Transcend Wireless

10 Industrial Ave,
Suite 3
Mahwah NJ 07430

Phone: 201.684.0055
Fax: 201.684.0066

September 30, 2021

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

RE: Notice of Exempt Modification
185 Fisk Road, Hampton, CT 06247-1305
Latitude: 41.76994
Longitude: -72.07064
T-Mobile/Sprint Site#: CTHA811A-CT33XC568

Dear Ms. Bachman:

T-Mobile/Sprint currently maintains six (6) antennas at the 155-foot level of the existing 160-foot guyed-tower at 185 Fisk Road, Hampton, CT. The 160-foot lattice tower is owned and operated by American Tower Corporation. The property is owned by American Tower Corporation. T-Mobile/Sprint now intends to remove the six (6) existing antennas and add six (6) new 600/700/1900/2100/2500 MHz antennas. The new antennas will be installed at the same 155-foot level of the tower and will support 5G services.

Planned Modifications:
Tower:
Remove
(6) 1-5/8" coax
(4) 1 ¼' Hybriflex Cable

Remove:
(3) Commscope NNVV-65B-R4 Antennas
(3) RFS APXVTM14-ALU-I20 Antennas
(6) Alcatel-Lucent RRH2x50-08
(3) Alcatel-Lucent 1900 MHz 4X45 RRH
(3) Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield

Install New:
(3) Ericsson Air6449 B41 antennas
(3) RFS APXVAALL24 43-U-NA20 Antennas
(3) Ericsson Radio 4480 B71+B85A
(3) Ericsson Radio 4460 B25+B66
(3) 6/24 4AWG Hybrid Cable

Ground:
Existing To Remain:
(1) PPC Cabinet
(1) Telco Box

Remove
(2) Equipment Cabinets
(1) Fiber Junction Box

Install New:
(1) 6160 Cabinet
(1) B160 Cabinet
(1) RBS 6601
(1) PSU 4813
(3) BB6648
(1) DUG20
(1) CSR IXRE V2

This tower was originally approved by the Hampton Planning & Zoning Commission on March 22, 1999. T-Mobile/Sprint has been approved for subsequent modifications at their facility.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to First Selectman Allan Cahill, Elected Official, and Jay Gigliotti, Acting Zoning Enforcement Official, as well as the tower and property owner.

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

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

Dave DePinto
Transcend Wireless
Cell: 973-907-3243
Email: ddepinto@transcendwireless.com

Attachments
cc: Allan Cahill – First Selectman of the Town of Hampton
Jay Gigliotti– Acting Zoning Official
American Tower Corporation – Tower & Property Owner

Transcend Wireless

DePinto, Dave <ddepinto@transcendwireless.com>

UPS Delivery Notification, Tracking Number 1ZV257424292120742

UPS <pkginfo@ups.com>
To: DDEPINTO@transcendwireless.com

Tue, Oct 5, 2021 at 10:58 AM

Hello, your package has been delivered.

Delivery Date: Tuesday, 10/05/2021
Delivery Time: 10:57 AM
Left At: RESIDENTIAL
Signed by: PAULINE

TRANSCEND WIRELESS

Tracking Number:	1ZV257424292120742
Ship To:	TOWN OF HAMPTON 164 MAIN STREET HAMPTON, CT 06247 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.8 LBS
Reference Number:	CTHA811A-CT33XC568

Download the UPS mobile app

Transcend Wireless

DePinto, Dave <ddepinto@transcendwireless.com>

UPS Delivery Notification, Tracking Number 1ZV257424290422750

UPS <pkginfo@ups.com>
To: DDEPINTO@transcendwireless.com

Mon, Oct 4, 2021 at 11:57 AM

Hello, your package has been delivered.

Delivery Date: Monday, 10/04/2021
Delivery Time: 11:56 AM
Left At: FRONT DESK
Signed by: LANGSTON

TRANSCEND WIRELESS

Tracking Number:	1ZV257424290422750
Ship To:	AMERICAN TOWER CORP 3500 REGENCY PARKWAY SUITE 100 CARY, NC 27518 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.8 LBS
Reference Number:	CTHA811A-CT33XC568

Download the UPS mobile app

Transcend Wireless

DePinto, Dave <ddepinto@transcendwireless.com>

UPS Delivery Notification, Tracking Number 1ZV257424293022730

UPS <pkginfo@ups.com>
To: DDEPINTO@transcendwireless.com

Tue, Oct 5, 2021 at 10:58 AM

Hello, your package has been delivered.

Delivery Date: Tuesday, 10/05/2021
Delivery Time: 10:57 AM
Left At: RESIDENTIAL
Signed by: PAULINE

TRANSCEND WIRELESS

Tracking Number:	1ZV257424293022730
Ship To:	TOWN OF HAMPTON-PLANNING/ZONING DEP 164 MAIN STREET HAMPTON, CT 06247 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.8 LBS
Reference Number:	CTHA811A-CT33XC568

Download the UPS mobile app

185 WEST FISK RD #CELL

Location	185 WEST FISK RD #CELL	**Mblu**	2-9/ 25/ 28/ CELL/
Acct#	00033701	**Owner**	AMERICAN TOWER CORP
PBN		**Assessment**	$573,930
Appraisal	$819,900	**PID**	1222
Building Count	1		

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$171,900	$648,000	$819,900
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$120,330	$453,600	$573,930

Owner of Record

Owner	AMERICAN TOWER CORP	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	P.O. BOX 723597 ATLANTA, GA 31139	**Book & Page**	000/ 000
		Sale Date	10/01/2008

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
AMERICAN TOWER CORP	$0		000/ 000	10/01/2008

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:

Replacement Cost
Less Depreciation: $0

Building Attributes	
Field	**Description**
Style	Vacant Land
Model	
Grade:	
Stories:	
Occupancy:	
Exterior Wall 1:	
Exterior Wall 2:	
Roof Structure:	
Roof Cover:	
Interior Wall 1:	
Interior Wall 2:	
Interior Flr 1:	
Interior Flr 2:	
Heat Fuel:	
Heat Type:	
AC Type:	
Total Bedrooms:	
Total Bthrms:	
Total Half Baths:	
Xtra Fix:	
Total Rooms:	
Bath Style:	
Kitchen Style:	
Fireplace:	
Gas Fireplace:	
Whirlpool Tubs:	

Building Photo

(http://images.vgsi.com/photos/HamptonCTPhotos//default.jpg)

Building Layout

(http://images.vgsi.com/photos/HamptonCTPhotos//Sketches/1222_1185.jp

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 200
Description Commercial Vacant

Land Line Valuation

Size (Acres) 0.00
Frontage

Zone		**Depth**	
Neighborhood		**Assessed Value**	$453,600
Alt Land Appr	No	**Appraised Value**	$648,000
Category			

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
SHD4	Cell Equip	FR	Frame	200 S.F.	$52,500	1
SHD4	Cell Equip	FR	Frame	200 S.F.	$52,500	1
SHD4	Cell Equip	FR	Frame	240 S.F.	$63,000	1
FN6	Fence 6'			400 L.F.	$3,900	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$171,900	$648,000	$819,900
2018	$171,900	$648,000	$819,900
2017	$171,900	$648,000	$819,900

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2019	$120,330	$453,600	$573,930
2018	$120,330	$453,600	$573,930
2017	$120,330	$453,600	$573,930

neccog

Ashford Brooklyn Canterbury Chaplin Eastford Hampton Killingly Plainfield Pomfret Putnam Scotland Sterling Thompson Union Voluntown Woodstock

Parcel Information:

Report Generated: *7/1/2021 1:23:31 PM*

GIS ID: CT-063-2-9-25-28

Owner Name: *AMERICAN TOWER CORP*

Street Address: 185 WEST FISK RD #CELL

Mailing Address: P.O. BOX 723597
ATLANTA GA 31139

Assessment: $573,930.00

Appraisal: $819,900.00

Land: 0.00

Buildings: 1.00

	Land Value:	Improvement Value:	Total Value:
Appraised	$648,000.00	$171,900.00	$819,900.00
Assessed		$120,330.00	$573,930.00

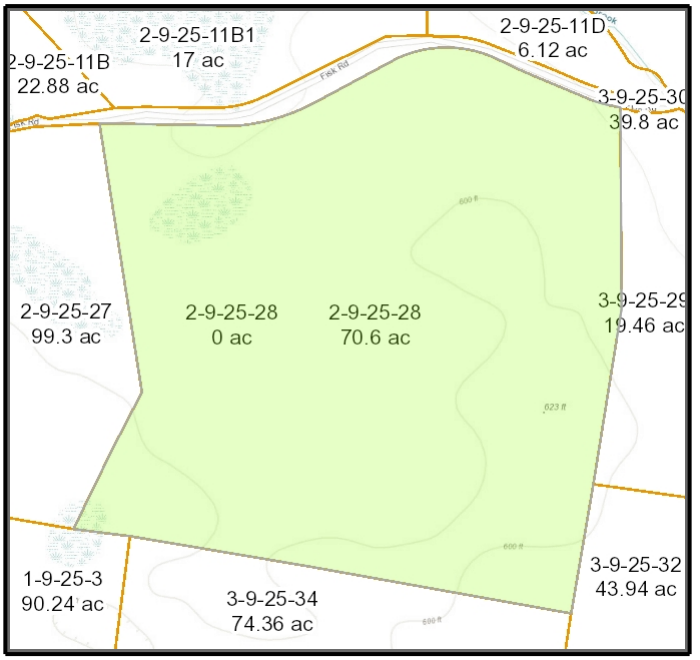
Sale Date:

Sale Price: $0

Year Built:

Primary Structure Area: sq. ft.

No Photo Available



Taxlot highlighted in blue

Received 3/23/99
3:20 pm Dor.
Margaret A. Town Clerk

HAMPTON PLANNING & ZONING COMMISSION
PUBLIC HEARING
March 22, 1999

Members Present: Bob Inman, Chair
Ed Adelman
Gay Wagner
Bill Koennicke, for Phil Russell
Bob Burgoyne, for Brian Caya

Others Present: Martha Fraenkel, Zoning Enforcement Officer

The first Public Hearing of the Planning & Zoning Commission was called to order by Bob Inman, Chair, at 7:02 PM.

Bob Inman read a letter from Charles Halbach, who stated that Cordless Data Transfer is the agent representing the Charles Halbach Trust and that he, Charles Halbach, is a trustee.

Bob Inman read a second letter from the Board of Assessors, who stated their support of commercial growth on Route 6.

Cordless Data Transfer submitted an updated site plan for their telecommunication tower proposal on Fisk Road. Gay Wagner expressed concerns regarding the utility pathway along Fisk Road. Bob Francis of CDT requested that a bond not be issued to cover the removal of the tower & associated equipment. Construction cost of this tower is estimated to be $100,000. Martha Fraenkel, ZEO, requested that the erosion control narrative be on the final plans. She also told the Commission that since the access to the Fisk Road property would not be from Route 6 a waiver would be needed. Bill Koennicke expressed his concern that there be no runoff onto Fisk Road from their driveway.

The Public Hearing for Cordless Data Transfer concluded at 7:48 PM.

The second Public Hearing was called to order at 7:52 PM.

The letter from the Board of Assessors stating their support of commercial growth on Route 6 was read for the record.

Kris Doyle, of American Tower, responded to the review comments of Martha Fraenkel and submitted the following:

1. Estimated removal costs would be $30,000.
2. The tower would support 6 carriers.
3. A written statement of American Tower's request.
4. A drawing of the utility plot plan.
5. A statement of commitment to the Hampton Fire Department.
6. FAA approval
7. A statement regarding Route 97 coverage. Peter W. van Wilgen of SNET explained the charts SNET submitted indicating coverage for Rte 97.
8. A revised ASAC report.
9. A2 survey
10. Letters of interest from other companies
11. Additional information on American Tower.

Discussion followed. Scott Garafano of Old Kings Highway, representing the Hampton Fire Department and the Ambulance Corps requested that the Town take advantage of this opportunity to provide better and safer service to the Town.

The Public Hearing concluded at 9:20 PM.

Received 3/23/99
3:20 pm
Margaret A. Lee,
Town Clerk

HAMPTON PLANNING & ZONING COMMISSION
REGULAR MEETING
March 22, 1999

Members Present: Bob Inman, Chair
Ed Adelman
Gay Wagner
Bill Koennicke, for Phil Russell
Bob Burgoyne, for Brian Caya

Others Present: Martha Fraenkel, Zoning Enforcement Officer

The Regular Meeting of the Hampton Planning & Zoning Commission was called to order at 9:25 PM. A motion to approve the March 15, 1999 Special Meeting and Public Hearing minutes as submitted was made by Gay Wagner; seconded by Bob Burgoyne; motion approved unanimously.

AUDIENCE FOR CITIZENS: None

NEW BUSINESS:

1. Discussion regarding the procedure for discussion of the two telecommunication tower applications was discussed. Gay Wagner proposed first checking the applications against the regulations and then presenting motions as formulated by the Town Attorney to be voted on. Martha Fraenkel stated that legal advice should be obtained regarding what the town regulations say about the approach. Carole Briggs requested that the response from her be in writing and be discussed in an Executive Session. The next meeting of the Commission will be in a Special Meeting, on Monday, April 5, 1999 at 7:30 PM to discuss the legal aspects of the regulations.

OLD BUSINESS

1. The two agenda items were tabled until after the legal ramifications were resolved.

ZEO REPORT: None

COMMUNICATION:

1. A seminar entitled, "Getting the Gray Out: Reducing the Impacts of Impervious Surfaces in our Community" will be held in Coventry on April 21, 1999.

2. Carole Briggs, Town Attorney, responded regarding the issue of liability on site walks. The Town is covered by insurance. She recommended, however, that if the homeowner does not allow the public on his/her property, the Commission should not go either.

The meeting adjourned at 9:55 PM.

Sincerely,

Jan Luke
Recording Secretary

HAMPTON PLANNING & ZONING COMMISSION
SPECIAL MEETING
April 5, 1999

Members Present: Bob Inman, Chair
Ed Adelman
Gay Wagner
Bill Koennicke, for Phil Russell
Bob Burgoyne, for Brian Caya

Others Present: Martha Fraenkel, Zoning Enforcement Officer

The Special Meeting of the Hampton Planning & Zoning Commission was called to order at 7:43 by Chairman Bob Inman.

1. Chair Bob Inman read a letter dated April 5, 1999 from the Town Attorney, Carole Briggs, stating that "the co-location provision cannot be imposed on either application at the present time because there is no existing or approved tower onto which either proposed use could co-locate." Discussion followed. There is no basis in the regulations for approval of one application and the denial of the other. Since both applications were received simultaneously neither application takes precedence over the other. It was the consensus of the Commission that additional legal consultation was not needed. Zoning Enforcement Officer, Martha Fraenkel stated that both applicants meet the requirements as put forth in the regulations.

2. A motion was made to approve the application for a special permit for a telecommunications facility on Fisk Road, Charles Halbach, owner-applicant/Cordless Data Transfer, agent, by Ed Adelman; seconded by Bob Burgoyne. Discussion followed regarding power access to the site, landscaping requirements, & bond amounts for removal of structures. The motion was tabled until the next regularly scheduled meeting on April 26th at 7:30 PM. Type of bond and amount of bond need to be researched.

3. A motion was made to approve the application for a special permit for a telecommunications facility by American Tower Corporation on Fisk Road by Ed Adelman; seconded by Bob Burgoyne. Discussion followed regarding power access to the site across private land and bond amounts for removal of structures. The motion was tabled until the next regularly scheduled meeting on April 26th at 7:30 PM. Type of bond and amount of bond need to be researched.

A motion was made to adjourn by Bob Burgoyne; seconded by Bill Koennicke; motion approved unanimously.

Sincerely,

Jan Luke
Recording Secretary

RECEIVED FOR RECORD THIS 8th
DAY OF April A.D. 1999
at 3:30 PM

185 W. Fisk Rd

TOWN OF HAMPTON
PLANNING AND ZONING COMMISSION
SPECIAL PERMIT

This is to certify that the land use of telecommmunications facility, including a 160 foot tower on the property of Charles Halbach Trust on the south side of Fisk Road and Nextel wireless telecommunication equipment, including antennas and associated structures, was approved by the Hampton Planning and Zoning Commission on April 26, 1999.

Robert Inman
Chairman, Hampton PZC

4/7/00
date

HAMPTON PLANNING & ZONING COMMISSION
REGULAR MEETING
April 26, 1999

Members Present: Bob Inman, Chair
Ed Adelman
Gay Wagner
Phil Russell
Bill Koennicke, for Brian Caya

Others Present: Martha Fraenkel, Zoning Enforcement Officer

The Regular Meeting of the Hampton Planning & Zoning Commission was called to order at 7:30 by Chairman Bob Inman.

A motion to accept the minutes of 3/22/99 and 4/5/99 as submitted was made by Ed Adelman; seconded by Bill Koennicke. Motion was approved with a vote of four in favor and one abstention by Phil Russell.

Audience for Citizens: None

Old Business:

1. The motion regarding approval for the Cordless Data Transfer application for a telecommunication tower was opened after having been tabled at the 4/26/99 Special Meeting. A letter from Carole Briggs, Town Attorney, was read. She stated that bonding requires a great deal of administrative responsibility and may not be needed. If a performance bond is desired, she recommended the following type of bond, in order of preference, 1) a letter of credit, 2) cash, or 3) an insurance bond. A letter from Gerald Hardesty, PE, of C & S Engineering was read. He suggested that the amount of the bond be $10,000.

   Discussion followed regarding bonding for removal of the facility. The Commission recommended that the applicant be allowed to choose the type of bond, with the wording approved by the Town Attorney.

   The Commission accepted the proposal of Cordless Data Transfer to plant 24" conifers as a screen around the fenced area.

   Conditions of the motion (these are listed on page two of these minutes) were discussed. A motion to amend the original motion to include the conditions and waiver as discussed was made by Ed Adelman; seconded by Bill Koennicke. Motion to amend original motion was approved with four voting in favor and one abstention by Phil Russell.

   The amended motion is 1) to waive the requirement for Cordless Data Transfer that a proposed facility in a residential zone be on an arterial street, due to a finding that there is no possible access from an arterial street and the proposed location meets all other standards more nearly than any other location.

   The motion is also 2) to approve the application of The Charles Halbach Trust for a special permit for a telecommunications facility, to be located on the property of Charles Halbach Trust on the south side of Fisk Road, consisting of a 160 foot tower and Nextel wireless telecommunication equipment, including antennas and associated structures within the fenced compound, as shown in the submitted application and plan prepared by Stanley Szestowicki entitled "Complication Plan Prepared for Cordless Data Transfer, Inc." dated March 19, 1999, 3 sheets.

Approval is granted based on a finding of compliance with the Town of Hampton Zoning Regulations. This approval is granted with the following conditions:

1. Prior to any tree removal, trees to be removed shall be marked and the Commission or its agent shall inspect and approve the proposed removal plan. Tree removal shall be kept to the minimum required for this activity.
2. The final utility installation plan shall be reviewed and approved by the Commission or its agent prior to adoption and implementation. A copy of such plan shall be provided to the Commission and shall be filed in the land records.
3. The bond for removal of the facility shall be cash or letter of credit in the amount of $10,000. The Town Attorney shall approve the language of the bonding instrument. Bond shall be posted prior to the issuance of a zoning permit/building permit.
4. Note on the final plan: There shall be no increase in runoff onto Fisk Road from the driveway to the facility or from any other aspect of this development.
5. A licensed surveyor prior to excavation or construction shall stake out the location of the tower and associated compound and the proposed driveway. The tower, including guys, shall be shown on an as-built survey at the A2 level of accuracy prior to commencement of us.
6. Note on the final plan: Water bars on the proposed driveway will be inspected and repaired as needed monthly and after major storm events.
7. Any additional use of the site, including and not limited to additional antennas, cabinets or other structures, and site work, requires additional permitting by the Commission.
8. The final site plan shall be filed in the Land Records no later than at the time of filing of the Special Permit.
9. The Erosion and Sedimentation Control Plan Narrative provided by the Zoning Official shall be incorporated onto the final site plan.
10. The Zoning Officer shall be contacted one week prior to the start of ANY work associated with this approval, and a pre-construction meeting with the Zoning Officer, developer and subcontractors shall be held prior to the start of work at the request of the Zoning Official.
11. It shall be noted that the Town of Hampton has no plans to upgrade or increase maintenance of Fisk Road. Improvements to Fisk Road required to access this site shall be made at the expense of the applicant. Any damage to Fisk Road caused during construction of this facility shall be repaired by the applicant and a bond and liability insurance may be required prior to the start of construction.
12. The text of this approval shall be placed on the final plan.
13. A buffer area of 100' from the cleared area shall be protected from clear-cutting in order to maintain the screening value of the surrounding woods.

The amended motion was approved by a margin of four to one: Gay Wagner, Ed Adelman, Bob Inman, and Bill Koennicke voted in favor of the motion; Phil Russell voted against the motion because of the conditions #1 & #2 placed on the applicant.

2. The motion regarding approval for the American Tower Corporation application for a telecommunication tower was opened after having been tabled at the 4/26/99 Special Meeting. A letter from Carole Briggs, Town Attorney, was discussed. She stated that bonding requires a great deal of administrative responsibility and may not be needed. If a performance bond is desired, she recommended the following type of bond, in order of preference, 1) a letter of credit, 2) cash, or 3) an insurance bond. A letter from Gerald Hardesty, PE, of C & S Engineering was discussed. He suggested that the amount of the bond be $10,000.

Discussion followed regarding bonding for removal of the facility. The Commission recommended that the applicant be allowed to choose the type of bond, with the wording approved by the Town Attorney.

Conditions of the motion (these are listed on page three of these minutes) were discussed. A motion to amend the original motion to include the conditions and waiver as discussed was made by Ed Adelman; seconded by Bill Koennicke. Motion to amend original motion was approved with four voting in favor and one abstention by Phil Russell.

The amended motion is 1) to waive the requirement for American Tower Corporation that a proposed facility in a residential zone by on an arterial street, due to a finding that there is no possible access from an arterial street and the proposed location meets all other standards more nearly than any other location.

The motion is 2) to approve the application of American Tower Corporation for a special permit for a telecommunications facility, to be located on the property of Brian and Lori Caya on the south side of Fisk Road, consisting of a 199 foot tower and SNET wireless telecommunication equipment, including antennas and associated structures within the fenced compound, and associated site work, as shown in the submitted application and a plan prepared by Tectonic Engineering Consultants P.C., Northborough, MA, entitled "Hampton Tower, 325 Fisk Road (Vacant Lot), Hampton, Connecticut," dated 3/5/99, 6 sheets.

Approval is granted based on a finding of compliance with the Town of Hampton Zoning Regulations. This approval is granted with the following conditions:

1. Prior to any tree removal, trees to be removed shall be marked and the Commission or its agent shall inspect and approve the proposed removal plan. Tree removal shall be kept to the minimum required for this activity.
2. The final utility installation plan shall be reviewed and approved by the Commission or its agent prior to adoption and implementation. A copy of such plan shall be provided to the Commission and shall be filed in the land records.
3. The bond for removal of the facility shall be cash or letter of credit in the amount of $10,000. The Town Attorney shall approve the language of the bonding instrument. Bond shall be posted prior to the issuance of a zoning permit/building permit.
4. Note on the final plan: There shall be no increase in runoff onto Fisk Road from the driveway to the facility or from any other aspect of this development.
5. A licensed surveyor prior to excavation or construction shall stake out the location of the tower and associated compound and the proposed driveway. The tower, including guys, shall be shown on an as-built survey at the A2 level of accuracy prior to commencement of us.
6. Any additional use of the site, including and not limited to additional antennas, cabinets or other structures, and site work, requires additional permitting by the Commission.
7. The final site plan shall be filed in the Land Records no later than at the time of filing of the Special Permit.
8. The Zoning Officer shall be contacted one week prior to the start of ANY work associated with this approval, and a pre-construction meeting with the Zoning Officer, developer and subcontractors shall be held prior to the start of work at the request of the Zoning Official.
9. It shall be noted that the Town of Hampton has no plans to upgrade or increase maintenance of Fisk Road. Improvements to Fisk Road required to access this site shall be made at the expense of the applicant. Any damage to Fisk Road caused during construction of this facility shall be repaired by the applicant and a bond and liability insurance may be required prior to the start of construction.
10. The text of this approval shall be placed on the final plan.

HAMPTON PLANNING & ZONING COMMISSION
REGULAR MEETING
May 24, 1999

Members Present: Bob Inman, Chair
Ed Adelman
Gay Wagner
Phil Russell
Brian Caya

RECEIVED FOR RECORD THIS 25th
DAY OF May, A.D. 1999
at 9:00 AM LMW

Alternates Present: Bill Koennicke
Bob Burgoyne

Others Present: Martha Fraenkel, Zoning Enforcement Officer

The Regular Meeting of the Hampton Planning & Zoning Commission was called to order at 7:30 by Chairman Bob Inman.

A motion to accept the minutes of 4/26/99 as submitted was made by Phil Russell; seconded by Gay Wagner. Motion was approved unanimously.

Audience for Citizens: None

Old Business: None

New Business:

1. Complaints have been received regarding the vapor light that was installed at the Post Office on Main Street. It was noted that all complaints should be submitted in writing in order for action to be taken. Martha Fraenkel will notify the Hansens of the problem.

2. A new business called Hampton Perennials on West Old Route 6 has been noticed. No permit for a sign or for a cottage industry has been received. Martha Fraenkel will contact the owner.

3. Martha Fraenkel has an appointment on June 7th at 6:30 PM at the Rupar site on East Old Route 6 to discuss compliance with the zoning permit.

4. A letter will be written to the Kellehears on East Old Route 6 regarding the camper that is being lived in. A permit is needed to live in a camper.

5. Update on the telecommunication towers: 1. Cordless Data Transfer—trees to be removed have been marked. 2. American Tower Corporation—exploratory drilling for bedrock has been begun.

   The two companies are working together regarding utility poles along the road. No permits have been given as of May 24, 1999.

ZEO REPORT:

1. Hampton Hill Garage will submit an application for the new garage on Route 6 next month.

2. An application from Craig Gates for a sub-division on Pomfret Road should be submitted by then as well.

2. The letters from Tom & Ann Curry and Lynn Burdick regarding the Spicer Road land swap proposal were read. Discussion followed. A motion was made by Gay Wagner to send a letter to the Selectmen recommending not making the swap; seconded by Bob Burgoyne. The motion was four in favor and one in opposition by Phil Russell, who stated that Planning & Zoning should not be making this decision.

New Business:

1. The application was received from Provost & Rovero of Plainfield, CT for the Hampton Estates 5-lot subdivision on Route 97. The approvals for the engineered septic systems are in process with NDDH. The Public Hearing will be held on Monday, October 25th, 7:30 PM, just before the regular meeting of PZC.

2. The application from Cordless Data Transfer for the carrier Sprint telecommunication facility, to be located on the approved Telecommunication Tower on Fisk Road, Charles Halbach property. Discussion followed regarding the public hearing requirement. The public hearing is scheduled for October 25th, immediately following the public hearing for the Hampton Estates, Route 97.

   CDT requested a list of exactly what is needed to complete the application for Sprint. Martha Fraenkel will respond to their request before the October meeting.

3. A homeowner on Main Street requested clarification regarding the installation of mailboxes on Main Street, after having been told by another town resident that they were not allowed because Main Street is in an Historic District. Hampton has no "official" historic districts. Planning & Zoning cannot deny use of mailboxes.

ZEO REPORT:

1. The letter from the Town Attorney to the Kelehears on Bigelow Road was read and discussed. Zoning can provide limited, temporary permits to accommodate when needed. Martha will review the precedent and make a recommendation at the October meeting. The next communication with the Kelehears should be made through the Town Attorney.

2. The Hansens, who are the owners of the building leased by the Post Office, have informed Martha that the Postmistress will be obtaining a permit for the light at the Post Office.

3. Charles Halbach requested clarification from the PZC regarding the acreage required for a telecommunication site. Discussion followed. The Zoning Regulations state that the requirement is that the telecommunication facility be 400' back from the property lines. No minimum acreage is provided.

COMMUNICATIONS:

Information was received on grant research and affordable housing. See Bob Inman for details.

A motion was made to adjourn by Phil Russell; seconded by Gay Wagner; motion approved unanimously. The meeting was adjourned at 9:50 PM.

Respectfully submitted,

Jan Luke
Recording Secretary

A motion to approve the minutes of 9/27/99 as submitted was made by Phil Russell; seconded by Ed Adelman. Motion passed.

Audience for Citizens: Mr. Tom Nagy presented a complaint regarding the light on the telephone pole in front of the Post Office.

Unfinished Business:

1. John Rodriguez presented the plan for a sign in front of his garage site on Route 6. The proposed sign is 3' x 8'. Discussion followed regarding the lighting of the sign. A motion was made to approve the proposed sign to be no larger than indicated on the submitted plan with lighting from the ground on 2 sides, the lights to focus on the sign with no flooding capabilities. The motion was made by Ed Adelman; seconded by Brian Caya. The motion was approved unanimously. There will be no restrictions on the lighting time.

   John Rodriguez asked if it would be ok to decrease the grass area on the east side of the building. A motion to reduce or eliminate the grass strip on the east side of the building was made by Ed Adelman; seconded by Brian Caya. The motion was approved unanimously. John Rodriguez informed the Commission that the dumpster pad will be moved to the southwest corner of the parking lot.

2. A motion was made to approve the application of Cordless Data Transfer for a special permit to co-locate wireless telecommunications equipment at a previously approved telecommunications facility on Fisk Road, property of Charles Halbach Trust, according to an application submitted on 9/21/99 and a plan entitled "Sprint PCS Wireless Communications Facility, Site No. CT33XC568, Hampton, 2 Fisk Road, Hampton, Connecticut 06247," 8 sheets, dated 7/20/99, prepared by Natcomm, LLC, Branford, CT, with no conditions. The motion was made by Phil Russell; seconded by Ed Adelman. The motion was approved unanimously.

3. A motion was made to approve the application of Craig Gates for a 5-lot subdivision on property on the east side of Route 97 known as lot 10, block 4 on Assessor's Map 4-4 according to an application dated 9/22/99 and a plan titled "Hampton Estates Proposed 5-lot Subdivision" prepared by Provost Rovero and Fitzback, 6 sheets, dated 9/22/99, with the following conditions:

   1. The lots shall be pinned at the developer's expense and so certified by the surveyor prior to issuance of a zoning permit for any of the approved lots.
   2. Parcel A shall be merged with an adjacent lot prior to filing of final plans.
   3. It shall be noted on the final plan that stone walls shall be preserved except where removal is required for house development.
   4. The treed area at the front of lots 1,3, and 5 shall be protected to the greatest extent possible to provide a buffer between the road and the development.

   The motion was made by Phil Russell; seconded by Ed Adelman; the motion was approved unanimously.

New Business:

1. The application for the special permit for an outside light at the Post Office was received. The public hearing is scheduled for November 22, 1999 at 7:30 PM.

ZEO REPORT:

1. Cordless Data Transfer has submitted the pole plan to Martha Fraenkel. The Commission voted to not submit it to the Board. CDT has no building permit at this date. The utility poles will be placed and the concrete will be poured within two weeks.

Burgoyne stated he would like to see provision for hazardous materials.
Unruh explained what a paintbooth looks like and how it works, noting that it would conform to OSHA standards.
Unruh noted that there had been a gas station on the premises in the past. He stated the tanks would need to be removed, but asked that if they would like to resume the gas station part of the business in the future what would need to be done.
Fraenkel noted that the intent to abandon has been shown regarding the gas pumps. They can not be reinstalled unless a new application is submitted.
The PZC agreed that reopening the business, as auto repair and auto body was not a significant change.

ZEO Report
Fraenkel noted that the property leased by CDC had been transferred to American Tower. She noted that a fence had not been erected around the facility and plantings not made yet. A letter has been sent addressing these issues.
Fraenkel informed the Commission that a resident, Mr. Stebner on Route 97, was being required to have his house moved due to road construction by the DOT.
She noted that there was a referral from the Town of Canterbury, which is redoing its regulations
There is a proposal from Bell Atlantic to erect more antennae on the tower. Legally this has to go before the CT Siting Council. She noted that there will be a shelter building 12 x 30, with equipment inside.
Koennicke asked who informed the assessor of the extra antennae. Fraenkel is to write a note to Jan informing her.

Adjournment
Russell moved, with Burgoyne seconding, to adjourn at 9:08 p.m.

Respectfully submitted,
Debi Spector
Debi Spector
PZC Clerk

RECEIVED
JUL 18 2000
Asst TC

HAMPTON PLANNING AND ZONING COMMISSION
MARCH 26, 2001
MINUTES

Members Present: B. Inman, B. Koennicke, E. Adelman, P. Russell, B. Burgoyne
Staff Present: M. Fraenkel

Regular Meeting

Call to Order
Chairman Inman called the regular meeting to order at 7:35 p.m.

Roll Call
Burgoyne was seated for Wagner and Koennicke was seated for Caya.

Acceptance of Minutes
Russell moved, with Adelman seconding, to accept the minutes of 11/27/00 as presented. Koennicke abstained, with all others in favor.
MINUTES ACCEPTED

Audience of Citizens
None

New Business

1. Tower referral from Chaplin
   Fraenkel noted that the tower placement is 1250' from the town line. She noted her concern that the tower would be visible from Pine Acres Lake. She stated that the PZC might want to generate a letter to the Siting Council stating that the regulations for Hampton regarding towers regard this as a special area. It was noted that the Siting Council would try to take concerns into consideration when making a decision. It was also noted that the tower placement is close to the blue trail. Fraenkel feels that should also be commented on in the letter to the Siting Council.
   Burgoyne moved, with Adelman seconding, to have Fraenkel generate a letter noting the concern of the PZC regarding the visibility from Pine Acres and the close proximity to the blue trail. The vote was unanimous in favor.
   Discussion on notifying all surrounding areas of possible tower placement noted that Pine Acres has special status in the regulations.

2. Antenna proposal, Fiske Rd tower.
   It was noted that the PZC no longer has jurisdiction over this. Fraenkel noted that the trees have not been planted from the original tower application. She noted that the applicant does not have to come before the PZC. She stated she would like attention paid to the traffic in the area, as the road is fragile. She also noted questions regarding generators and types of equipment to be stored at the site.
   It was noted that if the Siting Council does computations of the electromagnetic waves in the area, the PZC would like a copy of the results.

PZC Minutes of 3/26/01
Page 2 of 2

It was stated that if the trees from the original application are not planted within the time allotted, then Fraenkel would speak with the landowner.
Adelman asked how the Siting Council determines tower placement, to which Fraenkel responded she would ask for their guidelines.

3. Election of Officers
Russell moved, with Burgoyne seconding, to re-elect the same officials as the previous year. The vote was unanimous in favor. The officials are as follows:
Chairman - B. Inman
Vice Chairman – G. Wagner
Secretary – E. Adelman

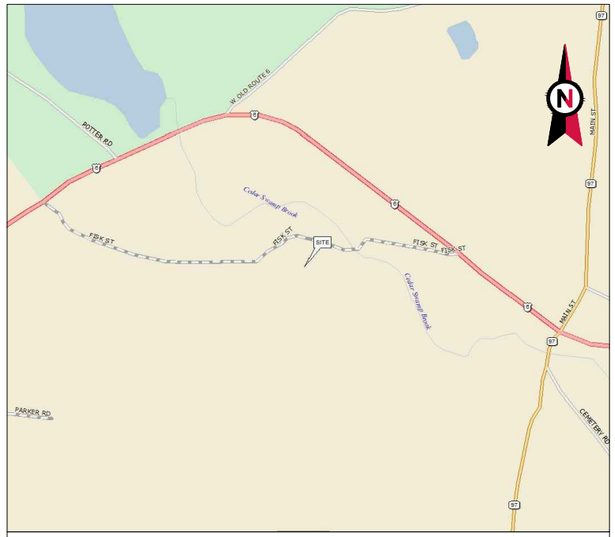
Old Business
Burgoyne supplied Inman with a Conservation guide and copies will be made for the PZC members.

ZEO Report
Fraenkel noted that a letter had been received from the Laughton regarding concern with the light at the insurance company on Main Street, which is being left on all night.
Fraenkel noted that the regulations don't apply directly to this and stated that there are very soft regulations regarding lighting.
Fraenkel stated that the PZC might want to rewrite the regulations to be more specific.
Fraenkel is to rewrite the regulations and the members are to look at the light to observe the situation.

Adjournment
Russell moved, with Burgoyne seconding, to adjourn the meeting at 8:20 p.m.

Respectfully submitted,

Debi Spector
PZC Clerk



VICINITY MAP

AMERICAN TOWER®

ATC SITE NAME: HAMPTON CT
ATC SITE NUMBER: 10029
T-MOBILE SITE NAME: CTHA811A
T-MOBILE SITE NUMBER: CTHA811A
SITE ADDRESS: 185 FISK ROAD
HAMPTON, CT 06247-1305

LOCATION MAP

T-MOBILE SPRINT RETAIN ANTENNA AMENDMENT PLAN
67E5998E CONFIGURATION

COMPLIANCE CODE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. 2015 INTERNATIONAL BUILDING CODE (IBC)
2. 2017 NATIONAL ELECTRIC CODE (NEC)
3. LOCAL BUILDING CODE
4. CITY/COUNTY ORDINANCES

UTILITY COMPANIES

POWER COMPANY: ITRON
PHONE: (866) 374-8766

TELEPHONE COMPANY: UNKNOWN
PHONE: UNKNOWN

811 Know what's below. Call before you dig.

PROJECT SUMMARY

SITE ADDRESS:

185 FISK ROAD

HAMPTON, CT 06247-1305

COUNTY: WINDHAM

GEOGRAPHIC COORDINATES:

LATITUDE: 41.76994

LONGITUDE: -72.07064

GROUND ELEVATION: 620' AMSL

PROJECT TEAM

TOWER OWNER:

AMERICAN TOWER
10 PRESIDENTIAL WAY
WOBURN, MA 01801

APPLICANT:

T-MOBILE

ENGINEER:

TOWER ENGINEERING PROFESSIONALS
326 TYRON ROAD
RALEIGH, NC 27603-3530

PROPERTY OWNER:

AMERICAN TOWER CORPORATION
P.O. BOX 723597
ATLANTA, GA 31139

PROJECT LOCATION DIRECTIONS

395 SOUTH TO RTE 6 WEST. FOLLOW TO FISK RD. ON LEFT.
TOWER IS 1 MILE DOWN ON LEFT.

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW:

TOWER WORK:

REMOVE (6) ANTENNA(S), (12) RRH(s), (4) 1-1/4" HYBRIFLEX CABLE(S), AND (6) 1-5/8" COAX CABLE(S).

INSTALL (6) ANTENNA(S), (6) RRU(s), AND (3) 6/24 4AWG HYBRID TRUNK(S).

GROUND WORK:

REMOVE (2) EQUIPMENT CABINET(S) AND (1) FIBER JUNCTION BOX(ES).

INSTALL (1) ENCLOSURE 6160(s), (1) ENCLOSURE B160(s), (1) RBS 6601(s), (3) BB6648(s), (1) DUG20(s), AND (1) CSR IXRE V2(s).

EXISTING (1) PPC CABINET(S) AND (1) TELCO BOX(ES) TO REMAIN.

NOTE: THIS CONSTRUCTION DRAWING SET IS NOT INTENDED TO ADDRESS ANY ELECTRICAL UPGRADES NEEDED. ANY ELECTRICAL UPGRADES WILL BE SHOWN IN A SEPARATE CONSTRUCTION DRAWING SET.

PROJECT NOTES

1. THE FACILITY IS UNMANNED.
2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE.
3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE.
4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED.
5. HANDICAP ACCESS IS NOT REQUIRED.

SHEET INDEX

SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	1	09/03/21	SSP
G-002	GENERAL NOTES	0	06/11/21	GV
C-101	DETAILED SITE PLAN	1	09/03/21	SSP
C-102	DETAILED EQUIPMENT LAYOUT	1	09/03/21	SSP
C-201	TOWER ELEVATION	1	09/03/21	SSP
C-401	ANTENNA INFORMATION & SCHEDULE	1	09/03/21	SSP
C-501	CONSTRUCTION DETAILS	1	09/03/21	SSP
E-501	GROUNDING DETAILS	1	09/03/21	SSP
R-601	SUPPLEMENTAL			
R-602	SUPPLEMENTAL			
R-603	SUPPLEMENTAL			
R-604	SUPPLEMENTAL			
R-605	SUPPLEMENTAL			
R-606	SUPPLEMENTAL			
R-607	SUPPLEMENTAL			

AMERICAN TOWER

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

REV.	DESCRIPTION	BY	DATE
A	PRELIMINARY	SSP	05/13/21
0	100% CONSTRUCTION	GV	06/11/21
1	100% CONSTRUCTION	SSP	09/03/21

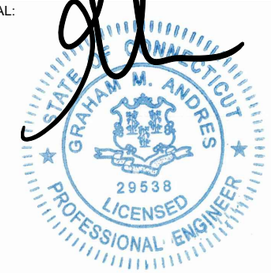
ATC SITE NUMBER:
10029

ATC SITE NAME:
HAMPTON CT

T-MOBILE SITE NAME:
CTHA811A

SITE ADDRESS:
185 FISK ROAD
HAMPTON, CT 06247-1305

SEAL:



09/03/21

T-Mobile

DATE DRAWN:	09/03/21
ATC JOB NO:	13653957
CUSTOMER NAME:	CTHA811A
CUSTOMER ID:	CTHA811A

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	1

GENERAL CONSTRUCTION NOTES:

1. OWNER FURNISHED MATERIALS, T-MOBILE "THE COMPANY" WILL PROVIDE AND THE CONTRACTOR WILL INSTALL
   - A. BTS EQUIPMENT FRAME (PLATFORM) AND ICEBRIDGE SHELTER (GROUND BUILD/CO-LOCATE ONLY)
   - B. AC/TELCO INTERFACE BOX (PPC)
   - C. ICE BRIDGE (CABLE TRAY WITH COVER) (GROUND BUILD/CO-LOCATE ONLY, GC TO FURNISH AND INSTALL FOR ROOFTOP INSTALLATION)
   - D. TOWERS, MONOPOLES
   - E. TOWER LIGHTING
   - F. GENERATORS & LIQUID PROPANE TANK
   - G. ANTENNA STANDARD BRACKETS, FRAMES AND PIPES FOR MOUNTING
   - H. ANTENNAS (INSTALLED BY OTHERS)
   - I. TRANSMISSION LINE
   - J. TRANSMISSION LINE JUMPERS
   - K. TRANSMISSION LINE CONNECTORS WITH WEATHERPROOFING KITS
   - L. TRANSMISSION LINE GROUND KITS
   - M. HANGERS
   - N. HOISTING GRIPS
   - O. BTS EQUIPMENT
2. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL OTHER MATERIALS FOR THE COMPLETE INSTALLATION OF THE SITE INCLUDING, BUT NOT LIMITED TO, SUCH MATERIALS AS FENCING, STRUCTURAL STEEL SUPPORTING SUB-FRAME FOR PLATFORM, ROOFING LABOR AND MATERIALS, GROUNDING RINGS, GROUNDING WIRES, COPPER-CLAD OR XIT CHEMICAL GROUND ROD(S), BUSS BARS, TRANSFORMERS AND DISCONNECT SWITCHES WHERE APPLICABLE, TEMPORARY ELECTRICAL POWER, CONDUIT, LANDSCAPING COMPOUND STONE, CRANES, CORE DRILLING, SLEEPERS AND RUBBER MATTING, REBAR, CONCRETE CAISSONS, PADS AND/OR AUGER MOUNTS, MISCELLANEOUS FASTENERS, CABLE TRAYS, NON-STANDARD ANTENNA FRAMES AND ALL OTHER MATERIAL AND LABOR REQUIRED TO COMPLETE THE JOB ACCORDING TO THE DRAWINGS AND SPECIFICATIONS. IT IS THE POSITION OF T-MOBILE TO APPLY FOR PERMITTING AND CONTRACTOR RESPONSIBLE FOR PICKUP AND PAYMENT OF REQUIRED PERMITS.
3. ALL WORK SHALL CONFORM TO ALL CURRENT APPLICABLE FEDERAL, STATE, AND LOCAL CODES, INCLUDING ANSI/EIA/TIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH T-MOBILE AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.
22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
27. CONTRACTOR SHALL NOTIFY T-MOBILE REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE REP. ANY WORK FOUND BY THE T-MOBILE REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
32. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
33. T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO T-MOBILE OR THEIR ARCHITECT/ENGINEER.

SPECIAL CONSTRUCTION ANTENNA INSTALLATION NOTES:

1. WORK INCLUDED:

A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY T-MOBILE UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OD COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND

B. INSTALL ANTENNA AS INDICATE ON DRAWINGS AND T-MOBILE SPECIFICATIONS.

C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS

D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE.

E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.

F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.

G. ANTENNA AND COAXIAL CABLE GROUNDING:

2. ALL EXTERIOR #6 GREED GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.

3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)

ALL DISCREPANCIES FROM WHAT IS SHOWN ON THESE CONSTRUCTION DRAWINGS SHALL BE COMMUNICATED TO ATC ENGINEERING IMMEDIATELY FOR CORRECTION OR RE-DESIGN. FAILURE TO COMMUNICATE DIRECTLY WITH ATC ENGINEERING OR ANY CHANGES FROM THE DESIGN CONDUCTED WITHOUT PRIOR APPROVAL FROM ATC ENGINEERING SHALL BE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

AMERICAN TOWER

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

REV.	DESCRIPTION	BY	DATE
A	PRELIMINARY	SSP	05/13/21
0	100% CONSTRUCTION	GV	06/11/21

ATC SITE NUMBER:
10029

ATC SITE NAME:
HAMPTON CT

T-MOBILE SITE NAME:
CTHA811A

SITE ADDRESS:
18 FISK ROAD
HAMPTON, CT 06247-1305

SEAL:

06/11/21

T-Mobile

DATE DRAWN:	06/11/21
ATC JOB NO:	13653957
CUSTOMER NAME:	CTHA811A
CUSTOMER ID:	CTHA811A

GENERAL NOTES

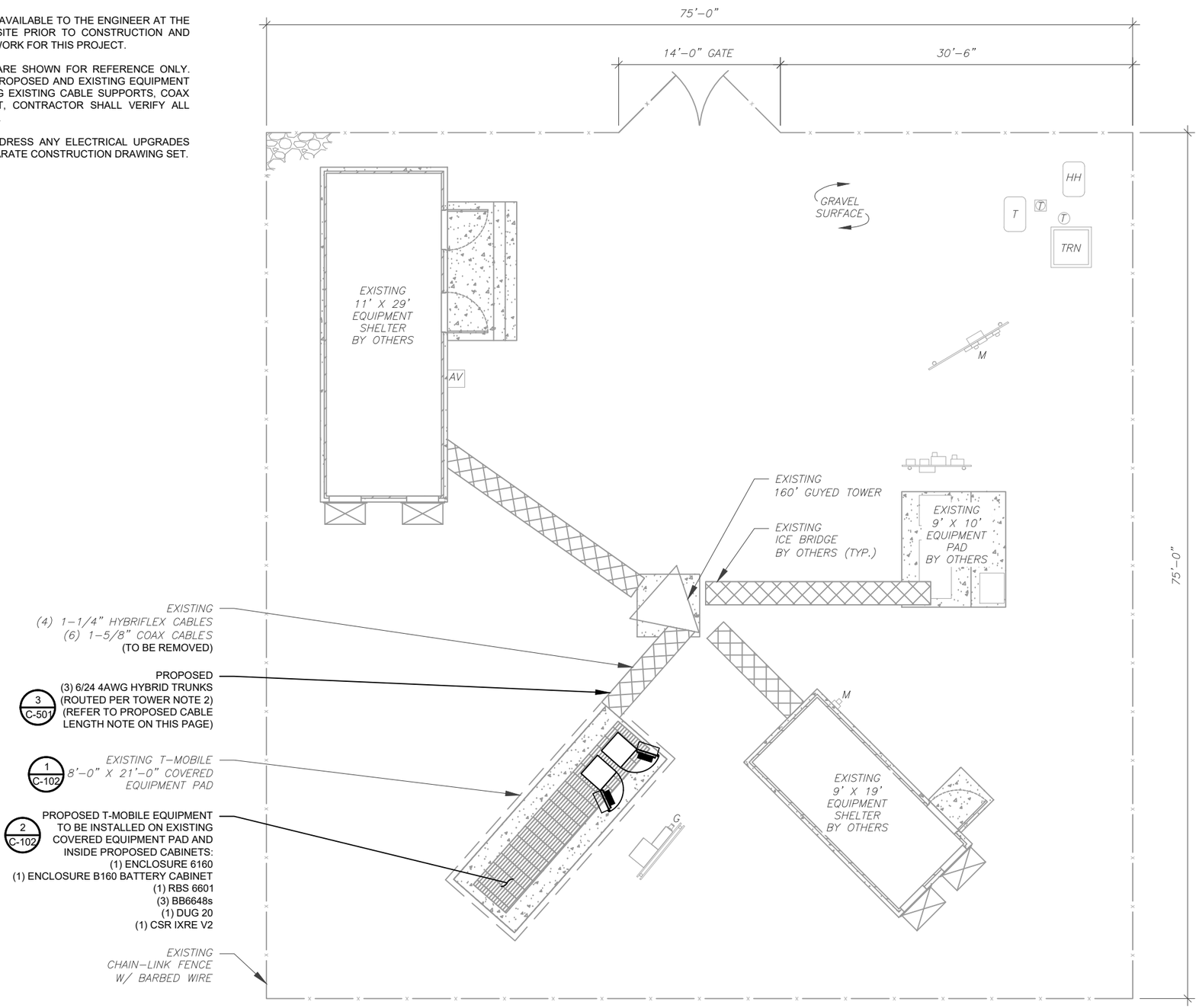
SHEET NUMBER:	REVISION:
G-002	0

SITE PLAN NOTES:

1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. THIS CONSTRUCTION DRAWING SET IS NOT INTENDED TO ADDRESS ANY ELECTRICAL UPGRADES NEEDED. ANY ELECTRICAL UPGRADES WILL BE SHOWN IN A SEPARATE CONSTRUCTION DRAWING SET.

LEGEND

⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
x	CHAINLINK FENCE



1 DETAILED SITE PLAN
SCALE: 1" = 10'
0 10' 20'
SCALE: 1"=10' (11X17)
1"=5' (22X34)

PROPOSED CABLE LENGTH:

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **210'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES), CDS DEFER TO GREATEST CABLE LENGTH.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).

AMERICAN TOWER

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

REV.	DESCRIPTION	BY	DATE
A	PRELIMINARY	SSP	05/13/21
0	100% CONSTRUCTION	GV	06/11/21
1	100% CONSTRUCTION	SSP	09/03/21

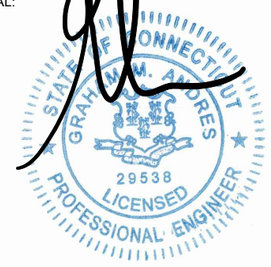
ATC SITE NUMBER:
10029

ATC SITE NAME:
HAMPTON CT

T-MOBILE SITE NAME:
CTHA811A

SITE ADDRESS:
135 FISK ROAD
HAMPTON, CT 06247-1305

SEAL:



09/03/21

T-Mobile

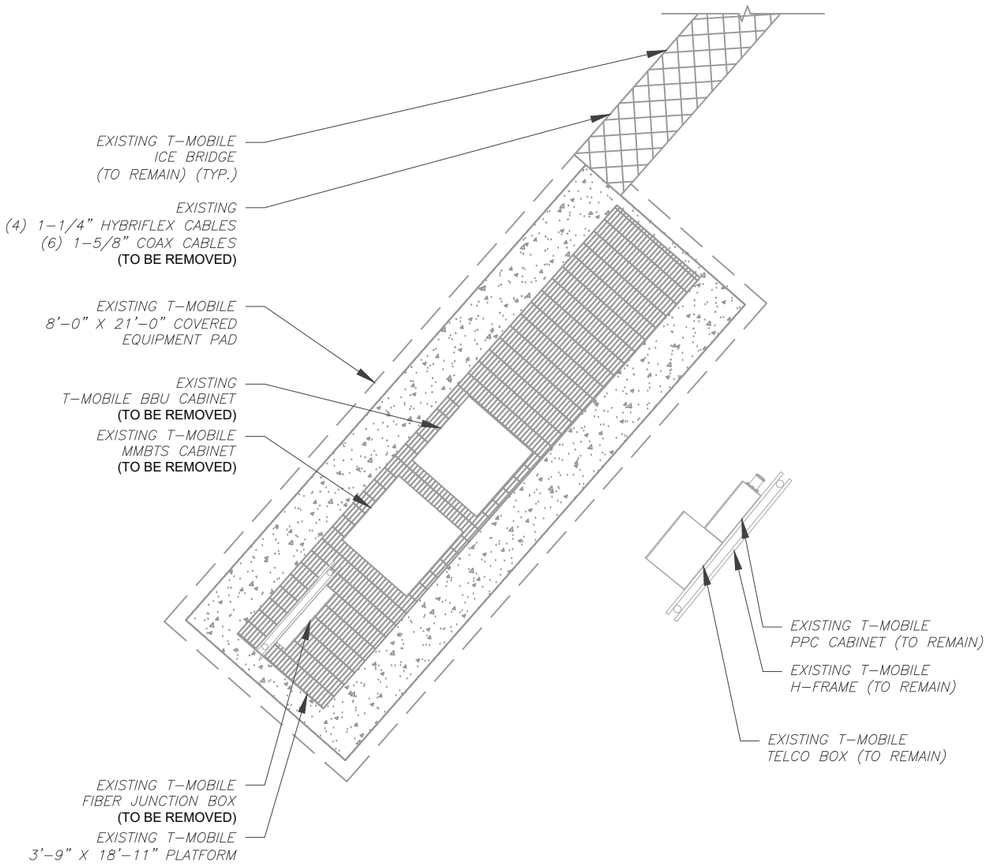
DATE DRAWN:	09/03/21
ATC JOB NO:	13653957
CUSTOMER NAME:	CTHA811A
CUSTOMER ID:	CTHA811A

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	1

SITE PLAN NOTES:

1. CONTRACTOR TO VERIFY THERE IS NO LIVE AAV FIBER RUNNING THROUGH EXISTING DEAD EQUIPMENT. IF SO, THIS WILL NEED TO BE RERUN THROUGH CONDUIT PRIOR TO REMOVING DEAD 2G (6201 CABS) EQUIPMENT.
2. REMOVE EXISTING 2G CABINETS, AND POWER / TELCO WHIPS ASSOCIATED WITH THE DEAD EQUIPMENT IF APPLICABLE.
3. ALL OPEN PORTS NEED TO BE SEALED / WEATHERPROOFED PROPERLY
4. ALL UNNEEDED / EXCESS EQUIPMENT AND GARBAGE TO BE REMOVED FROM EQUIPMENT AREA. DISPOSE OF MATERIALS PROPERLY OFF SITE.



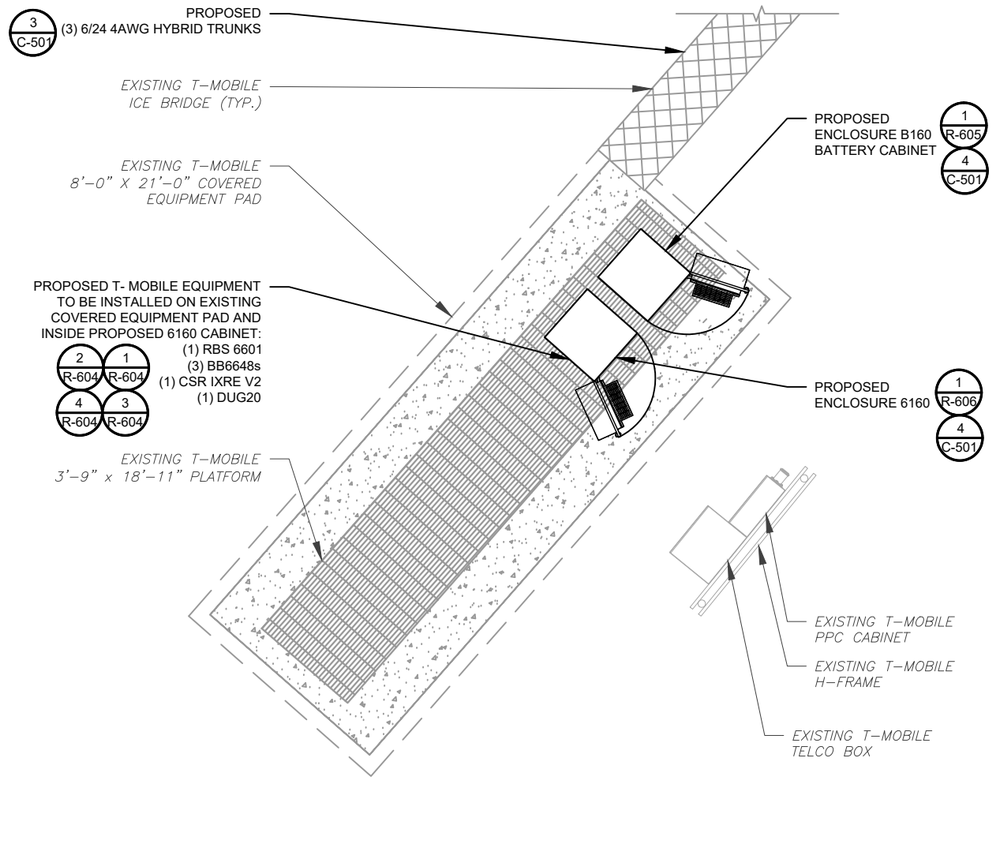
1 EXISTING GROUND EQUIPMENT LAYOUT

SCALE: 1" = 5'

0 5' 10'

SCALE: 1"=5' (11X17)
1"=2.5' (22X34)

T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS



2 PROPOSED GROUND EQUIPMENT LAYOUT

SCALE: 1" = 5'

0 5' 10'

SCALE: 1"=5' (11X17)
1"=2.5' (22X34)

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1	100% CONSTRUCTION	SSP	09/03/21

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10029

ATC SITE NAME:
HAMPTON CT

T-MOBILE SITE NAME:
CTHA811A

SITE ADDRESS:
18[illegible] FISH ROAD
HAMPTON, CT 06247-1305

SEAL:

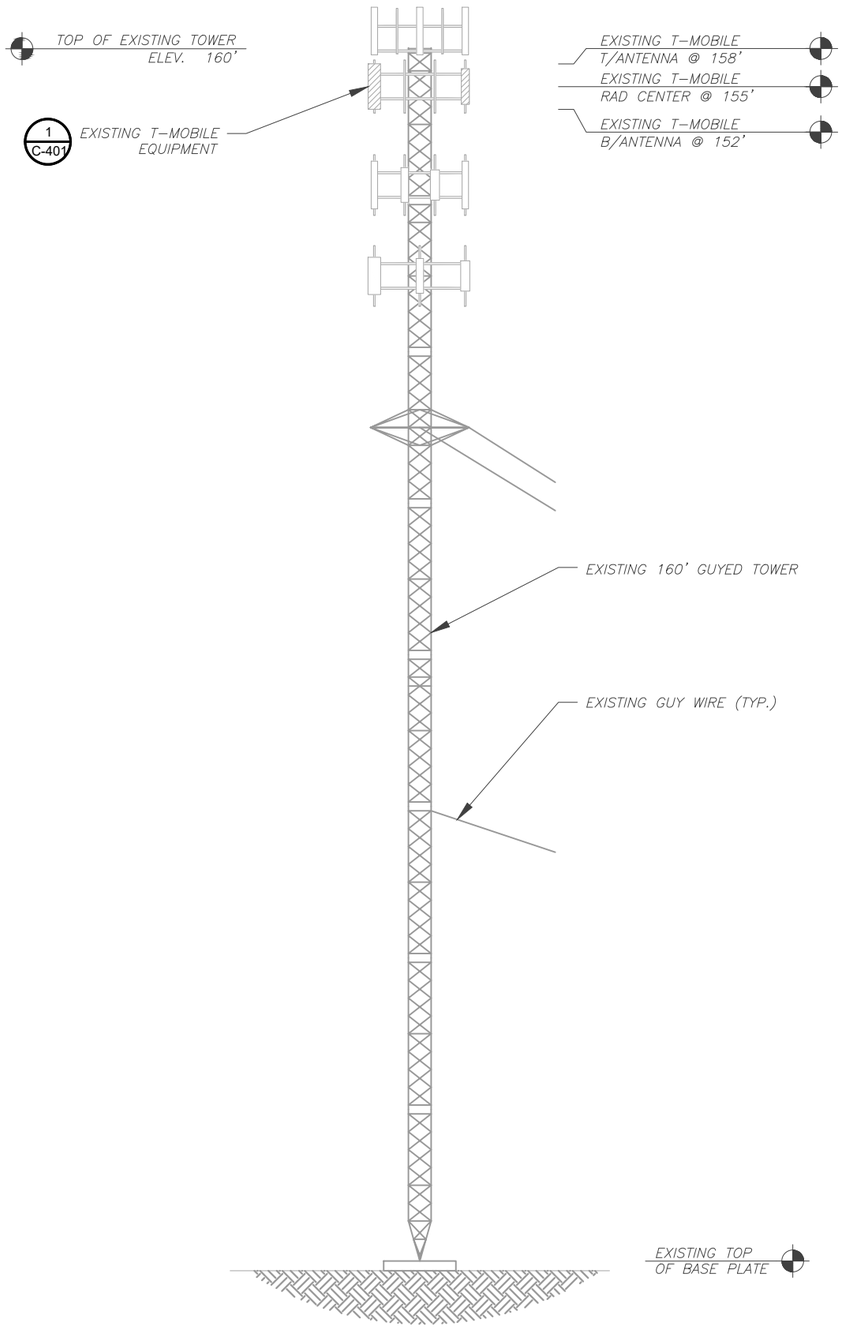
09/03/21

T-Mobile

DATE DRAWN:	09/03/21
ATC JOB NO:	13653957
CUSTOMER NAME:	CTHA811A
CUSTOMER ID:	CTHA811A

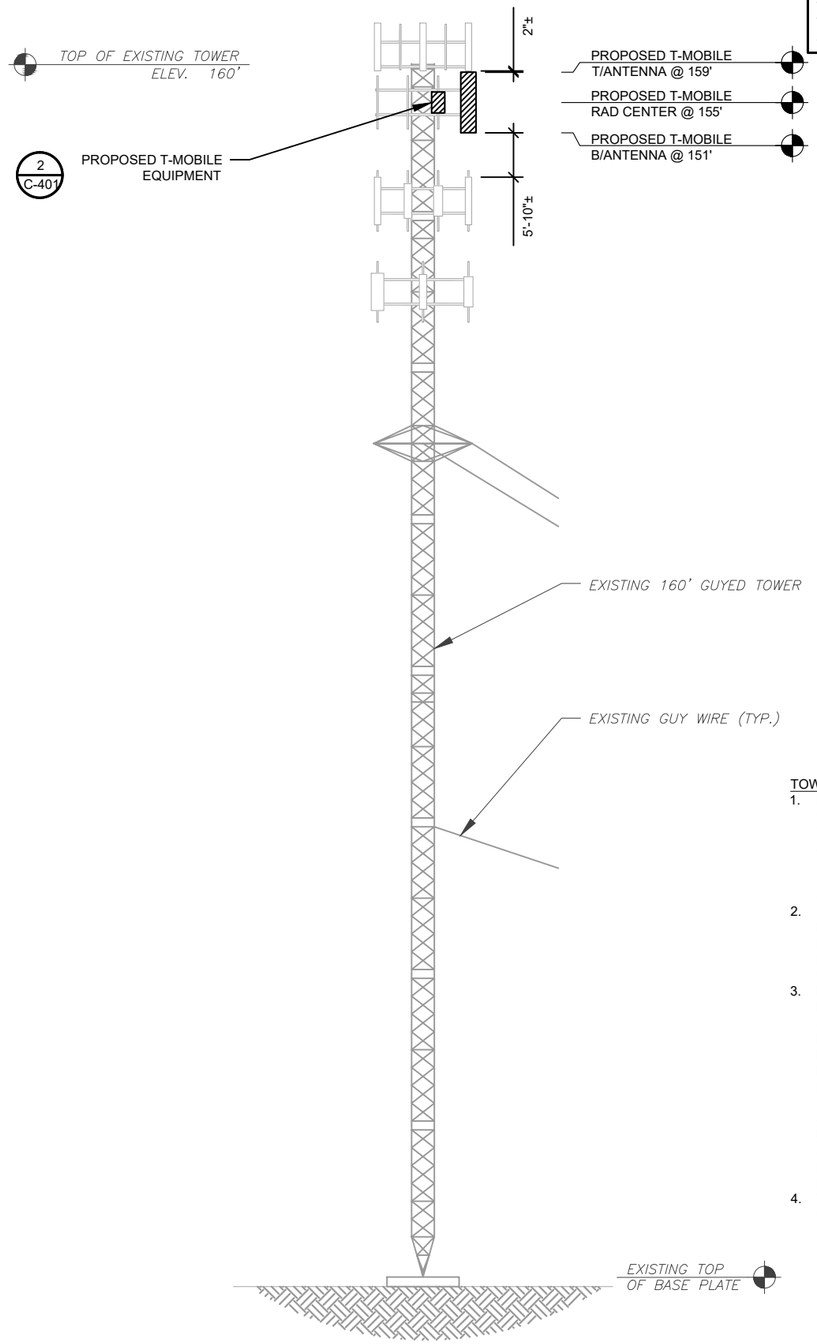
DETAILED EQUIPMENT LAYOUT

SHEET NUMBER:	REVISION:
C-102	1



1 EXISTING TOWER ELEVATION
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER CORPORATION, DATED AUGUST 11, 2021, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



TOWER NOTE:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM WITH THE PROJECT MANAGER THAT THEY HAVE THE MOST RECENT VERSION OF THE STRUCTURAL ANALYSIS BEFORE COMMENCING WORK. EXISTING AND PROPOSED TOWER APPURTENANCES, MOUNTS, AND ANTENNAS ARE SHOWN BASED ON THE STRUCTURAL ANALYSIS.
2. WHERE APPLICABLE, ALL NEW ANTENNAS, EQUIPMENT, MOUNTS, CABLING, ETC. SHALL BE PAINTED/SOCKED TO MATCH EXISTING EQUIPMENT IN ACCORDANCE WITH FAA, JURISDICTION, AND/OR OTHER LOCAL REQUIREMENTS.
3. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. IF ADEQUATE SPACE EXISTS, ROUTE CABLES THROUGH ENTRY PORT HOLE, UP INSIDE OF MONOPOLE, AND THROUGH EXIT PORT HOLE. IF ROUTING OUTSIDE THE MONOPOLE, ATTACH CABLES USING STAND-OFF ADAPTERS MOUNTED TO TOWER USING STAINLESS STEEL BANDING. ADEQUATELY SECURE CABLES USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER.
4. TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

2 PROPOSED TOWER ELEVATION
SCALE: N.T.S.

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T-MOBILE SITE NAME:
CTHA811A

SITE ADDRESS:
485 FISH ROAD
HAMPTON, CT 06247-1305

SEAL:

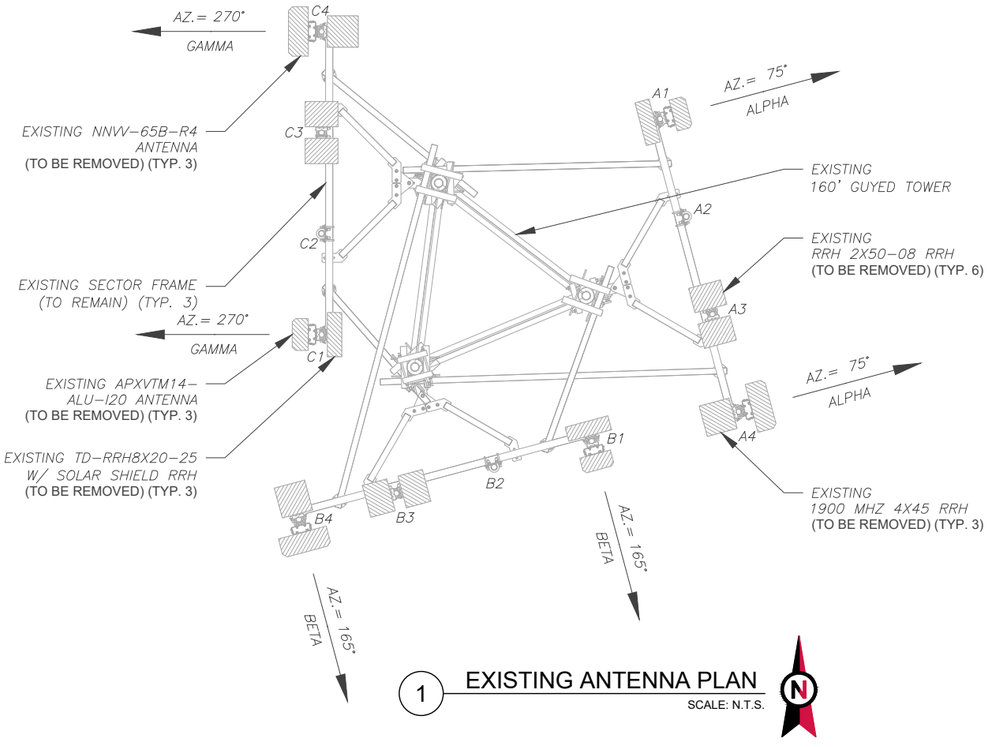
09/03/21

T-Mobile

DATE DRAWN:	09/03/21
ATC JOB NO:	13653957
CUSTOMER NAME:	CTHA811A
CUSTOMER ID:	CTHA811A

TOWER ELEVATION

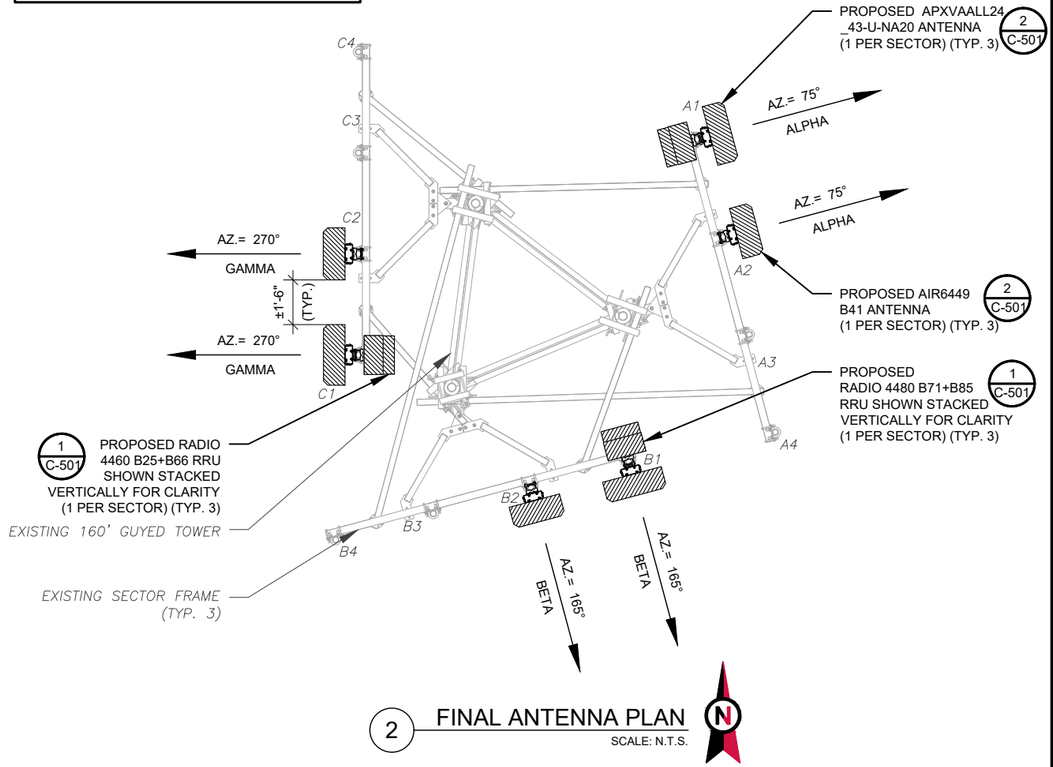
SHEET NUMBER:	REVISION:
C-201	1



1 EXISTING ANTENNA PLAN

SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY AMERICAN TOWER CORPORATION, DATED AUGUST 11, 2021, THE EXISTING MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING



2 FINAL ANTENNA PLAN

SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY					NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	155'	75°	A1	APXVTM14-ALU-I20	–	–	RMV	(1) TD-RRH 8X20-25 W/ SOLAR SHIELD	RMV
			A2	–	–	–	–	–	–
			A3	–	–	–	–	(2) RRH2X50-08	RMV
			A4	NNVV-65B-R4	–	–	RMV	(1) 1900 MHZ 4X45 RRH	RMV
BETA	155'	165°	B1	APXVTM14-ALU-I20	–	–	RMV	(1) TD-RRH 8X20-25 W/ SOLAR SHIELD	RMV
			B2	–	–	–	–	–	–
			B3	–	–	–	–	(2) RRH2X50-08	RMV
			B4	NNVV-65B-R4	–	–	RMV	(1) 1900 MHZ 4X45 RRH	RMV
GAMMA	155'	270°	C1	APXVTM14-ALU-I20	–	–	RMV	(1) TD-RRH 8X20-25 W/ SOLAR SHIELD	RMV
			C2	–	–	–	–	–	–
			C3	–	–	–	–	(2) RRH2X50-08	RMV
			C4	NNVV-65B-R4	–	–	RMV	(1) 1900 MHZ 4X45 RRH	RMV

NOTES

1. CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
2. CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
3. TEP DID NOT VERIFY THE EXISTING LOADING. LOADING DATA PROVIDED BY ATC AND T-MOBILE.

STATUS ABBREVIATIONS

RMV: TO BE REMOVED
RMN: TO REMAIN
REL: TO BE RELOCATED
ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS

JUNCTION BOX TO RRU: 15'
RRU TO ANTENNA: 10'

FINAL ANTENNA SCHEDULE

LOCATION			ANTENNA SUMMARY					NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	155'	75°	A1	APXVAALL24_43-U-NA20	L600/L700/N600/ L1900/L2100/G1900	0°/2°	ADD	(1) RADIO 4480 B71+B85 (1) RADIO 4460 B25+B66	ADD ADD
			A2	AIR6449 B41	L2500/N2500	0°/2°	ADD	-	-
			A3	-	-	-	-	-	-
			A4	-	-	-	-	-	-
BETA	155'	165°	B1	APXVAALL24_43-U-NA20	L600/L700/N600/ L1900/L2100/G1900	0°/2°	ADD	(1) RADIO 4480 B71+B85 (1) RADIO 4460 B25+B66	ADD ADD
			B2	AIR6449 B41	L2500/N2500	0°/2°	ADD	-	-
			B3	-	-	-	-	-	-
			B4	-	-	-	-	-	-
GAMMA	155'	270°	C1	APXVAALL24_43-U-NA20	L600/L700/N600/ L1900/L2100/G1900	0°/2°	ADD	(1) RADIO 4480 B71+B85 (1) RADIO 4460 B25+B66	ADD ADD
			C2	AIR6449 B41	L2500/N2500	0°/2°	ADD	-	-
			C3	-	-	-	-	-	-
			C4	-	-	-	-	-	-

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRIFLEX	STATUS
–	–	(6) 1-5/8"	(4) 1-1/4"	RMV

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	-	(3) 6/24 HCS 4AWG	ADD

3 EQUIPMENT SCHEDULES

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1	100% CONSTRUCTION	SSP	09/03/21

ATC SITE NUMBER:
10029

ATC SITE NAME:
HAMPTON CT

T-MOBILE SITE NAME:
CTHA811A

SITE ADDRESS:
185 FISH ROAD
HAMPTON, CT 06247-1305

SEAL:

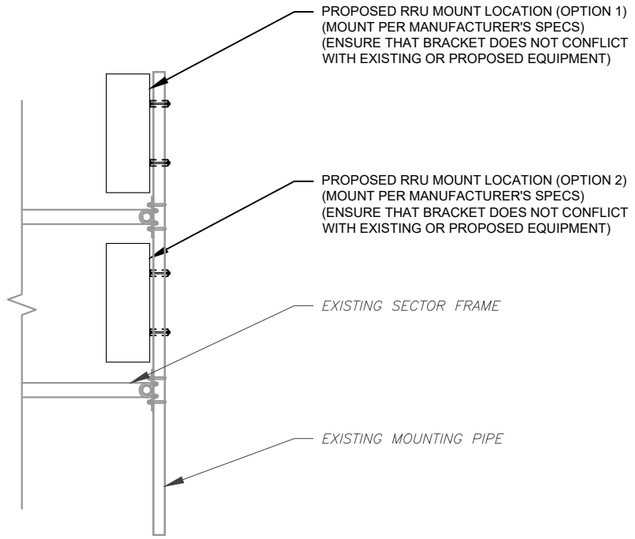
09/03/21

T-Mobile

DATE DRAWN:	09/03/21
ATC JOB NO:	13653957
CUSTOMER NAME:	CTHA811A
CUSTOMER ID:	CTHA811A

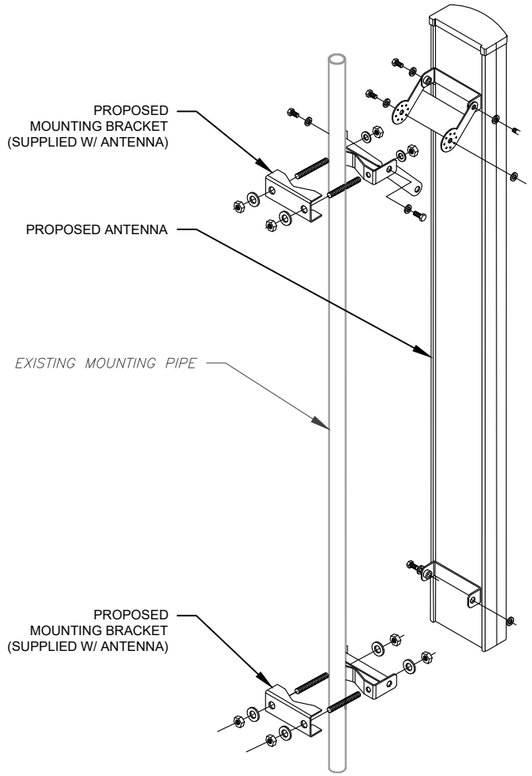
ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER:	REVISION:
C-401	1



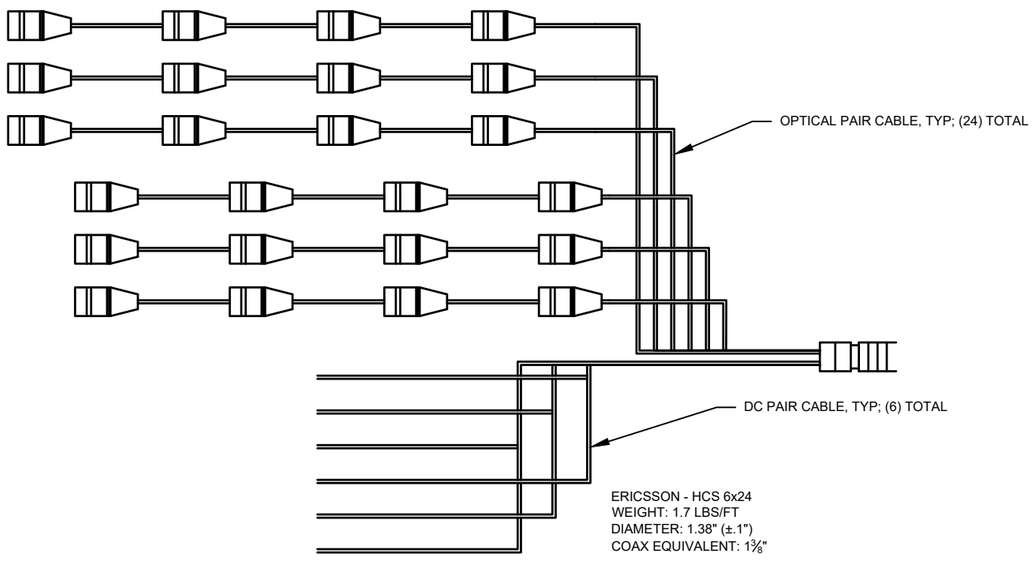
1 PROPOSED RRU MOUNTING DETAIL

SCALE: N.T.S.



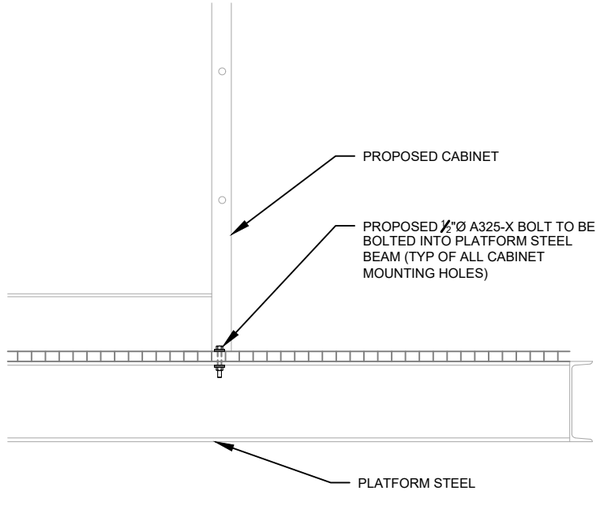
2 PROPOSED ANTENNA MOUNTING DETAIL

SCALE: N.T.S.



3 PROPOSED HCS DETAIL

SCALE: N.T.S.



4 CABINET ATTACHMENT DETAIL

SCALE: NOT TO SCALE

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A	PRELIMINARY	SSP	05/13/21
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1	100% CONSTRUCTION	SSP	09/03/21

ATC SITE NUMBER:
10029

ATC SITE NAME:
HAMPTON CT

T-MOBILE SITE NAME:
CTHA811A

SITE ADDRESS:
185 FEE ROAD
HAMPTON, CT 06247-1305

SEAL:

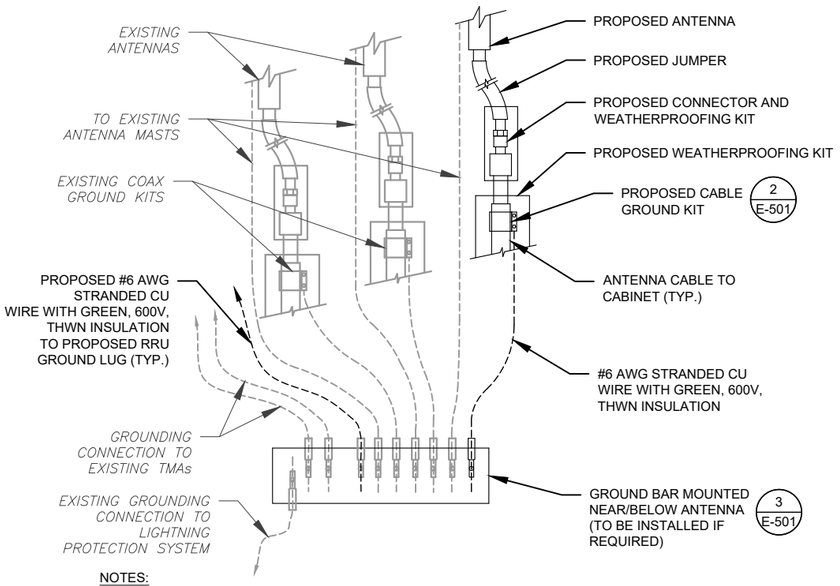
09/03/21

T-Mobile

DATE DRAWN:	09/03/21
ATC JOB NO:	13653957
CUSTOMER NAME:	CTHA811A
CUSTOMER ID:	CTHA811A

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-501	1

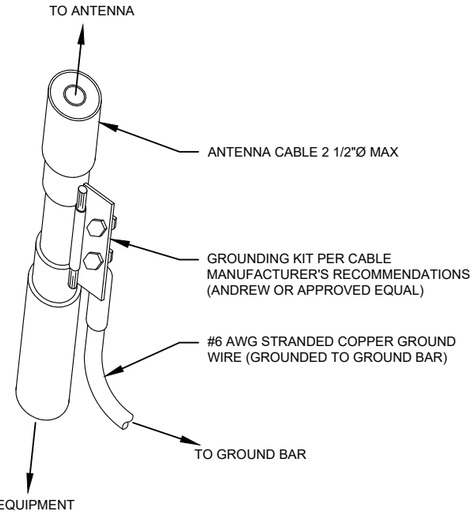


NOTES:

1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH T-MOBILE GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.

1 TYPICAL ANTENNA GROUNDING DIAGRAM

SCALE: N.T.S.

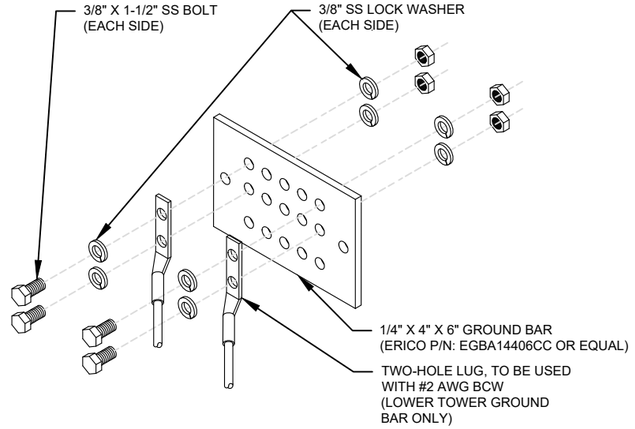


GROUND KIT NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. CONTRACTOR SHALL PROVIDE WEATHERPROOFING KIT (ANDREW PART NUMBER 221213) AND INSTALL/TAPE PER MANUFACTURER'S SPECIFICATIONS.

2 CABLE GROUND KIT CONNECTION DETAIL

SCALE: N.T.S.

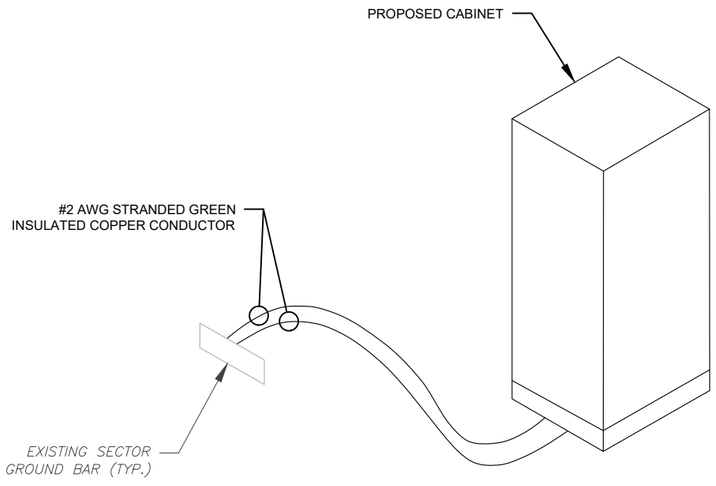


GROUND BAR NOTES:

1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

3 TOWER GROUND BAR DETAIL

SCALE: N.T.S.



4 CABINET GROUNDING DETAIL

SCALE: N.T.S.

ELECTRICAL NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.
2. ATC HAS NOT VERIFIED ANY EXISTING T-MOBILE GROUND EQUIPMENT OR ELECTRICAL LOADING. PROPOSED WORK BASED ON INSTALLATION CONFIGURATION PROVIDED BY T-MOBILE. CONTRACTOR TO VERIFY EXISTING T-MOBILE PANEL HAS SUFFICIENT SPACE FOR PROPOSED BREAKER. PROPOSED CABLE AND CONDUIT SHALL BE MINIMUM SIZE PER BELOW IN CHART.
3. FOR SPECIFIC CABINET/ ANCILLARY EQUIPMENT WIRING REQUIREMENTS, THE T-MOBILE CONTRACTOR SHOULD PREFERENCE DESIGN DOCUMENTS PROVIDED BY T-MOBILE FOR THIS CURRENT PROJECT CONFIGURATION, IN ACCORDANCE WITH LOCAL JURISDICTION REQUIREMENTS & NEC STANDARDS & PRACTICES.

OCPD SIZE	WIRE SIZE	GROUND SIZE	CONDUIT SIZE
80A/2P	2#3 AWG	#8 AWG	1-1/4"
100/2P	2#2 AWG	#8 AWG	1-1/4"
125A/2P	2#1 AWG	#8 AWG	1-1/2"
150A/2P	2#1/0 AWG	#8 AWG	1-1/2"

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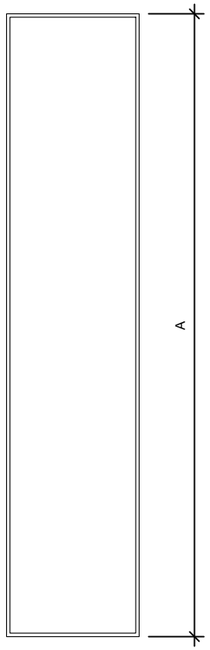
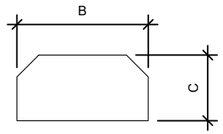
CUSTOMER ID:	CTHA811A

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	1



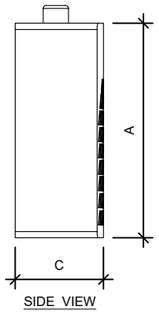
FRONT VIEW



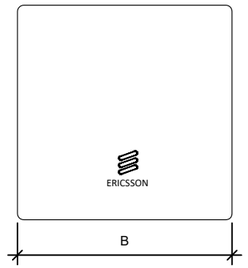
TOP VIEW

ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
APXVAALL24 43-U-NA20	95.9"	24"	8.5"	122.8
AIR 6449 B41	33.1"	20.6"	8.6"	104

TOP VIEW



SIDE VIEW



FRONT VIEW

RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
RADIO 4480 B71+B85	21.8"	15.4"	7.5"	93.0
RADIO 4460 B25+B66	17.0"	15.1"	11.9"	109

- EQUIPMENT SPECIFICATIONS

SCALE: N.T.S.

SUPPLEMENTAL

SHEET NUMBER: R-601

REVISION: -

Existing RAN Equipment

----- This section is intentionally blank. -----

Proposed RAN Equipment

Template: 67E5A998E 6160

Enclosure	1	2	3
Enclosure Type	Enclosure 6160	RBS 6601	B160
Baseband	BB 6648 (L700, L600, N600); BB 6648 (L2500, N2500); BB 6648 (L2100, L1900)	DUG20 (G1900)	
Transport System	CSR IXRe V2 (Gen2)		
Functionality Groups	Ericsson Hybrid Trunk 6/24 4AWG *Select Length* **(x 3)**		

RAN Scope of Work:

CT33XC568
Existing & planned azimuth: 75/165/270
Existing power 200A

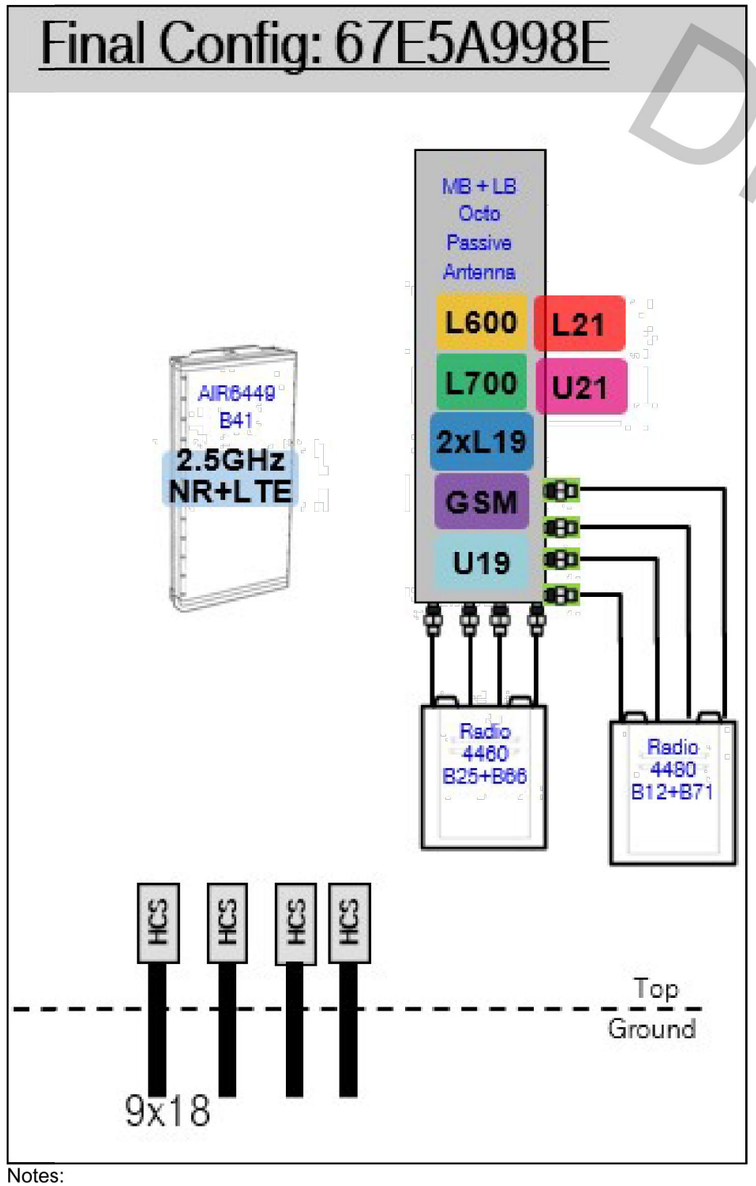
- CABINET CONFIGURATION
SCALE: NOT TO SCALE

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-602	-

67E5A998E.jpg



Notes:

- PROPOSED ANTENNA CONFIGURATION
SCALE: NOT TO SCALE

NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: R-603

REVISION: -

Hardware Architecture

This section contains an overview of the hardware units of the 19-inch baseband unit.

Figure 5 Baseband 6648 Hardware Architecture

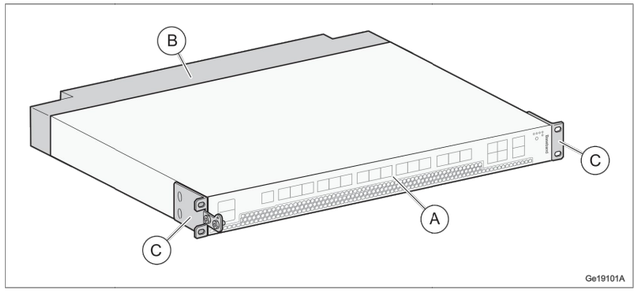


Table 6 19-Inch Baseband Hardware Units

Position	Name of Units	Number of Units
A	19-inch baseband unit	1
B	Fan module	1
C	Movable Brackets	2

1 PROPOSED BB 6648 DETAIL
SCALE: N.T.S.

RBS 6601 Hardware Architecture

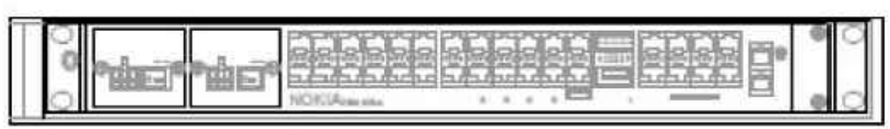
The Main–Remote solution has the similar architecture as the other products in the RBS 6000 family.

The main Remote Solution is divided into a Main Unit (MU) and multiple Remote Radio Unit (RRU) that are connected to the MU through optical fiber cables.

Figure 2 RBS 6601, Main Unit (MU) and Remote Radio Unit (RRU)

2 PROPOSED RBS 6601 DETAIL
SCALE: N.T.S.

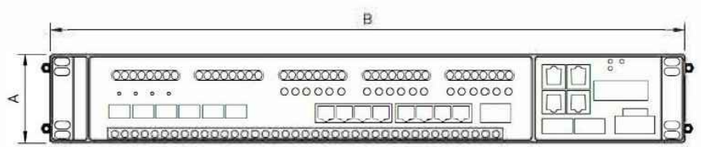
MANUFACTURER: NOKIA
MODEL: IXR-e
DIMENSIONS: 17.25"x10.0"x1.75"
WEIGHT: TBD



3 PROPOSED CSR IXRE DETAIL
SCALE: N.T.S.

MANUFACTURER:	ERICSSON
MODEL NO.:	DUG 20
DIMENSIONS:	TOTAL WEIGHT :
A 2.8"	
B 19"	23 LBS
DEPTH 13.78"	

*INSTALLATION INTO EXISTING CABINET OR RACK REQUIRES NO SPECIAL INSPECTIONS.



4 PROPOSED DUG20 DETAIL
SCALE: N.T.S.

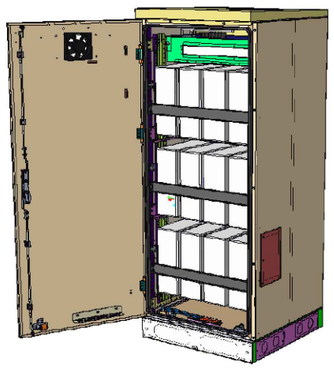
NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

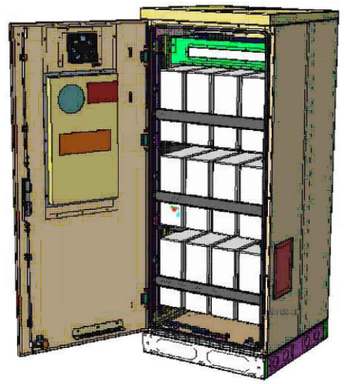
SHEET NUMBER: R-604

REVISION: -

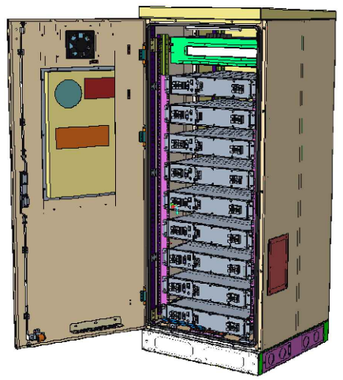
Enclosure B160



Enclosure B160
AirCon + VRLA



Enclosure B160
AirCon + Li-Ion



Enclosure B160
Convection Cooling
+ VRLA

Enclosure B160

Capacity
- VRLA 12V: 100Ah / 150Ah / 170Ah / 190Ah / 210Ah
- Li-Ion: 24U 19" / 23"
- Sodium-Nickel: 3x FIAMM

Electrical specification
- DC Output: -48VDC/200A
- Battery breakers: 2x 125/2p
- Alarms: Door open, Climate failure, MCB Connection

Mechanical specification
- Weight: 134kg
- Dimensions: 63 x 26 x 26 in. (incl. Base frame)
- Base frame height: 6 in.
- Material: Galvanized steel (180g/m^2)
- Color: Powder paint NCS 2002-B
- Door: Front access
- Locking type: Pad lock / cylinder

Environmental specification
- Ingress protection: VRLA/Sodium IP44
Li-Ion IP55
- Relative humidity: 15-100%

Climate system
- Air Conditioner
  - Fan type: DC
  - Cooling capacity: 500W @L35/L35
- Convection cooling
  - Emergency fan

1 PROPOSED ENCLOSURE B160 BATTERY CABINET
SCALE: N.T.S.

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: R-605

REVISION: -

Enclosure 6160 AC

The Enclosure 6160 is a multi-purpose site cabinet designed to support a multitude of equipment such as ERS Baseband, Transport, Li-Ion battery and 3PP vendor equipment. It also provides a highly capable power system and battery back-up - all in a streamlined design and minimized footprint to support cost efficient expansion of mobile broadband.

Being an all-in-one enclosure, the Enclosure 6160 is a very fitting choice for all types of sites where the capacity need is large or room for future expansion is needed. It is ideally used for modernizing existing sites or in greenfield scenarios to match both current and future needs.

With a robust design, IP65 compliance and a sealed Heat Exchanger (HEX) climate system the Enclosure 6160 ensures optimal environmental protection of the active equipment - enabling them for a long-lasting service. The complete system is also integrated and verified for the entire Ericsson Radio System and ensures best-in-class service.

The power system offers 31,5kW of power in total and provides 24kW of -48V DC power for both internal and external consumers.

The equipment space allows 19U of rack space ensuring well enough capacity for existing need and future expansion.

One of the main advantages of the Enclosure 6160 is its default integration with ENM - allowing for advanced remote monitoring and control such a fault management (alarms), inventory management and performance measurements. The cabinet also provides an open O&M interface for integration to 3PP O&M systems.

Preliminary technical specification for Enclosure 6160 AC

CAPACITY	
Rack space user equipment	19U (19" rack)
Hardware capabilities	Power and CPRI support for multi-standard remote radios (RRU or AIR) ERS Baseband and Transport units Li-Ion batteries 3PP equipment Additional power feed available as option
MECHANICAL SPECIFICATION	
Weight	145 kg (excluding active equipment) 320 lbs (excluding active equipment)
Dimension (H x W x D)	1600 x 650 x 650 mm (incl. Base frame) 63 x 26 x 26 in. (incl. Base frame)
Base frame height	150 mm 6 in.
Mounting position	Ground
Enclosure material	Aluminum
Color	Power paint NCS 2002-B
Door	Front access
Rack type	19" (IEC 60297-3-100)
Locking type	Pad lock or Cylinder
POWER SYSTEM	
Input voltage	3P+N+PE: 346/200-415/240 VAC 2P+N+PE: 208/120-220/127 VAC 1P+N+PE: 200-250 VAC
Input power	<33kW
Output load (-48VDC)	24kW
Total capacity (-48VDC)	31.5kW
AC SPD	Class 2/Type 2
DC SPD	Class 2/Type 2
PSU Slots	9x
Service outlet	Optional
Priority load	8x Circuit Breaker
LLVD 1	6x Circuit Breaker
LLVD 2	6x Circuit Breaker
CB ratings	3A / 5A / 10A / 15A / 20A / 25A / 30A / 40A / 50A / 60A / 80A / 100A
Battery Interface	2x Circuit Breaker
Battery Circuit Breaker rating	125A 2pol (200A)
PSU capacity	3500W

1 PROPOSED ENCLOSURE 6160 AC

SCALE: N.T.S.

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER:	REVISION:
R-606	-

AMERICAN TOWER®
CORPORATION

Mount Analysis Report

ATC Site Name	:	**HAMPTON CT, CT**
ATC Site Number	:	**10029**
Engineering Number	:	**13653957_C8_04**
Mount Elevation	:	**155 ft**
Carrier	:	**Sprint Nextel**
Carrier Site Name	:	**CTHA811A**
Carrier Site Number	:	**CTHA811A**
Site Location	:	**185 Fisk Road** **Hampton, CT 06247-1305** **41.76994324 , -72.07064056**
County	:	**Windham**
Date	:	**August 11, 2021**
Max Usage	:	**79%**
Result	:	**Pass**

Prepared By:
Kyle Sammarco
Structural Engineer

Reviewed By:

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
11 Aug 2021 09:33:09 cosign

COA: PEC.0001553

Introduction

The purpose of this report is to summarize results of the mount analysis performed for Sprint Nextel at 155 ft.

Supporting Documents

Specifications Sheet	Site Pro 1 VFA12-HD, dated June 29, 2018
Radio Frequency Data Sheet	RFDS ID #CTHA811A, dated July 20, 2021
Reference Photos	Site photos from 2020
Corrective Amendment	ATC Project #13714286

Analysis

This mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	121 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.185, S1 = 0.054
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above. The mount can support the equipment as described in this report.

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

A.T. Engineering Service, PLLC - 3500 Regency Parkway, Suite 100 - Cary, NC 27518 - 919.468.0112 Office - 919.466.5414 Fax - www.americantower.com

- MOUNT ANALYSIS

NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT. PLEASE REFERENCE THE MOUNT ANALYSIS REPORT FOR COMPLETE MOUNT ANALYSIS CALCULATIONS AND DETAILS. SUPPLEMENTAL PAGES INCLUDED IN THE CONSTRUCTION DRAWINGS ARE FOR REFERENCE ONLY. GENERAL CONTRACTOR IS TO VERIFY THEY HAVE THE MOST RECENT MOUNT ANALYSIS PRIOR TO CONSTRUCTION.

SUPPLEMENTAL

SHEET NUMBER: R-607

REVISION: -

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**160 ft Guyed Tower**
ATC Site Name	:	**HAMPTON CT,CT**
ATC Site Number	:	**10029**
Engineering Number	:	**13714286_C3_01**
Proposed Carrier	:	**SPRINT NEXTEL**
Carrier Site Name	:	**CTHA811A**
Carrier Site Number	:	**CTHA811A**
Site Location	:	**185 Fisk Road** **Hampton, CT 06247-1305** **41.7699, -72.0706**
County	:	**Windham**
Date	:	**August 25, 2021**
Max Usage	:	**63%**
Result	:	**Pass**

Prepared By:

Ryan Ciamillo
Structural Engineer

Reviewed By:

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
27 Aug 2021 09:50:23 cosign

COA : PEC.0001553

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 160 ft Guyed tower to reflect the change in loading by SPRINT NEXTEL.

Supporting Documents

Tower Drawings	Fred A. Nudd Corporation Project #6606, dated February 17, 1999
Foundation Drawing	Fred A. Nudd Corporation Dwg #99-6606-2, dated February 17, 1999 ATC Pier Measurements, dated January 3, 2013
Geotechnical Report	GEOServices Project #21-07254, dated February 16, 2008

Analysis

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

Basic Wind Speed:	121 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.18, S_1 = 0.05
Site Class:	D - Stiff Soil - Default

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

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

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
162.0	9	Allgon 7120.16.05.00 / A-800-110-13I-0-N	Sector Frame	(9) 1 1/4" Coax	SPRINT NEXTEL
155.0	3	RFS APXVAALL24 43-U-NA20	Sector Frame	-	
	3	Ericsson Air6449 B41			
140.0	1	Raycap RCMDC-6627-PF-48	Sector Frame	(10) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Samsung MT6407-77A			
	6	Amphenol Antel LPA-80080-4CF-EDIN-0			
	3	Samsung B5/B13 RRH-BR04C			
	3	Samsung B2/B66A RRH-BR049			
	3	Commscope CBC78T-DS-43-2X			
	6	Commscope JAHH-65B-R3B			
130.0	2	Raycap DC6-48-60-18-8F(32.8 lbs)	Sector Frame	(3) 0.39" (10mm) Fiber Trunk (2) 0.78" (19.7mm) 8 AWG 6 (4) 0.95" (24.2mm) Cable (12) 1 1/4" Coax	AT&T MOBILITY
	3	Ericsson Radio 8843 - B2 + B66A			
	6	Powerwave Allgon LGP17201			
	3	Ericsson RRUS 4449 B5, B12			
	3	Allgon 7770.00			
	3	CCI DMP65R-BU8D			
	3	CCI HPA65R-BU8A			
120.0	1	Generic Dish Reserve	Sector Frame	-	ATC RESERVED
75.0	1	Lucent KS-24019	Leg	(1) 7/8" Coax	VERIZON WIRELESS

Equipment to be Removed

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
155.0	3	Ericsson Radio 4449 B71 B85A	-	(3) 1 5/8" Hybriflex	SPRINT NEXTEL
	3	RFS APX16DWV-16DWVS-E-A20			
	3	Ericsson 4424 B25			
	3	Ericsson RRUS 4415 B66			

Proposed Equipment

Elev.[1] (ft)	Qty	Equipment	Mount Type	Lines	Carrier
155.0	3	Ericsson Radio 4460 B25+B66	Sector Frame	(3) 1.99" (50.7mm) Hybrid	SPRINT NEXTEL
	3	Ericsson Radio 4480 B71+B85A			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed lines alongside existing SPRINT NEXTEL lines.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	50%	Pass
Diagonals	50%	Pass
Horizontals	63%	Pass
Guys	43%	Pass

Foundations

Reaction Component	Original Design Reactions	Factored Design Reactions*	Analysis Reactions	% of Design
Base Axial (kips)	-	-	113.9	51%
Anchor 1 Uplift (kips)	52.5	70.9	28.3	40%
Anchor 1 Shear (kips)	63.2	85.3	35.5	42%
* The design reactions are factored by 1.35 per ANSI/TIA-222-H, Sec. 15.6.2				

The structure base reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required. The guy anchor reactions resulting from this analysis are acceptable when compared to those shown on the original structure drawings, therefore no modification or reinforcement of the foundation will be required.

Deflection, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
155.0	Ericsson Radio 4460 B25+B66	SPRINT NEXTEL	0.079	0.003	0.065
	Ericsson Radio 4480 B71+B85A				
120.0	Generic Dish Reserve	ATC Reserved	0.052	0.003	0.063

***Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-H**

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

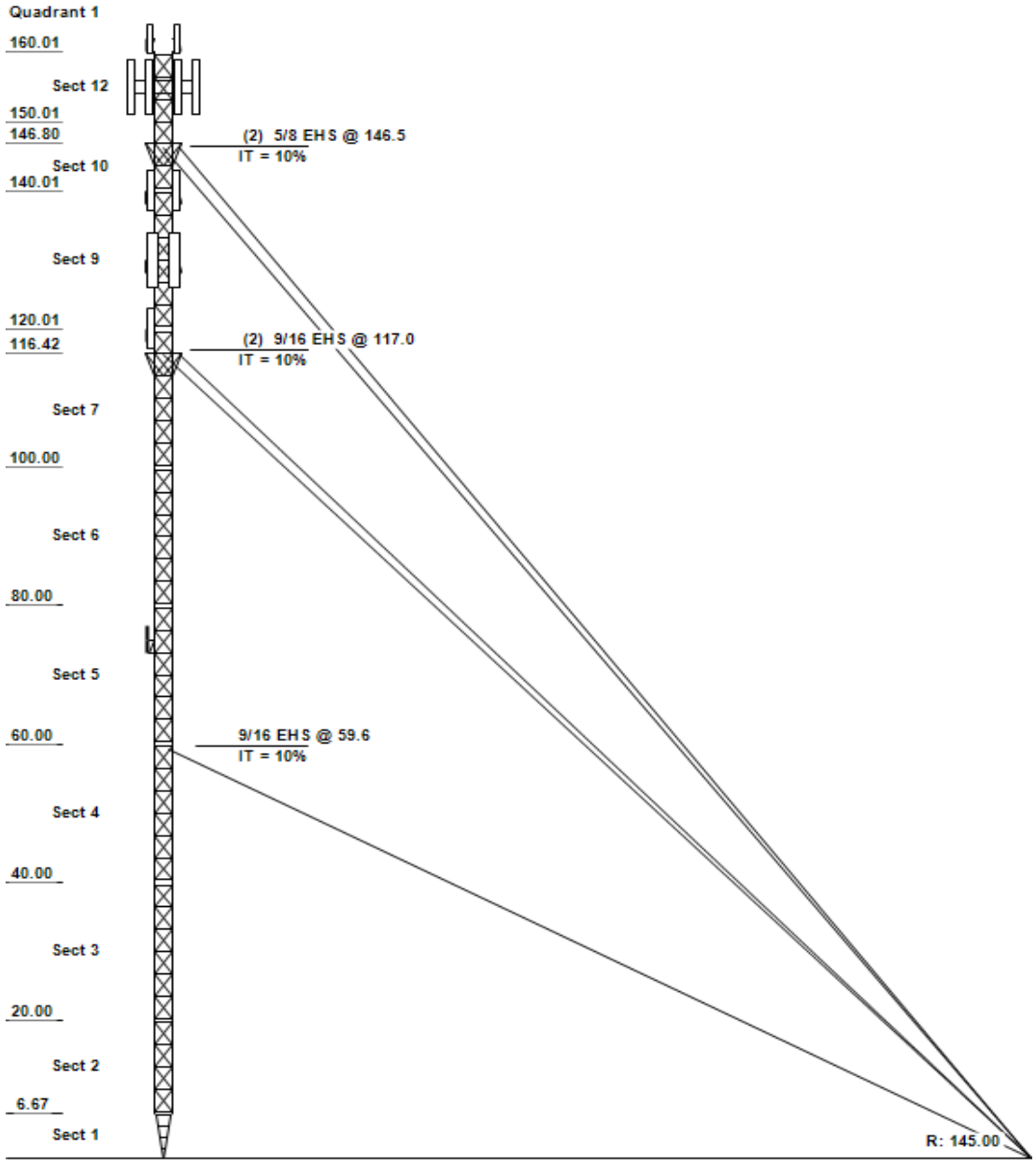
All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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

JOB INFORMATION

Asset:	10029, HAMPTON CT	Height :	160 ft
Client	SPRINT NEXTEL	Base Width :	3.5 ft
Code:	ANSI/TIA-222-H	Shape :	Triangle



SITE PARAMETERS

Nominal Wind : 121 mph wind with no ice — Exposure : B — Site Class : D

Ice Wind: 50 mph wind with 1" radial — Topo Method: Method 1 — Risk Cat : II

Service Wind : 60 mph Serviceability — Topo Feature : — S_s : 0.185 — S_1 : 0.054

SECTION PROPERTIES

Section	Leg Members	Diagonal Members	Horizontal Members
1	PST 55 ksi 2-1/2" DIA		SAE 36 ksi 2.5X2.5X0.25
2 - 12	PST 55 ksi 2-1/2" DIA	SOL 36 ksi 5/8" SOLID	SAE 36 ksi 1.5X1.5X0.1875

REDUNDANT SECONDARY BRACING

Section	Sub Diag 1	Sub Horiz 1	Sub Diag 2	Sub Horiz 2	Sub Diag 3	Sub Horiz 3
1 - 12	-	-	-	-	-	-

DISCRETE APPURTENANCE

Elev (ft)	Type	Qty	Description
162.00	PANEL	9	Allgon 7120.16.05.00 / A-800-1
160.00	Sector Frame	3	Flat Light Sector Frames
160.00	T-Arm	3	Delta Mount
155.00	PANEL	3	Ericsson Air6449 B41
155.00	PANEL	3	RFS APXVAALL24 43-U-NA20
155.00	RRU/RRH	3	Ericsson Radio 4460 B25+B66
155.00	RRU/RRH	3	Ericsson Radio 4480 B71+B85A
155.00	Sector Frame	3	VFA10-HD3L4NP Sector Frame
147.00	Other	1	Torque Arms
144.00	Sector Frame	3	Flat Light Sector Frames
140.00	BOB/SSB	1	Raycap RCMDC-6627-PF-48
140.00	DIPLEXER/DUAL COUPLER	3	Commscope CBC78T-DS-43-2X
140.00	PANEL	3	Samsung MT6407-77A
140.00	PANEL	6	Amphenol Antel LPA-80080-4CF-E
140.00	PANEL	6	Commscope JAHH-65B-R3B
140.00	RRU/RRH	3	Samsung B2/B66A RRH-BR049
140.00	RRU/RRH	3	Samsung B5/B13 RRH-BR04C
133.00	Sector Frame	3	Flat Light Sector Frames
130.00	BOB/SSB	2	Raycap DC6-48-60-18-8F(32.8 lb
130.00	PANEL	3	CCI HPA65R-BU8A
130.00	PANEL	3	Allgon 7770.00
130.00	PANEL	3	CCI DMP65R-BU8D
130.00	RRU/RRH	3	Ericsson Radio 8843 - B2 + B66
130.00	RRU/RRH	3	Ericsson RRUS 4449 B5, B12
130.00	TTA	6	Powerwave Allgon LGP17201
120.00	PANEL	1	Generic Dish Reserve
117.00	Other	1	Torque Arms
75.00	GPS	1	Lucent KS-24019

LINEAR APPURTENANCE

Elev (ft) From	To	Qty	Description
10.00	162.00	9	1 1/4" Coax

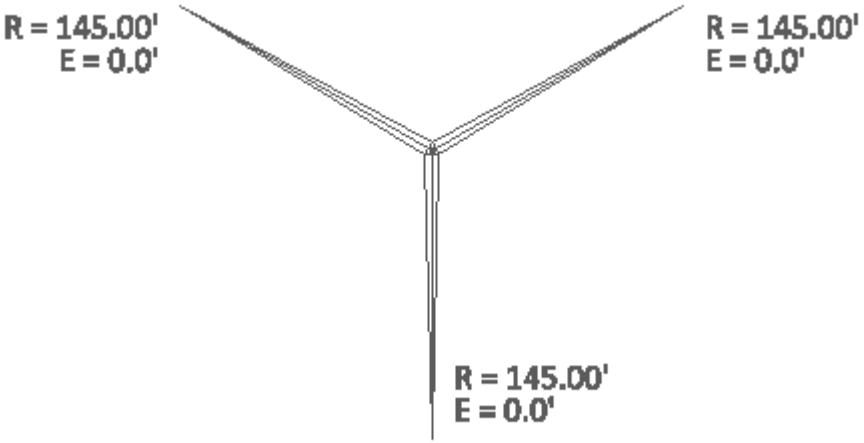
Model ID : 48596
8/27/2021 11:12:50

JOB INFORMATION

Asset:	10029, HAMPTON CT	Height :	160 ft
Client	SPRINT NEXTEL	Base Width :	3.5 ft
Code:	ANSI/TIA-222-H	Shape :	Triangle

LINEAR APPURTENANCE

Elev (ft) From	To	Qty	Description
0.00	155.00	3	1.99" (50.7mm) Hybrid
0.00	140.00	2	1 5/8" Hybriflex
10.00	140.00	10	1 5/8" Coax
10.00	130.00	12	1 1/4" Coax
0.00	130.00	4	0.95" (24.2mm) Cable
10.00	130.00	2	0.78" (19.7mm) 8 AWG 6
0.00	130.00	2	0.39" (10mm) Fiber Trunk
10.00	130.00	1	0.39" (10mm) Fiber Trunk
10.00	75.00	1	7/8" Coax



GUY ANCHOR DESIGN LOADS

Radius (ft)	Drop (ft)	Azimuth (o)	Uplift (kip)	Shear (kip)
145.00	0.00	0	14.88	18.67
145.00	0.00	120	22.44	28.19
145.00	0.00	240	28.30	35.48

GLOBAL BASE FOUNDATION DESIGN LOADS

Vertical (kip)	Horizontal (kip)
113.92	1.40

ANALYSIS PARAMETERS

Location:	Windham County, CT	Height:	160 ft
Type and Shape:	Guyed, Triangle	Base Elevation:	0.00 ft
Manufacturer:	Undetermined	Bottom Face Width:	3.50 ft
Kd	0.85	Top Face Width:	3.50 ft
Ke:	0.98		

ICE & WIND PARAMETERS

Exposure Category:	B	Design Wind Speed Without Ice:	121 mph
Risk Category:	II	Design Wind Speed with Ice:	50 mph
Topographic Factor Procedure:	Method 1	Operational Windspeed:	60 mph
Topographic Category:	Flat	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	620 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil			Period Based on Rayleigh Method (sec):	0.66
T_L (sec):	6	P:	1.3	$C_{s:}$	0.044
$S_{s:}$	0.185	$S_{1:}$	0.054	$C_{s,}$ Max:	0.044
$F_{a:}$	1.600	$F_{v:}$	2.400	$C_{s,}$ Min:	0.030
$S_{ds:}$	0.197	S_{d1}:	0.086		

LOAD CASES

1.2D + 1.0W Normal	121 mph wind with no ice
1.2D + 1.0W 60°	121 mph wind with no ice
1.2D + 1.0W 90°	121 mph wind with no ice
1.2D + 1.0Di + 1.0Wi Normal	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 60°	50 mph wind with 1" radial ice
1.2D + 1.0Di + 1.0Wi 90°	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh Normal	Seismic
1.2D + 1.0Ev + 1.0Eh 60°	Seismic
1.2D + 1.0Ev + 1.0Eh 90°	Seismic
1.0D + 1.0W Service Normal	60 mph Wind with No Ice
1.0D + 1.0W Service 60°	60 mph Wind with No Ice
1.0D + 1.0W Service 90°	60 mph Wind with No Ice

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0W

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert E_{cc} (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
162.0	Allgon 7120.16.05.00 / A-800-1	9	15	5.3	4.3	7.9	11.4	0.80	0.70	0.0	0.00	35.33	805	166
160.0	Delta Mount	3	150	6.3	0.0	0.0	0.0	0.75	0.67	0.0	0.00	35.21	284	540
160.0	Flat Light Sector Frames	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	35.21	808	1440
155.0	Ericsson Radio 4460 B25+B66	3	109	2.6	1.6	15.7	12.1	0.80	0.67	0.0	0.00	34.89	122	392
155.0	Ericsson Radio 4480 B71+B85A	3	84	2.9	1.8	15.7	7.5	0.80	0.67	0.0	0.00	34.89	136	302
155.0	Ericsson Air6449 B41	3	104	5.7	2.8	20.6	8.6	0.80	0.63	0.0	0.00	34.89	255	374
155.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	34.89	908	442
155.0	VFA10-HD3L4NP Sector Frame	3	500	29.3	0.0	0.0	0.0	0.75	0.75	0.0	0.00	34.89	1466	1800
147.0	Torque Arms	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	34.37	438	600
144.0	Flat Light Sector Frames	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	34.17	784	1440
140.0	Commscope CBC78T-DS-43-2X	3	21	0.6	0.8	6.9	6.4	0.80	0.50	0.0	0.00	33.89	19	75
140.0	Samsung B2/B66A RRH-BR049	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.00	33.89	65	304
140.0	Samsung B5/B13 RRH-BR04C	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.00	33.89	65	253
140.0	Raycap RCMDC-6627-PF-48	1	32	4.1	2.5	16.5	12.6	0.80	1.00	0.0	0.00	33.89	93	38
140.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.00	33.89	199	294
140.0	Amphenol Antel LPA-80080-4CF-E	6	12	5.4	3.9	5.5	13.2	0.80	0.62	2.0	929.50	34.03	465	86
140.0	Commscope JAHH-65B-R3B	6	61	9.1	6.0	13.8	8.2	0.80	0.69	0.0	0.00	33.89	869	436
133.0	Flat Light Sector Frames	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	33.40	766	1440
130.0	Raycap DC6-48-60-18-8F(32.8 lb	2	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.00	33.18	66	79
130.0	Ericsson Radio 8843 - B2 + B66	3	72	1.6	1.3	13.2	10.9	0.80	0.50	0.0	0.00	33.18	56	259
130.0	Powerwave Allgon LGP17201	6	31	1.7	1.2	14.4	3.7	0.80	0.50	0.0	0.00	33.18	113	223
130.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	33.18	67	256
130.0	Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.00	33.18	242	126
130.0	CCI HPA65R-BU8A	3	54	11.2	8.0	11.7	7.6	0.80	0.71	0.0	0.00	33.18	540	194
130.0	CCI DMP65R-BU8D	3	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.00	33.18	762	345
120.0	Generic Dish Reserve	1	1835	70.0	6.0	0.0	0.0	0.80	1.00	0.0	0.00	32.43	1544	2202
117.0	Torque Arms	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	32.20	411	600
75.0	Lucent KS-24019	1	4	0.9	2.2	3.5	3.2	1.00	1.00	2.0	44.20	28.57	22	5
	Totals	88	12,260	756.5									12,369	14,712

TOWER LOADING

Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert E_{cc} (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
162.0	Allgon 7120.16.05.00 / A-800-1	9	111	4.5	4.3	7.9	11.4	0.80	0.70	0.0	0.00	6.03	118	1028
160.0	Delta Mount	3	199	7.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	6.01	61	687
160.0	Flat Light Sector Frames	3	602	28.0	0.0	0.0	0.0	0.75	0.67	0.0	0.00	6.01	216	2045
155.0	Ericsson Radio 4460 B25+B66	3	168	3.3	1.6	15.7	12.1	0.80	0.67	0.0	0.00	5.96	27	570
155.0	Ericsson Radio 4480 B71+B85A	3	135	3.6	1.8	15.7	7.5	0.80	0.67	0.0	0.00	5.96	29	454
155.0	Ericsson Air6449 B41	3	195	6.7	2.8	20.6	8.6	0.80	0.63	0.0	0.00	5.96	52	648
155.0	RFS APXVAALL24 43-U-NA20	3	384	22.7	8.0	24.0	8.5	0.80	0.63	0.0	0.00	5.96	174	1225
155.0	VFA10-HD3L4NP Sector Frame	3	869	40.9	0.0	0.0	0.0	0.75	0.75	0.0	0.00	5.96	350	2907
147.0	Torque Arms	1	732	22.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	5.87	109	832
144.0	Flat Light Sector Frames	3	600	27.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	5.83	209	2040
140.0	Commscope CBC78T-DS-43-2X	3	35	0.9	0.8	6.9	6.4	0.80	0.50	0.0	0.00	5.79	5	118
140.0	Samsung B2/B66A RRH-BR049	3	126	2.5	1.3	15.0	10.0	0.80	0.50	0.0	0.00	5.79	15	430
140.0	Samsung B5/B13 RRH-BR04C	3	108	2.5	1.3	15.0	8.1	0.80	0.50	0.0	0.00	5.79	15	366
140.0	Raycap RCMDC-6627-PF-48	1	116	5.0	2.5	16.5	12.6	0.80	1.00	0.0	0.00	5.79	19	122
140.0	Samsung MT6407-77A	3	149	5.7	2.9	16.1	5.5	0.80	0.61	0.0	0.00	5.79	41	495
140.0	Amphenol Antel LPA-80080-4CF-E	6	88	6.6	3.9	5.5	13.2	0.80	0.62	2.0	194.61	5.81	97	542
140.0	Commscope JAHH-65B-R3B	6	194	10.9	6.0	13.8	8.2	0.80	0.69	0.0	0.00	5.79	178	1236
133.0	Flat Light Sector Frames	3	598	27.8	0.0	0.0	0.0	0.75	0.67	0.0	0.00	5.70	203	2035
130.0	Raycap DC6-48-60-18-8F(32.8 lb	2	73	1.9	2.0	11.0	11.0	0.80	1.00	0.0	0.00	5.67	15	160
130.0	Ericsson Radio 8843 - B2 + B66	3	112	2.2	1.3	13.2	10.9	0.80	0.50	0.0	0.00	5.67	13	381
130.0	Powerwave Allgon LGP17201	6	56	2.2	1.2	14.4	3.7	0.80	0.50	0.0	0.00	5.67	26	374
130.0	Ericsson RRUS 4449 B5, B12	3	113	2.6	1.5	13.2	9.4	0.80	0.50	0.0	0.00	5.67	15	383
130.0	Allgon 7770.00	3	117	6.2	4.6	11.0	5.0	0.80	0.65	0.0	0.00	5.67	46	372
130.0	CCI HPA65R-BU8A	3	207	13.4	8.0	11.7	7.6	0.80	0.71	0.0	0.00	5.67	110	653
130.0	CCI DMP65R-BU8D	3	320	20.3	8.0	20.7	7.7	0.80	0.63	0.0	0.00	5.67	148	1016
120.0	Generic Dish Reserve	1	7422	181.3	6.0	0.0	0.0	0.80	1.00	0.0	0.00	5.54	683	7789
117.0	Torque Arms	1	725	21.8	0.0	0.0	0.0	1.00	1.00	0.0	0.00	5.50	102	825

Elev (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert Ecc (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
75.0	Lucent KS-24019	1	20	1.5	2.2	3.5	3.2	1.00	1.00	2.0	12.70	4.88	6	20
	Totals	88	27,303	1070.6									3081	29,754

TOWER LOADING

Discrete Appurtenance Properties 1.0D + 1.0W Service

Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K_a	Orient Factor	Vert Ecc (ft)	M_u (lb-ft)	Q_z (psf)	F_a (WL) (lb)	P_a (DL) (lb)
162.0	Allgon 7120.16.05.00 / A-800-1	9	15	5.3	4.3	7.9	11.4	0.80	0.70	0.0	0.00	8.69	198	139
160.0	Delta Mount	3	150	6.3	0.0	0.0	0.0	0.75	0.67	0.0	0.00	8.66	70	450
160.0	Flat Light Sector Frames	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	8.66	199	1200
155.0	Ericsson Radio 4460 B25+B66	3	109	2.6	1.6	15.7	12.1	0.80	0.67	0.0	0.00	8.58	30	327
155.0	Ericsson Radio 4480 B71+B85A	3	84	2.9	1.8	15.7	7.5	0.80	0.67	0.0	0.00	8.58	33	252
155.0	Ericsson Air6449 B41	3	104	5.7	2.8	20.6	8.6	0.80	0.63	0.0	0.00	8.58	63	312
155.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	8.58	223	368
155.0	VFA10-HD3L4NP Sector Frame	3	500	29.3	0.0	0.0	0.0	0.75	0.75	0.0	0.00	8.58	361	1500
147.0	Torque Arms	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	8.45	108	500
144.0	Flat Light Sector Frames	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	8.40	193	1200
140.0	Commscope CBC78T-DS-43-2X	3	21	0.6	0.8	6.9	6.4	0.80	0.50	0.0	0.00	8.33	5	62
140.0	Samsung B2/B66A RRH-BR049	3	84	1.9	1.3	15.0	10.0	0.80	0.50	0.0	0.00	8.33	16	253
140.0	Samsung B5/B13 RRH-BR04C	3	70	1.9	1.3	15.0	8.1	0.80	0.50	0.0	0.00	8.33	16	211
140.0	Raycap RCMDC-6627-PF-48	1	32	4.1	2.5	16.5	12.6	0.80	1.00	0.0	0.00	8.33	23	32
140.0	Samsung MT6407-77A	3	82	4.7	2.9	16.1	5.5	0.80	0.61	0.0	0.00	8.33	49	245
140.0	Amphenol Antel LPA-80080-4CF-E	6	12	5.4	3.9	5.5	13.2	0.80	0.62	2.0	228.55	8.37	114	72
140.0	Commscope JAHH-65B-R3B	6	61	9.1	6.0	13.8	8.2	0.80	0.69	0.0	0.00	8.33	214	364
133.0	Flat Light Sector Frames	3	400	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	8.21	188	1200
130.0	Raycap DC6-48-60-18-8F(32.8 lb	2	33	1.5	2.0	11.0	11.0	0.80	1.00	0.0	0.00	8.16	16	66
130.0	Ericsson Radio 8843 - B2 + B66	3	72	1.6	1.3	13.2	10.9	0.80	0.50	0.0	0.00	8.16	14	216
130.0	Powerwave Allgon LGP17201	6	31	1.7	1.2	14.4	3.7	0.80	0.50	0.0	0.00	8.16	28	186
130.0	Ericsson RRUS 4449 B5, B12	3	71	2.0	1.5	13.2	9.4	0.80	0.50	0.0	0.00	8.16	16	213
130.0	Allgon 7770.00	3	35	5.5	4.6	11.0	5.0	0.80	0.65	0.0	0.00	8.16	60	105
130.0	CCI HPA65R-BU8A	3	54	11.2	8.0	11.7	7.6	0.80	0.71	0.0	0.00	8.16	133	162
130.0	CCI DMP65R-BU8D	3	96	17.9	8.0	20.7	7.7	0.80	0.63	0.0	0.00	8.16	187	287
120.0	Generic Dish Reserve	1	1835	70.0	6.0	0.0	0.0	0.80	1.00	0.0	0.00	7.97	380	1835
117.0	Torque Arms	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	7.92	101	500
75.0	Lucent KS-24019	1	4	0.9	2.2	3.5	3.2	1.00	1.00	2.0	10.87	7.02	5	4
	Totals	88	12,260	756.5									3,041	12,260

TOWER LOADING

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	% In Wind	Spread On Faces	Bundling	Cluster Dia (in)	Out of Zone	Spacing (in)	Orient Factor	K_a Override
10.0	162.0	1 1/4" Coax	9	1.55	0.63	100	2	Individual	0.00	N	1.00	1.00	0.00
10.0	140.0	1 5/8" Coax	10	1.98	0.82	33	1	Block	0.00	N	1.00	1.00	0.48
10.0	130.0	0.78" (19.7mm) 8 AWG 6	2	0.78	0.59	100	3	Individual	0.00	N	1.00	1.00	0.59
10.0	130.0	0.39" (10mm) Fiber Trunk	1	0.39	0.06	100	3	Individual	0.00	N	1.00	1.00	0.00
10.0	130.0	1 1/4" Coax	12	1.55	0.63	50	3	Block	0.00	N	1.00	1.00	0.28
10.0	75.0	7/8" Coax	1	1.09	0.33	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	155.0	1.99" (50.7mm) Hybrid	3	1.99	1.90	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	140.0	1 5/8" Hybriflex	2	1.98	1.30	100	1	Individual	0.00	N	1.00	1.00	0.52
0.0	130.0	0.95" (24.2mm) Cable	2	0.95	0.73	100	3	Individual	0.00	N	1.00	1.00	0.57
0.0	130.0	0.95" (24.2mm) Cable	2	0.95	0.73	100	3	Individual	0.00	N	1.00	1.00	0.57
0.0	130.0	0.39" (10mm) Fiber Trunk	1	0.39	0.06	100	3	Individual	0.00	N	1.00	1.00	0.00
0.0	130.0	0.39" (10mm) Fiber Trunk	1	0.39	0.06	100	3	Individual	0.00	N	1.00	1.00	0.00

SECTION FORCES

1.2D + 1.0W Normal — Gust Response Factor (Gh): 0.85
121 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
12	155	34.89	1.223	6.201	0.00	0.198	2.60	1.00	1.00	0.0	4.83	12.56	0.00	486	0	372	301	674
11	148	34.46	0.408	2.008	0.00	0.201	2.59	1.00	1.00	0.0	1.58	4.09	0.00	169	0	120	112	232
10	143	34.13	1.223	4.193	0.00	0.213	2.55	1.00	1.00	0.0	3.67	9.37	0.00	374	0	272	235	507
9	130	33.18	2.854	12.402	0.00	0.204	2.58	1.00	1.00	0.0	10.07	26.02	0.00	1464	0	734	1407	2141
8	118	32.29	0.408	2.190	0.00	0.193	2.62	1.00	1.00	0.0	1.68	4.39	0.00	280	0	121	289	410
7	108	31.49	2.447	10.217	0.00	0.206	2.58	1.00	1.00	0.0	8.40	21.63	0.00	1327	0	579	1290	1869
6	90	29.87	2.854	12.402	0.00	0.204	2.58	1.00	1.00	0.0	10.07	26.02	0.00	1606	0	661	1491	2152
5	70	27.80	2.854	12.402	0.00	0.204	2.58	1.00	1.00	0.0	10.07	26.02	0.00	1612	0	615	1411	2026
4	50	25.25	2.854	12.402	0.00	0.204	2.58	1.00	1.00	0.0	10.07	26.02	0.00	1614	0	559	1288	1847
3	30	21.82	2.854	12.402	0.00	0.204	2.58	1.00	1.00	0.0	10.07	26.02	0.00	1614	0	483	1113	1596
2	13	21.81	2.039	8.266	0.00	0.207	2.57	1.00	1.00	0.0	6.85	17.64	0.00	991	0	327	607	934
1	3	21.81	1.522	3.340	0.00	0.366	2.13	1.00	1.00	0.0	3.60	7.69	0.00	358	0	142	102	245
														11,895	0			14,633

1.2D + 1.0W 60° — Gust Response Factor (Gh): 0.85
121 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
12	155	34.89	1.223	6.201	0.00	0.198	2.60	0.80	1.00	0.0	4.58	11.92	0.00	486	0	354	301	655
11	148	34.46	0.408	2.008	0.00	0.201	2.59	0.80	1.00	0.0	1.49	3.87	0.00	169	0	113	112	226
10	143	34.13	1.223	4.193	0.00	0.213	2.55	0.80	1.00	0.0	3.43	8.75	0.00	374	0	254	235	489
9	130	33.18	2.854	12.402	0.00	0.204	2.58	0.80	1.00	0.0	9.50	24.55	0.00	1464	0	692	1407	2100
8	118	32.29	0.408	2.190	0.00	0.193	2.62	0.80	1.00	0.0	1.60	4.18	0.00	280	0	115	289	404
7	108	31.49	2.447	10.217	0.00	0.206	2.58	0.80	1.00	0.0	7.91	20.37	0.00	1327	0	545	1290	1835
6	90	29.87	2.854	12.402	0.00	0.204	2.58	0.80	1.00	0.0	9.50	24.55	0.00	1606	0	623	1491	2114
5	70	27.80	2.854	12.402	0.00	0.204	2.58	0.80	1.00	0.0	9.50	24.55	0.00	1612	0	580	1411	1991
4	50	25.25	2.854	12.402	0.00	0.204	2.58	0.80	1.00	0.0	9.50	24.55	0.00	1614	0	527	1288	1815
3	30	21.82	2.854	12.402	0.00	0.204	2.58	0.80	1.00	0.0	9.50	24.55	0.00	1614	0	455	1113	1569
2	13	21.81	2.039	8.266	0.00	0.207	2.57	0.80	1.00	0.0	6.45	16.60	0.00	991	0	308	607	915
1	3	21.81	1.522	3.340	0.00	0.366	2.13	0.80	1.00	0.0	3.30	7.04	0.00	358	0	130	102	233
														11,895	0			14,346

1.2D + 1.0W 90° — Gust Response Factor (Gh): 0.85
121 mph wind with no ice — Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
12	155	34.89	1.223	6.201	0.00	0.198	2.60	0.85	1.00	0.0	4.64	12.08	0.00	486	0	358	301	659
11	148	34.46	0.408	2.008	0.00	0.201	2.59	0.85	1.00	0.0	1.51	3.93	0.00	169	0	115	112	227
10	143	34.13	1.223	4.193	0.00	0.213	2.55	0.85	1.00	0.0	3.49	8.90	0.00	374	0	258	235	494
9	130	33.18	2.854	12.402	0.00	0.204	2.58	0.85	1.00	0.0	9.65	24.92	0.00	1464	0	703	1407	2110
8	118	32.29	0.408	2.190	0.00	0.193	2.62	0.85	1.00	0.0	1.62	4.23	0.00	280	0	116	289	405
7	108	31.49	2.447	10.217	0.00	0.206	2.58	0.85	1.00	0.0	8.03	20.69	0.00	1327	0	554	1290	1844
6	90	29.87	2.854	12.402	0.00	0.204	2.58	0.85	1.00	0.0	9.65	24.92	0.00	1606	0	633	1491	2123
5	70	27.80	2.854	12.402	0.00	0.204	2.58	0.85	1.00	0.0	9.65	24.92	0.00	1612	0	589	1411	1999
4	50	25.25	2.854	12.402	0.00	0.204	2.58	0.85	1.00	0.0	9.65	24.92	0.00	1614	0	535	1288	1823
3	30	21.82	2.854	12.402	0.00	0.204	2.58	0.85	1.00	0.0	9.65	24.92	0.00	1614	0	462	1113	1576
2	13	21.81	2.039	8.266	0.00	0.207	2.57	0.85	1.00	0.0	6.55	16.86	0.00	991	0	312	607	920
1	3	21.81	1.522	3.340	0.00	0.366	2.13	0.85	1.00	0.0	3.37	7.20	0.00	358	0	133	102	236
														11,895	0			14,417

1.2D + 1.0Di + 1.0Wi Normal — Gust Response Factor (Gh): 0.85 — Ice Importance Factor: 1.00

SECTION FORCES

50 mph wind with 1" radial ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
12	155	5.96	1.223	17.680	11.48	0.480	1.93	1.00	1.00	1.2	13.20	25.44	11.48	1413	927	129	109	238	
11	148	5.88	0.408	5.770	3.76	0.489	1.91	1.00	1.00	1.2	4.34	8.32	3.76	491	321	42	39	81	
10	143	5.83	1.223	12.509	8.32	0.514	1.88	1.00	1.00	1.2	9.92	18.68	8.32	1077	703	93	78	171	
9	130	5.67	2.854	35.629	23.23	0.489	1.91	1.00	1.00	1.1	27.16	51.99	23.23	4516	3053	250	453	704	
8	118	5.51	0.408	6.013	3.82	0.455	1.97	1.00	1.00	1.1	4.40	8.65	3.82	894	614	41	100	139	**
7	108	5.38	2.447	29.238	19.02	0.491	1.91	1.00	1.00	1.1	22.42	42.86	19.02	4188	2861	196	427	619	**
6	90	5.10	2.854	34.790	22.39	0.480	1.93	1.00	1.00	1.1	26.41	50.92	22.39	4993	3387	221	494	715	**
5	70	4.75	2.854	34.234	21.83	0.473	1.94	1.00	1.00	1.1	25.92	50.22	21.83	4936	3324	203	467	665	**
4	50	4.31	2.854	33.512	21.11	0.464	1.95	1.00	1.00	1.0	25.29	49.32	21.11	4814	3200	181	424	603	**
3	30	3.73	2.854	32.461	20.06	0.452	1.97	1.00	1.00	1.0	24.39	48.05	20.06	4617	3003	152	361	513	
2	13	3.72	2.039	20.773	12.51	0.440	1.99	1.00	1.00	0.9	15.69	31.25	12.51	2578	1586	99	196	295	
1	3	3.72	1.522	6.282	2.94	0.551	1.84	1.00	1.00	0.8	6.01	11.07	2.94	672	314	35	34	69	
** = Section Force Exceeds Solidity Ratio Criteria														35,188	23,293			4,810	

1.2D + 1.0Di + 1.0Wi 60° Gust Response Factor (Gh): 0.85 Ice Importance Factor: 1.00
50 mph wind with 1" radial ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
12	155	5.96	1.223	17.680	11.48	0.480	1.93	0.80	1.00	1.2	12.95	24.96	11.48	1413	927	126	109	235	
11	148	5.88	0.408	5.770	3.76	0.489	1.91	0.80	1.00	1.2	4.26	8.16	3.76	491	321	41	39	80	
10	143	5.83	1.223	12.509	8.32	0.514	1.88	0.80	1.00	1.2	9.68	18.22	8.32	1077	703	90	78	168	
9	130	5.67	2.854	35.629	23.23	0.489	1.91	0.80	1.00	1.1	26.59	50.90	23.23	4516	3053	245	453	698	
8	118	5.51	0.408	6.013	3.82	0.455	1.97	0.80	1.00	1.1	4.32	8.49	3.82	894	614	40	100	139	**
7	108	5.38	2.447	29.238	19.02	0.491	1.91	0.80	1.00	1.1	21.93	41.93	19.02	4188	2861	192	427	619	
6	90	5.10	2.854	34.790	22.39	0.480	1.93	0.80	1.00	1.1	25.84	49.82	22.39	4993	3387	216	494	710	
5	70	4.75	2.854	34.234	21.83	0.473	1.94	0.80	1.00	1.1	25.35	49.11	21.83	4936	3324	198	467	665	**
4	50	4.31	2.854	33.512	21.11	0.464	1.95	0.80	1.00	1.0	24.72	48.21	21.11	4814	3200	177	424	600	
3	30	3.73	2.854	32.461	20.06	0.452	1.97	0.80	1.00	1.0	23.81	46.92	20.06	4617	3003	149	361	510	
2	13	3.72	2.039	20.773	12.51	0.440	1.99	0.80	1.00	0.9	15.29	30.44	12.51	2578	1586	96	196	292	
1	3	3.72	1.522	6.282	2.94	0.551	1.84	0.80	1.00	0.8	5.70	10.51	2.94	672	314	33	34	67	
** = Section Force Exceeds Solidity Ratio Criteria														35,188	23,293			4,784	

1.2D + 1.0Di + 1.0Wi 90° Gust Response Factor (Gh): 0.85 Ice Importance Factor: 1.00
50 mph wind with 1" radial ice Wind Importance Factor (Iw): 1.00 Ice Dead Load Factor: 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)	
12	155	5.96	1.223	17.680	11.48	0.480	1.93	0.85	1.00	1.2	13.02	25.08	11.48	1413	927	127	109	236	
11	148	5.88	0.408	5.770	3.76	0.489	1.91	0.85	1.00	1.2	4.28	8.20	3.76	491	321	41	39	80	
10	143	5.83	1.223	12.509	8.32	0.514	1.88	0.85	1.00	1.2	9.74	18.33	8.32	1077	703	91	78	169	
9	130	5.67	2.854	35.629	23.23	0.489	1.91	0.85	1.00	1.1	26.73	51.17	23.23	4516	3053	246	453	700	
8	118	5.51	0.408	6.013	3.82	0.455	1.97	0.85	1.00	1.1	4.34	8.53	3.82	894	614	40	100	139	**
7	108	5.38	2.447	29.238	19.02	0.491	1.91	0.85	1.00	1.1	22.05	42.16	19.02	4188	2861	193	427	619	**
6	90	5.10	2.854	34.790	22.39	0.480	1.93	0.85	1.00	1.1	25.98	50.09	22.39	4993	3387	217	494	711	
5	70	4.75	2.854	34.234	21.83	0.473	1.94	0.85	1.00	1.1	25.49	49.39	21.83	4936	3324	199	467	665	**
4	50	4.31	2.854	33.512	21.11	0.464	1.95	0.85	1.00	1.0	24.86	48.49	21.11	4814	3200	178	424	602	
3	30	3.73	2.854	32.461	20.06	0.452	1.97	0.85	1.00	1.0	23.96	47.20	20.06	4617	3003	150	361	511	
2	13	3.72	2.039	20.773	12.51	0.440	1.99	0.85	1.00	0.9	15.39	30.64	12.51	2578	1586	97	196	293	
1	3	3.72	1.522	6.282	2.94	0.551	1.84	0.85	1.00	0.8	5.78	10.65	2.94	672	314	34	34	68	
** = Section Force Exceeds Solidity Ratio Criteria														35,188	23,293			4,792	

1.0D + 1.0W Service Normal Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Sect	Elev	Q_Z	A_f	A_r	Ice A_r	e	C_f	D_f	D_r	T_{iz}	A_e	EPA_a	EPA_{ai}	Wt.	Ice Wt	F_{st}	F_a	Force (lb)

SECTION FORCES

#	(ft)	(psf)	(sf)	(sf)	(sf)					(in)	(sf)	(sf)	(sf)	(lb)	(lb)	(lb)	(lb)	
12	155	8.58	1.223	6.201	0.00	0.198	2.60	1.00	1.00	0.0	4.83	12.56	0.00	405	0	92	74	166
11	148	8.47	0.408	2.008	0.00	0.201	2.59	1.00	1.00	0.0	1.58	4.09	0.00	141	0	29	28	57
10	143	8.39	1.223	4.193	0.00	0.213	2.55	1.00	1.00	0.0	3.67	9.37	0.00	311	0	67	58	125
9	130	8.16	2.854	12.402	0.00	0.204	2.58	1.00	1.00	0.0	10.07	26.02	0.00	1220	0	180	346	527
8	118	7.94	0.408	2.190	0.00	0.193	2.62	1.00	1.00	0.0	1.68	4.39	0.00	233	0	30	71	101
7	108	7.74	2.447	10.217	0.00	0.206	2.58	1.00	1.00	0.0	8.40	21.63	0.00	1106	0	142	317	460
6	90	7.35	2.854	12.402	0.00	0.204	2.58	1.00	1.00	0.0	10.07	26.02	0.00	1338	0	162	367	529
5	70	6.84	2.854	12.402	0.00	0.204	2.58	1.00	1.00	0.0	10.07	26.02	0.00	1343	0	151	347	498
4	50	6.21	2.854	12.402	0.00	0.204	2.58	1.00	1.00	0.0	10.07	26.02	0.00	1345	0	137	317	454
3	30	5.37	2.854	12.402	0.00	0.204	2.58	1.00	1.00	0.0	10.07	26.02	0.00	1345	0	119	274	392
2	13	5.36	2.039	8.266	0.00	0.207	2.57	1.00	1.00	0.0	6.85	17.64	0.00	826	0	80	149	230
1	3	5.36	1.522	3.340	0.00	0.366	2.13	1.00	1.00	0.0	3.60	7.69	0.00	298	0	35	25	60
** = Section Force Exceeds Solidity Ratio Criteria														9,913	0			3,598

1.0D + 1.0W Service 60° Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
12	155	8.58	1.223	6.201	0.00	0.198	2.60	0.80	1.00	0.0	4.58	11.92	0.00	405	0	87	74	161
11	148	8.47	0.408	2.008	0.00	0.201	2.59	0.80	1.00	0.0	1.49	3.87	0.00	141	0	28	28	56
10	143	8.39	1.223	4.193	0.00	0.213	2.55	0.80	1.00	0.0	3.43	8.75	0.00	311	0	62	58	120
9	130	8.16	2.854	12.402	0.00	0.204	2.58	0.80	1.00	0.0	9.50	24.55	0.00	1220	0	170	346	516
8	118	7.94	0.408	2.190	0.00	0.193	2.62	0.80	1.00	0.0	1.60	4.18	0.00	233	0	28	71	99
7	108	7.74	2.447	10.217	0.00	0.206	2.58	0.80	1.00	0.0	7.91	20.37	0.00	1106	0	134	317	451
6	90	7.35	2.854	12.402	0.00	0.204	2.58	0.80	1.00	0.0	9.50	24.55	0.00	1338	0	153	367	520
5	70	6.84	2.854	12.402	0.00	0.204	2.58	0.80	1.00	0.0	9.50	24.55	0.00	1343	0	143	347	490
4	50	6.21	2.854	12.402	0.00	0.204	2.58	0.80	1.00	0.0	9.50	24.55	0.00	1345	0	130	317	446
3	30	5.37	2.854	12.402	0.00	0.204	2.58	0.80	1.00	0.0	9.50	24.55	0.00	1345	0	112	274	386
2	13	5.36	2.039	8.266	0.00	0.207	2.57	0.80	1.00	0.0	6.45	16.60	0.00	826	0	76	149	225
1	3	5.36	1.522	3.340	0.00	0.366	2.13	0.80	1.00	0.0	3.30	7.04	0.00	298	0	32	25	57
** = Section Force Exceeds Solidity Ratio Criteria														9,913	0			3,527

1.0D + 1.0W Service 90° Gust Response Factor (Gh): 0.85
60 mph Wind with No Ice Wind Importance Factor (Iw): 1.00

Sect #	Elev (ft)	Q_Z (psf)	A_f (sf)	A_r (sf)	Ice A_r (sf)	e	C_f	D_f	D_r	T_{iz} (in)	A_e (sf)	EPA_a (sf)	EPA_{ai} (sf)	Wt. (lb)	Ice Wt (lb)	F_{st} (lb)	F_a (lb)	Force (lb)
12	155	8.58	1.223	6.201	0.00	0.198	2.60	0.85	1.00	0.0	4.64	12.08	0.00	405	0	88	74	162
11	148	8.47	0.408	2.008	0.00	0.201	2.59	0.85	1.00	0.0	1.51	3.93	0.00	141	0	28	28	56
10	143	8.39	1.223	4.193	0.00	0.213	2.55	0.85	1.00	0.0	3.49	8.90	0.00	311	0	63	58	121
9	130	8.16	2.854	12.402	0.00	0.204	2.58	0.85	1.00	0.0	9.65	24.92	0.00	1220	0	173	346	519
8	118	7.94	0.408	2.190	0.00	0.193	2.62	0.85	1.00	0.0	1.62	4.23	0.00	233	0	29	71	100
7	108	7.74	2.447	10.217	0.00	0.206	2.58	0.85	1.00	0.0	8.03	20.69	0.00	1106	0	136	317	453
6	90	7.35	2.854	12.402	0.00	0.204	2.58	0.85	1.00	0.0	9.65	24.92	0.00	1338	0	156	367	522
5	70	6.84	2.854	12.402	0.00	0.204	2.58	0.85	1.00	0.0	9.65	24.92	0.00	1343	0	145	347	492
4	50	6.21	2.854	12.402	0.00	0.204	2.58	0.85	1.00	0.0	9.65	24.92	0.00	1345	0	132	317	448
3	30	5.37	2.854	12.402	0.00	0.204	2.58	0.85	1.00	0.0	9.65	24.92	0.00	1345	0	114	274	387
2	13	5.36	2.039	8.266	0.00	0.207	2.57	0.85	1.00	0.0	6.55	16.86	0.00	826	0	77	149	226
1	3	5.36	1.522	3.340	0.00	0.366	2.13	0.85	1.00	0.0	3.37	7.20	0.00	298	0	33	25	58
** = Section Force Exceeds Solidity Ratio Criteria														9,913	0			3,545

EQUIVALENT LATERAL FORCE METHOD

Spectral Response Acceleration for Short Period (S_S):	0.18
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.00
Site Coefficient F_a:	1.60
Site Coefficient F_v:	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.20
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.04
Upper Limit C_S:	0.04
Lower Limit C_S:	0.03
Period based on Rayleigh Method (sec):	0.66
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.08
Total Unfactored Dead Load:	22.17 k
Seismic Base Shear (E):	1.26 k

SEISMIC

Load Case: 1.2D + 1.0Ev + 1.0Eh Seismic

Section	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	Cvx	Horizontal Force (lb)	Vertical Force (lb)
12	155.01	405	94,068	0.026	32	502
11	148.40	141	31,241	0.008	11	175
10	143.40	311	66,518	0.018	23	386
9	130.01	1,220	234,405	0.064	80	1,512
8	118.22	233	40,426	0.011	14	289
7	108.21	1,106	174,287	0.047	59	1,371
6	90.00	1,338	172,868	0.047	59	1,659
5	70.00	1,343	132,255	0.036	45	1,665
4	50.00	1,345	92,064	0.025	31	1,667
3	30.00	1,345	53,019	0.014	18	1,667
2	13.34	826	13,564	0.004	5	1,024
1	3.34	298	1,096	0.000	0	370
Allgon 7120.16.05.00 / A-800-110-13I-0-N	160.00	139	33,328	0.009	11	172
Delta Mount	160.00	450	108,207	0.029	37	558
Flat Light Sector Frames	160.00	1,200	288,552	0.078	98	1,487
Ericsson Radio 4460 B25+B66	155.00	327	75,979	0.021	26	405
Ericsson Radio 4480 B71+B85A	155.00	252	58,553	0.016	20	312
Ericsson Air6449 B41	155.00	312	72,494	0.020	25	387
RFS APXVAALL24 43-U-NA20	155.00	368	85,599	0.023	29	457
VFA10-HD3L4NP Sector Frame	155.00	1,500	348,529	0.095	119	1,859
Torque Arms	147.00	500	109,713	0.030	37	620
Flat Light Sector Frames	144.00	1,200	257,510	0.070	88	1,487
Commscope CBC78T-DS-43-2X	140.00	62	12,927	0.004	4	77
Samsung B2/B66A RRH-BR049	140.00	253	52,706	0.014	18	314
Samsung B5/B13 RRH-BR04C	140.00	211	43,901	0.012	15	261
Raycap RCMDC-6627-PF-48	140.00	32	6,661	0.002	2	40
Samsung MT6407-77A	140.00	245	50,957	0.014	17	303
Amphenol Antel LPA-80080-4CF-EDIN-0	140.00	72	14,987	0.004	5	89
Commscope JAHH-65B-R3B	140.00	364	75,687	0.020	26	451
Flat Light Sector Frames	133.00	1,200	236,327	0.064	81	1,487
Raycap DC6-48-60-18-8F(32.8 lbs)	130.00	66	12,605	0.003	4	81
Ericsson Radio 8843 - B2 + B66A	130.00	216	41,446	0.011	14	267

Powerwave Allgon LGP17201		130.00	186	35,739	0.010	12	231
Ericsson RRUS 4449 B5, B12		130.00	213	40,927	0.011	14	264
Allgon 7770.00		130.00	105	20,175	0.006	7	130
CCI HPA65R-BU8A		130.00	162	31,127	0.008	11	201
CCI DMP65R-BU8D		130.00	287	55,165	0.015	19	356
Generic Dish Reserve		120.00	1,835	323,379	0.088	110	2,274
Torque Arms		117.00	500	85,737	0.023	29	620
Lucent KS-24019		75.00	4	424	0.000	0	5
	Totals		22,173	3,685,152	1.000	1,257	27,482

FORCE/STRESS SUMMARY

Section 1 – Bolt Elevation 0.0 (ft) and Height 6.67 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-40.77	1.2D + 1.0Di + 1.0Wi 60	1.645	100	100	100	20.84	55.0	81.45	0.00	0.00	0	0	50	Member X
H SAE - 2.5X2.5X0.25	-0.05	1.2D + 1.0W N	0.826	100	100	100	13.12	36.0	42.61	0.00	0.00	0	0	0	Member Z

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H SAE - 2.5X2.5X0.25	3.54	1.2D + 1.0Di + 1.0Wi N	36.0	58	38.56	0.00	0.00	0.00	0	0	9	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 2 – Bolt Elevation 6.7 (ft) and Height 13.33 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-37.00	1.2D + 1.0Di + 1.0Wi 60	3.208	100	100	100	40.64	55.0	73.85	0.00	0.00	0	0	50	Member X
D SOL - 5/8" SOLID	-1.65	1.2D + 1.0W N	4.749	50	50	50	164.38	36.0	2.57	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H SAE - 1.5X1.5X0.1875	4.65	1.2D + 1.0Di + 1.0Wi N	36.0	58	17.17	0.00	0.00	0.00	0	0	27	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 3 – Bolt Elevation 20.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-36.97	1.2D + 1.0Di + 1.0Wi 60	3.208	100	100	100	40.65	55.0	73.85	0.00	0.00	0	0	50	Member X
D SOL - 5/8" SOLID	-1.42	1.2D + 1.0W N	4.749	50	50	50	164.40	36.0	2.56	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H SAE - 1.5X1.5X0.1875	3.09	1.2D + 1.0Di + 1.0Wi N	36.0	58	17.17	0.00	0.00	0.00	0	0	17	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 4 – Bolt Elevation 40.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-34.66	1.2D + 1.0Di + 1.0Wi 60	3.208	100	100	100	40.65	55.0	73.85	0.00	0.00	0	0	46	Member X
D SOL - 5/8" SOLID	-0.66	1.2D + 1.0W N	4.749	50	50	50	164.40	36.0	2.56	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H SAE - 1.5X1.5X0.1875	4.19	1.2D + 1.0W N	36.0	58	17.17	0.00	0.00	0.00	0	0	24	Member

FORCE/STRESS SUMMARY

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 5 – Bolt Elevation 60.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-29.64	1.2D + 1.0Di + 1.0Wi N	3.208	100	100	100	40.65	55.0	73.85	0.00	0.00	0	0	40	Member X
D SOL - 5/8" SOLID	-2.24	1.2D + 1.0W N	4.749	50	50	50	164.40	36.0	2.56	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H SAE - 1.5X1.5X0.1875	2.45	1.2D + 1.0Di + 1.0Wi N	36.0	58	17.17	0.00	0.00	0.00	0	0	14	Member
D SOL - 5/8" SOLID	0.00	1.2D + 1.0W 90°	36.0	58	9.94	0.00	0.00	0.00	0	0	0	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 6 – Bolt Elevation 80.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-30.02	1.2D + 1.0Di + 1.0Wi 60	3.208	100	100	100	40.65	55.0	73.85	0.00	0.00	0	0	40	Member X
D SOL - 5/8" SOLID	-1.20	1.2D + 1.0W N	4.749	50	50	50	164.40	36.0	2.56	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H SAE - 1.5X1.5X0.1875	2.54	1.2D + 1.0Di + 1.0Wi N	36.0	58	17.17	0.00	0.00	0.00	0	0	14	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 7 – Bolt Elevation 100.0 (ft) and Height 16.42 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-31.00	1.2D + 1.0W N	3.209	100	100	100	40.66	55.0	73.84	0.00	0.00	0	0	41	Member X
H SAE - 1.5X1.5X0.1875	-3.81	1.2D + 1.0W N	3.502	100	100	100	134.40	36.0	8.40	0.00	0.00	0	0	45	Member Z
D SOL - 5/8" SOLID	-0.28	1.2D + 1.0W N	4.75	50	50	50	164.41	36.0	2.56	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	3.10	1.2D + 1.0W 60°	55.0	70	84.35	0.00	0.00		0	0	3	Member
H SAE - 1.5X1.5X0.1875	5.53	1.2D + 1.0W 60°	36.0	58	17.17	0.00	0.00	0.00	0	0	32	Member
D SOL - 5/8" SOLID	0.33	1.2D + 1.0W N	36.0	58	9.94	0.00	0.00	0.00	0	0	3	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 8 – Bolt Elevation 116.4 (ft) and Height 3.59 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-33.75	1.2D + 1.0W N	3.215	100	100	100	40.74	55.0	73.81	0.00	0.00	0	0	45	Member X
H SAE - 1.5X1.5X0.1875	-1.67	1.2D + 1.0W N	3.502	100	100	100	134.40	36.0	8.40	0.00	0.00	0	0	19	Member Z
D SOL - 5/8" SOLID	-0.96	1.2D + 1.0W N	4.754	50	50	50	164.55	36.0	2.56	0.00	0.00	0	0	0	Member X

FORCE/STRESS SUMMARY

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H SAE - 1.5X1.5X0.1875	1.15	1.2D + 1.0W N	36.0	58	17.17	0.00	0.00	0.00	0	0	6	Member
D SOL - 5/8" SOLID	4.65	1.2D + 1.0W 90°	36.0	58	9.94	0.00	0.00	0.00	0	0	46	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 9 – Bolt Elevation 120.0 (ft) and Height 20.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-27.04	1.2D + 1.0W N	0.375	100	100	100	4.75	55.0	84.20	0.00	0.00	0	0	32	Member X
D SOL - 5/8" SOLID	-2.53	1.2D + 1.0W N	4.749	50	50	50	164.40	36.0	2.56	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
H SAE - 1.5X1.5X0.1875	1.39	1.2D + 1.0Di + 1.0Wi N	36.0	58	17.17	0.00	0.00	0.00	0	0	8	Member
D SOL - 5/8" SOLID	0.93	1.2D + 1.0W 90°	36.0	58	9.94	0.00	0.00	0.00	0	0	9	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 10 – Bolt Elevation 140.0 (ft) and Height 6.79 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-19.85	1.2D + 1.0W N	3.208	100	100	100	40.64	55.0	73.85	0.00	0.00	0	0	26	Member X
H SAE - 1.5X1.5X0.1875	-5.33	1.2D + 1.0W N	3.502	100	100	100	134.40	36.0	8.40	0.00	0.00	0	0	63	Member Z
D SOL - 5/8" SOLID	-0.38	1.2D + 1.0W N	4.749	50	50	50	164.38	36.0	2.57	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	15.36	1.2D + 1.0W 60°	55.0	70	84.35	0.00	0.00		0	0	18	Member
H SAE - 1.5X1.5X0.1875	5.66	1.2D + 1.0W 60°	36.0	58	17.17	0.00	0.00	0.00	0	0	32	Member
D SOL - 5/8" SOLID	1.62	1.2D + 1.0W N	36.0	58	9.94	0.00	0.00	0.00	0	0	16	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 11 – Bolt Elevation 146.8 (ft) and Height 3.21 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-18.99	1.2D + 1.0W N	3.21	100	100	100	40.68	55.0	73.84	0.00	0.00	0	0	25	Member X
H SAE - 1.5X1.5X0.1875	-3.51	1.2D + 1.0W 90°	3.502	100	100	100	134.40	36.0	8.40	0.00	0.00	0	0	41	Member Z
D SOL - 5/8" SOLID	-2.11	1.2D + 1.0W N	4.75	50	50	50	164.44	36.0	2.56	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	15.16	1.2D + 1.0W 60°	55.0	70	84.35	0.00	0.00		0	0	17	Member
H SAE - 1.5X1.5X0.1875	0.42	1.2D + 1.0W 60°	36.0	58	17.17	0.00	0.00	0.00	0	0	2	Member
D SOL - 5/8" SOLID	4.59	1.2D + 1.0W 90°	36.0	58	9.94	0.00	0.00	0.00	0	0	46	Member

FORCE/STRESS SUMMARY

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

Section 12 – Bolt Elevation 150.0 (ft) and Height 10.00 (ft)

Max Compression	Pu (kip)	Load Case	Len (ft)	Bracing % X	Y	Z	KL/R	F'_y (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	-12.75	1.2D + 1.0W N	3.208	100	100	100	40.65	55.0	73.85	0.00	0.00	0	0	17	Member X
H SAE - 1.5X1.5X0.1875	-3.48	1.2D + 1.0W 90°	3.502	100	100	100	134.40	36.0	8.40	0.00	0.00	0	0	41	Member Z
D SOL - 5/8" SOLID	-2.47	1.2D + 1.0W N	4.749	50	50	50	164.40	36.0	2.56	0.00	0.00	0	0	0	Member X

Max Tension Member	Pu (kip)	Load Case	F_y (ksi)	F_u (ksi)	$\Phi_c P_n$ (kip)	Shear ΦR_{nv} (kip)	Bear ΦR_n (kip)	Blk Shear $\Phi_t P_n$ (kip)	# Bolt	# Hole	Use %	Controls
L PST - 2-1/2" DIA PIPE	9.05	1.2D + 1.0W 60°	55.0	70	84.35	0.00	0.00		0	0	10	Member
H SAE - 1.5X1.5X0.1875	0.42	1.2D + 1.0W N	36.0	58	17.17	0.00	0.00	0.00	0	0	2	Member
D SOL - 5/8" SOLID	4.99	1.2D + 1.0W 90°	36.0	58	9.94	0.00	0.00	0.00	0	0	50	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down *F_X (kip)	*F_Y (kip)	*F_Z (kip)
1.2D + 1.0W Normal	0.00	0.00		1	0.00	74.54	-1.40
	145.00	0.00	0	A1	0.00	-0.88	1.03
	145.00	0.00	240	A1a	-24.07	-22.44	-14.67
	145.00	0.00	120	A1b	24.07	-22.44	-14.67
1.2D + 1.0W 60°	0.00	0.00		1	-1.19	70.58	-0.69
	145.00	0.00	0	A1	-0.62	-6.94	8.52
	145.00	0.00	240	A1a	-30.72	-28.30	-17.74
	145.00	0.00	120	A1b	7.07	-6.95	-4.80
1.2D + 1.0W 90°	0.00	0.00		1	-1.36	73.23	-0.03
	145.00	0.00	0	A1	-0.80	-14.88	18.52
	145.00	0.00	240	A1a	-29.78	-27.26	-16.81
	145.00	0.00	120	A1b	2.38	-2.50	-1.70
1.2D + 1.0Di + 1.0Wi Normal	0.00	0.00		1	0.00	113.92	-0.44
	145.00	0.00	0	A1	0.00	-9.33	12.98
	145.00	0.00	240	A1a	-18.56	-15.78	-11.27
	145.00	0.00	120	A1b	18.56	-15.78	-11.27
1.2D + 1.0Di + 1.0Wi 60°	0.00	0.00		1	-0.35	113.44	-0.20
	145.00	0.00	0	A1	-0.48	-11.42	15.67
	145.00	0.00	240	A1a	-21.17	-17.88	-12.22
	145.00	0.00	120	A1b	13.33	-11.42	-8.25
1.2D + 1.0Di + 1.0Wi 90°	0.00	0.00		1	-0.42	113.63	0.02
	145.00	0.00	0	A1	-0.60	-13.58	18.66
	145.00	0.00	240	A1a	-20.67	-17.31	-11.68
	145.00	0.00	120	A1b	11.69	-9.87	-7.01
1.2D + 1.0Ev + 1.0Eh Normal	0.00	0.00		1	0.00	57.92	0.00
	145.00	0.00	0	A1	0.00	-8.76	11.48
	145.00	0.00	240	A1a	-10.98	-9.85	-6.34
	145.00	0.00	120	A1b	10.98	-9.85	-6.34
1.2D + 1.0Ev + 1.0Eh 60°	0.00	0.00		1	0.00	57.92	0.00
	145.00	0.00	0	A1	0.00	-9.13	11.90
	145.00	0.00	240	A1a	-11.31	-10.20	-6.53
	145.00	0.00	120	A1b	10.30	-9.13	-5.95
1.2D + 1.0Ev + 1.0Eh 90°	0.00	0.00		1	0.00	57.92	0.00
	145.00	0.00	0	A1	0.00	-9.49	12.28
	145.00	0.00	240	A1a	-11.24	-10.12	-6.49
	145.00	0.00	120	A1b	10.04	-8.86	-5.80
1.0D + 1.0W Service Normal	0.00	0.00		1	0.00	53.49	-0.38
	145.00	0.00	0	A1	0.00	-6.25	8.21
	145.00	0.00	240	A1a	-12.76	-11.52	-7.55
	145.00	0.00	120	A1b	12.76	-11.52	-7.55
1.0D + 1.0W Service 60°	0.00	0.00		1	-0.31	53.46	-0.18
	145.00	0.00	0	A1	-0.15	-8.06	10.44
	145.00	0.00	240	A1a	-14.68	-13.25	-8.47
	145.00	0.00	120	A1b	8.96	-8.06	-5.35
1.0D + 1.0W Service 90°	0.00	0.00		1	-0.37	53.46	0.00
	145.00	0.00	0	A1	-0.19	-9.77	12.61
	145.00	0.00	240	A1a	-14.25	-12.79	-8.14
	145.00	0.00	120	A1b	7.60	-6.75	-4.47

GUY ANCHOR DESIGN LOADS

Radius (ft)	Drop (ft)	Azimuth (deg)	Uplift (kip)	Shear (kip)
145.00	0.00	0	14.88	18.67
145.00	0.00	120	22.44	28.19
145.00	0.00	240	28.30	35.48

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
1.2D + 1.0W Normal	59.63	9/16 EHS	A1	27	21	0.46	2
		9/16 EHS	A1b	27a	21	6.49	31
		9/16 EHS	A1a	27b	21	6.49	31
	116.42	9/16 EHS	A1	T2	21	0.19	1
		9/16 EHS	A1b	T2	21	6.62	32
		9/16 EHS	A1b	T2a	21	6.56	31
		9/16 EHS	A1a	T2a	21	6.56	31
		9/16 EHS	A1a	T2b	21	6.62	32
		9/16 EHS	A1	T2b	21	0.19	1
	146.80	5/8 EHS	A1b	T3	25.44	8.5	33
		5/8 EHS	A1	T3	25.44	0.49	2
		5/8 EHS	A1a	T3a	25.44	8.65	34
		5/8 EHS	A1b	T3a	25.44	8.65	34
		5/8 EHS	A1	T3b	25.44	0.49	2
		5/8 EHS	A1a	T3b	25.44	8.5	33
1.2D + 1.0W 60°	59.63	9/16 EHS	A1	27	21	1.97	9
		9/16 EHS	A1b	27a	21	1.96	9
		9/16 EHS	A1a	27b	21	8.11	39
	116.42	9/16 EHS	A1b	T2	21	2.21	11
		9/16 EHS	A1	T2	21	2.22	11
		9/16 EHS	A1b	T2a	21	2.11	10
		9/16 EHS	A1a	T2a	21	8.25	39
		9/16 EHS	A1a	T2b	21	8.25	39
		9/16 EHS	A1	T2b	21	2.12	10
	146.80	5/8 EHS	A1b	T3	25.44	2.66	10
		5/8 EHS	A1	T3	25.44	2.65	10
		5/8 EHS	A1b	T3a	25.44	2.61	10
		5/8 EHS	A1a	T3a	25.44	10.84	43
		5/8 EHS	A1	T3b	25.44	2.6	10
		5/8 EHS	A1a	T3b	25.44	10.83	43
1.2D + 1.0W 90°	59.63	9/16 EHS	A1	27	21	4.17	20
		9/16 EHS	A1b	27a	21	0.68	3
		9/16 EHS	A1a	27b	21	7.79	37
	116.42	9/16 EHS	A1b	T2	21	0.81	4
		9/16 EHS	A1	T2	21	4.54	22
		9/16 EHS	A1b	T2a	21	0.74	4
		9/16 EHS	A1a	T2a	21	7.94	38
		9/16 EHS	A1a	T2b	21	8.01	38
		9/16 EHS	A1	T2b	21	4.4	21
	146.80	5/8 EHS	A1b	T3	25.44	1.09	4
		5/8 EHS	A1	T3	25.44	5.62	22
		5/8 EHS	A1b	T3a	25.44	1.02	4
		5/8 EHS	A1a	T3a	25.44	10.37	41
		5/8 EHS	A1a	T3b	25.44	10.49	41
		5/8 EHS	A1	T3b	25.44	5.7	22
1.2D + 1.0Di + 1.0Wi Normal	59.63	9/16 EHS	A1	27	21	3.6	17
		9/16 EHS	A1b	27a	21	5.78	28
		9/16 EHS	A1a	27b	21	5.78	28
	116.42	9/16 EHS	A1	T2	21	3.35	16
		9/16 EHS	A1b	T2	21	5.43	26
		9/16 EHS	A1a	T2a	21	5.35	25
		9/16 EHS	A1b	T2a	21	5.35	25
		9/16 EHS	A1a	T2b	21	5.43	26
		9/16 EHS	A1	T2b	21	3.35	16
	146.80	5/8 EHS	A1	T3	25.44	3.78	15
		5/8 EHS	A1b	T3	25.44	6.17	24
		5/8 EHS	A1b	T3a	25.44	6.09	24
		5/8 EHS	A1a	T3a	25.44	6.09	24
		5/8 EHS	A1	T3b	25.44	3.78	15
		5/8 EHS	A1a	T3b	25.44	6.17	24
1.2D + 1.0Di + 1.0Wi 60°	59.63	9/16 EHS	A1	27	21	4.24	20
		9/16 EHS	A1b	27a	21	4.24	20
		9/16 EHS	A1a	27b	21	6.47	31
	116.42	9/16 EHS	A1b	T2	21	4.02	19
		9/16 EHS	A1	T2	21	4.03	19
		9/16 EHS	A1a	T2a	21	6.03	29

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		9/16 EHS	A1b	T2a	21	3.93	19
		9/16 EHS	A1a	T2b	21	6.03	29
		9/16 EHS	A1	T2b	21	3.94	19
	146.80	5/8 EHS	A1b	T3	25.44	4.61	18
		5/8 EHS	A1	T3	25.44	4.6	18
		5/8 EHS	A1a	T3a	25.44	6.89	27
		5/8 EHS	A1b	T3a	25.44	4.51	18
		5/8 EHS	A1	T3b	25.44	4.5	18
		5/8 EHS	A1a	T3b	25.44	6.89	27
1.2D + 1.0Di + 1.0Wi 90°	59.63	9/16 EHS	A1	27	21	4.99	24
		9/16 EHS	A1b	27a	21	3.75	18
		9/16 EHS	A1a	27b	21	6.29	30
	116.42	9/16 EHS	A1b	T2	21	3.51	17
		9/16 EHS	A1	T2	21	4.74	23
		9/16 EHS	A1a	T2a	21	5.88	28
		9/16 EHS	A1b	T2a	21	3.49	17
		9/16 EHS	A1a	T2b	21	5.85	28
		9/16 EHS	A1	T2b	21	4.63	22
	146.80	5/8 EHS	A1b	T3	25.44	4.01	16
		5/8 EHS	A1	T3	25.44	5.39	21
		5/8 EHS	A1a	T3a	25.44	6.7	26
		5/8 EHS	A1b	T3a	25.44	3.97	16
		5/8 EHS	A1a	T3b	25.44	6.67	26
		5/8 EHS	A1	T3b	25.44	5.28	21
1.2D + 1.0Ev + 1.0Eh Normal	59.63	9/16 EHS	A1	27	21	3.21	15
		9/16 EHS	A1b	27a	21	3.3	16
		9/16 EHS	A1a	27b	21	3.3	16
	116.42	9/16 EHS	A1b	T2	21	3.03	14
		9/16 EHS	A1	T2	21	2.77	13
		9/16 EHS	A1a	T2a	21	3.04	14
		9/16 EHS	A1b	T2a	21	3.04	14
		9/16 EHS	A1	T2b	21	2.77	13
		9/16 EHS	A1a	T2b	21	3.03	14
	146.80	5/8 EHS	A1	T3	25.44	3.14	12
		5/8 EHS	A1b	T3	25.44	3.63	14
		5/8 EHS	A1b	T3a	25.44	3.65	14
		5/8 EHS	A1a	T3a	25.44	3.65	14
		5/8 EHS	A1	T3b	25.44	3.14	12
		5/8 EHS	A1a	T3b	25.44	3.63	14
1.2D + 1.0Ev + 1.0Eh 60°	59.63	9/16 EHS	A1	27	21	3.24	15
		9/16 EHS	A1b	27a	21	3.24	15
		9/16 EHS	A1a	27b	21	3.32	16
	116.42	9/16 EHS	A1	T2	21	2.86	14
		9/16 EHS	A1b	T2	21	2.86	14
		9/16 EHS	A1b	T2a	21	2.87	14
		9/16 EHS	A1a	T2a	21	3.12	15
		9/16 EHS	A1	T2b	21	2.87	14
		9/16 EHS	A1a	T2b	21	3.12	15
	146.80	5/8 EHS	A1b	T3	25.44	3.3	13
		5/8 EHS	A1	T3	25.44	3.3	13
		5/8 EHS	A1b	T3a	25.44	3.32	13
		5/8 EHS	A1a	T3a	25.44	3.81	15
		5/8 EHS	A1a	T3b	25.44	3.81	15
		5/8 EHS	A1	T3b	25.44	3.32	13
1.2D + 1.0Ev + 1.0Eh 90°	59.63	9/16 EHS	A1	27	21	3.27	16
		9/16 EHS	A1b	27a	21	3.22	15
		9/16 EHS	A1a	27b	21	3.32	16
	116.42	9/16 EHS	A1b	T2	21	2.8	13
		9/16 EHS	A1	T2	21	2.95	14
		9/16 EHS	A1b	T2a	21	2.8	13
		9/16 EHS	A1a	T2a	21	3.1	15
		9/16 EHS	A1a	T2b	21	3.11	15
		9/16 EHS	A1	T2b	21	2.96	14
	146.80	5/8 EHS	A1	T3	25.44	3.46	14
		5/8 EHS	A1b	T3	25.44	3.18	12
		5/8 EHS	A1b	T3a	25.44	3.19	13
		5/8 EHS	A1a	T3a	25.44	3.76	15
		5/8 EHS	A1	T3b	25.44	3.49	14

DETAILED CABLE FORCES

Load Case	Elev (ft)	Cable	Anchor Node	Tower Node	Allow Tension (kip)	Applied Tension (kip)	Use%
		5/8 EHS	A1a	T3b	25.44	3.77	15
1.0D + 1.0W Service Normal	59.63	9/16 EHS	A1	27	21	2.33	11
		9/16 EHS	A1b	27a	21	3.82	18
		9/16 EHS	A1a	27b	21	3.82	18
	116.42	9/16 EHS	A1b	T2	21	3.55	17
		9/16 EHS	A1	T2	21	2.04	10
		9/16 EHS	A1a	T2a	21	3.51	17
		9/16 EHS	A1b	T2a	21	3.51	17
		9/16 EHS	A1	T2b	21	2.04	10
		9/16 EHS	A1a	T2b	21	3.55	17
	146.80	5/8 EHS	A1	T3	25.44	2.22	9
		5/8 EHS	A1b	T3	25.44	4.26	17
		5/8 EHS	A1b	T3a	25.44	4.26	17
		5/8 EHS	A1a	T3a	25.44	4.26	17
		5/8 EHS	A1	T3b	25.44	2.22	9
		5/8 EHS	A1a	T3b	25.44	4.26	17
1.0D + 1.0W Service 60°	59.63	9/16 EHS	A1	27	21	2.83	13
		9/16 EHS	A1b	27a	21	2.83	13
		9/16 EHS	A1a	27b	21	4.27	20
	116.42	9/16 EHS	A1	T2	21	2.56	12
		9/16 EHS	A1b	T2	21	2.56	12
		9/16 EHS	A1b	T2a	21	2.52	12
		9/16 EHS	A1a	T2a	21	4.01	19
		9/16 EHS	A1	T2b	21	2.53	12
		9/16 EHS	A1a	T2b	21	4.01	19
	146.80	5/8 EHS	A1b	T3	25.44	2.93	12
		5/8 EHS	A1	T3	25.44	2.93	12
		5/8 EHS	A1b	T3a	25.44	2.92	11
		5/8 EHS	A1a	T3a	25.44	4.94	19
		5/8 EHS	A1a	T3b	25.44	4.94	19
		5/8 EHS	A1	T3b	25.44	2.92	11
1.0D + 1.0W Service 90°	59.63	9/16 EHS	A1	27	21	3.31	16
		9/16 EHS	A1b	27a	21	2.46	12
		9/16 EHS	A1a	27b	21	4.17	20
	116.42	9/16 EHS	A1b	T2	21	2.18	10
		9/16 EHS	A1	T2	21	3.05	15
		9/16 EHS	A1b	T2a	21	2.17	10
		9/16 EHS	A1a	T2a	21	3.89	19
		9/16 EHS	A1a	T2b	21	3.88	18
		9/16 EHS	A1	T2b	21	3.01	14
	146.80	5/8 EHS	A1	T3	25.44	3.6	14
		5/8 EHS	A1b	T3	25.44	2.42	10
		5/8 EHS	A1b	T3a	25.44	2.42	10
		5/8 EHS	A1a	T3a	25.44	4.75	19
		5/8 EHS	A1	T3b	25.44	3.58	14
		5/8 EHS	A1a	T3b	25.44	4.76	19

MAXIMUM CABLE FORCES SUMMARY

Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Allowed Tension (kip)	Applied Tension (kip)	Use (%)
1.2D + 1.0W 60°	59.63	9/16 EHS	A1a	27b	21.00	8.11	39
1.2D + 1.0W 60°	116.42	9/16 EHS	A1a	T2a	21.00	8.25	39
1.2D + 1.0W 60°	146.80	5/8 EHS	A1a	T3a	25.44	10.84	43

MAXIMUM TORQUE ARM STRESS SUMMARY

Load Case	Elevation (ft)	Member	Type	Compression %	Tension %
1.2D + 1.0W 90°	117.00	3X3X0.25	Horiz	0	16
1.2D + 1.0W 60°	117.00	2X2X0.3125	Kicker	51	0
1.2D + 1.0W Normal	146.50	3X3X0.25	Horiz	0	21
1.2D + 1.0W 60°	146.50	2X2X0.3125	Kicker	63	0

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W Normal 121 mph wind with no ice	76.42	0.2679	0.0003	0.1529	0.1529
1.2D + 1.0W Normal 121 mph wind with no ice	116.42	0.3501	0.0038	0.1875	0.1875
1.2D + 1.0W Normal 121 mph wind with no ice	120.01	0.3687	0.0022	0.4382	0.4382
1.2D + 1.0W Normal 121 mph wind with no ice	130.01	0.4154	0.0001	0.2710	0.271
1.2D + 1.0W Normal 121 mph wind with no ice	133.22	0.4304	0.0001	0.2668	0.2668
1.2D + 1.0W Normal 121 mph wind with no ice	140.01	0.4622	0.0012	0.2610	0.261
1.2D + 1.0W Normal 121 mph wind with no ice	143.59	0.4788	0.0032	0.2761	0.2761
1.2D + 1.0W Normal 121 mph wind with no ice	146.80	0.4951	0.0067	0.3255	0.3255
1.2D + 1.0W Normal 121 mph wind with no ice	156.43	0.561	0.0008	0.3996	0.3996
1.2D + 1.0W Normal 121 mph wind with no ice	160.01	0.5865	0.0008	0.4517	0.4517
1.2D + 1.0W 60° 121 mph wind with no ice	76.42	0.2078	0.0009	0.1219	0.1219
1.2D + 1.0W 60° 121 mph wind with no ice	116.42	0.2659	0.0063	0.1399	0.1399
1.2D + 1.0W 60° 121 mph wind with no ice	120.01	0.2802	0.0018	0.3334	0.3334
1.2D + 1.0W 60° 121 mph wind with no ice	130.01	0.3141	0.0014	0.1927	0.1927
1.2D + 1.0W 60° 121 mph wind with no ice	133.22	0.3246	0.0015	0.1824	0.1824
1.2D + 1.0W 60° 121 mph wind with no ice	140.01	0.3461	0.0026	0.1192	0.1192
1.2D + 1.0W 60° 121 mph wind with no ice	143.59	0.3568	0.0042	0.2030	0.203
1.2D + 1.0W 60° 121 mph wind with no ice	146.80	0.3683	0.0073	0.2347	0.2347
1.2D + 1.0W 60° 121 mph wind with no ice	156.43	0.4198	0.0025	0.3139	0.3139
1.2D + 1.0W 60° 121 mph wind with no ice	160.01	0.44	0.0025	0.3658	0.3658
1.2D + 1.0W 90° 121 mph wind with no ice	76.42	0.2415	0.0407	0.1472	0.1526
1.2D + 1.0W 90° 121 mph wind with no ice	116.42	0.3205	0.0356	0.1787	0.1809
1.2D + 1.0W 90° 121 mph wind with no ice	120.01	0.337	-0.0056	0.3945	0.3945
1.2D + 1.0W 90° 121 mph wind with no ice	130.01	0.3795	-0.0129	0.2487	0.2489
1.2D + 1.0W 90° 121 mph wind with no ice	133.22	0.3931	-0.0113	0.2382	0.2385
1.2D + 1.0W 90° 121 mph wind with no ice	140.01	0.421	-0.0077	0.1649	0.165
1.2D + 1.0W 90° 121 mph wind with no ice	143.59	0.4352	-0.0079	0.2515	0.2516
1.2D + 1.0W 90° 121 mph wind with no ice	146.80	0.4495	-0.0126	0.3069	0.3072
1.2D + 1.0W 90° 121 mph wind with no ice	156.43	0.5187	-0.1236	0.3900	0.4076
1.2D + 1.0W 90° 121 mph wind with no ice	160.01	0.542	-0.1330	0.4205	0.44
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	76.42	0.0777	0.0003	0.0215	0.0215
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	116.42	0.0658	0.0014	0.0361	0.0361
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	120.01	0.0651	0.0006	0.0160	0.016
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	130.01	0.0618	0.0003	0.0226	0.0226
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	133.22	0.0605	0.0003	0.0262	0.0262
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	140.01	0.0572	0.0005	0.0409	0.0409
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	143.59	0.0552	0.0009	0.0321	0.0321
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	146.80	0.0534	0.0019	0.0218	0.0218
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	156.43	0.0533	0.0003	0.0014	0.0014
1.2D + 1.0Di + 1.0Wi Normal 50 mph wind with 1" radial ice	160.01	0.0534	0.0003	0.0110	0.011
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	76.42	0.08	0.0003	0.0376	0.0376
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	116.42	0.0847	0.0014	0.0072	0.0073
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	120.01	0.0856	0.0006	0.0483	0.0483
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	130.01	0.0874	0.0003	0.0078	0.0078
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	133.22	0.0878	0.0003	0.0037	0.0038
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	140.01	0.088	0.0005	0.0221	0.0221
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	143.59	0.0878	0.0009	0.0050	0.005
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	146.80	0.0881	0.0018	0.0106	0.0108
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	156.43	0.0929	0.0004	0.0299	0.0299
1.2D + 1.0Di + 1.0Wi 60° 50 mph wind with 1" radial ice	160.01	0.0949	0.0004	0.0414	0.0414
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	76.42	0.078	0.0151	0.0304	0.0337
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	116.42	0.0746	0.0124	0.0275	0.0292
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	120.01	0.075	0.0114	0.0367	0.0381
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	130.01	0.0748	0.0110	0.0180	0.0208
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	133.22	0.0744	0.0110	0.0203	0.0231
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	140.01	0.0732	0.0113	0.0448	0.046
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	143.59	0.0723	0.0118	0.0227	0.0256
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	146.80	0.0718	0.0128	0.0193	0.0232
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	156.43	0.0747	0.0111	0.0212	0.0239
1.2D + 1.0Di + 1.0Wi 90° 50 mph wind with 1" radial ice	160.01	0.0759	0.0111	0.0299	0.0318
1.2D + 1.0Ev + 1.0Eh Normal Seismic	76.42	0.0039	0.0000	0.0065	0.0065
1.2D + 1.0Ev + 1.0Eh Normal Seismic	116.42	0.0096	0.0002	0.0130	0.013
1.2D + 1.0Ev + 1.0Eh Normal Seismic	120.01	0.0106	0.0001	0.0221	0.0221
1.2D + 1.0Ev + 1.0Eh Normal Seismic	130.01	0.0136	0.0000	0.0174	0.0174
1.2D + 1.0Ev + 1.0Eh Normal Seismic	133.22	0.0146	0.0000	0.0177	0.0177
1.2D + 1.0Ev + 1.0Eh Normal Seismic	140.01	0.0166	0.0001	0.0152	0.0152
1.2D + 1.0Ev + 1.0Eh Normal Seismic	143.59	0.0178	0.0002	0.0192	0.0192

DEFLECTIONS AND ROTATIONS

Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Ev + 1.0Eh Normal Seismic	146.80	0.0189	0.0004	0.0236	0.0236
1.2D + 1.0Ev + 1.0Eh Normal Seismic	156.43	0.0234	0.0001	0.0278	0.0278
1.2D + 1.0Ev + 1.0Eh Normal Seismic	160.01	0.0252	0.0001	0.0306	0.0306
1.2D + 1.0Ev + 1.0Eh 60° Seismic	76.42	0.0035	0.0000	0.0066	0.0066
1.2D + 1.0Ev + 1.0Eh 60° Seismic	116.42	0.009	0.0002	0.0128	0.0128
1.2D + 1.0Ev + 1.0Eh 60° Seismic	120.01	0.01	0.0001	0.0224	0.0224
1.2D + 1.0Ev + 1.0Eh 60° Seismic	130.01	0.0129	0.0000	0.0169	0.0169
1.2D + 1.0Ev + 1.0Eh 60° Seismic	133.22	0.0139	0.0000	0.0171	0.0171
1.2D + 1.0Ev + 1.0Eh 60° Seismic	140.01	0.0159	0.0001	0.0145	0.0145
1.2D + 1.0Ev + 1.0Eh 60° Seismic	143.59	0.017	0.0002	0.0198	0.0198
1.2D + 1.0Ev + 1.0Eh 60° Seismic	146.80	0.0181	0.0004	0.0219	0.0219
1.2D + 1.0Ev + 1.0Eh 60° Seismic	156.43	0.0225	0.0001	0.0270	0.027
1.2D + 1.0Ev + 1.0Eh 60° Seismic	160.01	0.0243	0.0001	0.0297	0.0297
1.2D + 1.0Ev + 1.0Eh 90° Seismic	76.42	0.0038	0.0000	0.0068	0.0068
1.2D + 1.0Ev + 1.0Eh 90° Seismic	116.42	0.0095	0.0003	0.0129	0.0129
1.2D + 1.0Ev + 1.0Eh 90° Seismic	120.01	0.0105	0.0001	0.0226	0.0226
1.2D + 1.0Ev + 1.0Eh 90° Seismic	130.01	0.0135	0.0000	0.0172	0.0172
1.2D + 1.0Ev + 1.0Eh 90° Seismic	133.22	0.0144	0.0000	0.0175	0.0175
1.2D + 1.0Ev + 1.0Eh 90° Seismic	140.01	0.0165	0.0001	0.0151	0.0151
1.2D + 1.0Ev + 1.0Eh 90° Seismic	143.59	0.0176	0.0002	0.0197	0.0197
1.2D + 1.0Ev + 1.0Eh 90° Seismic	146.80	0.0187	0.0005	0.0231	0.0231
1.2D + 1.0Ev + 1.0Eh 90° Seismic	156.43	0.0232	0.0001	0.0275	0.0275
1.2D + 1.0Ev + 1.0Eh 90° Seismic	160.01	0.025	0.0001	0.0304	0.0304
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	76.42	0.0425	0.0001	0.0189	0.0189
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	116.42	0.0463	0.0010	0.0086	0.0087
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	120.01	0.0479	0.0004	0.0560	0.056
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	130.01	0.0531	0.0001	0.0292	0.0292
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	133.22	0.0546	0.0001	0.0271	0.0271
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	140.01	0.0578	0.0003	0.0225	0.0225
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	143.59	0.0594	0.0008	0.0284	0.0284
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	146.80	0.0611	0.0016	0.0411	0.0411
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	156.43	0.0707	0.0003	0.0589	0.0589
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	160.01	0.0745	0.0003	0.0717	0.0717
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	76.42	0.042	0.0001	0.0219	0.0219
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	116.42	0.0496	0.0010	0.0154	0.0154
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	120.01	0.0518	0.0004	0.0634	0.0634
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	130.01	0.0582	0.0001	0.0362	0.0362
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	133.22	0.0601	0.0001	0.0334	0.0334
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	140.01	0.064	0.0004	0.0185	0.0185
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	143.59	0.0659	0.0008	0.0388	0.0388
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	146.80	0.0681	0.0015	0.0453	0.0453
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	156.43	0.0788	0.0003	0.0654	0.0654
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	160.01	0.083	0.0003	0.0782	0.0782
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	76.42	0.0423	0.0037	0.0202	0.0205
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	116.42	0.0479	0.0035	0.0120	0.0125
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	120.01	0.0499	0.0028	0.0587	0.0587
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	130.01	0.0555	0.0025	0.0324	0.0325
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	133.22	0.0573	0.0025	0.0293	0.0294
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	140.01	0.0607	0.0027	0.0081	0.0086
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	143.59	0.0623	0.0032	0.0343	0.0343
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	146.80	0.064	0.0041	0.0421	0.0421
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	156.43	0.0742	0.0027	0.0615	0.0615
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	160.01	0.0782	0.0027	0.0741	0.0742

MAXIMUM REACTIONS SUMMARY

Anchor Group	Uplift	Shear
BASE	113.92	1.40
A1	28.30	35.48

Pier Foundation Analysis (ANSI/TIA-222-H)

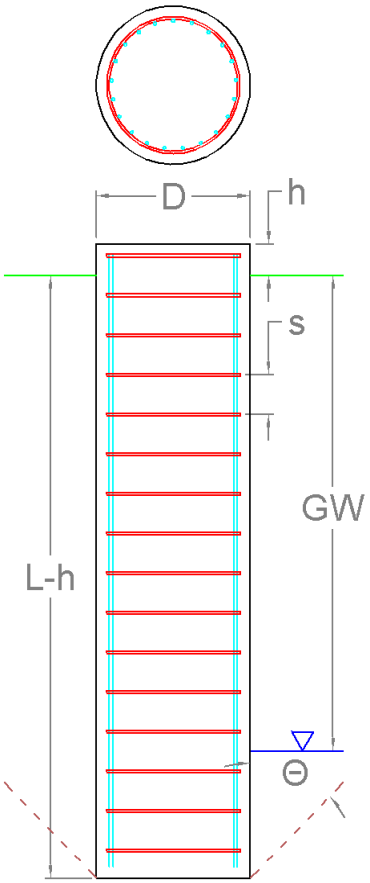
Foundation Analysis Parameters			
Pier Diameter	*D*	5.80	ft
Pier Embedment	*L-h*	5.4	ft
Pier Height above Ground	*H*	2.60	ft
Water Table Depth [BGL]	*GW*	4	ft
Pullout Angle	Θ	30	°
Unit Weight of Concrete		150	pcf
Uplift Skin Friction Factor		1.000	

Reactions		
Moment, M_u	0.0	k-ft
Shear, V_u	1.4	k
Axial, P_u	113.9	k
Uplift, T_u	0.0	k

Soil Properties

Layer Depth (ft)		Unit Weight	Cohesion	Friction Angle	Ultimate Skin Friction	Ultimate Bearing Pressure
TOP	BTM	pcf	psf	°	psf	psf
0.0	2.0	105	0	0	0	0
2.0	7.0	120	0	35	0	15,000

Soil Strength Capacities		
Volume of Concrete	211.4	ft^3
Weight of Concrete [Buoyancy Considered]	29.4	k
Average Soil Unit Weight	90.9	pcf
Skin Friction Resistance	0.0	k
Compressive Bearing Resistance	396.3	k
Pullout Weight [Minus Concrete Weight]	18.9	k
Compressive Force, P_u	121.3	k
Nominal Compressive Capacity, $\phi_s P_n$	237.8	k
$P_u / \phi_s P_n$	**51.0%**	
Total Lateral Resistance	65.5	k
Inflection Point [BGL]	3.7	ft
Moment at Inflection Point, M_D	8.8	k-ft
Nominal Moment Capacity, $\phi_s M_n$	39.4	k-ft
$M_D / \phi_s M_n$	**22.3%**	



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Mount Analysis Report

ATC Site Name	:	**HAMPTON CT, CT**
ATC Site Number	:	**10029**
Engineering Number	:	**13653957_C8_04**
Mount Elevation	:	**155 ft**
Carrier	:	**Sprint Nextel**
Carrier Site Name	:	**CTHA811A**
Carrier Site Number	:	**CTHA811A**
Site Location	:	**185 Fisk Road** **Hampton, CT 06247-1305** **41.76994324 , -72.07064056**
County	:	**Windham**
Date	:	**August 11, 2021**
Max Usage	:	**79%**
Result	:	**Pass**

Prepared By:
Kyle Sammarco
Structural Engineer

Reviewed By:

STATE OF CONNECTICUT
ESHA KAUSHAL MODI
32593
LICENSED
PROFESSIONAL ENGINEER

Authorized by "EOR"
11 Aug 2021 09:33:09 cosign

COA: PEC.0001553

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Table of Contents

Introduction

The purpose of this report is to summarize results of the mount analysis performed for Sprint Nextel at 155 ft.

Supporting Documents

Specifications Sheet	Site Pro 1 VFA12-HD, dated June 29, 2018
Radio Frequency Data Sheet	RFDS ID #CTHA811A, dated July 20, 2021
Reference Photos	Site photos from 2020
Corrective Amendment	ATC Project #13714286

Analysis

This mount was analyzed using American Tower Corporation's Mount Analysis Program and RISA-3D

Basic Wind Speed:	121 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1'' radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.185, S1 = 0.054
Site Class:	D - Stiff Soil
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above. The mount can support the equipment as described in this report.

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

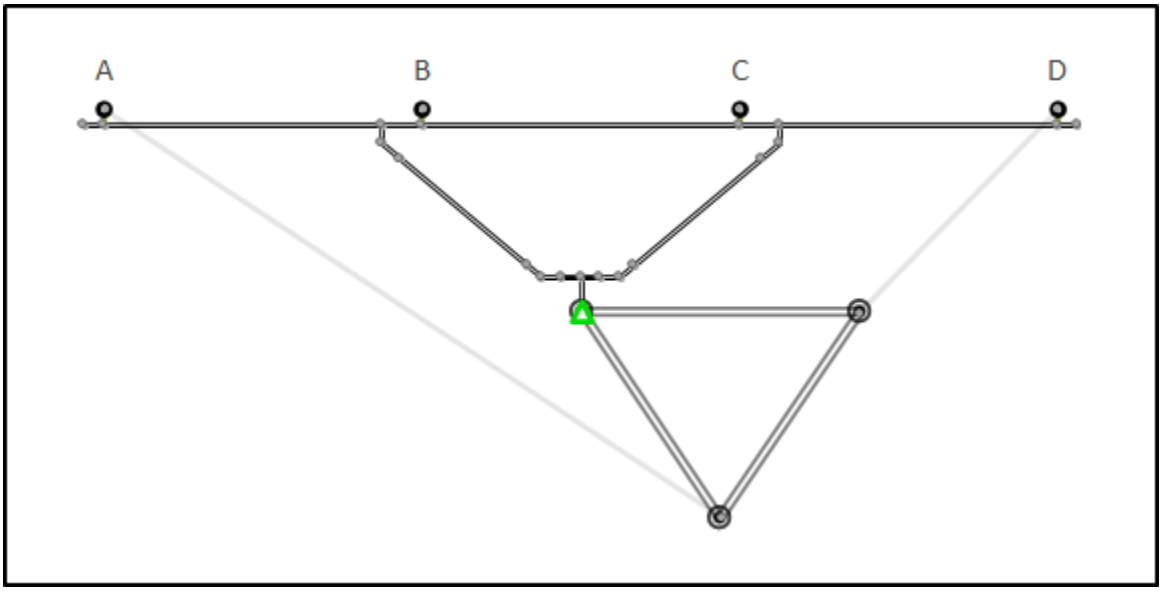
Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
155.0	155.0	3	RFS APXVAALL24 43-U-NA20
		3	Ericsson Air6449 B41
		3	Ericsson Radio 4480 B71+B85A
		3	Ericsson Radio 4460 B25+B66

Structure Usages

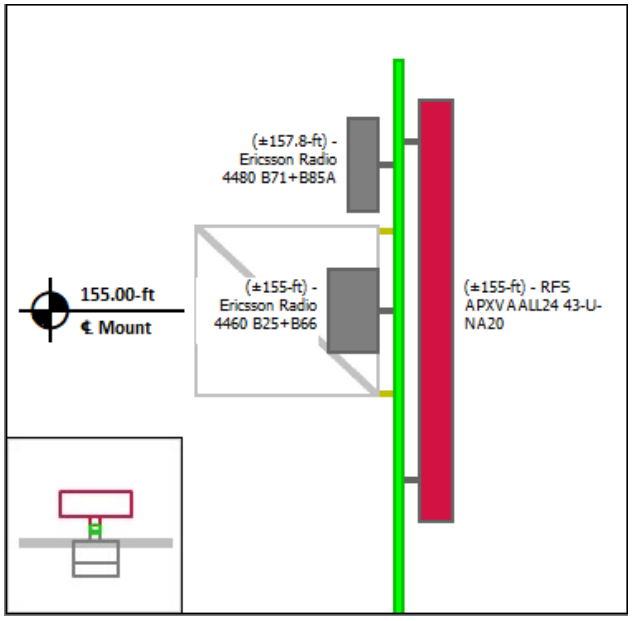
Structural Component	Controlling Usage	Pass/Fail
Horizontals	56%	Pass
Verticals	62%	Pass
Diagonals	24%	Pass
Tie-Backs	30%	Pass
Mount Pipes	79%	Pass

Mount Layout

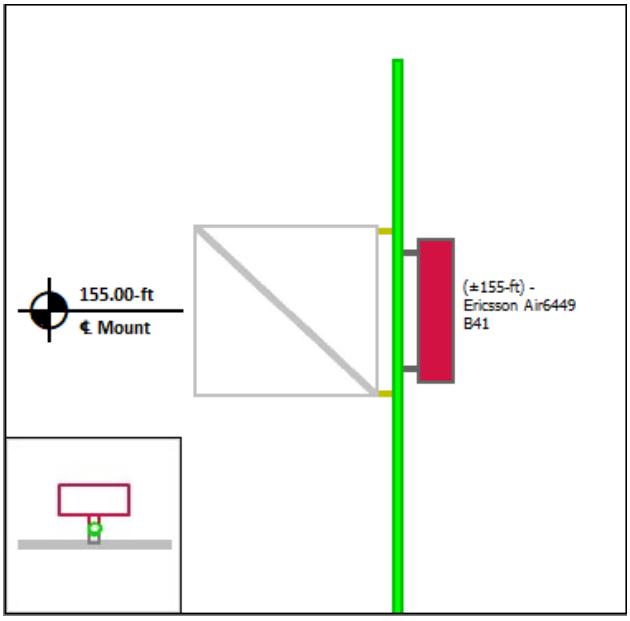


Equipment Layout

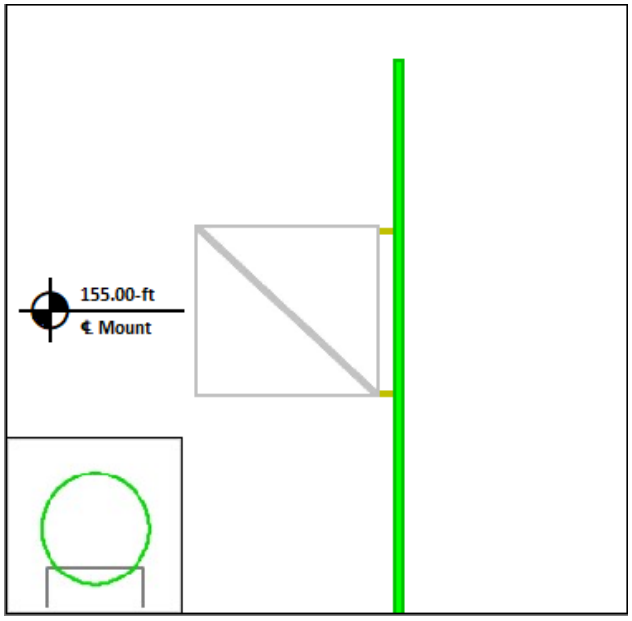
Mount Pipe A



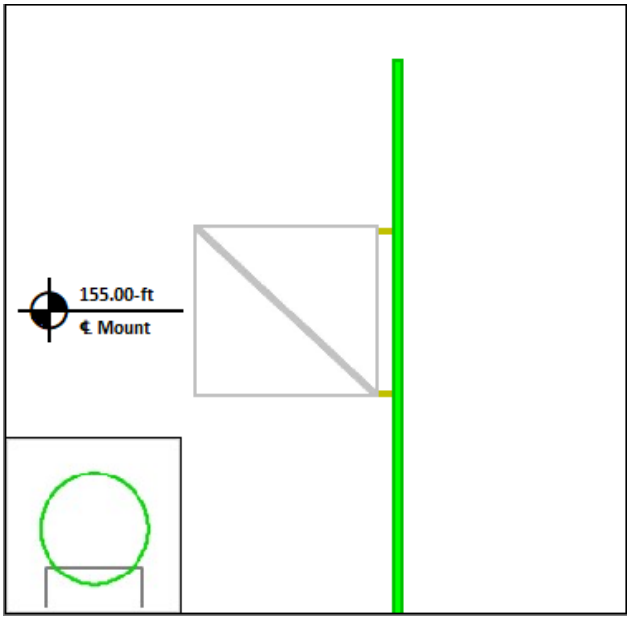
Mount Pipe B



Mount Pipe C



Mount Pipe D



Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding equipment, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete.

American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

All connections are to be verified for condition and tightness by the installation contractor preceding any changes to the appurtenance mounting system and/or equipment attached to it.

Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

Installation of all equipment and steel should be confirmed not to cause tower conflicts nor impede the tower climbing pegs.

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

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Site Number:	*10029*
Project Number:	*13653957_C8_04*
Carrier:	*Sprint Nextel*
Mount Elevation:	*155 ft*
Date:	8/11/2021

Mount Analysis Force Calculations

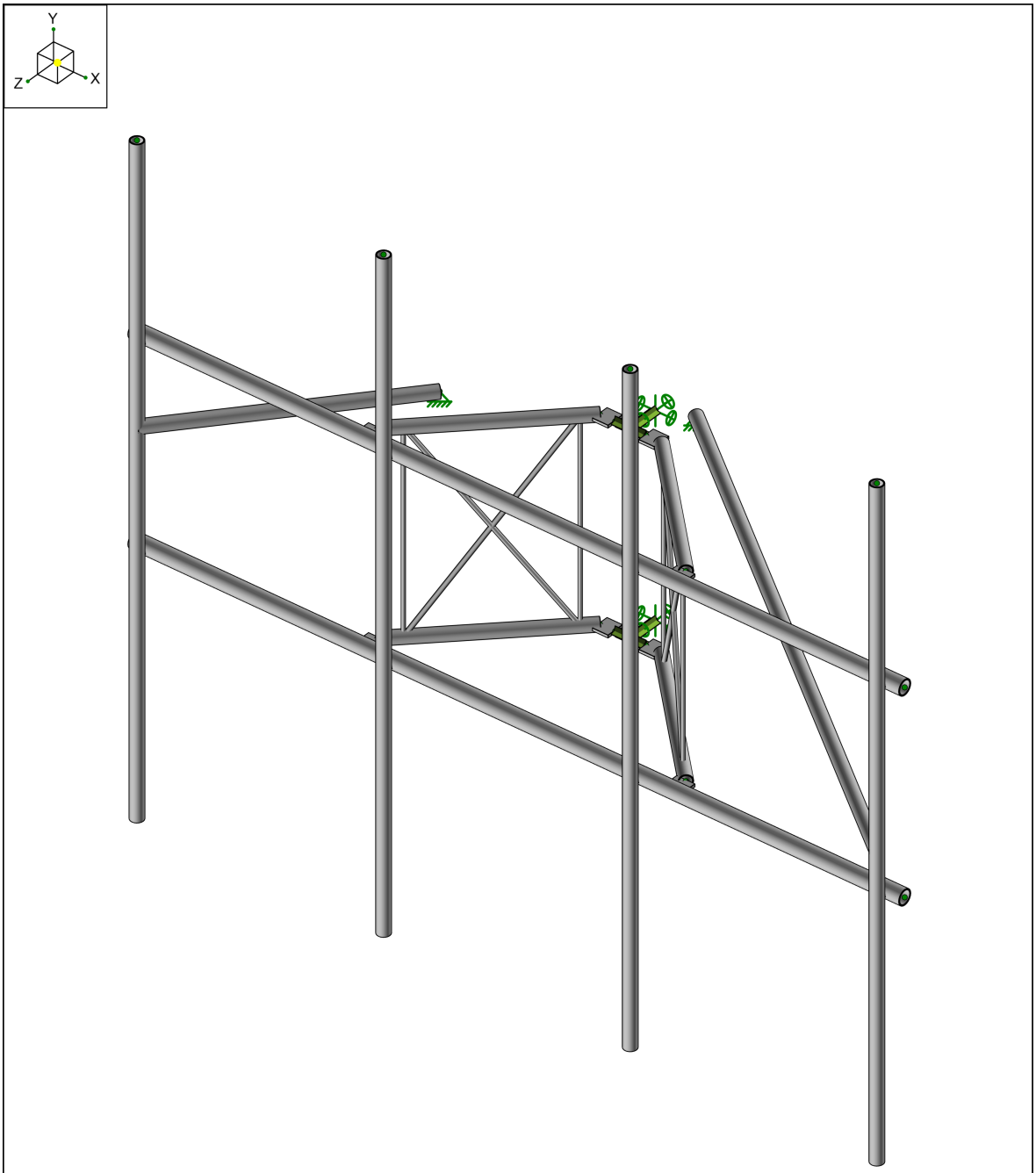
Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.12	
Topographic Factor	K_{zt}	1.00	
Rooftop Wind Speed-up Factor	K_s	1.00	
Shielding Factor	K_a	0.90	
Ground Elevation Factor	K_e	0.98	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	121	mph
Velocity Pressure	q_z	39.0	psf
Height Escalation Factor	K_{iz}	1.17	
Thickness of Radial Glaze Ice	T_{iz}	1.17	in

Seismic Load Calculations			
Short Period DSRAP	S_{DS}	0.197	
1 Second DSRAP	S_{D1}	0.086	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_S	0.099	
Amplification Factor	A	1.0	
Total Weight	W	981.1	lbs
Total Shear Force	V_S	96.8	lbs
Horizontal Seismic Load	Eh	96.8	lbs
Vertical Seismic Load	Ev	38.7	lbs

Antenna Calculations (Elevations per Application/RFDS)*

Equipment	Height	Width	Depth	Weight	EPA_N	EPA_T	EPA_{Ni}	EPA_{Ti}
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft
RFS APXVAALL24 43-U-NA20	95.9	24.0	8.5	122.8	20.24	3.40	22.75	4.43
Ericsson Air6449 B41	33.1	20.6	8.6	104.0	5.68	1.56	6.77	2.13
Ericsson Radio 4480 B71+B85A	21.8	15.7	7.5	84.0	2.85	1.38	3.63	2.01
Ericsson Radio 4460 B25+B66	19.6	15.7	12.1	109.0	2.56	1.98	3.30	2.64

**** Equipment with EPA values N/A were not considered in the mount analysis***



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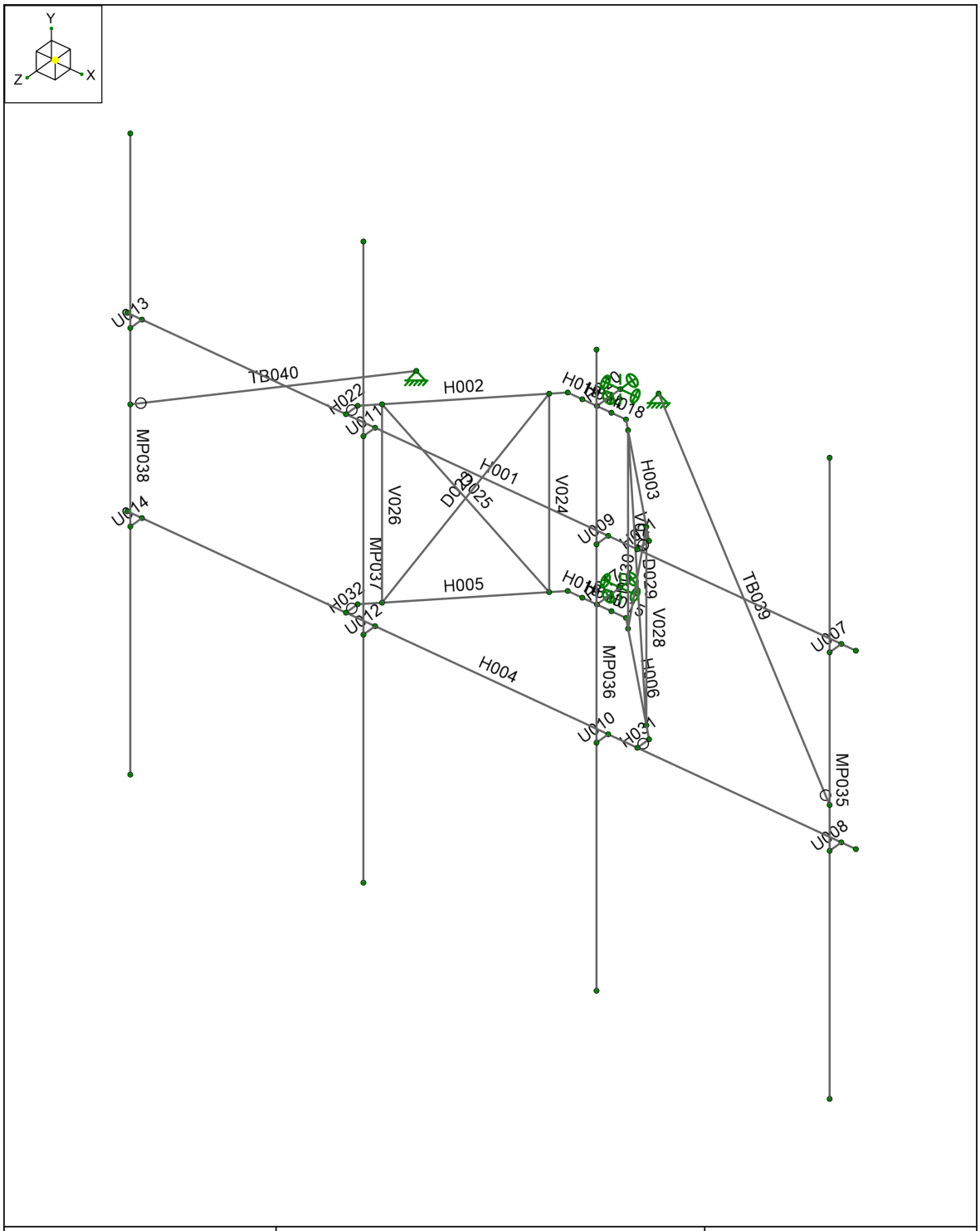
Kyle.Sammarco		Aug 11, 2021
13653957_C8_04		R3D. SPRINT NEXTEL @ 1002…



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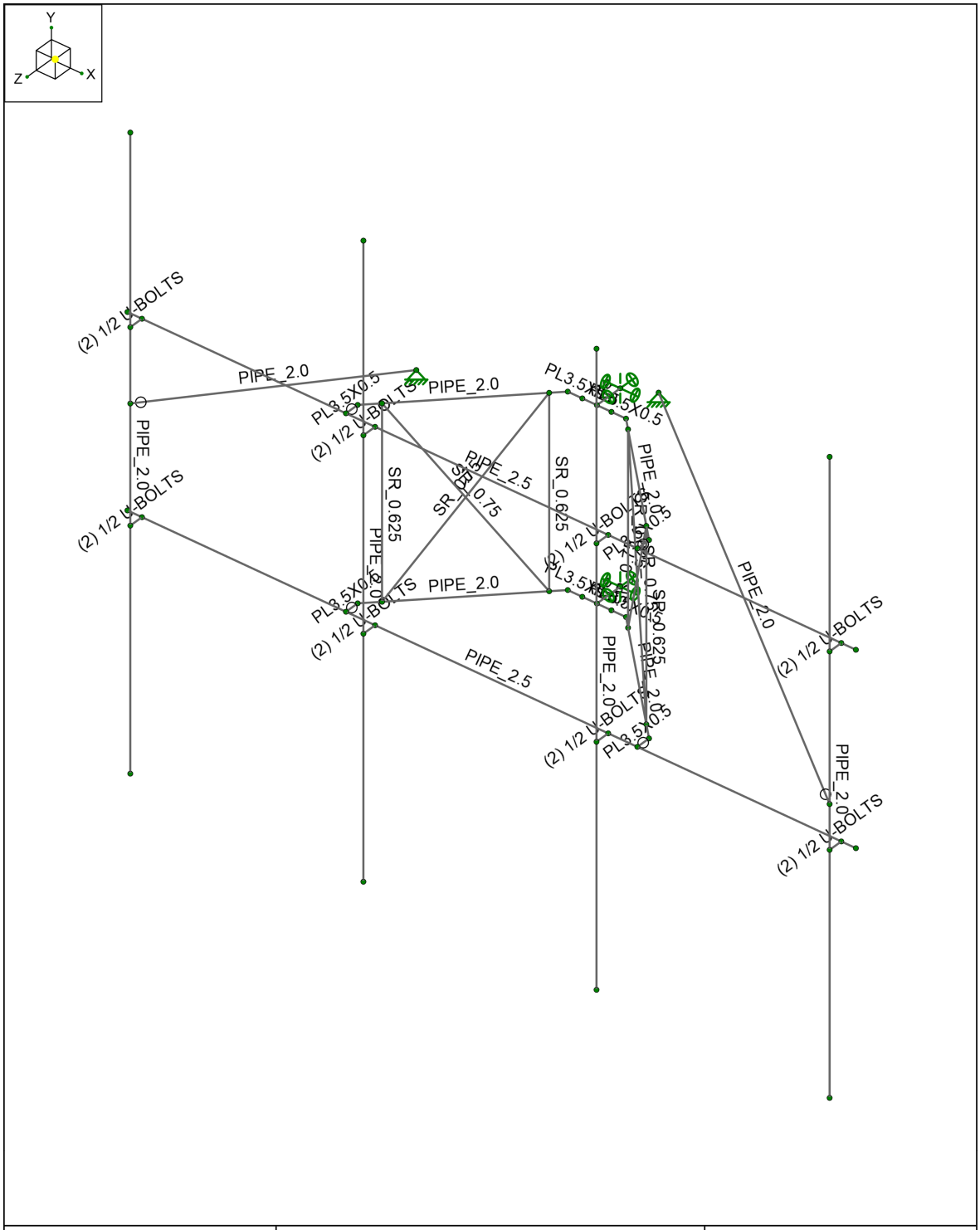

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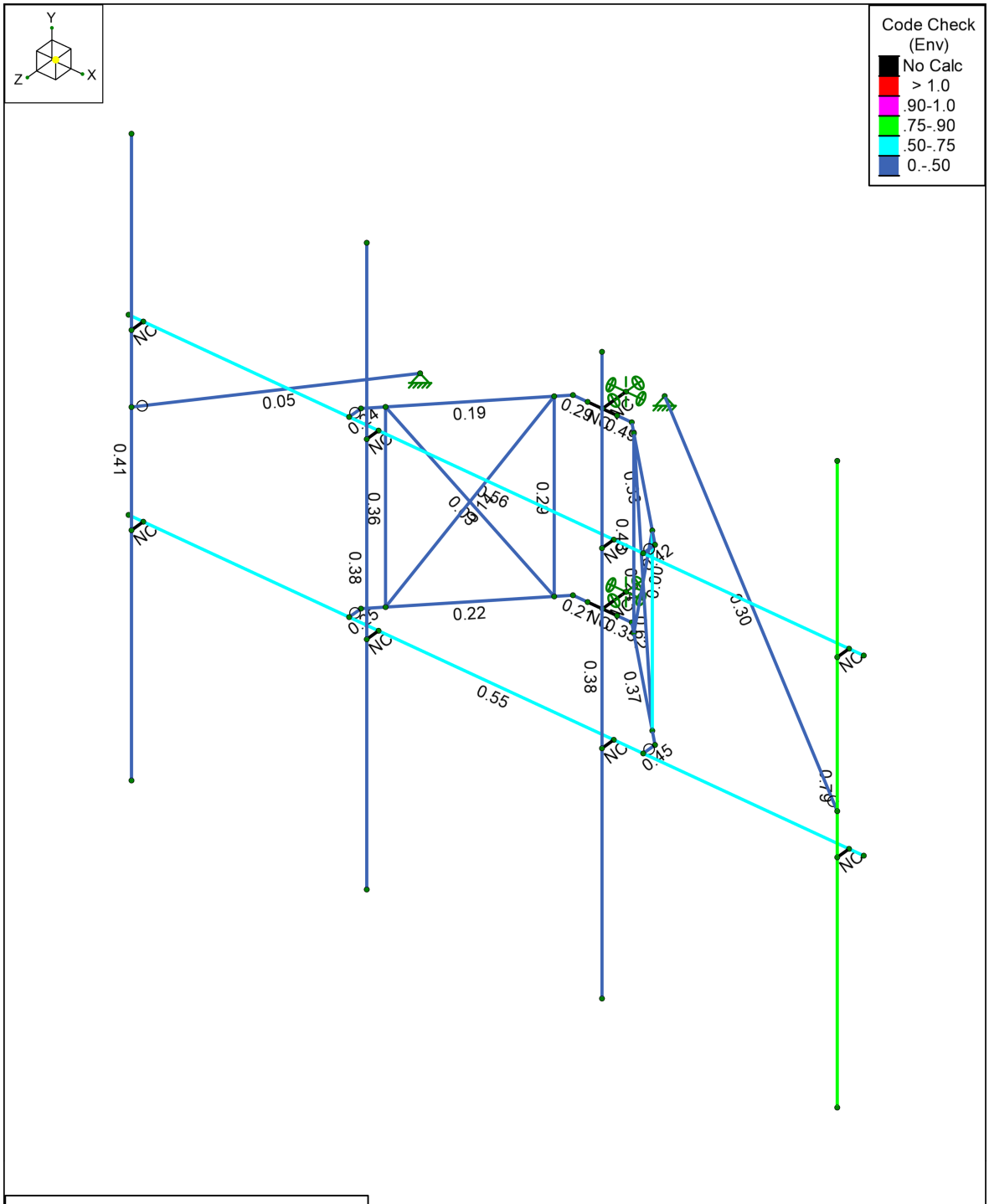

Member Code Checks Displayed (Enveloped)

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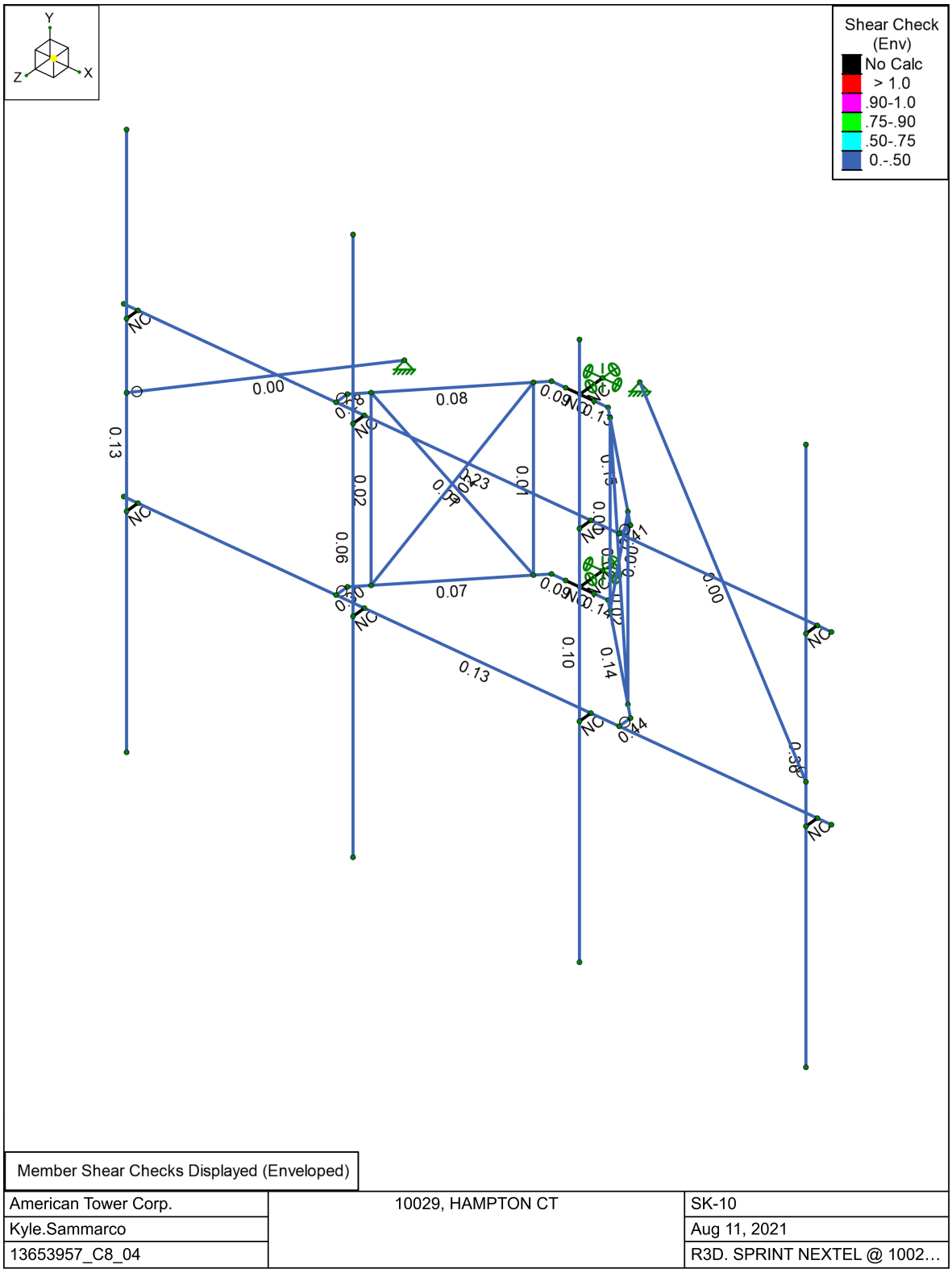

Member Shear Checks Displayed (Enveloped)

American Tower Corp.	10029, HAMPTON CT	SK-10
Kyle.Sammarco		Aug 11, 2021
13653957_C8_04		R3D. SPRINT NEXTEL @ 1002…

Node Boundary Conditions

	Node Label	X [lb/in]	Y [lb/in]	Z [lb/in]	X Rot [k-in/rad]	Z Rot [k-in/rad]
1	N001	Reaction	Reaction	Reaction	Reaction	Reaction
2	N006	Reaction	Reaction	Reaction	Reaction	Reaction
3	N059	Reaction	Reaction	Reaction		
4	N060	Reaction	Reaction	Reaction		

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	H001	N003	N002		PIPE_2.5	Beam	None	A53 Gr. B	Typical
2	H002	N032	N004		PIPE_2.0	Beam	None	A53 Gr. B	Typical
3	H003	N031	N005		PIPE_2.0	Beam	None	A53 Gr. B	Typical
4	H004	N008	N007		PIPE_2.5	Beam	None	A53 Gr. B	Typical
5	H005	N029	N009		PIPE_2.0	Beam	None	A53 Gr. B	Typical
6	H006	N028	N010		PIPE_2.0	Beam	None	A53 Gr. B	Typical
7	U007	N011	N015		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
8	U008	N016	N017		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
9	U009	N012	N018		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
10	U010	N019	N020		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
11	U011	N013	N021		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
12	U012	N022	N023		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
13	U013	N014	N024		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
14	U014	N025	N026		(2) 1/2 U-BOLTS	Beam	None	SAE J429 Gr. 2	Typical
15	H015	N047	N028	90	PL3.5X0.5	Beam	None	A36	Typical
16	H016	N048	N029	90	PL3.5X0.5	Beam	None	A36	Typical
17	H017	N006	N027		RIGID	None	None	RIGID	Typical
18	H018	N045	N031	90	PL3.5X0.5	Beam	None	A36	Typical
19	H019	N046	N032	90	PL3.5X0.5	Beam	None	A36	Typical
20	H020	N001	N030		RIGID	None	None	RIGID	Typical
21	H021	N005	N034	90	PL3.5X0.5	Beam	None	A36	Typical
22	H022	N004	N033	90	PL3.5X0.5	Beam	None	A36	Typical
23	D023	N038	N035		SR_0.75	Column	None	A36	Typical
24	V024	N035	N036		SR_0.625	Column	None	A36	Typical
25	D025	N036	N037		SR_0.75	Column	None	A36	Typical
26	V026	N037	N038		SR_0.625	Column	None	A36	Typical
27	V027	N039	N040		SR_0.625	Column	None	A36	Typical
28	V028	N041	N042		SR_0.625	Column	None	A36	Typical
29	D029	N042	N039		SR_0.75	Column	None	A36	Typical
30	D030	N040	N041		SR_0.75	Column	None	A36	Typical
31	H031	N010	N044	90	PL3.5X0.5	Beam	None	A36	Typical
32	H032	N009	N043	90	PL3.5X0.5	Beam	None	A36	Typical
33	H033	N047	N048		RIGID	None	None	RIGID	Typical
34	H034	N045	N046		RIGID	None	None	RIGID	Typical
35	MP035	N049	N050		PIPE_2.0	Column	None	A53 Gr. B	Typical
36	MP036	N051	N052		PIPE_2.0	Column	None	A53 Gr. B	Typical
37	MP037	N053	N054		PIPE_2.0	Column	None	A53 Gr. B	Typical
38	MP038	N055	N056		PIPE_2.0	Column	None	A53 Gr. B	Typical
39	TB039	N059	N057		PIPE_2.0	Beam	None	A53 Gr. B	Typical
40	TB040	N060	N058		PIPE_2.0	Beam	None	A53 Gr. B	Typical

Member Advanced Data

	Label	J Release	T/C Only	Physical	Deflection Ratio Options	Activation	Seismic DR
1	H001			Yes	N/A		None
2	H002			Yes	Default		None

Member Advanced Data (Continued)

	Label	J Release	T/C Only	Physical	Deflection Ratio Options	Activation	Seismic DR
3	H003			Yes	Default		None
4	H004			Yes	N/A		None
5	H005			Yes	Default		None
6	H006			Yes	Default		None
7	U007			Yes	N/A	Exclude	None
8	U008			Yes	N/A	Exclude	None
9	U009			Yes	N/A	Exclude	None
10	U010			Yes	N/A	Exclude	None
11	U011			Yes	N/A	Exclude	None
12	U012			Yes	N/A	Exclude	None
13	U013			Yes	N/A	Exclude	None
14	U014			Yes	N/A	Exclude	None
15	H015			Yes	Default		None
16	H016			Yes	Default		None
17	H017			Yes	** NA **		None
18	H018			Yes	Default		None
19	H019			Yes	Default		None
20	H020			Yes	** NA **		None
21	H021	BenPIN		Yes	Default		None
22	H022	BenPIN		Yes	Default		None
23	D023		Tension Only	Yes	** NA **		None
24	V024			Yes	** NA **		None
25	D025		Tension Only	Yes	** NA **		None
26	V026			Yes	** NA **		None
27	V027			Yes	** NA **		None
28	V028			Yes	** NA **		None
29	D029		Tension Only	Yes	** NA **		None
30	D030		Tension Only	Yes	** NA **		None
31	H031	BenPIN		Yes	Default		None
32	H032	BenPIN		Yes	Default		None
33	H033			Yes	** NA **		None
34	H034			Yes	** NA **		None
35	MP035			Yes	** NA **		None
36	MP036			Yes	** NA **		None
37	MP037			Yes	** NA **		None
38	MP038			Yes	** NA **		None
39	TB039	BenPIN		Yes	N/A		None
40	TB040	BenPIN		Yes	N/A		None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lcomp top [in]	K y-y	K z-z	Function
1	H001	PIPE_2.5	150	Lbyy	1	1	Lateral
2	H002	PIPE_2.0	33.941	Lbyy	0.8	0.8	Lateral
3	H003	PIPE_2.0	33.941	Lbyy	0.8	0.8	Lateral
4	H004	PIPE_2.5	150	Lbyy	1	1	Lateral
5	H005	PIPE_2.0	33.941	Lbyy	0.8	0.8	Lateral
6	H006	PIPE_2.0	33.941	Lbyy	0.8	0.8	Lateral
7	U007	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
8	U008	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
9	U009	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
10	U010	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
11	U011	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
12	U012	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
13	U013	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral
14	U014	(2) 1/2 U-BOLTS	3	Lbyy	0.5	0.5	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lcomp top [in]	K y-y	K z-z	Function
15	H015	PL3.5X0.5	3	Lbyy	2.1	2.1	Lateral
16	H016	PL3.5X0.5	3	Lbyy	2.1	2.1	Lateral
17	H018	PL3.5X0.5	3	Lbyy	2.1	2.1	Lateral
18	H019	PL3.5X0.5	3	Lbyy	2.1	2.1	Lateral
19	H021	PL3.5X0.5	3	Lbyy	2.1	2.1	Lateral
20	H022	PL3.5X0.5	3	Lbyy	2.1	2.1	Lateral
21	D023	SR_0.75	47.434	Lbyy	0.65	0.65	Lateral
22	V024	SR_0.625	39	Lbyy	0.65	0.65	Lateral
23	D025	SR_0.75	47.434	Lbyy	0.65	0.65	Lateral
24	V026	SR_0.625	39	Lbyy	0.65	0.65	Lateral
25	V027	SR_0.625	39	Lbyy	0.65	0.65	Lateral
26	V028	SR_0.625	39	Lbyy	0.65	0.65	Lateral
27	D029	SR_0.75	47.434	Lbyy	0.65	0.65	Lateral
28	D030	SR_0.75	47.434	Lbyy	0.65	0.65	Lateral
29	H031	PL3.5X0.5	3	Lbyy	2.1	2.1	Lateral
30	H032	PL3.5X0.5	3	Lbyy	2.1	2.1	Lateral
31	MP035	PIPE_2.0	126	Lbyy	2.1	2.1	Lateral
32	MP036	PIPE_2.0	126	Lbyy	2.1	2.1	Lateral
33	MP037	PIPE_2.0	126	Lbyy	2.1	2.1	Lateral
34	MP038	PIPE_2.0	126	Lbyy	2.1	2.1	Lateral
35	TB039	PIPE_2.0	117.614	Lbyy	1	1	Lateral
36	TB040	PIPE_2.0	46.861	Lbyy	1	1	Lateral

Hot Rolled Steel Properties

	Label	E [psi]	G [psi]	Nu	Therm. Coeff. [1e^{6}°F^{-1}]	Density [lb/ft^{3}]	Yield [psi]	Ry	Fu [psi]	Rt
1	A53 Gr. B	2.9e+07	1.115e+07	0.3	0.65	490	35000	1.6	60000	1.2
2	SAE J429 Gr. 2	2.9e+07	1.115e+07	0.3	0.65	490	57000	1.1	74000	1.1
3	A36	2.9e+07	1.115e+07	0.3	0.65	490	36000	1.5	58000	1.2

Envelope Node Reactions

	Node Label		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N001	max	1000.237	19	1224.264	26	485.169	25	-142.427	21	0	117	556.749	81
2		min	-2155.126	13	315.151	21	-1699.686	7	-617.129	26	0	1	-155.096	111
3	N006	max	2993.267	7	852.93	32	1489.666	27	-68.627	14	0	117	399.885	75
4		min	-1750.323	25	180.08	14	303.836	22	-437.116	32	0	1	-101.095	117
5	N059	max	1982.079	25	47.589	31	1552.551	25	0	117	0	117	0	117
6		min	-1987.955	19	10.868	25	-1623.979	19	0	1	0	1	0	1
7	N060	max	819.305	13	18.443	36	1043.742	19	0	117	0	117	0	117
8		min	-905.731	19	5.6	19	-1021.856	13	0	1	0	1	0	1
9	Totals:	max	1285.08	18	2077.468	35	1730.541	2						
10		min	-1285.08	24	759.53	17	-1730.541	8						

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
1	H001	PIPE_2.5	0.559	104.688	19	0.231	50		13	14558.792	50715	3596.25	3596.25	1.923	H1-1b
2	H002	PIPE_2.0	0.195	30.052	111	0.083	0		108	30216.926	32130	1871.625	1871.625	1.969	H1-1b
3	H003	PIPE_2.0	0.328	30.052	81	0.153	0		70	30216.926	32130	1871.625	1871.625	1.963	H1-1b
4	H004	PIPE_2.5	0.553	43.75	7	0.134	104.688		7	14558.792	50715	3596.25	3596.25	2.226	H1-1b
5	H005	PIPE_2.0	0.215	29.698	117	0.067	30.052		101	30216.926	32130	1871.625	1871.625	1.989	H1-1b
6	H006	PIPE_2.0	0.366	29.698	75	0.135	30.052		88	30216.926	32130	1871.625	1871.625	1.984	H1-1b
7	H015	PL3.5X0.5	0.348	0	75	0.142	3	y	87	51289.202	56700	590.625	4134.375	1.703	H1-1b
8	H016	PL3.5X0.5	0.211	0	117	0.089	0	y	105	51289.202	56700	590.625	4134.375	1.69	H1-1b

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
9	H018	PL3.5X0.5	0.486	0	78	0.13	3	y	92	51289.202	56700	590.625	4134.375	1.701	H1-1b
10	H019	PL3.5X0.5	0.294	0	111	0.088	0	y	99	51289.202	56700	590.625	4134.375	1.684	H1-1b
11	H021	PL3.5X0.5	0.421	0	81	0.409	0.031	y	81	51289.202	56700	590.625	4134.375	1.667	H1-1b
12	H022	PL3.5X0.5	0.241	0	111	0.282	0.031	y	111	51289.202	56700	590.625	4134.375	1.667	H1-1b
13	D023	SR_0.75	0.137	47.434	111	0.016	0		7	3691.013	14313.882	178.924	178.924	2.554	H1-1b*
14	V024	SR_0.625	0.287	0	113	0.011	0		70	2633.14	9940.196	103.544	103.544	2.21	H1-1a
15	D025	SR_0.75	0.033	47.434	73	0.014	0		81	3691.013	14313.882	178.924	178.924	2.251	H1-1b*
16	V026	SR_0.625	0.356	39	107	0.016	39		76	2633.14	9940.196	103.544	103.544	2.277	H1-1a
17	V027	SR_0.625	0.484	0	76	0.01	0		81	2633.14	9940.196	103.544	103.544	2.215	H1-1a
18	V028	SR_0.625	0.622	39	70	0.017	0		75	2633.14	9940.196	103.544	103.544	2.257	H1-1a
19	D029	SR_0.75	0.236	47.434	71	0.023	0		7	3691.013	14313.882	178.924	178.924	2.429	H1-1a*
20	D030	SR_0.75	0	47.434	117	0	47.434		117	3691.013	14313.882	178.924	178.924	1	H1-1a
21	H031	PL3.5X0.5	0.45	0	75	0.44	0.031	y	75	51289.202	56700	590.625	4134.375	1.667	H1-1b
22	H032	PL3.5X0.5	0.254	0	117	0.302	0.031	y	117	51289.202	56700	590.625	4134.375	1.667	H1-1b
23	MP035	PIPE_2.0	0.79	68.25	13	0.356	76.125		7	2023.148	32130	1871.625	1871.625	2.011	H1-1b
24	MP036	PIPE_2.0	0.38	38.062	91	0.095	39.375		13	2023.148	32130	1871.625	1871.625	3	H1-1a
25	MP037	PIPE_2.0	0.38	38.062	101	0.061	39.375		7	2023.148	32130	1871.625	1871.625	3	H1-1a
26	MP038	PIPE_2.0	0.411	53.812	19	0.128	39.375		7	2023.148	32130	1871.625	1871.625	2.647	H1-1b
27	TB039	PIPE_2.0	0.298	58.807	13	0.005	117.614		37	10239.789	32130	1871.625	1871.625	1.136	H1-1a
28	TB040	PIPE_2.0	0.052	46.861	19	0.002	46.861		28	26760.99	32130	1871.625	1871.625	1.136	H1-1b*

EBI Consulting

environmental | engineering | due diligence

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

T-Mobile Existing Facility

Site ID: CTHA811A

185 Fisk Road
Hampton, Connecticut 06247

September 23, 2021

EBI Project Number: 6221005548

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**17.40%**

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

September 23, 2021

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

Emissions Analysis for Site: CTHA811A

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **185 Fisk Road** in **Hampton, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu W/cm^2$). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 185 Fisk Road in Hampton, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower. For power density calculations, the broadcast footprint of the AIR6449 antenna has been considered. Due to the beamforming nature of this antenna, the actual beam locations vary depending on demand and are narrow in nature. Using the broadcast footprint accounts for the potential location of beams at any given time.

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

1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.

3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

5) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 1 LTE Traffic channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.

8) 1 LTE Broadcast channel (LTE 1C and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.

9) 1 NR Traffic channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 120 Watts.

10) 1 NR Broadcast channel (BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 40 Watts.

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

12) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

13) The antennas used in this modeling are the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector A, the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector B, the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied

specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

14) The antenna mounting height centerline of the proposed antennas is 155 feet above ground level (AGL).

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

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd / 16.45 dBd
Height (AGL):	155 feet	Height (AGL):	155 feet	Height (AGL):	155 feet
Channel Count:	13	Channel Count:	13	Channel Count:	13
Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts	Total TX Power (W):	560 Watts
ERP (W):	17,868.72	ERP (W):	17,868.72	ERP (W):	17,868.72
Antenna A1 MPE %:	**3.82%**	Antenna B1 MPE %:	**3.82%**	Antenna C1 MPE %:	**3.82%**
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz
Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd	Gain:	22.65 dBd / 17.3 dBd / 22.65 dBd / 17.3 dBd
Height (AGL):	155 feet	Height (AGL):	155 feet	Height (AGL):	155 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	36,356.09	ERP (W):	36,356.09	ERP (W):	36,356.09
Antenna A2 MPE %:	**5.89%**	Antenna B2 MPE %:	**5.89%**	Antenna C2 MPE %:	**5.89%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	9.71%
Nextel	0.24%
Verizon	1.79%
AT&T	5.33%
T-Mobile (Existing)	0.33%
Site Total MPE % :	17.40%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	9.71%
T-Mobile Sector B Total:	9.71%
T-Mobile Sector C Total:	9.71%
Site Total MPE % :	17.40%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 600 MHz LTE	2	591.73	155.0	1.92	600 MHz LTE	400	0.48%
T-Mobile 600 MHz NR	1	1577.94	155.0	2.56	600 MHz NR	400	0.64%
T-Mobile 700 MHz LTE	2	695.22	155.0	2.25	700 MHz LTE	467	0.48%
T-Mobile 1900 MHz GSM	4	1052.26	155.0	6.82	1900 MHz GSM	1000	0.68%
T-Mobile 1900 MHz LTE	2	2104.51	155.0	6.82	1900 MHz LTE	1000	0.68%
T-Mobile 2100 MHz LTE	2	2649.42	155.0	8.58	2100 MHz LTE	1000	0.86%
T-Mobile 2500 MHz LTE 1C & 2C Traffic	1	11044.63	155.0	17.89	2500 MHz LTE 1C & 2C Traffic	1000	1.79%
T-Mobile 2500 MHz LTE 1C & 2C Broadcast	1	1074.06	155.0	1.74	2500 MHz LTE 1C & 2C Broadcast	1000	0.17%
T-Mobile 2500 MHz NR Traffic	1	22089.26	155.0	35.77	2500 MHz NR Traffic	1000	3.58%
T-Mobile 2500 MHz NR Broadcast	1	2148.13	155.0	3.48	2500 MHz NR Broadcast	1000	0.35%
						Total:	**9.71%**

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

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	9.71%
Sector B:	9.71%
Sector C:	9.71%
T-Mobile Maximum MPE % (Sector A):	9.71%
Site Total:	17.40%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **17.40%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.