

1 INDUSTRIAL AVE,
STATE 3
MIDWAH NJ 07430
PHONE: 201.684.0055
FAX: 201.684.0066



September 2, 2021

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

RE: Notice of Exempt Modification
77 Town Farm Road, Enfield, CT 06082
Latitude: 41.965917
Longitude: -72.552700
T-Mobile Site#: CT11534A - Anchor/L600

Dear Ms. Bachman:

T-Mobile currently maintains nine (9) antennas at the 140' level of the 150' monopole located at 77 Town Farm Road in Enfield, CT. The monopole is owned by American Tower and the property is owned by the Town of Enfield. T-Mobile now intends to replace nine (9) of its existing antennas with nine (9) L700/L600/N600/L1900/L2100/U2100/L2500/N2500 antennas. The new antennas would be installed at the same 140' level of the tower. The new antennas support 5G services.

Planned Modifications:

Tower:

Install New:

- (3) Ericsson AIR6449 B41 Antennas
- (3) RFS APXVAALL24 43-U-NA20 Antennas
- (3) RFS APX16DWV-16DWV-S-E-A20 Antennas
- (3) Radio 4449 B71 B85
- (3) Radio 4424 B25A
- (3) SDX 1926Q-43 Diplexers
- (3) 1 5/8" Hybrid Cables

To Be Removed:

- (6) Ericsson AIR21 KRC118023-1 Antennas
- (3) LNX-6515DS-A1M Antennas
- (3) KRY 112 114/1

(3) RRU11 B21
(1) 1 5/8" Hybrid Cable

To Remain:

(6) 1 5/8" Coax Cables

Ground Work:

Remove (1) S8000 Cabinet, (1) DUW30, (6) RU22s

Install (1) 6160 Equipment Cabinet and (2) BB6648

This facility was approved by the Connecticut Siting Council in Docket No. 51 on September 26, 1985. The Docket is attached. None of the modifications break the conditions given.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to Mayor Michael Ludwick, Elected Official, and The Planning and Zoning Department of Madison, as well as the property and tower owner.

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

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

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

Sincerely,

Eric Breun

Transcend Wireless

Cell: 201-658-7728

Email: ebreun@transcendwireless.com

Attachments

cc: Michael Ludwick - Mayor of Enfield

Laurie Whitten - CZEO

Town of Enfield - Property Owner

American Towers - Tower Owner

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

1 LBS

1 OF 1

SHIP TO:
CZEO LAURIE WHITTEN
820 ENFIELD STREET
ENFIELD CT 06082



CT 060 9-01



UPS GROUND

TRACKING #: 1Z V25 742 03 9412 8260



BILLING: P/P

Reference #1: CT11534A

XOL 21.07.05 NV45 35.0A 08/2021*



TM

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

1 LBS

1 OF 1

SHIP TO:
MAYOR MICHAEL LUDWICK
16 SILVER LANE
ENFIELD CT 06082



CT 060 9-01



UPS GROUND

TRACKING #: 1Z V25 742 03 9734 5261



BILLING: P/P

Reference #1: CT11534A

XOL 21.07.05 NV45 35.0A 08/2021*



TM

ERIC BREUN
2016587728
10 INDUSTRIAL AVE
MAHWAH NJ 07430

1 LBS

1 OF 1

SHIP TO:
CONTACTS MANAGEMENT
AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBURN MA 01801

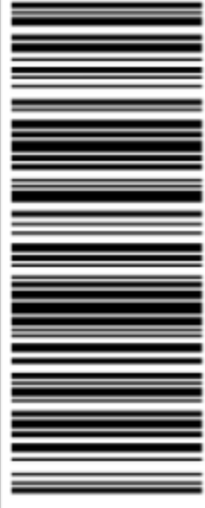


MA 018 9-04



UPS GROUND

TRACKING #: 1Z V25 742 03 9789 5275



BILLING: P/P

Reference #1: CT11534A

XOL 21.07.05 NV45 35.04 08/2021*



TM

Hello, your package has been delivered.

Delivery Date: Wednesday, 09/01/2021

Delivery Time: 10:50 AM

Left At: OTHER-RELEAS

Experience UPS My Choice® Premium Today

Be in total control of how, when and where your packages are delivered.

Upgrade to Premium Now



- Set Delivery Instructions
- Manage Preferences
- View My Packages

TRANSCEND WIRELESS

Tracking Number:	1ZV257420397345261
Ship To:	MAYOR MICHAEL LUDWICK 16 SILVER LANE ENFIELD, CT 06082 US
Number of Packages:	1
UPS Service:	UPS Ground
Package Weight:	1.0 LBS
Reference Number:	CT11534A

Hello, your package has been delivered.

Delivery Date: Wednesday, 09/01/2021

Delivery Time: 12:27 PM

Left At: RECEPTION

Signed by: RECEPTION

TRANSCEND WIRELESS

Tracking Number: [1ZV257420394128260](#)

Ship To: CZELO LAURIE WHITTEN
820 ENFIELD STREET
ENFIELD, CT 06082
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: CT11534A

Hello, your package has been delivered.

Delivery Date: Wednesday, 09/01/2021

Delivery Time: 3:27 PM

Left At: INSIDE DELIV

Signed by: ANCRI

TRANSCEND WIRELESS

Tracking Number: [1ZV257420397895275](#)

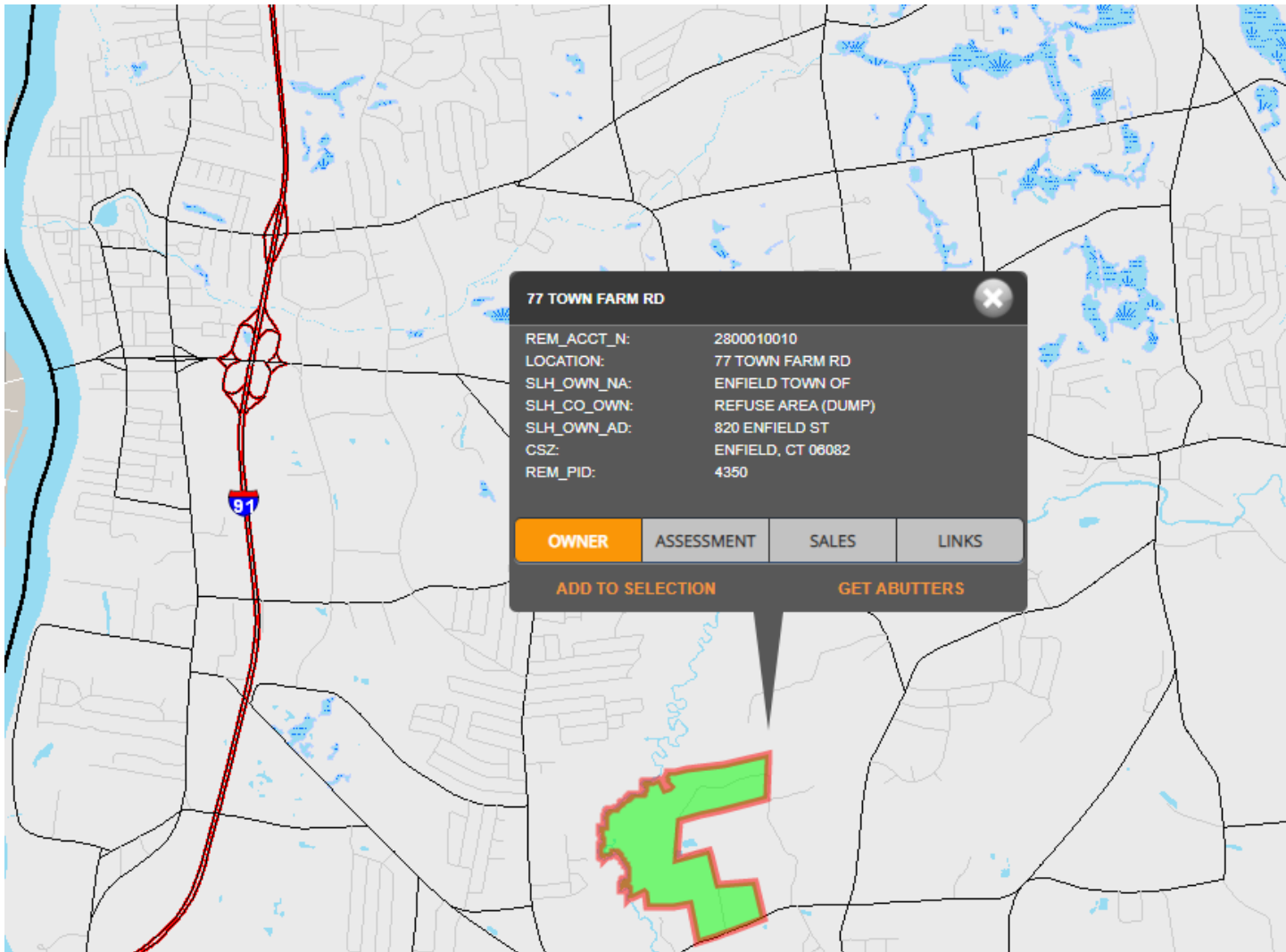
Ship To: AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBBURN, MA 01801
US

Number of Packages: 1

UPS Service: UPS Ground

Package Weight: 1.0 LBS

Reference Number: CT11534A



77 TOWN FARM RD

Sales

Print

Map It

Location

77 TOWN FARM RD

Mblu

071 / / 0003 / /

Acct#

002800010010

Owner

ENFIELD TOWN OF

Assessment

\$1,329,970

Appraisal

\$1,899,950

PID

4350

Building Count

2

Fire District

1

Current Value

Appraisal			
Valuation Year	Improvements	Land	Total
2020	\$802,530	\$1,097,420	\$1,899,950
Assessment			
Valuation Year	Improvements	Land	Total
2020	\$561,770	\$768,200	\$1,329,970

Owner of Record

Owner

ENFIELD TOWN OF

Sale Price

\$0

Co-Owner

REFUSE AREA (DUMP)

Certificate

1

Address

820 ENFIELD ST

Book & Page

0000/0000

ENFIELD, CT 06082

Sale Date

Instrument

Ownership History

Ownership History					
Owner	Sale Price	Certificate	Book & Page	Instrument	Sale Date
ENFIELD TOWN OF	\$0	1	0000/0000		

Building Information

Building 1 : Section 1

Year Built: 1970
Living Area: 160
Replacement Cost: \$7,069
Building Percent Good: 56
Replacement Cost
Less Depreciation: \$3,960

Building Attributes	
Field	Description
Style:	Job Shop
Model	Ind/Comm
Grade	Minimum
Stories:	1
Occupancy	1.00
Exterior Wall 1	Pre-finish Metl
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Metal/Tin
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Minimum/Plywd
Interior Floor 2	
Heating Fuel	Electric
Heating Type	Electr Basebrd
AC Type	None
Struct Class	
Bldg Use	Exempt Comm
Total Rooms	
Total Bedrms	
Total Baths	
Total H Bths	
Extra Fixtures	
1st Floor Use:	
Heat/AC	
Frame Type	Steel

Baths/Plumbing	None
Ceiling/Wall	Ceil Walls
Rooms/Prtns	Average
Wall Height	7.00
% Conn Wall	

Building Photo



Building Layout



Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	160	160
		160	160

Building 2 : Section 1

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use	Land Line Valuation
Use Code 930	Size (Acres) 173.60
Description Exempt Ind ⓘ	Frontage 1513
Zone R88	Depth
Neighborhood C500	Assessed Value \$768,200
Alt Land Appr No	Appraised Value \$1,097,420
Category	

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
SHD1	Shed	MS	Masonry	100.00 S.F.	\$820	1
SCL2	SCALES-ELECT			60.00 TONS	\$23,100	1
TWR2	Cell Twr 2 Carriers			1.00 UNITS	\$206,250	2
SHD1	Shed	MS	Masonry	140.00 S.F.	\$1,760	1
TWR4	Cell Twr4 Carriers			1.00 UNITS	\$562,500	2
FN3	FENCE-8' CHAIN			256.00 L.F.	\$4,140	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2019	\$802,530	\$1,097,420	\$1,899,950
2018	\$802,530	\$1,097,420	\$1,899,950
2017	\$802,530	\$1,097,420	\$1,899,950

Assessment			
Valuation Year	Improvements	Land	Total
2019	\$561,770	\$768,200	\$1,329,970
2018	\$561,770	\$768,200	\$1,329,970
2017	\$561,770	\$768,200	\$1,329,970

AN APPLICATION SUBMITTED BY THE SOUTHERN NEW ENGLAND TELEPHONE COMPANY FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE, AND OPERATION OF FACILITIES TO PROVIDE CELLULAR SERVICE IN HARTFORD AND MIDDLESEX COUNTIES.	:	CONNECTICUT SITING COUNCIL September 26, 1985
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D E C I S I O N A N D O R D E R

Pursuant to the foregoing opinion, the Council hereby directs that a certificate of environmental compatibility and public need as required by section 16-50k of the General Statutes of Connecticut be issued to Southern New England Telephone Company (SNET) for the construction, operation, and maintenance of a telecommunications tower and associated equipment building to provide cellular service at sites in Old Saybrook and Enfield, Connecticut.

The facilities shall be constructed, operated, and maintained as specified in this matter, and subject to the following conditions:

1. The towers shall be no taller than necessary to provide the proposed service, and in no event shall exceed
 - a) 150' at the Old Saybrook site; and
 - b) 150' at the Enfield site;
2. A fence not lower than eight feet shall surround each tower and its associated equipment building;
3. The applicant or its successor shall notify the Council if and when directional antennas or any other equipment is added to any of these facilities;
4. The applicant or its successor shall permit, in accordance with representations made by it during the proceeding, public or private entities to share space on the facilities, for due

consideration received, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing;

5. The facilities shall be constructed in accordance with all applicable federal, state, and municipal laws and regulations;
6. The applicant shall submit a development and management plan (D&M) for the Old Saybrook site pursuant to sections 16-50j-75 through 16-50j-77 of the regulations of state agencies, except that irrelevant items in section 16-50j-76 need only be identified as such. The D&M plan shall include erosion control measures, reseeding plans, and tree removal plans. The applicant shall comply with the reporting requirements of section 16-50j-77 for both sites;
7. Construction activities shall take place during daylight working hours;
8. This decision and order shall be void and the towers and associated equipment approved herein shall be dismantled and removed, or reapplication for any new use shall be made to the Connecticut Siting Council before any such new use is made, if the towers do not provide or permanently cease to provide cellular service following completion of construction;
9. This decision and order shall be void if all construction authorized is not completed within three years of the issuance of this decision.

Pursuant to section 16-50p of the General Statutes, we hereby direct that a copy of the opinion and decision and order be served on each person listed below. A notice of the issuance shall be published in the

Hartford Courant, the Middletown Press, and the Old Saybrook Pictorial.

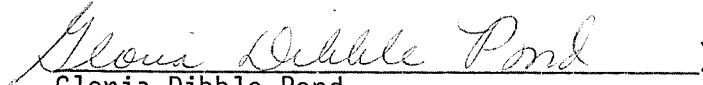
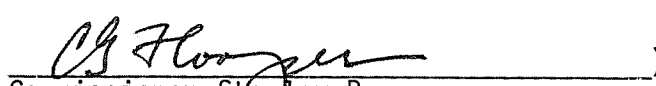
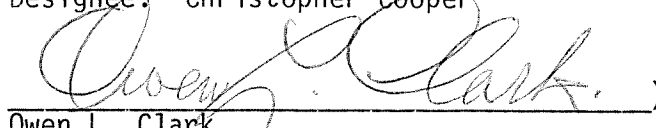
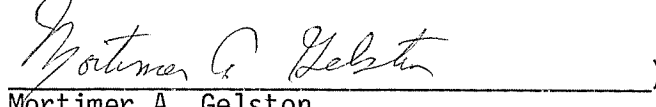
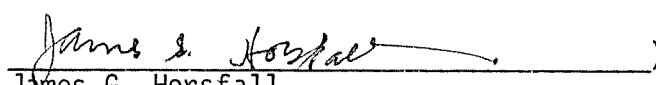
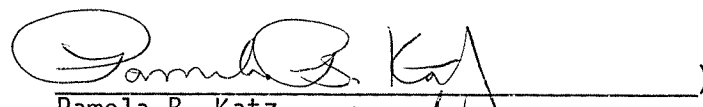
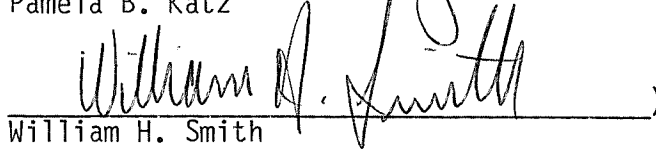
The parties to this proceeding are

Southern New England Telephone Company	(Applicant)
227 Church Street	
New Haven, Connecticut 06506	
Attn: Peter J. Tyrrell	
Senior Attorney	
Room 314	

C E R T I F I C A T I O N

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case or read the record thereof, and that we voted as follows:

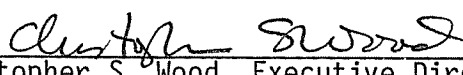
Dated at New Britain, Connecticut, this 26th day of September, 1985.

<u>Council Members</u>	<u>Vote Cast</u>
 Gloria Dibble Pond Chairperson	Yes
 Commissioner John Downey Designee: Commissioner Peter G. Boucher	Absent
 Commissioner Stanley Pac Designee: Christopher Cooper	Yes
 Owen L. Clark	Yes
 Mortimer A. Gelston	Yes
 James G. Horsfall	Yes
 Pamela B. Katz	Yes
 William H. Smith	Yes
 Colin C. Tait	Absent

STATE OF CONNECTICUT)
 :
COUNTY OF HARTFORD) ss. New Britain, September 26, 1985

I hereby certify that the foregoing is a true and correct copy of the decision and order issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:



Christopher S. Wood, Executive Director
Connecticut Siting Council



ATC SITE NAME: ENFD - ENFIELD
ATC SITE NUMBER: 302489
T-MOBILE SITE NAME: CT534/SPECTRASITE ENFIELD
T-MOBILE SITE NUMBER: CT11534A
SITE ADDRESS: 77 TOWN FARM ROAD
ENFIELD, CT 06082-5152



T-MOBILE ANCHOR ANTENNA AMENDMENT PLAN

67D5A998C CONFIGURATION

[illegible]

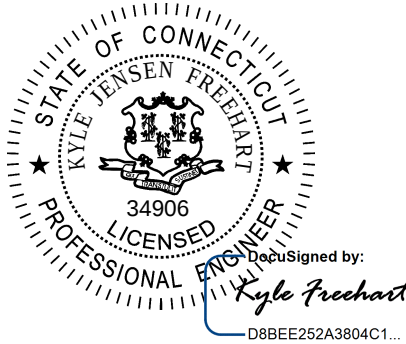
Kimley»Horn

COA: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
<u>A</u>	PRELIM	BLM	06/10/21
<u>0</u>	ISSUED FOR CONSTRUCTION	RCG	07/12/21
<u>1</u>	REVISED PER CLIENT	NJ	08/10/21
<u> </u>			
<u> </u>			

ATC SITE NUMBER:
302489
ATC SITE NAME:
ENFD - ENFIELD
T-MOBILE SITE NAME:
CT534/SPECTRASITE ENFIELD
SITE ADDRESS:
77 TOWN FARM ROAD
ENFIELD, CT 06082-5152

SEAL:



T-Mobile®

DATE DRAWN:	08/10/21
ATC JOB NO:	13678283
CUSTOMER ID:	CT534/SPECTRASITE ENFIELD
CUSTOMER #:	CT11534A

TITLE SHEET

SHEET NUMBER: G-001	REVISION: 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 NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE 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 OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.

B. INSTALL ANTENNA AS INDICATED 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:

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

ii. 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.
-
- Kimley»Horn
- COA: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601
- | REV. | DESCRIPTION | BY | DATE |
|------|-------------------------|-----|----------|
| A | PRELIM | BLM | 06/10/21 |
| D | ISSUED FOR CONSTRUCTION | RCG | 07/12/21 |
| 1 | REVISED PER CLIENT | NJ | 08/10/21 |
| | | | |
| | | | |
- ATC SITE NUMBER:
302489
ATC SITE NAME:
ENFD - ENFIELD
T-MOBILE SITE NAME:
CT534/SPECTRASITE ENFIELD
SITE ADDRESS:
77 TOWN FARM ROAD
ENFIELD, CT 06082-5152
-
- T-Mobile
- | | |
|--------------|---------------------------|
| DATE DRAWN: | 08/10/21 |
| ATC JOB NO: | 13678283 |
| CUSTOMER ID: | CT534/SPECTRASITE ENFIELD |
| CUSTOMER #: | CT11534A |
- GENERAL NOTES
- SHEET NUMBER:
G-002
REVISION:
1
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SITE PLAN NOTES:

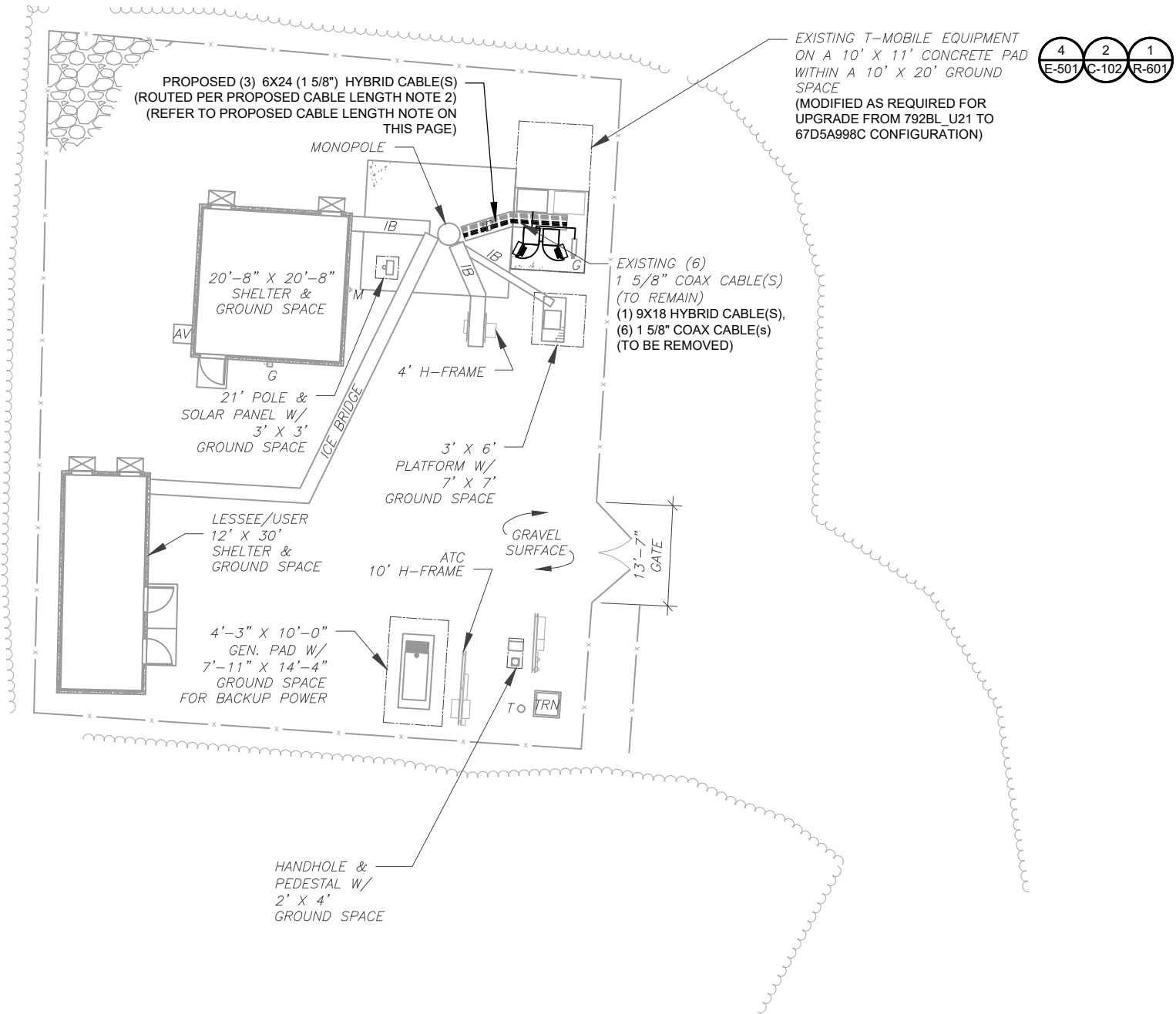
1.

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 PROJECT INCLUDES NO INSTALL OR MODIFICATION AT GRADE.

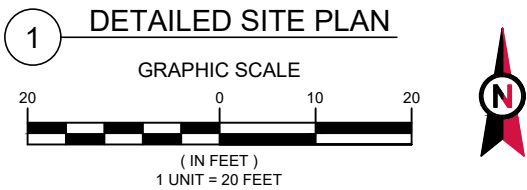
LEGEND	
⊗	GROUNDING TEST WELL
ATS	AUTOMATIC TRANSFER SWITCH
B	BOLLARD
CSC	CELL SITE CABINET
D	DISCONNECT
E	ELECTRICAL
F	FIBER
GEN	GENERATOR
G	GENERATOR RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
— x —	CHAINLINK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



- PROPOSED CABLE LENGTH:**
1.

ESTIMATED LENGTH OF PROPOSED CABLE IS **178'**. 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. 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.



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RALEIGH, NC 27601

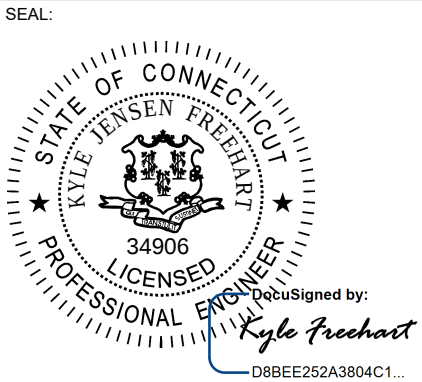
REV.	DESCRIPTION	BY	DATE
A	PRELIM	BLM	06/10/21
B	ISSUED FOR CONSTRUCTION	RCG	07/12/21
C	REVISED PER CLIENT	NJ	08/10/21
D			
E			

ATC SITE NUMBER:
302489

ATC SITE NAME:
ENFD - ENFIELD

T-MOBILE SITE NAME:
CT534/SPECTRASITE ENFIELD

SITE ADDRESS:
77 TOWN FARM ROAD
ENFIELD, CT 06082-5152



T-Mobile

DATE DRAWN:	08/10/21
ATC JOB NO:	13678283
CUSTOMER ID:	CT534/SPECTRASITE ENFIELD
CUSTOMER #:	CT11534A

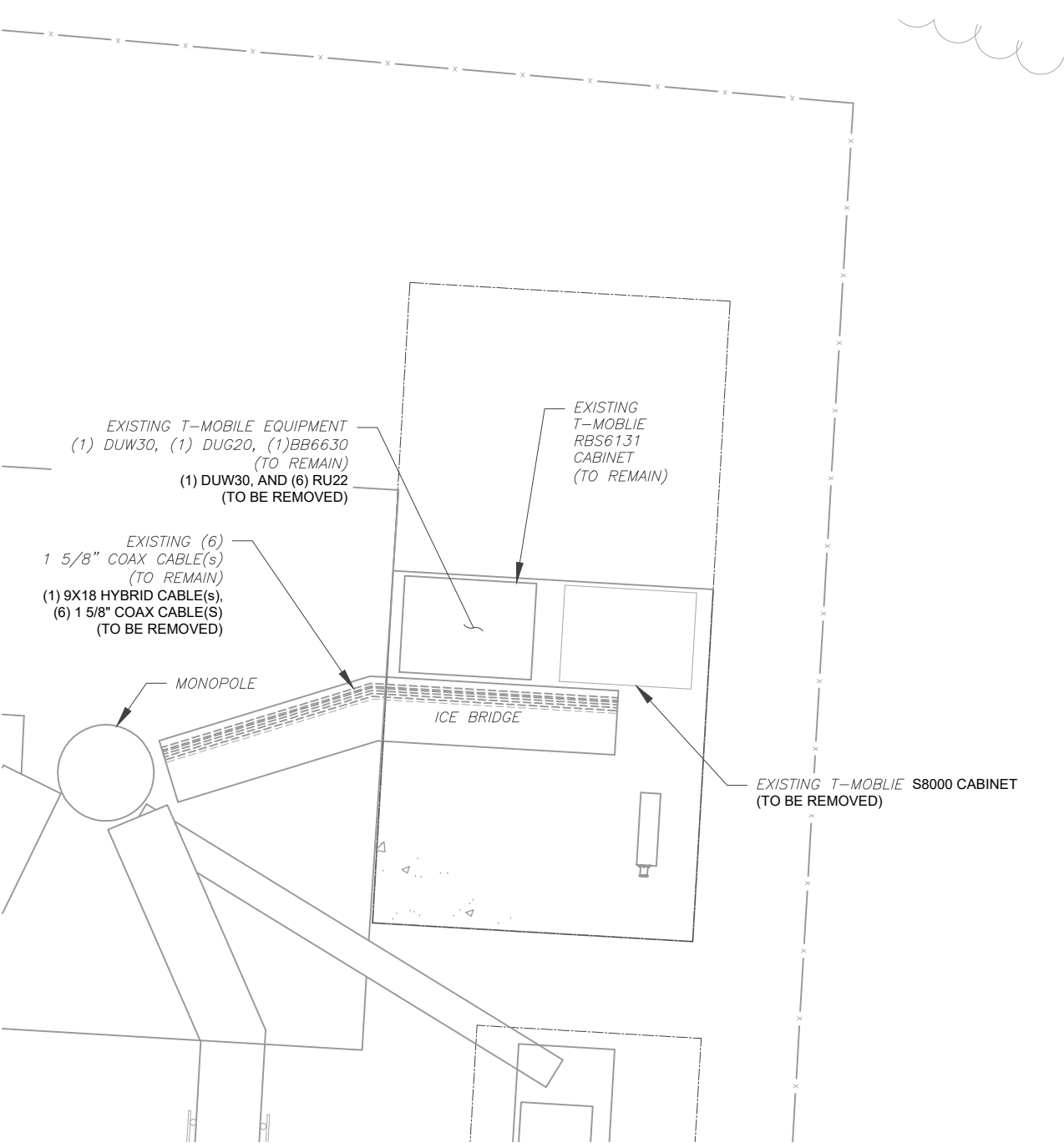
DETAILED SITE PLAN

SHEET NUMBER:
C-101

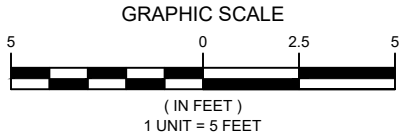
REVISION:
1

SITE PLAN NOTES:

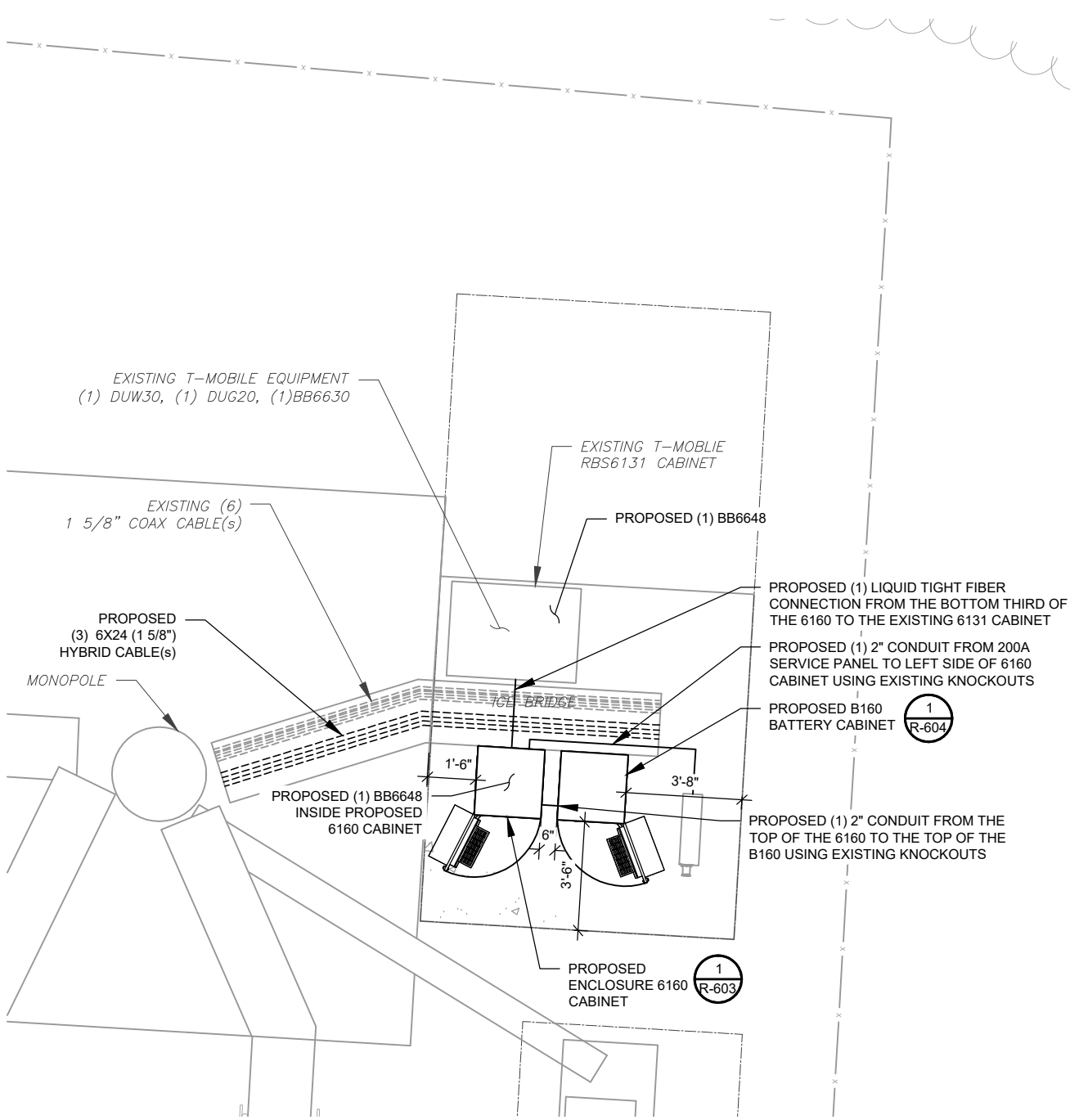
1. CONTRACTOR TO VERIFY THERE IS NO LIVE AAV FIBER RUNNING THROUGH EXISTING DEAD EQUIPMENT. IF SO, THIS WILL NEED TO BE RERUN THROUGH CONDUIT PRIOR TO REMOVING DEAD 2G (6201 CABS) EQUIPMENT.
2. REMOVE EXISTING 2G CABINETS, AND POWER / TELCO WHIPS ASSOCIATED WITH THE DEAD EQUIPMENT IF APPLICABLE.
3. ALL 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.



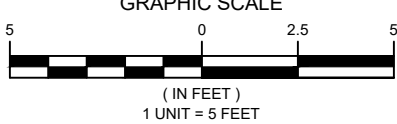
1 EXISTING GROUND EQUIPMENT LAYOUT



T-MOBILE CM APPROVAL REQUIRED
BEFORE INSTALLING CABINETS



2 PROPOSED GROUND EQUIPMENT LAYOUT

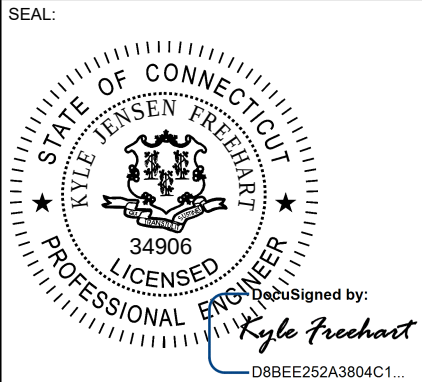


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COA: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
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REV.	DESCRIPTION	BY	DATE
A	PRELIM	RCG	06/10/21
0	ISSUED FOR CONSTRUCTION	RCG	07/12/21
1	REVISED PER CLIENT	NJ	08/10/21

ATC SITE NUMBER:
302489
ATC SITE NAME:
ENFD - ENFIELD
T-MOBILE SITE NAME:
CT534/SPECTRASITE ENFIELD
SITE ADDRESS:
77 TOWN FARM ROAD
ENFIELD, CT 06082-5152



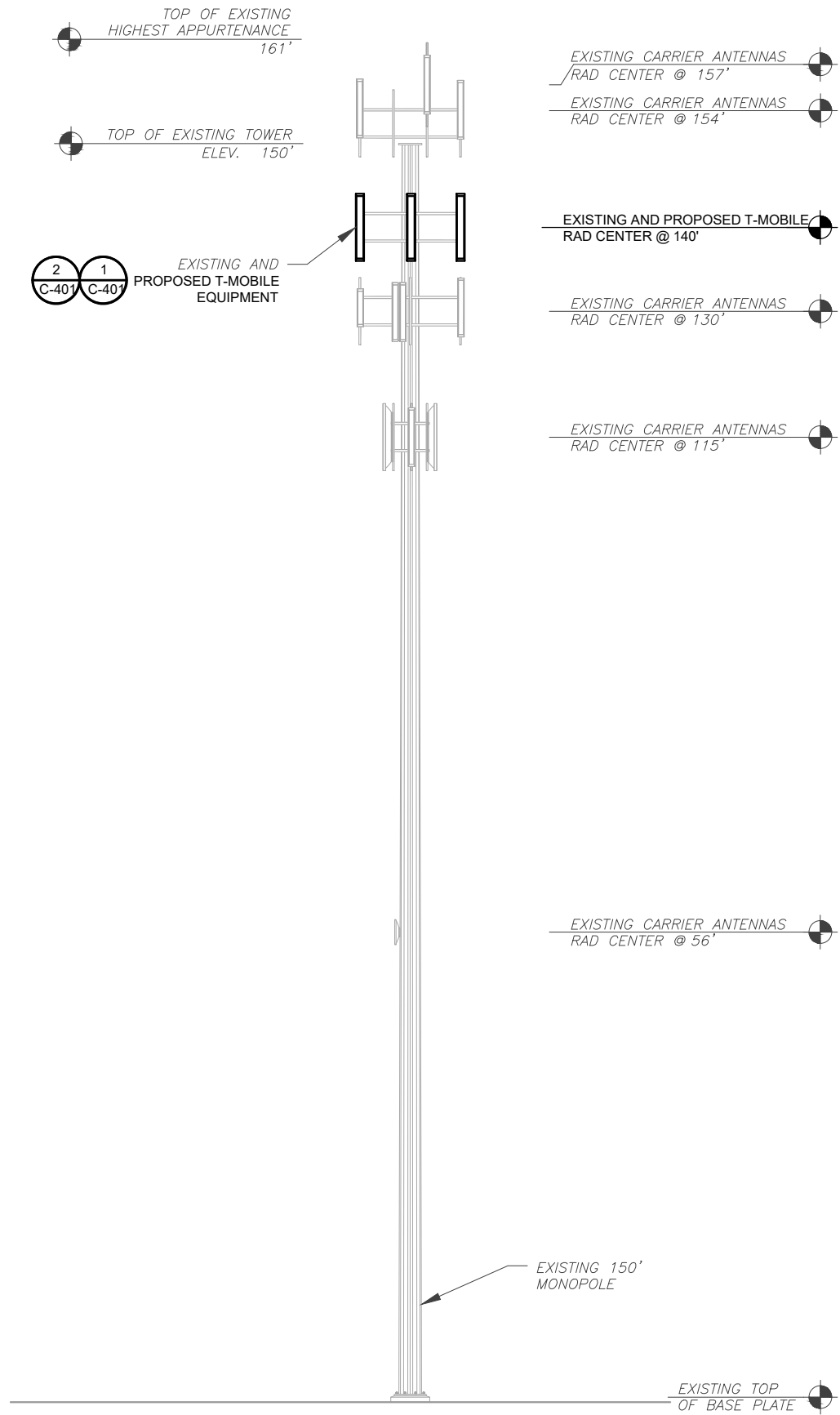
T-Mobile

DATE DRAWN:	08/10/21
ATC JOB NO:	13678283
CUSTOMER ID:	CT534/SPECTRASITE ENFIELD
CUSTOMER #:	CT11534A

DETAILED GROUND
PLAN

SHEET NUMBER:
C-102

REVISION:
1



1 TOWER ELEVATION
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY TOWER ENGINEERING PROFESSIONALS, DATED 06/23/21, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.

- TOWER NOTE:**
- 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.
 - 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.
 - 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.
 - TOWER ELEVATIONS ARE MEASURED FROM TOP OF BASE PLATE TO MATCH STRUCTURAL ANALYSIS. ELEVATIONS DO NOT REFLECT TRUE ABOVE GROUND LEVEL (A.G.L.)

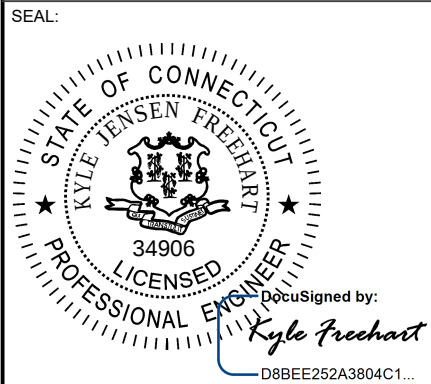


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REV.	DESCRIPTION	BY	DATE
A	PRELIM	RCG	06/10/21
0	ISSUED FOR CONSTRUCTION	RCG	07/12/21
1	REVISED PER CLIENT	NJ	08/10/21

ATC SITE NUMBER:
302489
ATC SITE NAME:
ENFD - ENFIELD
T-MOBILE SITE NAME:
CT534/SPECTRASITE ENFIELD
SITE ADDRESS:
77 TOWN FARM ROAD
ENFIELD, CT 06082-5152

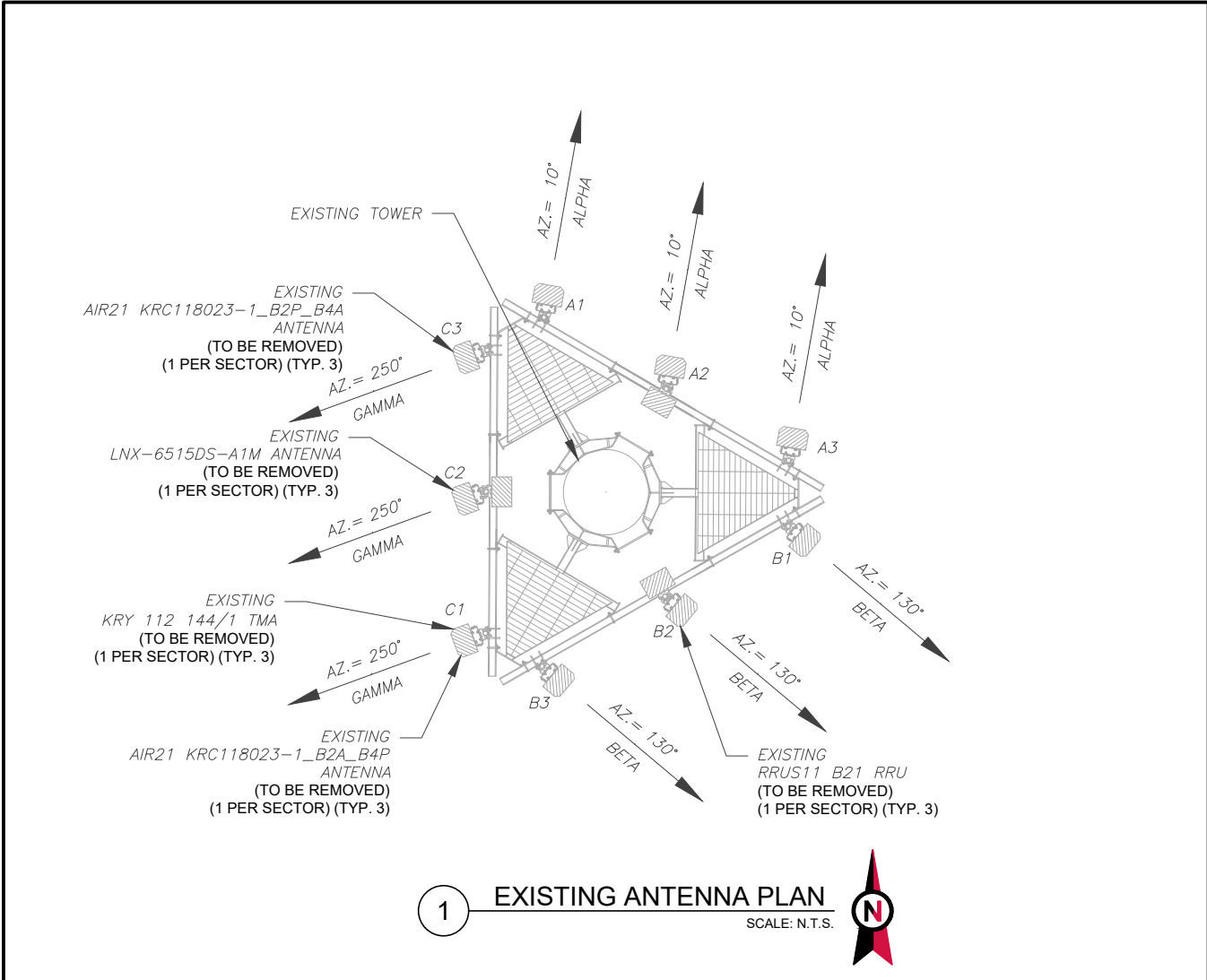


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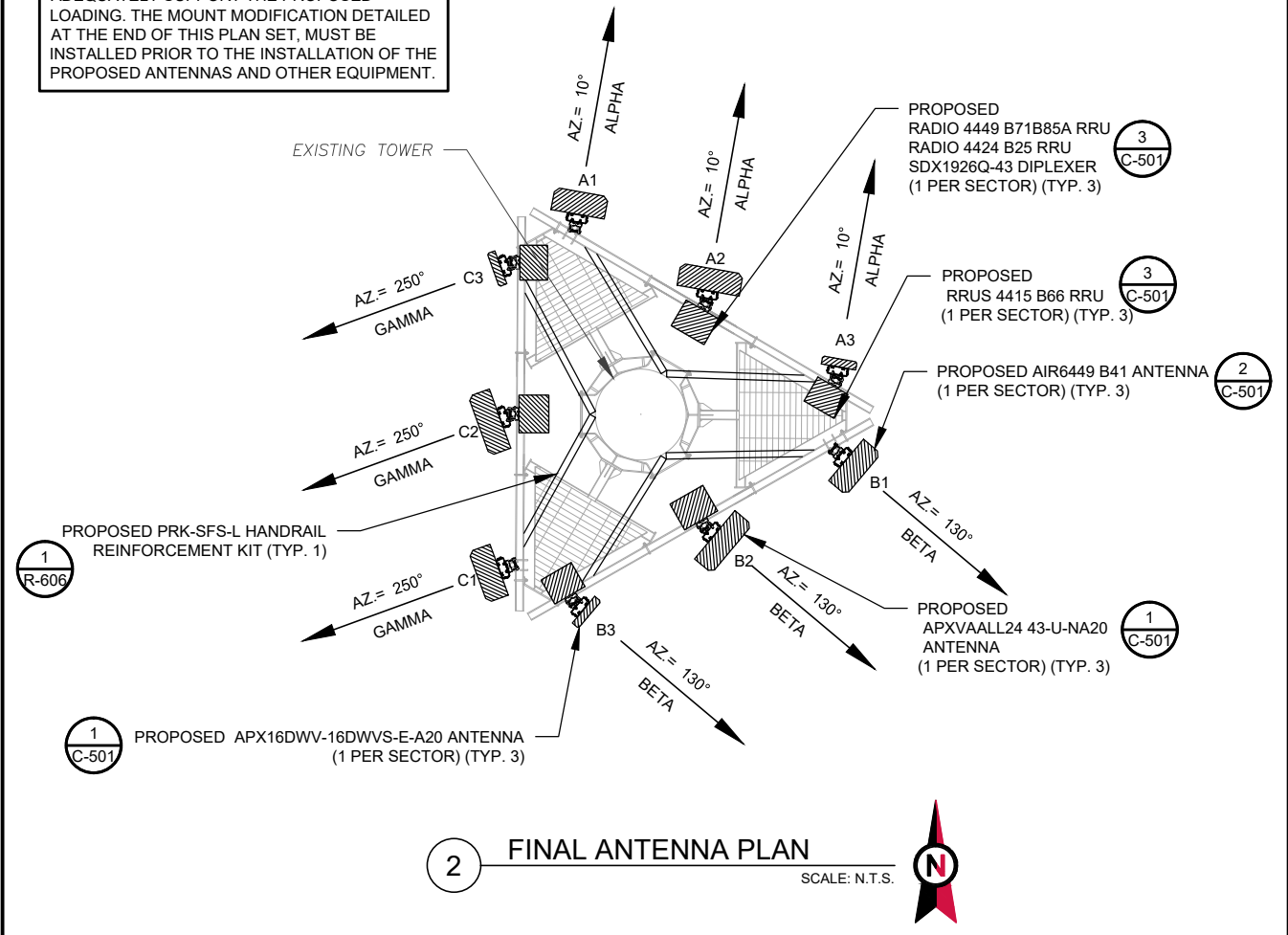
DATE DRAWN:	08/10/21
ATC JOB NO:	13678283
CUSTOMER ID:	CT534/SPECTRASITE ENFIELD
CUSTOMER #:	CT11534A

TOWER ELEVATION

SHEET NUMBER: C-201	REVISION: 1
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PER MOUNT ANALYSIS COMPLETED BY TOWER ENGINEERING PROFESSIONALS, DATED 06/23/21, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION DETAILED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.



EXISTING ANTENNA SCHEDULE								
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY	
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT
ALPHA	140'	10°	A1	AIR21 KRC118023-1_B2A_B4P	L1900/G1900/U2100	0°/2°	RMV	KRY 112 144/1
			A2	LNK-6515DS-A1M	L700	0°/2°	RMV	RRUS11 B21 RRU
			A3	AIR21 KRC118023-1_B2P_B4A	L2100	0°/2°	RMV	-
BETA	140'	130°	A1	AIR21 KRC118023-1_B2A_B4P	L1900/G1900/U2100	0°/2°	RMV	KRY 112 144/1
			A2	LNK-6515DS-A1M	L700	0°/2°	RMV	RRUS11 B21 RRU
			A3	AIR21 KRC118023-1_B2P_B4A	L2100	0°/2°	RMV	-
GAMMA	140'	250°	A1	AIR21 KRC118023-1_B2A_B4P	L1900/G1900/U2100	0°/2°	RMV	KRY 112 144/1
			A2	LNK-6515DS-A1M	L700	0°/2°	RMV	RRUS11 B21 RRU
			A3	AIR21 KRC118023-1_B2P_B4A	L2100	0°/2°	RMV	-

- NOTES
- CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
 - CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
 - ROUTE HYBRID JUMPERS TO AVOID DAMAGE FROM BEING STEPPED UPON.
- 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
ALPHA	140'	10°	A1	AIR6449 B41	L2500/N2500	-	ADD	-
			A2	APXVAALL24_43-U-NA20	L700/L600/N600/L1900/G1900/U2100/L1900/G1900	-	ADD	RADIO 4449 B71 B85 RADIO 4424 B25A SDX1926Q-43
			A3	APX16DWV-16WV-S-E-A20	L2100	-	ADD	RADIO 4415 B66
BETA	140'	130°	B1	AIR6449 B41	L2500/N2500	-	ADD	-
			B2	APXVAALL24_43-U-NA20	L700/L600/N600/L1900/G1900/U2100/L1900/G1900	-	ADD	RADIO 4449 B71 B85 RADIO 4424 B25A SDX1926Q-43
			B3	APX16DWV-16WV-S-E-A20	L2100	-	ADD	RADIO 4415 B66
GAMMA	140'	250°	C1	AIR6449 B41	L2500/N2500	-	ADD	-
			C2	APXVAALL24_43-U-NA20	L700/L600/N600/L1900/G1900/U2100/L1900/G1900	-	ADD	RADIO 4449 B71 B85 RADIO 4424 B25A SDX1926Q-43
			C3	APX16DWV-16WV-S-E-A20	L2100	-	ADD	RADIO 4415 B66

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	(6) 1 5/8"	(1) 9X18 (1 5/8")	RMV
-	-	(6) 1 5/8"	-	RMN

3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	(6) 1 5/8"	(3) 6X24 (1 5/8")	ADD
-	-	(6) 1 5/8"	-	RMN



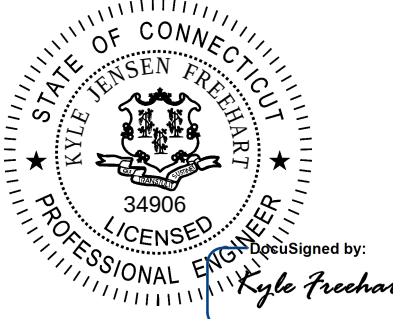
Kimley»Horn

COA: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
A	PRELIM	BLM	06/10/21
B	ISSUED FOR CONSTRUCTION	RCG	07/12/21
C	REVISED PER CLIENT	NJ	08/10/21

ATC SITE NUMBER:
302489
ATC SITE NAME:
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T-MOBILE SITE NAME:
CT534/SPECTRASITE ENFIELD
SITE ADDRESS:
77 TOWN FARM ROAD
ENFIELD, CT 06082-5152

SEAL:



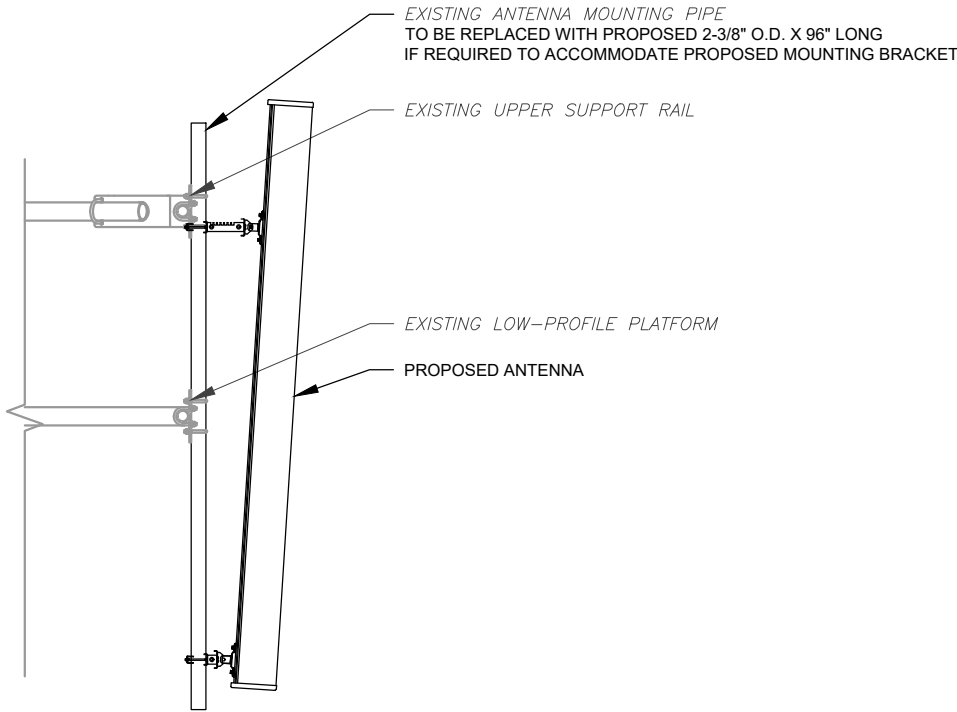
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Kyle Freehart
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T-Mobile

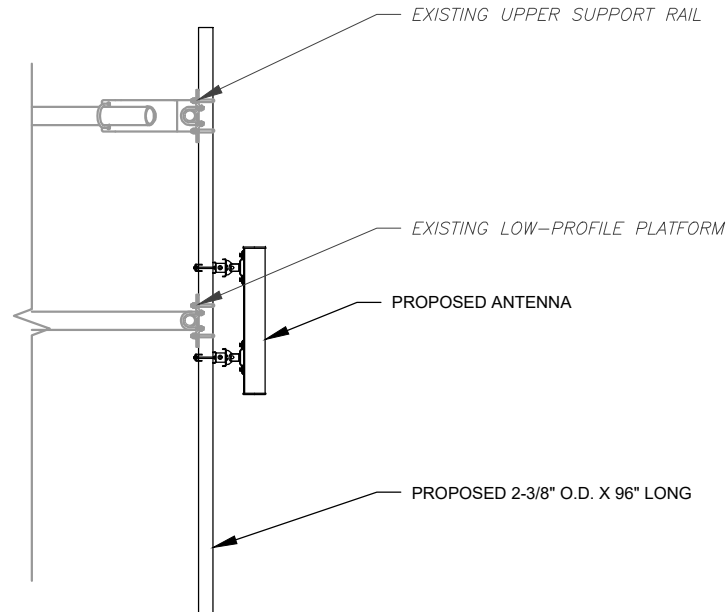
DATE DRAWN:	08/10/21
ATC JOB NO:	13678283
CUSTOMER ID:	CT534/SPECTRASITE ENFIELD
CUSTOMER #:	CT11534A

ANTENNA INFORMATION & SCHEDULE

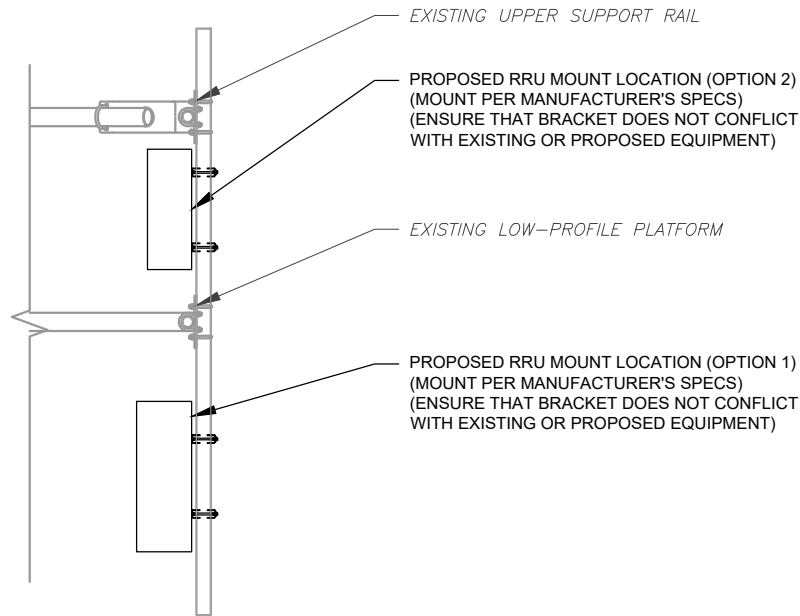
SHEET NUMBER: C-401	REVISION: 1
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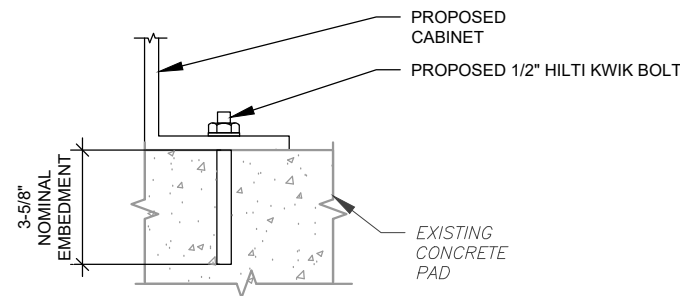
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



2 PROPOSED 5G ANTENNA MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



3 PROPOSED RRU MOUNTING DETAIL - TYPICAL
SCALE: N.T.S.



NOTE:
INSTALL HILTI KWIK BOLT ANCHORS STRICTLY PER
INSTALLATION INSTRUCTIONS INCLUDED WITH PRODUCT OR
FOUND ONLINE AT WWW.US.HILTI.COM. PROPER
INSTALLATION IS CRITICAL FOR FULL PERFORMANCE.

4 CABINET ATTACHMENT DETAIL
SCALE: NOT TO SCALE

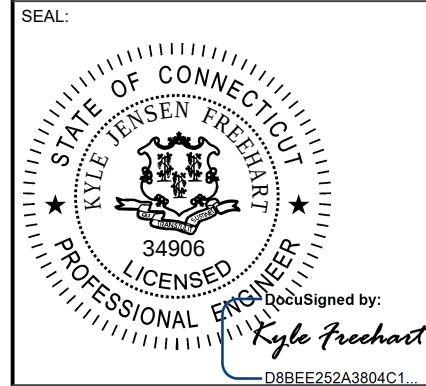


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COA: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
A	PRELIM	BLM	06/10/21
0	ISSUED FOR CONSTRUCTION	RCG	07/12/21
1	REVISED PER CLIENT	NJ	08/10/21

ATC SITE NUMBER:
302489
ATC SITE NAME:
ENFD - ENFIELD
T-MOBILE SITE NAME:
CT534/SPECTRASITE ENFIELD
SITE ADDRESS:
77 TOWN FARM ROAD
ENFIELD, CT 06082-5152

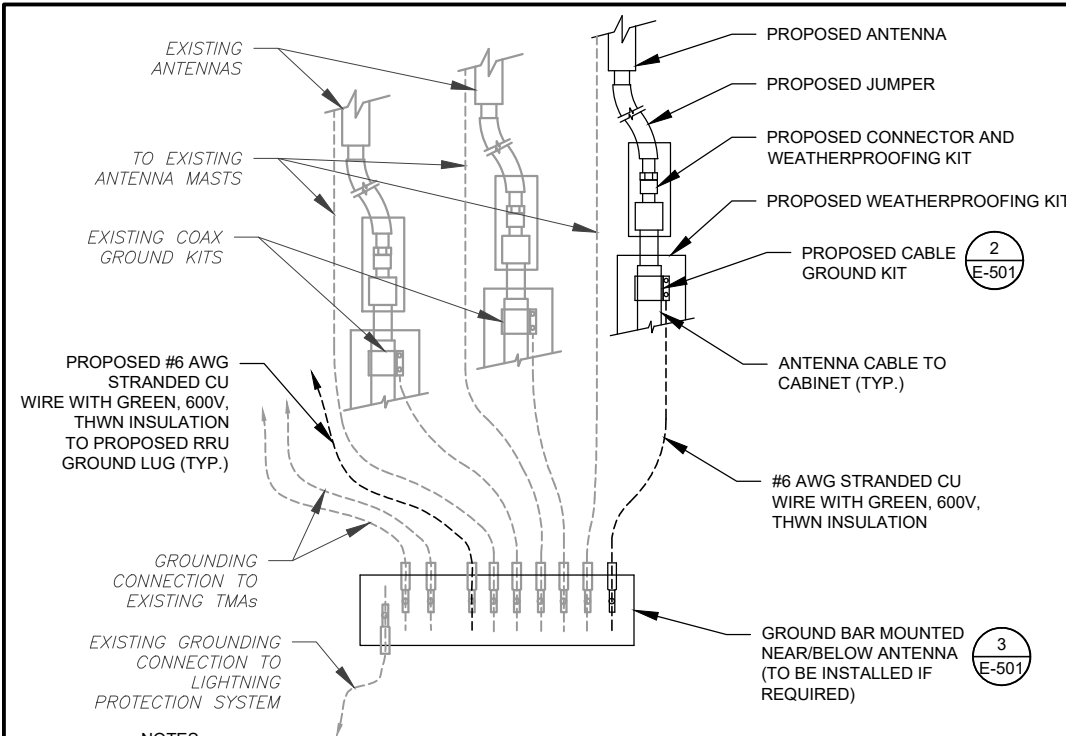


T-Mobile

DATE DRAWN:	08/10/21
ATC JOB NO:	13678283
CUSTOMER ID:	CT534/SPECTRASITE ENFIELD
CUSTOMER #:	CT11534A

CONSTRUCTION
DETAILS

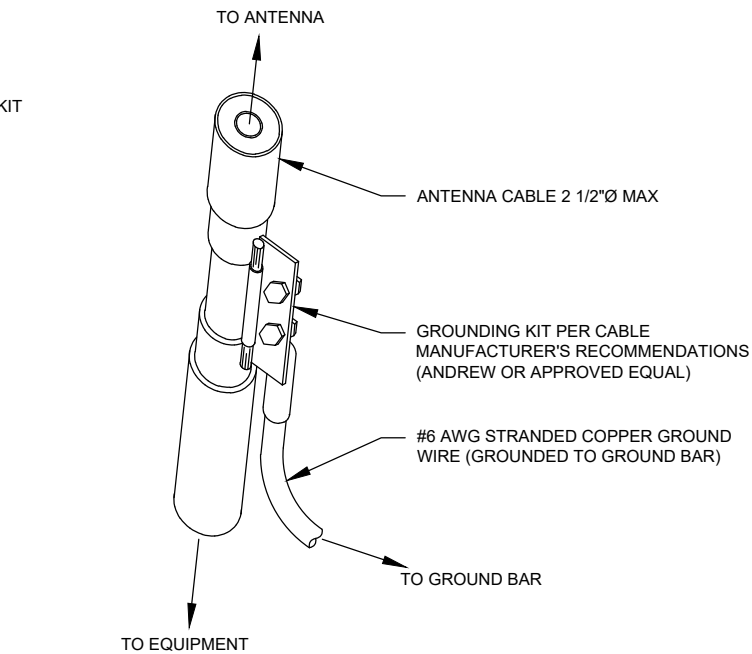
SHEET NUMBER: C-501	REVISION: 1
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NOTES:

- 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.
- 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.

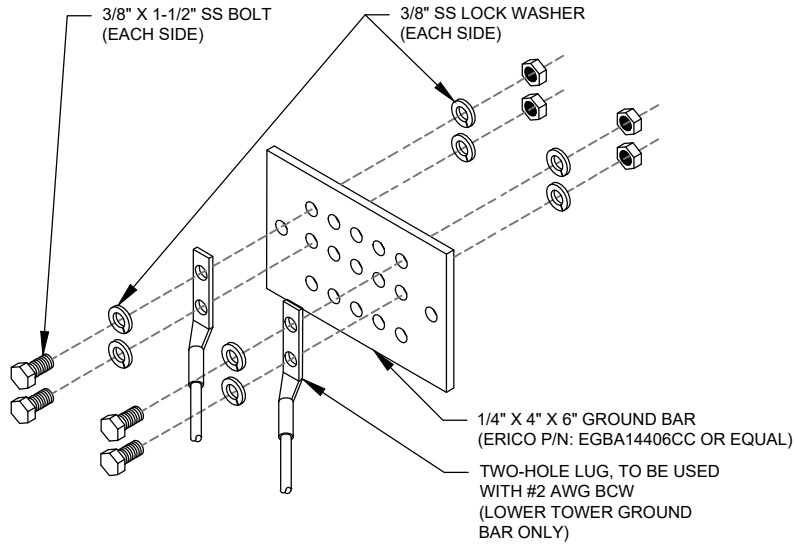
1 TYPICAL ANTENNA GROUNDING DIAGRAM
SCALE: N.T.S.



GROUND KIT NOTES:

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

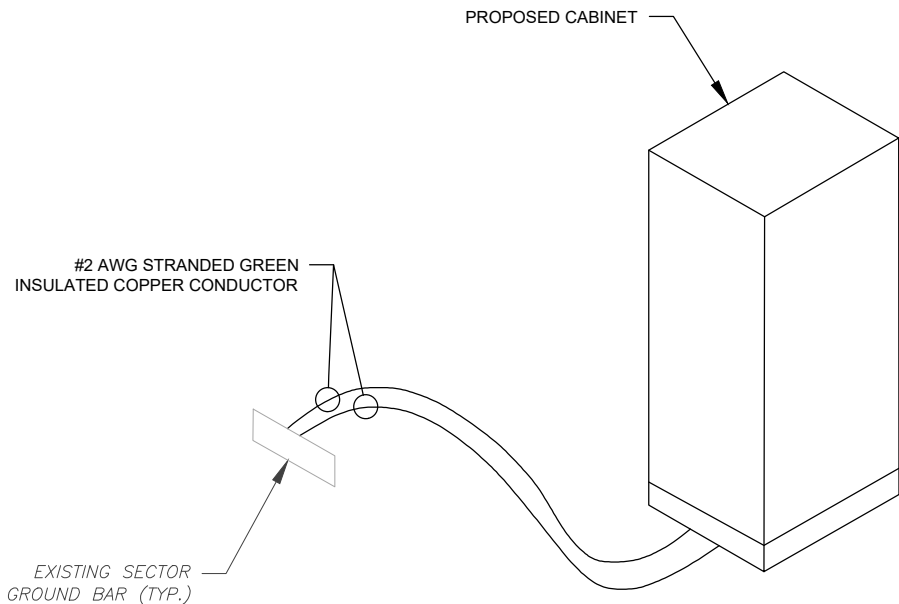
2 CABLE GROUND KIT CONNECTION DETAIL
SCALE: N.T.S.



GROUND BAR NOTES:

- GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
- 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.



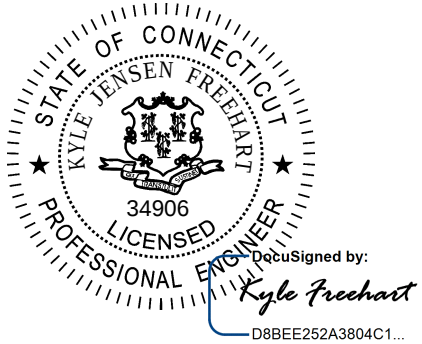
Kimley»Horn

COA: PEC.0000738
421 FAYETTEVILLE ST, SUITE 600
RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
A	PRELIM	BLM	06/10/21
B	ISSUED FOR CONSTRUCTION	RCG	07/12/21
C	REVISED PER CLIENT	NJ	08/10/21

ATC SITE NUMBER:
302489
ATC SITE NAME:
ENFD - ENFIELD
T-MOBILE SITE NAME:
CT534/SPECTRASITE ENFIELD
SITE ADDRESS:
77 TOWN FARM ROAD
ENFIELD, CT 06082-5152

SEAL:



T-Mobile

DATE DRAWN:	08/10/21
ATC JOB NO:	13678283
CUSTOMER ID:	CT534/SPECTRASITE ENFIELD
CUSTOMER #:	CT11534A

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	1

Section 5 - RAN Equipment

Existing RAN Equipment		
Template: 792BL_U21 Outdoor		
Enclosure	1	2
Enclosure Type	RBS 6131	S8000 Outdoor
Baseband	DUW30 U2100 DUW30 DUG20 G1900 BB 6630 L1900 L700 L2100	
Hybrid Cable System	Ericsson 9x18 HCS *Select Length*	
Radio	RU22 (x 6) U2100	

Proposed RAN Equipment			
Template: 67D5A998C Outdoor			
Enclosure	1	2	3
Enclosure Type	RBS 6131	Enclosure 6160	B160
Baseband	DUW30 U2100 DUG20 G1900 BB 6630 L2100 L1900 BB 6648 L700 L600 N600	BB 6648 L2500 N2500	
Hybrid Cable System	Ericsson Hybrid Trunk 6/24 4AWG 50m (x 2)	Ericsson Hybrid Trunk 6/24 4AWG 50m PSU 4813	
Transport System		CSR IXRe V2 (Gen2)	

RAN Scope of Work:

Remove Nortel Cabinet. Move Batteries to new BBU.

Add (1) BB6648 for L600, L700, and N600 (MMBB - Mixed Mode Baseband) to existing RBS6131 Base Station Cabinet.

Add (1) Enclosure 6160.

Add (1) Battery Cabinet B160.

Add (1) IXRe Router to new Enclosure 6160.

Add (1) BB6648 for L2500 and N2500 (MMBB - Mixed Mode Baseband) to new Enclosure 6160.

Add (1) PSU4813 Voltage Booster to new Enclosure 6160.

Existing: (12) coaxial lines: (1) 9X18 HCS

Keep (6) coaxial lines for U2100.

Remove 9X18 HCS.

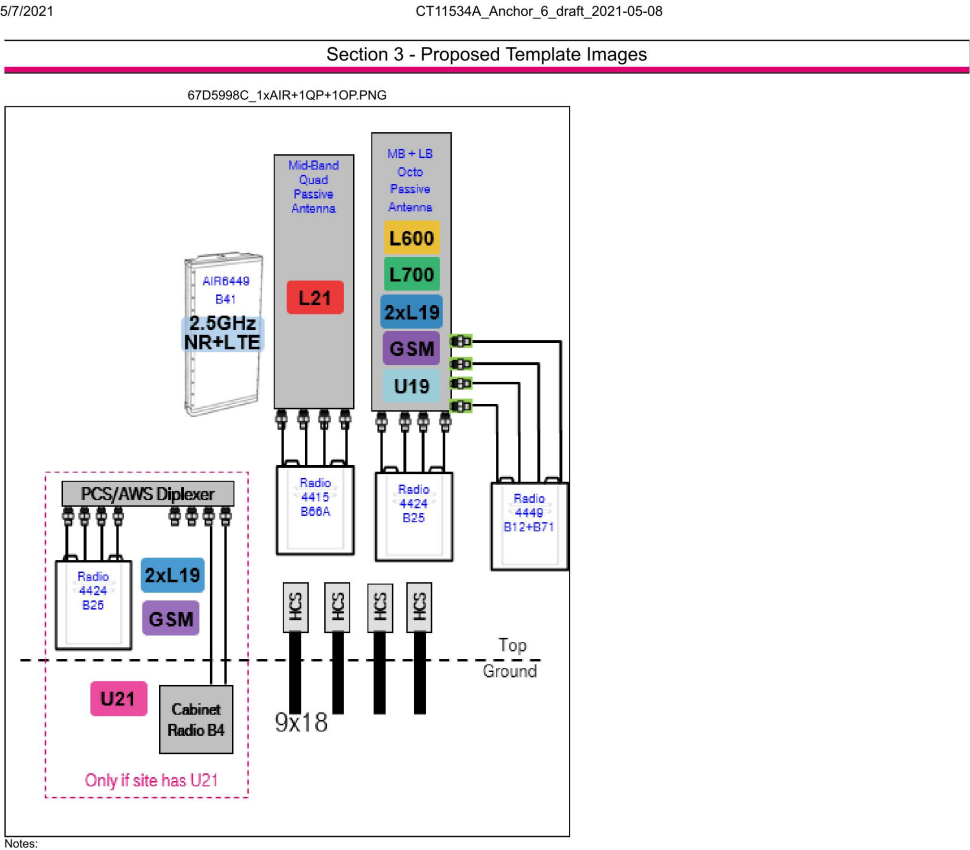
Add (3) 6X24 HCS as follows: (2) terminating at the RBS6131; (1) terminating at the Enclosure 6160 (Connect DC for the AIR6449 B41 to the PSU4813 Voltage Booster).

https://rfd-prod-web-core-secure.geo.cf.t-mobile.com/DataSheet/Printout/bce0fe45-9b17-4b73-ae45-fe786373c79f?layoutId=de799235-7d79-4481-... 5/18

1

CABINET CONFIGURATION

SCALE: NOT TO SCALE



https://rfd-prod-web-core-secure.geo.cf.t-mobile.com/DataSheet/Printout/bce0fe45-9b17-4b73-ae45-fe786373c79f?layoutId=de799235-7d79-4481-... 3/18

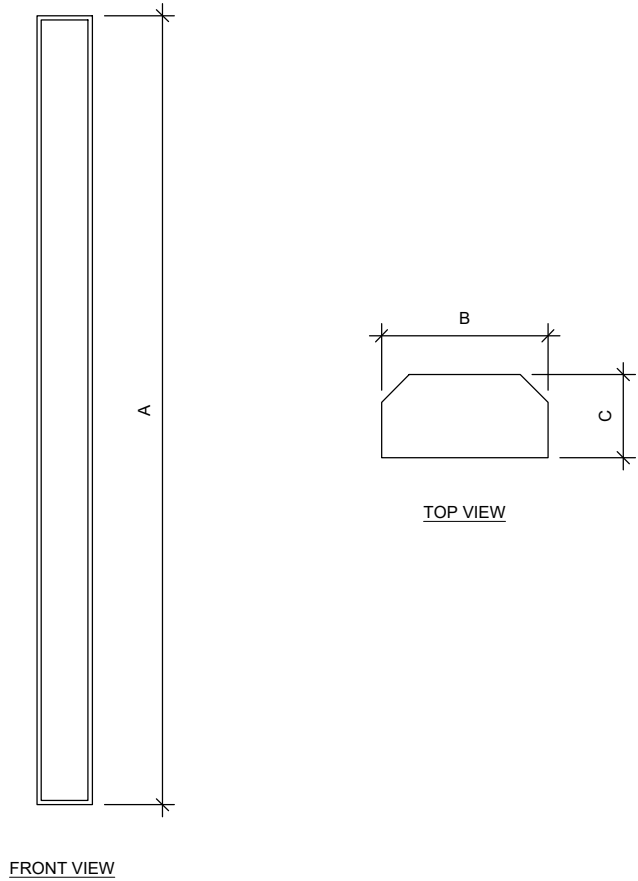
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ANTENNA CONFIGURATION

SCALE: NOT TO SCALE

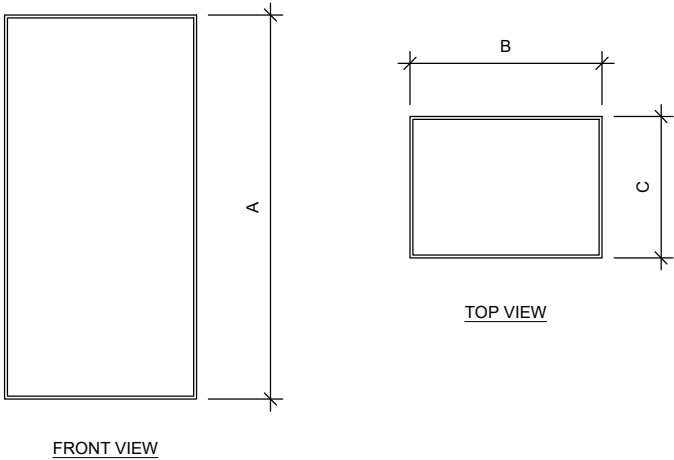
SUPPLEMENTAL

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



1 ANTENNA SPECIFICATIONS
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
AIR6449 B41	33.1"	20.6"	8.6"	104.0
APX16DWV-16DWVS-E-A20	55.9"	13.3"	3.1"	40.7
APXVAALL24 43-U-NA20	95.9"	24.0"	8.5"	122.8



2 RRU SPECIFICATIONS
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
RADIO 4449 B71 B85A	15.0"	13.2"	10.5"	75.0
RADIO 4415 B66A	15.0"	13.2"	5.4"	46
RADIO 4424 B25	17.1"	14.4"	11.3"	86.0

SUPPLEMENTAL

SHEET NUMBER:

R-602

REVISION:

1



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

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

SUPPLEMENTAL

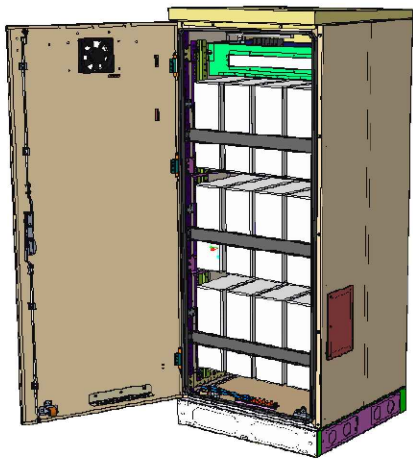
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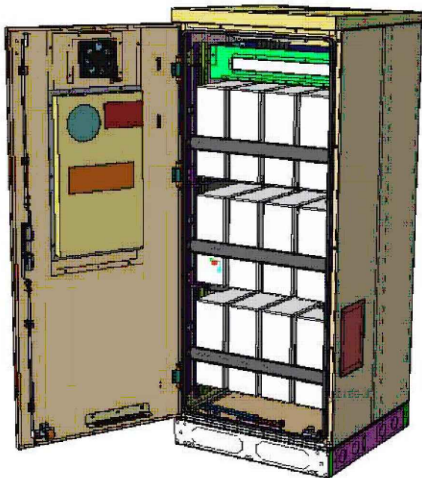
REVISION:

1

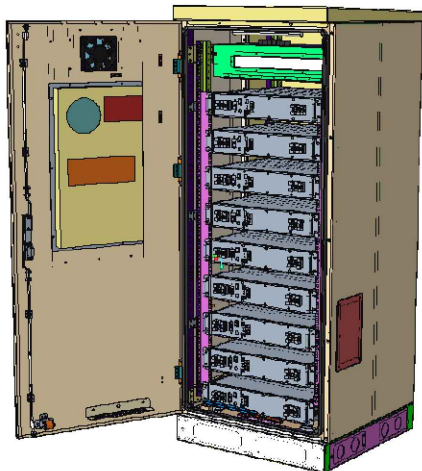
Enclosure B160



Enclosure B160
AirCon + VRLA



Enclosure B160
AirCon + Li-Ion



Enclosure B160
Convection Cooling
+ VRLA

PA1 | 2019-02-03 | Ericsson Confidential | Page 1

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/m²)
 - 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

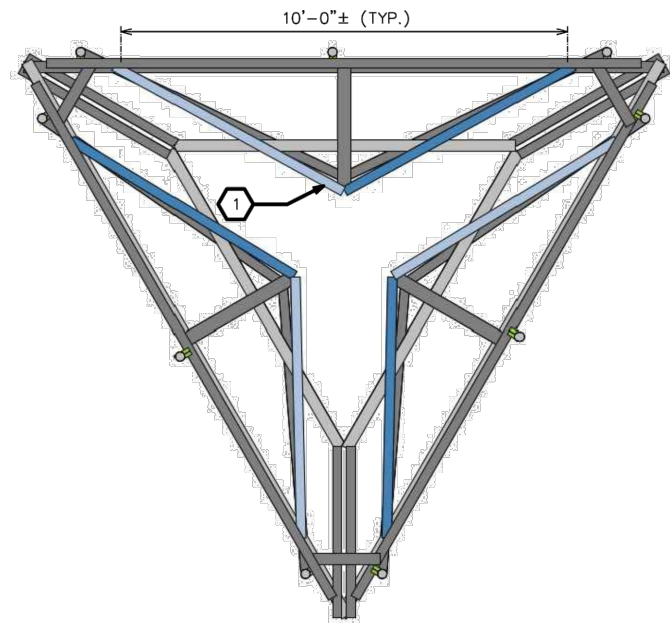
PA1 | 2019-02-03 | Ericsson Confidential | Page 2

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

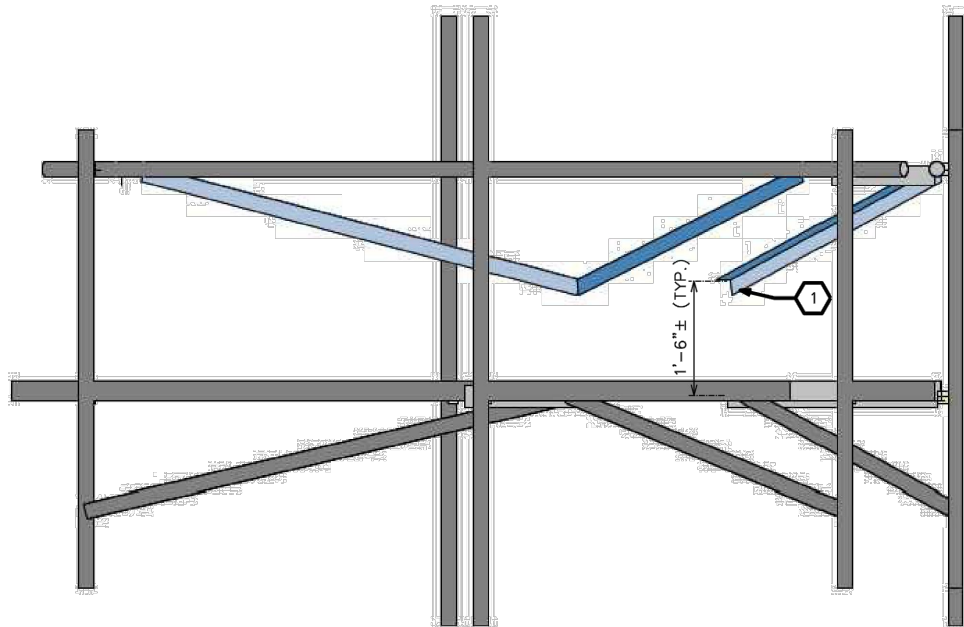
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SHEET NUMBER:	REVISION:
R-604	1

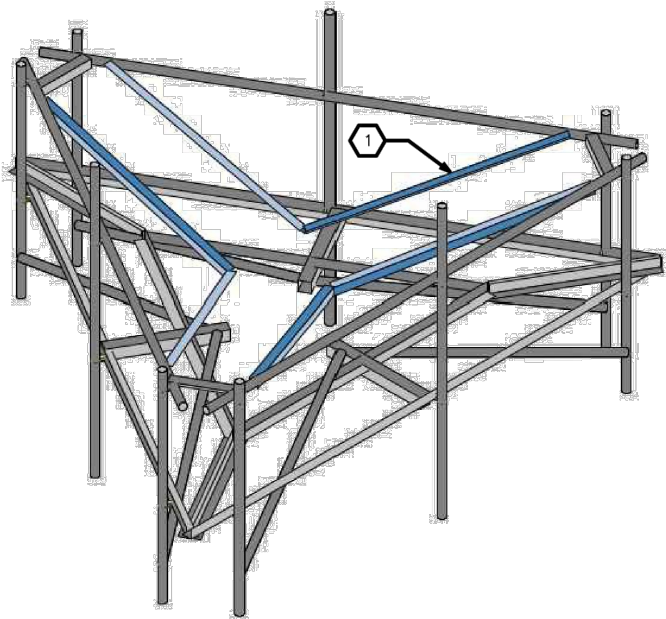
SUPPLEMENTAL	
SHEET NUMBER: R-605	REVISION: 1



PLAN VIEW



SIDE VIEW



ISOMETRIC VIEW

MODIFICATION SCHEDULE			
NO.	MODIFICATION DESCRIPTION	ELEVATION (FT.)	SHEET
1	ADD NEW SITEPRO PRK-SFS-L HANDRAIL REINFORCEMENT KIT.	140	S-1

NOTES:

1. PRIOR TO FABRICATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN. LENGTHS AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY AND SHALL NOT BE USED FOR FABRICATION.

2. PROPER FIT-UP OF THE PROPOSED MODIFICATIONS MAY REQUIRE FIELD CUTTING/TRIMMING. CONTACT EOR FOR APPROVAL UNO.

3. IF APPLICABLE, REFER TO THE BILL OF MATERIALS ON SHEET S-2 FOR REQUIRED MATERIAL GRADE SPECIFICATIONS.

PLANS PREPARED FOR:



AMERICAN TOWER
3500 REGENCY PARKWAY, SUITE 100
CARY, NC 27518

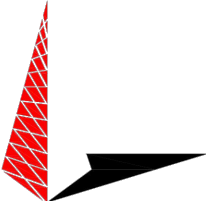
PROJECT INFORMATION:

ATC SITE NAME:
ENFD - ENFIELD, CT

ATC SITE #:
302489

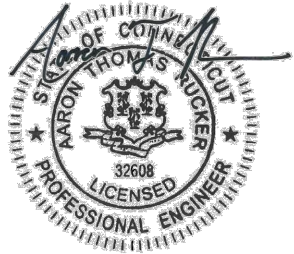
77 TOWN FARM ROAD
ENFIELD, CT 06082

PLANS PREPARED BY:



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

SEAL:



June 23, 2021

0	06-23-21	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:
DRAWN BY: NPD		CHECKED BY: SDJ

SHEET TITLE:

**MOUNT
MODIFICATION
SCHEDULE**

SHEET NUMBER:	REVISION:
S-1	0
TEP#: 68085.563867	



AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by



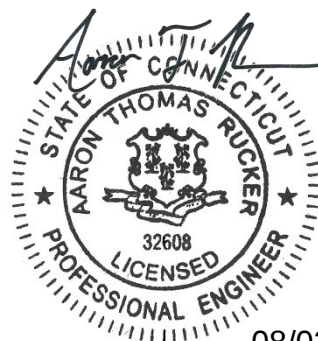
**TOWER
ENGINEERING
PROFESSIONALS**

Antenna Mount Analysis Report

ATC Site Name : Enfd – Enfield
ATC Site Number : 302489
Engineering Number : 13678283_C9_04
Mount Elevation : 140 ft
Carrier : T-Mobile
Carrier Site Name : CT534/Spectrasite Enfield
Carrier Site Number : CT11534A
Site Location : 77 Town Farm Road
Enfield, CT 06082-5152
41.96590, -72.55270
County : Hartford
Date : June 23, 2021
Max Usage : 59%
Result : Contingent Pass

Prepared By:
Nicholas P. Danyluk
TEP No. 68085.563867

Reviewed By:



08/03/2021



Table of Contents

Introduction	1
Supporting Documents.....	1
Analysis	1
Conclusion	2
Antenna Loading.....	3
Structure Usages.....	3
Equipment Layout	4
Standard Conditions.....	5
Calculations	Attached



Introduction

The purpose of this report is to summarize results of the antenna mount analysis performed for T-Mobile at 140 ft.

Supporting Documents

Previous Mount Analysis	TEP Project # 68085.554732, dated May 27, 2021
RFDS	RFDS dated May 7, 2021
Photos	Site photos from 2019

Analysis

This antenna mount was analyzed using RISA-3D v17 analysis software

Basic Wind Speed:	116 mph (3-Second Gust, V_{ULT})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust, V_{ULT}) w/ 1.5-in radial ice
Codes:	ANSI/TIA-222-H
Risk Category:	II
Exposure Category:	C
Topographic Factor Procedure:	Method 2
Kzt:	1.000
Spectral Response:	$S_s = 0.174$, $S_1 = 0.055$
Site Class:	D - Default
Live Loads:	$L_m = 500$ lbs, $L_v = 250$ lbs



Conclusion

Based on the analysis results, the antenna mount meets the requirements per the applicable codes listed above provided the modifications listed below are completed:

- (1) SitePro PRK-SFS-L Handrail Reinforcement Kit

Total estimated costs of the modification to include materials and required labor is \$11,500.

The modifications depicted in these drawings shall be installed and, upon completion, inspected. The mount has sufficient capacity to support the final antenna configuration once the proposed modifications are completed.

The original mount does not have sufficient capacity to carry the existing, proposed, and reserved loading configuration. The following will be required to bring the mount into compliance with the ANSI/TIA-222-H Standard if modifications are not installed:

- A replacement mount to be installed and the existing mount to be removed. Use a Site Pro RMQP-496-HK or approved equivalent.

Total estimated costs of the modification to include the modification drawings, materials, and required labor is \$30,000-\$40,000.

If the load differs from that described in this report or the provisions of this analysis are found to be invalid, another structural analysis should be performed.

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.

**Antenna Loading**

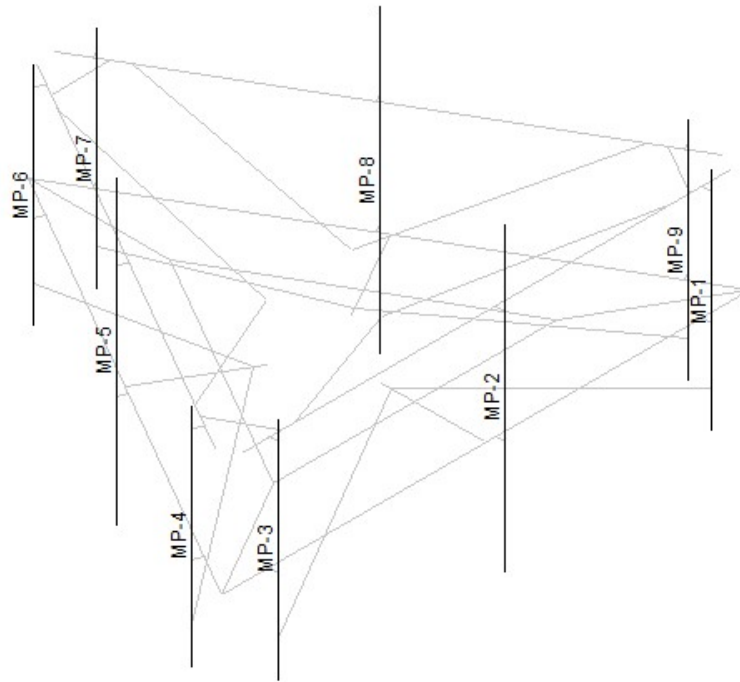
Mount Centerline (ft)	Antenna Centerline (ft)	Qty	Antenna Model
140.0	140.0	3	RFS APX16DWV-16DWVS-E-A20
		3	RFS APXVAALL24 43-U-NA20
		3	Ericsson Air6449 B41
		3	Commscope SDX1926Q-43
		3	Ericsson Radio 4449 B71/B85A
		3	Ericsson RRUS 4415 B66
		3	Ericsson 4424 B25

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Horizontals	50%	Pass
Mount Pipes	59%	Pass
Handrails	31%	Pass
Mod Kits	41%	Pass



Equipment Layout



MFR	Model	Qty	Shape	Member Label	Location #1 (ft,%)	Location #2 (ft,%)
Ericsson	AIR6449 B41	1	Flat	MP-1	2.00	4.00
RFS/CELWAVE	APXVAALL24_43-U-NA20	1	Flat	MP-2	0.50	7.50
Commscope	SDX1926Q-43	1	Flat	MP-2	2.00	
Ericsson	RRUS 4415	1	Flat	MP-2	4.00	
RFS/CELWAVE	APX16DWV-16DWV-S-E-A20	1	Flat	MP-3	1.00	5.00
Ericsson	RADIO 4449 B71/B85A	1	Flat	MP-3	2.00	
Ericsson	RADIO 4424 B25	1	Flat	MP-3	2.00	
Ericsson	AIR6449 B41	1	Flat	MP-4	2.00	4.00
RFS/CELWAVE	APXVAALL24_43-U-NA20	1	Flat	MP-5	0.50	7.50
Commscope	SDX1926Q-43	1	Flat	MP-5	2.00	
Ericsson	RRUS 4415	1	Flat	MP-5	4.00	
RFS/CELWAVE	APX16DWV-16DWV-S-E-A20	1	Flat	MP-6	1.00	5.00
Ericsson	RADIO 4449 B71/B85A	1	Flat	MP-6	2.00	
Ericsson	RADIO 4424 B25	1	Flat	MP-6	2.00	
Ericsson	AIR6449 B41	1	Flat	MP-7	2.00	4.00
RFS/CELWAVE	APXVAALL24_43-U-NA20	1	Flat	MP-8	0.50	7.50
Commscope	SDX1926Q-43	1	Flat	MP-8	2.00	
Ericsson	RRUS 4415	1	Flat	MP-8	4.00	
RFS/CELWAVE	APX16DWV-16DWV-S-E-A20	1	Flat	MP-9	1.00	5.00
Ericsson	RADIO 4449 B71/B85A	1	Flat	MP-9	2.00	
Ericsson	RADIO 4424 B25	1	Flat	MP-9	2.00	



Standard Conditions

All engineering services performed by TEP 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 TEP

It is the responsibility of the client to ensure that the information provided to TEP and used in the performance of our engineering services is correct and complete.

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

TEP assumes that the mount has been maintained in accordance with the manufacturer's specification.

TEP assumes that all mount components are in sufficient condition to carry their full design capacity for this analysis.

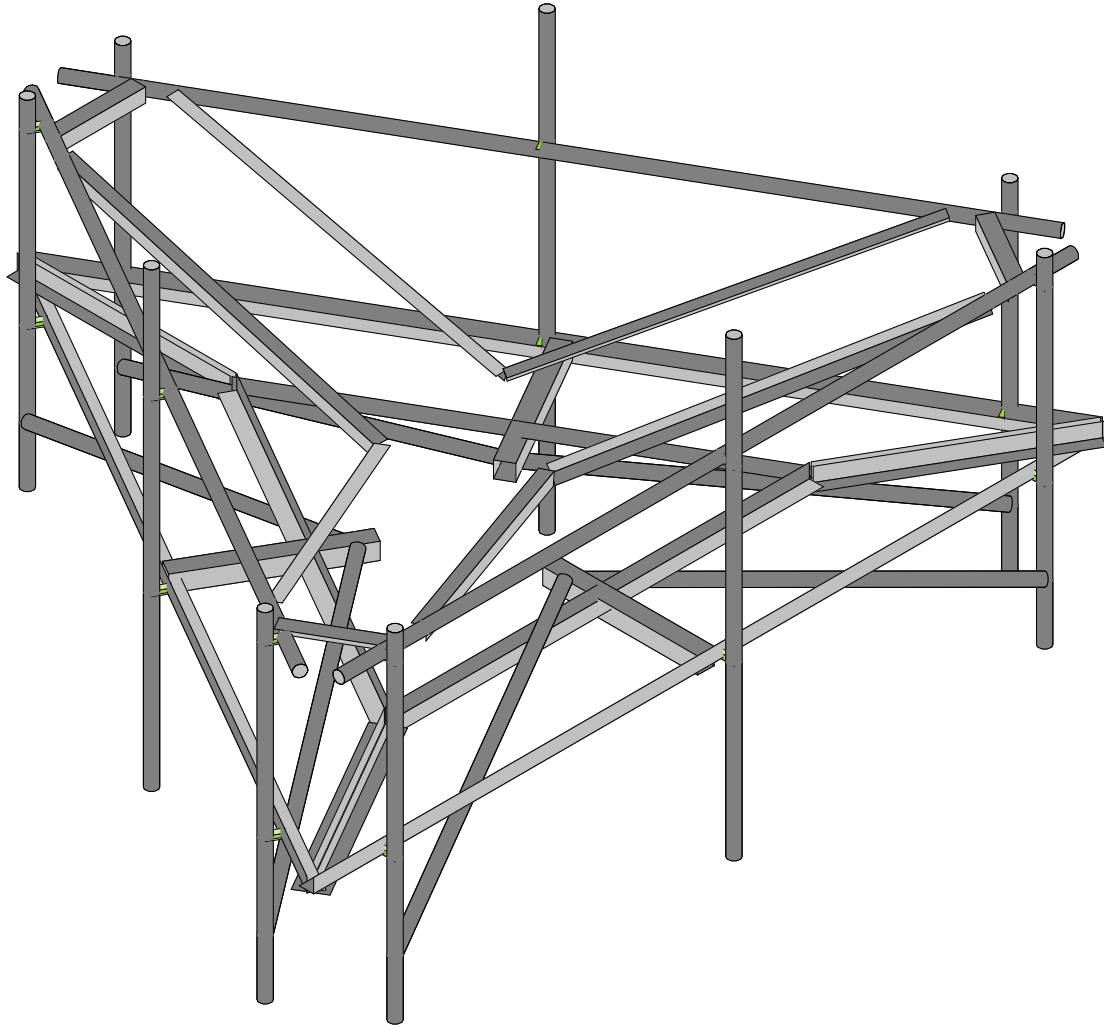
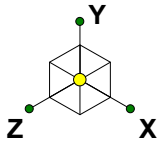
Serviceability with respect to antenna twist, tilt, roll, or lateral translation, is not checked and is left to the carrier or tower owner to ensure conformance.

All material grades used for this analysis, unless verified by mount manufacturer design, were assumed per AISC Table 2-4, 15th Edition. See RISA 3-D output for confirmation on grades used in this analysis.

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.

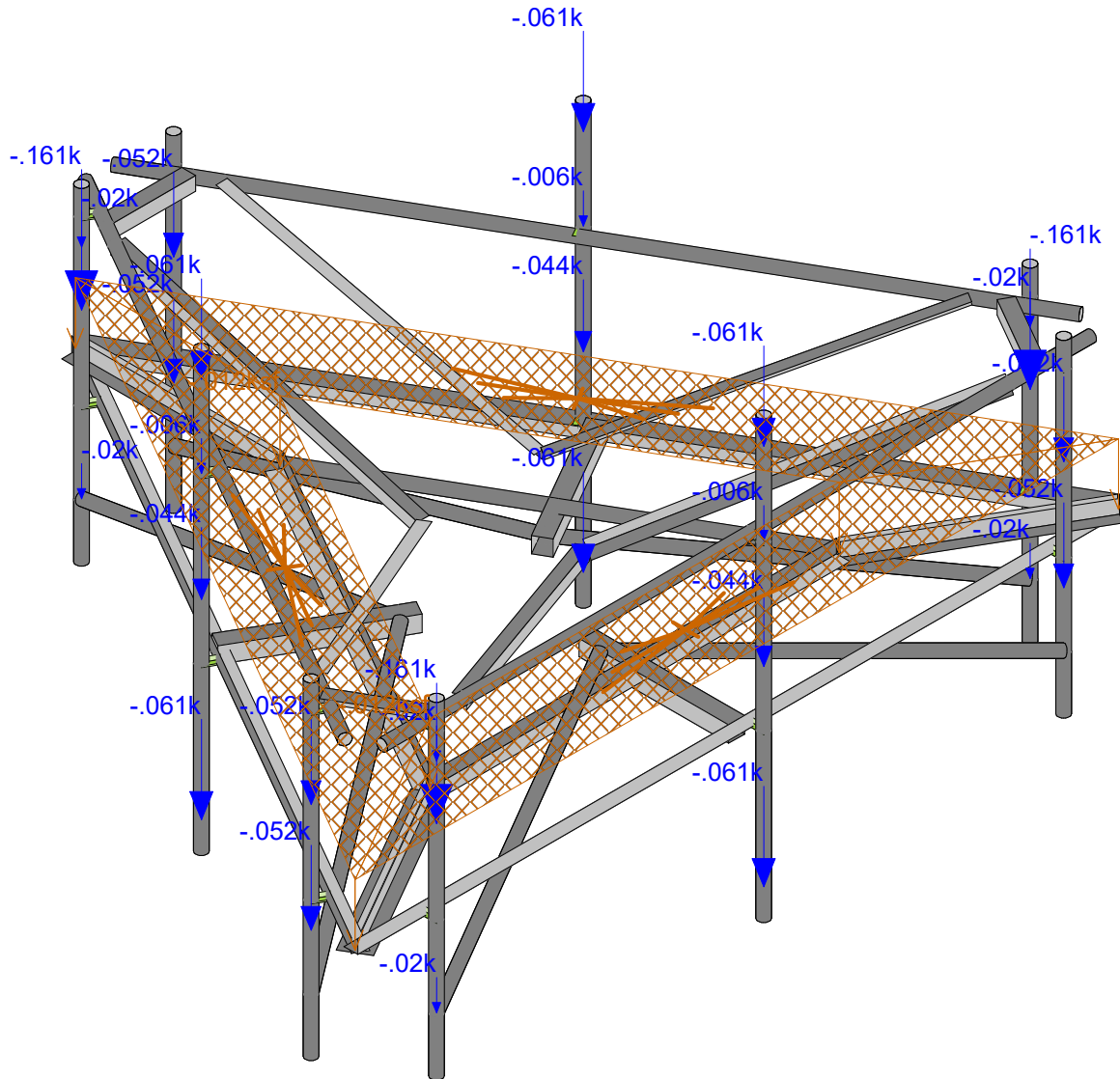
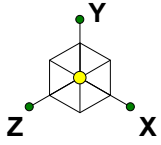
Unless explicitly agreed by both the client and TEP, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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



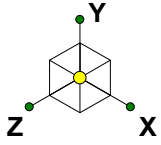
Envelope Only Solution

Tower Engineering Profes...	302489 - Enfd - Enfield	SK - 1
NPD		June 23, 2021 at 8:12 AM
TEP No. 68085.563867		Mount Rev H.r3d

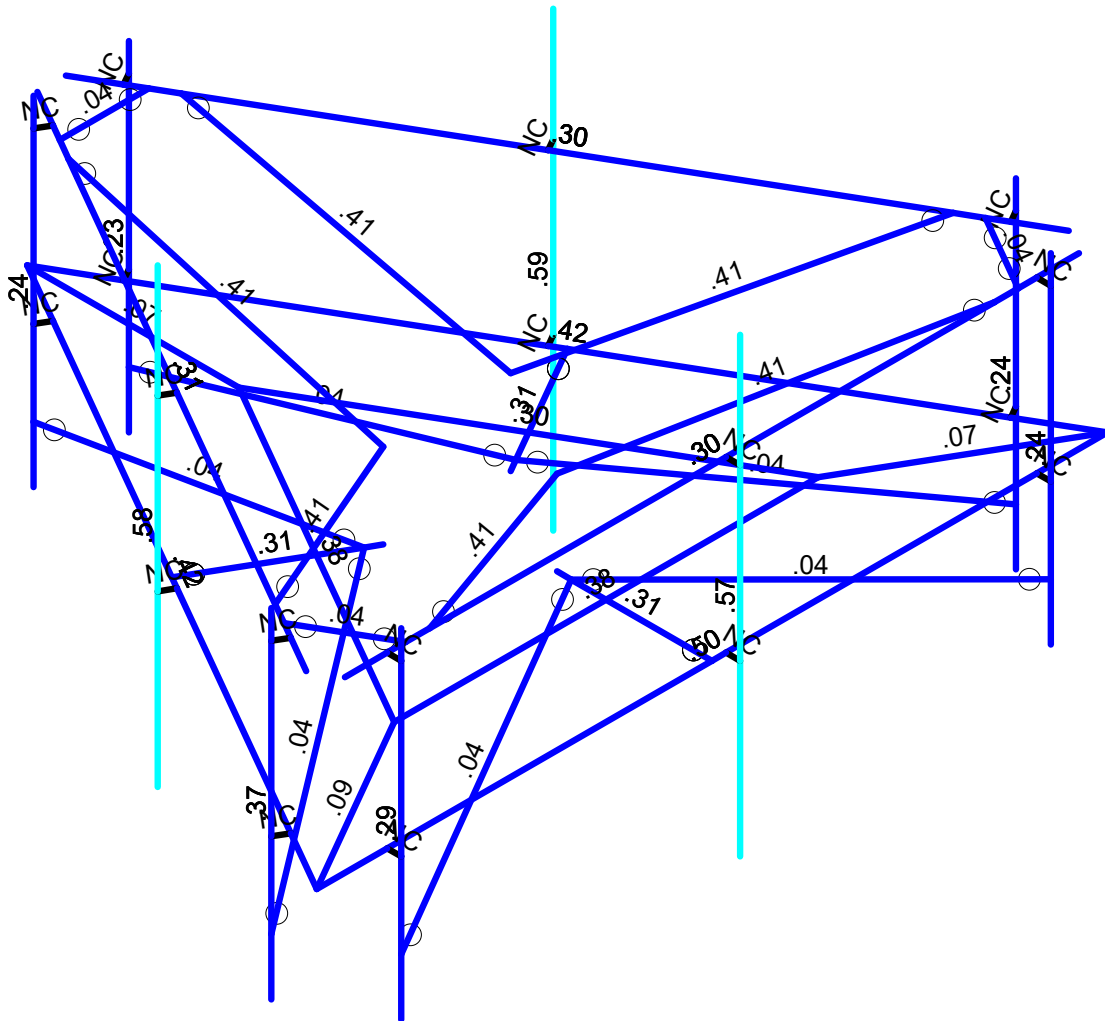


Loads: BLC 1, Dead
Envelope Only Solution

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TEP No. 68085.563867		Mount Rev H.r3d

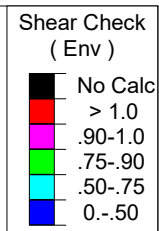


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	.75-.90
	.50-.75
	0-.50

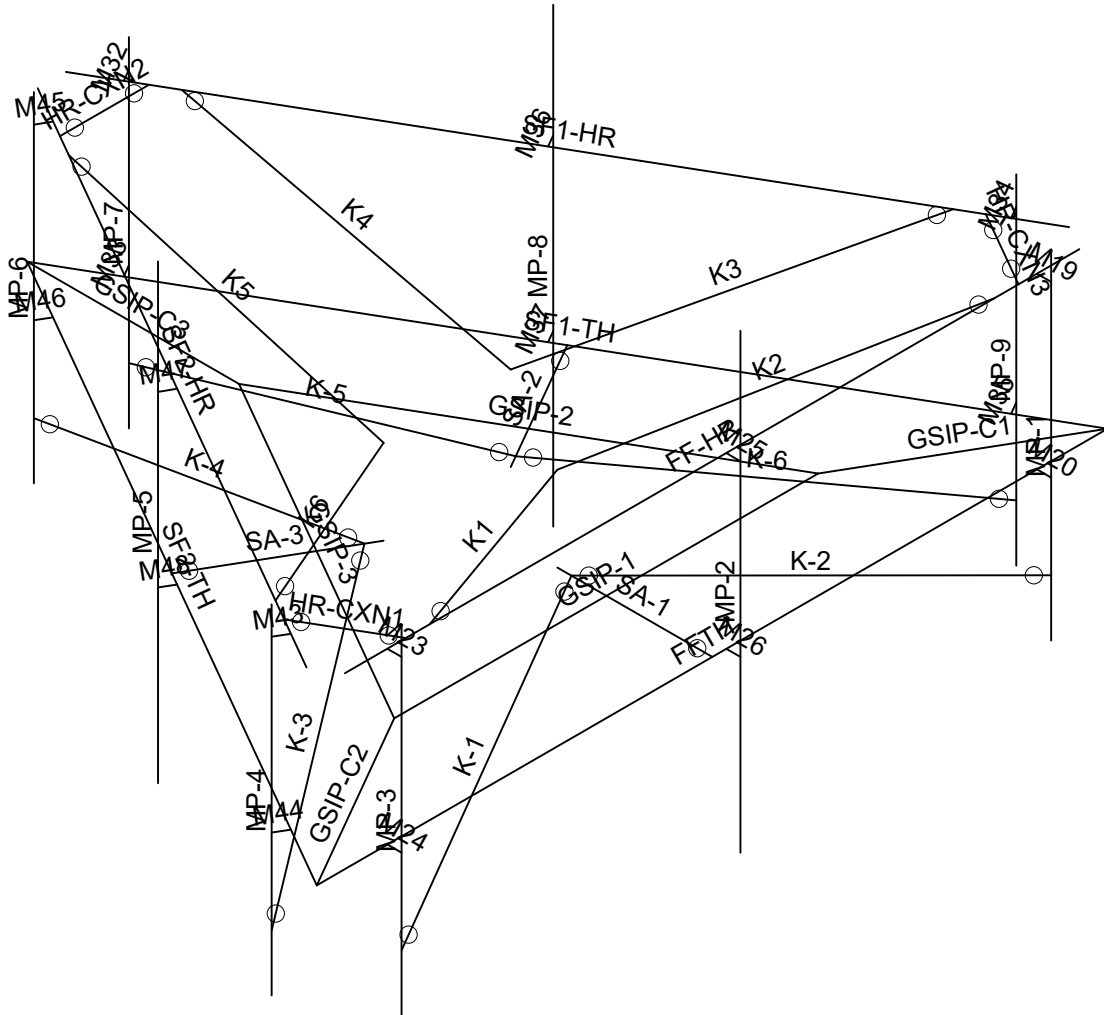
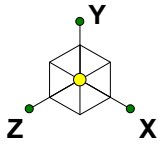


Member Code Checks Displayed (Enveloped)
Envelope Only Solution

Tower Engineering Profes...	302489 - Enfd - Enfield	SK - 3
NPD		June 23, 2021 at 8:13 AM
TEP No. 68085.563867		Mount Rev H.r3d

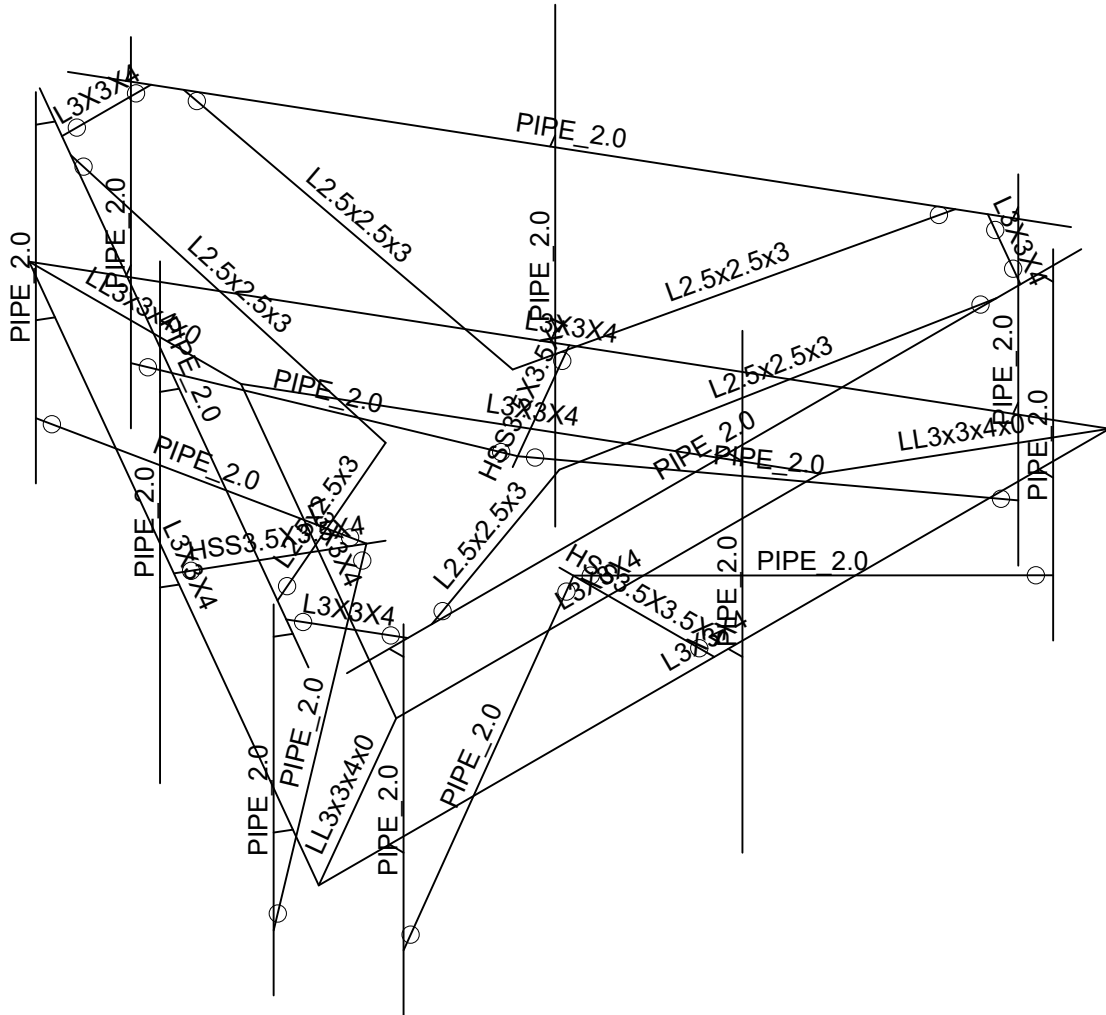
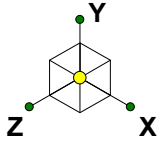


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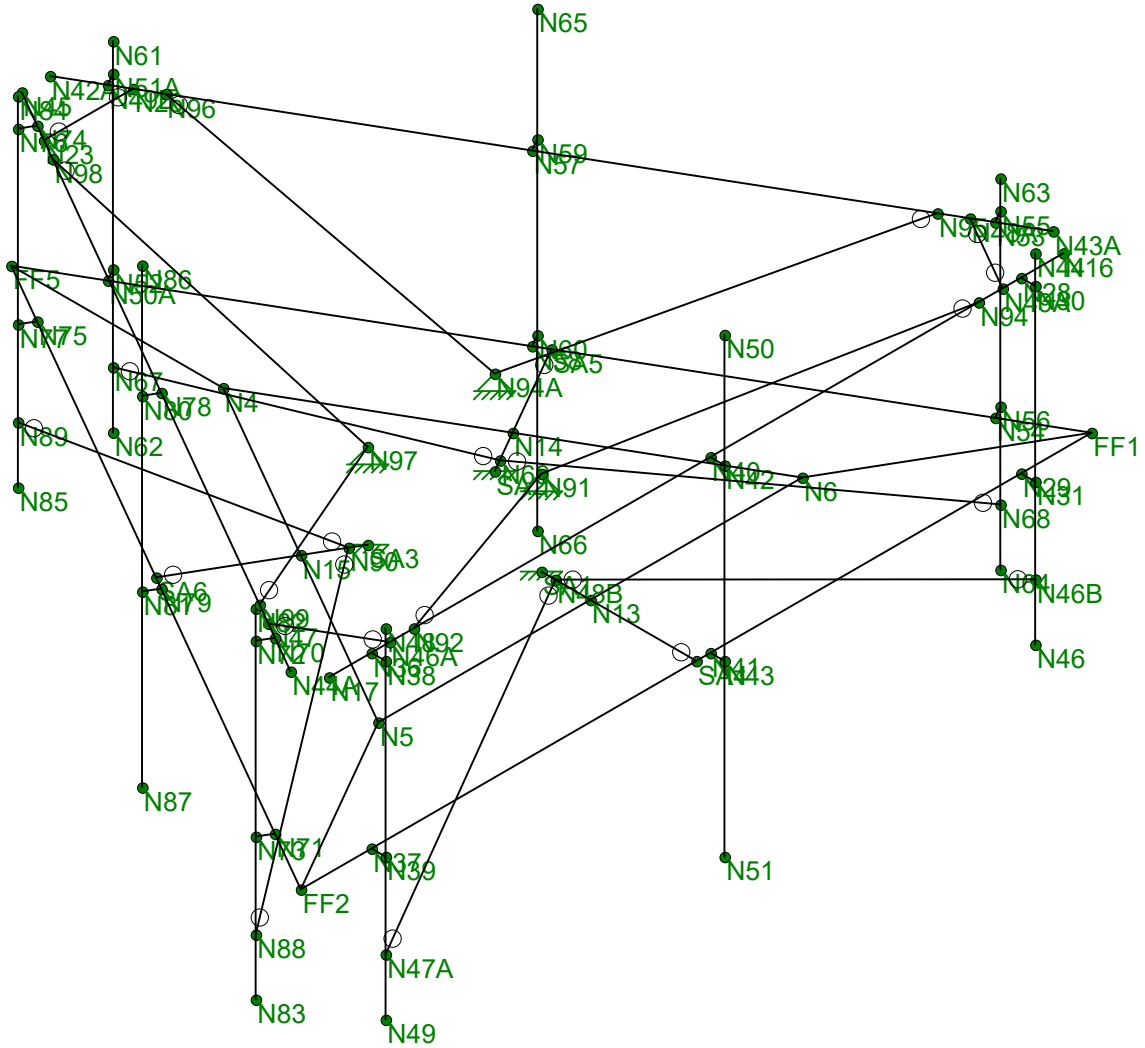
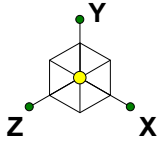
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Tower Engineering Profes...	302489 - Enfd - Enfield	SK - 5
NPD		June 23, 2021 at 8:14 AM
TEP No. 68085.563867		Mount Rev H.r3d



Envelope Only Solution

Tower Engineering Profes...	302489 - Enfd - Enfield	SK - 6
NPD		June 23, 2021 at 8:14 AM
TEP No. 68085.563867		Mount Rev H.r3d



Envelope Only Solution

Tower Engineering Profes...	302489 - Enfd - Enfield	SK - 7
NPD		June 23, 2021 at 8:14 AM
TEP No. 68085.563867		Mount Rev H.r3d



Company : Tower Engineering Professionals, Inc.
Designer : NPD
Job Number : TEP No. 68085.563867
Model Name : 302489 - Enfd - Enfield

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(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	24
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 15th(360-16): LRFD
Adjust Stiffness?	No
RISAConnection Code	None
Cold Formed Steel Code	AISI S100-16: ASD
Wood Code	None
Wood Temperature	< 100F
Concrete Code	None
Masonry Code	None
Aluminum Code	None - Building
Stainless Steel Code	None

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	Yes
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8



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(Global) Model Settings, Continued

Seismic Code	ASCE 7-10
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	Not Entered
T Z (sec)	Not Entered
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	1
SDS	1
S1	1
TL (sec)	5
Risk Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	1
Cd X	1
Rho Z	1
Rho X	1

Hot Rolled Steel Properties

	Label	F [ksi]	G [ksi]	Nu	Therm (/1E..	Density[k/ft..	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.49	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.49	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A500 Gr.C	29000	11154	.3	.65	.49	46	1.4	62	1.3

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design Li...	Material	Design R...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Face Horizontal	L3X3X4	None	None	A36 Gr.36	Typical	1.44	1.23	1.23	.031
2	Corner Internal	LL3x3x4x0	None	None	A36 Gr.36	Typical	2.88	4.5	2.46	.063
3	Handrail	PIPE 2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
4	Handrail Angle	L3X3X4	None	None	A36 Gr.36	Typical	1.44	1.23	1.23	.031
5	Mount Pipe	PIPE 2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
6	Support Arm	HSS3.5X3.5X4	None	None	A500 Gr.B Rect	Typical	2.91	5.04	5.04	8.35
7	Kickers	PIPE 2.0	None	None	A53 Gr.B	Typical	1.02	.627	.627	1.25
8	SFS	L2.5x2.5x3	None	None	A36 Gr.36	Typical	.901	.535	.535	.011

Cold Formed Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Ru...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	Support Horizontal	BPL 5.375...	None	None	ASTM A36	Typical	4.513	7.215	20.276	.212



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Material Takeoff

	Material	Size	Pieces	Length[ft]	Weight[K]
1	General				
2	RIGID		18	4.5	0
3	Total General		18	4.5	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	L2.5x2.5x3	6	35.4	.108
7	A36 Gr.36	L3X3X4	9	69.2	.339
8	A36 Gr.36	LL 3x3x4x0	3	11.2	.11
9	A500 Gr.B Rect	HSS3.5X3.5X4	3	8.2	.081
10	A53 Gr.B	PIPE 2.0	18	138.3	.48
11	Total HR Steel		39	262.4	1.119

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	SA1	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	SA2	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	SA3	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N91	Reaction	Reaction	Reaction			
5	N94A	Reaction	Reaction	Reaction			
6	N97	Reaction	Reaction	Reaction			

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate[d.]	Section/Sh...	Type	Design List	Material	Design R...
1	GSIP-C1	FF1	N6		180	Corner Inter...	None	None	A36 Gr.36	Typical
2	GSIP-C2	N5	FF2		180	Corner Inter...	None	None	A36 Gr.36	Typical
3	GSIP-C3	N4	FF5		180	Corner Inter...	None	None	A36 Gr.36	Typical
4	FFTH	FF1	FF2			Face Horizo...	None	None	A36 Gr.36	Typical
5	GSIP-1	N6	N5		270	Face Horizo...	None	None	A36 Gr.36	Typical
6	GSIP-2	N4	N6		270	Face Horizo...	None	None	A36 Gr.36	Typical
7	GSIP-3	N5	N4		270	Face Horizo...	None	None	A36 Gr.36	Typical
8	SF1-TH	FF1	FF5		270	Face Horizo...	None	None	A36 Gr.36	Typical
9	SF2-TH	FF5	FF2		270	Face Horizo...	None	None	A36 Gr.36	Typical
10	FF-HR	N16	N17			Handrail	None	None	A53 Gr.B	Typical
11	SF1-HR	N42A	N43A			Handrail	None	None	A53 Gr.B	Typical
12	SF2-HR	N44A	N45			Handrail	None	None	A53 Gr.B	Typical
13	HR-CXN1	N46A	N47		180	Handrail An...	None	None	A36 Gr.36	Typical
14	HR-CXN2	N23	N26		180	Handrail An...	None	None	A36 Gr.36	Typical
15	HR-CXN3	N48A	N49A		180	Handrail An...	None	None	A36 Gr.36	Typical
16	K-1	N48B	N47A			Kickers	None	None	A53 Gr.B	Typical
17	K-2	N48B	N46B			Kickers	None	None	A53 Gr.B	Typical
18	K-3	N90	N88			Kickers	None	None	A53 Gr.B	Typical
19	K-4	N90	N89			Kickers	None	None	A53 Gr.B	Typical
20	K-5	N69	N67			Kickers	None	None	A53 Gr.B	Typical
21	K-6	N69	N68			Kickers	None	None	A53 Gr.B	Typical
22	MP-1	N44	N46			Mount Pipe	None	None	A53 Gr.B	Typical
23	MP-2	N50	N51			Mount Pipe	None	None	A53 Gr.B	Typical
24	MP-3	N48	N49			Mount Pipe	None	None	A53 Gr.B	Typical
25	MP-4	N82	N83			Mount Pipe	None	None	A53 Gr.B	Typical
26	MP-5	N86	N87			Mount Pipe	None	None	A53 Gr.B	Typical
27	MP-6	N84	N85			Mount Pipe	None	None	A53 Gr.B	Typical
28	MP-7	N61	N62			Mount Pipe	None	None	A53 Gr.B	Typical
29	MP-8	N65	N66			Mount Pipe	None	None	A53 Gr.B	Typical
30	MP-9	N63	N64			Mount Pipe	None	None	A53 Gr.B	Typical

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Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate[d.]	Section/Sh...	Type	Design List	Material	Design R...
31	M19	N28	N30			RIGID	None	None	RIGID	Typical
32	M20	N29	N31			RIGID	None	None	RIGID	Typical
33	M23	N36	N38			RIGID	None	None	RIGID	Typical
34	M24	N37	N39			RIGID	None	None	RIGID	Typical
35	M25	N40	N42			RIGID	None	None	RIGID	Typical
36	M26	N41	N43			RIGID	None	None	RIGID	Typical
37	M32	N49B	N51A			RIGID	None	None	RIGID	Typical
38	M33	N50A	N52			RIGID	None	None	RIGID	Typical
39	M34	N53	N55			RIGID	None	None	RIGID	Typical
40	M35	N54	N56			RIGID	None	None	RIGID	Typical
41	M36	N57	N59			RIGID	None	None	RIGID	Typical
42	M37	N58	N60			RIGID	None	None	RIGID	Typical
43	M43	N70	N72			RIGID	None	None	RIGID	Typical
44	M44	N71	N73			RIGID	None	None	RIGID	Typical
45	M45	N74	N76			RIGID	None	None	RIGID	Typical
46	M46	N75	N77			RIGID	None	None	RIGID	Typical
47	M47	N78	N80			RIGID	None	None	RIGID	Typical
48	M48	N79	N81			RIGID	None	None	RIGID	Typical
49	K1	N92	N91		180	SFS	None	None	A36 Gr.36	Typical
50	K2	N94	N91		90	SFS	None	None	A36 Gr.36	Typical
51	K3	N95	N94A		180	SFS	None	None	A36 Gr.36	Typical
52	K4	N96	N94A		90	SFS	None	None	A36 Gr.36	Typical
53	K5	N98	N97		180	SFS	None	None	A36 Gr.36	Typical
54	K6	N99	N97		90	SFS	None	None	A36 Gr.36	Typical
55	SA-1	SA1	SA4			Support Arm	None	None	A500 Gr.B Rect	Typical
56	SA-2	SA2	SA5			Support Arm	None	None	A500 Gr.B Rect	Typical
57	SA-3	SA3	SA6			Support Arm	None	None	A500 Gr.B Rect	Typical

Member Advanced Data

	Label	I Release	J Release	I Offset[in]	J Offset[in]	T/C Only	Physical	Defl Ra...	Analysis...	Inactive	Seismi...
1	GSIP-C1						Yes	** NA **			None
2	GSIP-C2						Yes	** NA **			None
3	GSIP-C3						Yes	** NA **			None
4	FFTH						Yes	** NA **			None
5	GSIP-1						Yes	** NA **			None
6	GSIP-2						Yes	** NA **			None
7	GSIP-3						Yes	** NA **			None
8	SF1-TH						Yes	** NA **			None
9	SF2-TH						Yes	** NA **			None
10	FF-HR						Yes	** NA **			None
11	SF1-HR						Yes	** NA **			None
12	SF2-HR						Yes	** NA **			None
13	HR-CXN1	BenPIN	BenPIN				Yes	** NA **			None
14	HR-CXN2	BenPIN	BenPIN				Yes	** NA **			None
15	HR-CXN3	BenPIN	BenPIN				Yes	** NA **			None
16	K-1	BenPIN	BenPIN				Yes	** NA **			None
17	K-2	BenPIN	BenPIN				Yes	** NA **			None
18	K-3	BenPIN	BenPIN				Yes	** NA **			None
19	K-4	BenPIN	BenPIN				Yes	** NA **			None
20	K-5	BenPIN	BenPIN				Yes	** NA **			None
21	K-6	BenPIN	BenPIN				Yes	** NA **			None
22	MP-1						Yes	** NA **			None
23	MP-2						Yes	** NA **			None
24	MP-3						Yes	** NA **			None
25	MP-4						Yes	** NA **			None

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Member Advanced Data (Continued)

Label	I Release	J Release	I Offset(in)	J Offset(in)	T/C Only	Physical	Defl Ra.	Analysis...	Inactive	Seismi...
26	MP-5					Yes	** NA **			None
27	MP-6					Yes	** NA **			None
28	MP-7					Yes	** NA **			None
29	MP-8					Yes	** NA **			None
30	MP-9					Yes	** NA **			None
31	M19					Yes	** NA **			None
32	M20					Yes	** NA **			None
33	M23					Yes	** NA **			None
34	M24					Yes	** NA **			None
35	M25					Yes	** NA **			None
36	M26					Yes	** NA **			None
37	M32					Yes	** NA **			None
38	M33					Yes	** NA **			None
39	M34					Yes	** NA **			None
40	M35					Yes	** NA **			None
41	M36					Yes	** NA **			None
42	M37					Yes	** NA **			None
43	M43					Yes	** NA **			None
44	M44					Yes	** NA **			None
45	M45					Yes	** NA **			None
46	M46					Yes	** NA **			None
47	M47					Yes	** NA **			None
48	M48					Yes	** NA **			None
49	K1	BenPIN				Yes	** NA **			None
50	K2	BenPIN				Yes	** NA **			None
51	K3	BenPIN				Yes	** NA **			None
52	K4	BenPIN				Yes	** NA **			None
53	K5	BenPIN				Yes	** NA **			None
54	K6	BenPIN				Yes	** NA **			None
55	SA-1		BenPIN			Yes	** NA **			None
56	SA-2		BenPIN			Yes	** NA **			None
57	SA-3		BenPIN			Yes	** NA **			None

Hot Rolled Steel Design Parameters

Label	Shape	Length...	Lbvy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	Function
1	GSIP-C1	Corner Internal	3.75					1	1		Lateral
2	GSIP-C2	Corner Internal	3.75					1	1		Lateral
3	GSIP-C3	Corner Internal	3.75					1	1		Lateral
4	FFTH	Face Horizontal	14	7	7			1	1		Lateral
5	GSIP-1	Face Horizontal	7.505		3.753			1	1		Lateral
6	GSIP-2	Face Horizontal	7.505		3.753			1	1		Lateral
7	GSIP-3	Face Horizontal	7.505		3.753			1	1		Lateral
8	SF1-TH	Face Horizontal	14	7	7			1	1		Lateral
9	SF2-TH	Face Horizontal	14	7	7			1	1		Lateral
10	FF-HR	Handrail	13					2.1	2.1		Lateral
11	SF1-HR	Handrail	13					2.1	2.1		Lateral
12	SF2-HR	Handrail	13					2.1	2.1		Lateral
13	HR-CXN1	Handrail Angle	1.577					1	1		Lateral
14	HR-CXN2	Handrail Angle	1.577					1	1		Lateral
15	HR-CXN3	Handrail Angle	1.577					1	1		Lateral
16	K-1	Kickers	6.544					1	1		Lateral
17	K-2	Kickers	6.544					1	1		Lateral
18	K-3	Kickers	6.544					1	1		Lateral
19	K-4	Kickers	6.544					1	1		Lateral
20	K-5	Kickers	6.544					1	1		Lateral



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Hot Rolled Steel Design Parameters (Continued)

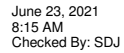
Label	Shape	Length...	Lbvy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	Function
21	K-6	Kickers	6.544					1	1		Lateral
22	MP-1	Mount Pipe	6	Segment	Segment			2.1	2.1		Lateral
23	MP-2	Mount Pipe	8	Segment	Segment			2.1	2.1		Lateral
24	MP-3	Mount Pipe	6	Segment	Segment			2.1	2.1		Lateral
25	MP-4	Mount Pipe	6	Segment	Segment			2.1	2.1		Lateral
26	MP-5	Mount Pipe	8	Segment	Segment			2.1	2.1		Lateral
27	MP-6	Mount Pipe	6	Segment	Segment			2.1	2.1		Lateral
28	MP-7	Mount Pipe	6	Segment	Segment			2.1	2.1		Lateral
29	MP-8	Mount Pipe	8	Segment	Segment			2.1	2.1		Lateral
30	MP-9	Mount Pipe	6	Segment	Segment			2.1	2.1		Lateral
31	K1	SFS	5.896					1	1		Lateral
32	K2	SFS	5.896					1	1		Lateral
33	K3	SFS	5.896					1	1		Lateral
34	K4	SFS	5.896					1	1		Lateral
35	K5	SFS	5.896					1	1		Lateral
36	K6	SFS	5.896					1	1		Lateral
37	SA-1	Support Arm	2.741					1	1		Lateral
38	SA-2	Support Arm	2.741					1	1		Lateral
39	SA-3	Support Arm	2.741					1	1		Lateral

Cold Formed Steel Design Parameters

Label	Shape	Length...	Lbvy[ft]	Lbzz[ft]	Lcomp to...	Lcomp bo...	L-torque[ft]	Kyy	Kzz	Cb	R	a[ft]	Funct...
No Data to Print ...													

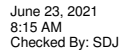
Basic Load Cases

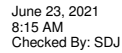
	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...	Surface(P...
1	Dead	None		-1			30		3
2	0 Wind - No Ice	None					30	39	
3	30 Wind - No Ice	None					60	78	
4	45 Wind - No Ice	None					60	78	
5	60 Wind - No Ice	None					60	78	
6	90 Wind - No Ice	None					30	39	
7	120 Wind - No Ice	None					60	78	
8	135 Wind - No Ice	None					60	78	
9	150 Wind - No Ice	None					60	78	
10	180 Wind - No Ice	None					30	39	
11	210 Wind - No Ice	None					60	78	
12	225 Wind - No Ice	None					60	78	
13	240 Wind - No Ice	None					60	78	
14	270 Wind - No Ice	None					30	39	
15	300 Wind - No Ice	None					60	78	
16	315 Wind - No Ice	None					60	78	
17	330 Wind - No Ice	None					60	78	
18	Ice Weight	None					30	39	3
19	0 Wind - Ice	None					30	39	
20	30 Wind - Ice	None					60	78	
21	45 Wind - Ice	None					60	78	
22	60 Wind - Ice	None					60	78	
23	90 Wind - Ice	None					30	39	
24	120 Wind - Ice	None					60	78	
25	135 Wind - Ice	None					60	78	
26	150 Wind - Ice	None					60	78	
27	180 Wind - Ice	None					30	39	
28	210 Wind - Ice	None					60	78	



	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed Area(Me...)	Surface(P...
29	225 Wind - Ice	None					60	78	
30	240 Wind - Ice	None					60	78	
31	270 Wind - Ice	None					30	39	
32	300 Wind - Ice	None					60	78	
33	315 Wind - Ice	None					60	78	
34	330 Wind - Ice	None					60	78	
35	Lm	None				1			
36	Lv	None				1			
37	Seismic Load X	ELX	-1				30		
38	Seismic Load Z	ELZ			-1		30		
39	BLC 1 Transient Area...	None						30	
40	BLC 18 Transient Are...	None						30	

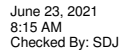
	Description	So...	P...	S...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...	BLCFac...
1	1.4D	Yes	Y		1	1.4											
2	0.9D+1.0 0-Wind	Yes	Y		1	.9	2	1									
3	0.9D+1.0 30-Wind	Yes	Y		1	.9	3	1									
4	0.9D+1.0 45-Wind	Yes	Y		1	.9	4	1									
5	0.9D+1.0 60-Wind	Yes	Y		1	.9	5	1									
6	0.9D+1.0 90-Wind	Yes	Y		1	.9	6	1									
7	0.9D+1.0 120-Wind	Yes	Y		1	.9	7	1									
8	0.9D+1.0 135-Wind	Yes	Y		1	.9	8	1									
9	0.9D+1.0 150-Wind	Yes	Y		1	.9	9	1									
10	0.9D+1.0 180-Wind	Yes	Y		1	.9	10	1									
11	0.9D+1.0 210-Wind	Yes	Y		1	.9	11	1									
12	0.9D+1.0 225-Wind	Yes	Y		1	.9	12	1									
13	0.9D+1.0 240-Wind	Yes	Y		1	.9	13	1									
14	0.9D+1.0 270-Wind	Yes	Y		1	.9	14	1									
15	0.9D+1.0 300-Wind	Yes	Y		1	.9	15	1									
16	0.9D+1.0 315-Wind	Yes	Y		1	.9	16	1									
17	0.9D+1.0 330-Wind	Yes	Y		1	.9	17	1									
18	1.2D+1.0 0-Wind	Yes	Y		1	1.2	2	1									
19	1.2D+1.0 30-Wind	Yes	Y		1	1.2	3	1									
20	1.2D+1.0 45-Wind	Yes	Y		1	1.2	4	1									
21	1.2D+1.0 60-Wind	Yes	Y		1	1.2	5	1									
22	1.2D+1.0 90-Wind	Yes	Y		1	1.2	6	1									
23	1.2D+1.0 120-Wind	Yes	Y		1	1.2	7	1									
24	1.2D+1.0 135-Wind	Yes	Y		1	1.2	8	1									
25	1.2D+1.0 150-Wind	Yes	Y		1	1.2	9	1									
26	1.2D+1.0 180-Wind	Yes	Y		1	1.2	10	1									
27	1.2D+1.0 210-Wind	Yes	Y		1	1.2	11	1									
28	1.2D+1.0 225-Wind	Yes	Y		1	1.2	12	1									
29	1.2D+1.0 240-Wind	Yes	Y		1	1.2	13	1									
30	1.2D+1.0 270-Wind	Yes	Y		1	1.2	14	1									
31	1.2D+1.0 300-Wind	Yes	Y		1	1.2	15	1									
32	1.2D+1.0 315-Wind	Yes	Y		1	1.2	16	1									
33	1.2D+1.0 330-Wind	Yes	Y		1	1.2	17	1									
34	1.2D+1.0Di+1.0 0-Win....	Yes	Y		1	1.2	18	1	19	1							
35	1.2D+1.0Di+1.0 30-Wi..	Yes	Y		1	1.2	18	1	20	1							
36	1.2D+1.0Di+1.0 45-Wi..	Yes	Y		1	1.2	18	1	21	1							
37	1.2D+1.0Di+1.0 60-Wi..	Yes	Y		1</												

[illegible]

[illegible]

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	SA1	max	1.109	2	1.803	42	1.291	20	.361	22	.922	11	3.576	42
2		min	-1.348	26	.101	2	-1.295	28	-.915	63	-.936	19	.172	2
3	SA2	max	1.483	19	1.784	37	1.542	22	3.037	37	.931	6	.009	11
4		min	-1.36	11	.101	13	-1.333	14	.055	62	-.945	30	-1.863	34
5	SA3	max	1.564	33	1.784	47	1.274	6	-.139	7	.915	17	-.033	9
6		min	-1.442	9	.101	7	-1.483	30	-3.08	47	-.929	25	-1.782	34
7	N91	max	3.038	34	1.696	34	.654	6	0	98	0	98	0	98
8		min	-.179	10	-.028	10	-.665	30	0	1	0	1	0	1
9	N94A	max	.352	3	1.676	45	.239	6	0	98	0	98	0	98
10		min	-1.657	42	-.028	5	-2.601	45	0	1	0	1	0	1
11	N97	max	.39	17	1.676	39	2.613	39	0	98	0	98	0	98
12		min	-1.651	42	-.028	15	-.188	14	0	1	0	1	0	1
13	Totals:	max	6.115	2	9.556	34	6.009	22						
14		min	-6.115	26	2.831	92	-6.009	14						

	Member	Shape	Code	Check	Loc(f)	LC	Shea.	Loc.	Dir	Cphi	Pn.	phi	Pnt.	phi	Mn.	phi	Mn.	Cb	Eqn
1	MP-8	PIPE 2.0		.594	5	28	.072	5		21	19.964	32.13	1.872	1.872	1.1	H1-1b			
2	MP-5	PIPE 2.0		.576	5	23	.072	5		31	19.964	32.13	1.872	1.872	1.1	H1-1b			
3	MP-2	PIPE 2.0		.570	5	26	.072	5		28	19.964	32.13	1.872	1.872	1.1	H1-1b			
4	FFTH	L3X3X4		.497	7	61	.087	7	y	42	15.778	46.656	1.688	2.793	1.1	H2-1			
5	SF1-TH	L3X3X4		.419	7	22	.087	7	z	36	15.778	46.656	1.688	2.704	1.1	H2-1			
6	SF2-TH	L3X3X4		.418	7	33	.087	7	z	47	15.778	46.656	1.688	2.704	1.1	H2-1			
7	K2	L2.5x2.5x3		.413	5.896	34	.008	5.896	y	28	9.446	29.192	.873	1.536	1.1	H2-1			
8	K1	L2.5x2.5x3		.411	5.896	34	.008	5.896	y	24	9.446	29.192	.873	1.536	1.1	H2-1			
9	K4	L2.5x2.5x3		.411	5.896	44	.008	5.896	y	23	9.446	29.192	.873	1.536	1.1	H2-1			
10	K6	L2.5x2.5x3		.411	5.896	39	.008	5.896	y	33	9.446	29.192	.873	1.538	1.1	H2-1			
11	K5	L2.5x2.5x3		.410	5.896	40	.008	5.896	y	30	9.446	29.192	.873	1.536	1.1	H2-1			
12	K3	L2.5x2.5x3		.409	5.896	45	.008	5.896	y	19	9.446	29.192	.873	1.538	1.1	H2-1			
13	GSIP-1	L3X3X4		.385	3.752	60	.019	3.752	z	62	13.727	46.656	1.688	3.222	1.1	H2-1			
14	GSIP-3	L3X3X4		.379	3.752	62	.019	3.752	z	61	13.727	46.656	1.688	3.229	1.1	H2-1			
15	MP-4	PIPE 2.0		.367	3.5	62	.210	.5		47	19.964	32.13	1.872	1.872	2.1	H1-1b			
16	SA-1	HSS3.5X...		.313	0	41	.121	0	y	62	115.515	120.474	12.075	12.075	1.1	H1-1b			
17	SA-2	HSS3.5X...		.312	0	35	.069	0	y	34	115.515	120.474	12.075	12.075	1.1	H1-1b			
18	SA-3	HSS3.5X...		.310	0	49	.116	0	y	61	115.515	120.474	12.075	12.075	1.1	H1-1b			
19	SF2-HR	PIPE 2.0		.306	6.229	32	.243	1.49	47	1.32	32.13	1.872	1.872	2.1	H1-1b				
20	FF-HR	PIPE 2.0		.304	6.229	26	.240	1.49	42	1.32	32.13	1.872	1.872	2.1	H1-1b				
21	SF1-HR	PIPE 2.0		.304	6.229	21	.243	1.49	37	1.32	32.13	1.872	1.872	2.1	H1-1b				
22	GSIP-2	L3X3X4		.298	3.752	34	.017	3.752	z	40	13.727	46.656	1.688	3.203	1.1	H2-1			
23	MP-3	PIPE 2.0		.291	3.5	60	.200	.5		42	19.964	32.13	1.872	1.872	1.1	H1-1b			
24	MP-9	PIPE 2.0		.238	.5	37	.202	.5		37	31.708	32.13	1.872	1.872	2.1	H1-1b			
25	MP-6	PIPE 2.0		.238	.5	47	.202	.5		47	31.708	32.13	1.872	1.872	1.1	H1-1b			
26	MP-1	PIPE 2.0		.236	.5	42	.209	.5		42	31.708	32.13	1.872	1.872	2.1	H1-1b			
27	MP-7	PIPE 2.0		.235	.5	37	.210	.5		37	31.708	32.13	1.872	1.872	1.1	H1-1b			
28	GSIP-C2	LL3x3x4x0		.089	3.75	58	.017	0	y	60	76.533	93.312	6.48	4.368					



	Member	Shape	Code	Check	Loc(flt)	LC	Shea.	Loc.	Dir.	Cb1	Pri	Pn	ph1	Pnt	ph1	Mn	ph1	Mn	Cb	Fon
34	K-2	PIPE 2.0		.042	3.272	45	.029	0	41	19.226	32.13	1.872	1.872	1.1	H1-1b					
35	K-5	PIPE 2.0		.042	3.272	39	.029	0	35	19.226	32.13	1.872	1.872	1.1	H1-1b					
36	K-3	PIPE 2.0		.042	3.272	34	.030	6.544	63	19.226	32.13	1.872	1.872	1.1	H1-1b					
37	HR-CXN2	L3X3/4		.041	.789	42	.015	1.577	y	304	44.154	46.656	1.688	3.756	1.1	H2-1				
38	HR-CXN1	L3X3/4		.041	.789	37	.015	1.577	y	254	44.154	46.656	1.688	3.756	1.1	H2-1				
39	HR-CXN3	L3X3/4		.041	.789	47	.015	1.577	y	194	44.154	46.656	1.688	3.756	1.1	H2-1				

Member	Shape	Code...	Loc[ft]	LC	Shear...	Loc[ft]	Dir	LC	Pn/Om[k]	Tn/Om[k]	Mnyy/O...	Mnzz/O...	Vny/...	Vnz/...	Cb	Eqn
No Data to Print ...																



302489 - Enfd - Enfield

TEP No. 68085.563867

Analysis By: NPD 6/23/2021

Checked By: SDJ 6/23/2021

Code Revisions:	TIA-222-H	IBC 2018
Tower Type:	Monopole	

Wind Inputs:

Ult. Wind Velocity:	116.0	mph
Live Load Velocity:	30.0	mph
Ice Wind Velocity:	50.0	mph
Base Ice Thickness:	1.50	inches
Mount Centerline:	140.0	ft
Antenna Centerline:	140.0	ft
Exposure Category:	C	
Topo Category:	1	
Risk Category:	II	
Ground Elevation:	163	ft

Wind Calculations:

K_{zt} :	1.000	Section 2.6.6
K_d :	0.950	
$K_{z-Mount}$:	1.359	Section 2.6.5.2
$K_{z-Antenna}$:	1.359	Section 2.6.5.2
K_{iz} :	1.155	Section 2.6.10
Ice Thickness:	1.733	inches - Section 2.6.10

Without Ice - (psf)	With Ice - (psf)
$(q_z G_h)_{Mount}$: 44.20	$(q_z G_h)_{Mount}$: 8.21
$(q_z G_h)_{Antenna}$: 44.20	$(q_z G_h)_{Antenna}$: 8.21

Seismic Code Revisions:	TIA-222-H
Seismic Risk Category:	II

Seismic Input

S_{DS} :	0.186	Design Short Period Spectral Accel.
I_p :	1.0	Importance Factor
R_p :	2.0	Response Modification Factor
ρ :	1.0	
A_s :	1.0	Applification Factor - TIA-222-H Section 2.7.8.1
S_1 :	0.055	Spectral Acceleration at a Period of 1 Second

Seismic Design Force

Cs:	0.093	kips/kip	TIA-H Sec 2.7.7.1.1
Cs-min:	0.030	kips/kip	TIA-H Sec 2.7.7.1.1



302489 - Enfd - Enfield
 TEP No. 68085.563867
 Analysis By: NPD 6/23/2021
 Checked By: SDJ 6/23/2021

Antenna Loads are Calculated in Accordance with TIA-222-H

Azimuth is the absolute angle measured clockwise from RISA-3D global X-axis.

MFR	Model	Height (in)	Width (in)	Depth (in)	Wt. (lbs)	Azimuth°	Qty	Shape	Member Label	Distance from start node of the member		
										Location #1 (ft,%)	Location #2 (ft,%)	Location #3 (ft,%)
Ericsson	AIR6449 B41	33.10	20.60	8.60	104.00	0.00	1	Flat	MP-1	2.00	4.00	
RFS/CELWAVE	APXVAALL24_43-U-NA20	95.90	24.00	8.50	122.80	0.00	1	Flat	MP-2	0.50	7.50	
Commscope	SDX1926Q-43	4.17	6.93	2.91	6.17	0.00	1	Flat	MP-2	2.00		
Ericsson	RRUS 4415	14.96	13.19	5.39	44.00	0.00	1	Flat	MP-2	4.00		
RFS/CELWAVE	APX16DWV-16DWV-S-E-A20	55.90	13.30	3.15	40.70	0.00	1	Flat	MP-3	1.00	5.00	
Ericsson	RADIO 4449 B71/B85A	14.96	13.19	10.51	74.95	90.00	1	Flat	MP-3	2.00		
Ericsson	RADIO 4424 B25	17.10	14.40	11.30	86.00	90.00	1	Flat	MP-3	2.00		
Ericsson	AIR6449 B41	33.10	20.60	8.60	104.00	120.00	1	Flat	MP-4	2.00	4.00	
RFS/CELWAVE	APXVAALL24_43-U-NA20	95.90	24.00	8.50	122.80	120.00	1	Flat	MP-5	0.50	7.50	
Commscope	SDX1926Q-43	4.17	6.93	2.91	6.17	120.00	1	Flat	MP-5	2.00		
Ericsson	RRUS 4415	14.96	13.19	5.39	44.00	120.00	1	Flat	MP-5	4.00		
RFS/CELWAVE	APX16DWV-16DWV-S-E-A20	55.90	13.30	3.15	40.70	120.00	1	Flat	MP-6	1.00	5.00	
Ericsson	RADIO 4449 B71/B85A	14.96	13.19	10.51	74.95	210.00	1	Flat	MP-6	2.00		
Ericsson	RADIO 4424 B25	17.10	14.40	11.30	86.00	210.00	1	Flat	MP-6	2.00		
Ericsson	AIR6449 B41	33.10	20.60	8.60	104.00	240.00	1	Flat	MP-7	2.00	4.00	
RFS/CELWAVE	APXVAALL24_43-U-NA20	95.90	24.00	8.50	122.80	240.00	1	Flat	MP-8	0.50	7.50	
Commscope	SDX1926Q-43	4.17	6.93	2.91	6.17	240.00	1	Flat	MP-8	2.00		
Ericsson	RRUS 4415	14.96	13.19	5.39	44.00	240.00	1	Flat	MP-8	4.00		
RFS/CELWAVE	APX16DWV-16DWV-S-E-A20	55.90	13.30	3.15	40.70	240.00	1	Flat	MP-9	1.00	5.00	
Ericsson	RADIO 4449 B71/B85A	14.96	13.19	10.51	74.95	330.00	1	Flat	MP-9	2.00		
Ericsson	RADIO 4424 B25	17.10	14.40	11.30	86.00	330.00	1	Flat	MP-9	2.00		



**TOWER
ENGINEERING
PROFESSIONALS**

302489 - Enfd - Enfield

TEP No.

68085.563867

Analysis By:

NPD

6/23/2021

Checked By:

SDJ

6/23/2021

Member Forces are Calculated in Accordance with TIA-222-H

Member Name	Wind Proj. (in)	Length (in)	Shape	θ (°)	Perimeter (in)
GSIP-C1	3.000	45.00	Flat	60.00	18.00
GSIP-C2	3.000	45.00	Flat	-60.00	18.00
GSIP-C3	3.000	45.00	Flat	0.00	18.00
FFTH	3.000	168.00	Flat	90.00	12.00
GSIP-1	3.000	90.06	Flat	90.00	12.00
GSIP-2	3.000	90.06	Flat	30.00	12.00
GSIP-3	3.000	90.06	Flat	-30.00	12.00
SF1-TH	3.000	168.00	Flat	30.00	12.00
SF2-TH	3.000	168.00	Flat	-30.00	12.00
FF-HR	2.375	156.00	Round	90.00	7.46
SF1-HR	2.375	156.00	Round	30.00	7.46
SF2-HR	2.375	156.00	Round	-30.00	7.46
HR-CXN1	3.000	18.93	Flat	30.00	12.00
HR-CXN2	3.000	18.93	Flat	90.00	12.00
HR-CXN3	3.000	18.93	Flat	-30.00	12.00
K-1	2.375	78.53	Round		7.46
K-2	2.375	78.53	Round		7.46
K-3	2.375	78.53	Round		7.46
K-4	2.375	78.53	Round		7.46
K-5	2.375	78.53	Round		7.46
K-6	2.375	78.53	Round		7.46
MP-1	2.375	72.00	Round		7.46
MP-2	2.375	96.00	Round		7.46
MP-3	2.375	72.00	Round		7.46
MP-4	2.375	72.00	Round		7.46
MP-5	2.375	96.00	Round		7.46
MP-6	2.375	72.00	Round		7.46
MP-7	2.375	72.00	Round		7.46
MP-8	2.375	96.00	Round		7.46
MP-9	2.375	72.00	Round		7.46
K1	2.500	70.75	Flat		10.00
K2	2.500	70.75	Flat		10.00
K3	2.500	70.75	Flat		10.00
K4	2.500	70.75	Flat		10.00
K5	2.500	70.75	Flat		10.00
K6	2.500	70.75	Flat		10.00
SA-1	3.500	32.90	Flat	0.00	14.00
SA-2	3.500	32.90	Flat	-60.00	14.00

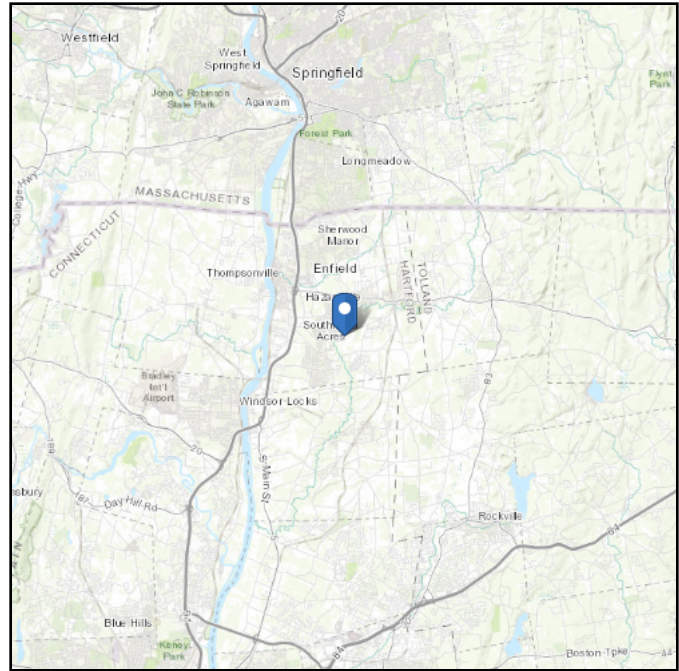
SA-3	3.500	32.90	Flat	60.00	14.00
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ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see
Section 11.4.3)

Elevation: 162.94 ft (NAVD 88)
Latitude: 41.9659
Longitude: -72.5527



Wind

Results:

Wind Speed:	116 Vmph
10-year MRI	75 Vmph
25-year MRI	83 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu May 27 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

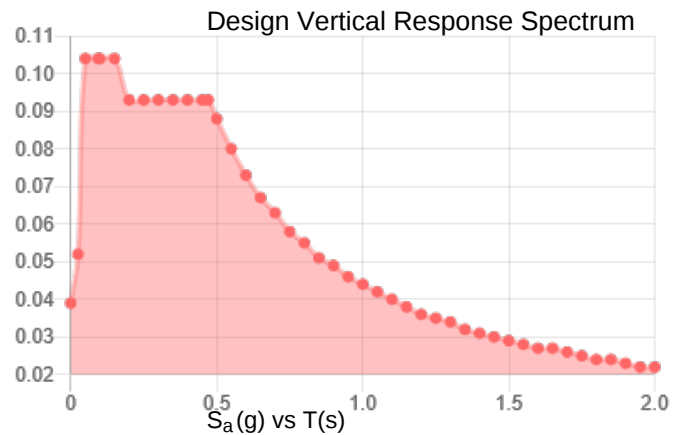
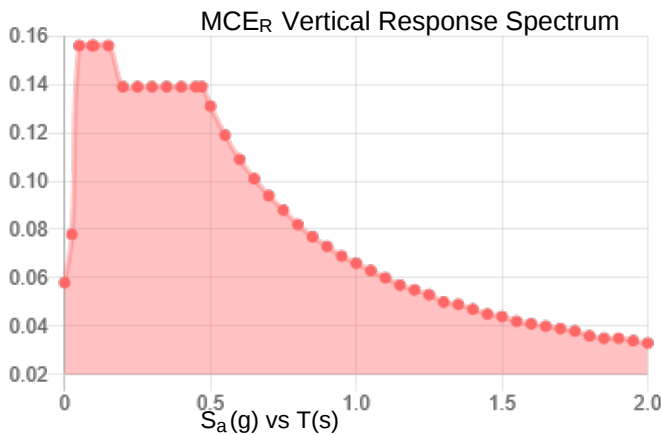
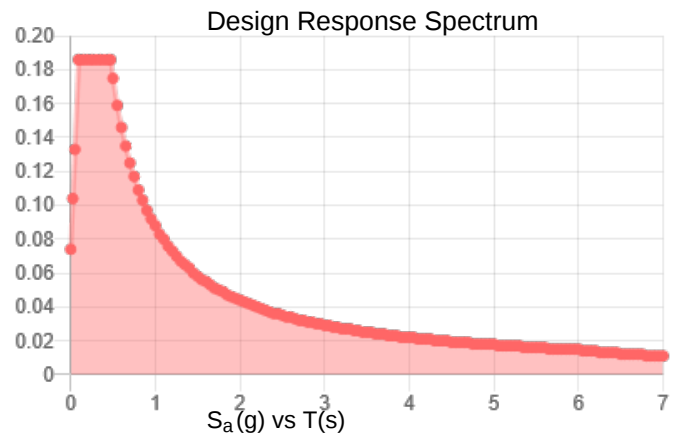
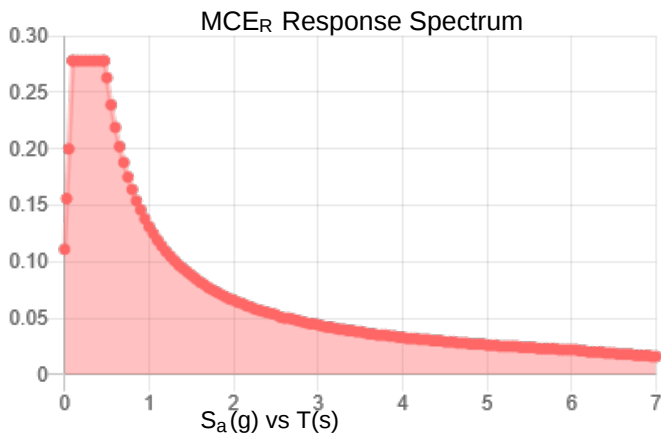
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Default (see Section 11.4.3)

Results:

S_S :	0.174	S_{D1} :	0.088
S_1 :	0.055	T_L :	6
F_a :	1.6	PGA :	0.091
F_v :	2.4	PGA _M :	0.146
S_{MS} :	0.278	F_{PGA} :	1.6
S_{M1} :	0.131	I_e :	1
S_{DS} :	0.186	C_v :	0.7

Seismic Design Category B



Data Accessed:

Thu May 27 2021

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.50 in.

Concurrent Temperature: 5 F

Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Thu May 27 2021

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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AMERICAN TOWER®
C O R P O R A T I O N

Structural Analysis Report

Structure : 150 ft Monopole
ATC Site Name : Enfd - Enfield, CT
ATC Asset Number : 302489
Engineering Number : 13678283_C3_02
Proposed Carrier : T-MOBILE
Carrier Site Name : CT534/Spectrasite Enfield
Carrier Site Number : CT11534A
Site Location : 77 Town Farm Road
Enfield, CT 06082-5152
41.965900,-72.552700
County : Hartford
Date : June 25, 2021
Max Usage : 99%
Result : Pass

Prepared By:
Colson Teal
TEP

Reviewed By:



Authorized by "EOR"
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cosign

COA: PEC.0001553



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Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 150 ft monopole to reflect the change in loading by T-MOBILE.

Supporting Documents

Tower Drawings	Smith Cullum Acquisition #CT-0025, dated May 14, 2001 ITT Meyer Specification #AT-8935, Type B, dated April 13, 1984
Foundation Drawing	Southern New England Telephone, dated June 6, 1985
Geotechnical Report	MB & A Project #011107, dated June 16, 2001
Modifications	ATC Job #40071639, dated December 6, 2007 ATC Job #48982632, dated April 25, 2012 ATC Job #613768312, dated February 2, 2016
Site Specific Study	ICE Report for Site 302489, dated April 24, 2019
Mount Analysis	ATC-TEP Job# 68085.563867, dated June 23, 2021

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:	116 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	77 mph (3-Second Gust) w/ 1.65" radial ice concurrent
Code:	ANSI/TIA-222-H / 2015 IBC / 2018 Connecticut State Building Code
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 3
Topographic Category:	1
Crest Height (H):	0 ft
Spectral Response:	$S_s = 0.17$, $S_1 = 0.06$
Site Class:	D - Stiff Soil

*Wind pressures have been determined per the site-specific climatic study in accordance with ASCE 7-16 Section 26.5.3, IBC Section 1609.3, and TIA-222-H Section 2.6.6.2.3.

**Ice and concurrent wind pressures have been determined per the site-specific climatic study in accordance with ASCE 7-16 Section 10.1.1, IBC Section 1614, and TIA-222-H Section 2.6.4.1.

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	1	Decibel DB809KE-SY	Stand-Off	(1) 1 5/8" Coax	SPOK HOLDINGS, INC.
154.0	2	Raycap DC6-48-60-18-8F ("Squid")	Triangular Platform with Handrails	(4) 0.78" (19.7mm) 8 AWG 6 (11) 1 5/8" Coax (1) 2" conduit (2) 3" conduit (2) 0.39" (10mm) Fiber Trunk (1) 3" conduit	AT&T MOBILITY
	3	Ericsson RRUS A2 B2			
	3	Powerwave Allgon LGP21401			
	3	Kaelus DBC0061F1V51-2			
	3	Ericsson RRUS 32 B30			
	3	Ericsson RRUS 11 (Band 12) (55 lb)			
	3	Powerwave Allgon 7770.00			
	3	Ericsson Radio 8843			
	3	Ericsson RRUS-12 B2			
	3	Ericsson RRUS-11 (19.7")			
	3	CCI OPA-65R-LCUU-H8			
151.0	3	CCI TPA-65R-LCUUUU-H8			
152.0	2	Diamond X50A	Stand-Off	(2) 1/2" Coax	ENERTRAC, INC.
140.0	-	-	Triangular Platform with Handrails	(6) 1 5/8" Coax	T-MOBILE
130.0	3	Commscope NHHSS-65C-R2B	Triangular Low Profile Platform	(6) 1 5/8" Coax (2) 1 5/8" Hybriflex	VERIZON WIRELESS
	3	Commscope NHH-65B-R2B			
	3	Amphenol Antel BXA-80080-6CF-EDIN-X			
	3	Samsung MT6407-77A			
	1	Raycap RCMD-6627-PF-48			
	3	Samsung B5/B13 RRH-BR04C			
	3	Samsung Outdoor CBR5 20W RRH			
	3	Samsung B2/B66A RRH-BR049			
120.0	3	Generic 76" x 6" Panel	Flush	(6) 1 5/8" Coax	METRO PCS INC
111.0	6	Alcatel-Lucent RRH2x50-08	Side Arm	(4) 1 1/4" Hybriflex Cable (4) 1/2" Coax (2) 2" conduit	CLEARWIRE CORPORATION
	3	Nokia FZHN Flexi RRH 8TR 2600 9*20W			
	3	Commscope NNVV-65B-R4			
	3	Alcatel-Lucent 1900MHz RRH (65MHz) w/ solar shield			
	3	RFS APXVTM14-ALU-I20			
	2	DragonWave Horizon Compact			
	2	DragonWave A-ANT-11G-2-C			
108.0	1	Generic 24" x 24" Junction Box			
64.0	1	Channel Master Type 120	Side Arm	(1) 0.28" (7mm) RG-6	SPOK HOLDINGS, INC.

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
140.0	3	Ericsson KRY 112 144/1	-	(1) 1 1/4" Hybriflex Cable (6) 1 5/8" Coax	T-MOBILE
	3	Ericsson AIR 21, 1.3M, B4A B2P			
	3	Andrew LNX-6515DS-VTM			
	3	Ericsson AIR 21, 1.3 M, B2A B4P			
	3	Ericsson RRUS-11 (50 lbs.)			



Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
140.0	3	Commscope SDX1926Q-43	Triangular Platform with Handrails	(3) 1 5/8" Hybriflex	T-MOBILE
	3	Ericsson Radio 4449 B71 B85A			
	3	Ericsson RRUS 4415 B66			
	3	Ericsson 4424 B25			
	3	Ericsson Air6449 B41			
	3	RFS APX16DWV-16DWVS-E-A20			
	3	RFS APXVAALL24 43-U-NA20			

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

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	79%	Pass
Shaft	99%	Pass
Base Plate	55%	Pass
Reinforcement	99%	Pass
Flange	52%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	3,949.8	86%
Axial (Kips)	77.8	49%
Shear (Kips)	36.5	68%

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



Deflection and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
140.0	Commscope SDX1926Q-43	T-MOBILE	2.247	2.034
	Ericsson Radio 4449 B71 B85A			
	Ericsson RRUS 4415 B66			
	Ericsson 4424 B25			
	Ericsson Air6449 B41			
	RFS APX16DWV-16DWVS-E-A20			
	RFS APXVAALL24 43-U-NA20			
111.0	DragonWave A-ANT-11G-2-C	CLEARWIRE CORPORATION	1.367	1.515
64.0	Channel Master Type 120	SPOK HOLDINGS, INC.	0.433	0.751

*Deflection 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:

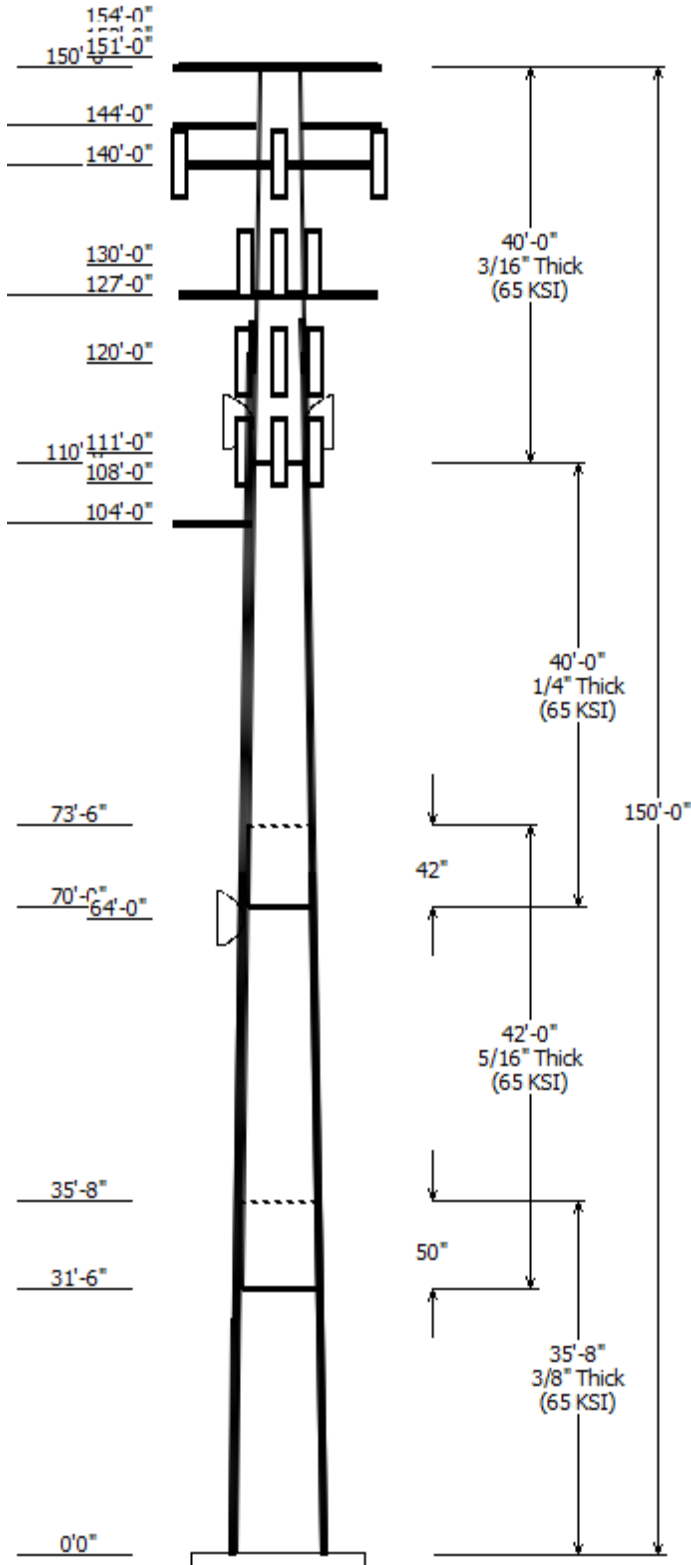
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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

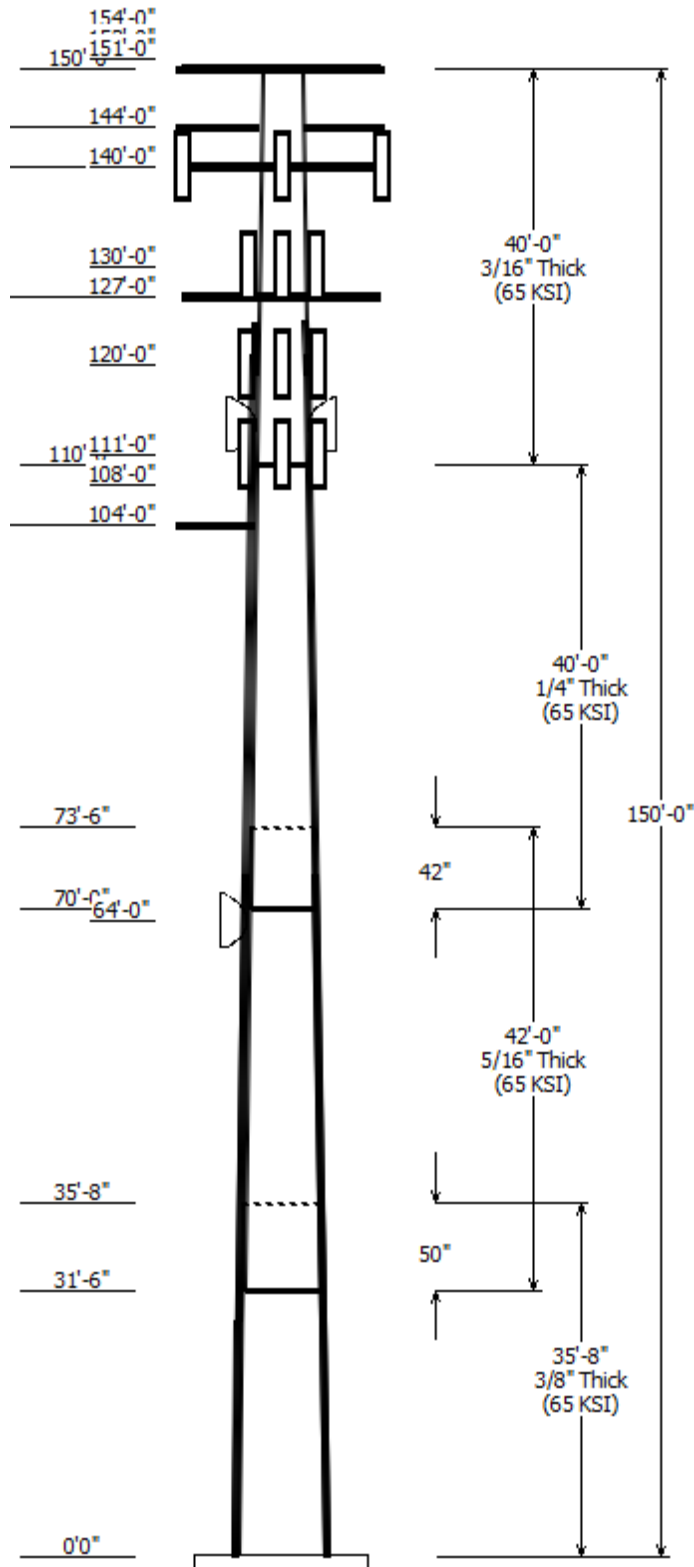
Client : T-MOBILE
 Pole : 302489 Code: ANSI/TIA-222-H
 Location : Enfd - Enfield, CT
 Description : Risk Category : II
 Shape : 12 Sides Exposure : C
 Height : 150.00 (ft) Topo Method : Method 3
 Base Elev (ft): 0.00 Topographic Category : 1
 Taper: 0.15670@in/ft)

Sections Properties

Section	Length (ft)	Diameter (in)		Thick (in)	Joint Type	Overlap Length (in)	Steel Grade
		Top	Bottom				
1	35.667	31.79	37.38	0.375		0.000	12 Sides 65
2	42.000	26.48	33.06	0.313	Slip Joint	50.000	12 Sides 65
3	40.000	21.26	27.53	0.250	Slip Joint	42.000	12 Sides 65
4	40.000	15.00	21.26	0.188	Butt Joint	0.000	12 Sides 65

Discrete Appurtenance

Attach Elev (ft)	Force Elev (ft)	Qty	Description
162.000	162.000	1	Decibel DB809KE-SY
154.000	154.000	3	Powerwave Allgon 7770.00
154.000	154.000	3	Ericsson Radio 8843
154.000	154.000	3	Ericsson RRUS-11 (19.7")
154.000	154.000	3	Ericsson RRUS 32 B30
154.000	154.000	3	Ericsson RRUS 11 (Band 12) (55
154.000	154.000	3	Ericsson RRUS-12 B2
154.000	154.000	3	Ericsson RRUS A2 B2
154.000	154.000	3	Powerwave Allgon LGP21401
154.000	154.000	3	Kaelus DBC0061F1V51-2
154.000	154.000	2	Raycap DC6-48-60-18-8F
152.000	152.000	2	Diamond X50A
151.000	151.000	3	CCI TPA-65R-LCUUUU-H8
151.000	151.000	3	CCI OPA-65R-LCUU-H8
150.000	150.000	3	Round Side Arm
150.000	150.000	1	Platform w/ Handrails
144.000	144.000	2	Stand-Off
140.000	140.000	1	Platform w/ Handrails
140.000	140.000	3	RFS APXVAALL24 43-U-NA20
140.000	140.000	3	RFS APX16DWV-16DWVS-E-A20
140.000	140.000	3	Ericsson Air6449 B41
140.000	140.000	3	Ericsson 4424 B25
140.000	140.000	3	Ericsson RRUS 4415 B66
140.000	140.000	3	Ericsson Radio 4449 B71 B85A
140.000	140.000	3	Commscope SDX1926Q-43
130.000	130.000	3	Commscope NHHSS-65C-R2B
130.000	130.000	3	Commscope NHH-65B-R2B
130.000	130.000	3	Amphenol Antel BXA-80080-
130.000	130.000	3	Samsung MT6407-77A
130.000	130.000	1	Raycap RCMD-6627-PF-48
130.000	130.000	3	Samsung B2/B66A RRH-BR049
130.000	130.000	3	Samsung B5/B13 RRH-BR04C
130.000	130.000	3	Samsung Outdoor CBRS 20W
127.000	127.000	1	Round Low Profile Platform
120.000	120.000	3	Generic 76" x 6" Panel
111.000	111.000	3	RFS APXVTM14-ALU-I20
111.000	112.000	2	DragonWave A-ANT-11G-2-C
111.000	111.000	3	Alcatel-Lucent 1900MHz RRH
111.000	111.000	3	Commscope NNVV-65B-R4
111.000	111.000	3	Nokia FZHN Flexi RRH 8TR 2600
111.000	111.000	6	Alcatel-Lucent RRH2x50-08
111.000	112.000	2	DragonWave Horizon Compact
108.000	112.000	1	Generic 24" x 24" Junction Box
104.000	104.000	1	Side Arm



64.000 64.000 1 Channel Master Type 120

Linear Appurtenance

Elev (ft)		Description	Exposed To Wind
From	To		
140.0	150.0	1 5/8" Coax	Yes
140.0	151.0	0.39" (10mm)	Yes
114.0	129.0	#20 Dywidag bars	Yes
114.0	129.0	#20 Dywidag bars	Yes
114.0	129.0	#20 Dywidag bars	Yes
114.0	129.0	#20 Dywidag bars	Yes
31.000	76.700	#20 Dywidag bars	Yes
31.000	76.700	#20 Dywidag bars	Yes
31.000	76.700	#20 Dywidag bars	Yes
31.000	76.700	#20 Dywidag bars	Yes
10.000	108.0	2" conduit	Yes
10.000	130.0	1 5/8" Coax	Yes
10.000	130.0	1 5/8" Hybriflex	Yes
10.000	111.0	1 1/4" Hybriflex	Yes
10.000	140.0	1 5/8" Coax	No
10.000	150.0	1 5/8" Coax	No
10.000	154.0	0.78" (19.7mm) 8	No
10.000	154.0	2" conduit	No
0.000	162.0	1 5/8" Coax	No
0.000	151.0	3" conduit	No
0.000	152.0	1/2" Coax	No
0.000	154.0	1 5/8" Coax	No
0.000	154.0	3" conduit	No
0.000	120.0	1 5/8" Coax	Yes
0.000	125.0	#20 Dywidag bars	Yes
0.000	125.0	#20 Dywidag bars	Yes
0.000	125.0	#20 Dywidag bars	Yes
0.000	125.0	#20 Dywidag bars	Yes
0.000	140.0	1 5/8" Hybriflex	Yes
0.000	111.0	1/2" Coax	No
0.000	31.000	#20 Dywidag bars	Yes
0.000	31.000	#20 Dywidag bars	Yes
0.000	31.000	#20 Dywidag bars	Yes
0.000	31.000	#20 Dywidag bars	Yes
0.000	64.000	0.28" (7mm) RG-6	Yes

Load Cases

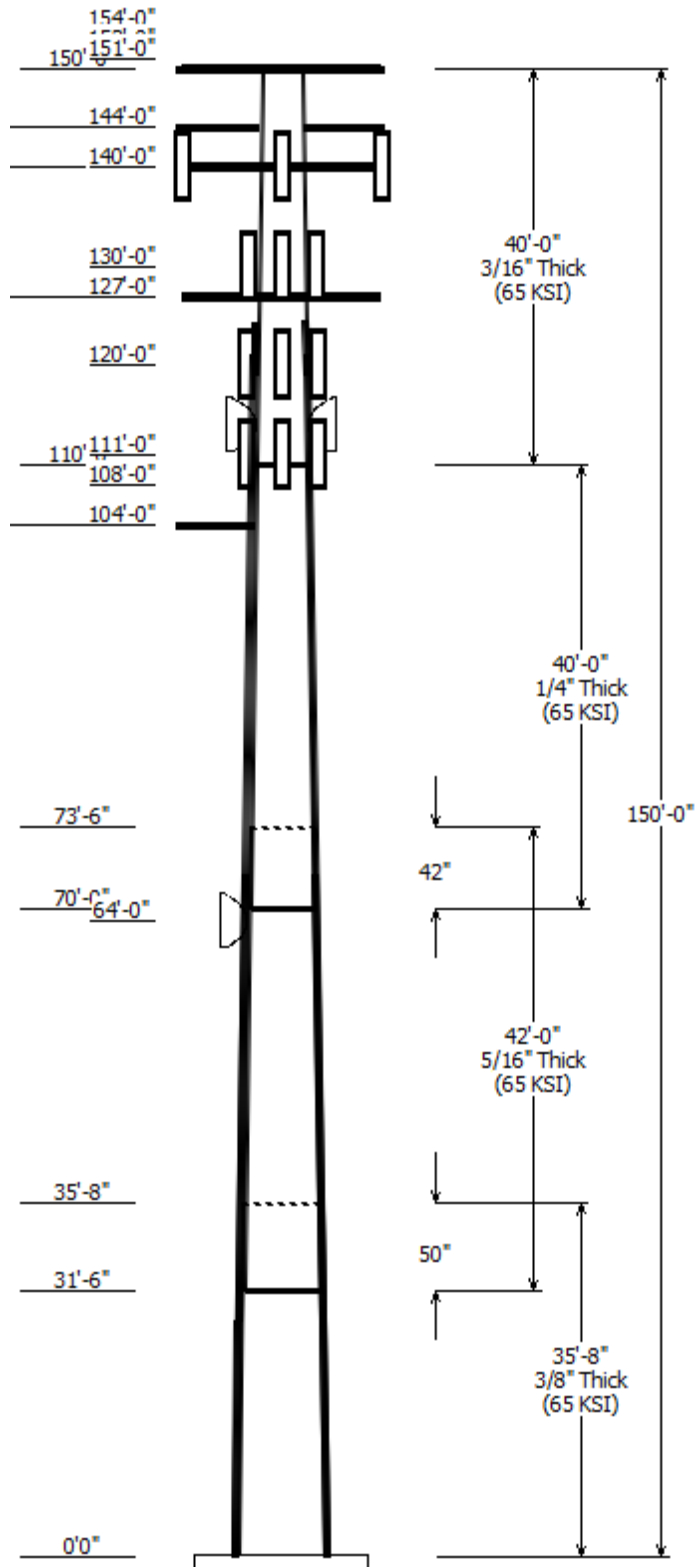
1.2D + 1.0W	116 mph with No Ice
0.9D + 1.0W	116 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	77 mph with 1.65 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

Reactions

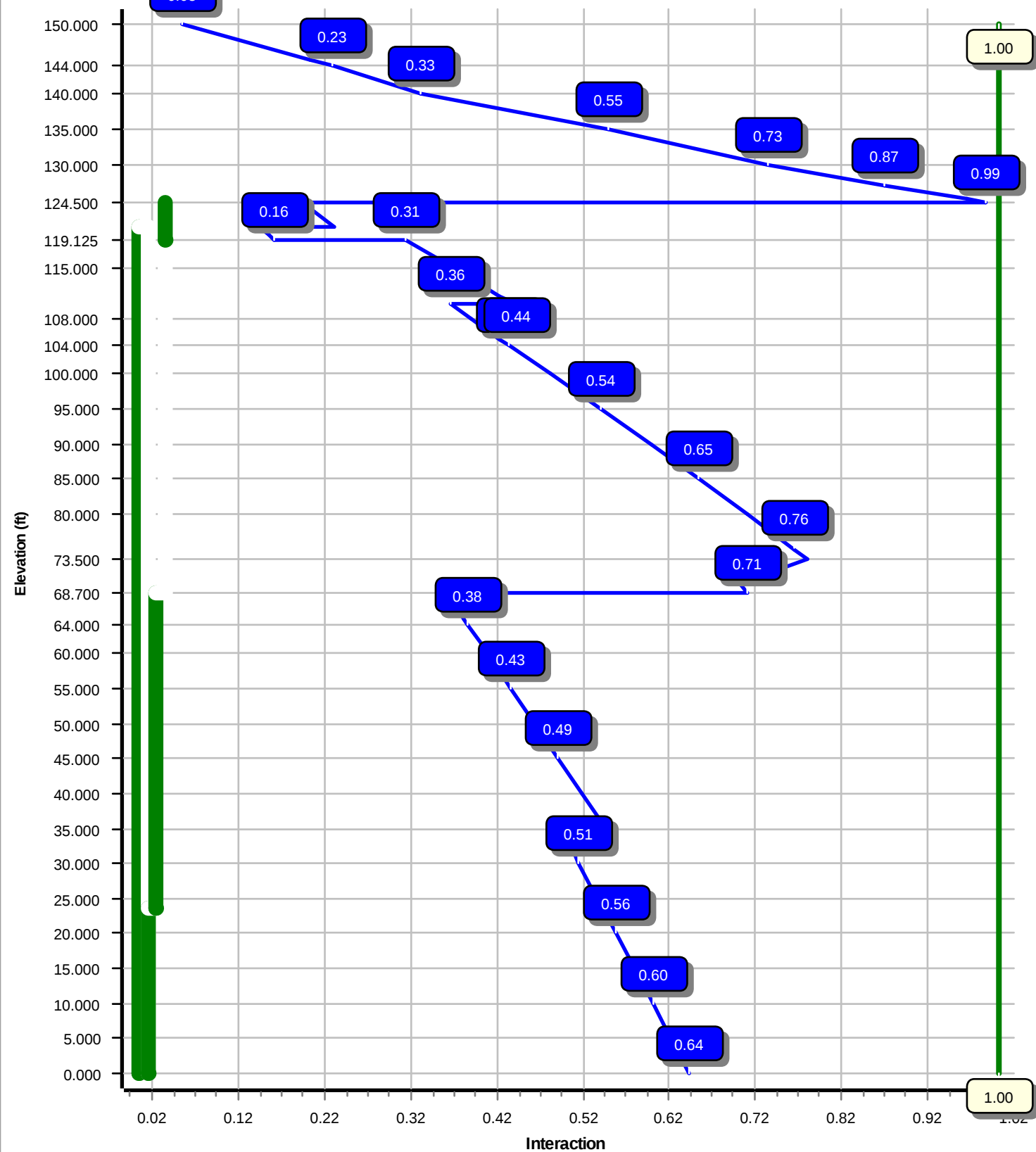
Load Case	Moment (kip-ft)	Shear (kip)	Axial (kip)
1.2D + 1.0W	3949.75	36.54	77.59
0.9D + 1.0W	3869.97	36.49	58.17
1.2D + 1.0Di + 1.0Wi	3296.98	29.73	122.88
1.2D + 1.0Ev + 1.0Eh	248.56	1.95	77.23
0.9D - 1.0Ev + 1.0Eh	242.29	1.95	53.87
1.0D + 1.0W	934.81	8.74	64.72

Dish Deflections

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	64.00	5.201	0.751
1.0D + 1.0W	111.00	16.406	1.515



Load Case : 1.2D + 1.0W
Max Ratio 98.52% at 124.5 ft



Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

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Customer: T-MOBILE

Analysis Parameters

Location :	Hartford County, CT	Height (ft) :	150
Code :	ANSI/TIA-222-H	Base Diameter (in) :	37.38
Shape :	12 Sides	Top Diameter (in) :	15.00
Pole Type :	Taper	Taper (in/ft) :	0.157
Pole Manufacturer :	ITT Meyer	Rotation (deg) :	0.00
Kd (non-service) :	0.95	Ke :	0.99

Ice & Wind Parameters

Exposure Category:	C	Design Wind Speed Without Ice:	116 mph
Risk Category:	II	Design Wind Speed With Ice:	77 mph
Topographic Factor Procedure:	Method 3	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.65 in
Crest Height:	0 ft	HMSL:	159.00 ft

Seismic Parameters

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil		
Period Based on Rayleigh Method (sec):	3.05		
T_L (sec):	6	p:	1
S_s :	0.174	S_1 :	0.055
F_a :	1.600	F_v :	2.400
S_{ds} :	0.186	S_{d1} :	0.088
		C_s :	0.030
		C_s Max:	0.030
		C_s Min:	0.030

Load Cases

1.2D + 1.0W	116 mph with No Ice
0.9D + 1.0W	116 mph with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi	77 mph with 1.65 in Radial Ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	Serviceability 60 mph

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

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Customer: T-MOBILE

Shaft Section Properties

Slip							Bottom				Top								
Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Joint Len (in)	Weight (lb)	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
1-12	35.667	0.3750	65		0.00	5,014	37.38	0.00	44.68	7810.1	24.03	99.68	31.79	35.67	37.93	4778.9	20.04	84.78	0.156700
2-12	42.000	0.3125	65	Slip	50.00	4,237	33.06	31.50	32.96	4514.2	25.68	105.82	26.48	73.50	26.34	2303.3	20.03	84.76	0.156700
3-12	40.000	0.2500	65	Slip	42.00	2,646	27.53	70.00	21.97	2087.4	26.83	110.14	21.26	110.00	16.92	954.0	20.12	85.07	0.156700
4-12	40.000	0.1875	65	Butt	0.00	1,475	21.26	110.00	12.73	721.9	27.71	113.43	15.00	150.00	8.94	250.5	18.76	80.00	0.156700
Shaft Weight						13,372													

Discrete Appurtenance Properties

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	Weight (lb)	No Ice EPAA (sf)	Orientation Factor	Weight (lb)	Ice EPAA (sf)	Orientation Factor
162.00	Decibel DB809KE-SY	1	1.00	0.000	26.00	3.400	0.90	120.44	7.873	0.90
154.00	Kaelus DBC0061F1V51-2	3	0.75	0.000	25.50	0.433	0.50	45.83	0.928	0.50
154.00	Powerwave Allgon LGP21401	3	0.75	0.000	14.10	1.104	0.50	41.56	1.889	0.50
154.00	Raycap DC6-48-60-18-8F	2	0.75	0.000	31.80	1.470	0.50	99.69	2.239	0.50
154.00	Ericsson RRUS A2 B2	3	0.75	0.000	22.00	2.064	0.50	70.52	3.102	0.50
154.00	Ericsson RRUS 11 (Band 12) (55	3	0.75	0.000	55.00	2.522	0.50	129.04	3.667	0.50
154.00	Ericsson RRUS 32 B30	3	0.75	0.000	60.00	2.743	0.50	140.95	4.030	0.50
154.00	Ericsson RRUS-11 (19.7")	3	0.75	0.000	51.00	2.791	0.50	134.75	3.996	0.50
154.00	Ericsson RRUS-12 B2	3	0.75	0.000	58.00	3.145	0.50	147.02	4.420	0.50
154.00	Ericsson Radio 8843	3	0.75	0.000	85.00	3.500	0.50	197.27	4.906	0.50
154.00	Powerwave Allgon 7770.00	3	0.75	0.000	35.00	5.508	0.65	186.77	6.677	0.65
152.00	Diamond X50A	2	0.75	0.000	2.30	1.120	0.90	3.90	3.088	0.90
151.00	CCI OPA-65R-LCUU-H8	3	0.75	0.000	88.00	12.976	0.67	370.80	16.915	0.67
151.00	CCI TPA-65R-LCUUUU-H8	3	0.75	0.000	81.60	13.298	0.69	386.18	17.406	0.69
150.00	Round Side Arm	3	0.75	0.000	150.00	5.200	0.67	230.49	8.190	0.67
150.00	Platform w/ Handrails	1	1.00	0.000	2,500.00	25.000	1.00	4,454.84	38.607	1.00
144.00	Stand-Off	2	0.90	0.000	75.00	2.500	0.90	115.09	3.569	0.90
140.00	Commscope SDX1926Q-43	3	0.75	0.000	6.20	0.242	0.50	15.60	0.627	0.50
140.00	Ericsson Radio 4449 B71 B85A	3	0.75	0.000	75.00	1.650	0.50	140.71	2.578	0.50
140.00	Ericsson RRUS 4415 B66	3	0.75	0.000	46.00	1.650	0.50	93.31	2.578	0.50
140.00	Ericsson 4424 B25	3	0.75	0.000	86.00	2.052	0.50	165.67	3.083	0.50
140.00	Ericsson Air6449 B41	3	0.75	0.000	104.00	5.682	0.63	252.92	7.416	0.63
140.00	RFS APX16DWV-16DWVS-E-A20	3	0.75	0.000	40.70	6.586	0.60	168.35	8.952	0.60
140.00	RFS APXVAALL24 43-U-NA20	3	0.75	0.000	122.80	20.243	0.63	548.42	24.296	0.63
140.00	Platform w/ Handrails	1	1.00	0.000	2,500.00	30.000	1.00	4,441.17	46.214	1.00
130.00	Samsung Outdoor CBRS 20W	3	0.80	0.000	18.60	0.857	0.50	44.65	1.537	0.50
130.00	Samsung B5/B13 RRH-BR04C	3	0.80	0.000	70.30	1.875	0.50	132.38	2.855	0.50
130.00	Samsung B2/B66A RRH-BR049	3	0.80	0.000	84.40	1.875	0.50	153.64	2.855	0.50
130.00	Raycap RCMDC-6627-PF-48	1	0.80	0.000	32.00	4.056	0.50	169.94	5.537	0.50
130.00	Samsung MT6407-77A	3	0.80	0.000	81.60	4.709	0.61	192.23	6.358	0.61
130.00	Amphenol Antel BXA-80080-6CF-	3	0.80	0.000	18.00	5.760	0.73	155.22	8.330	0.73
130.00	Commscope NHH-65B-R2B	3	0.80	0.000	43.70	8.079	0.69	232.93	11.103	0.69
130.00	Commscope NHHSS-65C-R2B	3	0.80	0.000	56.00	11.350	0.70	303.70	14.851	0.70
127.00	Round Low Profile Platform	1	1.00	0.000	1,850.00	20.000	1.00	2,715.55	39.167	1.00
120.00	Generic 76" x 6" Panel	3	1.00	0.000	40.00	5.030	0.69	135.85	7.684	0.69
111.00	DragonWave Horizon Compact	2	0.80	1.000	10.60	0.721	0.50	34.64	1.329	0.50
111.00	Alcatel-Lucent RRH2x50-08	6	0.80	0.000	52.90	1.701	0.50	116.25	2.623	0.50
111.00	Nokia FZHN Flexi RRH 8TR 2600	3	0.80	0.000	44.10	2.020	0.50	96.42	3.019	0.50
111.00	Alcatel-Lucent 1900MHz RRH	3	0.80	0.000	60.00	2.583	0.50	158.58	3.774	0.50
111.00	DragonWave A-ANT-11G-2-C	2	1.00	1.000	27.00	4.688	0.90	131.19	6.050	0.90
111.00	RFS APXVTM14-ALU-I20	3	0.80	0.000	56.20	6.342	0.66	203.41	8.671	0.66
111.00	Commscope NNVV-65B-R4	3	0.80	0.000	77.40	12.271	0.64	346.03	15.269	0.64
108.00	Generic 24" x 24" Junction Box	1	0.80	4.000	20.00	4.800	0.50	142.29	6.314	0.50
104.00	Side Arm	1	1.00	0.000	560.00	8.500	1.00	1,056.50	16.036	1.00
64.00	Channel Master Type 120	1	1.00	0.000	126.00	20.190	1.00	333.53	23.227	1.00

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

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Customer: T-MOBILE

Totals	Num Loadings:45	117	13,793.40	31,764.34
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Linear Appurtenance Properties Load Case Azimuth (deg) : 0

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Coax / Flat Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	162.00	1	1 5/8" Coax	1.98	0.82	N 0	0.00	0.00	0	0.00	N	SPOK HOLDINGS,
0.00	154.00	11	1 5/8" Coax	1.98	0.82	N 0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	154.00	2	3" conduit	3.50	7.58	N 0	0.00	0.00	0	0.00	N	AT&T MOBILITY
10.00	154.00	4	0.78" (19.7mm) 8 AWG	0.78	0.59	N 0	0.00	0.00	0	0.00	N	AT&T MOBILITY
10.00	154.00	1	2" conduit	2.38	3.65	N 0	0.00	0.00	0	0.00	N	AT&T MOBILITY
0.00	152.00	2	1/2" Coax	0.63	0.15	N 0	0.00	0.00	0	0.00	N	ENERTRAC, INC.
0.00	151.00	1	3" conduit	3.50	7.58	N 0	0.00	0.00	0	0.00	N	AT&T MOBILITY
140.00	151.00	2	0.39" (10mm) Fiber	0.39	0.06	N 2	1.00	1.00	230	1.00	Y	AT&T MOBILITY
10.00	150.00	2	1 5/8" Coax	1.98	0.82	N 0	0.00	0.00	0	0.00	N	AT&T MOBILITY
140.00	150.00	9	1 5/8" Coax	1.98	0.82	N 9	0.50	0.50	0	1.00	Y	AT&T MOBILITY
0.00	140.00	3	1 5/8" Hybriflex	1.98	1.30	N 3	1.00	1.00	90	1.00	Y	T-MOBILE
10.00	140.00	6	1 5/8" Coax	1.98	0.82	N 0	0.00	0.00	0	0.00	N	T-MOBILE
10.00	130.00	6	1 5/8" Coax	1.98	0.82	N 6	1.00	1.00	270	1.00	Y	VERIZON WIRELESS
10.00	130.00	2	1 5/8" Hybriflex	1.98	1.30	N 2	1.00	1.00	280	1.00	Y	VERIZON WIRELESS
114.00	129.00	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	90	8.28	Y	
114.00	129.00	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	270	8.28	Y	
114.00	129.00	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	180	8.28	Y	
114.00	129.00	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	0	8.28	Y	
0.00	125.00	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	23	8.28	Y	
0.00	125.00	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	113	8.28	Y	
0.00	125.00	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	293	8.28	Y	
0.00	125.00	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	203	8.28	Y	
0.00	120.00	6	1 5/8" Coax	1.98	0.82	N 6	1.00	1.00	225	1.00	Y	METRO PCS INC
0.00	111.00	4	1/2" Coax	0.63	0.15	N 0	0.00	0.00	0	0.00	N	CLEARWIRE
10.00	111.00	4	1 1/4" Hybriflex Cable	1.54	1.00	N 4	1.00	1.00	90	1.00	Y	CLEARWIRE
10.00	108.00	2	2" conduit	2.38	3.65	N 2	1.00	1.00	100	1.00	Y	CLEARWIRE
31.00	76.70	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	180	8.28	Y	
31.00	76.70	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	270	8.28	Y	
31.00	76.70	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	90	8.28	Y	
31.00	76.70	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	0	8.28	Y	
0.00	64.00	1	0.28" (7mm) RG-6	0.28	0.03	N 1	1.00	1.00	280	1.00	Y	SPOK HOLDINGS,
0.00	31.00	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	180	8.28	Y	
0.00	31.00	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	90	8.28	Y	
0.00	31.00	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	270	8.28	Y	
0.00	31.00	1	#20 Dywidag bars	2.50	16.70	N 1	0.00	0.00	0	8.28	Y	

Additional Steel

Elev From (ft)	Elev To (ft)	Qty	Description	Fy (ksi)	Offset (in)	Intermediate Connections			Connectors	Continuation?
						Description	Spacing (in)	Len (in)		
0.00	121.0	4	SOL #20 All Thread	75	2.19	6" Angle Bracket	27.0	3.31	5/8" A36 U-Bolt	Yes
0.00	23.60	4	SOL #20 All Thread	80	8.28	6" T Bracket	27.0	3.31	5/8" A36 U-Bolt	Yes

Site Number: 302489

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Customer: T-MOBILE

23.60	68.70	4	SOL #20 All Thread	80	8.28	6" T Bracket	30.0	3.31	5/8" A36 U-Bolt	Yes
119.1	124.5	3	SOL #20 (15 deg	80	8.28	6" T Bracket	30.0	3.31	5/8" A36 U-Bolt	No

Site Number: 302489

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Site Name: Enfd - Enfield, CT

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Customer: T-MOBILE

Segment Properties (Max Len : 5. ft)

Seg Top Elev (ft)	Description	Thick (in)	Flat Dia (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	F'y (ksi)	S (in ³)	Z (in ³)	Weight (lb)	Additional Reinforcing		
												Area (in ²)	Ix (in ⁴)	Weight (lb)
0.00		0.3750	37.380	44.684	7,810.1	24.03	99.68	78.5	403.6	0.0	0.0	39.28	12,96	0.0
5.00		0.3750	36.597	43.737	7,324.4	23.47	97.59	79.1	386.6	0.0	752.2	39.28	12,56	668.0
10.00		0.3750	35.813	42.791	6,859.3	22.91	95.50	79.7	370.0	0.0	736.1	39.28	12,16	668.0
15.00		0.3750	35.029	41.845	6,414.3	22.35	93.41	80.3	353.7	0.0	720.0	39.28	11,77	668.0
20.00		0.3750	34.246	40.899	5,989.0	21.79	91.32	80.9	337.8	0.0	703.9	39.28	11,39	668.0
23.60	Reinf. Top Reinf	0.3750	33.682	40.218	5,694.8	21.39	89.82	81.4	326.6	0.0	496.8	39.28	11,12	481.0
25.00		0.3750	33.462	39.953	5,583.0	21.23	89.23	81.6	322.3	0.0	191.0	39.28	11,01	187.0
30.00		0.3750	32.679	39.007	5,195.7	20.67	87.14	81.9	307.1	0.0	671.7	39.28	10,64	668.0
31.50	Bot - Section 2	0.3750	32.444	38.723	5,083.1	20.50	86.52	81.9	302.7	0.0	198.4	39.28	10,53	200.4
35.00		0.3750	31.895	38.061	4,826.7	20.11	85.05	81.9	292.3	0.0	846.5	39.28	10,57	467.6
35.67	Top - Section 1	0.3125	32.416	32.304	4,249.6	25.12	103.73	77.3	253.3	0.0	159.6	39.28	10,52	89.1
40.00		0.3125	31.737	31.621	3,985.6	24.53	101.56	78.0	242.6	0.0	471.3	39.28	10,20	578.9
45.00		0.3125	30.953	30.833	3,694.9	23.86	99.05	78.7	230.6	0.0	531.3	39.28	9,853	668.0
50.00		0.3125	30.170	30.044	3,418.6	23.19	96.54	79.4	218.9	0.0	517.9	39.28	9,503	668.0
55.00		0.3125	29.386	29.256	3,156.5	22.52	94.04	80.2	207.5	0.0	504.5	39.28	9,159	668.0
60.00		0.3125	28.603	28.467	2,908.1	21.85	91.53	80.9	196.4	0.0	491.0	39.28	8,822	668.0
64.00		0.3125	27.976	27.837	2,719.1	21.31	89.52	81.5	187.8	0.0	383.2	39.28	8,557	534.4
65.00		0.3125	27.819	27.679	2,673.1	21.17	89.02	81.6	185.6	0.0	94.5	39.28	8,491	133.6
68.70	Reinf. Top	0.3125	27.240	27.096	2,507.6	20.68	87.17	81.9	177.8	0.0	344.8	39.28	8,251	494.3
70.00	Bot - Section 3	0.3125	27.036	26.891	2,451.2	20.50	86.52	81.9	175.1	0.0	119.4	19.64	2,879	86.8
73.50	Top - Section 2	0.2500	26.988	21.524	1,964.0	26.25	107.95	76.1	140.6	0.0	575.9	19.64	2,870	233.8
75.00		0.2500	26.752	21.335	1,912.7	25.99	107.01	76.4	138.1	0.0	109.4	19.64	2,830	100.2
80.00		0.2500	25.969	20.704	1,748.0	25.15	103.88	77.3	130.0	0.0	357.6	19.64	2,696	334.0
85.00		0.2500	25.185	20.073	1,593.1	24.31	100.74	78.2	122.2	0.0	346.9	19.64	2,566	334.0
90.00		0.2500	24.402	19.442	1,447.6	23.47	97.61	79.1	114.6	0.0	336.2	19.64	2,439	334.0
95.00		0.2500	23.618	18.812	1,311.2	22.63	94.47	80.0	107.2	0.0	325.4	19.64	2,315	334.0
100.0		0.2500	22.835	18.181	1,183.7	21.79	91.34	80.9	100.1	0.0	314.7	19.64	2,195	334.0
104.0		0.2500	22.208	17.676	1,087.9	21.12	88.83	81.7	94.6	0.0	244.0	19.64	2,101	267.2
105.0		0.2500	22.051	17.550	1,064.7	20.96	88.21	81.9	93.3	0.0	59.9	19.64	2,078	66.8
108.0		0.2500	21.581	17.172	997.3	20.45	86.33	81.9	89.3	0.0	177.2	19.64	2,009	200.4
110.0	Top - Section 3	0.2500	21.268	16.919	954.0	20.12	85.07	81.9	86.7	0.0	116.0	19.64	1,963	133.6
110.0	Bot - Section 4	0.1875	21.268	12.727	721.9	27.71	113.43	74.5	65.6	0.0		19.64	1,963	
111.0		0.1875	21.111	12.633	705.9	27.49	112.59	74.7	64.6	0.0	43.1	19.64	1,941	66.8
115.0		0.1875	20.484	12.254	644.4	26.59	109.25	75.7	60.8	0.0	169.4	19.64	1,853	267.2
119.1	Reinf Bottom	0.1875	19.838	11.864	584.8	25.67	105.80	76.7	56.9	0.0	169.3	19.64	1,764	275.5
120.0		0.1875	19.701	11.781	572.6	25.47	105.07	76.9	56.1	0.0	35.2	32.45	4,143	102.3
121.0	Reinf. Top	0.1875	19.544	11.687	558.9	25.25	104.24	77.2	55.2	0.0	39.9	32.45	4,231	317.3
124.5	Reinf. Top	0.1875	18.996	11.356	512.7	24.47	101.31	78.0	52.1	0.0	137.2	12.81	2,308	175.4
125.0		0.1875	18.917	11.308	506.4	24.35	100.89	78.2	51.7	0.0	19.3			
127.0		0.1875	18.604	11.119	481.4	23.91	99.22	78.6	50.0	0.0	76.3			
130.0		0.1875	18.134	10.835	445.4	23.24	96.71	79.4	47.5	0.0	112.1			
135.0		0.1875	17.350	10.362	389.6	22.12	92.54	80.6	43.4	0.0	180.3			
140.0		0.1875	16.567	9.889	338.6	21.00	88.36	81.8	39.5	0.0	172.3			
144.0		0.1875	15.940	9.511	301.2	20.10	85.01	81.9	36.5	0.0	132.0			
145.0		0.1875	15.783	9.416	292.3	19.88	84.18	81.9	35.8	0.0	32.2			
150.0		0.1875	15.000	8.943	250.5	18.76	80.00	81.9	32.3	0.0	156.2			
											13,372.1	13,141.		

Site Number: 302489

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

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Customer: T-MOBILE

Load Case: 1.2D + 1.0W

116 mph with No Ice

26 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.20

Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
Seg			Dead	Torsion		Moment	Dead		Dead	Torsion			
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		230.6	0.0					0.0	0.0	230.6	0.0	0.0	0.0
5.00		456.2	902.6					25.4	1,857.2	481.6	2,759.8	0.0	0.0
10.00		534.2	883.3					25.4	1,857.2	559.5	2,740.5	0.0	0.0
15.00		625.4	864.0					25.4	2,045.5	650.7	2,909.5	0.0	0.0
20.00		555.1	844.7					26.2	2,045.5	581.2	2,890.2	0.0	0.0
23.60	Reinf. Top Reinf	332.7	596.2					19.7	1,472.8	352.4	2,069.0	0.0	0.0
25.00		440.4	229.2					7.8	572.7	448.2	801.9	0.0	0.0
30.00		451.8	806.1					28.8	2,045.5	480.5	2,851.6	0.0	0.0
31.50	Bot - Section 2	361.7	238.1					8.8	613.7	370.6	851.7	0.0	0.0
35.00		305.0	1,015.8					21.0	1,431.9	326.0	2,447.7	0.0	0.0
35.67	Top - Section 1	368.3	191.5					4.0	272.7	372.4	464.3	0.0	0.0
40.00		695.1	565.6					26.7	1,772.8	721.8	2,338.3	0.0	0.0
45.00		759.8	637.5					31.5	2,045.5	791.3	2,683.1	0.0	0.0
50.00		771.6	621.4					32.3	2,045.5	803.9	2,667.0	0.0	0.0
55.00		777.5	605.4					33.0	2,045.5	810.5	2,650.9	0.0	0.0
60.00		629.6	589.3					33.6	2,045.5	663.2	2,634.8	0.0	0.0
64.00	Appurtenance(s)	299.6	459.8	832.5	0.0	0.0	151.2	96.4	1,636.4	1,228.6	2,247.4	0.0	0.0
65.00		279.1	113.3					24.3	409.1	303.4	522.4	0.0	0.0
68.70	Reinf. Top	296.0	413.8					90.7	1,513.5	386.7	1,927.3	0.0	0.0
70.00	Bot - Section 3	285.2	143.3					32.1	427.6	317.3	570.9	0.0	0.0
73.50	Top - Section 2	297.4	691.1					87.1	1,151.2	384.5	1,842.3	0.0	0.0
75.00		381.7	131.3					37.6	493.4	419.3	624.6	0.0	0.0
80.00		580.9	429.1					126.6	1,380.0	707.4	1,809.2	0.0	0.0
85.00		570.6	416.3					128.3	1,243.7	698.9	1,660.0	0.0	0.0
90.00		559.5	403.4					130.0	1,243.7	689.6	1,647.1	0.0	0.0
95.00		547.8	390.5					131.7	1,243.7	679.4	1,634.2	0.0	0.0
100.00		483.0	377.6					133.2	1,243.7	616.2	1,621.4	0.0	0.0
104.00	Appurtenance(s)	264.5	292.8	388.2	0.0	0.0	672.0	107.6	995.0	760.4	1,959.8	0.0	0.0
105.00		207.9	71.9					27.1	248.7	234.9	320.7	0.0	0.0
108.00	Appurtenance(s)	257.8	212.7	89.1	0.0	356.3	24.0	81.5	746.2	428.4	982.9	0.0	0.0
110.00	Top - Section 3	153.1	139.2					50.7	480.0	203.8	619.2	0.0	0.0
111.00	Appurtenance(s)	250.9	51.8	2,200.9	0.0	418.2	1,326.8	25.5	240.0	2,477.3	1,618.6	0.0	0.0
115.00		401.7	203.2					98.3	1,018.0	500.0	1,221.3	0.0	0.0
119.13	Reinf Bottom	243.7	203.1					102.3	1,297.8	346.0	1,501.0	0.0	0.0
120.00	Appurtenance(s)	90.0	42.2	490.1	0.0	0.0	144.0	21.8	327.9	601.9	514.1	0.0	0.0
121.00	Reinf. Top	213.0	47.9					25.0	609.3	238.0	657.2	0.0	0.0
124.50	Reinf. Top	188.4	164.7					88.0	1,010.4	276.4	1,175.0	0.0	0.0
125.00		115.6	23.1					12.6	114.3	128.3	137.4	0.0	0.0
127.00	Appurtenance(s)	228.6	91.6	952.7	0.0	0.0	2,220.0	50.6	296.8	1,231.9	2,608.4	0.0	0.0
130.00	Appurtenance(s)	343.0	134.5	2,708.6	0.0	0.0	1,379.8	76.4	365.1	3,128.0	1,879.3	0.0	0.0
135.00		413.6	216.4					0.0	296.1	413.6	512.5	0.0	0.0
140.00	Appurtenance(s)	357.8	206.7	3,983.8	0.0	0.0	4,730.5	0.0	296.1	4,341.6	5,233.4	0.0	0.0
144.00	Appurtenance(s)	192.4	158.4	198.1	0.0	0.0	180.0	0.0	230.5	390.5	569.0	0.0	0.0
145.00		272.2	38.6					0.0	57.6	272.2	96.3	0.0	0.0
150.00	Appurtenance(s)	230.8	187.4	1,620.1	0.0	0.0	3,540.0	0.0	288.2	1,850.9	4,015.6	0.0	0.0
Totals:										32,899.6	75,488.5	0.00	0.00

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

6/25/2021 2:54:37 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0W

116 mph with No Ice

26 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.20

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-77.59	-36.54	0.00	-3,949.75	0.00	3,949.75	3,157.17	784.20	2,737.77	2,376.61	0.00	0.00	0.640
5.00	-74.66	-36.40	0.00	-3,767.04	0.00	3,767.04	3,114.35	767.59	2,623.11	2,294.24	0.14	-0.26	0.620
10.00	-71.76	-36.15	0.00	-3,585.05	0.00	3,585.05	3,070.50	750.99	2,510.89	2,212.51	0.56	-0.53	0.599
15.00	-68.70	-35.78	0.00	-3,404.30	0.00	3,404.30	3,025.61	734.39	2,401.13	2,131.46	1.26	-0.79	0.577
20.00	-65.68	-35.41	0.00	-3,225.42	0.00	3,225.42	2,979.68	717.78	2,293.82	2,051.14	2.22	-1.05	0.555
23.60	-63.54	-35.15	0.00	-3,097.97	0.00	3,097.97	2,945.97	705.83	2,218.08	1,993.78	3.08	-1.23	0.540
23.60	-63.54	-35.15	0.00	-3,097.97	0.00	3,097.97	2,945.97	705.83	2,218.08	1,993.78	3.08	-1.23	0.540
25.00	-62.65	-34.87	0.00	-3,048.75	0.00	3,048.75	2,932.71	701.18	2,188.97	1,971.59	3.46	-1.31	0.533
30.00	-59.71	-34.49	0.00	-2,874.41	0.00	2,874.41	2,875.21	684.57	2,086.57	1,886.65	4.96	-1.56	0.513
31.50	-58.79	-34.22	0.00	-2,822.68	0.00	2,822.68	2,854.29	679.59	2,056.33	1,859.14	5.47	-1.64	0.507
35.00	-56.29	-33.93	0.00	-2,702.90	0.00	2,702.90	2,805.48	667.97	1,986.62	1,795.73	6.73	-1.81	0.484
35.67	-55.77	-33.66	0.00	-2,680.28	0.00	2,680.28	2,248.07	566.94	1,717.07	1,468.70	6.99	-1.85	0.540
40.00	-53.33	-33.07	0.00	-2,534.43	0.00	2,534.43	2,218.59	554.95	1,645.23	1,418.49	8.76	-2.06	0.516
45.00	-50.54	-32.39	0.00	-2,369.08	0.00	2,369.08	2,183.60	541.11	1,564.24	1,360.97	11.05	-2.30	0.489
50.00	-47.78	-31.67	0.00	-2,207.12	0.00	2,207.12	2,147.58	527.27	1,485.29	1,303.95	13.59	-2.54	0.461
55.00	-45.04	-30.92	0.00	-2,048.75	0.00	2,048.75	2,110.52	513.44	1,408.39	1,247.47	16.38	-2.78	0.434
60.00	-42.34	-30.28	0.00	-1,894.14	0.00	1,894.14	2,072.42	499.60	1,333.53	1,191.58	19.42	-3.00	0.406
64.00	-40.10	-29.01	0.00	-1,773.03	0.00	1,773.03	2,041.18	488.53	1,275.12	1,147.34	22.01	-3.18	0.384
65.00	-39.55	-28.75	0.00	-1,744.02	0.00	1,744.02	2,033.27	485.76	1,260.72	1,136.35	22.68	-3.23	0.379
68.70	-37.59	-28.32	0.00	-1,637.66	0.00	1,637.66	1,997.21	475.53	1,208.15	1,092.40	25.25	-3.39	0.361
68.70	-37.59	-28.32	0.00	-1,637.66	0.00	1,637.66	1,997.21	475.53	1,208.15	1,092.40	25.25	-3.39	0.708
70.00	-36.96	-28.08	0.00	-1,600.85	0.00	1,600.85	1,982.10	471.93	1,189.95	1,075.84	26.18	-3.44	0.699
73.50	-35.04	-27.71	0.00	-1,502.57	0.00	1,502.57	1,473.96	377.74	952.81	802.32	28.81	-3.73	0.779
75.00	-34.32	-27.41	0.00	-1,461.02	0.00	1,461.02	1,466.28	374.42	936.13	791.05	30.00	-3.85	0.762
80.00	-32.37	-26.81	0.00	-1,323.96	0.00	1,323.96	1,440.00	363.35	881.62	753.69	34.26	-4.27	0.708
85.00	-30.59	-26.19	0.00	-1,189.92	0.00	1,189.92	1,412.68	352.28	828.74	716.65	38.95	-4.67	0.652
90.00	-28.84	-25.56	0.00	-1,058.96	0.00	1,058.96	1,384.32	341.21	777.49	679.98	44.05	-5.06	0.596
95.00	-27.13	-24.90	0.00	-931.18	0.00	931.18	1,354.92	330.14	727.89	643.72	49.53	-5.42	0.538
100.00	-25.45	-24.26	0.00	-806.70	0.00	806.70	1,324.47	319.08	679.91	607.94	55.39	-5.76	0.480
104.00	-23.51	-23.36	0.00	-709.67	0.00	709.67	1,299.37	310.22	642.71	579.69	60.32	-6.02	0.432
105.00	-23.17	-23.15	0.00	-686.31	0.00	686.31	1,292.99	308.01	633.57	572.68	61.59	-6.08	0.420
108.00	-22.18	-22.67	0.00	-616.51	0.00	616.51	1,265.73	301.36	606.56	548.38	65.46	-6.26	0.387
110.00	-21.56	-22.43	0.00	-571.17	0.00	571.17	1,247.14	296.94	588.87	532.29	68.11	-6.37	0.365
110.00	-21.56	-22.43	0.00	-571.17	0.00	571.17	853.24	223.36	444.19	366.34	68.11	-6.37	0.439
111.00	-20.18	-19.84	0.00	-548.33	0.00	548.33	849.67	221.70	437.62	362.07	69.44	-6.42	0.421
115.00	-18.95	-19.27	0.00	-468.98	0.00	468.98	834.99	215.06	411.80	345.06	74.91	-6.64	0.367
119.13	-17.46	-18.79	0.00	-389.49	0.00	389.49	819.16	208.21	385.99	327.64	80.73	-6.85	0.312
120.00	-17.01	-18.14	0.00	-373.05	0.00	373.05	815.71	206.76	380.63	323.96	81.99	-6.89	0.153
121.00	-16.37	-17.84	0.00	-354.91	0.00	354.91	811.73	205.10	374.54	319.77	83.43	-6.91	0.142
121.00	-16.37	-17.84	0.00	-354.91	0.00	354.91	811.73	205.10	374.54	319.77	83.43	-6.91	0.228
124.50	-15.23	-17.43	0.00	-292.49	0.00	292.49	797.47	199.29	353.62	305.16	88.51	-6.97	0.191
124.50	-15.23	-17.43	0.00	-292.49	0.00	292.49	797.47	199.29	353.62	305.16	88.51	-6.97	0.985
125.00	-15.06	-17.33	0.00	-283.77	0.00	283.77	795.39	198.46	350.69	303.09	89.24	-6.99	0.963

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

6/25/2021 2:54:37 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0W

116 mph with No Ice

26 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.20

Wind Load Factor :1.00

127.00	-12.53	-15.86	0.00	-249.12	0.00	249.12	786.97	195.14	339.05	294.81	92.23	-7.29	0.868
130.00	-10.97	-12.60	0.00	-201.55	0.00	201.55	774.02	190.16	321.97	282.49	96.93	-7.69	0.732
135.00	-10.42	-12.21	0.00	-138.53	0.00	138.53	751.62	181.86	294.48	262.21	105.26	-8.23	0.547
140.00	-5.84	-7.18	0.00	-77.49	0.00	77.49	728.18	173.55	268.22	242.31	114.08	-8.63	0.330
144.00	-5.32	-6.71	0.00	-48.79	0.00	48.79	701.03	166.91	248.09	224.25	121.37	-8.84	0.227
145.00	-5.26	-6.44	0.00	-42.07	0.00	42.07	694.06	165.25	243.18	219.78	123.22	-8.88	0.201
150.00	0.00	-5.54	0.00	-9.88	0.00	9.88	659.19	156.95	219.37	198.13	132.57	-9.01	0.051

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

6/25/2021 2:54:37 PM

Customer: T-MOBILE

Load Case: 0.9D + 1.0W

116 mph with No Ice (Reduced DL)

25 Iterations

Gust Response Factor :1.10

Dead Load Factor :0.90

Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
Seg			Dead	Torsion		Moment	Dead		Dead	Torsion		Moment	
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		230.6	0.0					0.0	0.0	230.6	0.0	0.0	0.0
5.00		456.2	677.0					25.4	1,392.9	481.6	2,069.9	0.0	0.0
10.00		534.2	662.5					25.4	1,392.9	559.5	2,055.4	0.0	0.0
15.00		625.4	648.0					25.4	1,534.1	650.7	2,182.1	0.0	0.0
20.00		555.1	633.5					26.2	1,534.1	581.2	2,167.6	0.0	0.0
23.60	Reinf. Top Reinf	332.7	447.2					19.7	1,104.6	352.4	1,551.7	0.0	0.0
25.00		440.4	171.9					7.8	429.6	448.2	601.4	0.0	0.0
30.00		451.8	604.5					28.8	1,534.1	480.5	2,138.7	0.0	0.0
31.50	Bot - Section 2	361.7	178.5					8.8	460.2	370.6	638.8	0.0	0.0
35.00		305.0	761.9					21.0	1,073.9	326.0	1,835.8	0.0	0.0
35.67	Top - Section 1	368.3	143.6					4.0	204.6	372.4	348.2	0.0	0.0
40.00		695.1	424.2					26.7	1,329.6	721.8	1,753.8	0.0	0.0
45.00		759.8	478.2					31.5	1,534.1	791.3	2,012.3	0.0	0.0
50.00		771.6	466.1					32.3	1,534.1	803.9	2,000.2	0.0	0.0
55.00		777.5	454.0					33.0	1,534.1	810.5	1,988.2	0.0	0.0
60.00		629.6	441.9					33.6	1,534.1	663.2	1,976.1	0.0	0.0
64.00	Appurtenance(s)	299.6	344.9	832.5	0.0	0.0	113.4	96.4	1,227.3	1,228.6	1,685.6	0.0	0.0
65.00		279.1	85.0					24.3	306.8	303.4	391.8	0.0	0.0
68.70	Reinf. Top	296.0	310.3					90.7	1,135.2	386.7	1,445.5	0.0	0.0
70.00	Bot - Section 3	285.2	107.5					32.1	320.7	317.3	428.2	0.0	0.0
73.50	Top - Section 2	297.4	518.3					87.1	863.4	384.5	1,381.7	0.0	0.0
75.00		381.7	98.4					37.6	370.0	419.3	468.5	0.0	0.0
80.00		580.9	321.9					126.6	1,035.0	707.4	1,356.9	0.0	0.0
85.00		570.6	312.2					128.3	932.8	698.9	1,245.0	0.0	0.0
90.00		559.5	302.5					130.0	932.8	689.6	1,235.3	0.0	0.0
95.00		547.8	292.9					131.7	932.8	679.4	1,225.7	0.0	0.0
100.00		483.0	283.2					133.2	932.8	616.2	1,216.0	0.0	0.0
104.00	Appurtenance(s)	264.5	219.6	388.2	0.0	0.0	504.0	107.6	746.2	760.4	1,469.9	0.0	0.0
105.00		207.9	53.9					27.1	186.6	234.9	240.5	0.0	0.0
108.00	Appurtenance(s)	257.8	159.5	89.1	0.0	356.3	18.0	81.5	559.7	428.4	737.2	0.0	0.0
110.00	Top - Section 3	153.1	104.4					50.7	360.0	203.8	464.4	0.0	0.0
111.00	Appurtenance(s)	250.9	38.8	2,200.9	0.0	418.2	995.1	25.5	180.0	2,477.3	1,214.0	0.0	0.0
115.00		401.7	152.4					98.3	763.5	500.0	916.0	0.0	0.0
119.13	Reinf Bottom	243.7	152.3					102.3	973.4	346.0	1,125.7	0.0	0.0
120.00	Appurtenance(s)	90.0	31.7	490.1	0.0	0.0	108.0	21.8	245.9	601.9	385.6	0.0	0.0
121.00	Reinf. Top	213.0	35.9					25.0	457.0	238.0	492.9	0.0	0.0
124.50	Reinf. Top	188.4	123.5					88.0	757.8	276.4	881.3	0.0	0.0
125.00		115.6	17.4					12.6	85.7	128.3	103.1	0.0	0.0
127.00	Appurtenance(s)	228.6	68.7	952.7	0.0	0.0	1,665.0	50.6	222.6	1,231.9	1,956.3	0.0	0.0
130.00	Appurtenance(s)	343.0	100.9	2,708.6	0.0	0.0	1,034.8	76.4	273.8	3,128.0	1,409.5	0.0	0.0
135.00		413.6	162.3					0.0	222.1	413.6	384.4	0.0	0.0
140.00	Appurtenance(s)	357.8	155.0	3,983.8	0.0	0.0	3,547.9	0.0	222.1	4,341.6	3,925.0	0.0	0.0
144.00	Appurtenance(s)	192.4	118.8	198.1	0.0	0.0	135.0	0.0	172.9	390.5	426.7	0.0	0.0
145.00		272.2	29.0					0.0	43.2	272.2	72.2	0.0	0.0
150.00	Appurtenance(s)	230.8	140.6	1,620.1	0.0	0.0	2,655.0	0.0	216.1	1,850.9	3,011.7	0.0	0.0
Totals:										32,899.6	56,616.4	0.00	0.00

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

6/25/2021 2:54:47 PM

Customer: T-MOBILE

Load Case: 0.9D + 1.0W

116 mph with No Ice (Reduced DL)

25 Iterations

Gust Response Factor :1.10

Dead Load Factor :0.90

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-58.17	-36.49	0.00	-3,869.97	0.00	3,869.97	3,157.17	784.20	2,737.77	2,376.61	0.00	0.00	0.624
5.00	-55.94	-36.26	0.00	-3,687.51	0.00	3,687.51	3,114.35	767.59	2,623.11	2,294.24	0.14	-0.26	0.604
10.00	-53.73	-35.93	0.00	-3,506.21	0.00	3,506.21	3,070.50	750.99	2,510.89	2,212.51	0.55	-0.52	0.583
15.00	-51.39	-35.48	0.00	-3,326.58	0.00	3,326.58	3,025.61	734.39	2,401.13	2,131.46	1.23	-0.77	0.561
20.00	-49.10	-35.05	0.00	-3,149.19	0.00	3,149.19	2,979.68	717.78	2,293.82	2,051.14	2.17	-1.02	0.540
23.60	-47.48	-34.77	0.00	-3,023.00	0.00	3,023.00	2,945.97	705.83	2,218.08	1,993.78	3.02	-1.21	0.524
23.60	-47.48	-34.77	0.00	-3,023.00	0.00	3,023.00	2,945.97	705.83	2,218.08	1,993.78	3.02	-1.21	0.524
25.00	-46.80	-34.44	0.00	-2,974.32	0.00	2,974.32	2,932.71	701.18	2,188.97	1,971.59	3.38	-1.28	0.518
30.00	-44.57	-34.03	0.00	-2,802.11	0.00	2,802.11	2,875.21	684.57	2,086.57	1,886.65	4.85	-1.52	0.497
31.50	-43.87	-33.74	0.00	-2,751.06	0.00	2,751.06	2,854.29	679.59	2,056.33	1,859.14	5.35	-1.60	0.492
35.00	-41.99	-33.44	0.00	-2,632.97	0.00	2,632.97	2,805.48	667.97	1,986.62	1,795.73	6.59	-1.77	0.469
35.67	-41.58	-33.14	0.00	-2,610.68	0.00	2,610.68	2,248.07	566.94	1,717.07	1,468.70	6.84	-1.80	0.523
40.00	-39.73	-32.51	0.00	-2,467.07	0.00	2,467.07	2,218.59	554.95	1,645.23	1,418.49	8.57	-2.01	0.500
45.00	-37.62	-31.80	0.00	-2,304.51	0.00	2,304.51	2,183.60	541.11	1,564.24	1,360.97	10.80	-2.25	0.473
50.00	-35.53	-31.06	0.00	-2,145.49	0.00	2,145.49	2,147.58	527.27	1,485.29	1,303.95	13.28	-2.48	0.446
55.00	-33.46	-30.29	0.00	-1,990.18	0.00	1,990.18	2,110.52	513.44	1,408.39	1,247.47	16.00	-2.71	0.419
60.00	-31.42	-29.64	0.00	-1,838.72	0.00	1,838.72	2,072.42	499.60	1,333.53	1,191.58	18.96	-2.93	0.392
64.00	-29.74	-28.38	0.00	-1,720.15	0.00	1,720.15	2,041.18	488.53	1,275.12	1,147.34	21.49	-3.10	0.371
65.00	-29.32	-28.11	0.00	-1,691.77	0.00	1,691.77	2,033.27	485.76	1,260.72	1,136.35	22.15	-3.15	0.366
68.70	-27.85	-27.69	0.00	-1,587.77	0.00	1,587.77	1,997.21	475.53	1,208.15	1,092.40	24.64	-3.30	0.348
68.70	-27.85	-27.69	0.00	-1,587.77	0.00	1,587.77	1,997.21	475.53	1,208.15	1,092.40	24.64	-3.30	0.684
70.00	-27.36	-27.43	0.00	-1,551.78	0.00	1,551.78	1,982.10	471.93	1,189.95	1,075.84	25.55	-3.35	0.675
73.50	-25.91	-27.05	0.00	-1,455.77	0.00	1,455.77	1,473.96	377.74	952.81	802.32	28.12	-3.63	0.751
75.00	-25.35	-26.72	0.00	-1,415.20	0.00	1,415.20	1,466.28	374.42	936.13	791.05	29.28	-3.75	0.736
80.00	-23.86	-26.09	0.00	-1,281.60	0.00	1,281.60	1,440.00	363.35	881.62	753.69	33.42	-4.16	0.682
85.00	-22.50	-25.45	0.00	-1,151.16	0.00	1,151.16	1,412.68	352.28	828.74	716.65	37.99	-4.55	0.628
90.00	-21.17	-24.79	0.00	-1,023.94	0.00	1,023.94	1,384.32	341.21	777.49	679.98	42.95	-4.92	0.574
95.00	-19.87	-24.12	0.00	-899.98	0.00	899.98	1,354.92	330.14	727.89	643.72	48.28	-5.27	0.518
100.00	-18.60	-23.49	0.00	-779.37	0.00	779.37	1,324.47	319.08	679.91	607.94	53.98	-5.60	0.461
104.00	-17.16	-22.63	0.00	-685.41	0.00	685.41	1,299.37	310.22	642.71	579.69	58.77	-5.85	0.415
105.00	-16.89	-22.41	0.00	-662.78	0.00	662.78	1,292.99	308.01	633.57	572.68	60.00	-5.91	0.404
108.00	-16.15	-21.94	0.00	-595.21	0.00	595.21	1,265.73	301.36	606.56	548.38	63.76	-6.08	0.371
110.00	-15.68	-21.71	0.00	-551.33	0.00	551.33	1,247.14	296.94	588.87	532.29	66.33	-6.19	0.350
110.00	-15.68	-21.71	0.00	-551.33	0.00	551.33	853.24	223.36	444.19	366.34	66.33	-6.19	0.421
111.00	-14.70	-19.15	0.00	-529.20	0.00	529.20	849.67	221.70	437.62	362.07	67.63	-6.24	0.404
115.00	-13.78	-18.60	0.00	-452.58	0.00	452.58	834.99	215.06	411.80	345.06	72.94	-6.45	0.352
119.13	-12.66	-18.16	0.00	-375.84	0.00	375.84	819.16	208.21	385.99	327.64	78.59	-6.64	0.299
120.00	-12.34	-17.52	0.00	-359.96	0.00	359.96	815.71	206.76	380.63	323.96	79.81	-6.68	0.146
121.00	-11.87	-17.24	0.00	-342.44	0.00	342.44	811.73	205.10	374.54	319.77	81.21	-6.70	0.136
121.00	-11.87	-17.24	0.00	-342.44	0.00	342.44	811.73	205.10	374.54	319.77	81.21	-6.70	0.218
124.50	-11.01	-16.87	0.00	-282.11	0.00	282.11	797.47	199.29	353.62	305.16	86.14	-6.77	0.182
124.50	-11.01	-16.87	0.00	-282.11	0.00	282.11	797.47	199.29	353.62	305.16	86.14	-6.77	0.945
125.00	-10.88	-16.76	0.00	-273.68	0.00	273.68	795.39	198.46	350.69	303.09	86.85	-6.78	0.924

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

6/25/2021 2:54:47 PM

Customer: T-MOBILE

Load Case: 0.9D + 1.0W

116 mph with No Ice (Reduced DL)

25 Iterations

Gust Response Factor :1.10

Dead Load Factor :0.90

Wind Load Factor :1.00

127.00	-9.00	-15.35	0.00	-240.17	0.00	240.17	786.97	195.14	339.05	294.81	89.75	-7.07	0.832
130.00	-7.90	-12.13	0.00	-194.12	0.00	194.12	774.02	190.16	321.97	282.49	94.31	-7.46	0.701
135.00	-7.48	-11.73	0.00	-133.46	0.00	133.46	751.62	181.86	294.48	262.21	102.39	-7.98	0.523
140.00	-4.18	-6.89	0.00	-74.81	0.00	74.81	728.18	173.55	268.22	242.31	110.94	-8.36	0.316
144.00	-3.80	-6.45	0.00	-47.23	0.00	47.23	701.03	166.91	248.09	224.25	118.01	-8.57	0.218
145.00	-3.76	-6.18	0.00	-40.78	0.00	40.78	694.06	165.25	243.18	219.78	119.81	-8.61	0.192
150.00	0.00	-5.54	0.00	-9.88	0.00	9.88	659.19	156.95	219.37	198.13	128.86	-8.73	0.051

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

6/25/2021 2:54:47 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

77 mph with 1.65 in Radial Ice

26 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor 1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
Seg			Dead	Torsion		Moment	Dead		Dead		Torsion	Moment	
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		136.9	0.0					0.0	0.0	136.9	0.0	0.0	0.0
5.00		272.0	1,215.2					261.1	2,231.4	533.1	3,446.6	0.0	0.0
10.00		268.1	1,226.3					277.4	2,282.2	545.5	3,508.5	0.0	0.0
15.00		267.6	1,218.0					287.0	2,743.4	554.7	3,961.5	0.0	0.0
20.00		234.6	1,203.5					303.7	2,769.7	538.3	3,973.2	0.0	0.0
23.60	Reinf. Top Reinf	139.3	856.3					233.1	2,007.1	372.4	2,863.4	0.0	0.0
25.00		181.9	330.8					93.6	783.1	275.5	1,113.9	0.0	0.0
30.00		185.7	1,165.7					346.6	2,807.1	532.3	3,972.8	0.0	0.0
31.50	Bot - Section 2	146.4	346.5					107.4	845.0	253.8	1,191.5	0.0	0.0
35.00		122.9	1,271.4					255.8	1,976.5	378.7	3,247.9	0.0	0.0
35.67	Top - Section 1	148.6	240.4					49.8	377.2	198.4	617.6	0.0	0.0
40.00		278.2	879.0					327.8	2,457.1	606.0	3,336.0	0.0	0.0
45.00		298.9	995.0					392.4	2,845.6	691.3	3,840.6	0.0	0.0
50.00		298.9	974.4					404.2	2,855.8	703.2	3,830.2	0.0	0.0
55.00		298.2	953.3					415.2	2,865.1	713.4	3,818.4	0.0	0.0
60.00		267.3	931.7					425.5	2,873.7	692.8	3,805.4	0.0	0.0
64.00	Appurtenance(s)	148.1	730.2	422.0	0.0	0.0	329.2	347.4	2,304.8	917.5	3,364.2	0.0	0.0
65.00		139.0	180.9					87.8	575.7	226.8	756.5	0.0	0.0
68.70	Reinf. Top	147.8	659.7					327.9	2,132.5	475.7	2,792.2	0.0	0.0
70.00	Bot - Section 3	143.2	229.4					116.4	646.0	259.6	875.4	0.0	0.0
73.50	Top - Section 2	149.5	923.4					316.1	1,741.5	465.7	2,664.9	0.0	0.0
75.00		193.1	230.4					136.7	747.3	329.8	977.7	0.0	0.0
80.00		295.9	751.9					308.9	2,106.3	604.9	2,858.1	0.0	0.0
85.00		294.0	732.0					234.5	1,910.4	528.4	2,642.3	0.0	0.0
90.00		291.7	711.8					242.4	1,914.6	534.1	2,626.4	0.0	0.0
95.00		289.2	691.5					248.1	1,918.7	537.3	2,610.2	0.0	0.0
100.00		258.0	671.0					384.9	1,922.6	642.9	2,593.5	0.0	0.0
104.00	Appurtenance(s)	142.5	522.6	322.7	0.0	0.0	1,101.3	318.4	1,540.7	783.6	3,164.7	0.0	0.0
105.00		113.1	129.1					81.0	385.5	194.1	514.7	0.0	0.0
108.00	Appurtenance(s)	139.9	381.3	51.6	0.0	206.5	129.8	246.6	1,157.5	438.1	1,668.6	0.0	0.0
110.00	Top - Section 3	82.6	250.4					161.9	730.5	244.5	980.9	0.0	0.0
111.00	Appurtenance(s)	135.7	107.1	1,297.8	0.0	244.3	3,349.9	81.7	365.4	1,515.2	3,822.4	0.0	0.0
115.00		218.6	418.9					382.7	1,504.2	601.2	1,923.1	0.0	0.0
119.13	Reinf Bottom	133.7	419.9					562.8	1,925.0	696.4	2,344.9	0.0	0.0
120.00	Appurtenance(s)	49.8	88.0	329.9	0.0	0.0	393.2	120.7	461.3	500.4	942.5	0.0	0.0
121.00	Reinf. Top	118.7	99.9					110.7	738.1	229.4	838.0	0.0	0.0
124.50	Reinf. Top	105.3	342.4					391.5	1,462.2	496.8	1,804.6	0.0	0.0
125.00		65.3	48.5					56.4	179.0	121.7	227.4	0.0	0.0
127.00	Appurtenance(s)	129.9	191.5	822.1	0.0	0.0	3,501.9	121.8	474.9	1,073.9	4,168.3	0.0	0.0
130.00	Appurtenance(s)	195.1	281.2	1,648.3	0.0	0.0	3,691.7	132.8	592.3	1,976.2	4,565.3	0.0	0.0
135.00		231.3	452.1					15.9	366.6	247.2	818.7	0.0	0.0
140.00	Appurtenance(s)	202.7	433.8	2,425.8	0.0	0.0	9,324.1	18.3	366.8	2,646.8	10,124.7	0.0	0.0
144.00	Appurtenance(s)	110.6	334.5	124.6	0.0	0.0	249.7	275.5	362.2	510.6	946.4	0.0	0.0
145.00		128.9	82.4					75.4	90.6	204.3	173.0	0.0	0.0
150.00	Appurtenance(s)	107.0	396.8	1,107.6	0.0	0.0	6,000.8	379.6	453.4	1,594.3	6,850.9	0.0	0.0
Totals:										27,323.7	117,168.	0.00	0.00

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

6/25/2021 2:54:57 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

77 mph with 1.65 in Radial Ice

26 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor 1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-122.88	-29.73	0.00	-3,296.98	0.00	3,296.98	3,157.17	784.20	2,737.77	2,376.61	0.00	0.00	0.544
5.00	-119.32	-29.65	0.00	-3,148.32	0.00	3,148.32	3,114.35	767.59	2,623.11	2,294.24	0.12	-0.22	0.527
10.00	-115.71	-29.53	0.00	-3,000.07	0.00	3,000.07	3,070.50	750.99	2,510.89	2,212.51	0.47	-0.44	0.510
15.00	-111.64	-29.36	0.00	-2,852.42	0.00	2,852.42	3,025.61	734.39	2,401.13	2,131.46	1.05	-0.66	0.492
20.00	-107.58	-29.12	0.00	-2,705.62	0.00	2,705.62	2,979.68	717.78	2,293.82	2,051.14	1.86	-0.88	0.475
23.60	-104.67	-28.90	0.00	-2,600.79	0.00	2,600.79	2,945.97	705.83	2,218.08	1,993.78	2.58	-1.03	0.461
23.60	-104.67	-28.90	0.00	-2,600.79	0.00	2,600.79	2,945.97	705.83	2,218.08	1,993.78	2.58	-1.03	0.461
25.00	-103.49	-28.85	0.00	-2,560.33	0.00	2,560.33	2,932.71	701.18	2,188.97	1,971.59	2.89	-1.09	0.456
30.00	-99.46	-28.48	0.00	-2,416.08	0.00	2,416.08	2,875.21	684.57	2,086.57	1,886.65	4.15	-1.31	0.439
31.50	-98.22	-28.38	0.00	-2,373.37	0.00	2,373.37	2,854.29	679.59	2,056.33	1,859.14	4.57	-1.37	0.434
35.00	-94.94	-28.06	0.00	-2,274.05	0.00	2,274.05	2,805.48	667.97	1,986.62	1,795.73	5.64	-1.52	0.415
35.67	-94.28	-28.02	0.00	-2,255.34	0.00	2,255.34	2,248.07	566.94	1,717.07	1,468.70	5.85	-1.55	0.463
40.00	-90.87	-27.62	0.00	-2,133.94	0.00	2,133.94	2,218.59	554.95	1,645.23	1,418.49	7.34	-1.72	0.443
45.00	-86.96	-27.12	0.00	-1,995.84	0.00	1,995.84	2,183.60	541.11	1,564.24	1,360.97	9.26	-1.93	0.420
50.00	-83.06	-26.57	0.00	-1,860.26	0.00	1,860.26	2,147.58	527.27	1,485.29	1,303.95	11.39	-2.13	0.397
55.00	-79.19	-25.98	0.00	-1,727.41	0.00	1,727.41	2,110.52	513.44	1,408.39	1,247.47	13.73	-2.33	0.373
60.00	-75.34	-25.35	0.00	-1,597.53	0.00	1,597.53	2,072.42	499.60	1,333.53	1,191.58	16.28	-2.52	0.350
64.00	-71.98	-24.40	0.00	-1,496.14	0.00	1,496.14	2,041.18	488.53	1,275.12	1,147.34	18.46	-2.67	0.332
65.00	-71.20	-24.24	0.00	-1,471.75	0.00	1,471.75	2,033.27	485.76	1,260.72	1,136.35	19.02	-2.71	0.327
68.70	-68.40	-23.74	0.00	-1,382.06	0.00	1,382.06	1,997.21	475.53	1,208.15	1,092.40	21.18	-2.85	0.311
68.70	-68.40	-23.74	0.00	-1,382.06	0.00	1,382.06	1,997.21	475.53	1,208.15	1,092.40	21.18	-2.85	0.607
70.00	-67.48	-23.61	0.00	-1,351.20	0.00	1,351.20	1,982.10	471.93	1,189.95	1,075.84	21.96	-2.89	0.600
73.50	-64.77	-23.20	0.00	-1,268.58	0.00	1,268.58	1,473.96	377.74	952.81	802.32	24.17	-3.14	0.669
75.00	-63.72	-23.07	0.00	-1,233.79	0.00	1,233.79	1,466.28	374.42	936.13	791.05	25.18	-3.24	0.655
80.00	-60.77	-22.67	0.00	-1,118.43	0.00	1,118.43	1,440.00	363.35	881.62	753.69	28.76	-3.59	0.609
85.00	-58.04	-22.30	0.00	-1,005.11	0.00	1,005.11	1,412.68	352.28	828.74	716.65	32.70	-3.93	0.562
90.00	-55.33	-21.89	0.00	-893.61	0.00	893.61	1,384.32	341.21	777.49	679.98	37.00	-4.26	0.513
95.00	-52.66	-21.42	0.00	-784.18	0.00	784.18	1,354.92	330.14	727.89	643.72	41.62	-4.56	0.464
100.00	-50.04	-20.79	0.00	-677.08	0.00	677.08	1,324.47	319.08	679.91	607.94	46.55	-4.85	0.413
104.00	-46.91	-19.84	0.00	-593.93	0.00	593.93	1,299.37	310.22	642.71	579.69	50.71	-5.07	0.371
105.00	-46.38	-19.68	0.00	-574.09	0.00	574.09	1,292.99	308.01	633.57	572.68	51.77	-5.12	0.361
108.00	-44.72	-19.19	0.00	-514.84	0.00	514.84	1,265.73	301.36	606.56	548.38	55.03	-5.27	0.332
110.00	-43.74	-18.91	0.00	-476.47	0.00	476.47	1,247.14	296.94	588.87	532.29	57.26	-5.36	0.313
110.00	-43.74	-18.91	0.00	-476.47	0.00	476.47	853.24	223.36	444.19	366.34	57.26	-5.36	0.377
111.00	-40.04	-17.12	0.00	-457.32	0.00	457.32	849.67	221.70	437.62	362.07	58.38	-5.40	0.361
115.00	-38.14	-16.45	0.00	-388.83	0.00	388.83	834.99	215.06	411.80	345.06	62.99	-5.59	0.314
119.13	-35.85	-15.59	0.00	-320.96	0.00	320.96	819.16	208.21	385.99	327.64	67.88	-5.75	0.266
120.00	-34.95	-15.01	0.00	-307.32	0.00	307.32	815.71	206.76	380.63	323.96	68.94	-5.79	0.132
121.00	-34.13	-14.72	0.00	-292.31	0.00	292.31	811.73	205.10	374.54	319.77	70.15	-5.80	0.123
121.00	-34.13	-14.72	0.00	-292.31	0.00	292.31	811.73	205.10	374.54	319.77	70.15	-5.80	0.199
124.50	-32.38	-14.06	0.00	-240.78	0.00	240.78	797.47	199.29	353.62	305.16	74.42	-5.86	0.167
124.50	-32.38	-14.06	0.00	-240.78	0.00	240.78	797.47	199.29	353.62	305.16	74.42	-5.86	0.835
125.00	-32.13	-13.99	0.00	-233.75	0.00	233.75	795.39	198.46	350.69	303.09	75.04	-5.87	0.817

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

6/25/2021 2:54:57 PM

Customer: T-MOBILE

Load Case: 1.2D + 1.0Di + 1.0Wi

77 mph with 1.65 in Radial Ice

26 Iterations

Gust Response Factor :1.10

Ice Dead Load Factor 1.00

Dead Load Factor :1.20

Ice Importance Factor :1.00

Wind Load Factor :1.00

127.00	-28.04	-12.63	0.00	-205.76	0.00	205.76	786.97	195.14	339.05	294.81	77.55	-6.12	0.738
130.00	-23.64	-10.33	0.00	-167.87	0.00	167.87	774.02	190.16	321.97	282.49	81.49	-6.45	0.628
135.00	-22.79	-10.15	0.00	-116.21	0.00	116.21	751.62	181.86	294.48	262.21	88.49	-6.90	0.477
140.00	-13.04	-6.33	0.00	-65.46	0.00	65.46	728.18	173.55	268.22	242.31	95.89	-7.24	0.289
144.00	-12.16	-5.72	0.00	-40.15	0.00	40.15	701.03	166.91	248.09	224.25	102.02	-7.41	0.198
145.00	-12.01	-5.51	0.00	-34.42	0.00	34.42	694.06	165.25	243.18	219.78	103.57	-7.45	0.175
150.00	0.00	-3.90	0.00	-6.85	0.00	6.85	659.19	156.95	219.37	198.13	111.41	-7.55	0.035

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

6/25/2021 2:54:57 PM

Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

24 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.00

Wind Load Factor :1.00

Applied Segment Forces Summary

		Shaft Forces		Discrete Forces			Linear Forces		Sum of Forces				
Seg			Dead	Torsion		Moment	Dead			Dead	Torsion	Moment	
Elev		Wind FX	Load	Wind FX	MY	MZ	Load	Wind FX	Load	Wind FX	Load	MY	MZ
(ft)	Description	(lb)	(lb)	(lb)	(lb-ft)	(lb-ft)	(lb)	(lb)	(lb)	(lb)	(lb)	(lb-ft)	(lb)
0.00		55.2	0.0					0.0	0.0	55.2	0.0	0.0	0.0
5.00		109.2	752.2					6.1	1,547.6	115.3	2,299.8	0.0	0.0
10.00		127.9	736.1					6.1	1,547.6	133.9	2,283.7	0.0	0.0
15.00		149.7	720.0					6.1	1,704.6	155.8	2,424.6	0.0	0.0
20.00		132.9	703.9					6.3	1,704.6	139.1	2,408.5	0.0	0.0
23.60	Reinf. Top Reinf	79.6	496.8					4.7	1,227.3	84.4	1,724.2	0.0	0.0
25.00		105.4	191.0					1.9	477.3	107.3	668.3	0.0	0.0
30.00		108.1	671.7					6.9	1,704.6	115.0	2,376.3	0.0	0.0
31.50	Bot - Section 2	86.6	198.4					2.1	511.4	88.7	709.8	0.0	0.0
35.00		73.0	846.5					5.0	1,193.2	78.0	2,039.7	0.0	0.0
35.67	Top - Section 1	88.2	159.6					1.0	227.3	89.1	386.9	0.0	0.0
40.00		166.4	471.3					6.4	1,477.3	172.8	1,948.6	0.0	0.0
45.00		181.9	531.3					7.5	1,704.6	189.4	2,235.9	0.0	0.0
50.00		184.7	517.9					7.7	1,704.6	192.4	2,222.5	0.0	0.0
55.00		186.1	504.5					7.9	1,704.6	194.0	2,209.1	0.0	0.0
60.00		150.7	491.0					8.0	1,704.6	158.7	2,195.6	0.0	0.0
64.00	Appurtenance(s)	71.7	383.2	199.3	0.0	0.0	126.0	23.1	1,363.7	294.1	1,872.9	0.0	0.0
65.00		66.8	94.5					5.8	340.9	72.6	435.3	0.0	0.0
68.70	Reinf. Top	70.9	344.8					21.7	1,261.3	92.6	1,606.1	0.0	0.0
70.00	Bot - Section 3	68.3	119.4					7.7	356.3	76.0	475.7	0.0	0.0
73.50	Top - Section 2	71.2	575.9					20.9	959.3	92.0	1,535.3	0.0	0.0
75.00		91.4	109.4					9.0	411.1	100.4	520.5	0.0	0.0
80.00		139.0	357.6					30.3	1,150.0	169.3	1,507.6	0.0	0.0
85.00		136.6	346.9					30.7	1,036.4	167.3	1,383.3	0.0	0.0
90.00		133.9	336.2					31.1	1,036.4	165.1	1,372.6	0.0	0.0
95.00		131.1	325.4					31.5	1,036.4	162.6	1,361.9	0.0	0.0
100.00		115.6	314.7					31.9	1,036.4	147.5	1,351.1	0.0	0.0
104.00	Appurtenance(s)	63.3	244.0	92.9	0.0	0.0	560.0	25.8	829.2	182.0	1,633.2	0.0	0.0
105.00		49.8	59.9					6.5	207.3	56.2	267.2	0.0	0.0
108.00	Appurtenance(s)	61.7	177.2	21.3	0.0	85.3	20.0	19.5	621.9	102.6	819.1	0.0	0.0
110.00	Top - Section 3	36.6	116.0					12.1	400.0	48.8	516.0	0.0	0.0
111.00	Appurtenance(s)	60.1	43.1	526.9	0.0	100.1	1,105.7	6.1	200.0	593.0	1,348.8	0.0	0.0
115.00		96.2	169.4					23.5	848.4	119.7	1,017.7	0.0	0.0
119.13	Reinf Bottom	58.3	169.3					24.5	1,081.5	82.8	1,250.8	0.0	0.0
120.00	Appurtenance(s)	21.5	35.2	117.3	0.0	0.0	120.0	5.2	273.3	144.1	428.5	0.0	0.0
121.00	Reinf. Top	51.0	39.9					6.0	507.8	57.0	547.7	0.0	0.0
124.50	Reinf. Top	45.1	137.2					21.1	842.0	66.2	979.2	0.0	0.0
125.00		27.7	19.3					3.0	95.2	30.7	114.5	0.0	0.0
127.00	Appurtenance(s)	54.7	76.3	228.1	0.0	0.0	1,850.0	12.1	247.3	294.9	2,173.7	0.0	0.0
130.00	Appurtenance(s)	82.1	112.1	648.4	0.0	0.0	1,149.8	18.3	304.2	748.8	1,566.1	0.0	0.0
135.00		99.0	180.3					0.0	246.8	99.0	427.1	0.0	0.0
140.00	Appurtenance(s)	85.6	172.3	953.6	0.0	0.0	3,942.1	0.0	246.8	1,039.3	4,361.1	0.0	0.0
144.00	Appurtenance(s)	46.1	132.0	47.4	0.0	0.0	150.0	0.0	192.1	93.5	474.1	0.0	0.0
145.00		65.2	32.2					0.0	48.0	65.2	80.2	0.0	0.0
150.00	Appurtenance(s)	55.2	156.2	387.8	0.0	0.0	2,950.0	0.0	240.2	443.1	3,346.3	0.0	0.0
Totals:										7,875.41	62,907.1	0.00	0.00

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

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Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

24 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.00

Wind Load Factor :1.00

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-64.72	-8.74	0.00	-934.81	0.00	934.81	3,157.17	784.20	2,737.77	2,376.61	0.00	0.00	0.159
5.00	-62.41	-8.69	0.00	-891.11	0.00	891.11	3,114.35	767.59	2,623.11	2,294.24	0.03	-0.06	0.154
10.00	-60.12	-8.62	0.00	-847.66	0.00	847.66	3,070.50	750.99	2,510.89	2,212.51	0.13	-0.12	0.148
15.00	-57.69	-8.52	0.00	-804.57	0.00	804.57	3,025.61	734.39	2,401.13	2,131.46	0.30	-0.19	0.143
20.00	-55.27	-8.42	0.00	-761.99	0.00	761.99	2,979.68	717.78	2,293.82	2,051.14	0.53	-0.25	0.138
23.60	-53.54	-8.36	0.00	-731.68	0.00	731.68	2,945.97	705.83	2,218.08	1,993.78	0.73	-0.29	0.134
23.60	-53.54	-8.36	0.00	-731.68	0.00	731.68	2,945.97	705.83	2,218.08	1,993.78	0.73	-0.29	0.134
25.00	-52.87	-8.28	0.00	-719.98	0.00	719.98	2,932.71	701.18	2,188.97	1,971.59	0.82	-0.31	0.132
30.00	-50.49	-8.19	0.00	-678.58	0.00	678.58	2,875.21	684.57	2,086.57	1,886.65	1.17	-0.37	0.127
31.50	-49.78	-8.12	0.00	-666.30	0.00	666.30	2,854.29	679.59	2,056.33	1,859.14	1.29	-0.39	0.125
35.00	-47.73	-8.05	0.00	-637.88	0.00	637.88	2,805.48	667.97	1,986.62	1,795.73	1.59	-0.43	0.120
35.67	-47.34	-7.98	0.00	-632.52	0.00	632.52	2,248.07	566.94	1,717.07	1,468.70	1.65	-0.44	0.134
40.00	-45.39	-7.83	0.00	-597.95	0.00	597.95	2,218.59	554.95	1,645.23	1,418.49	2.07	-0.49	0.128
45.00	-43.15	-7.67	0.00	-558.79	0.00	558.79	2,183.60	541.11	1,564.24	1,360.97	2.61	-0.54	0.121
50.00	-40.92	-7.49	0.00	-520.46	0.00	520.46	2,147.58	527.27	1,485.29	1,303.95	3.21	-0.60	0.114
55.00	-38.70	-7.31	0.00	-483.00	0.00	483.00	2,110.52	513.44	1,408.39	1,247.47	3.87	-0.66	0.107
60.00	-36.51	-7.16	0.00	-446.45	0.00	446.45	2,072.42	499.60	1,333.53	1,191.58	4.59	-0.71	0.100
64.00	-34.63	-6.85	0.00	-417.83	0.00	417.83	2,041.18	488.53	1,275.12	1,147.34	5.20	-0.75	0.095
65.00	-34.20	-6.79	0.00	-410.98	0.00	410.98	2,033.27	485.76	1,260.72	1,136.35	5.36	-0.76	0.094
68.70	-32.59	-6.69	0.00	-385.86	0.00	385.86	1,997.21	475.53	1,208.15	1,092.40	5.97	-0.80	0.089
68.70	-32.59	-6.69	0.00	-385.86	0.00	385.86	1,997.21	475.53	1,208.15	1,092.40	5.97	-0.80	0.173
70.00	-32.11	-6.63	0.00	-377.16	0.00	377.16	1,982.10	471.93	1,189.95	1,075.84	6.19	-0.81	0.171
73.50	-30.57	-6.54	0.00	-353.96	0.00	353.96	1,473.96	377.74	952.81	802.32	6.81	-0.88	0.190
75.00	-30.04	-6.47	0.00	-344.15	0.00	344.15	1,466.28	374.42	936.13	791.05	7.09	-0.91	0.186
80.00	-28.53	-6.32	0.00	-311.82	0.00	311.82	1,440.00	363.35	881.62	753.69	8.09	-1.01	0.173
85.00	-27.14	-6.17	0.00	-280.23	0.00	280.23	1,412.68	352.28	828.74	716.65	9.20	-1.10	0.160
90.00	-25.76	-6.02	0.00	-249.37	0.00	249.37	1,384.32	341.21	777.49	679.98	10.41	-1.19	0.146
95.00	-24.39	-5.86	0.00	-219.29	0.00	219.29	1,354.92	330.14	727.89	643.72	11.70	-1.28	0.132
100.00	-23.04	-5.71	0.00	-189.98	0.00	189.98	1,324.47	319.08	679.91	607.94	13.09	-1.36	0.118
104.00	-21.41	-5.50	0.00	-167.14	0.00	167.14	1,299.37	310.22	642.71	579.69	14.25	-1.42	0.106
105.00	-21.14	-5.45	0.00	-161.64	0.00	161.64	1,292.99	308.01	633.57	572.68	14.55	-1.43	0.104
108.00	-20.32	-5.34	0.00	-145.20	0.00	145.20	1,265.73	301.36	606.56	548.38	15.47	-1.48	0.096
110.00	-19.80	-5.28	0.00	-134.53	0.00	134.53	1,247.14	296.94	588.87	532.29	16.09	-1.50	0.090
110.00	-19.80	-5.28	0.00	-134.53	0.00	134.53	853.24	223.36	444.19	366.34	16.09	-1.50	0.108
111.00	-18.47	-4.67	0.00	-129.14	0.00	129.14	849.67	221.70	437.62	362.07	16.41	-1.52	0.104
115.00	-17.45	-4.53	0.00	-110.48	0.00	110.48	834.99	215.06	411.80	345.06	17.70	-1.57	0.091
119.13	-16.20	-4.42	0.00	-91.78	0.00	91.78	819.16	208.21	385.99	327.64	19.07	-1.61	0.078
120.00	-15.77	-4.27	0.00	-87.91	0.00	87.91	815.71	206.76	380.63	323.96	19.37	-1.62	0.039
121.00	-15.23	-4.20	0.00	-83.64	0.00	83.64	811.73	205.10	374.54	319.77	19.71	-1.63	0.036
121.00	-15.23	-4.20	0.00	-83.64	0.00	83.64	811.73	205.10	374.54	319.77	19.71	-1.63	0.059
124.50	-14.25	-4.11	0.00	-68.93	0.00	68.93	797.47	199.29	353.62	305.16	20.91	-1.64	0.050
124.50	-14.25	-4.11	0.00	-68.93	0.00	68.93	797.47	199.29	353.62	305.16	20.91	-1.64	0.244
125.00	-14.13	-4.08	0.00	-66.88	0.00	66.88	795.39	198.46	350.69	303.09	21.08	-1.65	0.239

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

6/25/2021 2:55:08 PM

Customer: T-MOBILE

Load Case: 1.0D + 1.0W

Serviceability 60 mph

24 Iterations

Gust Response Factor :1.10

Dead Load Factor :1.00

Wind Load Factor :1.00

127.00	-11.96	-3.74	0.00	-58.71	0.00	58.71	786.97	195.14	339.05	294.81	21.79	-1.72	0.215
130.00	-10.42	-2.97	0.00	-47.48	0.00	47.48	774.02	190.16	321.97	282.49	22.90	-1.81	0.182
135.00	-9.99	-2.87	0.00	-32.65	0.00	32.65	751.62	181.86	294.48	262.21	24.87	-1.94	0.138
140.00	-5.66	-1.69	0.00	-18.28	0.00	18.28	728.18	173.55	268.22	242.31	26.96	-2.03	0.083
144.00	-5.19	-1.58	0.00	-11.53	0.00	11.53	701.03	166.91	248.09	224.25	28.68	-2.08	0.059
145.00	-5.11	-1.52	0.00	-9.94	0.00	9.94	694.06	165.25	243.18	219.78	29.12	-2.09	0.053
150.00	0.00	-1.33	0.00	-2.37	0.00	2.37	659.19	156.95	219.37	198.13	31.33	-2.12	0.012

Site Number: 302489

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

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Customer: T-MOBILE

Equivalent Lateral Forces Method Analysis

Spectral Response Acceleration for Short Period (S_s):	0.17
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.05
Long-Period Transition Period (T_L):	6
Importance Factor (I_E):	1.00
Site Coefficient F_a :	1.60
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	1.50
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.19
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s	0.03
Lower Limit C_s	0.03
Period based on Rayleigh Method (sec):	3.05
Redundancy Factor (p):	1.00
Seismic Force Distribution Exponent (k):	2.00
Total Unfactored Dead Load:	64.73 k
Seismic Base Shear (E):	1.94 k

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

Segment	Height Above Base (ft)	Weight (lb)	W_z (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
44	147.50	396	8,623	0.017	33	490
43	144.50	80	1,675	0.003	6	99
42	142.00	324	6,536	0.013	25	401
41	137.50	419	7,922	0.016	30	518
40	132.50	427	7,498	0.015	29	528
39	128.50	416	6,874	0.013	26	515
38	126.00	324	5,138	0.010	20	400
37	124.75	115	1,782	0.003	7	142
36	122.75	979	14,754	0.029	56	1,211
35	120.50	548	7,953	0.016	30	678
34	119.56	308	4,409	0.009	17	382
33	117.06	1,251	17,141	0.034	65	1,547
32	113.00	1,018	12,995	0.025	50	1,259
31	110.50	243	2,969	0.006	11	301
30	109.00	516	6,130	0.012	23	638
29	106.50	799	9,064	0.018	35	989
28	104.50	267	2,918	0.006	11	331
27	102.00	1,073	11,165	0.022	43	1,328
26	97.50	1,351	12,844	0.025	49	1,672
25	92.50	1,362	11,653	0.023	44	1,685
24	87.50	1,373	10,509	0.021	40	1,698
23	82.50	1,383	9,415	0.018	36	1,711
22	77.50	1,508	9,055	0.018	34	1,865
21	74.25	521	2,870	0.006	11	644
20	71.75	1,535	7,904	0.016	30	1,899

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

6/25/2021 2:55:08 PM

Customer: T-MOBILE

19	69.35	476	2,288	0.004	9	589
18	66.85	1,606	7,178	0.014	27	1,987
17	64.50	435	1,811	0.004	7	539
16	62.00	1,747	6,715	0.013	26	2,161
15	57.50	2,196	7,259	0.014	28	2,716
14	52.50	2,209	6,089	0.012	23	2,733
13	47.50	2,222	5,014	0.010	19	2,749
12	42.50	2,236	4,039	0.008	15	2,766
11	37.83	1,949	2,789	0.005	11	2,411
10	35.33	387	483	0.001	2	479
9	33.25	2,040	2,255	0.004	9	2,523
8	30.75	710	671	0.001	3	878
7	27.50	2,376	1,797	0.004	7	2,940
6	24.30	668	395	0.001	2	827
5	21.80	1,724	819	0.002	3	2,133
4	17.50	2,408	738	0.001	3	2,980
3	12.50	2,425	379	0.001	1	3,000
2	7.50	2,284	128	0.000	0	2,825
1	2.50	2,300	14	0.000	0	2,845
Decibel DB809KE-SY	150.00	26	585	0.001	2	32
Kaelus DBC0061F1V51-	150.00	76	1,721	0.003	7	95
Powerwave Allgon LGP	150.00	42	952	0.002	4	52
Raycap DC6-48-60-18-	150.00	64	1,431	0.003	5	79
Ericsson RRUS A2 B2	150.00	66	1,485	0.003	6	82
Ericsson RRUS 11 (Ba	150.00	165	3,713	0.007	14	204
Ericsson RRUS 32 B30	150.00	180	4,050	0.008	15	223
Ericsson RRUS-11 (19	150.00	153	3,443	0.007	13	189
Ericsson RRUS-12 B2	150.00	174	3,915	0.008	15	215
Ericsson Radio 8843	150.00	255	5,738	0.011	22	315
Powerwave Allgon 777	150.00	105	2,363	0.005	9	130
Diamond X50A	150.00	5	104	0.000	0	6
CCI OPA-65R-LCUU-H8	150.00	264	5,940	0.012	23	327
CCI TPA-65R-LCUUUU-H	150.00	245	5,508	0.011	21	303
Round Side Arm	150.00	450	10,125	0.020	39	557
Platform w/ Handrail	150.00	2,500	56,250	0.110	214	3,093
Stand-Off	144.00	150	3,110	0.006	12	186
Commscope SDX1926Q-4	140.00	19	365	0.001	1	23
Ericsson Radio 4449	140.00	225	4,410	0.009	17	278
Ericsson RRUS 4415 B	140.00	138	2,705	0.005	10	171
Ericsson 4424 B25	140.00	258	5,057	0.010	19	319
Ericsson Air6449 B41	140.00	312	6,115	0.012	23	386
RFS APX16DWV-16DWVS-	140.00	122	2,393	0.005	9	151
RFS APXVAALL24 43-U-	140.00	368	7,221	0.014	28	456
Platform w/ Handrail	140.00	2,500	49,000	0.096	187	3,093
Samsung Outdoor CBRS	130.00	56	943	0.002	4	69
Samsung B5/B13 RRH-B	130.00	211	3,564	0.007	14	261
Samsung B2/B66A RRH-	130.00	253	4,279	0.008	16	313
Raycap RCMD-6627-PF	130.00	32	541	0.001	2	40
Samsung MT6407-77A	130.00	245	4,137	0.008	16	303
Amphenol Antel BXA-8	130.00	54	913	0.002	3	67
Commscope NHH-65B-R2	130.00	131	2,216	0.004	8	162
Commscope NHHSS-65C-	130.00	168	2,839	0.006	11	208
Round Low Profile PI	127.00	1,850	29,839	0.059	114	2,289
Generic 76" x 6" Pan	120.00	120	1,728	0.003	7	148
DragonWave Horizon C	111.00	21	261	0.001	1	26
Alcatel-Lucent RRH2x	111.00	317	3,911	0.008	15	393
Nokia FZHN Flexi RRH	111.00	132	1,630	0.003	6	164
Alcatel-Lucent 1900M	111.00	180	2,218	0.004	8	223
DragonWave A-ANT-11G	111.00	54	665	0.001	3	67
RFS APXVTM14-ALU-I20	111.00	169	2,077	0.004	8	209
Commscope NNVV-65B-R	111.00	232	2,861	0.006	11	287
Generic 24" x 24" Ju	108.00	20	233	0.000	1	25
Side Arm	104.00	560	6,057	0.012	23	693
Channel Master Type	64.00	126	516	0.001	2	156

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

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Customer: T-MOBILE

		64,727	509,781	1.000	1,942	80,075
<u>Load Case 0.9D - 1.0Ev + 1.0Eh</u>		Seismic (Reduced DL)				
Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
44	147.50	396	8,623	0.017	33	342
43	144.50	80	1,675	0.003	6	69
42	142.00	324	6,536	0.013	25	280
41	137.50	419	7,922	0.016	30	362
40	132.50	427	7,498	0.015	29	369
39	128.50	416	6,874	0.013	26	359
38	126.00	324	5,138	0.010	20	279
37	124.75	115	1,782	0.003	7	99
36	122.75	979	14,754	0.029	56	845
35	120.50	548	7,953	0.016	30	473
34	119.56	308	4,409	0.009	17	266
33	117.06	1,251	17,141	0.034	65	1,079
32	113.00	1,018	12,995	0.025	50	878
31	110.50	243	2,969	0.006	11	210
30	109.00	516	6,130	0.012	23	445
29	106.50	799	9,064	0.018	35	690
28	104.50	267	2,918	0.006	11	231
27	102.00	1,073	11,165	0.022	43	926
26	97.50	1,351	12,844	0.025	49	1,166
25	92.50	1,362	11,653	0.023	44	1,175
24	87.50	1,373	10,509	0.021	40	1,184
23	82.50	1,383	9,415	0.018	36	1,194
22	77.50	1,508	9,055	0.018	34	1,301
21	74.25	521	2,870	0.006	11	449
20	71.75	1,535	7,904	0.016	30	1,325
19	69.35	476	2,288	0.004	9	410
18	66.85	1,606	7,178	0.014	27	1,386
17	64.50	435	1,811	0.004	7	376
16	62.00	1,747	6,715	0.013	26	1,507
15	57.50	2,196	7,259	0.014	28	1,895
14	52.50	2,209	6,089	0.012	23	1,906
13	47.50	2,222	5,014	0.010	19	1,918
12	42.50	2,236	4,039	0.008	15	1,929
11	37.83	1,949	2,789	0.005	11	1,681
10	35.33	387	483	0.001	2	334
9	33.25	2,040	2,255	0.004	9	1,760
8	30.75	710	671	0.001	3	612
7	27.50	2,376	1,797	0.004	7	2,050
6	24.30	668	395	0.001	2	577
5	21.80	1,724	819	0.002	3	1,488
4	17.50	2,408	738	0.001	3	2,078
3	12.50	2,425	379	0.001	1	2,092
2	7.50	2,284	128	0.000	0	1,971
1	2.50	2,300	14	0.000	0	1,984
Decibel DB809KE-SY	150.00	26	585	0.001	2	22
Kaelus DBC0061F1V51-	150.00	76	1,721	0.003	7	66
Powerwave Allgon LGP	150.00	42	952	0.002	4	36
Raycap DC6-48-60-18-	150.00	64	1,431	0.003	5	55
Ericsson RRUS A2 B2	150.00	66	1,485	0.003	6	57
Ericsson RRUS 11 (Ba	150.00	165	3,713	0.007	14	142
Ericsson RRUS 32 B30	150.00	180	4,050	0.008	15	155
Ericsson RRUS-11 (19	150.00	153	3,443	0.007	13	132
Ericsson RRUS-12 B2	150.00	174	3,915	0.008	15	150
Ericsson Radio 8843	150.00	255	5,738	0.011	22	220
Powerwave Allgon 777	150.00	105	2,363	0.005	9	91

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Customer: T-MOBILE

Diamond X50A	150.00	5	104	0.000	0	4
CCI OPA-65R-LCUU-H8	150.00	264	5,940	0.012	23	228
CCI TPA-65R-LCUUUU-H	150.00	245	5,508	0.011	21	211
Round Side Arm	150.00	450	10,125	0.020	39	388
Platform w/ Handrail	150.00	2,500	56,250	0.110	214	2,157
Stand-Off	144.00	150	3,110	0.006	12	129
Commscope SDX1926Q-4	140.00	19	365	0.001	1	16
Ericsson Radio 4449	140.00	225	4,410	0.009	17	194
Ericsson RRUS 4415 B	140.00	138	2,705	0.005	10	119
Ericsson 4424 B25	140.00	258	5,057	0.010	19	223
Ericsson Air6449 B41	140.00	312	6,115	0.012	23	269
RFS APX16DWV-16DWVS-	140.00	122	2,393	0.005	9	105
RFS APXVAALL24 43-U-	140.00	368	7,221	0.014	28	318
Platform w/ Handrail	140.00	2,500	49,000	0.096	187	2,157
Samsung Outdoor CBRS	130.00	56	943	0.002	4	48
Samsung B5/B13 RRH-B	130.00	211	3,564	0.007	14	182
Samsung B2/B66A RRH-	130.00	253	4,279	0.008	16	218
Raycap RCMD-6627-PF	130.00	32	541	0.001	2	28
Samsung MT6407-77A	130.00	245	4,137	0.008	16	211
Amphenol Antel BXA-8	130.00	54	913	0.002	3	47
Commscope NHH-65B-R2	130.00	131	2,216	0.004	8	113
Commscope NHHSS-65C-	130.00	168	2,839	0.006	11	145
Round Low Profile PI	127.00	1,850	29,839	0.059	114	1,596
Generic 76" x 6" Pan	120.00	120	1,728	0.003	7	104
DragonWave Horizon C	111.00	21	261	0.001	1	18
Alcatel-Lucent RRH2x	111.00	317	3,911	0.008	15	274
Nokia FZHN Flexi RRH	111.00	132	1,630	0.003	6	114
Alcatel-Lucent 1900M	111.00	180	2,218	0.004	8	155
DragonWave A-ANT-11G	111.00	54	665	0.001	3	47
RFS APXVTM14-ALU-I20	111.00	169	2,077	0.004	8	145
Commscope NNVV-65B-R	111.00	232	2,861	0.006	11	200
Generic 24" x 24" Ju	108.00	20	233	0.000	1	17
Side Arm	104.00	560	6,057	0.012	23	483
Channel Master Type	64.00	126	516	0.001	2	109
		64,727	509,781	1.000	1,942	55,852

Load Case 1.2D + 1.0Ev + 1.0Eh

Seismic

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-77.23	-1.95	0.00	-248.56	0.00	248.56	3,157.17	784.20	2,737.77	2,376.61	0.00	0.00	0.052
5.00	-74.40	-1.97	0.00	-238.80	0.00	238.80	3,114.35	767.59	2,623.11	2,294.24	0.01	-0.02	0.051
10.00	-71.40	-1.99	0.00	-228.93	0.00	228.93	3,070.50	750.99	2,510.89	2,212.51	0.04	-0.03	0.049
15.00	-68.42	-2.01	0.00	-218.97	0.00	218.97	3,025.61	734.39	2,401.13	2,131.46	0.08	-0.05	0.048
20.00	-66.29	-2.02	0.00	-208.94	0.00	208.94	2,979.68	717.78	2,293.82	2,051.14	0.14	-0.07	0.046
23.60	-65.46	-2.02	0.00	-201.68	0.00	201.68	2,945.97	705.83	2,218.08	1,993.78	0.20	-0.08	0.046
23.60	-65.46	-2.02	0.00	-201.68	0.00	201.68	2,945.97	705.83	2,218.08	1,993.78	0.20	-0.08	0.046
25.00	-62.52	-2.03	0.00	-198.84	0.00	198.84	2,932.71	701.18	2,188.97	1,971.59	0.22	-0.08	0.045
30.00	-61.64	-2.03	0.00	-188.72	0.00	188.72	2,875.21	684.57	2,086.57	1,886.65	0.32	-0.10	0.043
31.50	-59.12	-2.03	0.00	-185.67	0.00	185.67	2,854.29	679.59	2,056.33	1,859.14	0.35	-0.11	0.043
35.00	-58.64	-2.03	0.00	-178.57	0.00	178.57	2,805.48	667.97	1,986.62	1,795.73	0.43	-0.12	0.041

Site Number: 302489

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

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Customer: T-MOBILE

35.67	-56.23	-2.03	0.00	-177.21	0.00	177.21	2,248.07	566.94	1,717.07	1,468.70	0.45	-0.12	0.046
40.00	-53.46	-2.02	0.00	-168.44	0.00	168.44	2,218.59	554.95	1,645.23	1,418.49	0.56	-0.13	0.044
45.00	-50.71	-2.01	0.00	-158.35	0.00	158.35	2,183.60	541.11	1,564.24	1,360.97	0.71	-0.15	0.042
50.00	-47.98	-1.99	0.00	-148.32	0.00	148.32	2,147.58	527.27	1,485.29	1,303.95	0.88	-0.17	0.040
55.00	-45.26	-1.97	0.00	-138.37	0.00	138.37	2,110.52	513.44	1,408.39	1,247.47	1.06	-0.18	0.038
60.00	-43.10	-1.94	0.00	-128.55	0.00	128.55	2,072.42	499.60	1,333.53	1,191.58	1.26	-0.20	0.035
64.00	-42.41	-1.94	0.00	-120.77	0.00	120.77	2,041.18	488.53	1,275.12	1,147.34	1.43	-0.21	0.034
65.00	-40.42	-1.91	0.00	-118.84	0.00	118.84	2,033.27	485.76	1,260.72	1,136.35	1.47	-0.21	0.033
68.70	-39.83	-1.90	0.00	-111.78	0.00	111.78	1,997.21	475.53	1,208.15	1,092.40	1.64	-0.22	0.032
68.70	-39.83	-1.90	0.00	-111.78	0.00	111.78	1,997.21	475.53	1,208.15	1,092.40	1.64	-0.22	0.059
70.00	-37.93	-1.87	0.00	-109.31	0.00	109.31	1,982.10	471.93	1,189.95	1,075.84	1.70	-0.23	0.058
73.50	-37.29	-1.87	0.00	-102.75	0.00	102.75	1,473.96	377.74	952.81	802.32	1.87	-0.25	0.065
75.00	-35.42	-1.84	0.00	-99.95	0.00	99.95	1,466.28	374.42	936.13	791.05	1.95	-0.25	0.064
80.00	-33.71	-1.81	0.00	-90.77	0.00	90.77	1,440.00	363.35	881.62	753.69	2.23	-0.28	0.059
85.00	-32.01	-1.78	0.00	-81.73	0.00	81.73	1,412.68	352.28	828.74	716.65	2.55	-0.31	0.055
90.00	-30.33	-1.74	0.00	-72.85	0.00	72.85	1,384.32	341.21	777.49	679.98	2.89	-0.34	0.051
95.00	-28.66	-1.69	0.00	-64.17	0.00	64.17	1,354.92	330.14	727.89	643.72	3.25	-0.36	0.046
100.00	-27.33	-1.65	0.00	-55.73	0.00	55.73	1,324.47	319.08	679.91	607.94	3.65	-0.39	0.042
104.00	-26.30	-1.61	0.00	-49.15	0.00	49.15	1,299.37	310.22	642.71	579.69	3.98	-0.40	0.039
105.00	-25.32	-1.57	0.00	-47.53	0.00	47.53	1,292.99	308.01	633.57	572.68	4.06	-0.41	0.037
108.00	-24.65	-1.55	0.00	-42.82	0.00	42.82	1,265.73	301.36	606.56	548.38	4.32	-0.42	0.035
110.00	-24.35	-1.54	0.00	-39.72	0.00	39.72	1,247.14	296.94	588.87	532.29	4.50	-0.43	0.033
110.00	-24.35	-1.54	0.00	-39.72	0.00	39.72	853.24	223.36	444.19	366.34	4.50	-0.43	0.040
111.00	-21.72	-1.42	0.00	-38.18	0.00	38.18	849.67	221.70	437.62	362.07	4.59	-0.43	0.038
115.00	-20.18	-1.35	0.00	-32.51	0.00	32.51	834.99	215.06	411.80	345.06	4.96	-0.45	0.034
119.13	-19.80	-1.33	0.00	-26.95	0.00	26.95	819.16	208.21	385.99	327.64	5.35	-0.46	0.030
120.00	-18.97	-1.29	0.00	-25.78	0.00	25.78	815.71	206.76	380.63	323.96	5.44	-0.46	0.016
121.00	-17.76	-1.22	0.00	-24.50	0.00	24.50	811.73	205.10	374.54	319.77	5.53	-0.47	0.015
121.00	-17.76	-1.22	0.00	-24.50	0.00	24.50	811.73	205.10	374.54	319.77	5.53	-0.47	0.025
124.50	-17.62	-1.22	0.00	-20.22	0.00	20.22	797.47	199.29	353.62	305.16	5.88	-0.47	0.022
124.50	-17.62	-1.22	0.00	-20.22	0.00	20.22	797.47	199.29	353.62	305.16	5.88	-0.47	0.088
125.00	-17.22	-1.20	0.00	-19.61	0.00	19.61	795.39	198.46	350.69	303.09	5.93	-0.47	0.086
127.00	-14.41	-1.04	0.00	-17.22	0.00	17.22	786.97	195.14	339.05	294.81	6.13	-0.49	0.077
130.00	-12.46	-0.93	0.00	-14.10	0.00	14.10	774.02	190.16	321.97	282.49	6.45	-0.52	0.066
135.00	-11.95	-0.90	0.00	-9.47	0.00	9.47	751.62	181.86	294.48	262.21	7.01	-0.56	0.052
140.00	-6.67	-0.53	0.00	-4.98	0.00	4.98	728.18	173.55	268.22	242.31	7.61	-0.58	0.030
144.00	-6.39	-0.51	0.00	-2.86	0.00	2.86	701.03	166.91	248.09	224.25	8.11	-0.60	0.022
145.00	-5.90	-0.47	0.00	-2.35	0.00	2.35	694.06	165.25	243.18	219.78	8.23	-0.60	0.019
150.00	0.00	-0.41	0.00	0.00	0.00	0.00	659.19	156.95	219.37	198.13	8.86	-0.60	0.000

Load Case 0.9D - 1.0Ev + 1.0Eh

Seismic (Reduced DL)

Calculated Forces

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-53.87	-1.95	0.00	-242.29	0.00	242.29	3,157.17	784.20	2,737.77	2,376.61	0.00	0.00	0.047
5.00	-51.90	-1.96	0.00	-232.54	0.00	232.54	3,114.35	767.59	2,623.11	2,294.24	0.01	-0.02	0.046
10.00	-49.80	-1.97	0.00	-222.73	0.00	222.73	3,070.50	750.99	2,510.89	2,212.51	0.03	-0.03	0.045
15.00	-47.72	-1.98	0.00	-212.86	0.00	212.86	3,025.61	734.39	2,401.13	2,131.46	0.08	-0.05	0.043
20.00	-46.24	-1.99	0.00	-202.94	0.00	202.94	2,979.68	717.78	2,293.82	2,051.14	0.14	-0.07	0.042

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Customer: T-MOBILE

23.60	-45.66	-1.99	0.00	-195.77	0.00	195.77	2,945.97	705.83	2,218.08	1,993.78	0.19	-0.08	0.041
23.60	-45.66	-1.99	0.00	-195.77	0.00	195.77	2,945.97	705.83	2,218.08	1,993.78	0.19	-0.08	0.041
25.00	-43.61	-1.99	0.00	-192.98	0.00	192.98	2,932.71	701.18	2,188.97	1,971.59	0.21	-0.08	0.040
30.00	-43.00	-2.00	0.00	-183.01	0.00	183.01	2,875.21	684.57	2,086.57	1,886.65	0.31	-0.10	0.039
31.50	-41.24	-1.99	0.00	-180.02	0.00	180.02	2,854.29	679.59	2,056.33	1,859.14	0.34	-0.10	0.039
35.00	-40.90	-1.99	0.00	-173.05	0.00	173.05	2,805.48	667.97	1,986.62	1,795.73	0.42	-0.11	0.037
35.67	-39.22	-1.99	0.00	-171.72	0.00	171.72	2,248.07	566.94	1,717.07	1,468.70	0.44	-0.12	0.042
40.00	-37.29	-1.98	0.00	-163.12	0.00	163.12	2,218.59	554.95	1,645.23	1,418.49	0.55	-0.13	0.040
45.00	-35.37	-1.96	0.00	-153.24	0.00	153.24	2,183.60	541.11	1,564.24	1,360.97	0.69	-0.15	0.038
50.00	-33.46	-1.94	0.00	-143.43	0.00	143.43	2,147.58	527.27	1,485.29	1,303.95	0.85	-0.16	0.036
55.00	-31.57	-1.92	0.00	-133.72	0.00	133.72	2,110.52	513.44	1,408.39	1,247.47	1.03	-0.18	0.034
60.00	-30.06	-1.89	0.00	-124.14	0.00	124.14	2,072.42	499.60	1,333.53	1,191.58	1.22	-0.19	0.032
64.00	-29.58	-1.89	0.00	-116.56	0.00	116.56	2,041.18	488.53	1,275.12	1,147.34	1.39	-0.20	0.031
65.00	-28.19	-1.86	0.00	-114.67	0.00	114.67	2,033.27	485.76	1,260.72	1,136.35	1.43	-0.21	0.030
68.70	-27.78	-1.85	0.00	-107.80	0.00	107.80	1,997.21	475.53	1,208.15	1,092.40	1.59	-0.22	0.029
68.70	-27.78	-1.85	0.00	-107.80	0.00	107.80	1,997.21	475.53	1,208.15	1,092.40	1.59	-0.22	0.054
70.00	-26.46	-1.82	0.00	-105.39	0.00	105.39	1,982.10	471.93	1,189.95	1,075.84	1.65	-0.22	0.053
73.50	-26.01	-1.81	0.00	-99.02	0.00	99.02	1,473.96	377.74	952.81	802.32	1.82	-0.24	0.059
75.00	-24.71	-1.78	0.00	-96.30	0.00	96.30	1,466.28	374.42	936.13	791.05	1.90	-0.25	0.058
80.00	-23.51	-1.75	0.00	-87.38	0.00	87.38	1,440.00	363.35	881.62	753.69	2.17	-0.27	0.054
85.00	-22.33	-1.72	0.00	-78.62	0.00	78.62	1,412.68	352.28	828.74	716.65	2.47	-0.30	0.050
90.00	-21.15	-1.67	0.00	-70.04	0.00	70.04	1,384.32	341.21	777.49	679.98	2.80	-0.33	0.046
95.00	-19.98	-1.63	0.00	-61.67	0.00	61.67	1,354.92	330.14	727.89	643.72	3.15	-0.35	0.042
100.00	-19.06	-1.59	0.00	-53.53	0.00	53.53	1,324.47	319.08	679.91	607.94	3.53	-0.37	0.038
104.00	-18.34	-1.55	0.00	-47.19	0.00	47.19	1,299.37	310.22	642.71	579.69	3.85	-0.39	0.034
105.00	-17.65	-1.51	0.00	-45.64	0.00	45.64	1,292.99	308.01	633.57	572.68	3.94	-0.39	0.033
108.00	-17.19	-1.49	0.00	-41.10	0.00	41.10	1,265.73	301.36	606.56	548.38	4.19	-0.41	0.031
110.00	-16.98	-1.48	0.00	-38.12	0.00	38.12	1,247.14	296.94	588.87	532.29	4.36	-0.41	0.030
110.00	-16.98	-1.48	0.00	-38.12	0.00	38.12	853.24	223.36	444.19	366.34	4.36	-0.41	0.036
111.00	-15.15	-1.37	0.00	-36.65	0.00	36.65	849.67	221.70	437.62	362.07	4.45	-0.42	0.034
115.00	-14.07	-1.30	0.00	-31.18	0.00	31.18	834.99	215.06	411.80	345.06	4.80	-0.43	0.030
119.13	-13.81	-1.28	0.00	-25.84	0.00	25.84	819.16	208.21	385.99	327.64	5.18	-0.44	0.026
120.00	-13.23	-1.24	0.00	-24.72	0.00	24.72	815.71	206.76	380.63	323.96	5.26	-0.45	0.014
121.00	-12.38	-1.18	0.00	-23.49	0.00	23.49	811.73	205.10	374.54	319.77	5.36	-0.45	0.013
121.00	-12.38	-1.18	0.00	-23.49	0.00	23.49	811.73	205.10	374.54	319.77	5.36	-0.45	0.021
124.50	-12.29	-1.17	0.00	-19.37	0.00	19.37	797.47	199.29	353.62	305.16	5.69	-0.45	0.019
124.50	-12.29	-1.17	0.00	-19.37	0.00	19.37	797.47	199.29	353.62	305.16	5.69	-0.45	0.079
125.00	-12.01	-1.15	0.00	-18.79	0.00	18.79	795.39	198.46	350.69	303.09	5.74	-0.45	0.077
127.00	-10.05	-1.00	0.00	-16.49	0.00	16.49	786.97	195.14	339.05	294.81	5.93	-0.47	0.069
130.00	-8.69	-0.89	0.00	-13.50	0.00	13.50	774.02	190.16	321.97	282.49	6.24	-0.50	0.059
135.00	-8.33	-0.86	0.00	-9.06	0.00	9.06	751.62	181.86	294.48	262.21	6.78	-0.54	0.046
140.00	-4.65	-0.51	0.00	-4.76	0.00	4.76	728.18	173.55	268.22	242.31	7.36	-0.56	0.026
144.00	-4.45	-0.49	0.00	-2.74	0.00	2.74	701.03	166.91	248.09	224.25	7.84	-0.57	0.019
145.00	-4.11	-0.45	0.00	-2.25	0.00	2.25	694.06	165.25	243.18	219.78	7.96	-0.58	0.016
150.00	0.00	-0.41	0.00	0.00	0.00	0.00	659.19	156.95	219.37	198.13	8.57	-0.58	0.000

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

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Customer: T-MOBILE

Analysis Summary

Load Case	Reactions						Max Usage	
	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)	Elev (ft)	Interaction Ratio
1.2D + 1.0W	36.54	0.00	77.59	0.00	0.00	3949.75	124.50	0.99
0.9D + 1.0W	36.49	0.00	58.17	0.00	0.00	3869.97	124.50	0.95
1.2D + 1.0Di + 1.0Wi	29.73	0.00	122.88	0.00	0.00	3296.98	124.50	0.83
1.2D + 1.0Ev + 1.0Eh	1.95	0.00	77.23	0.00	0.00	248.56	124.50	0.09
0.9D - 1.0Ev + 1.0Eh	1.95	0.00	53.87	0.00	0.00	242.29	124.50	0.08
1.0D + 1.0W	8.74	0.00	64.72	0.00	0.00	934.81	124.50	0.24

Site Number: 302489

Code: ANSI/TIA-222-H

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Site Name: Enfd - Enfield, CT

Engineering Number:13678283_C3_02

6/25/2021 2:55:08 PM

Customer: T-MOBILE

Additional Steel Summary

			Intermediate Connectors				Max Member		
Elev	Elev		Shear	Shear			Pu	phiPn	
From	To		VQ/I	Applied	phiVn				
(ft)	(ft)	Member	(lb/in)	(kips)	(kips)	Ratio	(kip)	(kip)	Ratio
0.00	121.00	(4) SOL-#20 All Thread Bar	532.7	14.4	16.8	0.856	311.8	314.9	0.990
0.00	23.60	(4) SOL-#20 All Thread Bar	273.3	7.4	16.8	0.439	324.2	334.7	0.969
23.60	68.70	(4) SOL-#20 All Thread Bar	304.2	9.1	16.8	0.543	293.0	330.5	0.886
119.13	124.50	(3) SOL-#20 (15 deg Offset)	500.3	15.0	16.8	0.893	122.1	284.5	0.429

			Upper Termination					Lower Termination				
Elev	Elev		Connectors					Connectors				
From	To		MQ/I	phiVn	Num	Num		MQ/I	phiVn	Num	Num	
(ft)	(ft)	Member	(kips)	(kips)	Reqd	Actual	Ratio	(kips)	(kips)	Reqd	Actual	Ratio
0.00	121.00	(4) SOL-#20 All Thread Bar	59.8	12.0	5	10	0.499	0.0	12.0	0	0	0.000
0.00	23.60	(4) SOL-#20 All Thread Bar	0.0	12.0	0	24	0.000	0.0	12.0	0	0	0.000
23.60	68.70	(4) SOL-#20 All Thread Bar	208.9	12.0	18	24	0.725	0.0	12.0	0	0	0.000
119.13	124.50	(3) SOL-#20 (15 deg Offset)	100.8	12.0	9	12	0.700	81.3	12.0	7	12	0.564

Flange Plate Analysis

Flange Plate	Plate Type	Flange	@ 110 ft
	Pole Diameter	21.27	in
	Pole Thickness	0.1875	in
	Plate Diameter	28	in
	Plate Thickness	1	in
	Plate Fy	60	ksi
	Weld Length	3/16	in
	f _s Resistance	95.99	k-in
	Applied	41.90	k-in

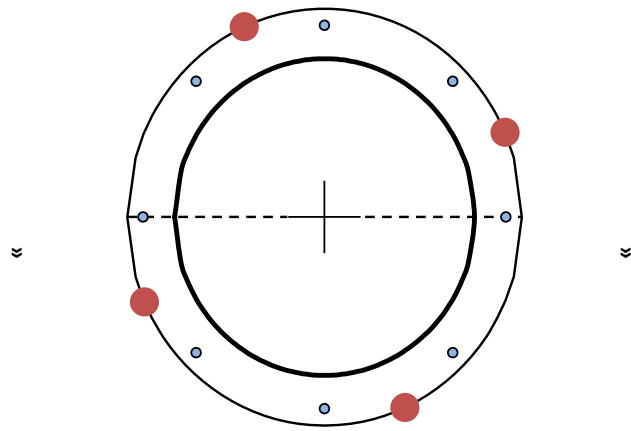
Code Rev.	H
A.S.I.	1.00
Moment	571.2 k-ft
Axial	21.6 k

Date	6/25/2021
Engineer	Colson L Teal
Site #	302489
Carrier	T-MOBILE

Required Flange Thickness:
0.66 in OK

Stiffeners	#	
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Bolts	#	8	
	Bolt Circle	25.75	in
	(R)adial / (S)quare	R	
	Diameter	1	in
	Hole Diameter	1 1/8	in
	Type	A325	
	Fy	92	ksi
	Fu	120	ksi
	f _s Resistance	54.52	k
	Applied	28.12	k



Reinforcement	#	4	
	DYW. Circle	28	in
	Offset Angle	24	°
	Type	#20	
	Diameter	2.72	in
	Fu	100	ksi
	f _s Resistance	464.86	k
Applied		171.01	k

Plate Stress Ratio:

44% Pass

Bolt Stress Ratio:

52% Pass

Extra Bolts	#	0	
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Reinforcement Stress Ratio:

37% Pass

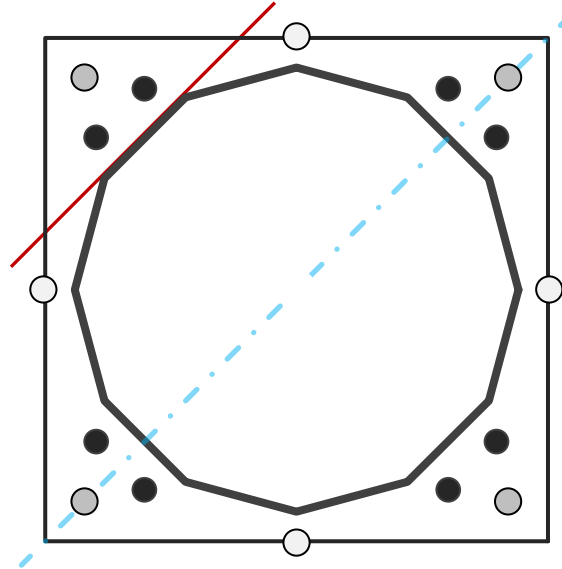
Base Plate & Anchor Rod Analysis

Pole Dimensions		
Number of Sides	12	-
Diameter	37.38	in
Thickness	3/8	in
Orientation Offset	0	°

Base Reactions		
Moment, Mu	3,949.8	k-ft
Axial, Pu	77.6	k
Shear, Vu	36.5	k
Neutral Axis	45	°

Report Capacities		
Component	Capacity	Result
Base Plate	55%	Pass
Anchor Rods	79%	Pass
Dwyidag	83%	Pass

Base Plate		
Shape	Square	-
Width	44	in
Thickness	2 1/2	in
Grade	A572-60	
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Clip	0	in
Orientation Offset	0	°
Anchor Rod Detail	c	$\eta=0.55$
Clear Distance	N/A	in
Applied Moment, Mu	1145.7	k
Bending Stress, ϕMn	2085.8	k



Dwyidag Reinforcement		
Quantity	4	-
Bar Size	#20	in
Diameter, ϕ	2.5	in
Bracket Type	Angle	-
Circle	44.26	in
Orientation Offset	0	°
Applied Force, Pu	306.2	k
Dwyidag Bar, ϕPn	368.2	k

Original Anchor Rods		
Arrangement	Cluster	-
Quantity	8	-
Diameter, ϕ	2 1/4	in
Bolt Circle	44	in
Grade	A615-75	
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Spacing	6.0	in
Orientation Offset	0	°
Applied Force, Pu	188.2	k
Anchor Rods, ϕPn	243.6	k

Additional Anchor Rods		
Quantity	4	-
Diameter, ϕ	2 1/2	in
Bolt Circle	52.4	in
Grade	Other	
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Bypass Base?	Yes	
Orientation Offset	45	°
Applied Force, Pu	238.4	k
Additional Rod, ϕPn	299.9	k

Calculations for Monopole Base Plate & Anchor Rod Analysis

Reaction Distribution

Reaction	Shear Vu	Moment Mu	Factor
-	k	k-ft	-
Base Forces	36.5	1369.9	0.35
Anchor Rod Forces	36.5	1369.9	0.35
Additional Bolt (Grp1) Forces	0.0	1020.1	0.26
Additional Bolt (Grp2) Forces	0.0	0.0	0.00
Dywidag Forces	0.0	1559.7	0.39
Stiffener Forces	0.0	0.0	0.00

Geometric Properties

Section	Gross Area	Net Area	Individual Inertia	Threads per Inch	Moment of Inertia
-	in ²	in ²	in ⁴	#	in ⁴
Pole	43.0992	3.5916	0.1692		7379.37
Bolt	3.9761	3.2477	0.8393	4.5	6294.24
Bolt1	4.9087	3.9988	1.2725	4	5495.00
Bolt2	0.0000	0.0000	0.0000	0	0.00
Dywidag	4.9087	4.9087	1.9175		4815.65
Stiffener	0.0000	0.0000	0.0000		0.00

Base Plate		
Shape	Square	-
Width, W	44	in
Thickness, t	2.5	in
Yield Strength, Fy	60	ksi
Tensile Strength, Fu	75	ksi
Base Plate Chord	23.211	in
Detail Type	c	-
Detail Factor	0.55	-
Clear Distance	N/A	-

Anchor Rods		
Anchor Rod Quantity, N	8	-
Rod Diameter, d	2.25	in
Bolt Circle, BC	44	in
Yield Strength, Fy	75	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	188.2	k
Applied Shear, Vu	1.1	k
Compressive Capacity, φPn	243.6	k
Tensile Capacity, φRnt	0.773	OK
Interaction Capacity	0.781	OK

External Base Plate		
Chord Length AA	24.720	in
Additional AA	0.000	in
Section Modulus, Z	38.626	in ³
Applied Moment, Mu	1145.7	k-ft
Bending Capacity, φMn	2085.8	k-ft
Capacity, Mu/φMn	0.549	OK
Chord Length AB	23.397	in
Additional AB	0.000	in
Section Modulus, Z	36.558	in ³
Applied Moment, Mu	896.7	k-ft
Bending Capacity, φMn	1974.2	k-ft
Capacity, Mu/φMn	0.454	OK
Bend Line Length	0.000	in
Additional Bend Line	0.000	in
Section Modulus, Z	0.000	in ³
Applied Moment, Mu	0.0	k-ft
Bending Capacity, φMn	0.0	k-ft
Capacity, Mu/φMn		

Additional Bolt Group 1		
Bolt Quantity, N	4	-
Bolt Diameter, d	2.5	in
Bolt Circle, BC	52.4	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	238.4	k
Applied Shear, Vu	0.0	k
Compressive Capacity, φPn	299.9	k
Compressive Capacity, φPn	0.795	OK
Interaction Capacity	0.795	OK

Internal Base Plate		
Arc Length	0.000	in
Section Modulus, Z	0.000	in ³
Moment Arm	0.000	in
Applied Moment, Mu	0.0	k-ft
Bending Capacity, φMn	0.0	k-ft
Capacity, Mu/φMn		

Dywidag Reinforcement		
Dywidag Quantity, N	4	-
Dywidag Diameter, d	2.5	in
Bolt Circle, BC	44.26	in
Yield Strength, Fy	80	ksi
Tensile Strength, Fu	100	ksi
Applied Axial, Pu	306.2	k
Compressive Capacity, φPn	368.2	k
Capacity, Pu/φPn	0.832	OK

Site Name: Enfd - Enfield, CT
Site Number: 302489
Tower Type: MP
Design Loads (Factored) - Analysis per TIA-222-H Standards

Monolithic Mat & Pier Foundation Analysis

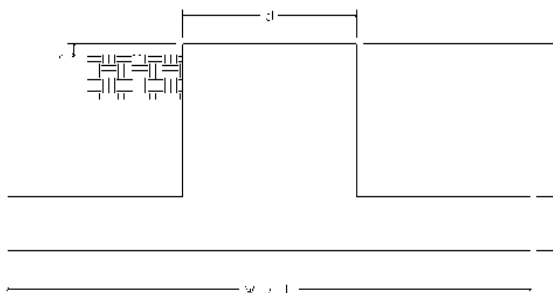
Foundation Analysis Parameters		
Design / Analysis / Mapping:	Analysis	-
Compression/Leg:	77.6	k
Uplift/Leg:	0.0	k
Total Shear:	36.5	k
Moment:	3,949.8	k-ft
Tower + Appurtenance Weight:	282.4	k
Depth to Base of Foundation (l + t - h):	8	ft
Diameter of Pier (d):	5	ft
Length of Pier (l):	5.5	ft
Height of Pier above Ground (h):	0.5	ft
Width of Pad (W):	18	ft
Length of Pad (L):	18	ft
Thickness of Pad (t):	3	ft
Tower Leg Center to Center:	0	ft
Number of Tower Legs:	1	-
Tower Center from Mat Center:	0	ft
Depth Below Ground Surface to Water Table:	99	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Soil Above Water Table:	115	pcf
Unit Weight of Water:	62.4	pcf
Unit Weight of Soil Below Water Table:	52.6	pcf
Friction Angle of Uplift:	15	°
Coefficient of Shear Friction:	0.3	-
Ultimate Compressive Bearing Pressure:	24,000	psf
Ultimate Passive Pressure on Pad Face:	0	psf
$f_{\text{Soil and Concrete Weight}}$:	0.9	-
f_{Soil} :	0.75	-

Foundation Steel Parameters		
Concrete Strength (f_c):	3,000	psi
Pad Tension Steel Depth:	32.0	in
Dead Load Factor:	0.9	-
f_{Shear} :	0.75	-
$f_{\text{Flexure / Tension}}$:	0.9	-
$f_{\text{Compression}}$:	0.65	-
b:	0.85	-
Bottom Pad Rebar Size #:	10	-
# of Bottom Pad Rebar:	34	-
Pad Bottom Steel Area:	43.18	in ²
Pad Steel F_y :	60,000	psi
Top Pad Rebar Size #:	10	-
# of Top Pad Rebar:	34	-
Pad Top Steel Area:	43.18	in ²
Pier Rebar Size #:	11	-
Pier Steel Area (Single Bar):	1.56	in ²
# of Pier Rebar:	52	-
Pier Steel F_y :	60,000	psi
Pier Cage Diameter:	52.0	in
Rebar Strain Limit:	0.008	-
Steel Elastic Modulus:	29,000	ksi
Tie Rebar Size #:	4	-
Tie Steel Area (Single Bar):	0.20	in ²
Tie Spacing:	12	in
Tie Steel F_y :	60,000	psi

Overturning Moment Usage		
Design OTM:	4260.3	k-ft
OTM Resistance:	4934.9	k-ft
Design OTM / OTM Resistance:	86%	Pass

Soil Bearing Pressure Usage		
Net Bearing Pressure:	8731	psf
Factored Nominal Bearing Pressure:	18000	psf
Factored Nominal (Net) Bearing Pressure:	49%	Pass
Load Direction Controlling Design Bearing Pressure:	Diagonal to Pad Edge	

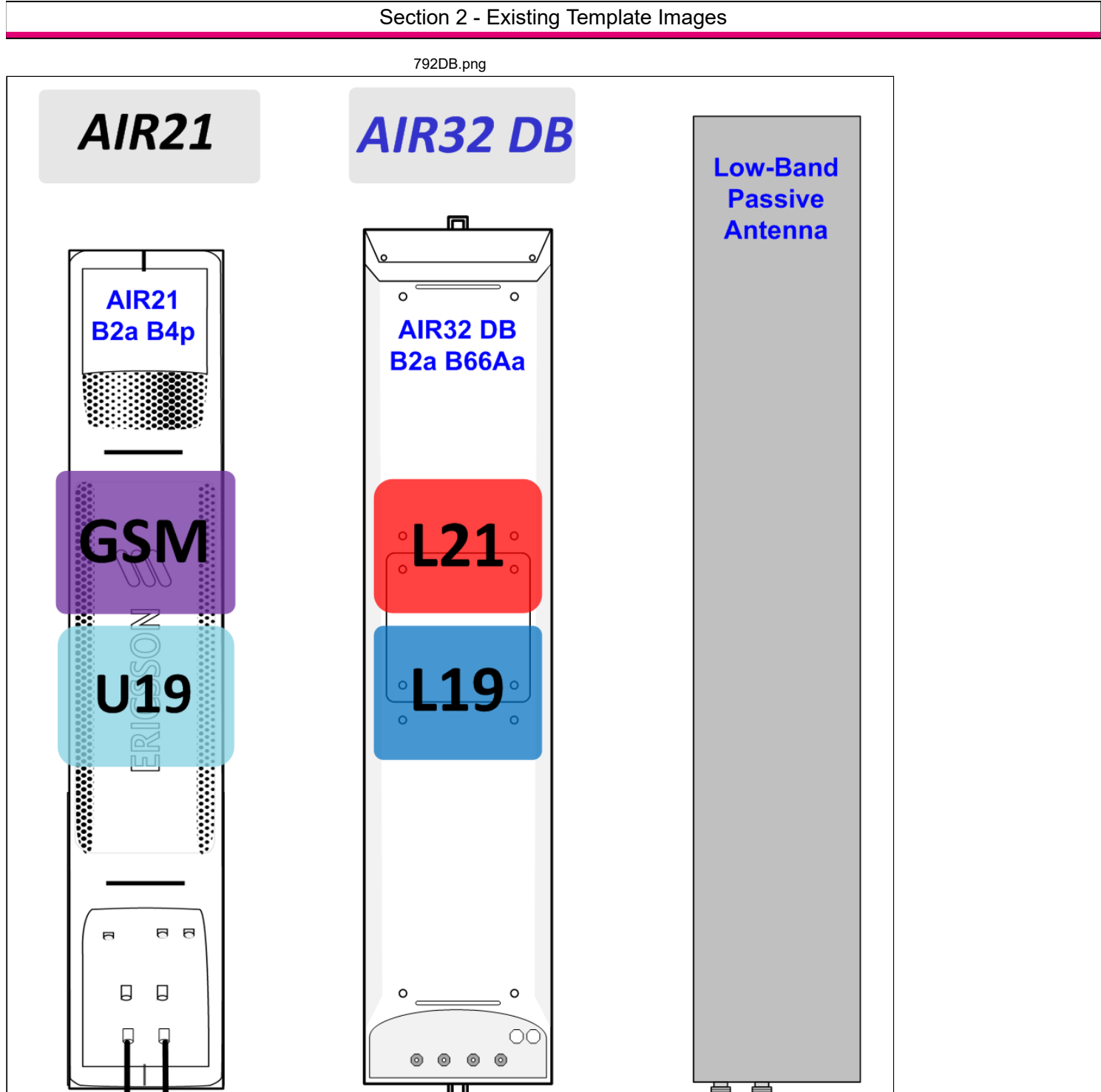
Sliding Factor of Safety		
Ultimate Friction Resistance:	171.7	k
Ultimate Passive Pressure Resistance:	0.0	k
Total Factored Sliding Resistance:	128.8	k
Sliding Design / Sliding Resistance:	28%	Pass

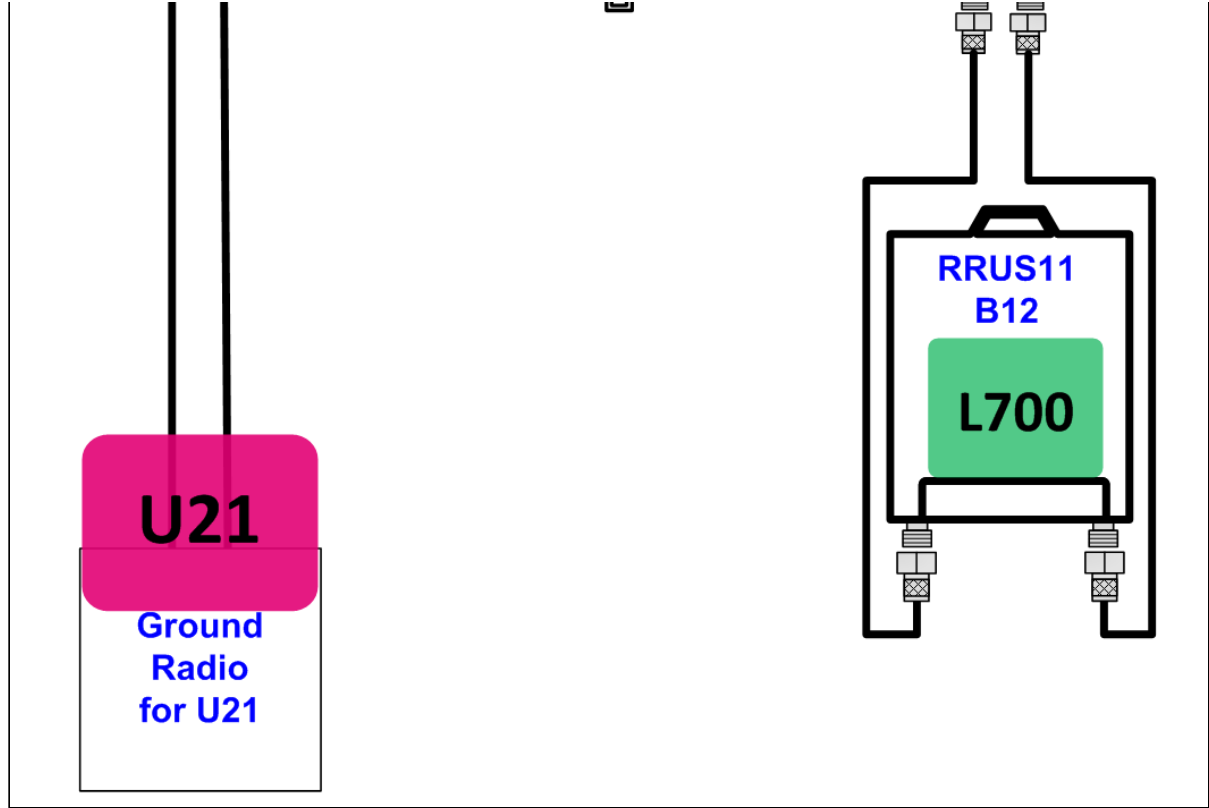


Pad Strength Capacity			
Factored One Way Shear (V_u):	322.6	k	ACI11.3.1.1
One Way Shear Capacity (fV_c):	477.1	k	
V_u / fV_c :	68%	Pass	
Load Direction Controlling Shear Capacity:	Diagonal to Pad Edge		
Lower Steel Pad Factored Moment (M_u):	1889.3	k-ft	ACI10.3
Lower Steel Pad Moment Capacity (fM_h):	5829.5	k-ft	
M_u / fM_h :	32%	Pass	
Load Direction Controlling Flexural Capacity:	Parallel to Pad Edge		
Upper Steel Pad Factored Moment (M_u):	614.9	k-ft	
Upper Steel Pad Moment Capacity (fM_h):	5829.5	k-ft	
M_u / fM_h :	11%	Pass	
Lower Pad Flexural Reinforcement Ratio:	0.0062		OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Upper Pad Flexural Reinforcement Ratio:	0.0062		OK - Minimum Reinforcement Ratio Met - ACI10.5.1
Pad Shrinkage Reinforcement Ratio:	0.0125		OK - Shrinkage Reinforcement Ratio Met - ACI7.12.2.1
Lower Pad Reinforcement Spacing:	6	in	Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Upper Pad Reinforcement Spacing:	6	in	Pad Reinforcing Spacing OK - ACI7.12.2.2 & 10.5.4
Factored Punching Shear (V_u):	0.0	k	ACI11.12.2.1
Nominal Punching Shear Capacity ($f_c V_n$):	1519.7	k	
V_u / fV_c :	0%	Pass	

Pier Strength Capacity			
Factored Moment in Pier (M_u):	4150.7	k-ft	
Pier Moment Capacity (fM_n):	9281.4	k-ft	
M_u / fM_n :	45%	Pass	
Factored Shear in Pier (V_u):	36.5	k	
Pier Shear Capacity (fV_n):	307.5	k	
V_u / fV_c :	12%	Pass	
Pier Shear Reinforcement Ratio:	0.0007		OK - No Ties Necessary for Shear - ACI11.5.6.1
Factored Tension in Pier (T_u):	0.0	k	
Pier Tension Capacity (fT_n):	4380.5	k	
T_u / fT_n :	0%	Pass	
Factored Compression in Pier (P_u):	77.6	k	ACI10.3.6.2
Pier Compression Capacity (fP_n):	3641.6	k	
P_u / fP_n :	2%	Pass	
Pier Compression Reinforcement Ratio:	0.029		OK - Reinforcement Ratio Met - ACI10.9.1 & 10.8.4
Minimum Depth to Develop Vertical Rebar:	31	in	ACI12.2.3
Minimum Hook Development Length:	22	in	ACI12.5
Minimum Mat Thickness / Edge Distance from Pier:	25.0	in	
Minimum Foundation Depth:	4.93	ft	
$M_u/f_b M_n + T_u/f_T T_n$:	45%	Pass	

Section 1 - Site Information				
Site ID: CT11534A Status: Draft Version: 6 Project Type: Anchor Approved: Not Approved Approved By: Not Approved Last Modified: 4/30/2021 7:45:02 AM Last Modified By: Dominic.Kallas2@T-Mobile.com		Site Name: CT534/Spectrasite Enfield Site Class: Monopole Site Type: Structure Non Building Plan Year: 2021 Market: CONNECTICUT CT Vendor: Ericsson Landlord: Spectrasite		Latitude: 41.96600000 Longitude: -72.55270000 Address: 1 Ecology Drive City, State: Enfield, CT Region: NORTHEAST
RAN Template: 67D5A998C Outdoor		AL Template: 67D5998C_1xAIR+1QP+1OP		
Sector Count: 3	Antenna Count: 9	Coax Line Count: 6	TMA Count: 0	RRU Count: 9

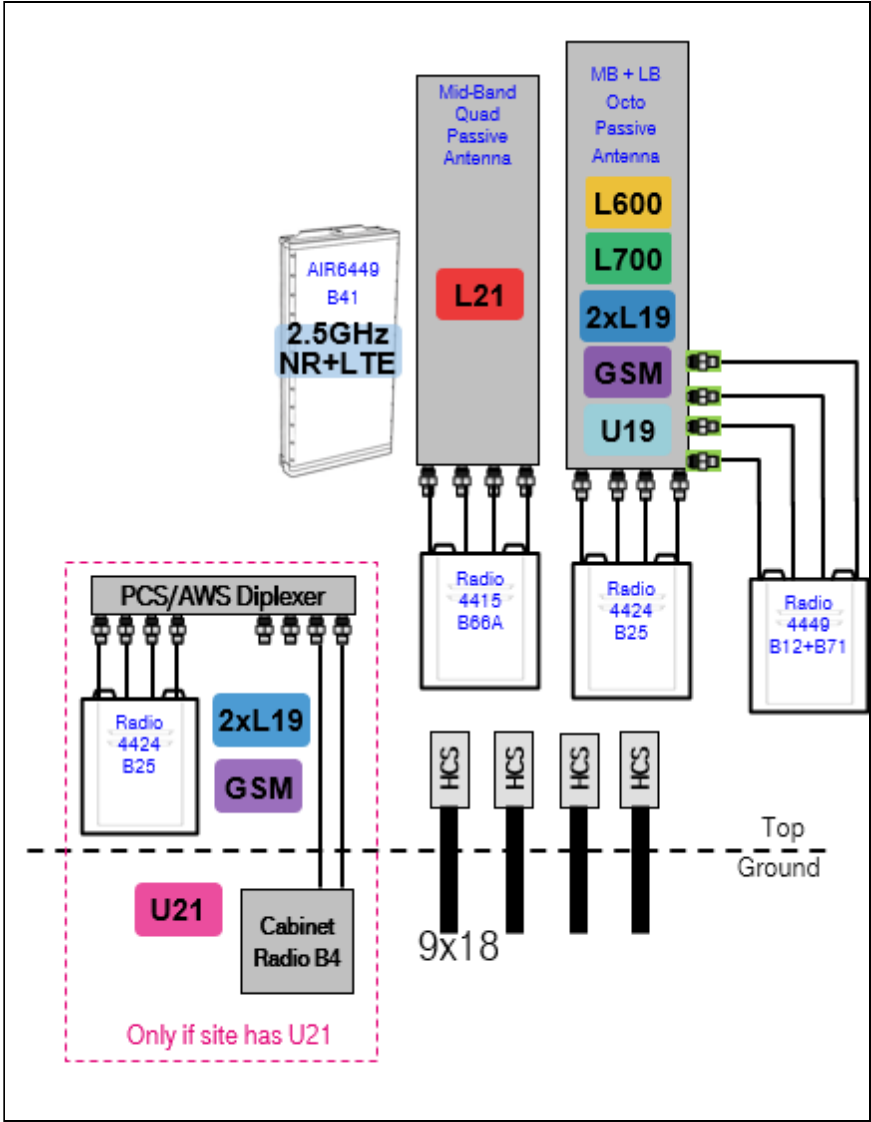




Notes:

Section 3 - Proposed Template Images

67D5998C_1xAIR+1QP+1OP.PNG



Notes:

Section 4 - Siteplan Images

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RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11534A_Anchor_6_draft

Print Name: Preliminary (Scoped_with_U2100)

PORs: Anchor_Phase 3

L600_5G POPs

Section 5 - RAN Equipment

Existing RAN Equipment

Template: 792BL_U21 Outdoor

Enclosure	1	2
Enclosure Type	RBS 6131	S8000 Outdoor
Baseband	DUW30 DUW30 DUG20 G1900 BB 6630 L1900 L700 L2100	
Hybrid Cable System	Ericsson 9x18 HCS *Select Length*	
Radio	RU22 (x 6) U2100	

Proposed RAN Equipment

Template: 67D5A998C Outdoor

Enclosure	1	2	3
Enclosure Type	RBS 6131	Enclosure 6160	B160
Baseband	DUW30 DUW30 DUG20 G1900 BB 6630 L2100 L1900 BB 6648 L700 L600 N600	BB 6648 L2500 N2500	
Hybrid Cable System	Ericsson Hybrid Trunk 6/24 4AWG 50m (x 2)	Ericsson Hybrid Trunk 6/24 4AWG 50m	
Transport System		PSU 4813	
		CSR IXRe V2 (Gen2)	

RAN Scope of Work:

Remove Nortel Cabinet. Move Batteries to new BBU.

Add (1) BB6648 for L600, L700, and N600 (MMBB - Mixed Mode Baseband) to existing RBS6131 Base Station Cabinet.

Add (1) Enclosure 6160.

Add (1) Battery Cabinet B160.

Add (1) IXRe Router to new Enclosure 6160.

Add (1) BB6648 for L2500 and N2500 (MMBB - Mixed Mode Baseband) to new Enclosure 6160.

Add (1) PSU4813 Voltage Booster to new Enclosure 6160.

Existing: (12) coaxial lines; (1) 9X18 HCS

Keep (6) coaxial lines for U2100.

Remove 9X18 HCS.

Add (3) 6X24 HCS as follows: (2) terminating at the RBS6131; (1) terminating at the Enclosure 6160 (Connect DC for the AIR6449 B41 to the PSU4813 Voltage Booster).

Section 6 - A&L Equipment

Existing Template: 792BL_U21 2xAIR_1DP
Proposed Template: 67D5998C_1xAIR+1QP+1OP

Sector 1 (Existing) view from behind

Coverage Type	A - Outdoor Macro					
Antenna	1		2		3	
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)		Andrew - LNX-6515DS-A1M (Dual)		Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)	
Azimuth	10		10		10	
M. Tilt	0		0		0	
Height	140		140		140	
Ports	P1		P2	P3	P4	P5
Active Tech.	L1900G1900		U2100	L700	L2100	
Dark Tech.						
Restricted Tech.						
Decomm. Tech.						
E. Tilt	2		2	2	2	
Cables	Fiber Jumper - 15 ft. (x2)		1-5/8" Coax - 160 ft. (x2)	Fiber Jumper - 15 ft. (x2)	Fiber Jumper - 15 ft. (x2)	
TMA's			Generic Twin Style 1B - AWS (AtAntenna)			
Diplexers / Combiners						
Radio			RRUS11 B12 (At Antenna)			
Sector Equipment						
Unconnected Equipment:						
Scope of Work:						
GSM and L1900 in single mode.						

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11534A_Anchor_6_draft

Print Name: Preliminary (Scoped_with_U2100)
PORs: Anchor_Phase 3
L600_5G POPs

Sector 1 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Ericsson - AIR6449 B41 (Active Antenna - Massive MIMO)		RFS - APXVAALL24_43-U-NA20 (Octo)				RFS - APX16DWV-16DWV-S-E-A20 (Quad)	
Azimuth	10		10				10	
M. Tilt	0		0				0	
Height	140		140				140	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L700 L600 N600	L700 L600 N600	L1900 G1900	U2100 L1900 G1900	L2100	L2100
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt								
Cables	Fiber Jumper (x2)	Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper (x2) 1-5/8" Coax - 160 ft. (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper
TMA's								
Diplexers / Combiners					Comms cope - SDX19 26Q-43 (E14F0 5P86) (AtAntenna)	SHARED Comms cope - SDX19 26Q-43 (E14F0 5P86) (AtAntenna)		
Radio			Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)	Radio 4424 B25 (At Antenna)	SHARED Radio 4424 B25 (At Antenna)	Radio 4415 B66A (At Antenna)	SHARED Radio 4415 B66A (At Antenna)
Sector Equipment								

Unconnected Equipment:

Scope of Work:

- Remove AIR21 B2A/B4P from Position 1.
- Install (1) AIR6449 B41 for L2500 and N2500 in Position 1.
- Replace Low-Band Dual in Position 2 with (1) Low-Band/Mid-Band Octo.
- Replace RRUS11 B12 with (1) Radio 4449 B71+B85 for L600, L700, and N600 in Position 2 at antenna, and connect its ports to the Low-Band ports of the Octo Antenna.
- Add (1) PCS/AWS 8:4 diplexer to Position 2 at antenna, and connect its four common ports to the Mid-Band ports of the Octo Antenna.
- Add (1) Radio 4424 B25 for L1900 (Both Carriers) and GSM to Position 2 near antenna, and connect its ports to the four PCS ports of the diplexer.
- Move coaxial lines and AWS TMA for U2100 to Position 2, and connect to two AWS ports of the diplexer.
- Make sure to install metal caps on all empty ports of AWS/PCS diplexer for load balancing.
- Replace AIR21 B2P/B4A with (1) Mid-Band Quad for L2100 in Position 3.
- Add (1) Radio 4415 B66 for L2100 to Position 3 at antenna.

Ensure RET control is enabled for all technology layers according to the Design Documents.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11534A_Anchor_6_draft

Print Name: Preliminary (Scoped_with_U2100)

PORs: Anchor_Phase 3
L600_5G POPs

Sector 2 (Existing) view from behind					
Coverage Type	A - Outdoor Macro				
Antenna	1		2		3
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)		Andrew - LNX-6515DS-A1M (Dual)		Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)
Azimuth	130		130		130
M. Tilt	0		0		0
Height	140		140		140
Ports	P1	P2	P3		P4 P5
Active Tech.	L1900 G1900	U2100	L700		L2100
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	2	2	2		2
Cables	Fiber Jumper - 15 ft. (x2)	1-5/8" Coax - 161 ft. (x2)	Fiber Jumper - 15 ft. (x2)		Fiber Jumper - 15 ft. (x2)
TMA's		Generic Twin Style 1B - AWS (AtAntenna)			
Diplexers / Combiners					
Radio			RRUS11 B12 (At Antenna)		
Sector Equipment					
Unconnected Equipment:					
Scope of Work:					
GSM and L1900 in single mode.					

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11534A_Anchor_6_draft

Print Name: Preliminary (Scoped_with_U2100)
PORs: Anchor_Phase 3
L600_5G POPs

Sector 2 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Ericsson - AIR6449 B41 (Active Antenna - Massive MIMO)		RFS - APXVAALL24_43-U-NA20 (Octo)				RFS - APX16DWV-16DWV-S-E-A20 (Quad)	
Azimuth	130		130				130	
M. Tilt	0		0				0	
Height	140		140				140	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L700 L600 N600	L700 L600 N600	L1900 G1900	U2100 L1900 G1900	L2100	L2100
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt								
Cables	Fiber Jumper (x2)	Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper (x2) 1-5/8" Coax - 161 ft. (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper
TMA's								
Diplexers / Combiners					Comms cope - SDX19 26Q-43 (E14F0 5P86) (AtAntenna)	SHARED Comms cope - SDX19 26Q-43 (E14F0 5P86) (AtAntenna)		
Radio			Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)	Radio 4424 B25 (At Antenna)	SHARED Radio 4424 B25 (At Antenna)	Radio 4415 B66A (At Antenna)	SHARED Radio 4415 B66A (At Antenna)
Sector Equipment								

Unconnected Equipment:

Scope of Work:

- Remove AIR21 B2A/B4P from Position 1.
- Install (1) AIR6449 B41 for L2500 and N2500 in Position 1.
- Replace Low-Band Dual in Position 2 with (1) Low-Band/Mid-Band Octo.
- Replace RRUS11 B12 with (1) Radio 4449 B71+B85 for L600, L700, and N600 in Position 2 at antenna, and connect its ports to the Low-Band ports of the Octo Antenna.
- Add (1) PCS/AWS 8:4 diplexer to Position 2 at antenna, and connect its four common ports to the Mid-Band ports of the Octo Antenna.
- Add (1) Radio 4424 B25 for L1900 (Both Carriers) and GSM to Position 2 near antenna, and connect its ports to the four PCS ports of the diplexer.
- Move coaxial lines and AWS TMA for U2100 to Position 2, and connect to two AWS ports of the diplexer.
- Make sure to install metal caps on all empty ports of AWS/PCS diplexer for load balancing.
- Replace AIR21 B2P/B4A with (1) Mid-Band Quad for L2100 in Position 3.
- Add (1) Radio 4415 B66 for L2100 to Position 3 at antenna.

Ensure RET control is enabled for all technology layers according to the Design Documents.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template:
67D5A998C Outdoor

A&L Template:
67D5998C_1xAIR+1QP+1OP

CT11534A_Anchor_6_draft

Print Name: Preliminary (Scoped_with_U2100)

PORs: Anchor_Phase 3
L600_5G POPs

Sector 3 (Existing) view from behind					
Coverage Type	A - Outdoor Macro				
Antenna	1		2		3
Antenna Model	Ericsson - AIR21 KRC118023-1_B2A_B4P (Quad)		Andrew - LNX-6515DS-A1M (Dual)		Ericsson - AIR21 KRC118023-1_B2P_B4A (Quad)
Azimuth	(250)		(250)		(250)
M. Tilt	(0)		(0)		(0)
Height	(140)		(140)		(140)
Ports	P1		P2	P3	P4 P5
Active Tech.	L1900 G1900		U2100 L700	L2100	
Dark Tech.					
Restricted Tech.					
Decomm. Tech.					
E. Tilt	(2)		(2)	(2)	(2)
Cables	Fiber Jumper - 15 ft. (x2)		1-5/8" Coax - 162 ft. (x2)	Fiber Jumper - 15 ft. (x2)	Fiber Jumper - 15 ft. (x2)
TMA's			Generic Twin Style 1B - AWS (AtAntenna)		
Diplexers / Combiners					
Radio			RRUS11 B12 (At Antenna)		
Sector Equipment					
Unconnected Equipment:					
Scope of Work:					
GSM and L1900 in single mode.					

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11534A_Anchor_6_draft

Print Name: Preliminary (Scoped_with_U2100)
PORs: Anchor_Phase 3
L600_5G POPs

Sector 3 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Ericsson - AIR6449 B41 (Active Antenna - Massive MIMO)		RFS - APXVAALL24_43-U-NA20 (Octo)				RFS - APX16DWV-16DWV-S-E-A20 (Quad)	
Azimuth	250		250				250	
M. Tilt	0		0				0	
Height	140		140				140	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2500 N2500	L2500 N2500	L700 L600 N600	L700 L600 N600	L1900 G1900	U2100 L1900 G1900	L2100	L2100
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt								
Cables	Fiber Jumper (x2)	Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper (x2)	Coax Jumper (x2) Fiber Jumper (x2) 1-5/8" Coax - 162 ft. (x2)	Coax Jumper (x2) Fiber Jumper	Coax Jumper (x2) Fiber Jumper
TMA's								
Diplexers / Combiners					Comms cope - SDX19 26Q-43 (E14F0 5P86) (AtAntenna)	SHARED Comms cope - SDX19 26Q-43 (E14F0 5P86) (AtAntenna)		
Radio			Radio 4449 B71+B85 (At Antenna)	SHARED Radio 4449 B71+B85 (At Antenna)	Radio 4424 B25 (At Antenna)	SHARED Radio 4424 B25 (At Antenna)	Radio 4415 B66A (At Antenna)	SHARED Radio 4415 B66A (At Antenna)
Sector Equipment								

Unconnected Equipment:

Scope of Work:

- Remove AIR21 B2A/B4P from Position 1.
- Install (1) AIR6449 B41 for L2500 and N2500 in Position 1.
- Replace Low-Band Dual in Position 2 with (1) Low-Band/Mid-Band Octo.
- Replace RRUS11 B12 with (1) Radio 4449 B71+B85 for L600, L700, and N600 in Position 2 at antenna, and connect its ports to the Low-Band ports of the Octo Antenna.
- Add (1) PCS/AWS 8:4 diplexer to Position 2 at antenna, and connect its four common ports to the Mid-Band ports of the Octo Antenna.
- Add (1) Radio 4424 B25 for L1900 (Both Carriers) and GSM to Position 2 near antenna, and connect its ports to the four PCS ports of the diplexer.
- Move coaxial lines and AWS TMA for U2100 to Position 2, and connect to two AWS ports of the diplexer.
- Make sure to install metal caps on all empty ports of AWS/PCS diplexer for load balancing.
- Replace AIR21 B2P/B4A with (1) Mid-Band Quad for L2100 in Position 3.
- Add (1) Radio 4415 B66 for L2100 to Position 3 at antenna.

Ensure RET control is enabled for all technology layers according to the Design Documents.

*A dashed border indicates shared equipment. Any connected equipment is denoted with the SHARED keyword.

RAN Template: 67D5A998C Outdoor	A&L Template: 67D5998C_1xAIR+1QP+1OP
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CT11534A_Anchor_6_draft
Print Name: Preliminary (Scoped_with_U2100)
PORs: Anchor_Phase 3
L600_5G POPs

Section 7 - Power Systems Equipment

Existing Power Systems Equipment
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Proposed Power Systems Equipment



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

T-Mobile Existing Facility

Site ID: CT11534A

CT534/Spectrasite Enfield
1 Ecology Drive
Enfield, Connecticut 06082

July 15, 2021

EBI Project Number: 6221003657

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	42.97%



July 15, 2021

T-Mobile

Attn: Jason Overbey, RF Manager

35 Griffin Road South

Bloomfield, Connecticut 06002

Emissions Analysis for Site: CT11534A - CT534/Spectrasite Enfield

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1 Ecology Drive in Enfield, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

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



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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 1 Ecology Drive in Enfield, 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 UMTS channels (AWS Band - 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.
- 7) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.
- 8) 1 LTE Traffic channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 60 Watts.
- 9) 1 LTE Broadcast channel (LTE IC and 2C BRS Band - 2500 MHz) was considered for each sector of the proposed installation. This Channel has a transmit power of 20 Watts.
- 10) 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.
- 11) 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.
- 12) 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.
- 13) 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.
- 14) The antennas used in this modeling are the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXI6DWV-I6DWV-S-E-A20 for the 2100 MHz channel(s) in Sector A, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz / 2100 MHz channel(s), the RFS APXI6DWV-I6DWV-S-E-A20 for the 2100 MHz channel(s) in Sector B, the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz / 2500 MHz / 2500 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz



/ 2100 MHz channel(s), the RFS APX16DWV-16DWV-S-E-A20 for the 2100 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

- 15) The antenna mounting height centerline of the proposed antennas is 140 feet above ground level (AGL).
- 16) 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.
- 17) All calculations were done with respect to uncontrolled / general population threshold limits.



T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz / 2500 MHz	Frequency Bands:	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):	140 feet	Height (AGL):	140 feet	Height (AGL):	140 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 A1 MPE %:	7.28%	Antenna B1 MPE %:	7.28%	Antenna C1 MPE %:	7.28%
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 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):	140 feet	Height (AGL):	140 feet	Height (AGL):	140 feet
Channel Count:	13	Channel Count:	13	Channel Count:	13
Total TX Power (W):	500 Watts	Total TX Power (W):	500 Watts	Total TX Power (W):	500 Watts
ERP (W):	15,219.30	ERP (W):	15,219.30	ERP (W):	15,219.30
Antenna A2 MPE %:	4.19%	Antenna B2 MPE %:	4.19%	Antenna C2 MPE %:	4.19%
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	RFS APX16DWV-16DWV-S-E-A20	Make / Model:	RFS APX16DWV-16DWV-S-E-A20	Make / Model:	RFS APX16DWV-16DWV-S-E-A20
Frequency Bands:	2100 MHz	Frequency Bands:	2100 MHz	Frequency Bands:	2100 MHz
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	140 feet	Height (AGL):	140 feet	Height (AGL):	140 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	120 Watts	Total TX Power (W):	120 Watts	Total TX Power (W):	120 Watts
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A3 MPE %:	0.93%	Antenna B3 MPE %:	0.93%	Antenna C3 MPE %:	0.93%



Site Composite MPE %	
Carrier	MPE %
T-Mobile (Max at Sector A):	12.41%
SNET Paging	0.35%
AT&T	2.36%
Sprint	5.86%
Clearwire	0.17%
Metro PCS	0.51%
Verizon	21.31%
Site Total MPE % :	42.97%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	12.41%
T-Mobile Sector B Total:	12.41%
T-Mobile Sector C Total:	12.41%
Site Total MPE % :	42.97%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 2500 MHz LTE IC & 2C Traffic	1	11044.63	140.0	22.11	2500 MHz LTE IC & 2C Traffic	1000	2.21%
T-Mobile 2500 MHz LTE IC & 2C Broadcast	1	1074.06	140.0	2.15	2500 MHz LTE IC & 2C Broadcast	1000	0.22%
T-Mobile 2500 MHz NR Traffic	1	22089.26	140.0	44.23	2500 MHz NR Traffic	1000	4.42%
T-Mobile 2500 MHz NR Broadcast	1	2148.13	140.0	4.30	2500 MHz NR Broadcast	1000	0.43%
T-Mobile 600 MHz LTE	2	591.73	140.0	2.37	600 MHz LTE	400	0.59%
T-Mobile 600 MHz NR	1	1577.94	140.0	3.16	600 MHz NR	400	0.79%
T-Mobile 700 MHz LTE	2	695.22	140.0	2.78	700 MHz LTE	467	0.60%
T-Mobile 1900 MHz GSM	4	1052.26	140.0	8.43	1900 MHz GSM	1000	0.84%
T-Mobile 1900 MHz LTE	2	2104.51	140.0	8.43	1900 MHz LTE	1000	0.84%
T-Mobile 2100 MHz UMTS	2	1324.71	140.0	5.30	2100 MHz UMTS	1000	0.53%
T-Mobile 2100 MHz LTE	2	2334.27	140.0	9.35	2100 MHz LTE	1000	0.93%
						Total:	12.41%

• 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:	12.41%
Sector B:	12.41%
Sector C:	12.41%
T-Mobile Maximum MPE % (Sector A):	12.41%
Site Total:	42.97%
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **42.97%** 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.