebrough, First Selectman / with attachments
Town of Stonington, 152 Elm Street, Stonington, CT 06378
Keith Brynes, Planning and Zoning Commission / with attachments
Town of Stonington, 152 Elm Street, Stonington, CT 06378

EXHIBIT LIST

Exhibit 1	Check Copy	x
Exhibit 2	Notification Receipts	x
Exhibit 3	Property Card	x
Exhibit 4	Property Map	x
Exhibit 5	Original Zoning Approval	Town of Stonington P&Z 12/1/88
Exhibit 6	Construction Drawings	Chappell Engineering 1/5/22
Exhibit 7	Structural Analysis	TES 11/30/21
Exhibit 8	Mount Analysis	TES 11/16/21
Exhibit 9	EME Report	Centerline 1/21/22

EXHIBIT 1

Copy of check

EXHIBIT 2

Mailing Labels

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FedEx

FedEx Tracking Track Another Shipment Help

775913371172

ADD NICKNAME

ON TIME

Scheduled delivery:
Tuesday, February 1, 2022 before 10:30 am

IN TRANSIT
On FedEx vehicle for delivery
WINDSOR LOCKS, CT

GET STATUS UPDATES

FROM
SBA COMMUNICATIONS CORPORATION
Rick Woods
134 Flanders Rd
Suite 125
WESTBOROUGH, MA US 01581
508-614-0389

TO
Melanie A. Bachman Exec. Dir
Connecticut Siting Council
Ten Franklin Square
NEW BRITAIN, CT US 06051
508-251-0720

MANAGE DELIVERY

Travel History | Shipment Facts

Travel History

TIME ZONE
Local Scan Time

Tuesday, February 1, 2022		
8:57 AM	WINDSOR LOCKS, CT	On FedEx vehicle for delivery
8:39 AM	WINDSOR LOCKS, CT	Shipment arriving On-Time
8:19 AM	WINDSOR LOCKS, CT	At local FedEx facility
2:38 AM	NEWARK, NJ	Departed FedEx hub
Monday, January 31, 2022		
5:55 PM	FRAMINGHAM, MA	Shipment arriving On-Time
5:36 PM	FRAMINGHAM, MA	Picked up
4:23 PM	WESTBOROUGH, MA	Picked up Tendered at FedEx Office
10:28 AM		Shipment information sent to FedEx

Expand History

Shipment Facts

TRACKING NUMBER
775913371172

SERVICE
FedEx Priority Overnight

WEIGHT
2 lbs / 0.91 kgs

TOTAL PIECES
1

TOTAL SHIPMENT WEIGHT
2 lbs / 0.91 kgs

TERMS
Shipper

SHIPPER REFERENCE
10-56-92009-6089

PACKAGING
FedEx Pak

SPECIAL HANDLING SECTION
Deliver Weekday

SHIP DATE
1/31/22

SHIPMENT-FACTS.COD-DETAIL
$0.00

STANDARD TRANSIT
2/1/22 before 10:30 am

SCHEDULED DELIVERY
2/1/22 before 10:30 am

All (30) | Inbound (9) | Outbound (21) | Watch list (0)

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FedEx

FedEx Tracking Track Another Shipment Help

775913415440

ADD NICKNAME

ON TIME

Scheduled delivery:
Tuesday, February 1, 2022 before 12:00 pm

IN TRANSIT
At FedEx destination facility
NORWICH, CT

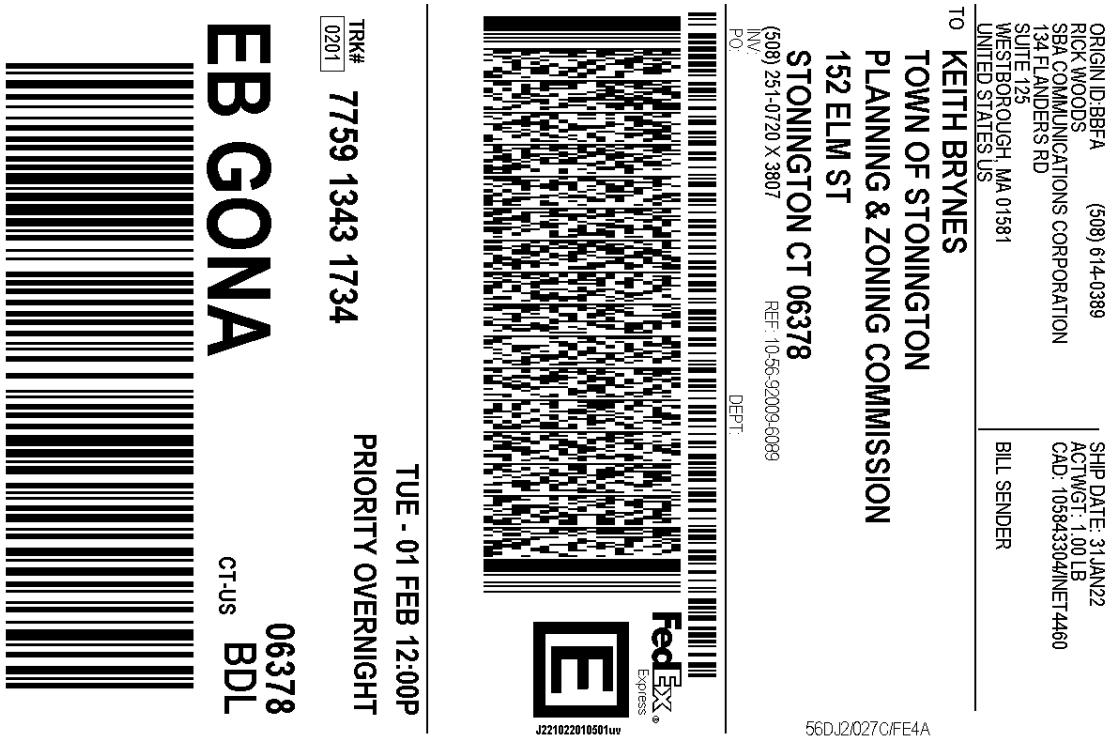
GET STATUS UPDATES

FROM
SBA COMMUNICATIONS CORPORATION
Rick Woods
134 Flanders Rd
Suite 125
WESTBOROUGH, MA US 01581
508-614-0389

TO
Danielle Chesebrough
Town of Stonington
First Selectman
152 Elm St
STONINGTON, CT US 06378
508-251-0720

MANAGE DELIVERY

All (30) Inbound (9) Outbound (21) Watch list (0)



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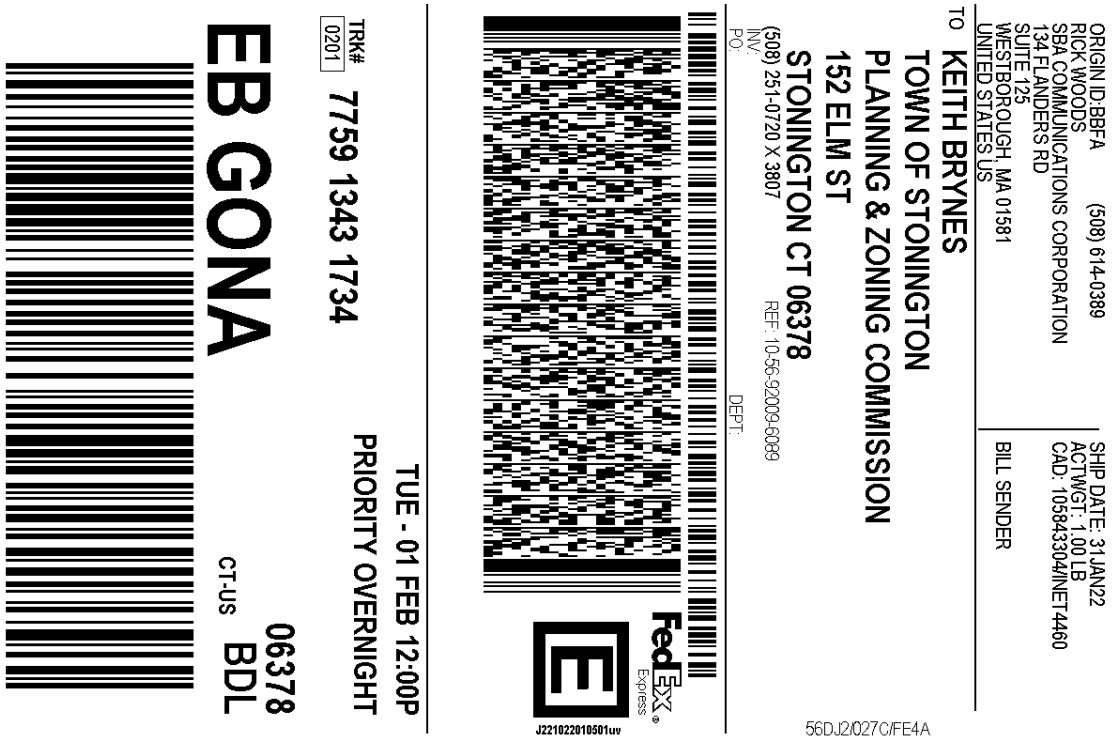

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EXHIBIT 3

Property Card

Town of Stonington, CT

Property Listing Report

Map Block Lot	37-1-2	Building #	1	Section #	1	Account	00623600

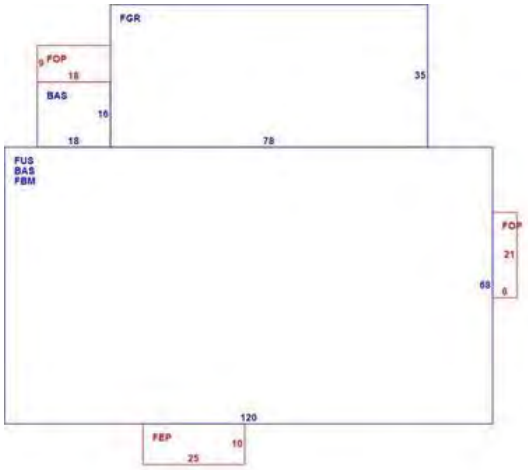
Property Information

Property Location	173 S BROAD ST
Owner	STONINGTON TOWN OF
Co-Owner	POLICE STATION
M iling Ad ress	152 ELM ST STONINGTON CT 06378
Land Use	9031 MUN POLICE
Land Class	E
Zoning Code	M-1
Census Tract	7051

Street Index	5000
Acreage	11.47
Utilities	
Lot Setting/Desc	Suburban Level
Survey Map #	NA
Schoo District	
Fire District	Pawcatuck
Trash D y	T
Polling Place (District)	2

Photo

Sketch



Primary Construction Details

Year Built	2000
Stories	2
Building Style	Other Municip
Building Use	Ind/Comm
Building Condition	G
Occupancy	1
Extra Fixtures	
Bath Style	NA
itchen Style	NA
AC Type	Central
Heating Type	Forced Air-Duc
Heating Fuel	Gas

Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Total Rooms	0
Roof Style	Flat
Roof Cover	Tar & Gravel
Interior Floors 1	Vinyl/Asphalt
Interior Floors 2	Carpet
Exterior Walls	Brick/Masonry
Exterior Walls 2	NA
Interior Walls	Drywall/Sheet
Interior Walls 2	NA

(*Industrial / Commercial Details)

Building Desc.	MUN POLICE
Building Grade	Good
Heat / AC	HEAT/AC SPLIT
Frame Type	MASONRY
Baths / Plumbing	ABOVE AVERAGE
Ceiling / Wall	SUS-CEIL & WL
Rooms / Prtns	ABOVE AVERAGE
Wall Height	10
First Floor Use	9031

Report Created On 6/29/2021

Town of Stonington, CT

Property Listing Report | Map Block Lot 37-1-2 | Building # 1 | Section # 1 | Account 00623600

Valuation Summary

(Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	2454200	1717900
Extras	187100	131000
Improvements		
Outbuildings	277200	194100
Land	1394200	976000
Total	4312700	3019000

Outbuilding and Extra Features

Type	Description
PAVING-ASPHALT	37018.00 S.F.
SPRINKLERS-WET	11428.00 S.F.
ELV1	3.00 UNIT
CELL TOWER	1.00 UNIT
COMM MAS	1710.00 SF
GAS TANK	1.00 UNIT
GOOD QUALITY	484.00 S.F.
LIGHTS-IN W/PL	9.00 UNITS
FENCE-6' CHAIN	400.00 L.F.

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	8448	8448
Basement, Finished	8160	5712
Porch, Enclosed	250	0
Garage	2730	2457
Porch, Open	288	0
Upper Story, Finished	8160	8160
Total Area	28036	24777

Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
STONINGTON TOWN OF	0432/0629	3/1/1999	0
STONINGTON TOWN OF	0432/0627	3/1/1999	0
OLIVERIO SAMUEL F & MARIE A	0208/0086	9/16/1974	0
OLIVERIO SAMUEL F & MARIE A	0180/0588	3/30/1971	0
OLIVERIO SAMUEL F & MARIE A	0166/0143	4/24/1968	0

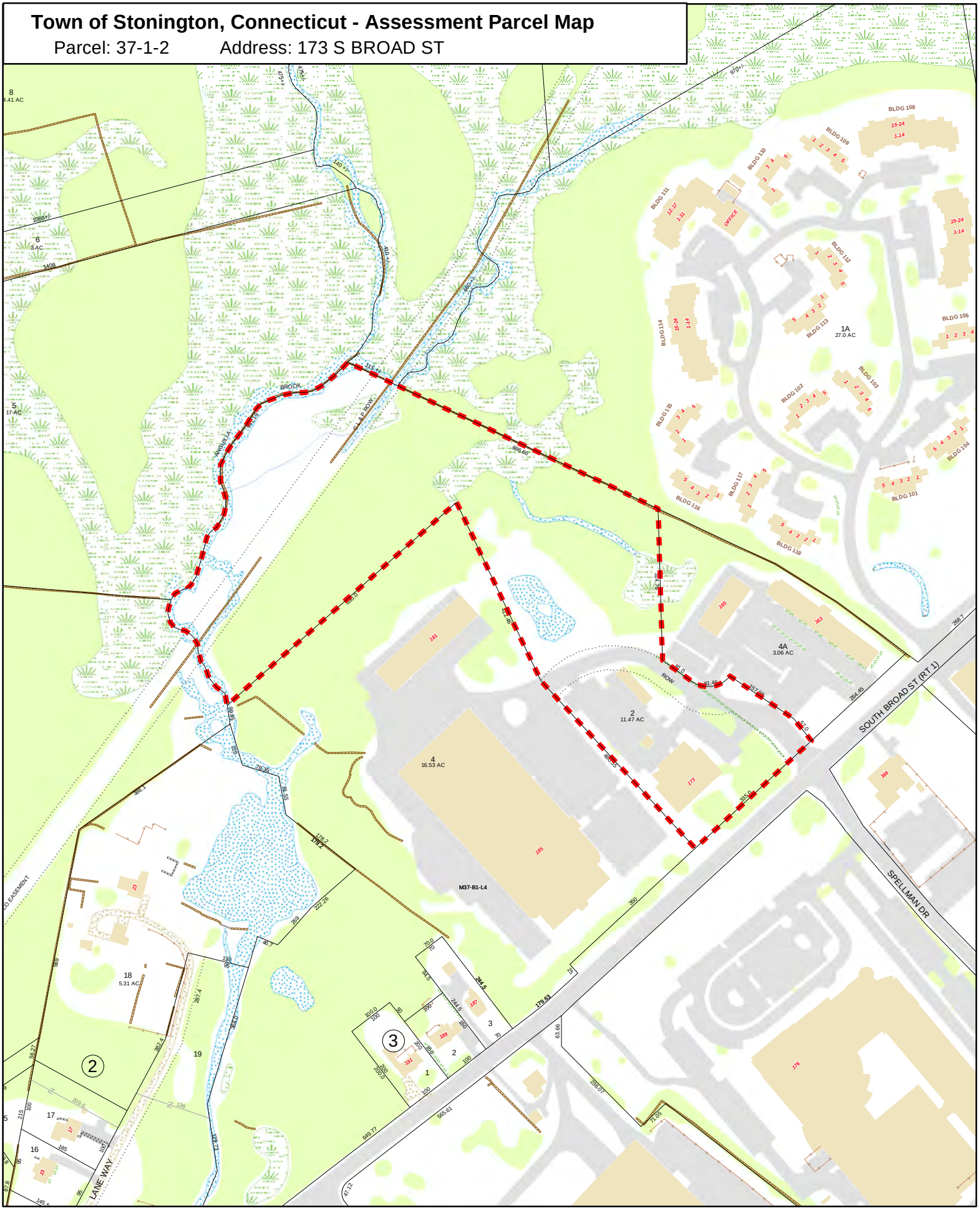
Report Created On 6/29/2021

EXHIBIT 4

Property Map

Town of Stonington, Connecticut - Assessment Parcel Map

Parcel: 37-1-2 Address: 173 S BROAD ST



Approximate Scale:

1 inch = 250 feet

0 150 300 450 600 Feet

Revised To: October 2018 **Map Produced: April 2019**

Google Maps 173 S Broad St

Image capture: Aug 2019 © 2021 Google

Stonington, Connecticut

Google

Street View

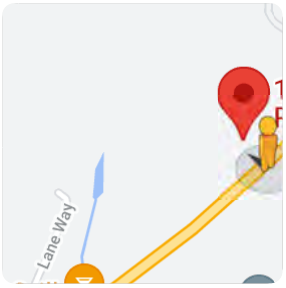


EXHIBIT 5

Zoning Documents

~~DRAFT~~

SPECIAL MEETING

The 719th meeting of the Planning and Zoning Commission of the Town of Stonington was held at the Town Hall on Thursday, 1 December 1988 at 7:00 P.M.

The meeting was called to order at 7:00 P.M. by Vice-Chairperson D. Hill.

Those present were: Town Planner, R.Birmingham, Vice-Chairman D. Hill, W. Parry, D. Stamm, S. Wohlman, M. Olssen (Alternate) seated for J. Getlein, and acting clerk, M. Patton.

Mrs. Hill introduced the Board and made the announcement that the Agenda for this meeting was Old Business.

OLD BUSINESS:

A.
Review of Subdivision Regs. Chapter VIII, Open Space Dedication Requirements Mr. Stamm's and Mrs. Hill's differing proposals concerning possible amendments to this subdivision requirement were reviewed, also Mr. Birmingham's memo. Several examples were explored re: (v) of Mr. Stamm's proposal. The waiver could be used under limited conditions and be limited to one waiver per parcel, subdivision or resubdivision; which can be noted on Mr. Birmingham's index cards "No future waiver can be allowed." It was the concensus of the Commission that the open space requirement be 15% and under certain limited conditions would waiver in the best interest of the town. Mr. Wohlman volunteered to try a draft.

Mr. Olssen made a motion to table item B. Regulation review-Discussion of Various issues. Mr. Stamm seconded the motion and it was unanimously approved.

C. PZ8847SUP Bess Eaton/Gencarelli - Application for a Special Use Permit for parking and drive in facility. Property located on South Broad Street, Pawcatuck, Stonington.

Mr. Stamm made a motion to table this item until the arrival of the Land Use Attorney. Mr. Wohlman seconded the motion and it was unanimously approved.

D. PZ8843ZC Maritime Park Associates - Application for the creation of a new "floating zone" R-CIH, Planned Congregate and Independent Housing Zone.

After much discussion about the floating zone and concern about the height of the proposed building, setbacks and buffers and intensive use, Mr. Spellman asked for a procedural extension as there were only four voting members present and they would like to have a full Board. Mr. Olssen didn't attend the original hearing and couldn't vote. Mr. Wohlman stated he didn't think anyone here could vote any differently and extending it won't change any decision.

Mr. Parry made the motion, "I move that PZ8843ZC Maritime Park Associates. application for a new floating zone be denied without prejudice for the concept of planned and independent housing because the regulation proposed is not compatible with other residential zones in the Plan of Development in that the maximum height of the building of 50' is too high considering that the other residential zones are limited to 30'; that the bulk requirements such as set backs and buffer areas are inadequate; and that the regulation as written does not provide sufficient protection to abutting land owners. Mr. Stamm seconded the motion. Mrs. Hill, Mr. Stamm, Mr. Wohlman and Mr. Parry approved the motion.

Mr. Stamm moved that "We address this issue as expeditiously as possible and direct Staff to work to bring this concept to a workable stage." Mr. Parry seconded the motion.

A discussion followed - no vote was taken.

E. PZ8853SUP Mary Elizabeth Convalescent Home - Application for Special Use Permit for expansion of previously approved convalescent home. Property located on Washington, East Main and Broadway Streets, Mystic, Stonington, CT Ls-5 zone.

Land Use Attorney T. Bates arrived at 9:38 P.M.

Mr. Parry made a motion that PZ8853SUP Mary Elizabeth Convalescent Home application for Special Use Permit be approved. Mr. Olssen seconded the motion.

Mr. Wohlman added stipulations regarding adult day care and written approval from Water Pollution Control Authority.

Mr. Wohlman made the motion. "I move that we amend the motion to stipulate 1. Written approval from Water Pollution Control Authority for this change. 2. That adult day care as shown on plan be deleted. 3. All driveways shall be marked "Fire Lane-No Parking". 4. Curbings from Broadway to the front entrance be painted yellow. 5. "No Parking" signs to be posted at entrance from East Main Street and entrance from Washington Street. 6. Area adjacent to sprinkler equipment to be kept clear. 7. That a new anti-tracking pad on entrance off Broadway as approved by Town Planner be installed during construction period. Mr. Stamm seconded the amendments which are stipulations to the original approval. Mr. Wohlman's amendment was approved by Mr. Olssen, Mr. Stamm, Mr. Parry and Mr. Wohlman. The original motion was approved by Mr. Olssen, Mr. Stamm, Mr. Parry, Mr. Wohlman and Mrs. Hill

Mr. Stamm made a motion to hold a special meeting on Tuesday, December 13th at 7:00 P.M. to add with agenda what we don't have time to take care of. Mr. Wohlman seconded the motion and it was unanimously approved.

C. PZ8847SUP Bess Eaton/Gencarelli - Mr. Bates concurred with Mr. Birmingham's memo that the addition to the present structure is an expansion of a non-conforming building location. Mr. Birmingham's memo was reviewed.

Mr. Wohlman asked if parking could be approved without approving the drive in window. Mr. Bates saw no problem with that.

Mr. Stamm made the motion, "I will move that PZ8847SUP Bess Eaton/ Gencarelli Application for a Special Use Permit for parking and drive in facility be approved with the stipulations: 1. That the drive in facility be deleted in that it is an expansion of a non-conforming use, and 2. That changes in directional arrows and signage be made in conformance with Zoning Regulations as approved by the Town Planner. Mr. Wohlman seconded the motion. Mrs. Hill opposed. Mr. Wohlman, Mr. Stamm, Mr. Parry approved. Mr. Olssen abstained as he did not attend the hearing. (Although Mr. Stamm was not present at the hearing, he reviewed the tape and file.)

F. PZ8855SUP-PZ8858SUP Town of Stonington/Department of Police Services - Applications for Special Use Permits for municipal facilities at the following locations:

1. 120-foot radio tower. Located at 166 South Broad Street
2. 40-foot radio tower. Located at Asher Ave., Pawcatuck, CT.
3. Stud Tower, Located at Elm Street, Stonington, top of Town Hall.

The deficiencies stated in Mr. Birmingham's memo were reviewed.

Mr. Wohlman made the motion "I move that PZ8855SUP Town of Stonington/ Department of Police Services antenna at Police Station be approved with the following stipulations: 1. That full legal description be provided and approved by the Town Counsel. 2. There will be no change in contours. Mr. Parry seconded. Mrs. Hill opposed. Mr. Stamm, Mr. Wohlman, Mr. Parry and Mr. Olssen approved.

Mr. Wohlman made the motion "I move that PZ8857SUP Town of Stonington/ Department of Police Services tower at Asher Avenue be accepted with the stipulations: That legal description be provided to the Land Use Counsel for approval, and the current grades adjacent to the tower be shown; and the tower shown corrected to a height of 40 feet. - The table lower right corner of plan - tower be changed to 40' height from 180' and the water tank height changed to the 24' given at the public hearing as the correct height vs the 34' height shown. And the 40' height of the tower not be higher than 40' above the elevation of the base of the tank. Mr. Parry seconded. Mrs. Hill opposed. Mr. Stamm, Mr. Wohlman, Mr. Parry and Mr. Olssen approved.

Mr. Wohlman made a motion that PZ8858SUP Town of Stonington/Department of Police Services stud tower on top of Town Hall be approved with the stipulation that legal description be provided as approved by the Land Use Counsel. Mr. Parry seconded. Mrs. Hill opposed. Mr. Parry, Mr. Wohlman, Mr. Stamm and Mr. Olssen approved.

Mr. Parry made a motion to go past 11:00 P.M. Mr. Wohlman seconded. The motion was unanimously approved.

G. PZ8865SD Jeremy Hill - Application for a 10-lot subdivision. Property located on Greenhaven Road, Stonington,CT.

Mr. Birmingham went over the information in his memo. Mr. McGuire said it had previously been denied because of three tiny technicalities. Mr. Birmingham added that the application meets the regulations. "They have done the best I have ever seen in analyzing split lot zoning density requirements."

Mr. Parry inquired about the conservation easement on trolley bed. Mr. McGuire described area, the majority of the old trolley track is in open space - the portion in question is strictly owned by the 10 lots. The pond is privately owned. All open space owned by property owners. Mr. McGuire's partner answered questions about test holes and slope.

Mr. Parry made the motion "I move that PZ8865SD Jeremy Hill application for a 10-lot subdivision be approved. Mr. Olssen seconded the motion.

Mr. Stamm moved to amend the motion with the stipulation that so much of the former trolley road bed as is included in the dedicated open space be protected with conservation easement by the Land Use Attorney. Mr. Parry seconded the motion.

The amendment was approved unanimously as was the original motion.

Mr. Stamm made the motion "I move that we find that the proposed subdivision with dedicated open space preserves the fragile resources and therefore is consistent with CAM guidelines; and because the pond is private, public access would appear to be inappropriate and the water dependent use would also appear to be inappropriate since the pond would not permit water dependent uses. Mr. Parry seconded the motion. The motion was unanimously approved.

Mr. Wohlman made a motion to adjourn. Mr. Parry seconded. Unanimously approved. The meeting adjourned at 11:52. P.M.

R. David Stamm

D. Stamm, Secretary

ZONING PERMIT

TOWN OF STONINGTON
PLANNING & ZONING COMMISSION

Date Issued: March 24, 2000 Permit No.: #00-067 ZON

NAME OF PROPERTY OWNER: TOWN OF STONINGTON; OWNER
SBA, INC., APPLICANT

LOCATION OF PROPERTY: 173 SOUTH BROAD ST., PAWCATUCK

MAP: 37 BLOCK: 1 LOT: 2 ZONE: GC-60

PERMITTED ACTIVITY: INSTALLATION OF A 180 FT. RADIO TOWER.

STIPULATIONS OR SPECIAL CONDITIONS: As per Planning and Zoning Commission approval.

BY: Joseph M. Larkin
Zoning Enforcement Officer

CONSTRUCTION MAY NOT PROCEED UNTIL A BUILDING PERMIT HAS BEEN OBTAINED

THIS PERMIT MUST BE PROMINENTLY POSTED ON THE PREMISES

TOWN OF STONINGTON
ZONING PERMIT APPLICATION

RECEIVED
MAR 21
TOWN OF STONINGTON
PLANNING & ZONING

OFFICE USE ONLY APPLICATION NUMBER 00-067 ZON

NA
Form 96-ZP

✓ APPROVED {Certified to comply with Zoning Regulations}

_____ DISAPPROVED Reasons: _____

Zoning Official Joseph M. Lahm Date 3·24·00

Comments: As per PZC approval.

YOUR APPLICATION CANNOT BE REVIEWED UNTIL ALL REQUIRED INFORMATION IS PROVIDED.

NAME OF APPLICANT: SBA, INC. TELE (860) 659-9101

MAILING ADDRESS: 80 Eastern BLVD, Glastonbury CT 06033

NAME, ADDRESS & PHONE NUMBER OF PROPERTY OWNER (if not applicant)

Town of Stonington

LOCATION OF SITE: 173 South Broad Street

ASSESSOR'S MAP 37 BLOCK 1 LOT 2 ZONE GC 60

APPLICATION IS HEREBY MADE TO PERMIT:

installation of a 180' Radio tower for use of town of Stonington and SBA Radio antennAS

TYPE OF OCCUPANCY: _____ Residential _____ Commercial _____ Industrial Municipal / municipal

TYPE OF CONSTRUCTION: X New _____ Alteration _____ Addition _____ Repair

SUBDIVISION NAME (if any) _____

LOT INFORMATION: Frontage of Lot: 949.45 Width of lot: _____ Depth of Lot: _____ Area of Lot: 10.9988 ACR

REQUIRED SETBACKS: Front: _____ Rear: _____ Sides: _____

PROPOSED SETBACKS: Front: _____ Rear: _____ Sides: _____

SIZE OF STRUCTURE: Footprint: _____ x _____ Height: 180' Radio Tower

FLOOR AREA (sq.ft.): 1st floor _____ 2nd floor _____ Attic _____ Basement 729 sf Foundation Accessory Bldgs. _____

PROPOSED ADDITIONAL: Footprint: _____ x _____ Total Floor Area _____ Floor Area Ratio _____

ESTIMATED COST OF WORK: $ 50,000 00

FLOOD HAZARD ZONE DESIGNATION: _____

OTHER APPROVALS REQUIRED:

Required		Appl.#	Approved	Date	Vol.	Page
_____	P & Z (Site Plan)					
_____	P & Z (Special Use Permit)					
_____	Inland Wetlands					
_____	CAM Review (PZC)					
_____	Variance (ZBA)					
_____	Driveway Permit (Highway Dept.)					

OTHER ITEMS REQUIRED TO BE SUBMITTED WITH THIS APPLICATION:

____ A SITE PLAN SHOWING THE DIMENSIONS OF THE PROPERTY, THE LOCATION AND DIMENSIONS OF ALLSTRUCTURES ON THE PROPERTY AND THE DISTANCES FROM STRUCTURES TO THE PROPERTY LINES.

____ AN ATTACHED COPY OF THE TAX ASSESSOR'S STREET CARD FOR THIS SITE. IF NEW CONSTRUCTION, HOUSE NUMBER MUST BE INDICATED.

____ ELEVATIONS (RENDERINGS) OF ALL PROPOSED STRUCTURES

____ PHOTOGRAPHS OF EXISTING CONDITIONS (UNLESS NEW BUILDING)

____ FEES: New Construction $2/1,000 + $10.00 for State of Connecticut
$35.00 for additions, alterations, sheds
fees waived by B.O.S. [signature]
Town Selectman

I, the undersigned, attest that the statements made in this application are to the best of my knowledge true and accurate representations of the existing site and proposed site improvements.

Signatures:

Owner _____ Date _____

Agent [signature] Date 3/21/60

Kri Pelletier

From: Gayle Phoenix <GPhoenix@stonington-ct.gov>
Sent: Tuesday, May 14, 2019 10:48 AM
To: Kri Pelletier
Subject: RE: [External] RE: 173 South Broad Street, Pawcatuck (TMO CT11442A_L600 FSA)
Attachments: SPD (old) cell tower 1988 minutes approval.pdf

Categories: CAUTION: This email originated from outside of the organization. Do NOT click or open attachments unless you recognize the sender and know the content is safe.

Hi Kri,

Fortunately, I had to research this one a few months ago for the Police Department so I'm familiar with the history. I was unable to find any zoning permit for the original (166 So. Broad St.), but have attached the PZC minutes showing their 12/1/88 approval of the Special Use Application (PZ8855SUP – a file also among the missing). When the police built the new station across the street at 171 So. Broad St. (now #173), relocating the antenna, the zoning officer issued the 2007 ZP based on the 1988 PZC approval.

Hope this helps!

Regards,
Gayle

EXHIBIT 6

Construction Drawings

STONINGTON RT 1

173 SOUTH BROAD STREET
PAWCATUCK, CT 06379
NEW LONDON COUNTY

SITE NO.: CT11442A

SITE TYPE: 180'± SELF-SUPPORT TOWER

RF DESIGN GUIDELINE: 67D5A998E 6160

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

SCOPE OF WORK

REMOVE:
- 6 ANTENNAS
- 1 RBS6131 EQUIPMENT CABINET
- 1 BATTERY CABINET

INSTALL:
- 6 ANTENNAS
- 3 RADIOS
- 1 6160 EQUIPMENT CABINET
- 1 B160 BATTERY CABINET
- 1 SLACKBOX
- 1 FIBER CABINET
- 1 125A-2P BREAKER
- 1 20A-1P BREAKER

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.

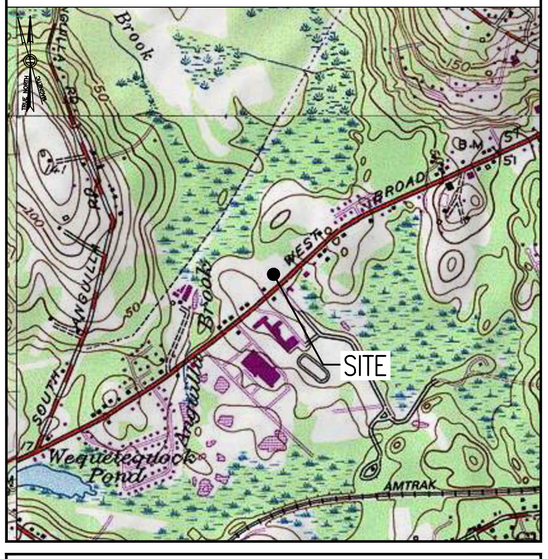
GENERAL NOTES

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

MERGE ONTO I-495 NORTH TOWARD MANSFIELD/MARLBORO. TAKE EXIT 33B FOR I-95 SOUTH TOWARD PROVIDENCE RI. KEEP RIGHT AT FORK TO STAY ON I-95 SOUTH. TAKE EXIT 92 FOR CT-49 TOWARD CT-2/PAWCATUCK/NORTH STONINGTON. TURN LEFT ONTO CT-49 SOUTH. TURN LEFT ONTO CT-2 EAST/LIBERTY STREET. TURN RIGHT ONTO MORGAN STREET. TURN RIGHT ON WEST BROAD STREET. TAKE SLIGHT LEFT ONTO SOUTH BROAD STREET. SITE IS LOCATED ON THE RIGHT HAND SIDE.

SHEET INDEX

SHEET NO.	DESCRIPTION	REV. NO.
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GN-1	GENERAL NOTES	1
A-1	COMPOUND & EQUIPMENT PLANS	1
A-2	TOWER ELEVATION & ANTENNA PLANS	1
A-3	SITE DETAILS	1
A-4	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:	CT11442A
SITE NAME:	STONINGTON RT 1
SBA SITE NUMBER:	CT03241-S
SBA SITE NAME:	STONINGTON 2, CT
SITE ADDRESS:	173 SOUTH BROAD STREET PAWCATUCK, CT 06379
PROPERTY OWNER:	TOWN OF STONINGTON 172 ELM STREET STONINGTON, CT 06379
TOWER OWNER:	SBA PROPERTIES, LLC 8501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 561-226-9523
COUNTY:	NEW LONDON
ZONING DISTRICT:	GC-60 (GENERAL COMMERCIAL)
STRUCTURE TYPE:	SELF-SUPPORT TOWER
STRUCTURE HEIGHT:	180'±
APPLICANT:	T-MOBILE NORTHEAST LLC 15 COMMERCE WAY, SUITE B NORTON, MA 02766
ARCHITECT:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
STRUCTURAL ENGINEER:	CHAPPELL ENGINEERING ASSOCIATES, LLC. 201 BOSTON POST ROAD WEST, SUITE 101 MARLBOROUGH, MA 01752
SITE CONTROL POINT:	LATITUDE: 41.369083° N41°22'08.70" LONGITUDE: -71.862317° W71°51'44.34"

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
01/05/2022

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	01/05/22	ISSUED FOR CONSTRUCTION	CMC
0	11/12/21	ISSUED FOR REVIEW	CMC

SITE NUMBER:
CT11442A

SITE ADDRESS:
173 SOUTH BROAD STREET
PAWCATUCK, CT 06379

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1815.345

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 (¾"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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01/05/2022

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	01/05/22	ISSUED FOR CONSTRUCTION	CMC
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SITE NUMBER:
CT11442A

SITE ADDRESS:
173 SOUTH BROAD STREET
PAWCATUCK, CT 06379

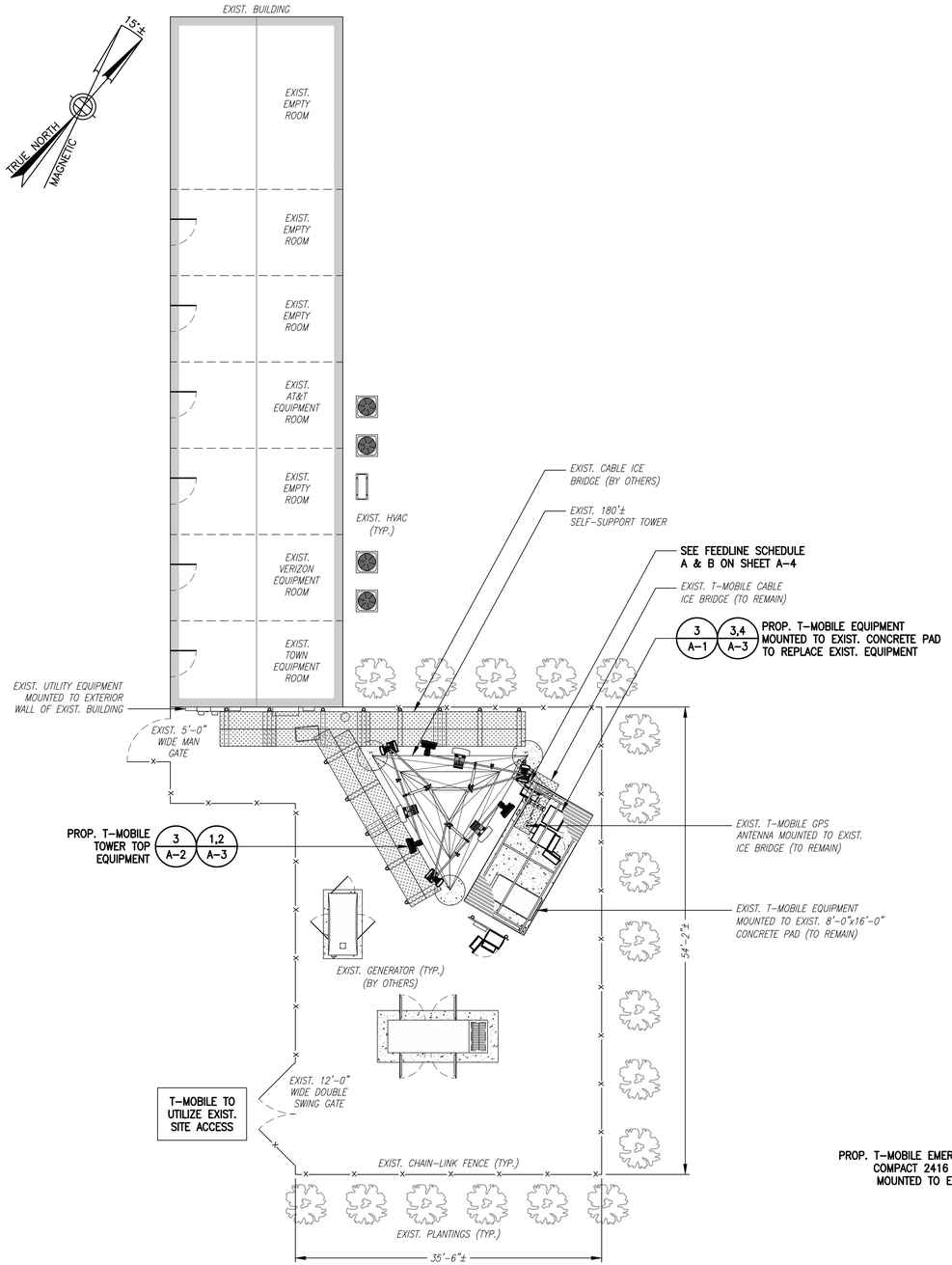
SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-1

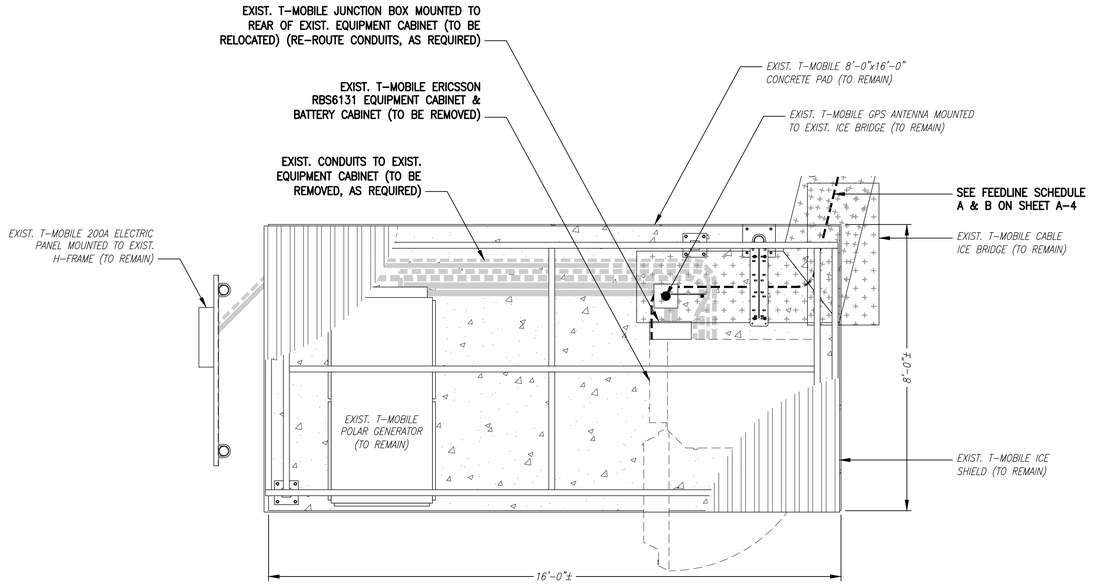
1815.345

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.

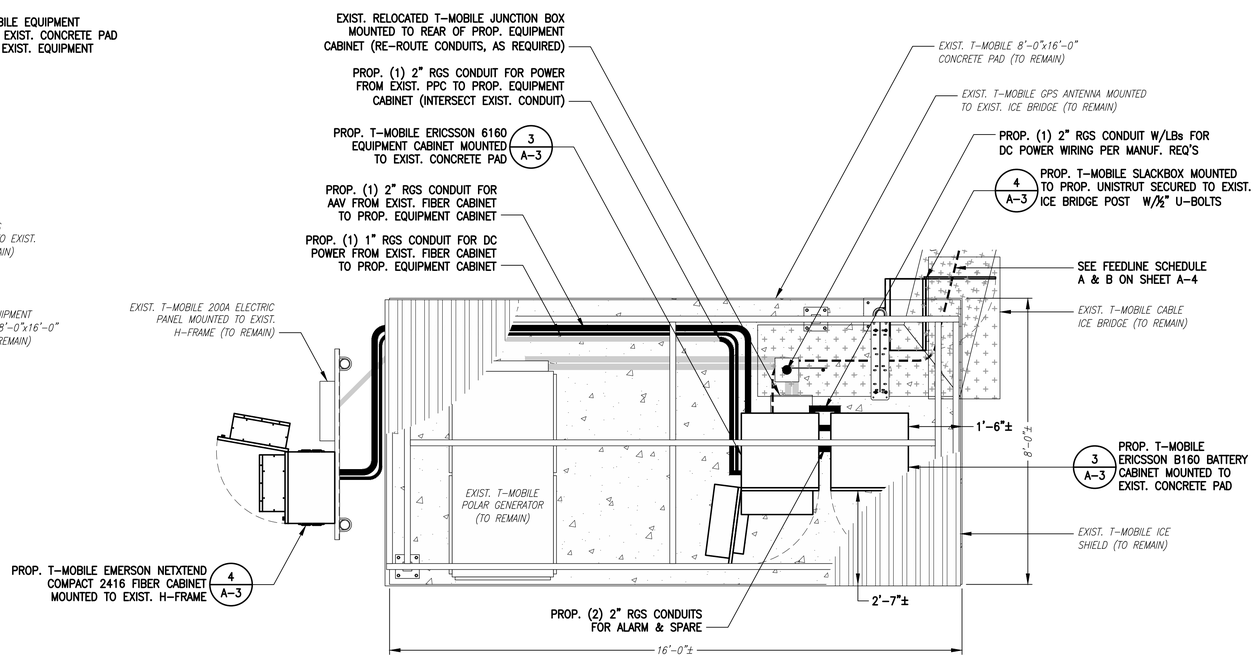
SPECIAL CONSTRUCTION NOTE:
GENERAL CONTRACTOR SHALL FURNISH AND INSTALL ALL ANTENNA MOUNT STRUCTURAL AUGMENTS (STRUCTURAL MODIFICATIONS) AT T-MOBILE'S RAD/VERTICAL EQUIPMENT SPACE PER RECOMMENDATIONS FROM SBA-PROVIDED ANTENNA MOUNT STRUCTURAL ANALYSIS AND ANY SUPPLEMENTAL CONSTRUCTION DRAWINGS (PROVIDED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



COMPOUND PLAN
1 A-1
SCALE: 1/8" = 1'-0"
0 8' 16' 24'



EXISTING EQUIPMENT PLAN
2 A-1
SCALE: 1/2" = 1'-0"
0 2' 4' 6'



PROPOSED EQUIPMENT PLAN
3 A-1
SCALE: 1/2" = 1'-0"
0 2' 4' 6'

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COMPOUND & EQUIPMENT PLANS

SHEET NUMBER
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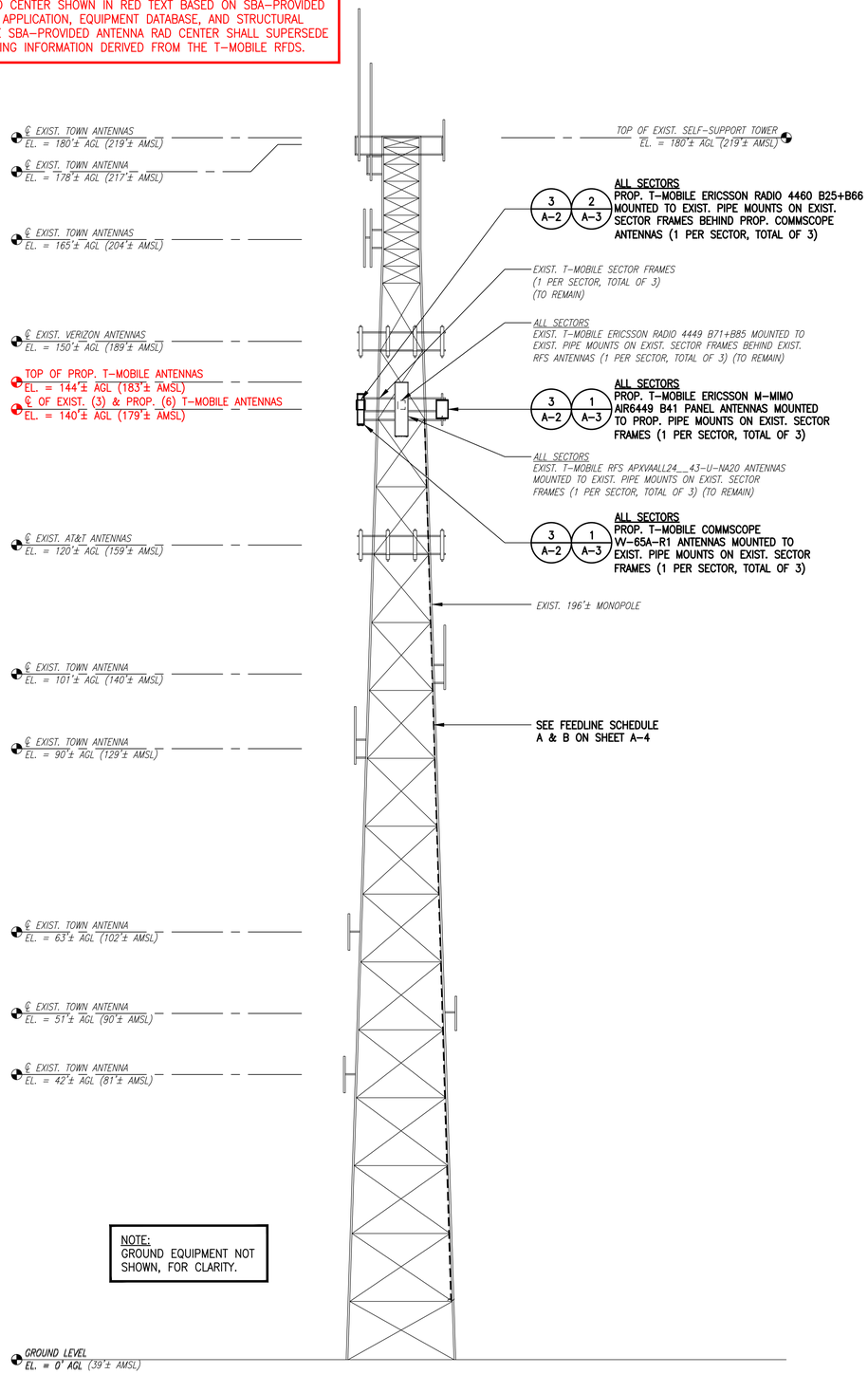
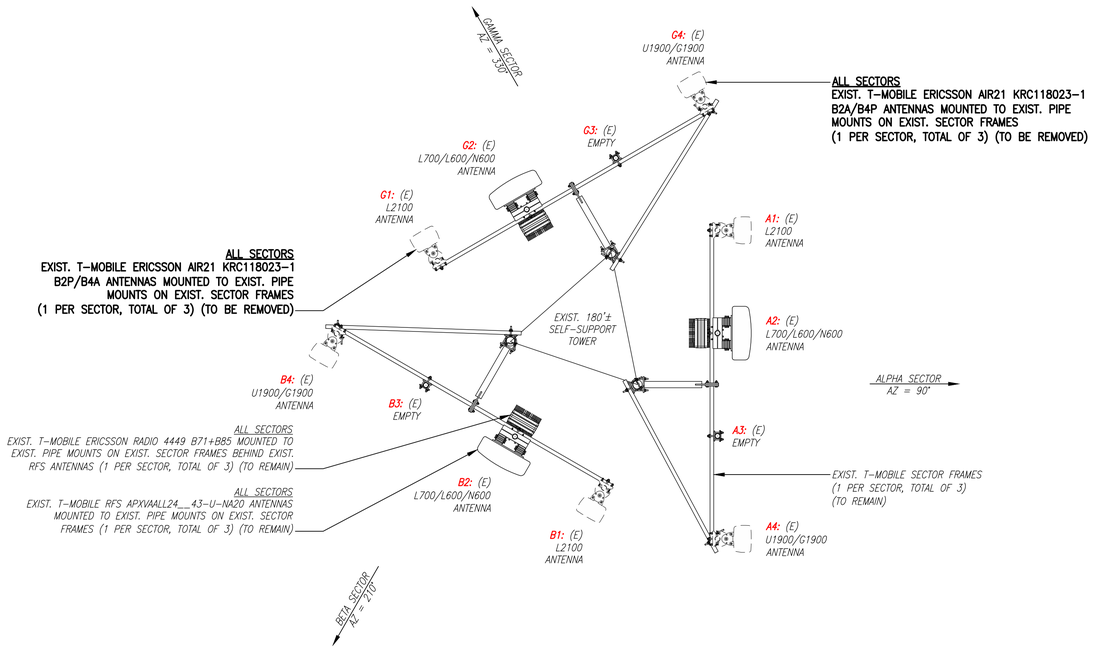
1815.345

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.

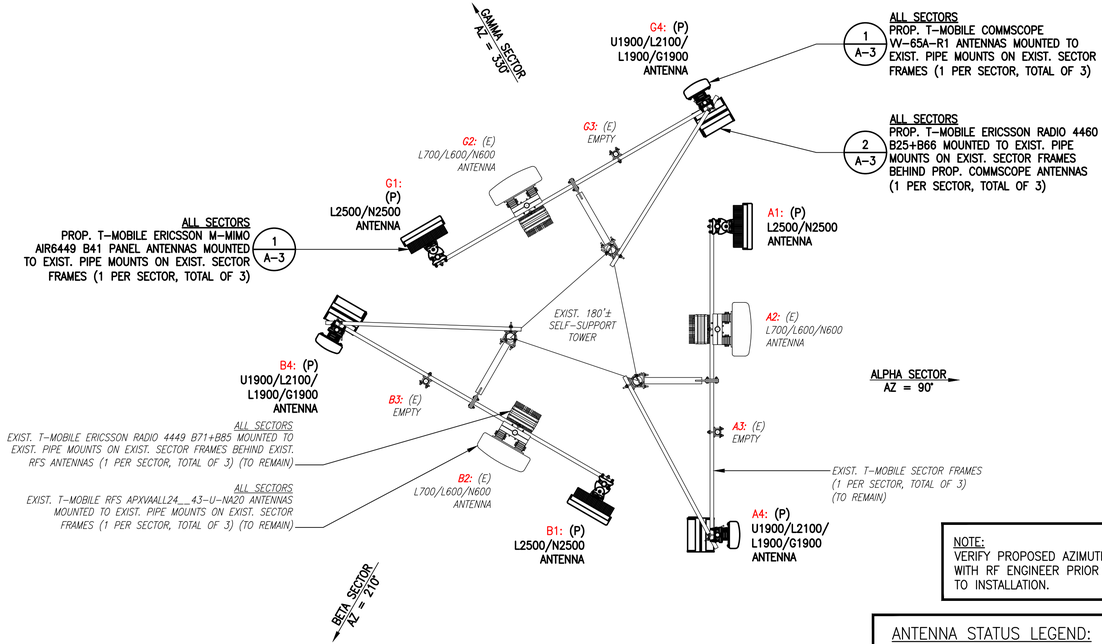


NOTE:
GROUND EQUIPMENT NOT SHOWN, FOR CLARITY.

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



EXISTING ANTENNA PLAN 2 A-2
SCALE: N.T.S.



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

PROPOSED ANTENNA PLAN 3 A-2
SCALE: N.T.S.

ANTENNA STATUS LEGEND:

EMPTY - EMPTY PIPE

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

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173 SOUTH BROAD STREET
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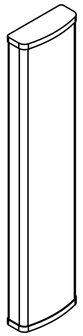
SHEET TITLE
TOWER ELEVATION & ANTENNA PLANS

SHEET NUMBER
A-2

1815.345



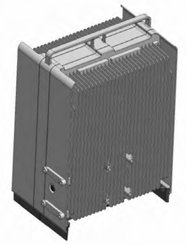
COMMSCOPE VV-65A-R1 ANTENNA

DIMENSIONS: 54.7"H x 12.1"W x 4.6"D
WEIGHT: 23.8 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

ERICSSON M-MIMO AIR6449 B41 ANTENNA

DIMENSIONS: 33.1"H x 20.5"W x 8.3"D
WEIGHT: 103.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

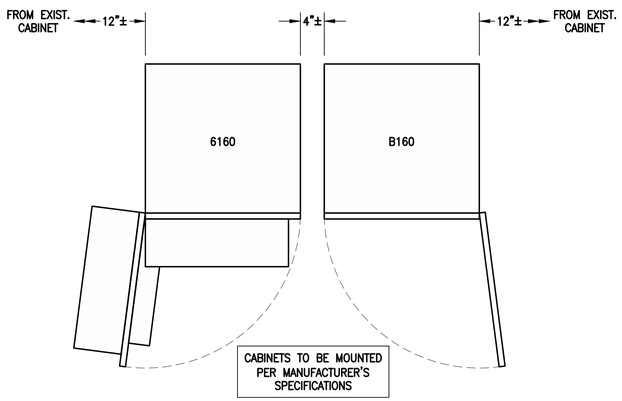
ANTENNA DETAILS (1 / A-3)
SCALE: N.T.S.



ERICSSON RADIO 4460 B25+B66

DIMENSIONS: 17.0"H x 15.1"W x 11.9"D
WEIGHT: 104.0 lbs
QUANTITY: 1 PER SECTOR, TOTAL OF 3

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



ERICSSON 6160 SITE SUPPORT CABINET

DIMENSIONS: 63.25"H x 26.0"W x 34.0"D
WEIGHT: 680.0 lbs
QUANTITY: TOTAL OF 1

ERICSSON B160 BATTERY CABINET

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

EQUIPMENT DETAIL (3 / A-3)
SCALE: N.T.S.

SLACKBOX – HOFFMAN 32FH91 NEMA 3R ENCLOSURE

DIMENSIONS: 24.0"H x 24.0"W x 12.0"D
QUANTITY: TOTAL OF 1

EMERSON NETXTEND COMPACT 2416 FIBER CABINET

DIMENSIONS: 24.0"H x 24.0"W x 25.2"D
WEIGHT: 64 lbs
QUANTITY: TOTAL OF 1

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

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SITE DETAILS

SHEET NUMBER
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FINAL ANTENNA CONFIGURATION

SECTOR		ANTENNA	RAD CENTER	AZIMUTH (TRUE NORTH)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	BAND	TMA/RADIOS	CABLES
ALPHA	A1	ERICSSON M-MIMO AIR6449 B41	140'± AGL	90°	0°	2°	L2500/N2500	–	EXIST. (3) 2" (6x24) HCS FIBER CABLES
	A2	*RFS APXVAALL24_43-U-NA20*	*140'± AGL*	*90°*	*0°*	*2°*	*L700/L600/N600*	*ERICSSON RADIO 4449 B71+B85*	
	A3	COMMSCOPE VV-65A-R1	140'± AGL	90°	0°	2°	U1900/L2100/L1900/G1900	ERICSSON RADIO 4460 B25+B66	
BETA	B1	ERICSSON M-MIMO AIR6449 B41	140'± AGL	210°	0°	2°	L2500/N2500	–	
	B2	*RFS APXVAALL24_43-U-NA20*	*140'± AGL*	*210°*	*0°*	*2°*	*L700/L600/N600*	*ERICSSON RADIO 4449 B71+B85*	
	B3	COMMSCOPE VV-65A-R1	140'± AGL	210°	0°	2°	U1900/L2100/L1900/G1900	ERICSSON RADIO 4460 B25+B66	
GAMMA	G1	ERICSSON M-MIMO AIR6449 B41	140'± AGL	330°	0°	2°	L2500/N2500	–	
	G2	*RFS APXVAALL24_43-U-NA20*	*140'± AGL*	*330°*	*0°*	*2°*	*L700/L600/N600*	*ERICSSON RADIO 4449 B71+B85*	
	G3	COMMSCOPE VV-65A-R1	140'± AGL	330°	0°	2°	U1900/L2100/L1900/G1900	ERICSSON RADIO 4460 B25+B66	

CABLE NOTE: SEE FEEDLINE SCHEDULE A & B BELOW.

NOTE: RFDS REV8 – 10/06/21

FEEDLINE SCHEDULE

SCHEDULE	FEEDLINES	LOCATION
A	*EXISTING TO REMAIN:* *(1) ½" COAX FOR GPS ANTENNA* *(3) 2" (6x24) HCS FIBER CABLES* *EXISTING TO BE REMOVED:* *NONE*	ROUTED PER STRUCTURAL ANALYSIS
B	PROPOSED: NONE	

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

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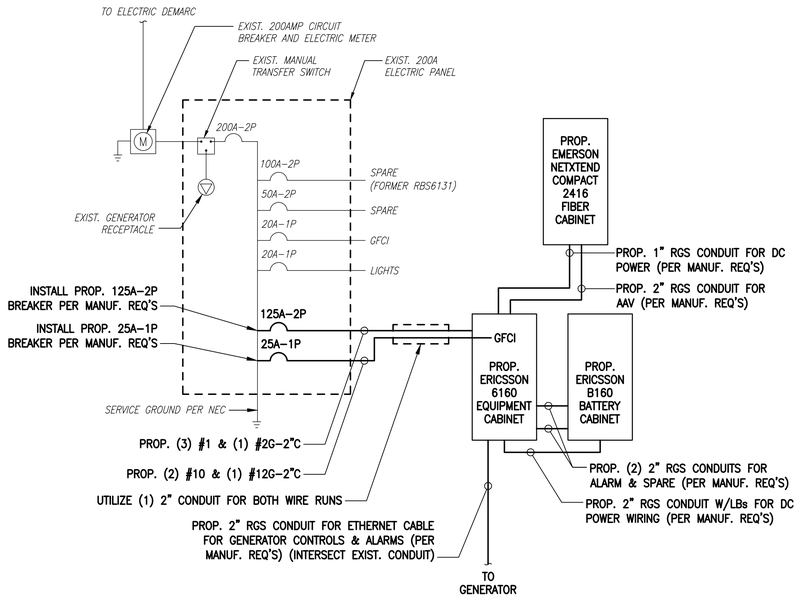
SITE NUMBER:
CT11442A

SITE ADDRESS:
173 SOUTH BROAD STREET
PAWCATUCK, CT 06379

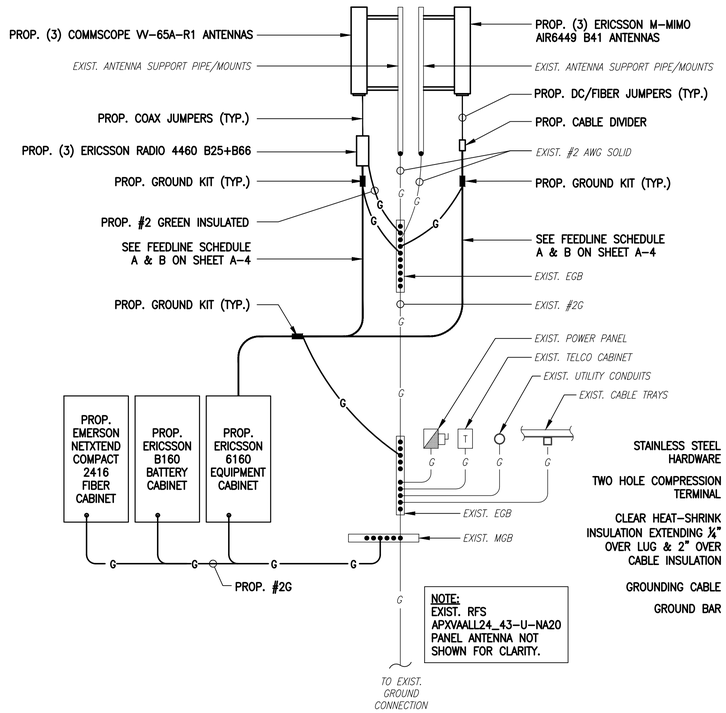
SHEET TITLE
ANTENNA & FEEDLINE CHARTS

SHEET NUMBER
A-4

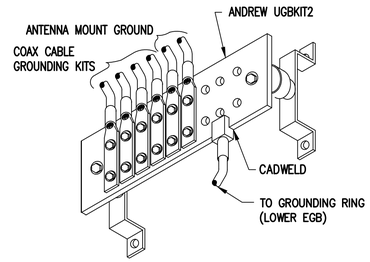
1815.345



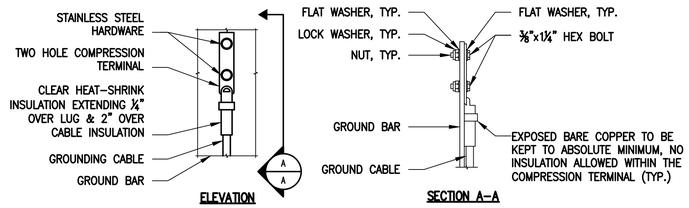
ONE LINE DIAGRAM (1 / E-1)
SCALE: NOT TO SCALE



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

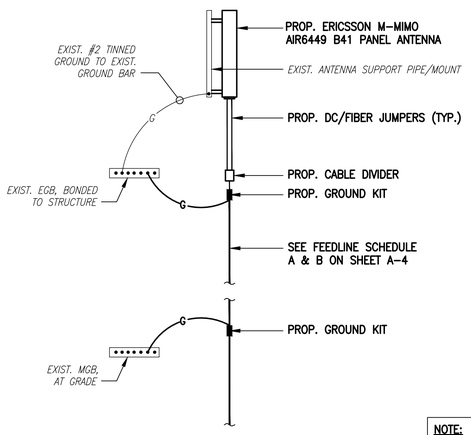


GROUND BAR (EGB) (5 / E-1)
SCALE: NOT TO SCALE



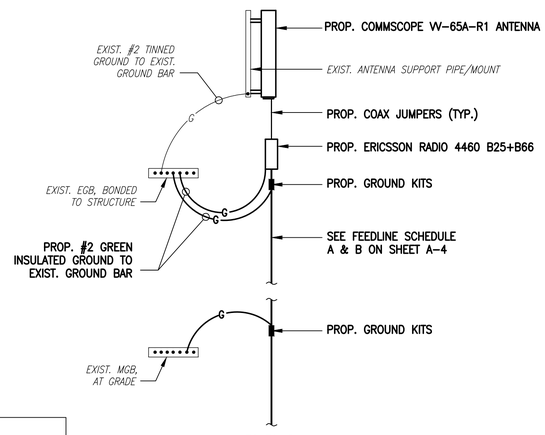
NOTES:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.
3. CADWELL DOWNLEADS FROM UPPER EGB, LOWER EGB AND MGB.

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



L2500/N2500 ANTENNA

NOTE: EXIST. RFS APXVAALL24_43-U-NA20 PANEL ANTENNA NOT SHOWN FOR CLARITY.



U1900/L2100/L1900/G1900 ANTENNA

COAX CABLE CONNECTION AND GROUNDING DETAIL (4 / 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 THHNINSULATION.
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.

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

01/05/2022

CHECKED BY: JMT

APPROVED BY: JMT

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
1	01/05/22	ISSUED FOR CONSTRUCTION	CMC
0	11/12/21	ISSUED FOR REVIEW	CMC

SITE NUMBER:
CT11442A

SITE ADDRESS:
173 SOUTH BROAD STREET
PAWCATUCK, CT 06379

SHEET TITLE
ELECTRIC & GROUNDING DETAILS

SHEET NUMBER
E-1

1815.345

EXHIBIT 7

Structural Analysis

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

Structural Analysis Report

Existing 180 ft PIROD Self Supporting Tower
Customer Name: SBA Communications Corp
Customer Site Number: CT03241-S
Customer Site Name: Stonington 2, CT
Carrier Name: T-Mobile (App#: 176604-1)
Carrier Site ID / Name: CT11442A / Stonington
Site Location: 173 South Broad Street
Pawcatuck, Connecticut
New London County
Latitude: 41.369066
Longitude: -71.862361

Exp. 01/31/2022

11/30/2021

Analysis Result:

Max Structural Usage: 86.9% [Pass]
Max Foundation Usage: 70.0% [Pass]
Additional Usage Caused by New Mount/Mount Modification: N/A

Report Prepared By: Mohammed Al Rubaye

Introduction

The purpose of this report is to summarize the analysis results on the 180 ft PIROD Self Supporting Tower 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	PiROD Eng. File # A-116770-, Archive # Q-91612, dated 02/25/2000
Foundation Drawing	PiROD Eng. File # A-116770-, Archive # Q-91612, dated 02/25/2000
Geotechnical Report	Jaworski Geotech, Inc. Project # 99731G, dated 02/15/2000
Modification Drawings	N/A
Mount Analysis	TES Project# 119398. Dated 11/16/2021

Analysis Criteria

The comprehensive analysis was performed in accordance with the requirements and stipulations of the TIA-222-H**.** In accordance with this standard, the structure was analyzed using **TESTowers,** 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:	137.0 mph (3-Sec. Gust) (Ultimate wind speed)
Wind Speed with Ice:	50 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Risk Category:	III
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	S_S = 0.183, S_1 = 0.052

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

Existing Antennas, Mounts and Transmission Lines

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

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	190.0	2	Celwave - PD220 - Omni	(3) 10' Side Arms	(2) 7/8"	Stonington Police
2	189.3	1	Celwave - PD1142 - Omni			
3	180.0	1	Yagi		(2) 7/8"	-
4	175.0	1	10' Dipole			
5	178.0	1	2' x 1' Panel	Direct	(1) 7/8"	
6	173.0	2	Decibel - DB212 - Dipole	(2) Standoffs	(2) 7/8"	Stonington Police
7	150.0	6	Decibel DB844H90-XY	(3) T-Frames	(12) 1 5/8" Coax	Verizon
8		3	JMA Wireless MX06FRO660-03			
9		3	Commscope CBC426T-DS-43			
10		3	Commscope CBC1923T-DS-43			
-	140.0	3	Ericsson Air 21 B2A/B4P - Panel	(3) T-Frames w/ Mods [(1)MetroSite MS-HR35-18 Support Rail Pipe Kit; (2) MS-LVPB-350 V-Bracing Kits; (3) MS-STZ-350P Stabilizer Adapter Kits; and (3) MS-STZ-2PST Stabilizer Kits]	(9) 1-5/8" Coax (3) 1.9" Fiber	T-Mobile
-		3	Ericsson Air 21 B4A/B2P - Panel			
-		3	RFS APXVAALL24_43-U-NA20 - Panel			
-		3	Ericsson KRY 112 144/1 -TMA			
-		3	Ericsson 4449 B71 + B85 - RRU			
16	120.0	6	Powerwave - 7770 - Panel	(3) T-Frames	(12) 1 5/8" (1) 1/2" Fiber (2) 3/4"DC (1) Y-cable	AT&T
17		3	Cci Antennas DMP65R-BU4DA - Panel			
18		3	Cci Antennas OPA65R-BU4DA - Panel			
19		6	Powerwave - TT19-08BP111-001 -TMA			
20		3	Ericsson 4449 B5/B12 - RRU			
21		3	Ericsson RRUS-4478 B14-RRU			
22		3	Ericsson RRUS 8843 B2 B66A-RRU			
23		2	Raycap DC6-48-60-18-8F-OVP			
24	106.0	1	10' Dipole	(2) Standoffs	(2) 7/8"	Stonington Police
25	106.9	1	Celwave - PD1167 - Omni			
26	99.167	1	Decibel - DS4C06F36D-N - Dipole	Direct	(1) 7/8"	
27	63.0	1	Decibel - DB437 - Yagi	Direct	(1) 7/8"	
28	60.167	1	Decibel – DB413 -B- Dipole	Direct	(1) 7/8"	
29	43.0	1	2' Omni	(1) Standoff	(2) 7/8"	
30	42.0	2	Decibel - DB437 - Yagi	Direct		
31	75.0	1	GPS Receiver	Direct	-	Verizon

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
11	140.0	3	Ericsson - AIR6449 B41 - Panel	(3) Sector Frames w/ Mods	(9) 1 5/8" (3) 1.9" Fiber	T-Mobile
12		3	Commscope - VV-65A-R1 - Panel			
13		3	RFS - APXVAALL24_43-U-NA20 - Panel			
14		3	Ericsson - KRY 112 144/1 TMAs			
15		3	Ericsson - 4449 B71 + B85 RRUs			
16		3	Ericsson - 4460 B25 + B66 RRUs			

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

Analysis Results

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

Tower Component	Legs	Diagonals	Horizontals
Max. Usage:	**86.9%**	**83.1%**	**43.9%**
Pass/Fail	**Pass**	**Pass**	**Pass**

Foundations

	Compression (Kips)	Uplift (Kips)	Shear (Kips)
Original Design Reactions	422.0	379.7	65.7
Analysis Reactions	395.0	351.7	39.0
Factored Reactions*	569.7	512.6	88.7
% of Design Reactions	69.3%	68.6%	44.0%

* Per section 15.6.2 of the TIA-222-H standard, factored reactions were obtained by multiplying a 1.35 factor to the original design reactions.

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

Service Load Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.2699 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

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

Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC.** Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.

2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.

3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.

4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.

5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.

6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

Structure: CT03241-S-SBA

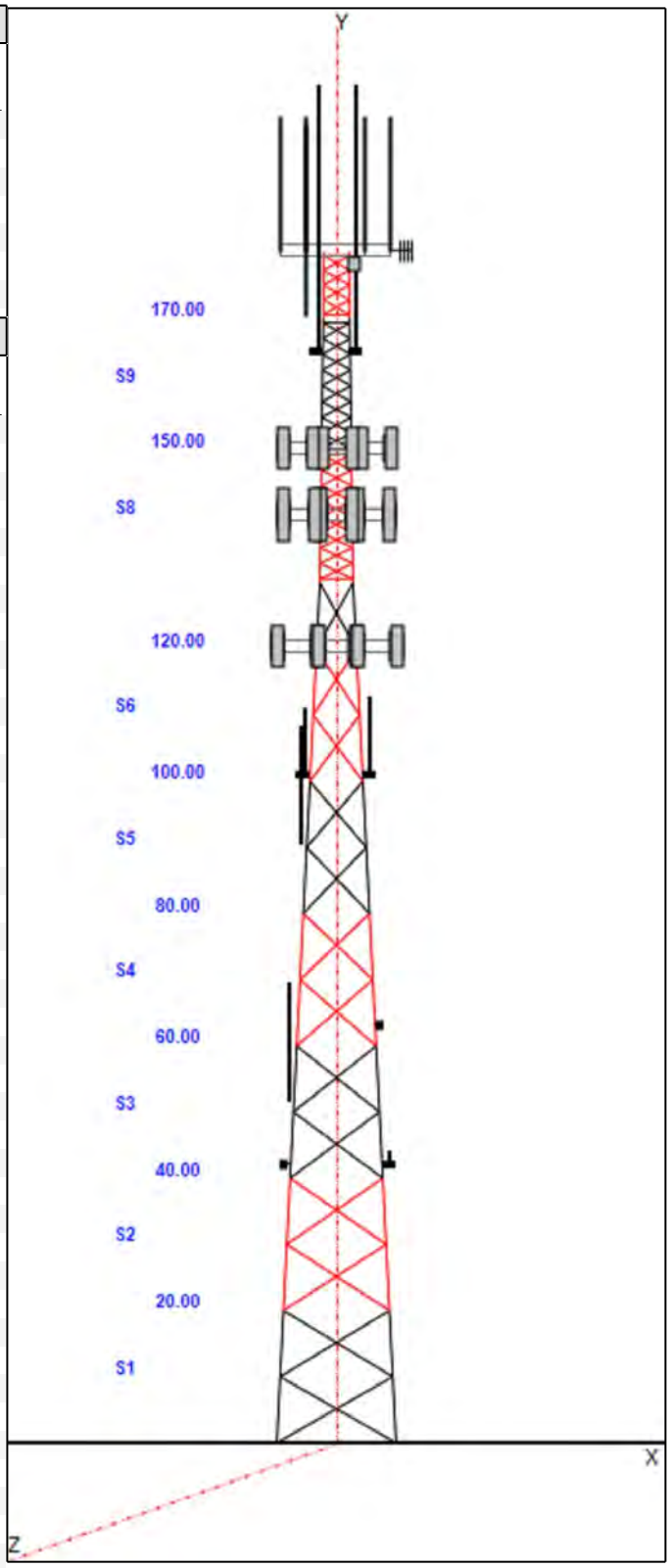
Site Name:	Stonington 2, CT			**Code:**	EIA/TIA-222-H	11/30/2021
Type:	Self Support	**Base Shape:**	Triangle	**Basic WS:**	137.00	
Height:	180.00 (ft)	**Base Width:**	18.00	**Basic Ice WS:**	50.00	
Base Elev:	0.00 (ft)	**Top Width:**	4.00	**Operational WS:**	60.00	Page: 1

Section Properties

Sect	Leg Members	Diagonal Members	Horizontal Members
1-2	12B 12"BD 2.25"	SAE 3.5X3.5X0.3125	
3-4	12B 12"BD 2"	SAE 3X3X0.3125	
5	12B 12"BD 1.75"	SAE 3X3X0.1875	
6	12B 12"BD 1.5"	SAE 3X3X0.1875	
7	12B 12"BD 1.25"	SAE 2.5X2.5X0.1875	
8	SOL 2" SOLID	SOL 1" SOLID	SOL 1" SOLID
9-10	SOL 1 1/2" SOLID	SOL 3/4" SOLID	SOL 3/4" SOLID

Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description
180.00	180.00	1	Lightning Rod
180.00	180.00	1	Beacon
180.00	180.00	1	10 ft face mounted side arm
180.00	190.00	2	PD220
180.00	189.40	1	PD1142-1
180.00	180.00	1	3' Yagi
180.00	175.00	1	10' Dipole
178.00	178.00	1	24" X 12" Panel
165.00	165.00	2	Side Arm (M. Heavy)
165.00	185.00	2	DB212-2
150.00	150.00	3	15' Pirod Universal T-Frame
150.00	150.00	6	DB844H80-XY
150.00	150.00	3	MX06FRO660-02
150.00	150.00	3	CBC426T-DS-43
150.00	150.00	3	CBC1923T-DS-43
140.00	140.00	3	AIR6449 B41
140.00	140.00	3	VV-65A-R1
140.00	140.00	3	APXVAALL24_43-U-NA20
140.00	140.00	3	KRY 112 144/1 TMAs
140.00	140.00	3	4449 B71 + B85 RRUs
140.00	140.00	3	4460 B25 + B66 RRUs
140.00	140.00	3	15' Pirod Universal T-Frame
140.00	140.00	1	(3) HR w/ Double V-Brace Kits
140.00	140.00	1	(3) Stabilizer Kit (4' FW)
120.00	120.00	3	15' Pirod Universal T-Frame
120.00	120.00	6	7770.00
120.00	120.00	3	DMP65R-BU4DA
120.00	120.00	6	TT19-08BP111-001
120.00	120.00	3	4449 B5/B12
120.00	120.00	2	DC6-48-60-18-8F
120.00	120.00	3	OPA65R-BU4DA
120.00	120.00	3	RRUS 4478 B14
120.00	120.00	3	B2 B66A 8843
101.00	101.00	2	Side Arm (L. Heavy)
101.00	106.00	1	10' Dipole
101.00	106.90	1	PD1167
90.00	99.17	1	DS4C06F36D-N
75.00	75.00	1	GPS
63.00	63.00	1	DB437
51.00	60.17	1	DB413-B
42.00	43.00	1	2' Omni
42.00	42.00	1	Side Arm (L. Heavy)



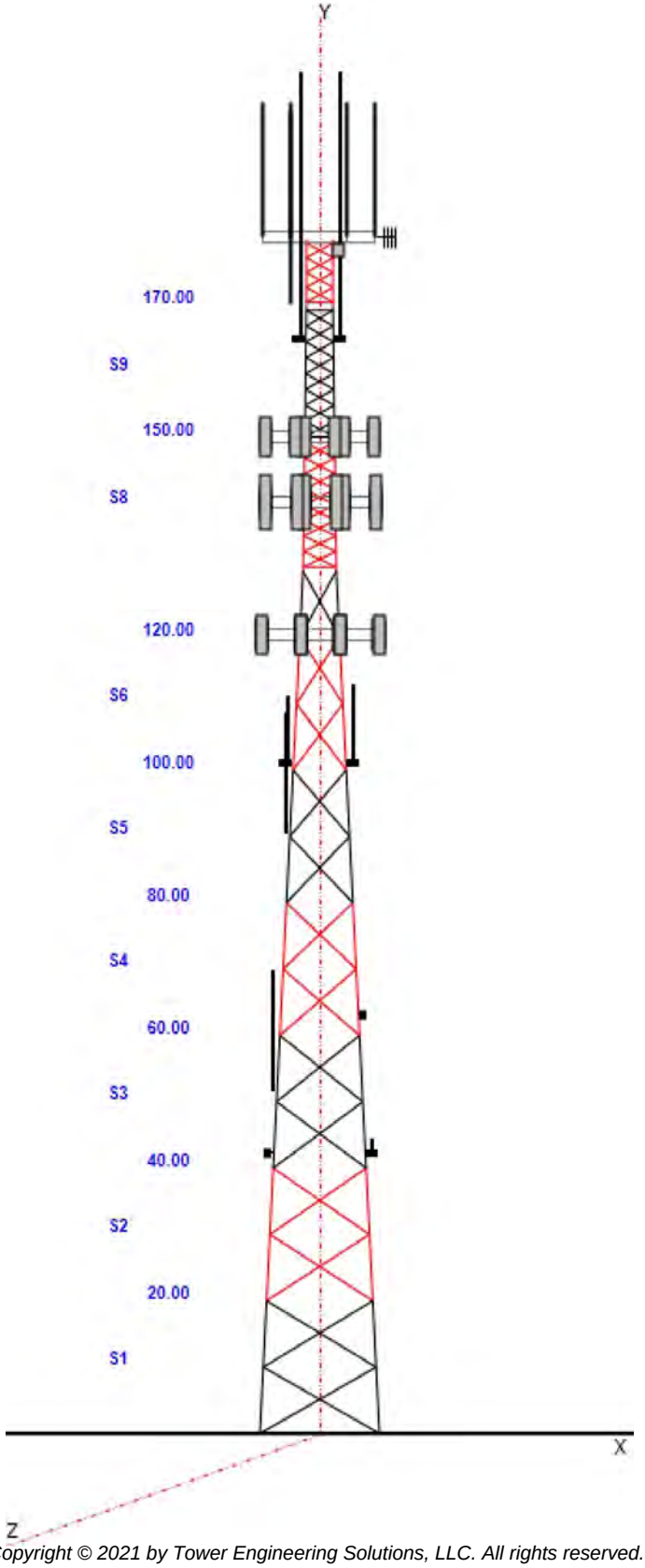
42.00	42.00	1	DB437

Linear Appurtenances

Elev From (ft)	Elev To (ft)	Qty	Description
0.00	180.00	2	7/8" Coax
0.00	180.00	2	7/8" Coax
0.00	178.00	1	7/8" Coax
0.00	165.00	2	7/8" Coax
0.00	150.00	12	1 5/8" Coax
0.00	150.00	1	W/G Ladder
0.00	140.00	9	1 5/8" Coax
0.00	140.00	3	1.9" Hybrid
0.00	140.00	1	W/G Ladder
0.00	120.00	12	1 5/8" Coax
0.00	120.00	1	1/2" Coax
0.00	120.00	2	3/4" DC
0.00	120.00	1	W/G Ladder
0.00	120.00	1	Y Cable
0.00	101.00	1	7/8" Coax
0.00	101.00	1	7/8" Coax
0.00	90.00	1	7/8" Coax
0.00	63.00	1	7/8" Coax
0.00	51.00	1	7/8" Coax
0.00	43.00	1	7/8" Coax
0.00	42.00	1	7/8" Coax

Base Reactions

Leg			Overturning		
Max Uplift:	-351.70	(kips	Moment:	5874.33	(ft-kips)
Max Down:	395.03	(kips	Total Down:	54.58	(kips)
Max Shear:	39.01	(kips	Total Shear:	59.69	(kips)

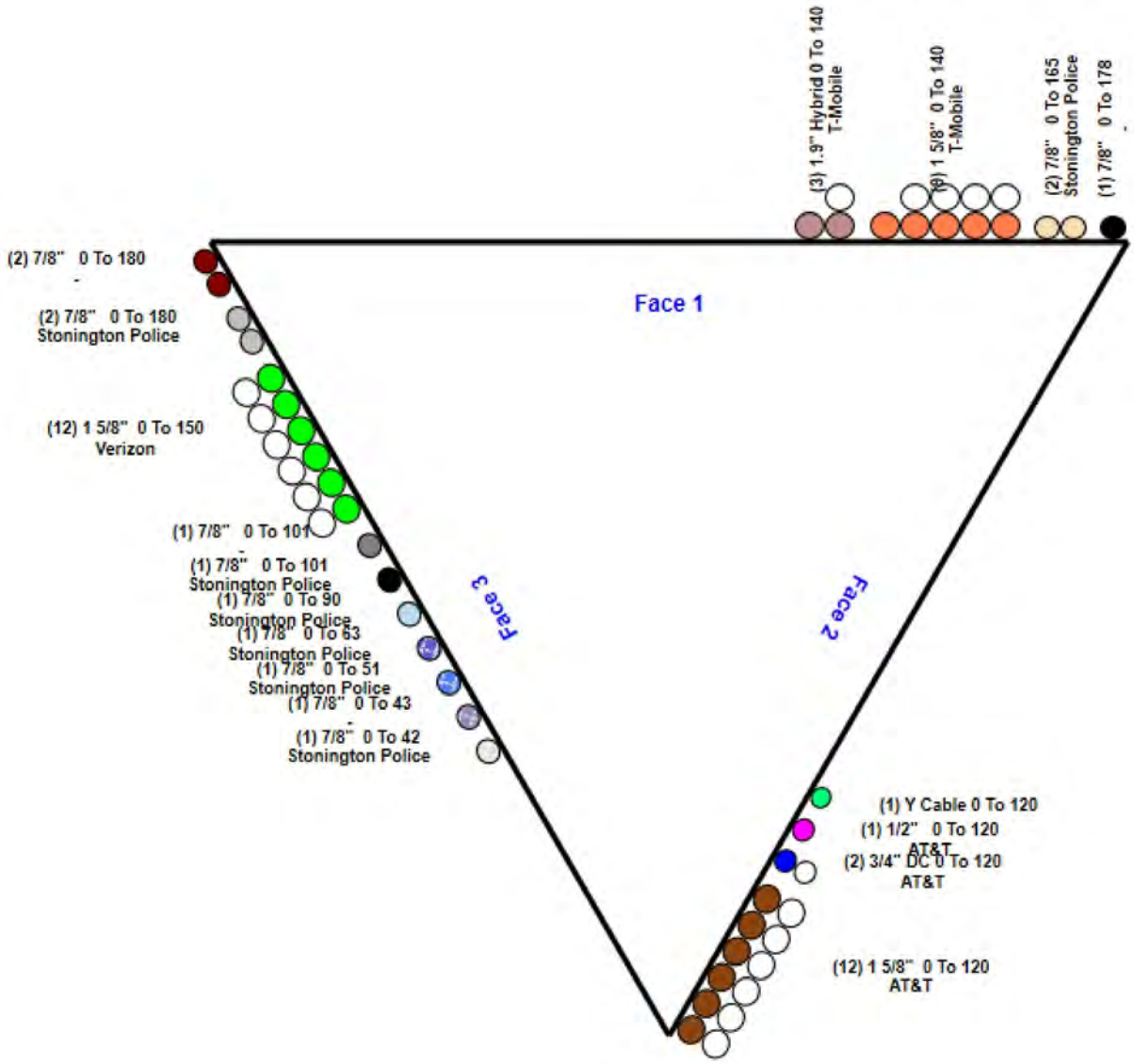


Structure: CT03241-S-SBA - Coax Line Placement

Type: Self Support
Site Name: Stonington 2, CT
Height: 180.00 (ft)

11/30/2021

Tower Engineering Solutions



Loading Summary

Structure:	CT03241-S-SBA		**Code:**	EIA/TIA-222-H	11/30/2021
Site Name:	Stonington 2, CT		**Exposure:**	C	
Height:	180.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	III	Page: 5

Discrete Appurtenances Properties

Attach Elev (ft)	Description	Qty	No Ice Weight (lb)	No Ice CaAa (sf)	Ice Weight (lb)	Ice CaAa (sf)	Len (in)	Width (in)	Depth (in)	Ka	Orientation Factor	Vert Ecc (ft)
180.00	Lightning Rod	1	5.00	0.500	21.31	1.859	72.000	1.000	1.000	1.00	1.00	0.000
180.00	Beacon	1	36.00	2.720	139.70	3.459	28.000	17.500	17.500	1.00	1.00	0.000
180.00	10 ft face mounted side arm	1	1400.0	40.000	4900.23	180.35	0.000	0.000	0.000	0.80	1.00	0.000
180.00	PD220	2	25.00	5.500	133.88	11.021	240.000	2.700	2.700	1.00	1.00	10.00
180.00	PD1142-1	1	10.00	3.120	77.90	8.289	225.600	1.600	1.600	1.00	1.00	9.400
180.00	3' Yagi	1	10.00	2.980	80.09	7.868	36.000	36.000	3.000	1.00	1.00	0.000
180.00	10' Dipole	1	30.00	3.760	116.88	8.432	120.000	3.000	3.000	1.00	1.00	-5.000
178.00	24" X 12" Panel	1	20.00	2.400	68.18	3.237	24.000	12.000	6.000	1.00	1.00	0.000
165.00	Side Arm (M. Heavy)	2	160.00	9.000	267.73	17.096	0.000	0.000	0.000	1.00	0.90	0.000
165.00	DB212-2	2	31.00	6.500	221.20	33.625	180.000	0.000	0.000	1.00	1.00	20.00
150.00	15' Pirod Universal T-Frame	3	500.00	15.000	898.64	29.883	0.000	0.000	0.000	0.75	0.75	0.000
150.00	DB844H80-XY	6	10.00	2.860	79.80	3.932	48.000	6.000	8.500	0.80	1.16	0.000
150.00	MX06FRO660-02	3	46.00	9.870	243.37	10.904	71.300	15.400	10.700	0.80	0.87	0.000
150.00	CBC426T-DS-43	3	4.90	0.420	13.38	0.636	8.000	6.300	4.900	0.80	0.67	0.000
150.00	CBC1923T-DS-43	3	11.00	0.320	19.00	0.519	8.300	4.600	3.700	0.80	0.67	0.000
140.00	AIR6449 B41	3	103.00	5.650	207.40	6.374	33.100	20.500	8.300	0.80	0.71	0.000
140.00	VV-65A-R1	3	52.90	6.690	185.30	7.528	55.100	13.800	8.200	0.80	0.83	0.000
140.00	APXVAALL24_43-U-NA20	3	122.80	20.240	438.80	21.674	95.900	24.000	8.500	0.80	0.73	0.000
140.00	KRY 112 144/1 TMAs	3	11.00	0.410	19.21	0.772	6.900	6.100	2.700	0.80	0.67	0.000
140.00	4449 B71 + B85 RRUs	3	73.20	1.970	117.17	2.404	17.900	13.200	10.600	0.80	0.67	0.000
140.00	4460 B25 + B66 RRUs	3	109.00	2.850	163.75	3.364	21.800	15.700	7.500	0.80	0.67	0.000
140.00	15' Pirod Universal T-Frame	3	500.00	15.000	898.64	29.883	0.000	0.000	0.000	0.75	0.75	0.000
140.00	(3) HR w/ Double V-Brace Kits	1	650.00	15.500	1271.88	27.858	0.000	0.000	0.000	0.75	1.00	0.000
140.00	(3) Stabilizer Kit (4' FW)	1	140.00	3.700	273.94	6.650	0.000	0.000	0.000	0.75	1.00	0.000
120.00	15' Pirod Universal T-Frame	3	500.00	15.000	889.14	29.528	0.000	0.000	0.000	0.75	0.75	0.000
120.00	7770.00	6	35.00	5.500	131.03	6.265	55.000	11.000	5.000	0.80	0.77	0.000
120.00	DMP65R-BU4DA	3	79.40	12.710	298.32	13.798	71.200	20.700	7.700	0.80	0.72	0.000
120.00	TT19-08BP111-001	6	16.00	0.640	31.04	1.081	9.900	6.700	5.400	0.80	0.50	0.000
120.00	4449 B5/B12	3	71.00	1.970	110.68	2.377	17.900	13.200	9.400	0.80	0.67	0.000
120.00	DC6-48-60-18-8F	2	31.80	0.920	77.75	1.246	24.000	11.000	11.000	0.80	0.67	0.000
120.00	OPA65R-BU4DA	3	43.00	4.960	148.57	5.670	48.000	11.700	10.100	0.80	0.94	0.000
120.00	RRUS 4478 B14	3	59.40	1.650	90.22	2.035	15.000	13.200	7.300	0.80	0.67	0.000
120.00	B2 B66A 8843	3	70.00	1.640	104.18	2.024	15.000	13.200	9.300	0.80	0.67	0.000
101.00	Side Arm (L. Heavy)	2	120.00	4.500	196.28	8.322	0.000	0.000	0.000	1.00	1.00	0.000
101.00	10' Dipole	1	30.00	3.760	111.29	8.131	120.000	3.000	3.000	1.00	1.00	5.000
101.00	PD1167	1	8.00	1.470	40.40	4.508	141.600	1.200	1.200	1.00	1.00	5.900
90.00	DS4C06F36D-N	1	70.00	5.500	170.71	10.246	220.000	3.000	3.000	1.00	1.00	9.167
75.00	GPS	1	10.00	1.000	30.83	1.506	12.000	9.000	6.000	1.00	1.00	0.000
63.00	DB437	1	15.00	0.800	36.69	2.576	14.500	35.000	0.000	1.00	1.00	0.000
51.00	DB413-B	1	32.00	4.370	125.45	12.027	220.000	0.000	0.000	1.00	1.00	9.167
42.00	2' Omni	1	5.00	0.300	12.48	0.589	24.000	2.000	2.000	1.00	1.00	1.000
42.00	Side Arm (L. Heavy)	1	120.00	4.500	188.35	7.924	0.000	0.000	0.000	1.00	1.00	0.000
42.00	DB437	1	15.00	0.800	35.61	2.487	14.500	35.000	0.000	1.00	1.00	0.000
	Totals:	**97**	**10,777.40**		**25,484.16**						**Number of Appurtenances :**	**43**

Loading Summary

Structure:	CT03241-S-SBA		**Code:**	EIA/TIA-222-H	11/30/2021
Site Name:	Stonington 2, CT		**Exposure:**	C	
Height:	180.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	III	Page: 6

Tower Engineering Solutions

Linear Appurtenances Properties

Elev. From (ft)	Elev. To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	180.00	7/8" Coax	2	1.11	0.52	100.00	3	Individual IR		N	0.50	1.00	
0.00	180.00	7/8" Coax	2	1.11	0.52	100.00	3	Individual IR		N	0.50	1.00	
0.00	178.00	7/8" Coax	1	1.11	0.52	100.00	1	Individual NR		N	0.50	1.00	
0.00	165.00	7/8" Coax	2	1.11	0.52	100.00	1	Individual IR		N	0.50	1.00	
0.00	150.00	1 5/8" Coax	12	1.98	1.04	50.00	3	Block		N	0.50	1.00	
0.00	150.00	W/G Ladder	1	0.50	6.00	100.00	1	Individual NR		N	0.50	1.00	
0.00	140.00	1 5/8" Coax	9	1.98	1.04	50.00	1	Block		N	0.50	1.00	
0.00	140.00	1.9" Hybrid	3	1.90	1.00	50.00	1	Block		N	0.50	1.00	
0.00	140.00	W/G Ladder	1	0.50	6.00	100.00	1	Individual NR		N	0.50	1.00	
0.00	120.00	1 5/8" Coax	12	1.98	1.04	50.00	2	Block		N	0.50	1.00	
0.00	120.00	1/2" Coax	1	0.65	0.16	100.00	2	Individual NR		N	0.50	1.00	
0.00	120.00	3/4" DC	2	0.75	0.40	50.00	2	Block		N	0.50	1.00	
0.00	120.00	W/G Ladder	1	0.50	6.00	100.00	2	Individual NR		N	0.50	1.00	
0.00	120.00	Y Cable	1	0.25	0.05	100.00	2	Individual NR		N	1.00	1.00	
0.00	101.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0
0.00	101.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0
0.00	90.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0
0.00	63.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0
0.00	51.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0
0.00	43.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0
0.00	42.00	7/8" Coax	1	1.11	0.52	100.00	3	Individual NR		N	0.50	1.00	0

Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	11/30/2021	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	III	Page: 7	

Load Case: 1.2D + 1.0W Normal Wind — 1.2D + 1.0W 137 mph Wind at Normal To Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.15

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	34.67	22.326	23.64	0.00	0.13	2.84	1.00	1.00	0.00	32.33	106.08	0.00	7,538.4	0.0	2709.53	2419.89	5,129.43
2	30.0	40.06	20.349	23.64	0.00	0.14	2.80	1.00	1.00	0.00	30.14	106.08	0.00	7,362.7	0.0	2878.44	2796.41	5,674.85
3	50.0	44.61	15.847	22.04	0.00	0.14	2.81	1.00	1.00	0.00	24.96	102.01	0.00	6,257.7	0.0	2658.91	3112.06	5,770.97
4	70.0	47.88	14.323	22.04	0.00	0.16	2.74	1.00	1.00	0.00	23.63	98.96	0.00	6,102.4	0.0	2639.82	3339.01	5,978.83
5	90.0	50.48	12.972	18.83	0.00	0.17	2.71	1.00	1.00	0.00	21.47	97.76	0.00	4,735.4	0.0	2493.73	3519.80	6,013.53
6	110.0	52.66	11.777	17.23	0.00	0.20	2.61	1.00	1.00	0.00	20.05	93.32	0.00	4,184.6	0.0	2344.45	3669.30	6,013.76
7	125.0	54.10	4.586	7.81	0.00	0.21	2.56	1.00	1.00	0.00	8.53	32.79	0.00	1,567.5	0.0	1004.43	1315.02	2,319.44
8	140.0	55.41	0.000	14.28	0.00	0.15	2.79	1.00	1.00	0.00	8.24	51.67	0.00	2,428.3	0.0	1082.01	2097.79	3,179.79
9	160.0	56.99	0.000	10.27	0.00	0.12	2.90	1.00	1.00	0.00	5.88	12.03	0.00	982.7	0.0	825.08	419.37	1,244.45
10	175.0	58.07	0.000	5.21	0.00	0.13	2.86	1.00	1.00	0.00	2.99	4.44	0.00	488.0	0.0	422.47	157.79	580.26
														41,647.7	**0.0**			**41,905.32**

Load Case: 1.2D + 1.0W 60° Wind — 1.2D + 1.0W 137 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.15

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	34.67	22.326	23.64	0.00	0.13	2.84	0.80	1.00	0.00	27.87	106.08	0.00	7,538.4	0.0	2335.34	2419.89	4,755.24
2	30.0	40.06	20.349	23.64	0.00	0.14	2.80	0.80	1.00	0.00	26.07	106.08	0.00	7,362.7	0.0	2489.78	2796.41	5,286.18
3	50.0	44.61	15.847	22.04	0.00	0.14	2.81	0.80	1.00	0.00	21.79	102.01	0.00	6,257.7	0.0	2321.30	3112.06	5,433.36
4	70.0	47.88	14.323	22.04	0.00	0.16	2.74	0.80	1.00	0.00	20.77	98.96	0.00	6,102.4	0.0	2319.85	3339.01	5,658.86
5	90.0	50.48	12.972	18.83	0.00	0.17	2.71	0.80	1.00	0.00	18.88	97.76	0.00	4,735.4	0.0	2192.40	3519.80	5,712.20
6	110.0	52.66	11.777	17.23	0.00	0.20	2.61	0.80	1.00	0.00	17.70	93.32	0.00	4,184.6	0.0	2069.04	3669.30	5,738.35
7	125.0	54.10	4.586	7.81	0.00	0.21	2.56	0.80	1.00	0.00	7.61	32.79	0.00	1,567.5	0.0	896.40	1315.02	2,211.42
8	140.0	55.41	0.000	14.28	0.00	0.15	2.79	0.80	1.00	0.00	8.24	51.67	0.00	2,428.3	0.0	1082.01	2097.79	3,179.79
9	160.0	56.99	0.000	10.27	0.00	0.12	2.90	0.80	1.00	0.00	5.88	12.03	0.00	982.7	0.0	825.08	419.37	1,244.45
10	175.0	58.07	0.000	5.21	0.00	0.13	2.86	0.80	1.00	0.00	2.99	4.44	0.00	488.0	0.0	422.47	157.79	580.26
														41,647.7	**0.0**			**39,800.11**

Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	11/30/2021	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	III	Page: 8	

Load Case: 1.2D + 1.0W 90° Wind — 1.2D + 1.0W 137 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.15

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	34.67	22.326	23.64	0.00	0.13	2.84	0.85	1.00	0.00	28.98	106.08	0.00	7,538.4	0.0	2428.89	2419.89	4,848.78
2	30.0	40.06	20.349	23.64	0.00	0.14	2.80	0.85	1.00	0.00	27.09	106.08	0.00	7,362.7	0.0	2586.94	2796.41	5,383.35
3	50.0	44.61	15.847	22.04	0.00	0.14	2.81	0.85	1.00	0.00	22.58	102.01	0.00	6,257.7	0.0	2405.71	3112.06	5,517.76
4	70.0	47.88	14.323	22.04	0.00	0.16	2.74	0.85	1.00	0.00	21.48	98.96	0.00	6,102.4	0.0	2399.85	3339.01	5,738.85
5	90.0	50.48	12.972	18.83	0.00	0.17	2.71	0.85	1.00	0.00	19.52	97.76	0.00	4,735.4	0.0	2267.73	3519.80	5,787.54
6	110.0	52.66	11.777	17.23	0.00	0.20	2.61	0.85	1.00	0.00	18.28	93.32	0.00	4,184.6	0.0	2137.89	3669.30	5,807.20
7	125.0	54.10	4.586	7.81	0.00	0.21	2.56	0.85	1.00	0.00	7.84	32.79	0.00	1,567.5	0.0	923.41	1315.02	2,238.42
8	140.0	55.41	0.000	14.28	0.00	0.15	2.79	0.85	1.00	0.00	8.24	51.67	0.00	2,428.3	0.0	1082.01	2097.79	3,179.79
9	160.0	56.99	0.000	10.27	0.00	0.12	2.90	0.85	1.00	0.00	5.88	12.03	0.00	982.7	0.0	825.08	419.37	1,244.45
10	175.0	58.07	0.000	5.21	0.00	0.13	2.86	0.85	1.00	0.00	2.99	4.44	0.00	488.0	0.0	422.47	157.79	580.26
														41,647.7	**0.0**			**40,326.41**

Load Case: 0.9D + 1.0W Normal Wind — 0.9D + 1.0W 137 mph Wind at Normal To Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.15

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	34.67	22.326	23.64	0.00	0.13	2.84	1.00	1.00	0.00	32.33	106.08	0.00	5,653.8	0.0	2709.53	2419.89	5,129.43
2	30.0	40.06	20.349	23.64	0.00	0.14	2.80	1.00	1.00	0.00	30.14	106.08	0.00	5,522.0	0.0	2878.44	2796.41	5,674.85
3	50.0	44.61	15.847	22.04	0.00	0.14	2.81	1.00	1.00	0.00	24.96	102.01	0.00	4,693.3	0.0	2658.91	3112.06	5,770.97
4	70.0	47.88	14.323	22.04	0.00	0.16	2.74	1.00	1.00	0.00	23.63	98.96	0.00	4,576.8	0.0	2639.82	3339.01	5,978.83
5	90.0	50.48	12.972	18.83	0.00	0.17	2.71	1.00	1.00	0.00	21.47	97.76	0.00	3,551.5	0.0	2493.73	3519.80	6,013.53
6	110.0	52.66	11.777	17.23	0.00	0.20	2.61	1.00	1.00	0.00	20.05	93.32	0.00	3,138.4	0.0	2344.45	3669.30	6,013.76
7	125.0	54.10	4.586	7.81	0.00	0.21	2.56	1.00	1.00	0.00	8.53	32.79	0.00	1,175.6	0.0	1004.43	1315.02	2,319.44
8	140.0	55.41	0.000	14.28	0.00	0.15	2.79	1.00	1.00	0.00	8.24	51.67	0.00	1,821.3	0.0	1082.01	2097.79	3,179.79
9	160.0	56.99	0.000	10.27	0.00	0.12	2.90	1.00	1.00	0.00	5.88	12.03	0.00	737.0	0.0	825.08	419.37	1,244.45
10	175.0	58.07	0.000	5.21	0.00	0.13	2.86	1.00	1.00	0.00	2.99	4.44	0.00	366.0	0.0	422.47	157.79	580.26
														31,235.8	**0.0**			**41,905.32**

Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	11/30/2021	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	III	Page: 9	

Load Case: 0.9D + 1.0W 60° Wind — 0.9D + 1.0W 137 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.15

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	34.67	22.326	23.64	0.00	0.13	2.84	0.80	1.00	0.00	27.87	106.08	0.00	5,653.8	0.0	2335.34	2419.89	4,755.24
2	30.0	40.06	20.349	23.64	0.00	0.14	2.80	0.80	1.00	0.00	26.07	106.08	0.00	5,522.0	0.0	2489.78	2796.41	5,286.18
3	50.0	44.61	15.847	22.04	0.00	0.14	2.81	0.80	1.00	0.00	21.79	102.01	0.00	4,693.3	0.0	2321.30	3112.06	5,433.36
4	70.0	47.88	14.323	22.04	0.00	0.16	2.74	0.80	1.00	0.00	20.77	98.96	0.00	4,576.8	0.0	2319.85	3339.01	5,658.86
5	90.0	50.48	12.972	18.83	0.00	0.17	2.71	0.80	1.00	0.00	18.88	97.76	0.00	3,551.5	0.0	2192.40	3519.80	5,712.20
6	110.0	52.66	11.777	17.23	0.00	0.20	2.61	0.80	1.00	0.00	17.70	93.32	0.00	3,138.4	0.0	2069.04	3669.30	5,738.35
7	125.0	54.10	4.586	7.81	0.00	0.21	2.56	0.80	1.00	0.00	7.61	32.79	0.00	1,175.6	0.0	896.40	1315.02	2,211.42
8	140.0	55.41	0.000	14.28	0.00	0.15	2.79	0.80	1.00	0.00	8.24	51.67	0.00	1,821.3	0.0	1082.01	2097.79	3,179.79
9	160.0	56.99	0.000	10.27	0.00	0.12	2.90	0.80	1.00	0.00	5.88	12.03	0.00	737.0	0.0	825.08	419.37	1,244.45
10	175.0	58.07	0.000	5.21	0.00	0.13	2.86	0.80	1.00	0.00	2.99	4.44	0.00	366.0	0.0	422.47	157.79	580.26
														31,235.8	**0.0**			**39,800.11**

Load Case: 0.9D + 1.0W 90° Wind — 0.9D + 1.0W 137 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 0.90

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.15

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	34.67	22.326	23.64	0.00	0.13	2.84	0.85	1.00	0.00	28.98	106.08	0.00	5,653.8	0.0	2428.89	2419.89	4,848.78
2	30.0	40.06	20.349	23.64	0.00	0.14	2.80	0.85	1.00	0.00	27.09	106.08	0.00	5,522.0	0.0	2586.94	2796.41	5,383.35
3	50.0	44.61	15.847	22.04	0.00	0.14	2.81	0.85	1.00	0.00	22.58	102.01	0.00	4,693.3	0.0	2405.71	3112.06	5,517.76
4	70.0	47.88	14.323	22.04	0.00	0.16	2.74	0.85	1.00	0.00	21.48	98.96	0.00	4,576.8	0.0	2399.85	3339.01	5,738.85
5	90.0	50.48	12.972	18.83	0.00	0.17	2.71	0.85	1.00	0.00	19.52	97.76	0.00	3,551.5	0.0	2267.73	3519.80	5,787.54
6	110.0	52.66	11.777	17.23	0.00	0.20	2.61	0.85	1.00	0.00	18.28	93.32	0.00	3,138.4	0.0	2137.89	3669.30	5,807.20
7	125.0	54.10	4.586	7.81	0.00	0.21	2.56	0.85	1.00	0.00	7.84	32.79	0.00	1,175.6	0.0	923.41	1315.02	2,238.42
8	140.0	55.41	0.000	14.28	0.00	0.15	2.79	0.85	1.00	0.00	8.24	51.67	0.00	1,821.3	0.0	1082.01	2097.79	3,179.79
9	160.0	56.99	0.000	10.27	0.00	0.12	2.90	0.85	1.00	0.00	5.88	12.03	0.00	737.0	0.0	825.08	419.37	1,244.45
10	175.0	58.07	0.000	5.21	0.00	0.13	2.86	0.85	1.00	0.00	2.99	4.44	0.00	366.0	0.0	422.47	157.79	580.26
														31,235.8	**0.0**			**40,326.41**

Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	11/30/2021	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	III	Page: 10	

Load Case: 1.2D + 1.0Di + 1.0Wi Normal Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 1.00 — **Ice Importance Factor:** 1.15

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	4.62	22.326	43.88	20.24	0.19	2.64	1.00	1.00	1.02	47.43	146.00	34.02	12,201.	4663.2	491.88	526.80	1,018.68
2	30.0	5.34	20.349	44.94	21.30	0.21	2.57	1.00	1.00	1.14	46.22	150.35	37.97	12,485.	5122.6	539.44	631.87	1,171.32
3	50.0	5.94	15.847	43.15	21.12	0.21	2.55	1.00	1.00	1.20	40.75	148.47	31.17	11,127.	4869.3	524.47	715.93	1,240.40
4	70.0	6.38	14.323	42.61	20.57	0.24	2.46	1.00	1.00	1.24	39.17	146.92	25.42	10,899.	4797.3	522.64	775.16	1,297.80
5	90.0	6.72	12.972	38.73	19.90	0.27	2.39	1.00	1.00	1.27	35.80	146.88	23.31	9,395.0	4659.6	488.51	822.42	1,310.93
6	110.0	7.01	11.777	36.46	19.23	0.32	2.26	1.00	1.00	1.30	33.79	143.38	13.40	8,596.8	4412.2	454.50	858.10	1,312.59
7	125.0	7.21	4.586	17.20	9.39	0.36	2.16	1.00	1.00	1.31	15.22	51.56	2.19	3,231.0	1663.5	201.08	303.43	504.51
8	140.0	7.38	0.000	44.02	29.74	0.43	2.01	1.00	1.00	1.33	28.73	82.96	4.43	5,252.5	2824.2	362.33	477.45	839.78
9	160.0	7.59	0.000	38.69	28.42	0.42	2.02	1.00	1.00	1.35	25.06	26.66	4.49	2,639.8	1657.1	327.35	167.56	494.92
10	175.0	7.73	0.000	19.85	14.64	0.46	1.96	1.00	1.00	1.36	13.20	9.80	1.81	1,279.0	790.9	170.42	59.54	229.97
														77,107.6	**35459.9**			**9,420.90**

Load Case: 1.2D + 1.0Di + 1.0Wi 60° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 1.00 — **Ice Importance Factor:** 1.15

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	4.62	22.326	43.88	20.24	0.19	2.64	0.80	1.00	1.02	42.97	146.00	34.02	12,201.	4663.2	445.58	526.80	972.38
2	30.0	5.34	20.349	44.94	21.30	0.21	2.57	0.80	1.00	1.14	42.15	150.35	37.97	12,485.	5122.6	491.95	631.87	1,123.82
3	50.0	5.94	15.847	43.15	21.12	0.21	2.55	0.80	1.00	1.20	37.58	148.47	31.17	11,127.	4869.3	483.69	715.93	1,199.62
4	70.0	6.38	14.323	42.61	20.57	0.24	2.46	0.80	1.00	1.24	36.30	146.92	25.42	10,899.	4797.3	484.42	775.16	1,259.58
5	90.0	6.72	12.972	38.73	19.90	0.27	2.39	0.80	1.00	1.27	33.20	146.88	23.31	9,395.0	4659.6	453.11	822.42	1,275.53
6	110.0	7.01	11.777	36.46	19.23	0.32	2.26	0.80	1.00	1.30	31.44	143.38	13.40	8,596.8	4412.2	422.82	858.10	1,280.91
7	125.0	7.21	4.586	17.20	9.39	0.36	2.16	0.80	1.00	1.31	14.31	51.56	2.19	3,231.0	1663.5	188.97	303.43	492.40
8	140.0	7.38	0.000	44.02	29.74	0.43	2.01	0.80	1.00	1.33	28.73	82.96	4.43	5,252.5	2824.2	362.33	477.45	839.78
9	160.0	7.59	0.000	38.69	28.42	0.42	2.02	0.80	1.00	1.35	25.06	26.66	4.49	2,639.8	1657.1	327.35	167.56	494.92
10	175.0	7.73	0.000	19.85	14.64	0.46	1.96	0.80	1.00	1.36	13.20	9.80	1.81	1,279.0	790.9	170.42	59.54	229.97
														77,107.6	**35459.9**			**9,168.89**

Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	11/30/2021	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	III	Page: 11	

Load Case: 1.2D + 1.0Di + 1.0Wi 90° Wind — 1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.20

Ice Dead Load Factor: 1.00 — **Ice Importance Factor:** 1.15

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	4.62	22.326	43.88	20.24	0.19	2.64	0.85	1.00	1.02	44.08	146.00	34.02	12,201.	4663.2	457.15	526.80	983.96
2	30.0	5.34	20.349	44.94	21.30	0.21	2.57	0.85	1.00	1.14	43.17	150.35	37.97	12,485.	5122.6	503.82	631.87	1,135.69
3	50.0	5.94	15.847	43.15	21.12	0.21	2.55	0.85	1.00	1.20	38.38	148.47	31.17	11,127.	4869.3	493.88	715.93	1,209.81
4	70.0	6.38	14.323	42.61	20.57	0.24	2.46	0.85	1.00	1.24	37.02	146.92	25.42	10,899.	4797.3	493.97	775.16	1,269.13
5	90.0	6.72	12.972	38.73	19.90	0.27	2.39	0.85	1.00	1.27	33.85	146.88	23.31	9,395.0	4659.6	461.96	822.42	1,284.38
6	110.0	7.01	11.777	36.46	19.23	0.32	2.26	0.85	1.00	1.30	32.02	143.38	13.40	8,596.8	4412.2	430.74	858.10	1,288.83
7	125.0	7.21	4.586	17.20	9.39	0.36	2.16	0.85	1.00	1.31	14.54	51.56	2.19	3,231.0	1663.5	192.00	303.43	495.43
8	140.0	7.38	0.000	44.02	29.74	0.43	2.01	0.85	1.00	1.33	28.73	82.96	4.43	5,252.5	2824.2	362.33	477.45	839.78
9	160.0	7.59	0.000	38.69	28.42	0.42	2.02	0.85	1.00	1.35	25.06	26.66	4.49	2,639.8	1657.1	327.35	167.56	494.92
10	175.0	7.73	0.000	19.85	14.64	0.46	1.96	0.85	1.00	1.36	13.20	9.80	1.81	1,279.0	790.9	170.42	59.54	229.97
														77,107.6	**35459.9**			**9,231.89**

Load Case: 1.0D + 1.0W Normal Wind — 1.0D + 1.0W 60 mph Wind at Normal To Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.15

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	6.65	22.326	23.64	0.00	0.13	2.84	1.00	1.00	0.00	35.70	106.08	0.00	6,282.0	0.0	573.86	464.15	1,038.01
2	30.0	7.68	20.349	23.64	0.00	0.14	2.80	1.00	1.00	0.00	33.75	106.08	0.00	6,135.6	0.0	618.12	536.37	1,154.49
3	50.0	8.56	15.847	22.04	0.00	0.14	2.81	1.00	1.00	0.00	28.33	102.01	0.00	5,214.8	0.0	578.88	596.91	1,175.79
4	70.0	9.18	14.323	22.04	0.00	0.16	2.74	1.00	1.00	0.00	26.85	98.96	0.00	5,085.3	0.0	575.19	640.44	1,215.63
5	90.0	9.68	12.972	18.83	0.00	0.17	2.71	1.00	1.00	0.00	23.70	97.76	0.00	3,946.1	0.0	527.94	675.12	1,203.06
6	110.0	10.10	11.777	17.23	0.00	0.20	2.61	1.00	1.00	0.00	21.66	93.32	0.00	3,487.1	0.0	485.78	703.79	1,189.57
7	125.0	10.38	4.586	7.81	0.00	0.21	2.56	1.00	1.00	0.00	9.09	32.79	0.00	1,306.2	0.0	205.33	252.23	457.56
8	140.0	10.63	0.000	14.28	0.00	0.15	2.79	1.00	1.00	0.00	8.24	51.67	0.00	2,023.6	0.0	207.54	402.37	609.90
9	160.0	10.93	0.000	10.27	0.00	0.12	2.90	1.00	1.00	0.00	5.88	12.03	0.00	818.9	0.0	158.25	80.44	238.69
10	175.0	11.14	0.000	5.21	0.00	0.13	2.86	1.00	1.00	0.00	2.99	4.44	0.00	406.7	0.0	81.03	30.27	111.30
														34,706.4	**0.0**			**8,394.01**

Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	11/30/2021	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	III	Page: 12	

Load Case: 1.0D + 1.0W 60° Wind — 1.0D + 1.0W 60 mph Wind at 60° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.15

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	6.65	22.326	23.64	0.00	0.13	2.84	0.80	1.00	0.00	31.24	106.08	0.00	6,282.0	0.0	502.09	464.15	966.24
2	30.0	7.68	20.349	23.64	0.00	0.14	2.80	0.80	1.00	0.00	29.68	106.08	0.00	6,135.6	0.0	543.58	536.37	1,079.94
3	50.0	8.56	15.847	22.04	0.00	0.14	2.81	0.80	1.00	0.00	25.16	102.01	0.00	5,214.8	0.0	514.13	596.91	1,111.04
4	70.0	9.18	14.323	22.04	0.00	0.16	2.74	0.80	1.00	0.00	23.98	98.96	0.00	5,085.3	0.0	513.81	640.44	1,154.25
5	90.0	9.68	12.972	18.83	0.00	0.17	2.71	0.80	1.00	0.00	21.10	97.76	0.00	3,946.1	0.0	470.15	675.12	1,145.26
6	110.0	10.10	11.777	17.23	0.00	0.20	2.61	0.80	1.00	0.00	19.30	93.32	0.00	3,487.1	0.0	432.96	703.79	1,136.75
7	125.0	10.38	4.586	7.81	0.00	0.21	2.56	0.80	1.00	0.00	8.17	32.79	0.00	1,306.2	0.0	184.61	252.23	436.84
8	140.0	10.63	0.000	14.28	0.00	0.15	2.79	0.80	1.00	0.00	8.24	51.67	0.00	2,023.6	0.0	207.54	402.37	609.90
9	160.0	10.93	0.000	10.27	0.00	0.12	2.90	0.80	1.00	0.00	5.88	12.03	0.00	818.9	0.0	158.25	80.44	238.69
10	175.0	11.14	0.000	5.21	0.00	0.13	2.86	0.80	1.00	0.00	2.99	4.44	0.00	406.7	0.0	81.03	30.27	111.30
														34,706.4	**0.0**			**7,990.22**

Load Case: 1.0D + 1.0W 90° Wind — 1.0D + 1.0W 60 mph Wind at 90° From Face

Wind Load Factor: 1.00 — **Wind Importance Factor:** 1.00

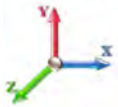
Dead Load Factor: 1.00

Ice Dead Load Factor: 0.00 — **Ice Importance Factor:** 1.15

Sect Seq	Wind Height (ft)	qz (psf)	Total Flat Area (sqft)	Total Round Area (sqft)	Ice Round Area (sqft)	Sol Ratio	Cf	Df	Dr	Ice Thick (in)	Eff Area (sqft)	Linear Area (sqft)	Ice Linear Area (sqft)	Total Weight (lb)	Weight Ice (lb)	Struct Force (lb)	Linear Force (lb)	Total Force (lb)
1	10.0	6.65	22.326	23.64	0.00	0.13	2.84	0.85	1.00	0.00	32.35	106.08	0.00	6,282.0	0.0	520.03	464.15	984.18
2	30.0	7.68	20.349	23.64	0.00	0.14	2.80	0.85	1.00	0.00	30.69	106.08	0.00	6,135.6	0.0	562.21	536.37	1,098.58
3	50.0	8.56	15.847	22.04	0.00	0.14	2.81	0.85	1.00	0.00	25.96	102.01	0.00	5,214.8	0.0	530.32	596.91	1,127.23
4	70.0	9.18	14.323	22.04	0.00	0.16	2.74	0.85	1.00	0.00	24.70	98.96	0.00	5,085.3	0.0	529.16	640.44	1,169.60
5	90.0	9.68	12.972	18.83	0.00	0.17	2.71	0.85	1.00	0.00	21.75	97.76	0.00	3,946.1	0.0	484.60	675.12	1,159.71
6	110.0	10.10	11.777	17.23	0.00	0.20	2.61	0.85	1.00	0.00	19.89	93.32	0.00	3,487.1	0.0	446.16	703.79	1,149.96
7	125.0	10.38	4.586	7.81	0.00	0.21	2.56	0.85	1.00	0.00	8.40	32.79	0.00	1,306.2	0.0	189.79	252.23	442.02
8	140.0	10.63	0.000	14.28	0.00	0.15	2.79	0.85	1.00	0.00	8.24	51.67	0.00	2,023.6	0.0	207.54	402.37	609.90
9	160.0	10.93	0.000	10.27	0.00	0.12	2.90	0.85	1.00	0.00	5.88	12.03	0.00	818.9	0.0	158.25	80.44	238.69
10	175.0	11.14	0.000	5.21	0.00	0.13	2.86	0.85	1.00	0.00	2.99	4.44	0.00	406.7	0.0	81.03	30.27	111.30
														34,706.4	**0.0**			**8,091.17**

Force/Stress Compression Summary

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	11/30/2021	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	III	Page: 13	



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LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	12B - 12"BD 2.25"	-384.86	1.2D + 1.0W Normal Wind	10.02	100	100	100	24.38	50.00	514.03	74.9	Member X
2	40	12B - 12"BD 2.25"	-348.22	1.2D + 1.0W Normal Wind	10.02	100	100	100	24.38	50.00	514.03	67.7	Member X
3	60	12B - 12"BD 2"	-305.92	1.2D + 1.0W Normal Wind	10.02	100	100	100	24.41	50.00	405.83	75.4	Member X
4	80	12B - 12"BD 2"	-262.45	1.2D + 1.0W Normal Wind	10.02	100	100	100	24.41	50.00	405.83	64.7	Member X
5	100	12B - 12"BD 1.75"	-215.62	1.2D + 1.0W Normal Wind	10.02	100	100	100	25.99	50.00	308.82	69.8	Member X
6	120	12B - 12"BD 1.5"	-165.29	1.2D + 1.0W Normal Wind	10.02	100	100	100	30.32	50.00	222.99	74.1	Member X
7	130	12B - 12"BD 1.25"	-107.87	1.2D + 1.0W Normal Wind	10.02	100	100	100	36.38	50.00	150.33	71.8	Member X
8	150	SOL - 2" SOLID	-97.39	1.2D + 1.0W Normal Wind	2.35	100	100	100	56.36	50.00	112.07	86.9	Member X
9	170	SOL - 1 1/2" SOLID	-39.85	1.2D + 1.0W Normal Wind	2.39	100	100	100	76.42	50.00	51.88	76.8	Member X
10	180	SOL - 1 1/2" SOLID	-10.55	1.2D + 1.0W Normal Wind	2.23	100	100	100	71.50	50.00	54.72	19.3	Member X

Splices

		Top Splice					Bottom Splice				
Sect	Top Elev	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts
1	20	1.2D + 1.0W Normal Wind	358.42	0.00	0.0			1.2D + 1.0W Normal Wind	395.75	0.00			
2	40	1.2D + 1.0W Normal Wind	317.22	0.00	0.0			1.2D + 1.0W Normal Wind	358.42	0.00		1/4 A325	6
3	60	1.2D + 1.0W Normal Wind	274.07	0.00	0.0			1.2D + 1.0W Normal Wind	317.22	0.00		1/4 A325	6
4	80	1.2D + 1.0W Normal Wind	228.52	0.00	0.0			1.2D + 1.0W Normal Wind	274.07	0.00		1/4 A325	6
5	100	1.2D + 1.0W Normal Wind	179.74	0.00	0.0			1.2D + 1.0W Normal Wind	228.52	0.00		1 A325	6
6	120	1.2D + 1.0W Normal Wind	125.70	0.00	0.0			1.2D + 1.0W Normal Wind	179.74	0.00		1 A325	6
7	130	1.2D + 1.0W Normal Wind	102.64	0.00	0.0			1.2D + 1.0W Normal Wind	125.70	0.00		1 A325	6
8	150	1.2D + 1.0W Normal Wind	42.70	0.00	0.0			1.2D + 1.0W Normal Wind	102.64	0.00		1 A325	6
9	170	1.2D + 1.0W Normal Wind	12.15	0.00	0.0			1.2D + 1.0W Normal Wind	42.70	0.00			
10	180	1.2D + 1.0Di + 1.0Wi 90° Wind	2.40	0.00	0.0			1.2D + 1.0W Normal Wind	12.15	0.00			

HORIZONTAL MEMBERS

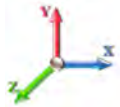
Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	20										0.00	0	0				
2	40										0.00	0	0				
3	60										0.00	0	0				
4	80										0.00	0	0				
5	100										0.00	0	0				
6	120										0.00	0	0				
7	130										0.00	0	0				
8	150	SOL - 1" SOLID	-1.77	0.9D + 1.0W Normal Wind	4.99	100	100	100	167.51	50.00	6.32	0	0			28.0	Member X
9	170	SOL - 3/4" SOLID	-1.35	1.2D + 1.0W 90° Wind	4.02	100	100	100	179.97	50.00	3.08	0	0			43.9	Member X
10	180	SOL - 3/4" SOLID	-1.13	1.2D + 1.0W 60° Wind	4.00	100	100	100	179.20	50.00	3.11	0	0			36.2	Member X

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
1	20	SAE - 3.5X3.5X0.3125	-10.1	1.2D + 1.0W Normal Wind	20.16	50	50	50	175.28	36.00	19.47	1	1	48.32	43.5	52.0	Member Z
2	40	SAE - 3.5X3.5X0.3125	-10.1	1.2D + 1.0W 90° Wind	18.45	50	50	50	160.42	36.00	23.25	1	1	48.32	43.5	43.5	Member Z
3	60	SAE - 3X3X0.3125	-9.58	1.2D + 1.0W 90° Wind	16.80	50	50	50	171.17	36.00	17.39	1	1	48.32	43.5	55.1	Member Z
4	80	SAE - 3X3X0.3125	-9.28	1.2D + 1.0W 90° Wind	15.24	50	50	50	155.27	36.00	21.13	1	1	48.32	43.5	43.9	Member Z
5	100	SAE - 3X3X0.1875	-9.05	1.2D + 1.0W 90° Wind	13.80	50	50	50	138.89	36.00	16.17	1	1	35.34	20.8	55.9	Member Z
6	120	SAE - 3X3X0.1875	-9.43	1.2D + 1.0W 90° Wind	12.50	50	50	50	125.87	36.00	19.69	1	1	35.34	20.8	47.9	Member Z

Force/Stress Compression Summary

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	11/30/2021	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	III	Page: 14	



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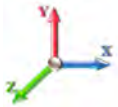
DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	Use %	Controls
7	130	SAE - 2.5X2.5X0.1875	-9.46	1.2D + 1.0W Normal Wind	11.42	50	50	50	138.38	36.00	13.48	1	1	35.34	20.8	70.1	Member Z
8	150	SOL - 1" SOLID	-6.13	1.2D + 1.0W 90° Wind	5.48	50	50	50	118.46	50.00	12.64	0	0			48.5	Member X
9	170	SOL - 3/4" SOLID	-3.25	1.2D + 1.0W Normal Wind	4.75	50	50	50	136.82	50.00	5.33	0	0			61.0	Member X
10	180	SOL - 3/4" SOLID	-2.57	1.2D + 1.0W Normal Wind	4.58	50	50	50	131.95	50.00	5.73	0	0			44.8	Member X

Force/Stress Tension Summary

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	11/30/2021	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	III	Page: 15	



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LEG MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Leg Use %	Controls
1	20	12B - 12"BD 2.25"	343.91	0.9D + 1.0W 60° Wind	50	536.85	64.1	Member
2	40	12B - 12"BD 2.25"	311.45	0.9D + 1.0W 60° Wind	50	536.85	58.0	Member
3	60	12B - 12"BD 2"	274.87	0.9D + 1.0W 60° Wind	50	423.90	64.8	Member
4	80	12B - 12"BD 2"	236.37	0.9D + 1.0W 60° Wind	50	423.90	55.8	Member
5	100	12B - 12"BD 1.75"	194.03	0.9D + 1.0W 60° Wind	50	324.45	59.8	Member
6	120	12B - 12"BD 1.5"	147.94	0.9D + 1.0W 60° Wind	50	238.50	62.0	Member
7	130	12B - 12"BD 1.25"	94.96	0.9D + 1.0W 60° Wind	50	165.60	57.3	Member
8	150	SOL - 2" SOLID	87.94	0.9D + 1.0W 60° Wind	50	141.37	62.2	Member
9	170	SOL - 1 1/2" SOLID	32.36	0.9D + 1.0W 60° Wind	50	79.52	40.7	Member
10	180	SOL - 1 1/2" SOLID	8.00	0.9D + 1.0W 60° Wind	50	79.52	11.9	Bolt Shear

Splices

		Top Splice						Bottom Splice					
Sect	Top Elev	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts	Load Case	Force (kips)	Cap (kips)	Use %	Bolt Type	Num Bolts
1	20	0.9D + 1.0W 60° Wind	319.46	0.00	0.0			0.9D + 1.0W 60° Wind	353.7	0.00			
2	40	0.9D + 1.0W 60° Wind	283.21	0.00	0.0			0.9D + 1.0W 60° Wind	319.4	457.92	69.8	1 1/4 A325	6
3	60	0.9D + 1.0W 60° Wind	245.50	0.00	0.0			0.9D + 1.0W 60° Wind	283.2	457.92	61.8	1 1/4 A325	6
4	80	0.9D + 1.0W 60° Wind	204.32	0.00	0.0			0.9D + 1.0W 60° Wind	245.5	457.92	53.6	1 1/4 A325	6
5	100	0.9D + 1.0W 60° Wind	159.89	0.00	0.0			0.9D + 1.0W 60° Wind	204.3	318.06	64.2	1 A325	6
6	120	0.9D + 1.0W 60° Wind	108.52	0.00	0.0			0.9D + 1.0W 60° Wind	159.8	318.06	50.3	1 A325	6
7	130	0.9D + 1.0W 60° Wind	87.39	0.00	0.0			0.9D + 1.0W 60° Wind	108.5	318.06	34.1	1 A325	6
8	150	0.9D + 1.0W 60° Wind	31.83	0.00	0.0			0.9D + 1.0W 60° Wind	87.39	318.06	27.5	1 A325	6
9	170	0.9D + 1.0W 60° Wind	8.00	0.00	0.0			0.9D + 1.0W 60° Wind	31.83	0.00			
10	180		0.00	0.00	0.0			0.9D + 1.0W 60° Wind	8.00	0.00			

HORIZONTAL MEMBERS

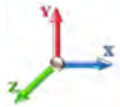
Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	-			36	0.00	0	0					
2	40	-			36	0.00	0	0					
3	60	-			36	0.00	0	0					
4	80	-			36	0.00	0	0					
5	100	-			36	0.00	0	0					
6	120	-			36	0.00	0	0					
7	130	-			36	0.00	0	0					
8	150	SOL - 1" SOLID	1.96	1.2D + 1.0W Normal Wi	50	35.34	0	0				5.5	Member
9	170	SOL - 3/4" SOLID	1.50	1.2D + 1.0W 90° Wind	50	19.88	0	0				7.5	Member
10	180	SOL - 3/4" SOLID	1.71	1.2D + 1.0W Normal Wi	50	19.88	0	0				8.6	Member

DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
1	20	SAE - 3.5X3.5X0.3125	9.54	1.2D + 1.0W 90° Wind	36	54.17	1	1	48.32	37.52	23.70	40.3	Blck Shear
2	40	SAE - 3.5X3.5X0.3125	9.66	0.9D + 1.0W 90° Wind	36	54.17	1	1	48.32	37.52	23.70	40.7	Blck Shear
3	60	SAE - 3X3X0.3125	9.17	0.9D + 1.0W 90° Wind	36	44.05	1	1	48.32	37.52	23.70	38.7	Blck Shear
4	80	SAE - 3X3X0.3125	8.88	1.2D + 1.0W 90° Wind	36	44.05	1	1	48.32	37.52	23.70	37.5	Blck Shear
5	100	SAE - 3X3X0.1875	8.62	1.2D + 1.0W 90° Wind	36	28.68	1	1	35.34	17.94	11.68	73.8	Blck Shear
6	120	SAE - 3X3X0.1875	9.40	1.2D + 1.0W 90° Wind	36	28.68	1	1	35.34	17.94	11.68	80.5	Blck Shear
7	130	SAE - 2.5X2.5X0.1875	8.87	0.9D + 1.0W 60° Wind	36	22.55	1	1	35.34	17.94	10.66	83.1	Blck Shear

Force/Stress Tension Summary

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	11/30/2021	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	III	Page: 16	



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DIAGONAL MEMBERS

Sect	Top Elev	Member	Force (kips)	Load Case	Fy (ksi)	Mem Cap (kips)	Num Bolts	Num Holes	Shear Cap (kips)	Bear Cap (kips)	B.S. Cap (kips)	Use %	Controls
8	150	SOL - 1" SOLID	6.07	1.2D + 1.0W 90° Wind	50	35.34	0	0				17.2	Member
9	170	SOL - 3/4" SOLID	3.84	1.2D + 1.0W Normal Wi	50	19.88	0	0				19.3	Member
10	180	SOL - 3/4" SOLID	2.69	1.2D + 1.0W Normal Wi	50	19.88	0	0				13.5	Member

Seismic Section Forces

Structure:	CT03241-S-SBA	**Code:**	EIA/TIA-222-H	11/30/2021	
Site Name:	Stonington 2, CT	**Exposure:**	C		
Height:	180.00 (ft)	**Crest Height:**	0.00		
Base Elev:	0.000 (ft)	**Site Class:**	D - Stiff Soil		
Gh:	0.85 **Topography:** 1	**Struct Class:**	III	Page: 17	

Load Case: 1.2D + 1.0Ev + 1.0Eh

Dead Load Factor	1.20	**Sds**	0.195	**Ss**	0.1830	**Fa**	1.6000	**Ke**	1.1419	**TL**	6.0000
Seismic Load Factor	1.00	**Sd1**	0.083	**S1**	0.0520	**Fv**	2.4000	**Kg**	0.0000	**Cs**	0.0443
Seismic Importance Factor	1.25	**W1**	19.56	**R**	3.0000	**Vs**	2.0128	**T**	0.7838	**f1**	1.2759

Sect #	Elev (ft)	Wz (lb)	Lateral Fsz (lbs)	Vertical Ev (lbs)
1	10.00	6281.9	25.45	245.37
2	30.00	6135.5	86.87	239.65
3	50.00	5386.7	134.17	210.41
4	70.00	5110.3	185.52	199.61
5	90.00	4016.1	187.73	156.87
6	110.00	6603.1	416.50	257.92
7	125.00	1306.2	75.76	51.02
8	140.00	7475.0	632.00	291.97
9	160.00	1200.9	91.24	46.91
10	175.00	1967.6	177.61	76.86

Load Case: 0.9D + 1.0Ev + 1.0Eh

Dead Load Factor	0.90	**Sds**	0.195	**Ss**	0.1830	**Fa**	1.6000	**Ke**	1.1419	**TL**	6.0000
Seismic Load Factor	1.00	**Sd1**	0.083	**S1**	0.0520	**Fv**	2.4000	**Kg**	0.0000	**Cs**	0.0443
Seismic Importance Factor	1.25	**W1**	19.56	**R**	3.0000	**Vs**	2.0128	**T**	0.7838	**f1**	1.2759

Sect #	Elev (ft)	Wz (lb)	Lateral Fsz (lbs)	Vertical Ev (lbs)
1	10.00	6281.9	25.45	245.37
2	30.00	6135.5	86.87	239.65
3	50.00	5386.7	134.17	210.41
4	70.00	5110.3	185.52	199.61
5	90.00	4016.1	187.73	156.87
6	110.00	6603.1	416.50	257.92
7	125.00	1306.2	75.76	51.02
8	140.00	7475.0	632.00	291.97
9	160.00	1200.9	91.24	46.91
10	175.00	1967.6	177.61	76.86

Support Forces Summary

Structure:	CT03241-S-SBA		**Code:**	EIA/TIA-222-H	11/30/2021
Site Name:	Stonington 2, CT		**Exposure:**	C	
Height:	180.00 (ft)		**Crest Height:**	0.00	
Base Elev:	0.000 (ft)		**Site Class:**	D - Stiff Soil	
Gh:	0.85	**Topography:** 1	**Struct Class:**	III	Page: 18

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Load Case	Node	FX (kips)	FY (kips)	FZ (kips)	(-) = Uplift (+) = Down
1.2D + 1.0W Normal Wind	1	0.02	395.03	-39.01	
	1a	14.30	-170.19	-10.36	
	1b	-14.32	-170.26	-10.33	
1.2D + 1.0W 60° Wind	1	-1.67	202.37	-19.62	
	1a	-17.67	199.96	8.53	
	1b	-30.53	-347.75	-17.70	
1.2D + 1.0W 90° Wind	1	-2.06	18.27	-1.37	
	1a	-29.09	336.21	15.89	
	1b	-26.96	-299.90	-14.52	
0.9D + 1.0W Normal Wind	1	0.02	389.87	-38.64	
	1a	14.59	-174.44	-10.54	
	1b	-14.61	-174.49	-10.51	
0.9D + 1.0W 60° Wind	1	-1.68	197.52	-19.26	
	1a	-17.36	195.12	8.34	
	1b	-30.83	-351.70	-17.87	
0.9D + 1.0W 90° Wind	1	-2.07	13.70	-1.02	
	1a	-28.78	331.16	15.70	
	1b	-27.26	-303.93	-14.68	
1.2D + 1.0Di + 1.0Wi Normal Wind	1	0.01	131.42	-7.12	
	1a	5.57	-14.30	-3.48	
	1b	-5.58	-14.38	-3.46	
1.2D + 1.0Di + 1.0Wi 60° Wind	1	-0.26	82.39	-2.49	
	1a	-2.22	81.01	1.07	
	1b	-9.49	-60.66	-5.49	
1.2D + 1.0Di + 1.0Wi 90° Wind	1	-0.32	34.37	2.00	
	1a	-5.04	116.19	2.81	
	1b	-8.52	-47.82	-4.80	
1.2D + 1.0Ev + 1.0Eh	1	0.00	33.52	7.25	
	1a	7.99	11.42	-4.61	
	1b	-7.99	11.42	-4.61	
0.9D + 1.0Ev + 1.0Eh	1	0.00	28.95	7.61	
	1a	8.30	6.88	-4.79	
	1b	-8.30	6.88	-4.79	
1.0D + 1.0W Normal Wind	1	0.00	88.83	-8.62	
	1a	2.02	-21.65	-1.59	
	1b	-2.03	-21.70	-1.59	
1.0D + 1.0W 60° Wind	1	-0.36	51.20	-4.79	
	1a	-4.29	50.70	2.11	
	1b	-5.22	-56.42	-3.03	
1.0D + 1.0W 90° Wind	1	-0.43	15.21	-1.18	
	1a	-6.55	77.34	3.58	
	1b	-4.52	-47.06	-2.40	

Max Reactions

Leg			Overturning		
Max Uplift:	-351.70	(kips)	Moment:	5874.33	(ft-kips)
Max Down:	395.03	(kips)	Total Down:	54.58	(kips)
Max Shear:	39.01	(kips)	Total Shear:	59.69	(kips)

Max Reactions

Leg			Overturning		
Max Uplift:	-351.70	(kips)	Moment:	5874.33	(ft-kips)
Max Down:	395.03	(kips)	Total Down:	54.58	(kips)
Max Shear:	39.01	(kips)	Total Shear:	59.69	(kips)

Anchor Bolts

Bolt Size (in.):	1.25	Number Bolts:	6	Type:	Grout Existing
Yield Strength (Ksi):	105.00	Tensile Strength (Ksi):	150.00		
		Length:	1.75		

Interaction Ratios:

Tensile: **0.55** Compression: **OK!**

Max Usages

Max Leg: 86.9% (1.2D + 1.0W Normal Wind - Sect 8)
Max Diag: 83.1% (0.9D + 1.0W 60° Wind - Sect 7)
Max Horiz: 43.9% (1.2D + 1.0W 90° Wind - Sect 9)

Max Deflection, Twist and Sway

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)
0.9D + 1.0Ev + 1.0Eh - Normal To Face	40.00	0.0059	0.0004	0.0123
	50.00	0.0032	0.0000	0.0131
	60.00	0.0100	-0.0006	0.0171
	70.00	0.0130	0.0007	0.0202
	90.00	0.0184	0.0000	0.0288
	100.00	0.0262	-0.0011	0.0325
	120.00	0.0393	0.0014	0.0435
	139.98	0.0575	0.0014	0.0576
	150.00	0.0680	0.0015	0.0818
	164.54	0.0844	0.0009	0.0690
	177.22	0.1002	-0.0009	0.0668
	180.00	0.1035	0.0008	0.0733
0.9D + 1.0W 137 mph Wind at 60° From Face	40.00	0.0932	0.0193	0.2505
	50.00	0.1439	-0.0140	0.3261
	60.00	0.2108	0.0073	0.4008
	70.00	0.2879	0.0374	0.4773
	90.00	0.4824	-0.0230	0.6612
	100.00	0.6105	-0.0229	0.7512
	120.00	0.9215	0.0849	1.0079
	139.98	1.3327	1.0887	1.3499
	150.00	1.5815	2.0820	2.0550
	164.54	1.9663	6.5093	2.8169
	177.22	2.3345	3.2528	1.6423
	180.00	2.4112	7.6600	3.8858

0.9D + 1.0W 137 mph Wind at 90° From Face	40.00	0.0950	-0.0290	0.2511
	50.00	0.1434	-0.0379	0.3243
	60.00	0.2101	0.0099	0.4019
	70.00	0.2872	-0.0530	0.4767
	90.00	0.4819	-0.0711	0.6543
	100.00	0.6089	-0.0779	0.7486
	120.00	0.9182	-0.0945	1.0025
	139.98	1.3295	-0.5480	1.3228
	150.00	1.5749	-0.9977	2.0187
	164.54	1.9532	-2.9736	1.1307
	177.22	2.3102	0.1134	1.7934
	180.00	2.3739	-3.0390	1.7781
0.9D + 1.0W 137 mph Wind at Normal To Face	40.00	0.0985	0.0057	0.2578
	50.00	0.1511	0.0000	0.3386
	60.00	0.2135	-0.0143	0.4147
	70.00	0.2958	-0.0167	0.4898
	90.00	0.4988	-0.0001	0.6892
	100.00	0.6266	-0.0259	0.7726
	120.00	0.9457	-0.0340	1.0362
	139.98	1.3707	-0.3311	1.3929
	150.00	1.6299	-0.6730	2.1228
	164.54	2.0409	-2.2489	4.3715
	177.22	2.4375	-0.1628	1.2470
	180.00	2.5539	-2.2198	6.0293
1.0D + 1.0W 60 mph Wind at 60° From Face	40.00	0.0184	-0.0043	0.0489
	50.00	0.0283	-0.0056	0.0635
	60.00	0.0411	0.0005	0.0784
	70.00	0.0561	-0.0078	0.0929
	90.00	0.0942	-0.0104	0.1283
	100.00	0.1187	-0.0113	0.1458
	120.00	0.1789	-0.0133	0.1950
	139.98	0.2588	0.0484	0.2593
	150.00	0.3068	0.0878	0.3971
	164.54	0.3814	0.2577	0.4490
	177.22	0.4524	0.1207	0.3216
	180.00	0.4672	0.3039	0.6506
1.0D + 1.0W 60 mph Wind at 90° From Face	40.00	0.0188	-0.0056	0.0491
	50.00	0.0281	-0.0074	0.0634
	60.00	0.0410	0.0019	0.0786
	70.00	0.0563	-0.0103	0.0929
	90.00	0.0940	-0.0138	0.1272
	100.00	0.1185	-0.0151	0.1453
	120.00	0.1790	-0.0183	0.1943
	139.98	0.2583	-0.1049	0.2562
	150.00	0.3057	-0.1909	0.3900
	164.54	0.3790	-0.5682	0.2105
	177.22	0.4479	0.0148	0.3463
	180.00	0.4605	-0.5765	0.3384
1.0D + 1.0W 60 mph Wind at Normal To Face	40.00	0.0195	0.0011	0.0505
	50.00	0.0298	0.0000	0.0661
	60.00	0.0417	-0.0028	0.0811
	70.00	0.0580	-0.0033	0.0956
	90.00	0.0977	0.0000	0.1343
	100.00	0.1226	-0.0050	0.1503
	120.00	0.1848	-0.0065	0.2012
	139.98	0.2667	-0.0666	0.2699
	150.00	0.3169	-0.1350	0.4088
	164.54	0.3965	-0.4502	0.8413
	177.22	0.4732	-0.0255	0.2419
	180.00	0.4960	-0.4490	1.1598

1.2D + 1.0Di + 1.0Wi 50 mph Wind at 60° From Face	40.00	0.0234	-0.0061	0.0659
	50.00	0.0368	-0.0080	0.0854
	60.00	0.0559	0.0011	0.1071
	70.00	0.0764	-0.0110	0.1280
	90.00	0.1279	-0.0146	0.1800
	100.00	0.1636	-0.0160	0.2074
	120.00	0.2508	0.0208	0.2884
	139.98	0.3743	0.2382	0.4160
	150.00	0.4530	0.4533	0.6956
	164.54	0.5787	1.4058	1.6452
	177.22	0.7037	0.3012	0.5245
	180.00	0.7305	1.5841	0.9773
1.2D + 1.0Di + 1.0Wi 50 mph Wind at 90° From Face	40.00	0.0237	-0.0099	0.0661
	50.00	0.0369	-0.0129	0.0845
	60.00	0.0552	0.0026	0.1067
	70.00	0.0756	-0.0182	0.1272
	90.00	0.1272	-0.0246	0.1770
	100.00	0.1621	-0.0274	0.2051
	120.00	0.2487	-0.0357	0.2845
	139.98	0.3704	-0.3445	0.4060
	150.00	0.4473	-0.6498	0.6762
	164.54	0.5692	-2.0029	1.3294
	177.22	0.6873	0.0289	0.5488
	180.00	0.7103	-2.0304	0.2659
1.2D + 1.0Di + 1.0Wi 50 mph Wind at Normal From Face	40.00	0.0250	-0.0004	0.0681
	50.00	0.0380	0.0000	0.0891
	60.00	0.0558	-0.0034	0.1105
	70.00	0.0770	-0.0040	0.1317
	90.00	0.1321	-0.0001	0.1890
	100.00	0.1676	-0.0065	0.2149
	120.00	0.2593	-0.0092	0.3013
	139.98	0.3883	-0.2525	0.4441
	150.00	0.4726	-0.4973	0.7263
	164.54	0.6126	-1.6148	2.4272
	177.22	0.7512	-0.0529	0.4559
	180.00	0.7923	-1.6125	1.8868
1.2D + 1.0Ev + 1.0Eh - Normal To Face	40.00	0.0058	0.0004	0.0123
	50.00	0.0032	0.0000	0.0131
	60.00	0.0100	-0.0006	0.0171
	70.00	0.0130	-0.0007	0.0202
	90.00	0.0185	0.0000	0.0289
	100.00	0.0262	-0.0011	0.0326
	120.00	0.0393	0.0014	0.0436
	139.98	0.0576	0.0014	0.0577
	150.00	0.0682	0.0015	0.0821
	164.54	0.0846	0.0009	0.0692
	177.22	0.1004	-0.0009	0.0669
	180.00	0.1038	0.0008	0.0736
1.2D + 1.0W 137 mph Wind at 60° From Face	40.00	0.0933	0.0194	0.2510
	50.00	0.1441	-0.0139	0.3268
	60.00	0.2112	0.0074	0.4017
	70.00	0.2884	0.0375	0.4783
	90.00	0.4834	-0.0230	0.6628
	100.00	0.6117	-0.0228	0.7531
	120.00	0.9236	0.0852	1.0108
	139.98	1.3362	1.0928	1.3544
	150.00	1.5858	2.0898	2.0633
	164.54	1.9720	6.5338	2.8219
	177.22	2.3415	3.2664	1.6476
	180.00	2.4185	7.6893	3.8944

1.2D + 1.0W 137 mph Wind at 90° From Face	40.00	0.0952	-0.0290	0.2515
	50.00	0.1436	-0.0379	0.3249
	60.00	0.2104	0.0099	0.4027
	70.00	0.2877	-0.0530	0.4777
	90.00	0.4828	-0.0711	0.6558
	100.00	0.6101	-0.0780	0.7504
	120.00	0.9202	-0.0945	1.0054
	139.98	1.3329	-0.5480	1.3272
	150.00	1.5790	-0.9977	2.0268
	164.54	1.9587	-2.9731	1.1251
	177.22	2.3171	0.1143	1.7989
	180.00	2.3810	-3.0387	1.7740
1.2D + 1.0W 137 mph Wind at Normal To Face	40.00	0.0987	0.0058	0.2583
	50.00	0.1514	0.0000	0.3392
	60.00	0.2138	-0.0143	0.4156
	70.00	0.2963	-0.0168	0.4909
	90.00	0.4999	-0.0001	0.6910
	100.00	0.6280	-0.0259	0.7746
	120.00	0.9481	-0.0341	1.0393
	139.98	1.3743	-0.3308	1.3976
	150.00	1.6343	-0.6724	2.1316
	164.54	2.0467	-2.2473	4.3777
	177.22	2.4448	-0.1632	1.2516
	180.00	2.5616	-2.2178	6.0433

Mat Foundation Design for Self Supporting Tower

			Date 11/30/2021
Customer Name:	**SBA Communications Corp**	**EIA/TIA Standard:**	EIA-222-H
Site Name:		**Structure Height (Ft.):**	180
Site Nmber:	CT03241-S-SBA	**Engineer Name:**	J. Tibbetts
Engr. Number:	119815	**Engineer Login ID:**	

Foundation Info Obtained from: Drawings/Calculations

Analysis or Design? Analysis

Number of Tower Legs: 3 Legs

Base Reactions (Factored):

(1). Individual Leg:

Axial Load (Kips):	395.0	Uplift Force (Kips):	351.7
Shear Force (Kips):	39.0		

(2). Tower Base:

Total Vertical Load (Kips):	54.6	Total Shear Force (Kips):	59.7
Moment (Kips-ft):	5874.3		

Foundation Geometries:

Leg distance (Center-to-Center ft.):		18.0	Mods required -Yes/No ?:	No	
Diameter of Pier (ft.):	Round	3.5	Pier Height A. G. (ft.):	0.50	
Tower center to mat center (ft):		2.6	Depth of Base BG (ft.):	7.0	
Length of Pad (ft.):		27	Width of Pad (ft.):	27	
Thickness of Pad (ft):		3.25			

Material Properties and Reabr Info:

Concrete Strength (psi):	4000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	9	Tie / Stirrup Size #:	4	
Qty. of Vertical Rebars:	17	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	9	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

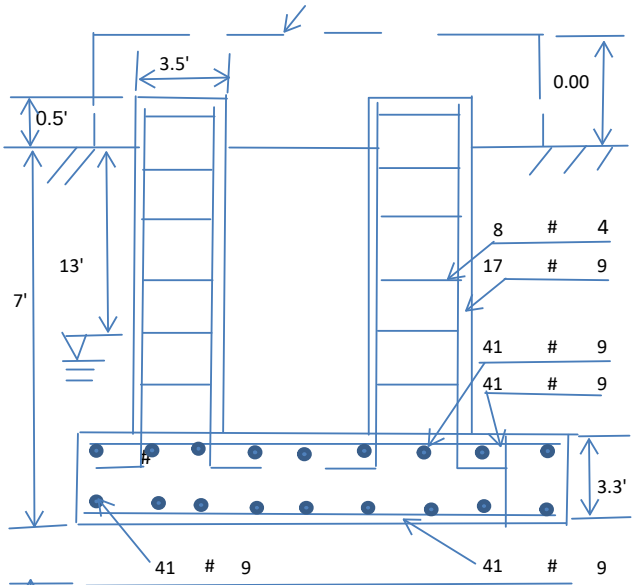
Qty. of Rebar in Pad (L):	41	Qty. of Rebar in Pad (W):	41

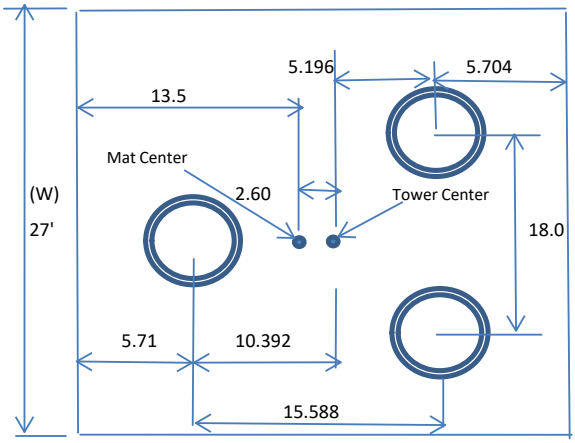
Rebar at the top of the concrete pad:

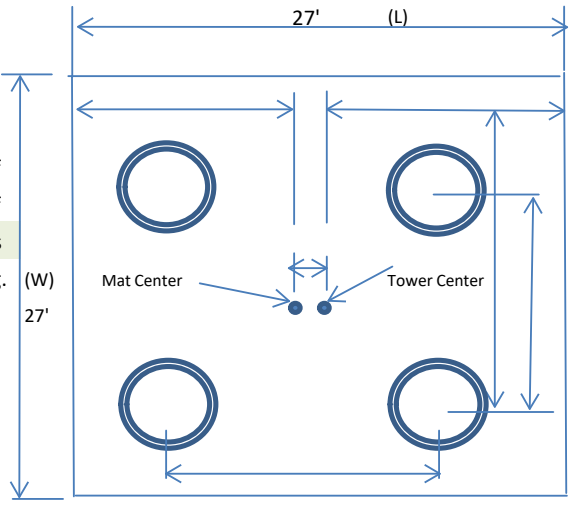
Qty. of Rebar in Pad (L):	41	Qty. of Rebar in Pad (W):	41

Soil Design Parameters:

Soil Unit Weight (pcf):	120.0	Soil Buoyant Weight:	50.0	Pcf
Water Table B.G.S. (ft):	13.0	Unit Weight of Water:	62.4	pcf
Ultimate Bearing Pressure (psf):	12000	Consider ties in concrete shear strength:	Yes	
Consider Soil Lateral Resistance ?	Yes	Enter soil C (psf) or Phi (deg.):	30.0	Deg.
		Depth to ignor lateral resistance	1.0	Ft.







Apply 1.35 for e/w per G/H: 1.35

Foundation Analysis and Design:	Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75			
Total Dry Soil Volume (cu. Ft.):		2625.51	Total Dry Soil Weight (Kips):	315.06			
Total Buoyant Soil Volume (cu. Ft.):		0.00	Total Buoyant Soil Weight (Kips):	0.00			
Total Effective Soil Weight (Kips):		315.06	Weight from the Concrete Block at Top (K):	0.00			
Total Dry Concrete Volume (cu. Ft.):		2491.92	Total Dry Concrete Weight (Kips):	373.79			
Total Buoyant Concrete Volume (cu. Ft.):		0.00	Total Buoyant Concrete Weight (Kips):	0.00			
Total Effective Concrete Weight (Kips):		373.79	Total Vertical Load on Base (Kips):	743.43			
Check Soil Capacities:						Load/ Capacity Ratio	
Calculated Maxium Net Soil Pressure under the base (psf):		3655.00	<	Allowable Factored Soil Bearing (psf):	9000	0.41	OK!
Allowable Foundation Overturning Resistance (kips-ft.):		9106.4	>	Design Factored Momont (kips-ft):	6419	0.70	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):		1.42	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		
(1) Concrete Pier:						Load/ Capacity Ratio	
	Vertical Steel Rebar Area (sq. in./each):	1.00		Tie / Stirrup Area (sq. in./each):	0.20		
	Calculated Moment Capacity (Mn,Kips-Ft):	741.8	>	Design Factored Moment (Mu, Kips-Ft)	162.5	0.22	OK!
	Calculated Shear Capacity (Kips):	109.0	>	Design Factored Shear (Kips):	39.0	0.36	OK!
	Calculated Tension Capacity (Tn, Kips):	918.0	>	Design Factored Tension (Tu Kips):	351.7	0.38	OK!
	Calculated Compression Capacity (Pn, Kips):	2419.4	>	Design Factored Axial Load (Pu Kips):	395.0	0.16	OK!
	Moment & Tension Strength Combination:	0.22	OK!	Check Tie Spacing (Design/Req'd):	1.00		
	Pier Reinforcement Ratio:	0.012	Reinforcement Ratio is satisfied per ACI				
(2).Concrete Pad:							
	One-Way Design Shear Capacity (L or W Direction, Kips):	1089.3	>	One-Way Factored Shear (L/W-Dir Kips	234.9	0.22	OK!
	One-Way Design Shear Capacity (Diagonal Dir., Kips):	917.0	>	One-Way Factored Shear (Dia. Dir, Kips	284.6	0.31	OK!
	Lower Steel Pad Reinforcement Ratio (L or W-Direct.):	0.0036		Lower Steel Reinf. Ratio (Dia. Dir.):	0.0032		
	Lower Steel Pad Moment Capacity (L or W-Dir. Kips-ft):	6332.2	>	Moment at Bottom (L-Direct. K-Ft):	933.8	0.15	OK!
	Lower Steel Pad Moment Capacity (Dia. Direction,K-ft):	6189.0	>	Moment at Bottom (Dia. Dir. K-Ft):	2149.7	0.35	OK!
	Upper Steel Pad Reinforcement Ratio (L or W -Direction):	0.0036		Upper Steel Reinf. Ratio (Dia. Dir.):	0.0032		
	Upper Steel Pad Moment Capacity (L or W-Dir., Kips-ft):	6332.2	>	Moment at the top (L-Dir Kips-Ft):	373.1	0.06	OK!
	Upper Steel Pad Moment Capacity (Dia. Direction, K-ft):	6189.0	>	Moment at the top (Dia. Dir., K-Ft):	685.0	0.11	OK!
	Punching Failure Capacity From Down Load (Kips):	1635.7	>	Punch. Failure Factored Shear (K):	395.0	0.24	OK!
	Punching Failure Capacity From Uplift (Kips):	1485.2	>	Punch. Failure Factored Shear (K):	351.7	0.24	OK!
(3). Check Max. eccentricity of Loading:							
	The maximum eccentricity of Loading:	8.63	ft.	Allowable eccentricity (0.45 W, ft.):	12.15		OK!

EXHIBIT 8

Mount Analysis

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

Antenna Mount Analysis Report

Existing 180-Ft Self Support Tower

Customer Name: SBA Communications Corp

Customer Site Number: CT03241-S-SBA / Stonington 2, CT

Customer Site Name: Stonington 2, CT

Carrier Name: T-Mobile (App#: 176604, V1)

Carrier Site ID / Name: CT11442A / Stonington

Site Location: 173 South Broad Street

Pawcatuck, Connecticut

New London County

Latitude: 41.369066

Longitude: -71.862361

Exp. 01/31/2022

11/16/2021

Analysis Result:

Max Structural Usage: 80.6% [Pass]

Report Prepared By: Venkata Annamreddy

Note: This analysis assumes previous mount modification as per Tower Engineering Solutions Project #:82303, dated 08/08/2019 is installed successfully and is considered in the analysis.

Introduction

The purpose of this report is to summarize the analysis results on the (3) Sector Frame at 140.00' elevation to support the proposed antenna configuration. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

The proposed modification by **TES** listed under Sources of Information was considered completed and was included in this analysis.

Sources of Information

Mount Drawings	Mount Mapping by Full Metal Tower Services, dated 4/30/19
Antenna Loading	SBA Application #: 176604, v1 dated 11/15/2021
Existing Modifications	N/A
Proposed Modifications	TES Project No. 82303, dated 08/08/2019

Analysis Criteria

Wind Speed Used in the Analysis: 137 mph (3-Sec. Gust) (Ultimate Wind Speed) Wind Speed with Ice: 50 mph (3-Sec. Gust) with 1" radial ice concurrent
Service Load Wind Speed: 60 mph +0" Radial ice
Standard/Codes: ANSI/TIA/EIA 222-H / 2018 Connecticut State Building Code
Exposure Category: C
Risk Category: III
Topographic Category: 1
Crest Height (Ft): 0
Ground Elevation Factor: 0.999

The site is a Risk Category III 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 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

(3) Sector Frame at 140.00' elevation

Final Antenna Configuration

3	Ericsson AIR6449 B41
3	Commscope VV-65A-R1
3	RFS APXVAALL24_43-U-NA20
3	Ericsson KRY 112 144/1
3	Ericsson 4449 B71 + B85
3	Ericsson 4460 B25 + B66

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

Analysis Results

Our calculations have determined that under design wind load the existing mounts with proposed modifications will be structurally adequate to support the proposed antenna configuration. The maximum structural usage is 80.6%, which occurs in the Inner face Horizontal member. 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: This analysis assumes previous mount modification as per Tower Engineering Solutions Project #:82303, dated 08/08/2019 is installed successfully and is considered in the analysis.

Attachments

1. Mount Photos before modifications.
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.


04.30.2019 10:18

Structure: CT03241-S-SBA - Stonington 2, CT

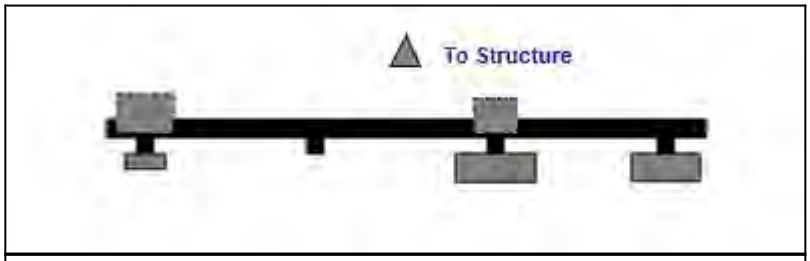
Sector: A

Structure Type: Self Support

Mount Elev: 140.00

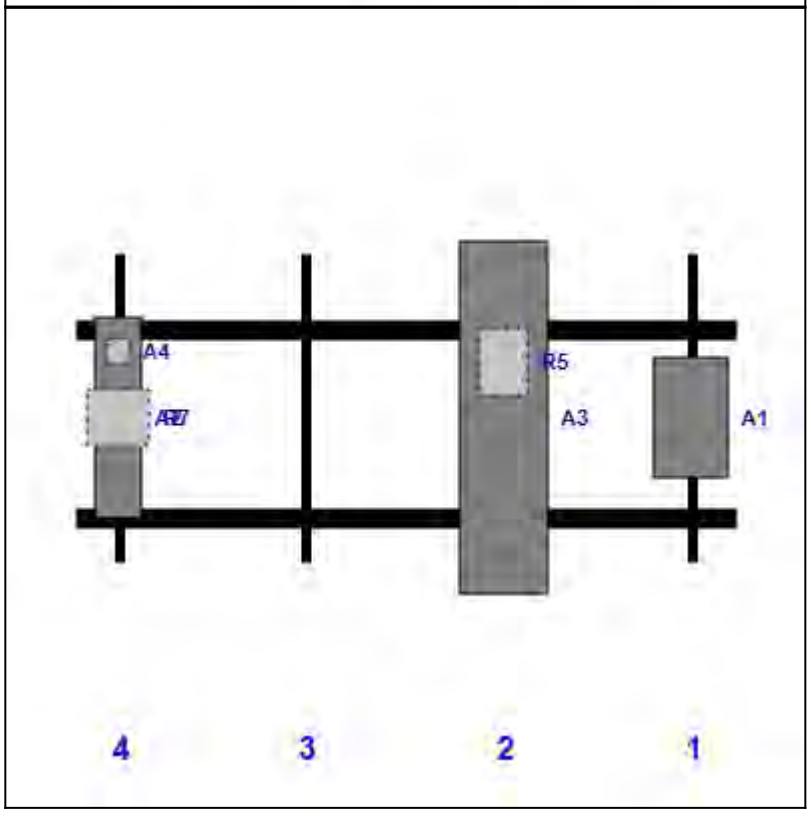
11/16/2021

Plan View



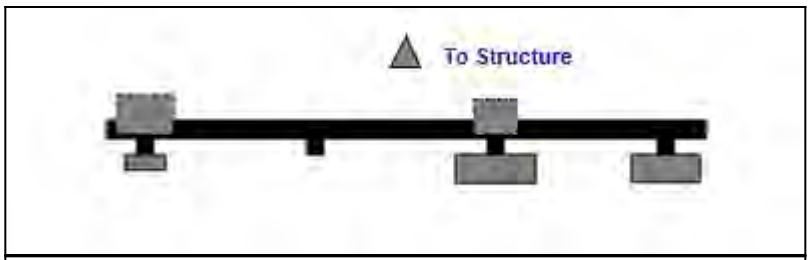
Front View

Looking Toward Structure



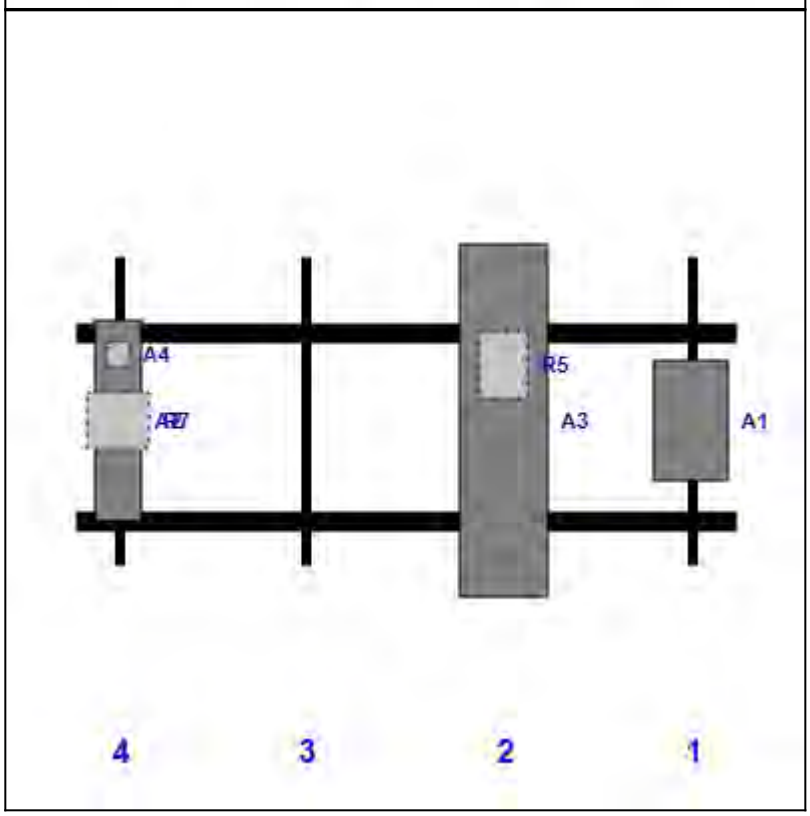
Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6449 B41	33.10	20.50	168.00	1	a	Front	45.00			
A3	APXVAALL24_43-U-NA20	95.90	24.00	117.00	2	a	Front	45.00			
R5	4449 B71 + B85	17.90	13.10	117.00	2	b	Behind	30.00			
A2	VV-65A-R1	54.72	12.08	12.00	4	a	Front	45.00			
R7	4460 B25 + B66	15.11	17.00	12.00	4	b	Behind	45.00			
A4	KRY 112 144/1	6.90	6.10	12.00	4	c	Behind	27.00			

Plan View



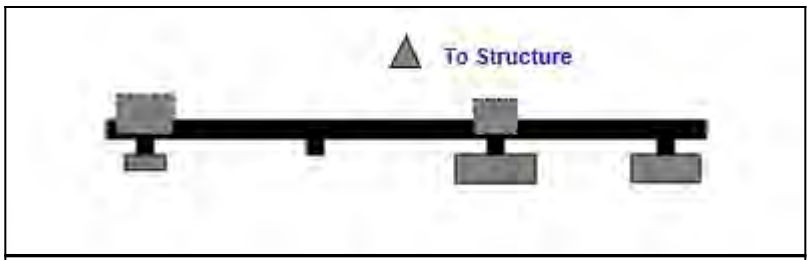
Front View

Looking Toward Structure



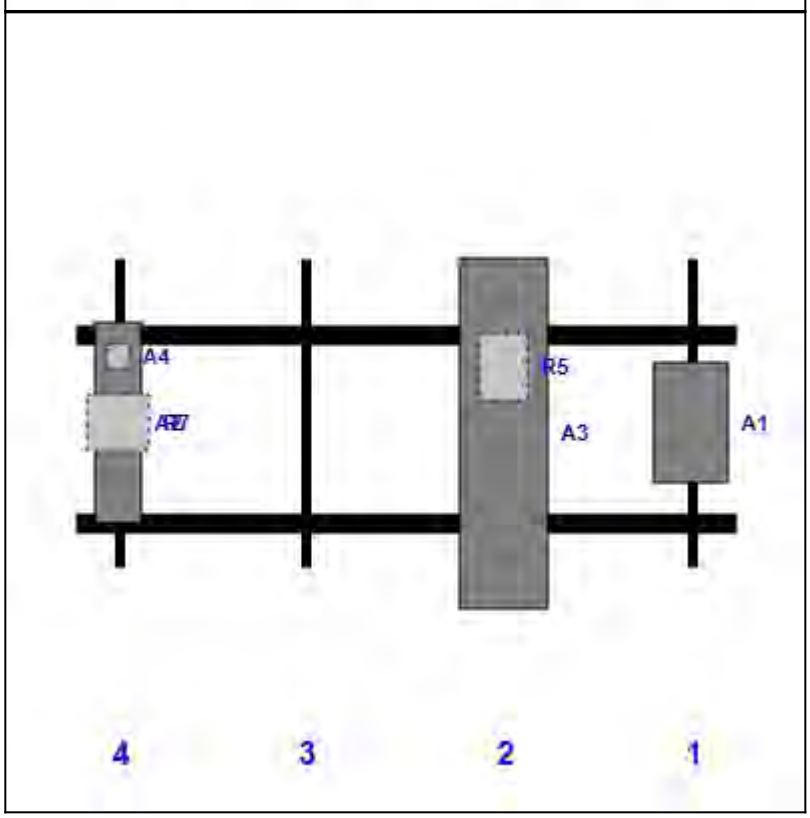
Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6449 B41	33.10	20.50	168.00	1	a	Front	45.00			
A3	APXVAALL24_43-U-NA20	95.90	24.00	117.00	2	a	Front	45.00			
R5	4449 B71 + B85	17.90	13.10	117.00	2	b	Behind	30.00			
A2	VV-65A-R1	54.72	12.08	12.00	4	a	Front	45.00			
R7	4460 B25 + B66	15.11	17.00	12.00	4	b	Behind	45.00			
A4	KRY 112 144/1	6.90	6.10	12.00	4	c	Behind	27.00			

Plan View



Front View

Looking Toward Structure

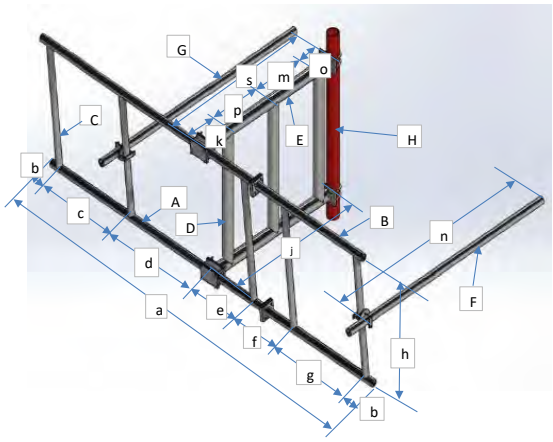


Ref #	Model	Height (in)	Width (in)	H Dist Left	Pipe #	Pipe Pos V	Pos	From Top	H Offset	Status	Validation
A1	AIR6449 B41	33.10	20.50	168.00	1	a	Front	45.00			
A3	APXVAALL24_43-U-NA20	95.90	24.00	117.00	2	a	Front	48.00			
R5	4449 B71 + B85	17.90	13.10	117.00	2	b	Behind	30.00			
A2	VV-65A-R1	54.72	12.08	12.00	4	a	Front	45.00			
R7	4460 B25 + B66	15.11	17.00	12.00	4	b	Behind	45.00			
A4	KRY 112 144/1	6.90	6.10	12.00	4	c	Behind	27.00			

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

FCC # 1213371

Tower Owner:	SBA Communications	**Mapping Date:**	4/30/19
Site Name:	Stonington 2, CT	**Structure Type:**	3-Sided S.S. Tower
Site Number or ID:	CT03538-S-SBA	**Structure Height (Ft.):**	180
Mapping Contractor:	Full Metal Tower Services	**Mount Height (Ft.):**	139.1



Geometries (Unit: inches)									
a	180	**e**	17	**j**	48	**o**	13	**s**	58
b	6	**f**	40	**k**	4	**p**	15	**t**	N/A
c	39	**g**	39	**m**	16	**q**	N/A	**u ***	71
d	33	**h**	30	**n**	126	**r**	N/A	**v ***	83

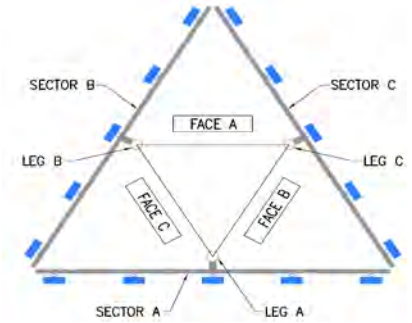
Members (Unit: inches)						* - See Ant. Layout for "u", "v" and member "K" (pipe)			
Items	**Member**	**Lx (O.D.)**	**Ly (I.D.)**	**T**	**Items**	**Member**	**Lx (O.D.)**	**Ly (I.D.)**	**T**
A	2.375 OD x 0.154 Pipe	2.375	2.067	0.154	**F**	2.375 OD x 0.154 Pipe	2.375	2.067	0.154
B	2.375 OD x 0.154 Pipe	2.375	2.067	0.154	**G**	2.375 OD x 0.154 Pipe	2.375	2.067	0.154
C	2.375 OD x 0.154 Pipe	2.375	2.067	0.154	**H**	2" SR	2	0	2
D	2.375 OD x 0.154 Pipe	2.375	2.067	0.154	**J**				
E	4.0 OD x 0.226 Pipe	4	3.548	0.226	**K (pipe)***	2.375 OD x 0.154 Pipe	2.375	2.067	0.154

Distance from top of bottom support rail to lowest tip of ant./eqpt. of Carrier above. (N/A if > 10 ft.)	N/A
Distance from top of bottom support rail to highest tip of ant./eqpt. of Carrier below. (N/A if > 10 ft.)	N/A

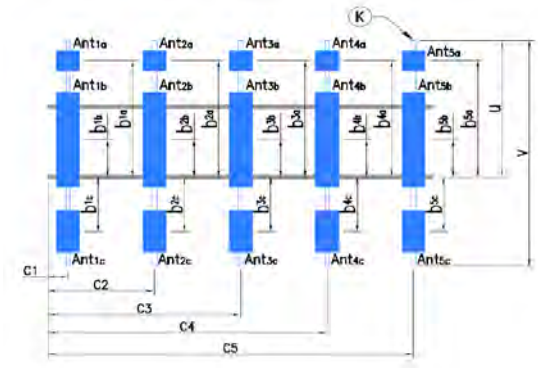
Please enter the infomation below if members can't be found from the drop down lists

(3) TMAs (6"x3"x8") mounted to Member C

Tower Face Width at the mount (ft.):	58"	Tower Leg Size at the mount (in.):	2.0" Solid Rod



Climbing facility is On Leg C, at 240° Degree Azimuth

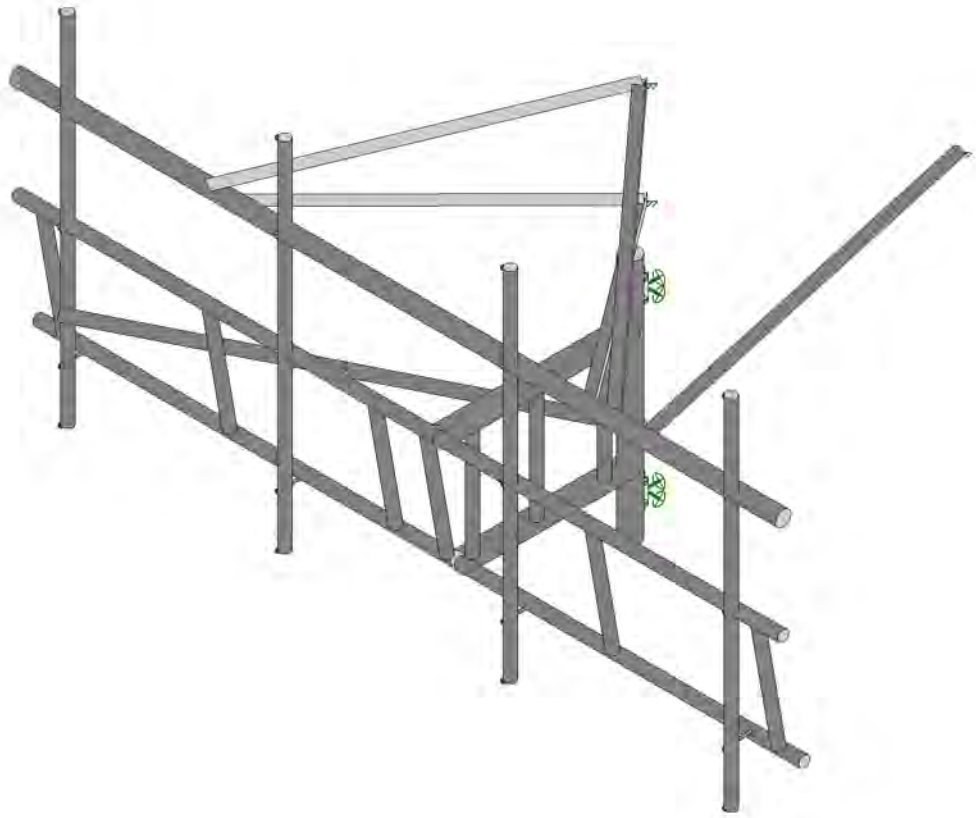


Antenna Layout

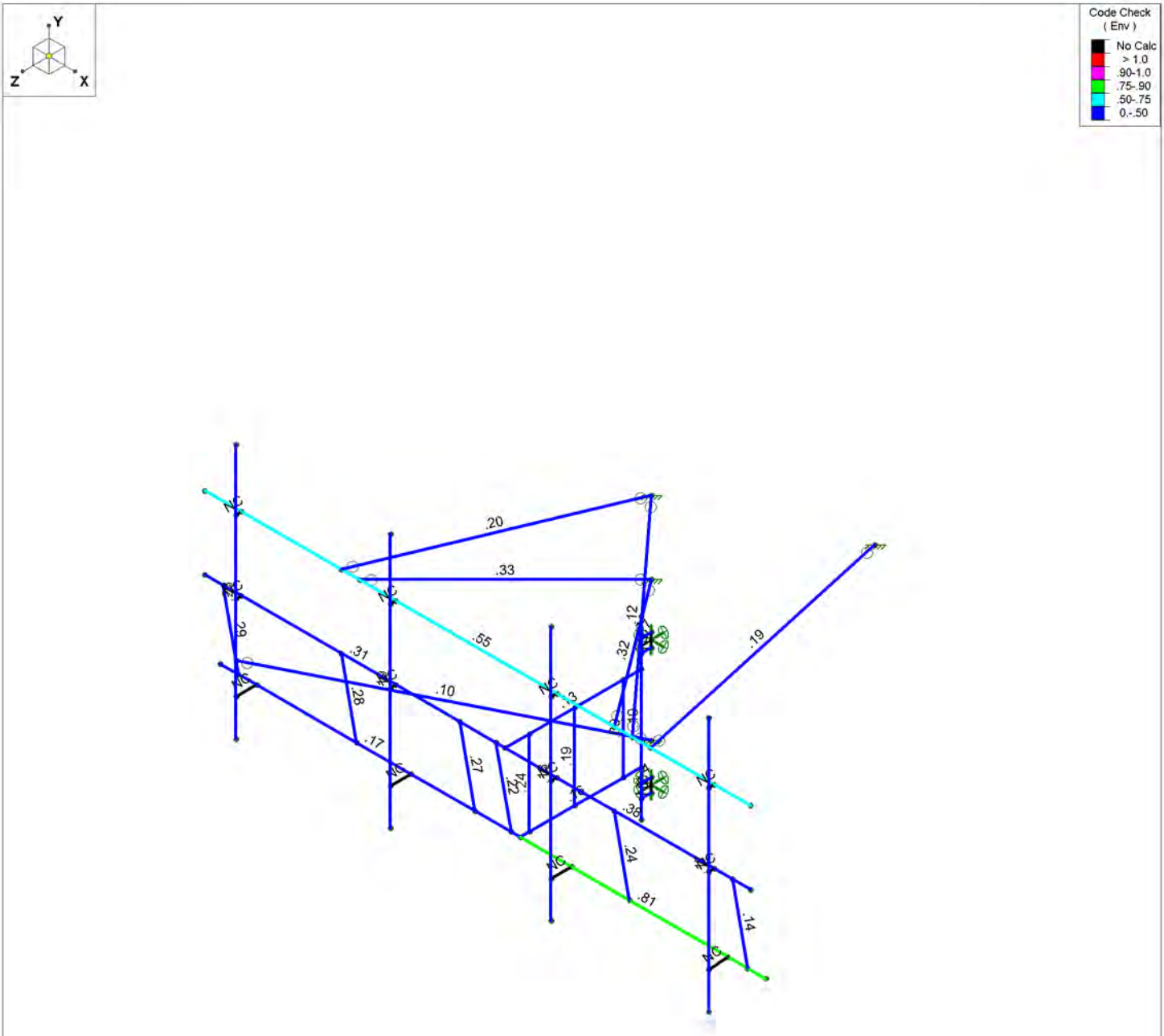
Ants. Items	Enter antenna model. If not labled, enter "Unknown". If no antenna at specified location, enter "N/A". If antennas and the locations are the same on all three sectors, only enter one sector.	Width (in.)	Depth (in.)	Height (in.)	Coax Size and Qty	Mounting Locations (Unit: inches) Vertical 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.)	Photos of antennas Photo Numbers
Sector A									
Ant_{1a}									
Ant_{1b}	Antenna A	12	8	56	1/2" (1)	+47"	7	12	
Ant_{1c}									
Ant_{2a}									
Ant_{2b}	Empty Mast	N/A	N/A	N/A	N/A	N/A	N/A	64	
Ant_{2c}									
Ant_{3a}									
Ant_{3b}	Empty Mast	N/A	N/A	N/A	N/A	N/A	N/A	117	
Ant_{3c}									
Ant_{4a}									
Ant_{4b}	Antenna B	13	9	56	1/2" (2)			168	
Ant_{4c}									
Ant_{5a}									
Ant_{5b}									
Ant_{5c}									
Are Ant same as sector A?	Yes	**Antennas on Sector B are the same as Sector A**							

Azimuth (Degree) of Each Sector and Climbing Information

Sector A:	0°	Deg	
Sector B:	120°	Deg	
Sector C:	215°	Deg	
Climbing	240°	Deg	On Leg C
Climbing Facility	Corrosion Type:		Severe corrosion observed
	Access:		Climbing path was unobstructed.
	Condition:		N/A

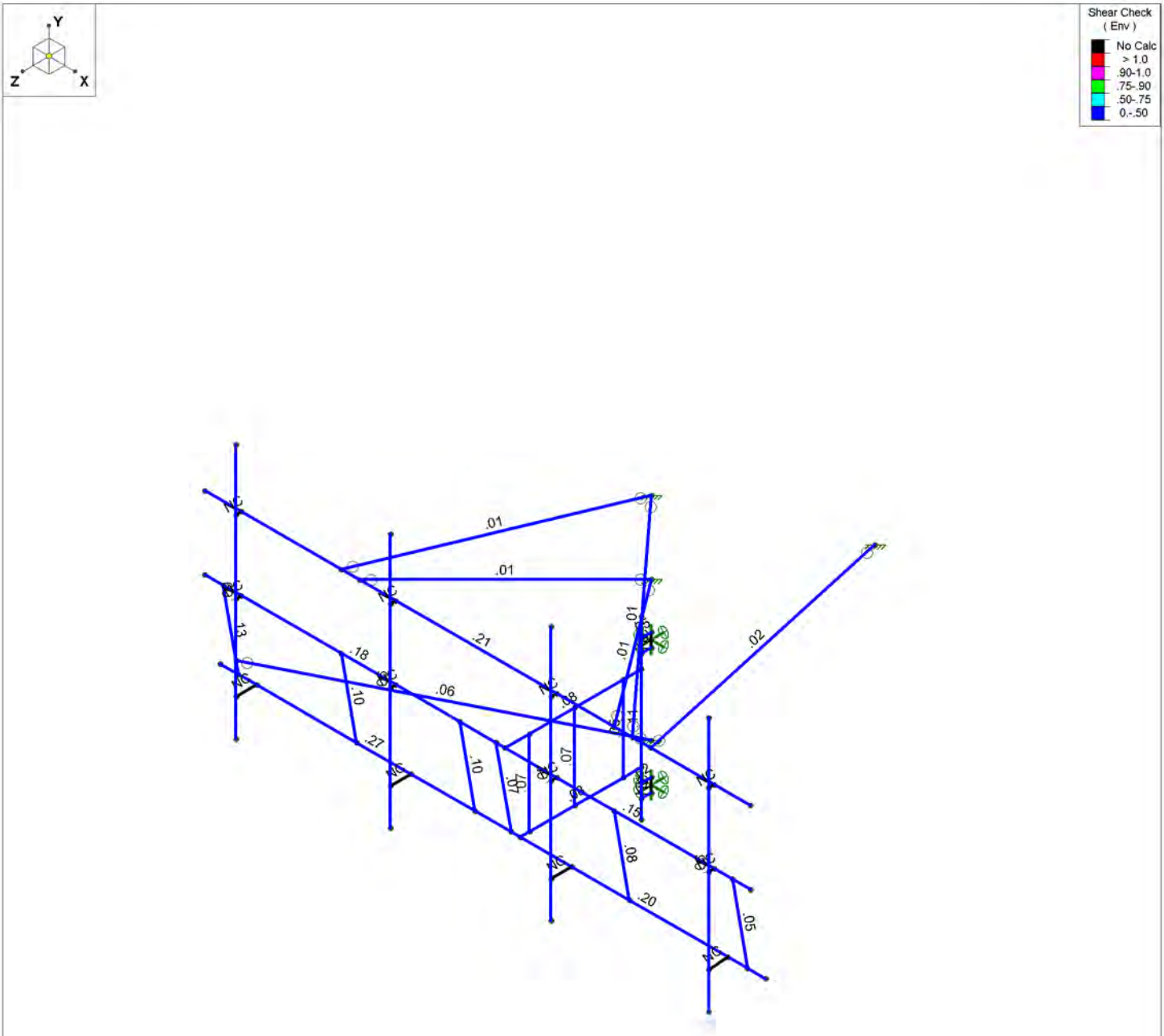


Tower Engineering Solutio...	CT03241-S-SBA_MT_LOT_Loads Only_Sector A_H	SK - 1
		Nov 16, 2021 at 11:02 AM
TES Project No. 119398		CT03241-S-SBA_119398_H_RISA_...



Member Code Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.0Wo (0 Deg)

Tower Engineering Solutio...	CT03241-S-SBA_MT_LOT_Loads Only_Sector A_H	SK - 2
		Nov 16, 2021 at 11:59 AM
TES Project No. 119398		CT03241-S-SBA_119398_H_RISA_...



Member Shear Checks Displayed (Enveloped)
Results for LC 1, 1.2D+1.0Wo (0 Deg)

Tower Engineering Solutio...	CT03241-S-SBA_MT_LOT_Loads Only_Sector A_H	SK - 3
		Nov 16, 2021 at 11:59 AM
TES Project No. 119398		CT03241-S-SBA_119398_H_RISA_...

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Antenna D	None					33			
2	Antenna Di	None					33			
3	Antenna Wo (0 Deg)	None					33			
4	Antenna Wo (30 Deg)	None					33			
5	Antenna Wo (60 Deg)	None					33			
6	Antenna Wo (90 Deg)	None					33			
7	Antenna Wo (120 Deg)	None					33			
8	Antenna Wo (150 Deg)	None					33			
9	Antenna Wo (180 Deg)	None					33			
10	Antenna Wo (210 Deg)	None					33			
11	Antenna Wo (240 Deg)	None					33			
12	Antenna Wo (270 Deg)	None					33			
13	Antenna Wo (300 Deg)	None					33			
14	Antenna Wo (330 Deg)	None					33			
15	Antenna Wi (0 Deg)	None					33			
16	Antenna Wi (30 Deg)	None					33			
17	Antenna Wi (60 Deg)	None					33			
18	Antenna Wi (90 Deg)	None					33			
19	Antenna Wi (120 Deg)	None					33			
20	Antenna Wi (150 Deg)	None					33			
21	Antenna Wi (180 Deg)	None					33			
22	Antenna Wi (210 Deg)	None					33			
23	Antenna Wi (240 Deg)	None					33			
24	Antenna Wi (270 Deg)	None					33			
25	Antenna Wi (300 Deg)	None					33			
26	Antenna Wi (330 Deg)	None					33			
27	Antenna Wm (0 Deg)	None					33			
28	Antenna Wm (30 Deg)	None					33			
29	Antenna Wm (60 Deg)	None					33			
30	Antenna Wm (90 Deg)	None					33			
31	Antenna Wm (120 De...	None					33			
32	Antenna Wm (150 De...	None					33			
33	Antenna Wm (180 De...	None					33			
34	Antenna Wm (210 De...	None					33			
35	Antenna Wm (240 De...	None					33			
36	Antenna Wm (270 De...	None					33			
37	Antenna Wm (300 De...	None					33			
38	Antenna Wm (330 De...	None					33			
39	Structure D	None		-1						
40	Structure Di	None						35		
41	Structure Wo (0 Deg)	None						70		
42	Structure Wo (30 Deg)	None						70		
43	Structure Wo (60 Deg)	None						70		
44	Structure Wo (90 Deg)	None						70		
45	Structure Wo (120 De...	None						70		
46	Structure Wo (150 De...	None						70		
47	Structure Wo (180 De...	None						70		
48	Structure Wo (210 De...	None						70		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
49	Structure Wo (240 De...	None						70		
50	Structure Wo (270 De...	None						70		
51	Structure Wo (300 De...	None						70		
52	Structure Wo (330 De...	None						70		
53	Structure Wi (0 Deg)	None						70		
54	Structure Wi (30 Deg)	None						70		
55	Structure Wi (60 Deg)	None						70		
56	Structure Wi (90 Deg)	None						70		
57	Structure Wi (120 Deg)	None						70		
58	Structure Wi (150 Deg)	None						70		
59	Structure Wi (180 Deg)	None						70		
60	Structure Wi (210 Deg)	None						70		
61	Structure Wi (240 Deg)	None						70		
62	Structure Wi (270 Deg)	None						70		
63	Structure Wi (300 Deg)	None						70		
64	Structure Wi (330 Deg)	None						70		
65	Structure Wm (0 Deg)	None						70		
66	Structure Wm (30 Deg)	None						70		
67	Structure Wm (60 Deg)	None						70		
68	Structure Wm (90 Deg)	None						70		
69	Structure Wm (120 D...	None						70		
70	Structure Wm (150 D...	None						70		
71	Structure Wm (180 D...	None						70		
72	Structure Wm (210 D...	None						70		
73	Structure Wm (240 D...	None						70		
74	Structure Wm (270 D...	None						70		
75	Structure Wm (300 D...	None						70		
76	Structure Wm (330 D...	None						70		
77	Lm1	None					1			
78	Lm2	None					1			
79	Lv1	None					1			
80	Lv2	None					1			
81	Antenna Ev	None					33			
82	Antenna Eh (0 Deg)	None					22			
83	Antenna Eh (90 Deg)	None					22			
84	Structure Ev	ELY		-.039						
85	Structure Eh (0 Deg)	ELZ	-.122							
86	Structure Eh (90 Deg)	ELX			.122					

Load Combinations

	Description	Sol...	PD...	SR...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
1	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	3	1	41	1												
2	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	4	1	42	1												
3	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	5	1	43	1												
4	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	6	1	44	1												
5	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	7	1	45	1												
6	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	8	1	46	1												
7	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	9	1	47	1												
8	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	10	1	48	1												
9	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	11	1	49	1												

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
10	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	12	1	50	1												
11	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	13	1	51	1												
12	1.2D+1.0...	Yes	Y		1	1.2	39	1.2	14	1	52	1												
13	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	2	1	40	1	15	1	53	1								
14	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	2	1	40	1	16	1	54	1								
15	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	2	1	40	1	17	1	55	1								
16	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	2	1	40	1	18	1	56	1								
17	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	2	1	40	1	19	1	57	1								
18	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	2	1	40	1	20	1	58	1								
19	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	2	1	40	1	21	1	59	1								
20	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	2	1	40	1	22	1	60	1								
21	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	2	1	40	1	23	1	61	1								
22	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	2	1	40	1	24	1	62	1								
23	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	2	1	40	1	25	1	63	1								
24	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	2	1	40	1	26	1	64	1								
25	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	27	1	65	1										
26	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	28	1	66	1										
27	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	29	1	67	1										
28	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	30	1	68	1										
29	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	31	1	69	1										
30	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	32	1	70	1										
31	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	33	1	71	1										
32	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	34	1	72	1										
33	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	35	1	73	1										
34	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	36	1	74	1										
35	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	37	1	75	1										
36	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	77	1.5	38	1	76	1										
37	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	27	1	65	1										
38	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	28	1	66	1										
39	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	29	1	67	1										
40	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	30	1	68	1										
41	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	31	1	69	1										
42	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	32	1	70	1										
43	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	33	1	71	1										
44	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	34	1	72	1										
45	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	35	1	73	1										
46	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	36	1	74	1										
47	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	37	1	75	1										
48	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	78	1.5	38	1	76	1										
49	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	79	1.5														
50	1.2D + 1.5..	Yes	Y		1	1.2	39	1.2	80	1.5														
51	1.4D	Yes	Y		1	1.4	39	1.4																
52	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	1	83		ELZ	1	ELX					
53	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	.5	ELZ	.866	ELX	.5				
54	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	.866	ELZ	.5	ELX	.866				
55	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	1	ELZ		ELX	1				
56	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	.866	ELZ	-.5	ELX	.866				
57	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	.5	ELZ	-.866	ELX	.5				
58	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-1	83		ELZ	-1	ELX					
59	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5				
60	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
61	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82		83	-1	ELZ		ELX	-1				

Load Combinations (Continued)

	Description	Sol..	PD..	SR..	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...	BLC	Fact...
62	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.5	83	-.866	ELZ	.5	ELX	-.866				
63	1.2D + 1.0..	Yes	Y		1	1.2	39	1.2	81	1	ELY	1	82	.866	83	-.5	ELZ	.866	ELX	-.5				
64	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	1	83		ELZ	1	ELX					
65	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	.5	ELZ	.866	ELX	.5				
66	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	.866	ELZ	.5	ELX	.866				
67	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	1	ELZ		ELX	1				
68	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	.866	ELZ	-.5	ELX	.866				
69	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	.5	ELZ	-.866	ELX	.5				
70	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-1	83		ELZ	-1	ELX					
71	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.866	83	-.5	ELZ	-.866	ELX	-.5				
72	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	-.5	83	-.866	ELZ	-.5	ELX	-.866				
73	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82		83	-1	ELZ		ELX	-1				
74	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.5	83	-.866	ELZ	.5	ELX	-.866				
75	0.9D - 1.0...	Yes	Y		1	.9	39	.9	81	-1	ELY	-1	82	.866	83	-.5	ELZ	.866	ELX	-.5				

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

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Ru...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	PLT	PL3/4X2	Beam	RECT	A36 Gr.36	Typical	1.5	.07	.5	.215
2	Rod	0.5 All Thread	Beam	BAR	A36 Gr.36	Typical	.142	.002	.002	.003
3	N SR	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
4	N V Brace	L2.5x2.5x4	Beam	Single An...	A36 Gr.36	Typical	1.19	.692	.692	.026
5	N Stabilizer	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
1	M1	PIPE_2.0	8.25			Lbyy						Lateral
2	M2	PIPE_2.0	8.25			Lbyy						Lateral
3	M3	PIPE_4.0	3.75			Lbyy						Lateral
4	M4	PIPE_4.0	3.333			Lbyy						Gravity
5	MP5A	PIPE_2.0	2.37			Lbyy						Gravity
6	M9	PIPE_2.0	2.37			Lbyy						Gravity
7	MP4A	PIPE_2.0X	7			Lbyy						Lateral
8	MP3A	PIPE_2.0X	7			Lbyy						Lateral
9	MP1A	PIPE_2.0X	7			Lbyy						Lateral
10	M16	PIPE_2.0	2.37			Lbyy						Gravity
11	M14	PIPE_2.0	2.37			Lbyy						Gravity
12	M15	PIPE_2.0	2.37			Lbyy						Gravity

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bot[ft]	L-torqu...	Kyy	Kzz	Cb	Function
13	M16A	PIPE_2.0	2.37			Lbyy						Gravity
14	M14A	PIPE_2.0	2.333			Lbyy						Lateral
15	M15A	PIPE_2.0	2.333			Lbyy						Lateral
16	M16B	PIPE_2.0	2.333			Lbyy						Lateral
17	MP2A	PIPE_2.0X	7			Lbyy						Lateral
18	M112	PIPE_2.0	6.75			Lbyy						Lateral
19	M113	PIPE_2.0	6.75			Lbyy						Lateral
20	M38	PIPE_2.0	8.575			Lbyy						Lateral
21	M44	PIPE_4.0	4.833			Lbyy						Lateral
22	M45	PLT	.271			Lbyy						Lateral
23	M46	PLT	.271			Lbyy						Lateral
24	M44A	Rod	.567			Lbyy						Lateral
25	M45A	Rod	.567			Lbyy						Lateral
26	M46A	Rod	.567			Lbyy						Lateral
27	M47A	Rod	.568			Lbyy						Lateral
28	M28	PLT	.271			Lbyy						Lateral
29	M29	PLT	.271			Lbyy						Lateral
30	M32	N SR	15			Lbyy						Lateral
31	M33	N V Brace	5.671			Lbyy						Lateral
32	M34	N V Brace	5.017			Lbyy						Lateral
33	M35	N V Brace	6.357			Lbyy						Lateral
34	M36	N V Brace	5.693			Lbyy						Lateral
35	M37	N Stabilizer	8.109			Lbyy						Lateral

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	N95	max	857.821	7	44.804	19	506.749	1	.081	26	.001	26	.014	8
2		min	-983.053	1	.018	1	-455.569	7	-.029	8	0	8	-.038	26
3	N61	max	167.216	6	750.256	24	742.117	6	.083	9	0	75	.201	12
4		min	-181.705	12	-135.701	6	-1888.666	12	-.101	3	0	1	-.165	6
5	N62	max	647.376	12	774.38	12	2608.915	12	.265	1	0	75	.047	8
6		min	-619.676	6	-205.895	6	-1522.935	6	-.345	7	0	1	-.086	26
7	N67	max	3508.603	11	65.187	18	3787.935	12	0	6	0	75	0	11
8		min	-3872.67	5	12.337	12	-934.107	6	0	12	0	1	0	3
9	N70	max	3078.641	30	1786.752	18	512.408	12	0	32	0	27	0	9
10		min	-1035.466	12	-192.65	12	-3443.74	18	0	2	0	9	-.001	27
11	N74A	max	585.336	5	41.881	23	2724.88	5	.006	9	0	75	.026	9
12		min	-578.839	11	12.097	69	-2749.466	11	-.004	3	0	1	-.018	3
13	Totals:	max	2219.404	11	3002.819	18	3691.089	1						
14		min	-2219.404	5	975.52	74	-3691.069	7						

Envelope Joint Displacements

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
1	N1	max	.021	6	0	6	0	9	1.936e-4	12	6.127e-3	6	2.224e-4	6
2		min	-.024	12	0	24	0	3	-6.885e-5	6	-7.24e-3	12	-2.664e-4	12
3	N2	max	.024	6	0	6	0	7	2.065e-4	24	7.206e-3	6	1.396e-4	29
4		min	-.028	12	0	24	0	1	-4.026e-5	5	-8.335e-3	12	-9.429e-5	12
5	N9	max	.265	6	.022	6	.001	12	1.438e-3	12	4.885e-3	6	1.563e-3	6
6		min	-.319	12	-.058	12	0	6	-6.619e-4	6	-6.005e-3	12	-2.099e-3	12

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
7	N10	max	.306	6	.02	6	.001	7	1.656e-3	12	6.257e-3	6	1.327e-3	5
8		min	-.353	12	-.052	12	-.002	1	-7.27e-4	6	-7.245e-3	12	-1.267e-3	12
9	N11	max	.265	6	.052	11	.641	6	2.549e-3	8	7.551e-3	6	3.202e-3	6
10		min	-.32	12	-.337	29	-.812	12	-7.517e-3	26	-9.216e-3	12	-3.334e-3	12
11	N12	max	.308	6	.051	11	.694	6	2.535e-3	8	6.743e-3	5	5.644e-3	29
12		min	-.355	12	-.393	29	-.805	12	-7.032e-3	26	-7.917e-3	11	-1.617e-3	11
13	N13	max	.265	6	.034	11	.595	6	2.549e-3	8	7.549e-3	6	3.201e-3	6
14		min	-.32	12	-.322	29	-.756	12	-7.517e-3	26	-9.215e-3	12	-3.335e-3	12
15	N14	max	.308	6	.041	11	.654	6	2.535e-3	8	6.743e-3	5	4.715e-3	29
16		min	-.355	12	-.36	29	-.758	12	-7.032e-3	26	-7.916e-3	11	-1.618e-3	11
17	N15	max	.265	6	-.017	8	.298	6	2.889e-3	12	7.118e-3	6	3.87e-3	30
18		min	-.319	12	-.147	26	-.374	12	-3.622e-3	30	-9.125e-3	12	-1.651e-3	12
19	N16	max	.307	6	-.008	9	.391	6	2.326e-3	11	7.078e-3	6	3.038e-3	30
20		min	-.354	12	-.165	27	-.449	12	-3.749e-3	29	-8.151e-3	12	-1.772e-3	12
21	N23	max	.263	6	.179	5	.368	7	9.43e-3	1	9.653e-3	12	1.894e-3	27
22		min	-.317	12	-.267	12	-.417	1	-9.175e-3	7	-8.274e-3	6	-1.029e-3	9
23	N24	max	.307	6	.171	5	.628	7	8.884e-3	1	9.607e-3	12	1.414e-3	26
24		min	-.355	12	-.26	11	-.684	1	-8.559e-3	7	-8.369e-3	6	-1.041e-3	8
25	NP1	max	.119	6	.013	11	.383	6	3.212e-3	12	8.259e-3	6	5.194e-3	30
26		min	-.212	12	-.287	29	-.574	12	-3.612e-3	6	-1.103e-2	12	-2.243e-3	12
27	NP2	max	.408	6	.012	11	.637	6	3.164e-3	8	7.98e-3	6	3.301e-3	5
28		min	-.464	12	-.293	29	-.71	12	-7.445e-3	26	-9.854e-3	12	-3.238e-3	11
29	NP3	max	.163	6	.003	6	.055	5	3.463e-3	12	5.862e-3	6	1.683e-3	30
30		min	-.222	12	-.079	36	-.062	11	-2.669e-3	6	-8.683e-3	12	-1.48e-3	12
31	NP4	max	.386	6	.003	6	.291	6	2.493e-3	12	5.584e-3	6	2.873e-3	5
32		min	-.421	12	-.082	36	-.329	12	-2.628e-3	6	-7.257e-3	12	-2.386e-3	12
33	NP7	max	.12	6	.172	6	.075	2	6.56e-3	1	9.478e-3	12	2.305e-3	5
34		min	-.15	12	-.266	12	-.082	8	-5.725e-3	7	-7.735e-3	6	-3.377e-3	12
35	NP8	max	.322	5	.171	6	.627	7	8.729e-3	1	9.384e-3	12	2.05e-3	3
36		min	-.358	11	-.265	12	-.671	1	-8.44e-3	7	-7.961e-3	6	-1.676e-3	9
37	N31	max	.265	6	.005	6	.072	6	1.528e-3	12	4.931e-3	6	1.615e-3	29
38		min	-.319	12	-.049	24	-.085	12	-1.327e-3	6	-5.817e-3	12	-3.459e-4	11
39	N32	max	.306	6	-.001	6	.102	6	1.16e-3	12	6.93e-3	6	2.272e-3	30
40		min	-.353	12	-.047	24	-.119	12	-1.035e-3	6	-7.967e-3	12	-1.445e-3	12
41	N27	max	.265	6	.018	6	.014	6	9.928e-4	12	4.827e-3	6	1.699e-3	6
42		min	-.319	12	-.052	12	-.016	12	-5.854e-4	6	-5.81e-3	12	-1.854e-3	12
43	N28	max	.306	6	.016	6	.02	6	1.064e-3	12	6.414e-3	6	1.664e-3	30
44		min	-.353	12	-.049	12	-.024	12	-5.658e-4	6	-7.486e-3	12	-1.238e-3	12
45	N29	max	.264	6	.109	6	.12	8	6.313e-3	1	6.559e-3	1	1.166e-3	5
46		min	-.318	12	-.186	12	-.107	2	-5.516e-3	7	-5.782e-3	7	-1.401e-3	11
47	N30	max	.307	6	.096	5	.239	8	6.286e-3	1	8.974e-3	1	1.855e-3	3
48		min	-.354	12	-.168	11	-.245	2	-5.569e-3	7	-8.297e-3	7	-2.207e-3	9
49	N31A	max	.263	6	.171	5	.325	7	9.43e-3	1	9.651e-3	12	1.894e-3	27
50		min	-.317	12	-.263	12	-.366	1	-9.175e-3	7	-8.272e-3	6	-1.029e-3	9
51	N32A	max	.307	6	.167	5	.578	7	8.884e-3	1	9.606e-3	12	1.414e-3	26
52		min	-.355	12	-.256	11	-.627	1	-8.559e-3	7	-8.367e-3	6	-1.04e-3	8
53	N27A	max	.287	6	.018	6	.001	7	1.648e-3	12	6.456e-3	6	1.285e-3	6
54		min	-.331	12	-.047	12	-.001	1	-7.056e-4	6	-7.459e-3	12	-1.228e-3	12
55	N28A	max	.184	6	.008	6	.001	7	1.431e-3	12	7.122e-3	6	8.775e-4	6
56		min	-.212	12	-.023	12	-.001	1	-5.516e-4	6	-8.196e-3	12	-8.267e-4	12
57	N29A	max	.067	6	.001	6	0	7	6.722e-4	12	7.28e-3	6	3.248e-4	6
58		min	-.078	12	-.004	12	0	1	-2.256e-4	6	-8.403e-3	12	-2.946e-4	12

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
59	N30A	max	.225	6	.017	6	0	12	1.462e-3	12	5.011e-3	6	1.457e-3	6
60		min	-.271	12	-.046	12	0	6	-6.198e-4	6	-6.145e-3	12	-1.854e-3	12
61	N31B	max	.147	6	.008	6	0	11	1.418e-3	12	5.416e-3	6	1.016e-3	6
62		min	-.176	12	-.023	12	0	5	-5.421e-4	6	-6.545e-3	12	-1.243e-3	12
63	N32B	max	.057	6	.001	6	0	9	6.819e-4	12	5.932e-3	6	4.379e-4	6
64		min	-.067	12	-.004	12	0	3	-2.379e-4	6	-7.047e-3	12	-5.279e-4	12
65	N33	max	.166	6	.074	6	.226	11	3.121e-3	8	1.822e-3	6	1.008e-3	31
66		min	-.225	12	-.137	12	-.153	5	-2.031e-3	2	-1.713e-3	12	-5.957e-4	1
67	N34	max	.593	5	.066	6	.183	8	8.476e-3	1	4.213e-3	3	1.14e-2	5
68		min	-.674	11	-.131	12	-.183	2	-8.238e-3	7	-4.916e-3	9	-1.203e-2	11
69	N35	max	.265	6	.016	11	.549	6	2.161e-3	9	7.875e-3	6	3.085e-3	5
70		min	-.32	12	-.305	29	-.7	12	-6.852e-3	27	-9.76e-3	12	-3.001e-3	12
71	N36	max	.265	6	-.004	6	.181	6	3.503e-3	12	5.566e-3	6	2.933e-3	29
72		min	-.319	12	-.082	36	-.221	12	-3.282e-3	6	-7.391e-3	12	-1.686e-3	11
73	N37	max	.263	6	.161	6	.282	7	9.296e-3	1	9.87e-3	12	2.492e-3	5
74		min	-.317	12	-.255	12	-.315	1	-9.009e-3	7	-8.397e-3	6	-2.258e-3	11
75	N38	max	.264	6	.066	6	.086	11	3.718e-3	12	2.826e-3	2	4.002e-3	5
76		min	-.319	12	-.127	12	-.068	5	-2.506e-3	6	-3.309e-3	8	-5.012e-3	11
77	N40	max	.352	6	.003	6	.259	6	2.478e-3	12	5.584e-3	6	2.859e-3	5
78		min	-.393	12	-.082	36	-.299	12	-2.614e-3	6	-7.257e-3	12	-2.377e-3	12
79	N41	max	.299	5	.171	6	.525	7	8.713e-3	1	9.384e-3	12	2.036e-3	3
80		min	-.339	11	-.265	12	-.566	1	-8.424e-3	7	-7.961e-3	6	-1.662e-3	9
81	N42	max	.46	5	.068	6	.112	8	6.345e-3	1	4.212e-3	3	1.034e-2	5
82		min	-.534	11	-.133	12	-.11	2	-6.107e-3	7	-4.916e-3	9	-1.096e-2	11
83	N157A	max	.369	6	.012	11	.615	6	3.179e-3	8	7.98e-3	6	3.287e-3	5
84		min	-.426	12	-.293	29	-.712	12	-7.448e-3	26	-9.854e-3	12	-3.223e-3	11
85	N158	max	.308	6	.032	11	.614	6	2.32e-3	8	6.708e-3	5	5.321e-3	29
86		min	-.354	12	-.33	29	-.711	12	-6.477e-3	26	-7.859e-3	11	-1.396e-3	11
87	N73	max	.019	6	0	6	0	37	2.051e-5	38	6.085e-3	6	1.094e-4	6
88		min	-.022	12	0	24	0	7	-3.599e-6	8	-7.19e-3	12	-1.324e-4	12
89	N74	max	.024	6	0	6	0	2	4.83e-5	7	7.292e-3	6	5.989e-5	26
90		min	-.028	12	0	24	0	8	-2.279e-5	1	-8.427e-3	12	-3.023e-5	8
91	N75	max	.019	6	0	6	0	12	2.056e-5	38	6.085e-3	6	1.095e-4	6
92		min	-.023	12	0	24	0	6	-3.842e-6	8	-7.19e-3	12	-1.325e-4	12
93	N76A	max	.024	6	0	6	0	3	4.858e-5	7	7.292e-3	6	5.987e-5	26
94		min	-.028	12	0	24	0	23	-2.307e-5	1	-8.427e-3	12	-3.009e-5	8
95	N93	max	0	75	0	75	0	75	0	75	6.061e-3	6	0	75
96		min	0	1	0	1	0	1	0	1	-7.161e-3	12	0	1
97	N94	max	0	75	0	75	0	75	0	75	7.416e-3	6	0	75
98		min	0	1	0	1	0	1	0	1	-8.565e-3	12	0	1
99	N95	max	0	75	0	75	0	75	0	75	0	75	0	75
100		min	0	1	0	1	0	1	0	1	0	1	0	1
101	N95A	max	.307	6	-.014	8	.259	6	1.815e-3	11	7.546e-3	6	3.474e-3	29
102		min	-.353	12	-.105	26	-.298	12	-2.422e-3	29	-8.639e-3	12	-1.557e-4	11
103	N96	max	.307	6	.052	6	.111	8	3.601e-3	1	8.029e-3	1	2.591e-3	5
104		min	-.354	12	-.101	12	-.109	2	-2.742e-3	7	-7.72e-3	7	-4.118e-3	11
105	N97	max	.307	6	.16	5	.523	7	8.459e-3	1	9.879e-3	1	1.432e-3	3
106		min	-.355	12	-.249	11	-.564	1	-8.066e-3	7	-8.707e-3	7	-1.628e-3	9
107	N55	max	.02	6	0	6	0	12	3.866e-5	37	6.111e-3	6	1.433e-4	6
108		min	-.024	12	0	24	0	6	-9.4e-6	7	-7.221e-3	12	-1.729e-4	12
109	N56	max	.024	6	0	6	0	6	7.896e-5	8	7.264e-3	6	7.997e-5	26
110		min	-.028	12	0	24	0	12	-3.163e-5	2	-8.399e-3	12	-3.738e-5	8

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
111	N58	max	0	75	0	75	0	75	0	75	6.061e-3	6	0	75
112		min	0	1	0	1	0	1	0	1	-7.161e-3	12	0	1
113	N59	max	0	75	0	75	0	75	0	75	7.416e-3	6	0	75
114		min	0	1	0	1	0	1	0	1	-8.565e-3	12	0	1
115	N61	max	0	75	0	75	0	75	0	75	6.061e-3	6	0	75
116		min	0	1	0	1	0	1	0	1	-7.161e-3	12	0	1
117	N62	max	0	75	0	75	0	75	0	75	7.416e-3	6	0	75
118		min	0	1	0	1	0	1	0	1	-8.565e-3	12	0	1
119	N61A	max	.305	6	.04	11	.644	6	2.738e-3	8	6.8e-3	6	3.324e-3	29
120		min	-.355	12	-.355	29	-.757	12	-7.317e-3	26	-8.07e-3	12	-1.896e-3	11
121	N61B	max	.182	6	-.01	7	.172	6	3.469e-3	12	5.639e-3	6	2.701e-3	29
122		min	-.237	12	-.098	25	-.233	12	-2.955e-3	6	-9.204e-3	12	-8.86e-4	11
123	N62A	max	.182	6	.045	11	.554	6	3.279e-3	12	8.263e-3	6	5.204e-3	30
124		min	-.237	12	-.354	29	-.771	12	-3.678e-3	6	-1.104e-2	12	-2.278e-3	12
125	N63	max	.18	6	.193	6	.203	6	6.637e-3	1	9.482e-3	12	2.368e-3	5
126		min	-.234	12	-.298	12	-.249	12	-5.802e-3	7	-7.739e-3	6	-3.444e-3	11
127	N64	max	.182	6	.019	11	.455	6	3.279e-3	12	8.259e-3	6	5.201e-3	30
128		min	-.237	12	-.292	29	-.639	12	-3.678e-3	6	-1.103e-2	12	-2.281e-3	12
129	N65	max	.182	6	-.002	6	.103	6	3.529e-3	12	5.862e-3	6	1.692e-3	29
130		min	-.236	12	-.078	36	-.126	12	-2.735e-3	6	-8.683e-3	12	-1.518e-3	12
131	N66	max	.18	6	.165	6	.11	6	6.637e-3	1	9.478e-3	12	2.372e-3	5
132		min	-.234	12	-.257	12	-.135	12	-5.802e-3	7	-7.735e-3	6	-3.441e-3	11
133	N67	max	0	75	0	75	0	75	0	75	0	75	0	75
134		min	0	1	0	1	0	1	0	1	0	1	0	1
135	N68	max	.18	6	.105	6	.161	12	3.863e-3	12	5.686e-3	12	2.026e-3	5
136		min	-.234	12	-.164	12	-.125	6	-2.809e-3	6	-3.993e-3	6	-2.203e-3	11
137	N69	max	.182	6	-.012	8	.206	6	3.44e-3	12	6.001e-3	6	3.773e-3	29
138		min	-.237	12	-.115	26	-.289	12	-3.066e-3	6	-9.609e-3	12	-8.991e-4	12
139	N70	max	0	75	0	75	0	75	0	75	0	75	0	75
140		min	0	1	0	1	0	1	0	1	0	1	0	1
141	N71	max	.18	6	.117	6	.117	12	4.301e-3	1	8.193e-3	12	1.867e-3	5
142		min	-.234	12	-.178	12	-.093	6	-3.299e-3	7	-6.235e-3	6	-2.458e-3	11
143	N72	max	.18	6	.067	6	.187	12	3.379e-3	12	1.822e-3	6	1.863e-3	6
144		min	-.235	12	-.128	12	-.135	6	-2.198e-3	6	-1.713e-3	12	-1.628e-3	12
145	N73A	max	.18	6	.127	6	.063	12	4.82e-3	1	9.158e-3	12	1.725e-3	5
146		min	-.234	12	-.193	12	-.05	6	-3.854e-3	7	-7.293e-3	6	-2.712e-3	11
147	N74A	max	0	75	0	75	0	75	0	75	0	75	0	75
148		min	0	1	0	1	0	1	0	1	0	1	0	1
149	N75A	max	.28	6	.013	11	.549	6	2.161e-3	9	7.875e-3	6	3.085e-3	5
150		min	-.337	12	-.293	29	-.7	12	-6.852e-3	27	-9.76e-3	12	-3.001e-3	12
151	N76	max	.275	6	.002	6	.181	6	3.503e-3	12	5.566e-3	6	2.933e-3	29
152		min	-.332	12	-.081	36	-.221	12	-3.282e-3	6	-7.391e-3	12	-1.686e-3	11
153	N77	max	.248	6	.17	6	.282	7	9.296e-3	1	9.87e-3	12	2.492e-3	5
154		min	-.3	12	-.265	12	-.315	1	-9.009e-3	7	-8.397e-3	6	-2.258e-3	11
155	N78	max	.266	6	.071	6	.086	11	3.718e-3	12	2.826e-3	2	4.002e-3	5
156		min	-.322	12	-.134	12	-.068	5	-2.506e-3	6	-3.309e-3	8	-5.012e-3	11
157	N79	max	.197	6	.013	11	.455	6	3.279e-3	12	8.259e-3	6	5.201e-3	30
158		min	-.257	12	-.287	29	-.639	12	-3.678e-3	6	-1.103e-2	12	-2.281e-3	12
159	N80	max	.192	6	.003	6	.103	6	3.529e-3	12	5.862e-3	6	1.692e-3	29
160		min	-.252	12	-.079	36	-.126	12	-2.735e-3	6	-8.683e-3	12	-1.518e-3	12
161	N81	max	.166	6	.172	6	.11	6	6.637e-3	1	9.478e-3	12	2.372e-3	5
162		min	-.217	12	-.266	12	-.135	12	-5.802e-3	7	-7.735e-3	6	-3.441e-3	11

Envelope Joint Displacements (Continued)

	Joint		X [in]	LC	Y [in]	LC	Z [in]	LC	X Rotation [...	LC	Y Rotation [...	LC	Z Rotation [...	LC
163	N82	max	.184	6	.071	6	.187	12	3.379e-3	12	1.822e-3	6	1.863e-3	6
164		min	-.238	12	-.135	12	-.135	6	-2.198e-3	6	-1.713e-3	12	-1.628e-3	12

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	0	75	0	32	.011	12	0	75	0	75	0	75
2			min	0	1	-.004	12	0	14	0	1	0	1	0	1
3		2	max	334.837	6	54.196	6	19.389	7	.034	7	.049	2	.028	6
4			min	-139.995	12	-263.588	36	-94.519	25	-.125	25	-.03	8	-.13	36
5		3	max	394.746	6	-37.675	6	81.005	7	.029	8	.077	6	.002	7
6			min	-422.695	12	-329.049	36	-132.901	1	-.132	26	-.07	12	-.076	13
7		4	max	248.64	9	498.634	6	75.87	35	.109	12	.034	6	.068	5
8			min	-202.465	3	-604.343	12	-19.887	5	-.108	6	-.097	36	-.044	11
9		5	max	423.765	6	507.347	24	435.685	12	.03	6	.154	11	.179	26
10			min	-466.479	12	-9.003	6	-177.03	6	-.185	24	-.066	5	.001	44
11	M2	1	max	0	75	0	20	.01	12	0	75	0	75	0	75
12			min	0	1	-750.001	30	0	32	0	1	0	1	0	1
13		2	max	707.536	7	-15.635	7	21.034	2	.046	7	.045	2	.047	25
14			min	-747.897	1	-135.455	25	-24.168	8	-.105	25	-.051	8	-.028	7
15		3	max	757.818	31	40.953	6	14.26	25	.033	11	.042	1	.076	6
16			min	-498.918	1	-108.475	12	-5.514	7	-.086	29	-.046	7	-.163	12
17		4	max	775.372	31	62.827	6	85.227	7	.04	11	.039	6	.094	12
18			min	-470.689	1	-143.606	12	-96.973	1	-.092	29	-.044	12	-.027	6
19		5	max	629.17	32	533.591	6	312.745	6	.062	6	.177	7	.24	36
20			min	-307.998	2	-1192.939	12	-555.592	12	-.23	12	-.234	1	.023	6
21	M3	1	max	712.968	6	712.375	24	70.759	12	.551	12	.443	6	1.246	12
22			min	-1555.825	12	-135.487	6	-61.554	30	-.454	6	-.441	12	-.406	6
23		2	max	683.001	6	675.846	12	71.451	12	.565	12	.44	6	.761	12
24			min	-1431.149	12	-198.872	6	-66.353	6	-.457	6	-.431	12	-.297	6
25		3	max	588.547	6	738.856	12	133.183	12	.515	12	.445	6	.466	12
26			min	-1151.388	12	-263.117	6	-151.279	6	-.371	6	-.429	12	-.225	6
27		4	max	591.468	6	727.525	12	134.869	12	.515	12	.302	6	.028	5
28			min	-1154.309	12	-274.448	6	-152.966	6	-.371	6	-.303	12	-.347	47
29		5	max	474.78	6	78.992	5	272.56	12	.387	12	.107	7	-.009	1
30			min	-850.974	12	-206.156	47	-339.36	6	-.168	6	-.149	1	-.148	43
31	M4	1	max	2213.278	12	752.644	12	468.75	6	.422	12	.313	12	1.486	12
32			min	-1430.99	6	-271.057	6	-507.66	12	-.439	6	-.322	6	-.579	6
33		2	max	2062.907	12	741.091	12	461.594	6	.42	12	.168	8	1.027	12
34			min	-1375.328	6	-238.599	6	-493.599	12	-.437	6	-.207	2	-.417	6
35		3	max	2060.337	12	731.018	12	460.11	6	.42	12	.451	7	.414	12
36			min	-1372.758	6	-248.672	6	-492.115	12	-.437	6	-.517	1	-.214	6
37		4	max	1754.881	12	637.219	12	530.788	6	.352	11	.781	7	.211	12
38			min	-1252.608	6	-215.387	6	-538.034	12	-.36	5	-.862	1	-.161	6
39		5	max	1443.668	1	1403.717	12	703.112	6	.222	9	1.179	6	.03	2
40			min	-1137.521	7	-599.218	6	-659.699	12	-.196	3	-1.256	12	-.221	44
41	MP5A	1	max	26.749	2	191.226	1	371.882	25	.1	25	.103	8	.217	1
42			min	-664.638	32	-141.313	7	-146.953	7	-.064	7	-.313	26	-.178	7
43		2	max	30.064	2	196.47	1	371.882	25	.1	25	.04	9	.102	1
44			min	-662.378	32	-147.425	7	-146.953	7	-.064	7	-.097	27	-.092	7
45		3	max	33.378	2	201.714	1	371.882	25	.1	25	.129	25	.012	9

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
46			min	-660.118	32	-153.536	7	-146.953	7	-.064	7	-.074	7	-.041	26
47		4	max	36.693	2	206.958	1	371.882	25	.1	25	.349	25	.094	8
48			min	-657.859	32	-159.648	7	-146.953	7	-.064	7	-.161	7	-.144	2
49		5	max	53.08	7	191.003	7	710.852	7	.105	25	.52	31	.049	7
50			min	-642.18	36	-201.733	1	-753.608	1	-.064	7	.037	71	-.109	25
51	M9	1	max	34.11	12	49.333	6	393.498	36	.1	26	.041	6	.02	6
52			min	-81.975	30	-48.193	12	-49.565	6	-.035	8	-.531	36	-.013	12
53		2	max	37.425	12	43.942	6	392.94	36	.1	26	.013	6	.017	1
54			min	-79.715	30	-43.67	12	-46.658	6	-.035	8	-.298	36	-.01	7
55		3	max	40.739	12	38.552	6	392.383	36	.1	26	-.005	8	.038	12
56			min	-77.455	30	-39.148	12	-43.751	6	-.035	8	-.067	26	-.032	6
57		4	max	44.054	12	33.162	6	391.825	36	.1	26	.167	36	.06	12
58			min	-75.195	30	-34.625	12	-40.844	6	-.035	8	-.039	6	-.053	6
59		5	max	47.369	12	27.772	6	391.267	36	.1	26	.399	36	.079	12
60			min	-72.936	30	-30.103	12	-37.937	6	-.035	8	-.062	6	-.071	6
61	MP4A	1	max	0	75	.025	30	.017	6	0	12	0	75	0	75
62			min	0	29	-.011	12	-.015	12	0	29	0	25	0	1
63		2	max	-21.865	12	38.721	3	276.266	7	.174	26	-.023	11	-.039	3
64			min	-646.14	30	-589.966	35	-169.193	1	-.091	8	-.398	29	-.687	33
65		3	max	78.025	12	-94.303	71	130.981	26	.174	26	.238	7	.332	35
66			min	-546.249	30	-560.148	32	-9.458	8	-.091	8	-.244	1	-.033	5
67		4	max	10.081	12	10.854	8	132.143	1	.012	3	.084	7	.007	8
68			min	-23.939	6	-17.224	26	-122.981	7	-.011	9	-.088	1	-.011	26
69		5	max	0	12	.009	11	.009	8	0	5	0	75	0	75
70			min	0	29	-.009	5	-.021	26	0	11	0	1	0	1
71	MP3A	1	max	0	75	.008	30	.013	6	0	12	0	75	0	75
72			min	0	36	-.007	12	-.017	12	0	29	0	1	0	1
73		2	max	440.934	12	536.835	6	108.143	7	.104	9	.15	12	.56	6
74			min	-604.409	6	-653.3	12	-183.642	1	-.041	3	-.117	6	-.605	12
75		3	max	450.938	12	525.254	6	84.98	7	.104	9	.062	7	.528	12
76			min	-594.405	6	-641.718	12	-174.484	25	-.041	3	-.232	25	-.369	6
77		4	max	16.328	12	10.864	6	63.849	12	.011	14	.022	6	.009	6
78			min	-40.622	6	-32.825	12	-47.652	6	-.002	8	-.035	12	-.025	12
79		5	max	0	75	.007	11	.007	12	0	6	0	75	0	75
80			min	0	36	-.008	5	-.008	6	0	11	0	1	0	1
81	MP1A	1	max	0	6	.011	5	.027	7	0	12	0	75	0	75
82			min	0	12	-.016	11	-.031	1	0	5	0	1	0	1
83		2	max	-3.264	12	434.438	6	407.552	8	.102	2	.495	2	.384	6
84			min	-282.271	18	-281.639	12	-346.883	2	-.121	8	-.59	8	-.157	12
85		3	max	68.54	12	355.401	6	270.657	8	.102	2	.05	32	.292	12
86			min	-169.414	6	-202.602	12	-209.988	2	-.121	8	-.036	2	-.332	6
87		4	max	-.653	2	62.034	12	56.31	1	.024	6	.038	7	.045	12
88			min	-21.311	20	-54.835	6	-55.707	7	-.027	12	-.037	1	-.04	6
89		5	max	0	6	.005	9	.025	1	0	3	0	75	0	75
90			min	0	12	-.006	3	-.024	7	0	9	0	1	0	1
91	M16	1	max	187.745	12	26.847	9	398.39	12	.088	6	.37	6	.057	12
92			min	-266.152	6	-12.038	3	-285.847	6	-.094	12	-.506	12	-.036	6
93		2	max	191.059	12	30.365	12	395.483	12	.088	6	.201	6	.041	12
94			min	-264.607	6	-15.715	6	-282.94	6	-.094	12	-.27	12	-.029	6
95		3	max	194.374	12	34.887	12	392.576	12	.088	6	.034	6	.021	1
96			min	-263.062	6	-21.106	6	-280.033	6	-.094	12	-.037	12	-.018	7
97		4	max	197.689	12	39.41	12	389.669	12	.088	6	.195	12	.013	26

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
98			min	-261.518	6	-26.496	6	-277.126	6	-.094	12	-.131	6	-.014	8
99		5	max	201.003	12	43.932	12	386.763	12	.088	6	.425	12	.015	30
100			min	-259.973	6	-31.886	6	-274.22	6	-.094	12	-.294	6	-.025	12
101	M14	1	max	887.749	12	186.398	12	222.094	12	.063	6	.241	6	.224	12
102			min	-255.675	6	-77.542	6	-226.681	6	-.063	12	-.211	12	-.101	6
103		2	max	891.064	12	190.921	12	219.187	12	.063	6	.107	6	.112	12
104			min	-254.131	6	-82.932	6	-223.774	6	-.063	12	-.08	12	-.054	6
105		3	max	894.379	12	195.443	12	216.28	12	.063	6	.049	12	.002	2
106			min	-252.586	6	-88.322	6	-220.867	6	-.063	12	-.024	6	-.013	44
107		4	max	897.693	12	199.966	12	213.373	12	.063	6	.176	12	.051	6
108			min	-251.042	6	-93.713	6	-217.96	6	-.063	12	-.155	6	-.119	12
109		5	max	901.008	12	204.488	12	210.467	12	.063	6	.302	12	.108	6
110			min	-249.497	6	-99.103	6	-215.053	6	-.063	12	-.283	6	-.239	12
111	M15	1	max	105.216	8	89.22	7	153.569	6	.104	2	.366	12	.099	7
112			min	-79.153	2	-85.765	1	-333.283	12	-.111	8	-.16	6	-.092	1
113		2	max	106.761	8	83.108	7	156.476	6	.104	2	.168	12	.048	7
114			min	-75.838	2	-80.521	1	-336.19	12	-.111	8	-.068	6	-.043	1
115		3	max	108.305	8	76.996	7	159.383	6	.104	2	.029	5	.019	11
116			min	-72.523	2	-75.277	1	-339.097	12	-.111	8	-.035	11	-.015	5
117		4	max	109.85	8	70.885	7	162.289	6	.104	2	.121	6	.05	12
118			min	-69.209	2	-70.033	1	-342.004	12	-.111	8	-.234	12	-.047	6
119		5	max	111.394	8	64.773	7	165.196	6	.104	2	.218	6	.087	1
120			min	-65.894	2	-64.789	1	-344.91	12	-.111	8	-.438	12	-.084	7
121	M16A	1	max	91.483	12	77.375	8	151.717	6	.06	2	.268	12	.05	8
122			min	-90.826	6	-65.908	2	-202.545	12	-.069	8	-.22	6	-.041	2
123		2	max	94.798	12	71.985	8	154.624	6	.06	2	.147	12	.011	11
124			min	-89.281	6	-61.386	2	-205.452	12	-.069	8	-.13	6	-.01	6
125		3	max	98.113	12	66.595	8	157.531	6	.06	2	.027	11	.032	2
126			min	-87.737	6	-56.863	2	-208.359	12	-.069	8	-.04	5	-.035	8
127		4	max	101.427	12	61.204	8	160.437	6	.06	2	.057	6	.064	2
128			min	-86.192	6	-52.341	2	-211.266	12	-.069	8	-.1	12	-.073	8
129		5	max	104.742	12	55.814	8	163.344	6	.06	2	.153	6	.094	2
130			min	-84.648	6	-47.818	2	-214.173	12	-.069	8	-.226	12	-.108	8
131	M14A	1	max	62.742	2	8.608	7	127.596	12	.056	6	.047	6	.016	11
132			min	-123.664	8	-3.819	1	-32.89	6	-.056	12	-.157	12	-.005	5
133		2	max	65.172	2	11.341	8	132.647	12	.056	6	.026	6	.014	11
134			min	-121.234	8	-6.717	2	-37.941	6	-.056	12	-.081	12	-.006	5
135		3	max	67.601	2	14.257	8	137.698	12	.056	6	.003	7	.011	12
136			min	-118.804	8	-9.633	2	-42.991	6	-.056	12	-.003	1	-.006	6
137		4	max	70.031	2	18.204	9	142.749	12	.056	6	.079	12	.012	1
138			min	-116.375	8	-13.418	3	-48.042	6	-.056	12	-.024	6	-.009	7
139		5	max	72.461	2	23.255	9	147.8	12	.056	6	.164	12	.019	2
140			min	-113.945	8	-18.469	3	-53.093	6	-.056	12	-.054	6	-.019	8
141	M15A	1	max	111.883	37	82.369	6	282.678	12	.071	6	.121	6	.087	30
142			min	-120.561	49	-62.569	12	-97.377	6	-.069	12	-.337	12	-.05	12
143		2	max	114.312	37	79.453	6	287.728	12	.071	6	.063	6	.048	30
144			min	-118.132	49	-59.653	12	-102.428	6	-.069	12	-.171	12	-.015	12
145		3	max	116.742	37	76.536	6	292.779	12	.071	6	.002	7	.019	12
146			min	-115.702	49	-56.737	12	-107.479	6	-.069	12	-.002	1	-.007	6
147		4	max	119.172	37	73.62	6	297.83	12	.071	6	.171	12	.051	12
148			min	-113.273	49	-53.821	12	-112.53	6	-.069	12	-.063	6	-.051	6
149		5	max	121.601	37	70.704	6	302.881	12	.071	6	.346	12	.082	12

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
150			min	-110.843	49	-50.905	12	-117.581	6	-.069	12	-.13	6	-.093	6
151	M16B	1	max	364.048	6	184.788	6	306.32	12	.066	29	.144	6	.23	30
152			min	-894.431	48	-136.471	12	-119.588	6	-.057	11	-.357	12	-.128	12
153		2	max	366.478	6	183.405	30	311.371	12	.066	29	.072	6	.123	30
154			min	-892.001	48	-133.555	12	-124.639	6	-.057	11	-.177	12	-.049	12
155		3	max	368.908	6	182.845	30	316.422	12	.066	29	.01	48	.028	12
156			min	-889.572	48	-130.638	12	-129.69	6	-.057	11	-.002	6	-.009	6
157		4	max	371.337	6	182.286	30	321.473	12	.066	29	.192	12	.104	12
158			min	-887.142	48	-127.722	12	-134.741	6	-.057	11	-.079	6	-.112	6
159		5	max	373.767	6	181.727	30	326.524	12	.066	29	.381	12	.177	12
160			min	-884.713	48	-124.806	12	-139.791	6	-.057	11	-.159	6	-.214	6
161	MP2A	1	max	0	6	.073	18	.065	2	0	12	0	75	0	75
162			min	0	12	-.026	12	-.228	24	0	18	0	1	0	1
163		2	max	166.672	36	357.764	29	345.788	6	.115	2	.327	12	.359	5
164			min	-178.777	6	-179.371	11	-462.326	12	-.156	8	-.318	6	-.329	11
165		3	max	266.676	36	339.893	30	258.795	5	.15	2	.244	5	.003	2
166			min	-78.772	6	-85.134	12	-374.272	11	-.191	8	-.317	11	-.286	32
167		4	max	-46.787	8	110.128	2	328.305	12	.085	5	.317	1	.353	3
168			min	-234.695	14	-65.036	8	-274.639	6	-.097	11	-.35	7	-.327	9
169		5	max	-52.863	69	279.337	3	563.419	7	0	5	0	1	0	75
170			min	-228.381	24	-279.323	9	-563.401	1	0	11	0	7	0	1
171	M112	1	max	765.453	6	520.04	24	298.474	6	.126	6	.192	8	.435	12
172			min	-733.896	12	66.204	7	-414.572	12	-.156	12	-.139	2	-.112	6
173		2	max	611.817	6	137.454	2	224.765	12	.235	8	.501	6	.226	5
174			min	-696.325	12	-58.16	8	-181.38	6	-.208	2	-.61	12	-.241	11
175		3	max	466.646	6	106.676	25	151.307	12	.152	8	.211	6	.099	12
176			min	-371.343	12	14.621	7	-101.179	6	-.133	2	-.286	12	-.034	6
177		4	max	475.022	6	99.648	25	139.936	11	.152	8	.053	6	-.004	9
178			min	-379.719	12	7.592	7	-90.583	5	-.133	2	-.043	12	-.096	27
179		5	max	0	75	.002	2	.012	12	0	75	0	75	0	75
180			min	0	1	0	36	-.004	2	0	1	0	1	0	1
181	M113	1	max	893.153	12	234.772	11	994.18	1	.167	7	1.344	7	.368	11
182			min	-643.629	6	-89.65	5	-919.698	7	-.162	1	-1.483	1	-.155	5
183		2	max	658.086	12	207.736	11	93.989	12	.173	7	.208	5	.015	7
184			min	-419.975	6	-92.108	5	-67.392	6	-.164	1	-.245	11	-.029	1
185		3	max	304.724	12	116.064	12	115.71	12	.11	8	.168	6	.095	12
186			min	-246.425	6	-66.346	6	-100.708	6	-.097	2	-.204	12	-.06	6
187		4	max	296.348	12	109.036	12	101.202	12	.11	8	.062	2	.058	6
188			min	-238.048	6	-73.375	6	-86.201	6	-.097	2	-.071	8	-.095	12
189		5	max	0	75	.001	2	.012	12	0	75	0	75	0	75
190			min	0	1	0	36	-.006	2	0	1	0	1	0	1
191	M38	1	max	1066.1	1	43.732	17	56.19	12	.032	8	0	75	0	75
192			min	-930.431	7	12.783	65	-56.19	6	-.09	26	0	1	0	1
193		2	max	1075.876	1	21.866	17	28.095	12	.032	8	.09	12	-.021	65
194			min	-940.489	7	6.391	65	-28.095	6	-.09	26	-.09	6	-.07	17
195		3	max	1085.653	1	0	75	0	75	.032	8	.12	12	-.027	65
196			min	-950.548	7	0	1	0	1	-.09	26	-.12	6	-.094	17
197		4	max	1095.429	1	-6.391	65	28.095	6	.032	8	.09	12	-.021	65
198			min	-960.607	7	-21.866	17	-28.095	12	-.09	26	-.09	6	-.07	17
199		5	max	1105.206	1	-12.783	65	56.19	6	.032	8	0	75	0	75
200			min	-970.665	7	-43.732	17	-56.19	12	-.09	26	0	1	0	1
201	M44	1	max	0	75	0	6	0	75	0	75	0	75	0	75

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
202			min	0	1	0	12	0	14	0	1	0	1	0	1
203		2	max	153.621	6	191.059	12	1904.599	12	.044	30	.751	12	.257	6
204			min	-720.078	12	-176.395	6	-758.063	6	-.053	12	-.296	6	-.302	12
205		3	max	73.931	8	142.812	11	390.405	24	.487	6	.042	8	.083	12
206			min	-50.791	2	-127.214	5	-60.546	6	-.494	12	-.025	2	-.052	6
207		4	max	756.46	12	638.16	12	2593.026	12	.165	6	.454	6	.31	12
208			min	-223.815	6	-610.479	6	-1506.969	6	-.181	12	-.944	12	-.317	6
209		5	max	0	75	0	8	0	20	0	75	0	75	0	75
210			min	0	1	0	26	0	1	0	1	0	1	0	1
211	M45	1	max	152.742	6	582.088	12	372.933	24	.008	12	.01	6	.087	12
212			min	-557.862	12	-480.915	6	-71.299	6	-.007	6	-.05	24	-.072	6
213		2	max	152.681	6	582.052	12	373.728	24	.008	12	.005	6	.048	12
214			min	-557.801	12	-480.88	6	-70.885	6	-.007	6	-.025	24	-.04	6
215		3	max	152.619	6	582.017	12	374.523	24	.008	12	0	38	.009	12
216			min	-557.739	12	-480.844	6	-70.47	6	-.007	6	0	8	-.009	30
217		4	max	152.558	6	581.981	12	375.318	24	.008	12	.026	24	.025	6
218			min	-557.678	12	-480.809	6	-70.056	6	-.007	6	-.005	6	-.031	12
219		5	max	152.497	6	581.946	12	376.113	24	.008	12	.051	24	.058	6
220			min	-557.617	12	-480.774	6	-69.641	6	-.007	6	-.009	6	-.07	12
221	M46	1	max	668.454	23	322.766	30	385.018	12	.002	8	.015	6	.078	6
222			min	-65.307	3	-264.761	12	-99.368	6	-.004	26	-.052	12	-.077	12
223		2	max	668.497	23	322.773	30	385.432	12	.002	8	.008	6	.057	6
224			min	-65.201	3	-264.796	12	-98.953	6	-.004	26	-.026	12	-.059	12
225		3	max	668.541	23	322.78	30	385.846	12	.002	8	.002	7	.037	6
226			min	-65.095	3	-264.832	12	-98.539	6	-.004	26	0	1	-.041	12
227		4	max	668.584	23	322.787	30	386.261	12	.002	8	.026	12	.018	7
228			min	-64.989	3	-264.867	12	-98.125	6	-.004	26	-.005	6	-.025	1
229		5	max	668.627	23	322.793	30	386.675	12	.002	8	.052	12	.017	8
230			min	-64.883	3	-264.902	12	-97.71	6	-.004	26	-.012	6	-.031	26
231	M28	1	max	589.865	6	317.948	6	370.589	24	.011	12	.009	6	.028	6
232			min	-1331.294	12	-386.497	12	-67.75	6	-.009	6	-.049	24	-.035	1
233		2	max	589.804	6	317.983	6	371.384	24	.011	12	.004	6	.012	7
234			min	-1331.232	12	-386.532	12	-67.335	6	-.009	6	-.024	24	-.014	1
235		3	max	589.742	6	318.019	6	372.179	24	.011	12	.002	37	.018	12
236			min	-1331.171	12	-386.568	12	-66.921	6	-.009	6	0	7	-.015	6
237		4	max	589.681	6	318.054	6	372.974	24	.011	12	.027	24	.044	12
238			min	-1331.11	12	-386.603	12	-66.506	6	-.009	6	-.005	6	-.036	6
239		5	max	589.62	6	318.089	6	373.769	24	.011	12	.052	24	.07	12
240			min	-1331.049	12	-386.638	12	-66.092	6	-.009	6	-.009	6	-.058	6
241	M29	1	max	2106.108	12	307.667	6	386.667	12	.002	8	.016	6	.087	6
242			min	-1557.665	6	-404.61	12	-109.772	6	-.005	26	-.052	12	-.104	12
243		2	max	2106.17	12	307.702	6	387.082	12	.002	8	.009	6	.066	6
244			min	-1557.726	6	-404.646	12	-109.357	6	-.005	26	-.026	12	-.077	12
245		3	max	2106.231	12	307.738	6	387.496	12	.002	8	.003	8	.045	6
246			min	-1557.787	6	-404.681	12	-108.943	6	-.005	26	-.001	2	-.049	12
247		4	max	2106.292	12	307.773	6	387.91	12	.002	8	.026	12	.025	30
248			min	-1557.848	6	-404.716	12	-108.528	6	-.005	26	-.006	6	-.022	12
249		5	max	2106.353	12	307.808	6	388.325	12	.002	8	.053	12	.031	26
250			min	-1557.91	6	-404.752	12	-108.114	6	-.005	26	-.013	6	-.017	8
251	M30	1	max	376.239	24	481.69	6	152.497	6	.058	6	.009	6	.008	12
252			min	-69.635	6	-577.991	12	-557.617	12	-.07	12	-.051	24	-.007	6
253		2	max	376.239	24	481.69	6	152.497	6	.058	6	.024	6	.062	12

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
254			min	-69.635	6	-577.991	12	-557.617	12	-.07	12	-.103	12	-.052	6
255		3	max	376.239	24	314.473	6	1331.049	12	.058	6	.101	6	.117	12
256			min	-354.721	21	-396.287	12	-589.62	6	-.07	12	-.199	12	-.097	6
257		4	max	66.066	6	314.473	6	1331.049	12	.058	6	.046	6	.038	6
258			min	-374.017	24	-396.287	12	-589.62	6	-.07	12	-.074	11	-.048	12
259		5	max	66.066	6	314.473	6	1331.049	12	.058	6	.052	24	.009	6
260			min	-374.017	24	-396.287	12	-589.62	6	-.07	12	-.009	6	-.011	12
261	M31	1	max	387.821	12	390.115	1	2106.353	12	.031	26	.013	6	.002	8
262			min	-108.186	6	-319.31	6	-1557.91	6	-.017	8	-.053	12	-.005	26
263		2	max	387.821	12	390.115	1	2106.353	12	.031	26	.153	1	.029	7
264			min	-108.186	6	-319.31	6	-1557.91	6	-.017	8	-.143	7	-.038	1
265		3	max	387.821	12	390.115	1	2106.353	12	.031	26	.347	1	.064	29
266			min	-366.599	24	-319.31	6	-1557.91	6	-.017	8	-.286	7	-.075	1
267		4	max	97.709	6	321.871	30	64.883	3	.031	26	.112	24	.034	29
268			min	-386.559	12	-260.614	12	-668.627	23	-.017	8	-.011	5	-.025	12
269		5	max	97.709	6	321.871	30	64.883	3	.031	26	.052	12	.004	26
270			min	-386.559	12	-260.614	12	-668.627	23	-.017	8	-.012	6	-.002	8
271	M32	1	max	0	75	.003	32	.034	12	0	75	0	75	0	75
272			min	0	1	-.012	6	-.005	2	0	1	0	1	0	1
273		2	max	2685.444	30	761.076	6	482.45	12	-.011	9	.816	7	1.17	30
274			min	-1176.757	12	-446.347	12	-2686.138	30	-.246	27	-.531	1	-.153	12
275		3	max	1341.154	6	102.89	6	228.45	3	.021	1	.419	6	.051	36
276			min	-1500.709	12	-61.592	12	-236.839	11	-.063	7	-.724	12	-.065	18
277		4	max	1893.388	6	99.387	36	3073.166	11	.567	8	2.475	6	.333	20
278			min	-1925.464	12	-322.616	18	-1775.189	5	-.536	2	-3.049	12	.017	26
279		5	max	0	75	.01	12	.029	12	0	75	0	75	0	75
280			min	0	1	0	14	-.005	2	0	1	0	1	0	1
281	M33	1	max	4177.778	29	36.173	24	59.467	5	.001	12	0	75	0	75
282			min	-785.414	11	9.886	64	-59.467	11	-.001	6	0	1	0	1
283		2	max	4176.266	29	18.086	24	29.734	5	.001	12	.055	5	.034	5
284			min	-777.528	11	4.943	64	-29.734	11	-.001	6	-.034	11	-.055	11
285		3	max	4174.753	29	0	75	0	75	.001	12	.073	5	.046	5
286			min	-769.643	11	0	1	0	1	-.001	6	-.046	11	-.073	11
287		4	max	4173.241	29	-4.943	75	29.734	11	.001	12	.055	5	.034	5
288			min	-761.758	11	-18.086	13	-29.734	5	-.001	6	-.034	11	-.055	11
289		5	max	4171.728	29	-9.886	75	59.467	11	.001	12	0	75	0	75
290			min	-753.873	11	-36.173	13	-59.467	5	-.001	6	0	1	0	1
291	M34	1	max	5130.041	12	31.996	24	56.175	3	0	8	0	75	0	75
292			min	-3339.12	6	8.745	64	-56.175	9	0	2	0	1	0	1
293		2	max	5129.651	12	15.998	24	28.087	3	0	8	.045	3	.029	3
294			min	-3338.729	6	4.372	64	-28.087	9	0	2	-.029	9	-.045	9
295		3	max	5129.26	12	0	75	0	75	0	8	.061	3	.039	3
296			min	-3338.338	6	0	1	0	1	0	2	-.039	9	-.061	9
297		4	max	5128.869	12	-4.372	75	28.087	9	0	8	.045	3	.029	3
298			min	-3337.947	6	-15.998	13	-28.087	3	0	2	-.029	9	-.045	9
299		5	max	5128.478	12	-8.745	75	56.175	9	0	8	0	75	0	75
300			min	-3337.556	6	-31.996	13	-56.175	3	0	2	0	1	0	1
301	M35	1	max	1171.543	12	40.514	13	69.545	6	0	11	0	75	0	75
302			min	-4531.36	30	5.378	7	-69.545	12	-.001	29	0	1	0	1
303		2	max	1167.089	12	20.257	13	34.772	6	0	11	.072	5	.05	6
304			min	-4527.611	30	2.689	7	-34.772	12	-.001	29	-.047	11	-.075	12
305		3	max	1162.635	12	0	75	0	75	0	11	.096	5	.067	6

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
306			min	-4523.861	30	0	1	0	1	-.001	29	-.063	11	-.1	12
307		4	max	1158.181	12	-2.689	7	34.772	12	0	11	.072	5	.05	6
308			min	-4520.111	30	-20.257	13	-34.772	6	-.001	29	-.047	11	-.075	12
309		5	max	1153.727	12	-5.378	7	69.545	12	0	11	0	75	0	75
310			min	-4516.361	30	-40.514	13	-69.545	6	-.001	29	0	1	0	1
311	M36	1	max	16.483	36	36.068	22	62.796	3	.001	9	0	75	0	75
312			min	-2187.088	18	3.466	4	-62.796	9	0	3	0	1	0	1
313		2	max	18.007	36	18.034	22	31.398	3	.001	9	.058	2	.041	3
314			min	-2179.68	18	1.733	4	-31.398	9	0	3	-.038	8	-.06	9
315		3	max	19.53	36	0	75	0	75	.001	9	.077	2	.054	3
316			min	-2172.271	18	0	1	0	1	0	3	-.051	8	-.081	9
317		4	max	21.053	36	-1.733	4	31.398	9	.001	9	.058	2	.041	3
318			min	-2164.863	18	-18.034	22	-31.398	3	0	3	-.038	8	-.06	9
319		5	max	22.577	36	-3.466	4	62.796	9	.001	9	0	75	0	75
320			min	-2157.454	18	-36.068	22	-62.796	3	0	3	0	1	0	1
321	M37	1	max	2826.424	5	41.265	24	49.96	10	.027	9	0	75	0	75
322			min	-2849.03	11	12.116	64	-49.96	4	-.018	3	0	1	0	1
323		2	max	2816.566	5	20.633	24	24.98	10	.027	9	.076	10	-.018	75
324			min	-2839.171	11	6.058	64	-24.98	4	-.018	3	-.076	4	-.063	13
325		3	max	2806.707	5	0	75	0	75	.027	9	.101	10	-.025	75
326			min	-2829.313	11	0	1	0	1	-.018	3	-.101	4	-.084	13
327		4	max	2796.849	5	-6.058	75	24.98	4	.027	9	.076	10	-.018	75
328			min	-2819.454	11	-20.633	13	-24.98	10	-.018	3	-.076	4	-.063	13
329		5	max	2786.99	5	-12.116	75	49.96	4	.027	9	0	75	0	75
330			min	-2809.595	11	-41.265	13	-49.96	10	-.018	3	0	1	0	1
331	M38A	1	max	192.291	1	656.59	30	59.142	3	.733	33	.163	8	-.011	9
332			min	-299.744	7	32.387	12	-592.602	35	.051	3	-.153	2	-.246	27
333		2	max	192.291	1	656.59	30	59.142	3	.733	33	.152	8	-.016	9
334			min	-299.744	7	32.387	12	-592.602	35	.051	3	-.153	2	-.27	27
335		3	max	192.291	1	656.59	30	59.142	3	.733	33	.141	8	-.019	11
336			min	-299.744	7	32.387	12	-592.602	35	.051	3	-.152	2	-.294	29
337		4	max	192.291	1	656.59	30	59.142	3	.733	33	.13	8	-.021	11
338			min	-299.744	7	32.387	12	-592.602	35	.051	3	-.151	2	-.319	29
339		5	max	192.291	1	656.59	30	59.142	3	.733	33	.119	8	-.023	11
340			min	-299.744	7	32.387	12	-592.602	35	.051	3	-.15	2	-.343	29
341	M39	1	max	231.598	1	154.867	12	564.43	28	.476	35	.109	1	.139	1
342			min	-133.362	7	-460.961	30	10.267	10	-.099	5	-.12	7	-.144	7
343		2	max	231.598	1	154.867	12	564.43	28	.476	35	.113	1	.134	1
344			min	-133.362	7	-460.961	30	10.267	10	-.099	5	-.114	7	-.143	7
345		3	max	231.598	1	154.867	12	564.43	28	.476	35	.118	1	.13	1
346			min	-133.362	7	-460.961	30	10.267	10	-.099	5	-.109	7	-.143	7
347		4	max	231.598	1	154.867	12	564.43	28	.476	35	.123	1	.125	1
348			min	-133.362	7	-460.961	30	10.267	10	-.099	5	-.104	7	-.142	7
349		5	max	231.598	1	154.867	12	564.43	28	.476	35	.128	1	.12	1
350			min	-133.362	7	-460.961	30	10.267	10	-.099	5	-.098	7	-.141	7
351	M40	1	max	206.31	1	614.735	6	549.768	6	.65	12	.083	12	.2	26
352			min	-131.992	7	-430.257	12	-665.074	12	-.596	6	-.118	6	-.03	8
353		2	max	206.31	1	614.735	6	549.768	6	.65	12	.058	12	.182	26
354			min	-131.992	7	-430.257	12	-665.074	12	-.596	6	-.097	6	-.03	8
355		3	max	206.31	1	614.735	6	549.768	6	.65	12	.039	1	.163	25
356			min	-131.992	7	-430.257	12	-665.074	12	-.596	6	-.086	31	-.035	7
357		4	max	206.31	1	614.735	6	549.768	6	.65	12	.026	1	.147	25

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
358			min	-131.992	7	-430.257	12	-665.074	12	-.596	6	-.086	31	-.049	7
359		5	max	206.31	1	614.735	6	549.768	6	.65	12	.023	2	.131	25
360			min	-131.992	7	-430.257	12	-665.074	12	-.596	6	-.087	32	-.062	7
361	M41	1	max	104.965	6	443.931	12	597.316	12	.721	12	.105	6	.149	12
362			min	-198.263	36	-544.123	6	-504.141	6	-.491	6	-.074	12	-.097	6
363		2	max	104.965	6	443.931	12	597.316	12	.721	12	.093	7	.132	12
364			min	-198.263	36	-544.123	6	-504.141	6	-.491	6	-.056	1	-.077	6
365		3	max	104.965	6	443.931	12	597.316	12	.721	12	.085	7	.129	25
366			min	-198.263	36	-544.123	6	-504.141	6	-.491	6	-.044	1	-.061	7
367		4	max	104.965	6	443.931	12	597.316	12	.721	12	.08	31	.143	25
368			min	-198.263	36	-544.123	6	-504.141	6	-.491	6	-.032	1	-.05	7
369		5	max	104.965	6	443.931	12	597.316	12	.721	12	.082	8	.157	25
370			min	-198.263	36	-544.123	6	-504.141	6	-.491	6	-.035	2	-.038	7
371	M42	1	max	900.62	12	302.698	18	603.544	5	.088	2	.231	8	.613	8
372			min	-785.294	6	-82.714	36	-479.924	11	-.321	32	-.218	2	-.541	2
373		2	max	900.62	12	302.698	18	603.544	5	.088	2	.22	8	.611	8
374			min	-785.294	6	-82.714	36	-479.924	11	-.321	32	-.202	2	-.547	2
375		3	max	900.62	12	302.698	18	603.544	5	.088	2	.208	8	.609	8
376			min	-785.294	6	-82.714	36	-479.924	11	-.321	32	-.187	2	-.553	2
377		4	max	900.62	12	302.698	18	603.544	5	.088	2	.197	8	.607	8
378			min	-785.294	6	-82.714	36	-479.924	11	-.321	32	-.171	2	-.559	2
379		5	max	900.62	12	302.698	18	603.544	5	.088	2	.186	8	.605	8
380			min	-785.294	6	-82.714	36	-479.924	11	-.321	32	-.156	2	-.565	2
381	M43	1	max	490.124	6	435.892	24	62.363	1	.276	9	.104	1	.204	8
382			min	-659.103	12	7.803	6	-307.757	30	-.552	3	-.113	7	-.15	2
383		2	max	490.124	6	435.892	24	62.363	1	.276	9	.106	1	.197	8
384			min	-659.103	12	7.803	6	-307.757	30	-.552	3	-.118	7	-.155	2
385		3	max	490.124	6	435.892	24	62.363	1	.276	9	.109	1	.19	8
386			min	-659.103	12	7.803	6	-307.757	30	-.552	3	-.124	7	-.16	2
387		4	max	490.124	6	435.892	24	62.363	1	.276	9	.111	1	.183	8
388			min	-659.103	12	7.803	6	-307.757	30	-.552	3	-.13	7	-.165	2
389		5	max	490.124	6	435.892	24	62.363	1	.276	9	.113	1	.176	8
390			min	-659.103	12	7.803	6	-307.757	30	-.552	3	-.135	7	-.17	2
391	M44B	1	max	367.561	2	302.799	18	448.194	6	.171	12	.127	9	.54	2
392			min	-428.3	8	13.853	12	-291.923	12	-.411	6	-.148	3	-.573	8
393		2	max	367.561	2	302.799	18	448.194	6	.171	12	.124	8	.535	2
394			min	-428.3	8	13.853	12	-291.923	12	-.411	6	-.141	2	-.578	8
395		3	max	367.561	2	302.799	18	448.194	6	.171	12	.123	8	.53	2
396			min	-428.3	8	13.853	12	-291.923	12	-.411	6	-.134	2	-.584	8
397		4	max	367.561	2	302.799	18	448.194	6	.171	12	.123	8	.525	2
398			min	-428.3	8	13.853	12	-291.923	12	-.411	6	-.127	2	-.589	8
399		5	max	367.561	2	302.799	18	448.194	6	.171	12	.122	8	.521	2
400			min	-428.3	8	13.853	12	-291.923	12	-.411	6	-.12	2	-.594	8
401	M45B	1	max	183.941	9	152.454	12	186.69	12	.247	12	.098	2	.092	2
402			min	-124.519	3	-90.009	6	-331.307	6	-.329	6	-.075	8	-.103	8
403		2	max	183.941	9	152.454	12	186.69	12	.247	12	.098	2	.091	2
404			min	-124.519	3	-90.009	6	-331.307	6	-.329	6	-.08	8	-.104	8
405		3	max	183.941	9	152.454	12	186.69	12	.247	12	.097	2	.09	2
406			min	-124.519	3	-90.009	6	-331.307	6	-.329	6	-.086	8	-.105	8
407		4	max	183.941	9	152.454	12	186.69	12	.247	12	.097	2	.089	2
408			min	-124.519	3	-90.009	6	-331.307	6	-.329	6	-.091	8	-.106	8
409		5	max	183.941	9	152.454	12	186.69	12	.247	12	.096	2	.088	2

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
410			min	-124.519	3	-90.009	6	-331.307	6	-.329	6	-.097	8	-.107	8

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	M113	PIPE_2.0	.806	0	1	.201	0		1	18606.3...	32130	1.872	1.872	1...	H1-1b
2	M32	PIPE_3.0	.546	11.25	12	.210	11.7...		9	19871.9...	65205	5.749	5.749	2...	H1-1b
3	M112	PIPE_2.0	.382	1.477	12	.150	1.406		12	18606.3...	32130	1.872	1.872	2...	H1-1b
4	M33	L2.5x2.5x4	.333	2.836	29	.010	0	z	6	13484.2...	38556	1.114	2.24	1...	H2-1
5	M34	L2.5x2.5x4	.317	2.508	12	.008	5.017	z	3	16961.6...	38556	1.114	2.3	1...	H2-1
6	M1	PIPE_2.0	.312	5.328	12	.175	8.078		24	14206.9...	32130	1.872	1.872	3...	H1-1b
7	MP5A	PIPE_2.0	.292	2.37	29	.134	2		1	30037.02	32130	1.872	1.872	1...	H1-1b
8	M9	PIPE_2.0	.285	0	36	.100	0		25	30037.02	32130	1.872	1.872	1...	H1-1b
9	M16	PIPE_2.0	.275	0	12	.098	0		12	30037.02	32130	1.872	1.872	2...	H1-1b
10	M15	PIPE_2.0	.239	2.37	12	.084	0		1	30037.02	32130	1.872	1.872	2...	H1-1b
11	M16B	PIPE_2.0	.237	2.333	12	.069	2.333		12	30099.6...	32130	1.872	1.872	2...	H1-1b
12	MP4A	PIPE_2.0X	.233	1.677	33	.085	3.646		26	26305.0...	63000	3.615	3.615	1...	H1-1b
13	M14	PIPE_2.0	.221	2.37	12	.068	2.37		12	30037.02	32130	1.872	1.872	2...	H1-1b
14	M35	L2.5x2.5x4	.205	3.179	12	.008	0	z	6	10731.7...	38556	1.114	2.181	1...	H2-1
15	MP3A	PIPE_2.0X	.194	1.677	12	.065	1.677		11	26305.0...	63000	3.615	3.615	1...	H1-1b
16	M37	PIPE_2.0	.194	0	5	.021	0		9	14605.8...	32130	1.872	1.872	1...	H1-1b*
17	M15A	PIPE_2.0	.191	2.333	12	.073	2.333		12	30099.6...	32130	1.872	1.872	2...	H1-1b
18	MP2A	PIPE_2.0X	.179	1.604	7	.074	3.646		8	26305.0...	63000	3.615	3.615	1...	H1-1b
19	MP1A	PIPE_2.0X	.173	1.677	7	.060	1.677		8	26305.0...	63000	3.615	3.615	1...	H1-1b
20	M2	PIPE_2.0	.172	.43	30	.275	8.25		12	14206.9...	32130	1.872	1.872	3...	H1-1b
21	M4	PIPE_4.0	.155	0	12	.077	0		12	89984.2...	93240	10.631	10.631	2...	H1-1b
22	M16A	PIPE_2.0	.145	0	12	.052	0		8	30037.02	32130	1.872	1.872	1...	H1-1b
23	M29	PL3/4X2	.142	0	12	.024	0	y	1	48027.7...	48600	.759	2.025	1...	H1-1b
24	M3	PIPE_4.0	.133	0	12	.084	.508		12	89138.7...	93240	10.631	10.631	1...	H1-1b
25	M36	L2.5x2.5x4	.121	2.847	3	.011	5.693	z	9	13380.3...	38556	1.114	2.238	1...	H2-1
26	M28	PL3/4X2	.115	.271	12	.042	.271	y	12	48027.7...	48600	.759	2.025	2...	H1-1b
27	M45	PL3/4X2	.114	0	12	.047	0	y	12	48027.7...	48600	.759	2.025	2...	H1-1b
28	M46	PL3/4X2	.112	0	12	.024	.271	y	29	48027.7...	48600	.759	2.025	1...	H1-1b
29	M44	PIPE_4.0	.098	3.625	12	.115	3.927		12	86526.3...	93240	10.631	10.631	1...	H1-1b
30	M38	PIPE_2.0	.097	4.288	12	.056	0		26	13304.2...	32130	1.872	1.872	1...	H1-1b
31	M14A	PIPE_2.0	.088	2.333	12	.049	2.333		12	30099.6...	32130	1.872	1.872	1...	H1-1b

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N11	N9			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
2	M2	N12	N10			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
3	M3	N1	N9			PIPE_4.0	Beam	Pipe	A53 Gr.B	DR1
4	M4	N2	N10			PIPE_4.0	Beam	Pipe	A53 Gr.B	DR1
5	MP5A	N13	N14			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
6	M9	N15	N16			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
7	MP4A	NP1	NP2			PIPE_2.0X	Beam	Pipe	A992	DR1
8	MP3A	NP3	NP4			PIPE_2.0X	Beam	Pipe	A992	DR1
9	MP1A	NP7	NP8			PIPE_2.0X	Beam	Pipe	A992	DR1
10	M16	N31	N32			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
11	M14	N27	N28			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
12	M15	N29	N30			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
13	M16A	N31A	N32A			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
14	M14A	N32B	N29A			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
15	M15A	N31B	N28A			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
16	M16B	N30A	N27A			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
17	MP2A	N33	N34			PIPE_2.0X	Beam	Pipe	A992	DR1
18	M112	N9	N23			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
19	M113	N10	N24			PIPE_2.0	Beam	Pipe	A53 Gr.B	DR1
20	M38	N61A	N95			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
21	M44	N73	N74			PIPE_4.0	Beam	Pipe	A53 Gr.B	Typical
22	M45	N75	N93		90	PLT	Beam	RECT	A36 Gr.36	Typical
23	M46	N76A	N94		90	PLT	Beam	RECT	A36 Gr.36	Typical
24	M44A	N158	N157A			Rod	Beam	BAR	A36 Gr.36	Typical
25	M45A	N95A	N40			Rod	Beam	BAR	A36 Gr.36	Typical
26	M46A	N96	N42			Rod	Beam	BAR	A36 Gr.36	Typical
27	M47A	N97	N41			Rod	Beam	BAR	A36 Gr.36	Typical
28	M28	N55	N58		90	PLT	Beam	RECT	A36 Gr.36	Typical
29	M29	N56	N59		90	PLT	Beam	RECT	A36 Gr.36	Typical
30	M30	N93	N58			RIGID	Beam	None	RIGID	DR1
31	M31	N59	N94			RIGID	Beam	None	RIGID	DR1
32	M32	N62A	N63			N SR	Beam	Pipe	A53 Gr.B	Typical
33	M33	N67	N61B			N V Brace	Beam	Single Angle	A36 Gr.36	Typical
34	M34	N67	N68			N V Brace	Beam	Single Angle	A36 Gr.36	Typical
35	M35	N70	N69			N V Brace	Beam	Single Angle	A36 Gr.36	Typical
36	M36	N70	N71			N V Brace	Beam	Single Angle	A36 Gr.36	Typical
37	M37	N73A	N74A			N Stabilizer	Beam	Pipe	A53 Gr.B	Typical
38	M38A	N64	N79			RIGID	Beam	None	RIGID	DR1
39	M39	N35	N75A			RIGID	Beam	None	RIGID	DR1
40	M40	N65	N80			RIGID	Beam	None	RIGID	DR1
41	M41	N36	N76			RIGID	Beam	None	RIGID	DR1
42	M42	N72	N82			RIGID	Beam	None	RIGID	DR1
43	M43	N38	N78			RIGID	Beam	None	RIGID	DR1
44	M44B	N66	N81			RIGID	Beam	None	RIGID	DR1
45	M45B	N37	N77			RIGID	Beam	None	RIGID	DR1

MODIFICATION AND DESIGN DRAWINGS FOR EXISTING ANTENNA MOUNTS 180' PIROD SELF SUPPORTING TOWER

PROPOSED CARRIER: T-MOBILE

TOWER OWNER: SBA / TOWER OWNER SITE #: CT03241-S

CARRIER SITE #/NAME: CT11442A / STONINGTON

COORDINATES (LATITUDE: 41.369066°, LONGITUDE: -71.862361°)

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.

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	0
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
A-1	ANTENNA MOUNT MODIFICATION DETAILS	0
A-2	ANTENNA MOUNT PHOTOS	0
D-1	STANDARD DETAILS	0
MS-HR35-18	METROSITE SUPPORT RAIL PIPE KIT	
MS-LVPB-350	METROSITE V-BRACING KIT	
MS-STZ-2PST	METROSITE STABILIZER KIT	
MS-STZ-350P	METROSITE STABILIZER ADAPTER KIT	

NOTE:

1. THE MODIFICATION DRAWINGS ARE BASED ON THE **TES** PROJECT NO. 79125, DATED 07/02/19.

TES
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SBA
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BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
82308

CUSTOMER SITE NO:
CT03241-S-SBA
CUSTOMER SITE NAME:
STONINGTON 2, CT
173 SOUTH BROAD STREET
PAWCATUCK, CT 06379

STATE OF CONNECTICUT
HANMING YOU
28931
LICENSED PROFESSIONAL ENGINEER
8/8/19

DRAWN BY: MN | CHECKED BY: SD/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	08/08/19

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-HR35-18	METROSITE SUPPORT RAIL KIT	A-1, MS-HR35-18	523.0	523.0	Galvanized
3	3	MS-STZ-2PST	METROSITE STABILIZER KIT	A-1, MS-STZ-2PST	79.3	237.9	Galvanized
3	3	MS-STZ-350P	METROSITE STABILIZER ADAPTER KIT	A-1, MS-STZ-350P	4.4	13.2	Galvanized
			FOLLOWING ITEMS ARE "CUSTOM" PARTS				
2	2	MS-LVPB-350	METROSITE V BRACING KIT	A-1, MS-LVPB-350	512.00	1024.0	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) =		**1798.1**	

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	08/08/19

SHEET TITLE:
BILL OF MATERIALS

SHEET NUMBER: BOM
REV #: 0

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-H, ANSI/ASSP A10.48, 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 ZRC GALVILITE 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 ZRC GALVILITE 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-2018 SECTION 1705.2 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
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TES JOB NO:
82308

CUSTOMER SITE NO:
CT03241-S-SBA

CUSTOMER SITE NAME:
STONINGTON 2, CT

173 SOUTH BROAD STREET
PAWCATUCK, CT 06379

DRAWN BY: MN | CHECKED BY: SD/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	08/08/19

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER: GN-1

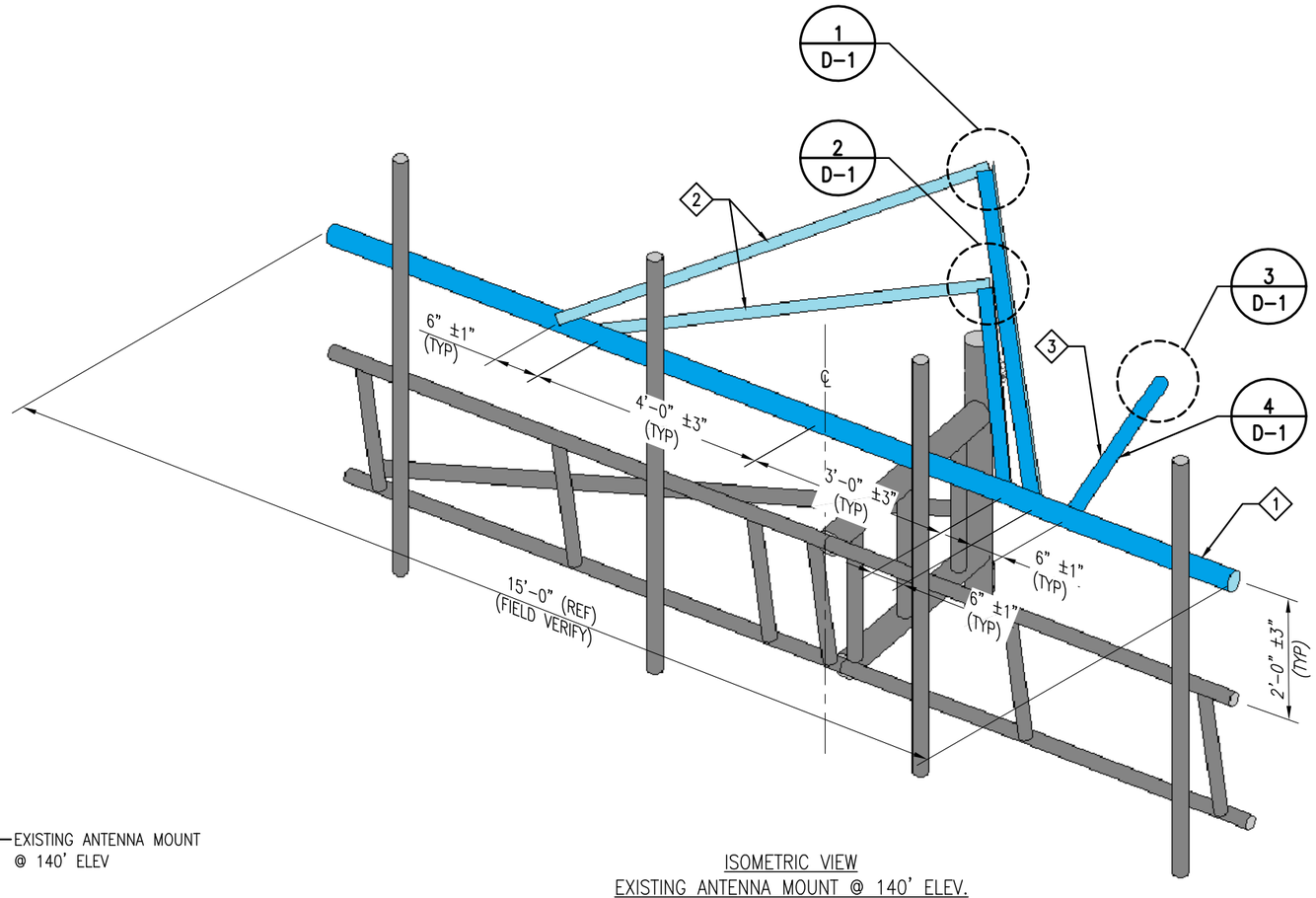
REV #: 0

SCOPE OF WORK

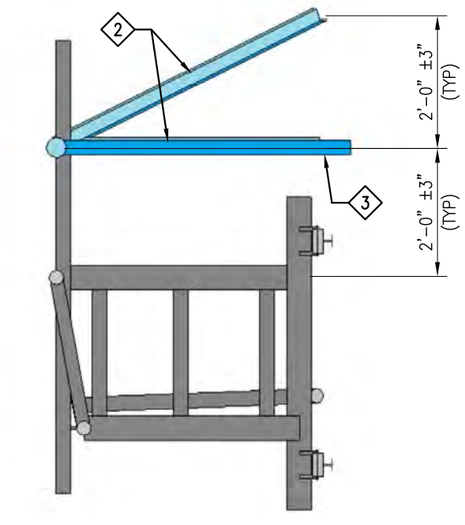
1. INSTALL NEW SUPPORT RAIL KIT. SEE SHEET MS-HR35-18 FOR DETAILS.
2. INSTALL NEW V-BRACING KITS, SEE SHEETS MS-LVPB-350 & D-1 FOR DETAILS.
3. INSTALL NEW STABILIZER KIT AND STABILIZER ADAPTER KIT. SEE SHEETS MS-STZ-2PST, MS-STZ-350P & D-1 FOR DETAILS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEAN-UP, REMOVAL AND DISPOSAL OF EXCESS MATERIALS USED AND REMOVED FROM THE STRUCTURE AT THE COMPLETION OF THE PROJECT.

EXISTING ANTENNA MOUNT
@ 140' ELEV

PHOTO 1



ISOMETRIC VIEW
EXISTING ANTENNA MOUNT @ 140' ELEV.
(MODIFICATION IS TYPICAL FOR ALL (3) SECTORS)



SIDE VIEW

GC NOTE:
1. **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.**
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-HR35-18	METROSITE SUPPORT RAIL KIT
2	2	MS-LVPB-350	METROSITE V BRACING KIT
3	3	MS-STZ-2PST	METROSITE STABILIZER KIT
4	3	MS-STZ-350P	METROSITE STABILIZER ADAPTER KIT

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TES JOB NO:
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CUSTOMER SITE NO:
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DRAWN BY: MN | CHECKED BY: SD/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	08/08/19

SHEET TITLE:
ANTENNA MOUNT MODIFICATION DETAILS

SHEET NUMBER: A-1
REV #: 0

PHOTO 1

PHOTO 2

PHOTO 3

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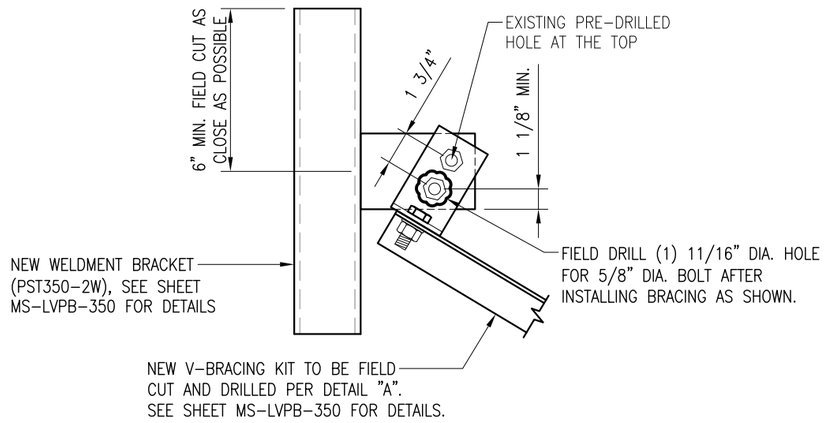
REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	08/08/19

SHEET TITLE:

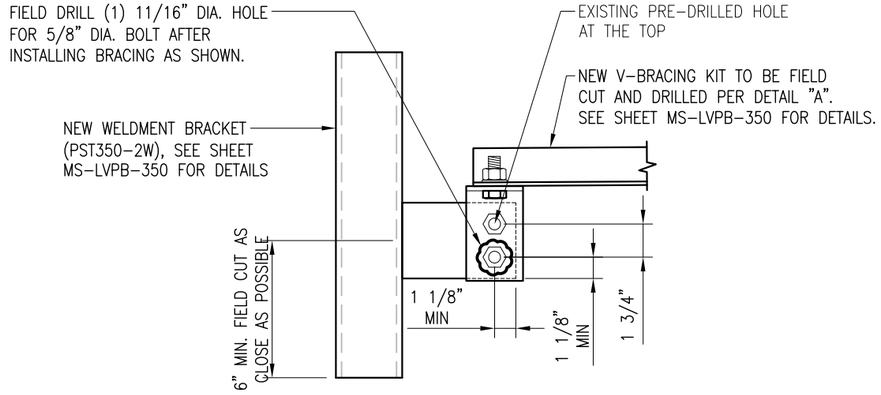
ANTENNA MOUNT PHOTOS

SHEET NUMBER: A-2

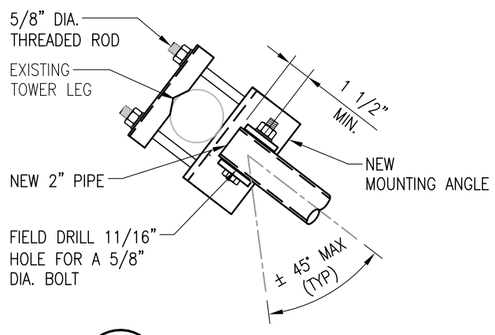
REV #: 0



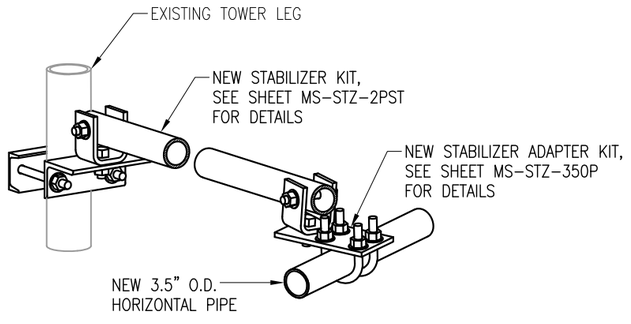
1 / D-1 DETAIL



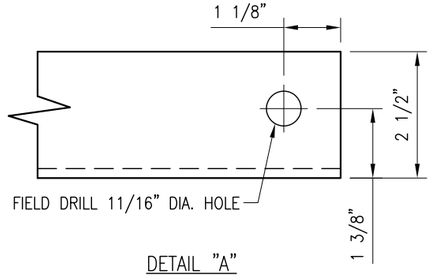
2 / D-1 DETAIL



3 / D-1 DETAIL



4 / D-1 STABILIZER DETAIL



DETAIL "A"

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

TES
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DRAWN BY: MN | CHECKED BY: SD/HMA

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	MN	08/08/19

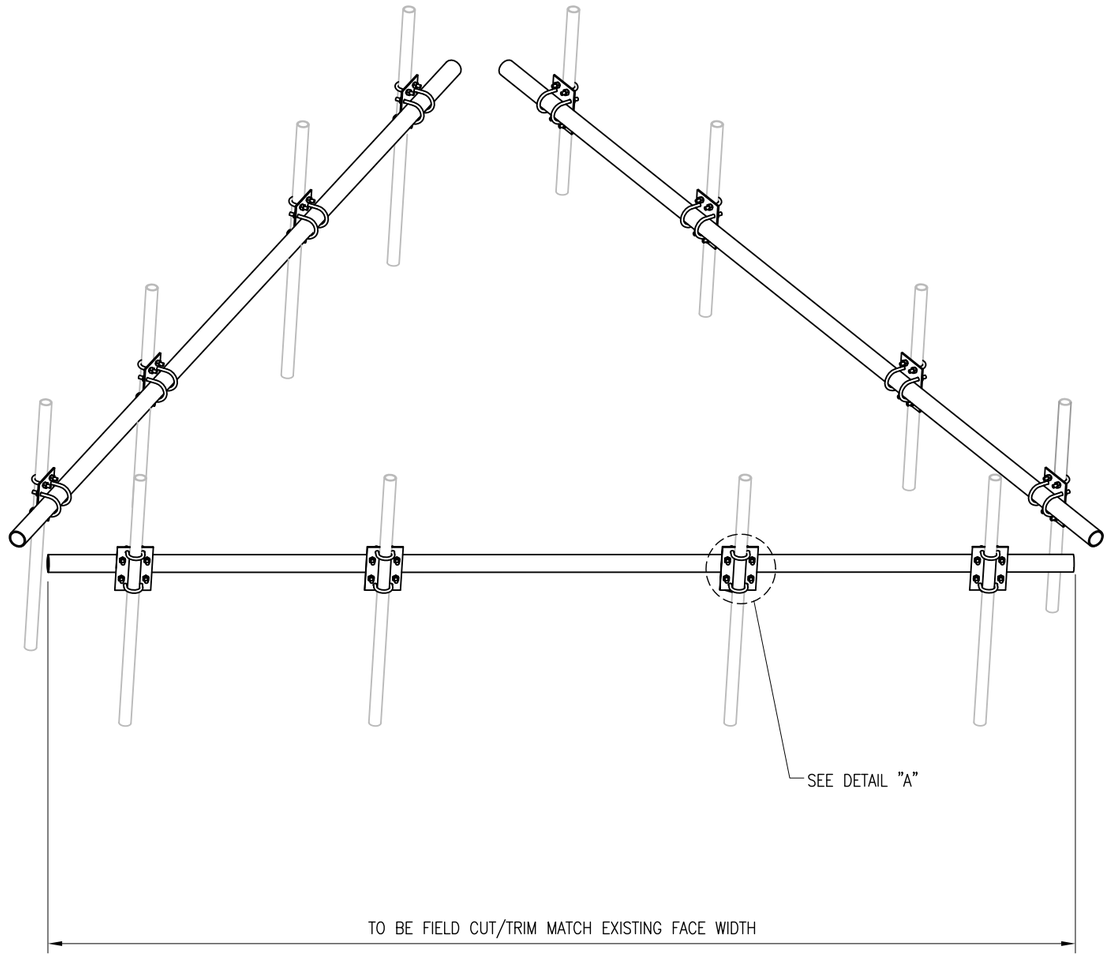
SHEET TITLE:
STANDARD DETAILS

SHEET NUMBER: D-1
REV #: 0

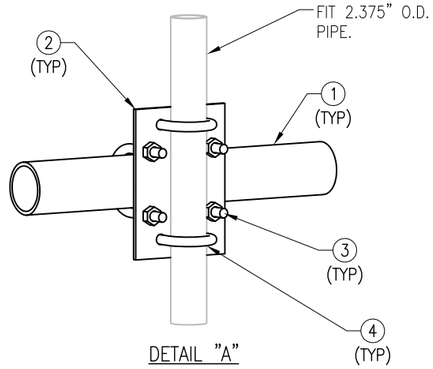
THE FOLLOWING DRAWINGS ARE INCLUDED FOR REFERENCE ONLY
PLEASE REFER TO THE INSTALLATION DRAWINGS FOR ACTUAL INSTALLATION DETAILS

MS-HR35-18

ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	3	3PST-216	3" PST (3.50" O.D X .216" THICK) X 18'-0"	A53 GR-B	HR35-18	430.2
2	12	PL375-10	PL 3/8" X 7 1/8" X 10"	A36	TAF-1	92.4
3	24	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	A36	RBC-1	--
4	24	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	523



ELEVATION VIEW



DETAIL "A"

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

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	-

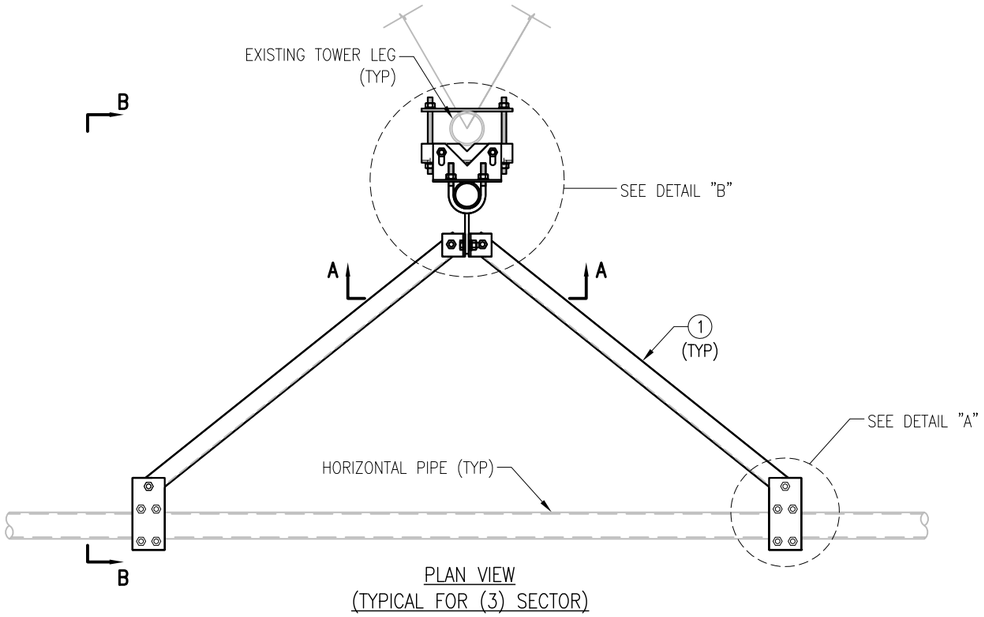
METROSITE FABRICATORS LLC
180 INDUSTRIAL PARK BLVD.
COMMERCE GA 30529

TITLE
MS-HR35-18
SUPPORT RAIL KIT

SIZE	DWG NO	REV
B	MS-HR35-18	0

SCALE -

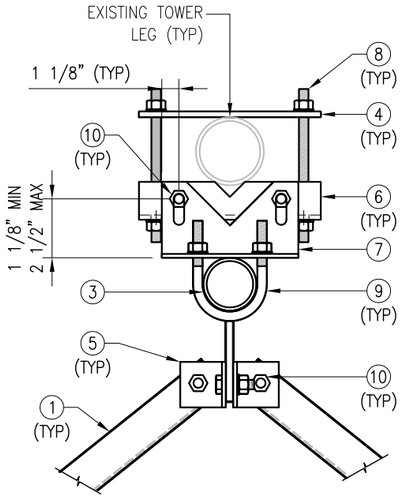
SHEET 1 OF 1



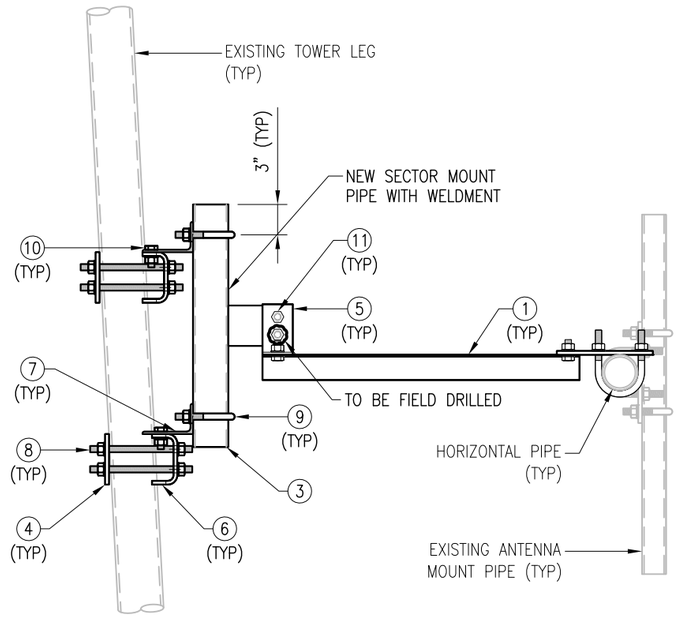
PLAN VIEW
(TYPICAL FOR (3) SECTOR)

MS-LVPB-350

ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	6	VB-25-10	L 2 1/2" X 2 1/2" X 1/4" X 10'-0"	A36	BK-1	258
2	6	PL375-42595	PL 3/8" X 4 1/4" X 9 1/2"	A36	BK-1	26.4
3	3	PST350-2W	WELDMENT PIPE	A53-GR B	PST350-2W	59.4
4	6	PL5-42512	PL 1/2" X 4 1/4" X 1'-0"	A572-50	BK-2	45.6
5	6	AL-533	L 5" X 3" X 1/4" X 3"	A36	BK-2	10.2
6	6	BPL-37512	PL 3/8" X 8 5/8" X 1'-0"	A36	BK-4	67.2
7	6	AL-5X3-9	L 5" X 3" X 3/8" X 9"	A36	BK-4	45.0
8	24	---	THREADED ROD 5/8" X 1'-0" W/ (2) HHN & LKW EA.	A36	--	--
1 9	18	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	---	RBC-1	--
10	24	---	BOLT 5/8" X 1 3/4" A325 W/ HHN & LKW EA.	---	--	--
11	6	---	BOLT 5/8" X 2 1/4" A325 W/ HHN & LKW EA.	---	---	--
					GALVANIZED WT	512



DETAIL "B"



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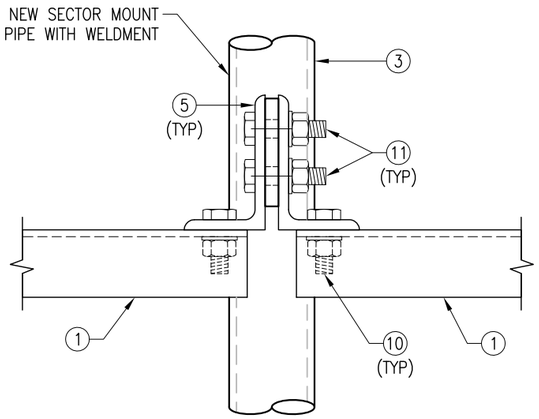
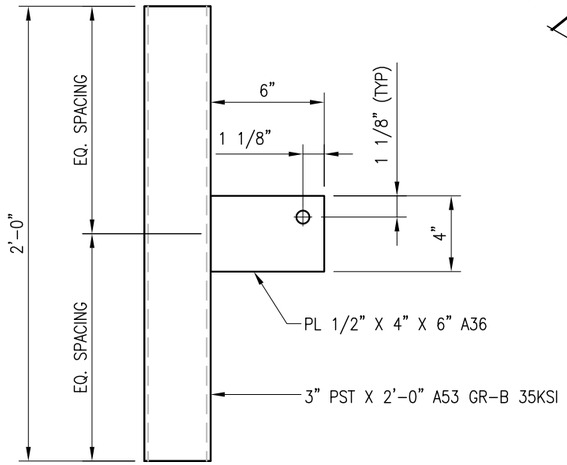
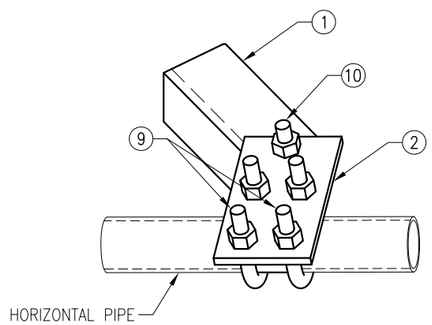


SECTION "A-A"



PST350-2W
WELDMENT PIPE



DETAIL "A"

NOTE:
1) FITS UP TO 6" ANGLE / 8" DIA PIPE LEG.
2) THREADED ROD MAY BE CUT TO LENGTH AS REQUIRED.
3) FITS 2 7/8" DIA TO 3 1/2" O.D HORIZONTAL PIPE.

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

APPROVAL / SIGNATURES	DATE
DRAWN BY XXX	02/28/19
REVIEWED XXX	-
APPROVED XXX	-

TITLE
MS-LVPB-350
V-BRACING KIT

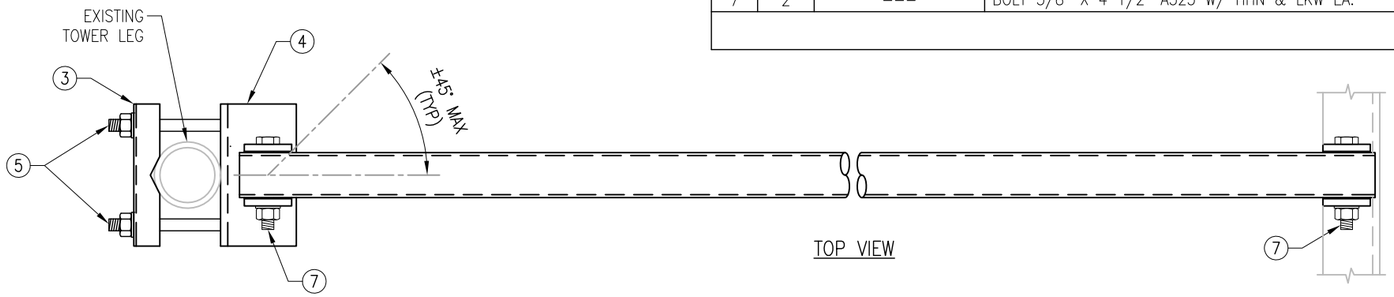
SIZE	DWG NO	REV
B	MS-LVPB-350	1

SCALE -
SHEET 1 OF 1

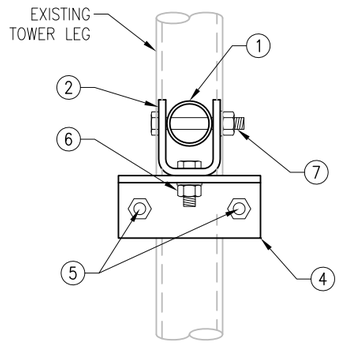
NOTES:
1) FITS 1 1/4" DIA. TO 4 1/2" DIA. LEG.
2) FIELD ASSEMBLY ALL PARTS.
3) THREADED ROD MAY BE CUT TO LENGTH AS REQUIRED.

MS-STZ-2PST

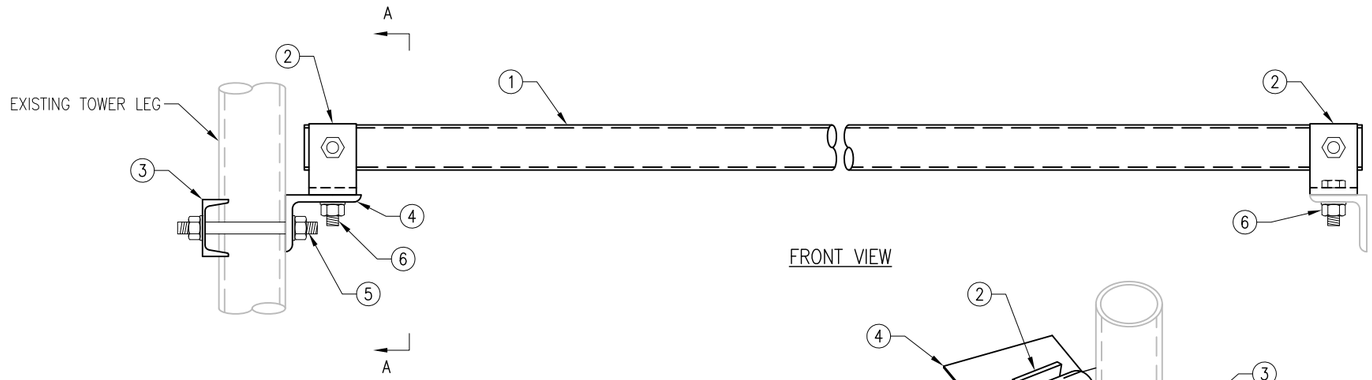
ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	1	PP2375-15	2" PST PIPE (2.375" O.D. X 0.154" THICKNESS) X 15'-0"	1 A53 GR. B OR A500 GR. B/C	STZ-1	56.8
2	2	UP-2375P	PL 3/8" X 2 1/2" X 9 3/4" BENT PLATE	A36	STZ-1	19.0
3	1	C-3750	C3X6 X 0'-7 1/2"	A36	STZ-1	1.2
4	1	AL-4375	L 4" X 3" X 3/8" X 7 1/2"	A36	STZ-1	2.3
5	2	---	THREADED ROD 5/8" X 8" W/ (2) HHN & LKW EA.	A36	--	--
6	2	---	BOLT 5/8" X 2" A325 W/ HHN & LKW EA.	---	--	--
7	2	---	BOLT 5/8" X 4 1/2" A325 W/ HHN & LKW EA.	---	---	--
					GALVANIZED WT	79.3



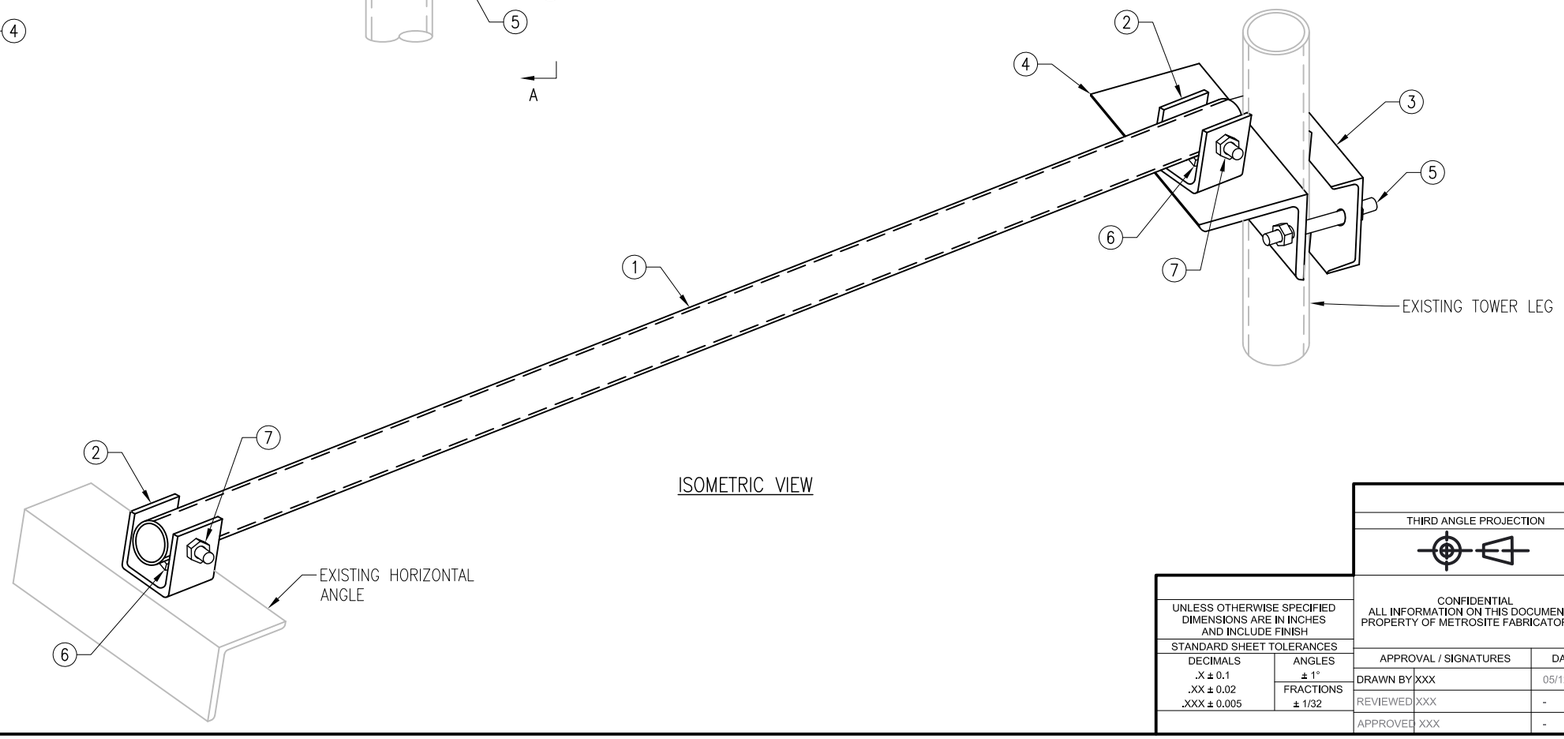
TOP VIEW



SECTION "A-A"



FRONT VIEW



ISOMETRIC VIEW

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

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

TITLE
MS-STZ-2PST
STABILIZER KIT

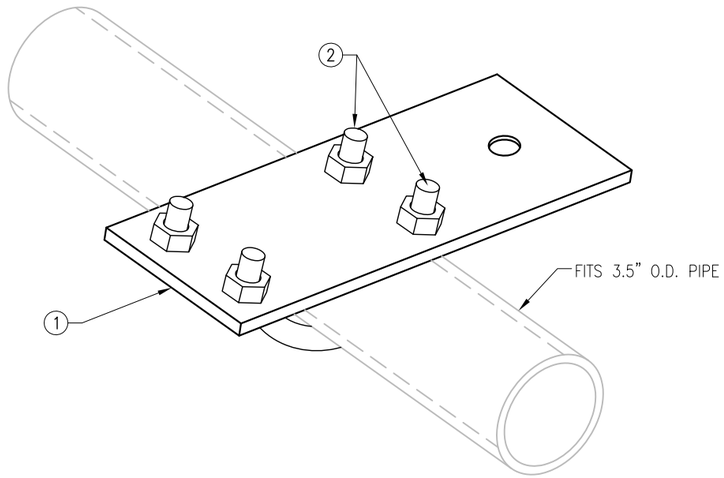
SIZE	DWG NO	REV
B	MS-STZ-2PST	1

SCALE -
SHEET 1 OF 1

NOTES:
1) FIELD ASSEMBLY ALL PARTS.
2) FITS 3.5" O.D. HORIZONTAL PIPE.

MS-STZ-350P

ITEM NO.	QTY.	PART NO.	DESCRIPTION	GRADE	SHEET #	WT
1	1	PL375-42595	PL 3/8" X 4 1/4" X 9 1/2"	A36	BK-1	4.4
2	2	MS02-625-3625-600	RU-BOLT 5/8" X 3 5/8" I.W. X 6" I.L. A36 (OR EQUIV.)	---	RBC-1	--
					GALVANIZED WT	4.4



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-STZ-350P
STABILIZER ADAPTER KIT

SIZE	DWG NO	REV
B	MS-STZ-350P	0

SCALE - SHEET 1 OF 1

EXHIBIT 9

EME Report

Radio Frequency Emissions Analysis Report

January 21, 2022

Centerline Communications on behalf of T-Mobile

Site Name: Stonington R1
Site Address: 173 South Broad Street, Stonington, CT 06379

Site Compliance Summary

Compliance Status:	Compliant
Carrier MPE% of FCC General Population Allowable Limit:	0.00445700%
Composite MPE% of FCC General Population Allowable Limit:	0.00453600%

January 21, 2022

T-Mobile
Attn: John Benedetto, RF Manager
5050 Cochituate Road Suite 550 - 13&14
Framingham, MA 01701

Emissions Analysis for Site:

Centerline Communications, LLC ("Centerline") was directed to analyze the proposed T-Mobile facility to be located near **173 South Broad Street, Stonington, CT, 06379** for the purpose of determining whether the emissions from the proposed facility are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter (µW/cm2). The number of µW/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.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter (µW/cm^2). The general population exposure limits for the 600 MHz (LTE) band is 400 µW/cm^2; 700 MHz (LTE) band is 467 µW/cm^2, 1900 MHz (PCS), 2100 (AWS) and 5 GHz (B46) bands is 1000 µW/cm^2.

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, 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 performed for the proposed facility using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since AT&T is proposing focused omnidirectional antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. This is a very conservative estimate since the gain reduction in actual applications is typically greater than 10 dB in the direction of ground immediately surrounding the facility. Real world emissions values from this facility are expected to be lower than values listed in this report at ground level. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

For each sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

RRH #	Frequency Band	Technology	Channel Count	Transmit Power per Channel (W)
1	2500	LTE	1	30
1	2500	NR	1	30
1	2500	LTE	1	90
1	2500	NR	1	90
2	700	LTE	4	40
2	600	LTE	2	40
2	600	NR	2	30
3	1900	GSM	1	15
3	1900	UMTS	1	40
3	1900	LTE	2	140
3	2100	LTE	2	140

Table 1: Channel Data Table

The following antennas listed in Table 2 were used in the modeling for transmission in the 600 MHz (LTE), 700 MHz (LTE), 1900 MHz (PCS), 2100 MHz (AWS), and 5 GHz (Band 46) frequency bands. This is based on information from the carrier with regard to anticipated antenna selection.

Sector	Antenna Number	Make / Model	Centerline (ft)
A	1	ERICSSON AIR6449 LTE BrM	140
A	1	ERICSSON AIR6449 NR BrM	140
A	1	ERICSSON SON_AIR6449 LTE TB	140
A	1	ERICSSON SON_AIR6449 NR TB	140
A	2	RFS APXVAALL24 43-U-NA20	140
A	2	RFS APXVAALL24 43-U-NA20	140
A	2	RFS APXVAALL24 43-U-NA20	140
A	3	COMMSCOPE VV-65A-R1B	140
A	3	COMMSCOPE VV-65A-R1B	140
A	3	COMMSCOPE VV-65A-R1B	140
A	3	COMMSCOPE VV-65A-R1B	140
B	4	ERICSSON AIR6449 LTE BrM	140
B	4	ERICSSON AIR6449 NR BrM	140
B	4	ERICSSON SON_AIR6449 LTE TB	140
B	4	ERICSSON SON_AIR6449 NR TB	140
B	5	RFS APXVAALL24 43-U-NA20	140
B	5	RFS APXVAALL24 43-U-NA20	140
B	5	RFS APXVAALL24 43-U-NA20	140
B	6	COMMSCOPE VV-65A-R1B	140
B	6	COMMSCOPE VV-65A-R1B	140
B	6	COMMSCOPE VV-65A-R1B	140
B	6	COMMSCOPE VV-65A-R1B	140
C	7	ERICSSON AIR6449 LTE BrM	140
C	7	ERICSSON AIR6449 NR BrM	140
C	7	ERICSSON SON_AIR6449 LTE TB	140
C	7	ERICSSON SON_AIR6449 NR TB	140
C	8	RFS APXVAALL24 43-U-NA20	140
C	8	RFS APXVAALL24 43-U-NA20	140
C	8	RFS APXVAALL24 43-U-NA20	140
C	9	COMMSCOPE VV-65A-R1B	140
C	9	COMMSCOPE VV-65A-R1B	140
C	9	COMMSCOPE VV-65A-R1B	140
C	9	COMMSCOPE VV-65A-R1B	140

Table 2: Antenna Data

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

Results

Per the calculations completed for the proposed T-Mobile configurations *Table 3* shows resulting emissions power levels and percentages of the FCC's allowable general population limit.

ID	Make / Model	Frequency Band	Gain (dBd)	Centerline (ft)	Channel Count	TX Power (W)	ERP (W)	MPE %
T-Mobile 1	ERICSSON AIR6449 LTE BrM	2500	15.15	140.0	1	30	982.0221	0.000000000
T-Mobile 1	ERICSSON AIR6449 NR BrM	2500	15.15	140.0	1	30	982.0221	0.000000000
T-Mobile 1	ERICSSON AIR6449 LTE TB	2500	22.35	140.0	1	90	15461.1755	0.000496000
T-Mobile 1	ERICSSON AIR6449 NR	2500	22.35	140.0	1	90	15461.1755	0.000496000
T-Mobile 2	RFS APXVAALL24 43-U-NA20	700	13.65	140.0	4	40	3707.8314	0.000000000
T-Mobile 2	RFS APXVAALL24 43-U-NA20	600	12.95	140.0	2	40	1577.9382	0.000000000
T-Mobile 2	RFS APXVAALL24 43-U-NA20	600	12.95	140.0	2	30	1183.4536	0.000000000
T-Mobile 3	COMMSCOPE VV-65A-R1B	1900	15.25	140.0	1	15	502.4482	0.000000000
T-Mobile 3	COMMSCOPE VV-65A-R1B	1900	15.25	140.0	1	40	1339.8618	0.000000000
T-Mobile 3	COMMSCOPE VV-65A-R1B	1900	15.25	140.0	2	140	9379.0323	0.000000000
T-Mobile 3	COMMSCOPE VV-65A-R1B	2100	15.87	140.0	2	140	10818.2754	0.000000000
T-Mobile 4	ERICSSON AIR6449 LTE BrM	2500	15.15	140.0	1	30	982.0221	0.000000000
T-Mobile 4	ERICSSON AIR6449 NR BrM	2500	15.15	140.0	1	30	982.0221	0.000000000
T-Mobile 4	ERICSSON AIR6449 LTE TB	2500	22.35	140.0	1	90	15461.1755	0.013377000
T-Mobile 4	ERICSSON AIR6449 NR	2500	22.35	140.0	1	90	15461.1755	0.013377000
T-Mobile 5	RFS APXVAALL24 43-U-NA20	700	13.65	140.0	4	40	3707.8314	0.000000000
T-Mobile 5	RFS APXVAALL24 43-U-NA20	600	12.95	140.0	2	40	1577.9382	0.000000000
T-Mobile 5	RFS APXVAALL24 43-U-NA20	600	12.95	140.0	2	30	1183.4536	0.000000000
T-Mobile 6	COMMSCOPE VV-65A-R1B	1900	15.25	140.0	1	15	502.4482	0.000000000
T-Mobile 6	COMMSCOPE VV-65A-R1B	1900	15.25	140.0	1	40	1339.8618	0.000000000
T-Mobile 6	COMMSCOPE VV-65A-R1B	1900	15.25	140.0	2	140	9379.0323	0.000000000
T-Mobile 6	COMMSCOPE VV-65A-R1B	2100	15.87	140.0	2	140	10818.2754	0.000000000
T-Mobile 7	ERICSSON AIR6449 LTE BrM	2500	15.15	140.0	1	30	982.0221	0.000001000
T-Mobile 7	ERICSSON AIR6449 NR BrM	2500	15.15	140.0	1	30	982.0221	0.000001000
T-Mobile 7	ERICSSON AIR6449 LTE TB	2500	22.35	140.0	1	90	15461.1755	0.357565000
T-Mobile 7	ERICSSON AIR6449 NR	2500	22.35	140.0	1	90	15461.1755	0.357565000
T-Mobile 8	RFS APXVAALL24 43-U-NA20	700	13.65	140.0	4	40	3707.8314	0.000008000
T-Mobile 8	RFS APXVAALL24 43-U-NA20	600	12.95	140.0	2	40	1577.9382	0.000005000
T-Mobile 8	RFS APXVAALL24 43-U-NA20	600	12.95	140.0	2	30	1183.4536	0.000004000

T-Mobile 9	COMMSCOPE VV-65A-R1B	1900	15.25	140.0	1	15	502.4482	0.000000000
T-Mobile 9	COMMSCOPE VV-65A-R1B	1900	15.25	140.0	1	40	1339.8618	0.000001000
T-Mobile 9	COMMSCOPE VV-65A-R1B	1900	15.25	140.0	2	140	9379.0323	0.000009000
T-Mobile 9	COMMSCOPE VV-65A-R1B	2100	15.87	140.0	2	140	10818.2754	0.000009000
							T-Mobile MPE%	**0.00445700 %**

Table 3: T-Mobile Antenna Inventory & Power Level

FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 4* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated AT&T sector(s).

Frequency Band	Technology	Centerline (ft.)	# of Channels	ERP W (Per Channel)	Total Power Density ($\mu W/cm^2$)	Allowable MPE ($\mu W/cm^2$)	MPE %
2500	L	140.0	1	982.0220846	0.0000000	1000	0.00000000
2500	N	140.0	1	982.0220846	0.0000000	1000	0.00000000
2500	L	140.0	1	15461.17548	0.0049590	1000	0.00049600
2500	N	140.0	1	15461.17548	0.0049590	1000	0.00049600
700	L	140.0	4	926.95786	0.0000000	467	0.00000000
600	L	140.0	2	788.9690944	0.0000000	400	0.00000000
600	N	140.0	2	591.7268208	0.0000000	400	0.00000000
1900	G	140.0	1	502.4481587	0.0000000	1000	0.00000000
1900	U	140.0	1	1339.861757	0.0000000	1000	0.00000000
1900	L	140.0	2	4689.516148	0.0000000	1000	0.00000000
2100	L	140.0	2	5409.137679	0.0000000	1000	0.00000000
						Alpha MPE%	**0.00099200**
2500	L	140.0	1	982.0220846	0.0000000	1000	0.00000000
2500	N	140.0	1	982.0220846	0.0000000	1000	0.00000000
2500	L	140.0	1	15461.17548	0.1337690	1000	0.01337700
2500	N	140.0	1	15461.17548	0.1337690	1000	0.01337700
700	L	140.0	4	926.95786	0.0000000	467	0.00000000
600	L	140.0	2	788.9690944	0.0000000	400	0.00000000
600	N	140.0	2	591.7268208	0.0000000	400	0.00000000
1900	G	140.0	1	502.4481587	0.0000000	1000	0.00000000
1900	U	140.0	1	1339.861757	0.0000000	1000	0.00000000
1900	L	140.0	2	4689.516148	0.0000020	1000	0.00000000
2500	L	140.0	1	982.0220846	0.0000000	1000	0.00000000
						Beta MPE%	**0.02675400**
2500	L	140.0	1	982.0220846	0.0000080	1000	0.00000100
2500	N	140.0	1	982.0220846	0.0000080	1000	0.00000100
2500	L	140.0	1	15461.17548	3.5756460	1000	0.35756500
2500	N	140.0	1	15461.17548	3.5756460	1000	0.35756500
700	L	140.0	4	926.95786	0.0000360	467	0.00000800
600	L	140.0	2	788.9690944	0.0000210	400	0.00000500
600	N	140.0	2	591.7268208	0.0000160	400	0.00000400

1900	G	140.0	1	502.4481587	0.0000050	1000	0.00000000
1900	U	140.0	1	1339.861757	0.0000120	1000	0.00000100
1900	L	140.0	2	4689.516148	0.0000860	1000	0.00000900
2100	L	140.0	2	5409.137679	0.0000900	1000	0.00000900
						Gamma MPE%	**0.71516800**
						T-Mobile MPE%	**0.00445700 %**

Table 4: T-Mobile Maximum Sector MPE Power Values

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:

Carrier	Predicted MPE %
T-Mobile	0.00445700%
Town Antennas	0.00001700%
Verizon	0.00001700%
AT&T	0.00004500%
Composite	**0.00453600%**

Table 5: Total Predicted MPE(%) by Carrier

Compliance Status:

The anticipated composite MPE value for this site assuming all carriers present is **0.00453600%** of the allowable FCC established general population limit sampled at the ground level.

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.

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