



Northeast Site Solutions
Victoria Masse
420 Main St Unit 1 Box 2
Sturbridge, MA 01566
victoria@northeastitesolutions.com

September 15, 2022

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

RE: Tower Share Application
10 Blackville Road, Washington, CT 06794
Latitude: 41.64655713 N
Longitude: -73.31608111 W
Site#: CTNH295A_NSD

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of T-Mobile. T-Mobile plans to install antennas and related equipment to the tower site located at 10 Blackville Road, Washington, Connecticut.

T-Mobile proposes to install nine (9) 600/700/1900/2100/2500 5G MHz antenna, six (6) RRUs and one (1) Dish at the 115-foot level of the existing 134-foot monopine tower, three (3) hybrid cable will also be installed. T-Mobile equipment cabinets will be placed within 10x15 lease area. Included are plans by Hudson Design, dated June 15, 2022, Exhibit C. Also included is a structural analysis prepared by Tower Engineering Professionals, dated May 20, 2022 confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as Exhibit D. This facility was approved by the Connecticut Siting Council, Docket No. 441 on March 6, 2014. Please see attached Exhibit A.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of T-Mobile intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Jim L. Brinton, First Selectman, MaryAnn Nusom Haverstock, Enforcement Officer, as well as the property owner and tower owner.

The planned modifications of the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-89.

1. The proposed modifications will not result in an increase in the height of the existing structure. The top of the tower is 134-feet; T-Mobile proposed antennas will be located at a center line height of 115-feet.
2. The proposed modification will not result in the increase of the site boundary as depicted on the attached site plan.
3. The proposed modification will not increase the noise levels at the facility by six decibels or more, or to levels that exceed local and state criteria. The incremental effect of the proposed changes will be negligent.

420 Main Street, Unit 1 Box 2, Sturbridge, MA 01566



4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. As indicated in the attached power density calculations, the combined site operations will result in a total density of 21.08% as evidenced by Exhibit F.

Connecticut General Statutes 16-50-aa indicates that the Council must approve the shared use of a telecommunications facility provided it finds the shared use is technically, legally, environmentally, and economically feasible and meets public safety concerns. As demonstrated in this letter, T-Mobile respectfully indicates that the shared use of this facility satisfies these criteria.

A. Technical Feasibility. The existing monopine has been deemed structurally capable of supporting T-Mobile proposed loading. The structural analysis is included in Exhibit D.

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this monopine in Washington. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit T-Mobile to obtain a building permit for the proposed installation. Further, a letter of Authorization is included as Exhibit G, authorizing T-Mobile to file this application for shared use.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of T-Mobile equipment at the 115-foot level of the existing 134-foot tower would have an insignificant visual impact on the area around the monopine. T-Mobile ground equipment would be installed within the existing facility compound. T-Mobile shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

D. Economic Feasibility. T-Mobile will be entering into an agreement with the owner of this facility to mutually agreeable terms. As previously mentioned, the Letter of Authorization has been provided by the owner to assist T-Mobile with this tower share application.

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting T-Mobile proposed loading. T-Mobile is not aware of any public safety concerns relative to the proposed sharing of the existing tower. T-Mobile intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through Washington.

Sincerely,

Victoria Masse
Mobile: 860-306-2326
Fax: 413-521-0558
Office: 420 Main Street, Unit 1 Box 2, Sturbridge, MA 01566
Email: victoria@northeastsitesolutions.com



Attachments Cc:

James L. Brinton, First Selectman – as the property owner
Town of Washington
P.O. Box 383
Washington Depot, CT 06794

MaryAnn Nusom Haverstock, Enforcement Officer
Town of Washington
P.O. Box 383
Washington Depot, CT 06794

American Tower – as the tower owner
10 Presidential Way
Woburn, MA 01801

Exhibit A

DOCKET NO. 441 – Homeland Towers, LLC and New Cingular Wireless PCS, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at 10 Blackville Road, Washington, Connecticut. } Connecticut
} Siting
} Council

March 6, 2014

Decision and Order

Pursuant to Connecticut General Statutes §16-50p and the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Homeland Towers, LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 10 Blackville Road, in Washington, Connecticut.

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council’s record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopine, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of New Cingular Wireless PCS, LLC, Litchfield County Dispatch and other entities, both public and private, but such tower shall not exceed a height of 135 feet above ground level (140 feet with camouflage branches in place).
2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Town of Washington for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound with space reserved for future shared backup generation, radio equipment, access road, utility line, emergency backup generator, including provision of emergency backup generation for Litchfield County Dispatch, and landscaping; and
 - b) construction plans for site clearing, grading, landscaping, water drainage, erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control as amended, and Best Management Plans for vernal pool protection.

3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.
4. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
6. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.
7. Any request for extension of the time period referred to in Condition 6 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Town of Washington. Any proposed modifications to this Decision and Order shall likewise be so served.
8. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council within 90 days from the one year period of cessation of service. The Certificate Holder may submit a written request to the Council for an extension of the 90 day period not later than 60 days prior to the expiration of the 90 day period.
9. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.
10. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.

11. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.
12. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.
13. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.
14. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.
15. This Certificate may be surrendered by the Certificate Holder upon written notification and approval by the Council.

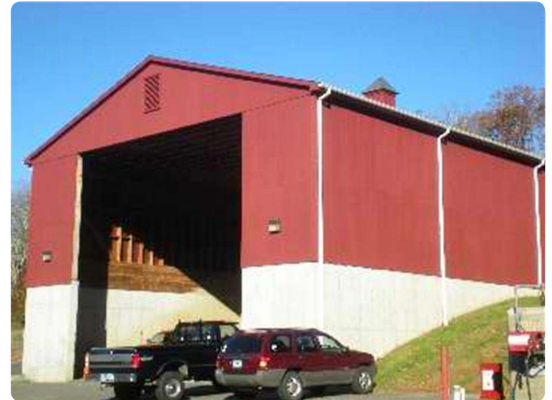
We hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed in the Service List, dated November 22, 2013, and notice of issuance published in The Voices.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

Exhibit B

Summary

ParcelId 3008
 Location Address 10 BLACKVILLE RD
 Map-Block-Lot 08-07-23
 Use Class/Description Commercial Garage
 Assessing Neighborhood Washington
 Survey 1962 1643
 Acreage 15.34



Owner

Current Owner
 WASHINGTON TOWN OF
 PO BOX 383
 WASHINGTON DEPOT, CT 06794

Current Appraised Value

	2021	2020	2019	2018
+ Building Value	\$1,601,597	\$1,601,597	\$1,601,597	\$1,601,597
+ OB/Misc	\$148,737	\$148,737	\$148,737	\$148,737
+ Land Value	\$409,400	\$409,400	\$409,400	\$409,400
= Total Appraised Value	\$2,159,734	\$2,159,734	\$2,159,734	\$2,159,734

Assessment History

	2021	2020	2019	2018
+ Building Value	\$1,121,120	\$1,121,120	\$1,121,120	\$1,121,120
+ OB/Misc	\$104,120	\$104,120	\$104,120	\$104,120
+ Land Value	\$286,570	\$286,570	\$286,570	\$286,570
= Total Assessment	\$1,511,810	\$1,511,810	\$1,511,810	\$1,511,810

Land

Use	Class	Land Type	Zoning	Area	Value
Commercial Garage	C	Commercial Excess	B-2	13.34	\$133,400
Commercial Garage	C	Commercial Site	B-2	2	\$276,000

Commercial Building

Building # 1
 Style
 Actual Year Built 1996
 Effective Year Built 2012
 Living Area 4500
 Stories 1
 Grade
 Exterior Wall Vertical Wood
 Interior Wall Other
 Roof Cover Asphalt
 Roof Structure
 Floor Type Concrete
 Heat Type
 Fuel Type
 AC
 Bdrms/Ful Bth/Hlf Bth/Ttl Rm 0/0/0/0
 Basement Finished Area 0
 Basement Garages 0
 Building # 2
 Style
 Actual Year Built 1996
 Effective Year Built 2012
 Living Area 14622
 Stories 1

Grade
 Exterior Wall Metal
 Interior Wall Other
 Roof Cover Metal
 Roof Structure
 Floor Type Concrete
 Heat Type FHA
 Fuel Type Gas
 AC
 Bdrms/Ful Bth/Hlf Bth/Ttl Rm 0/0/0/0
 Basement Finished Area 0
 Basement Garages 0

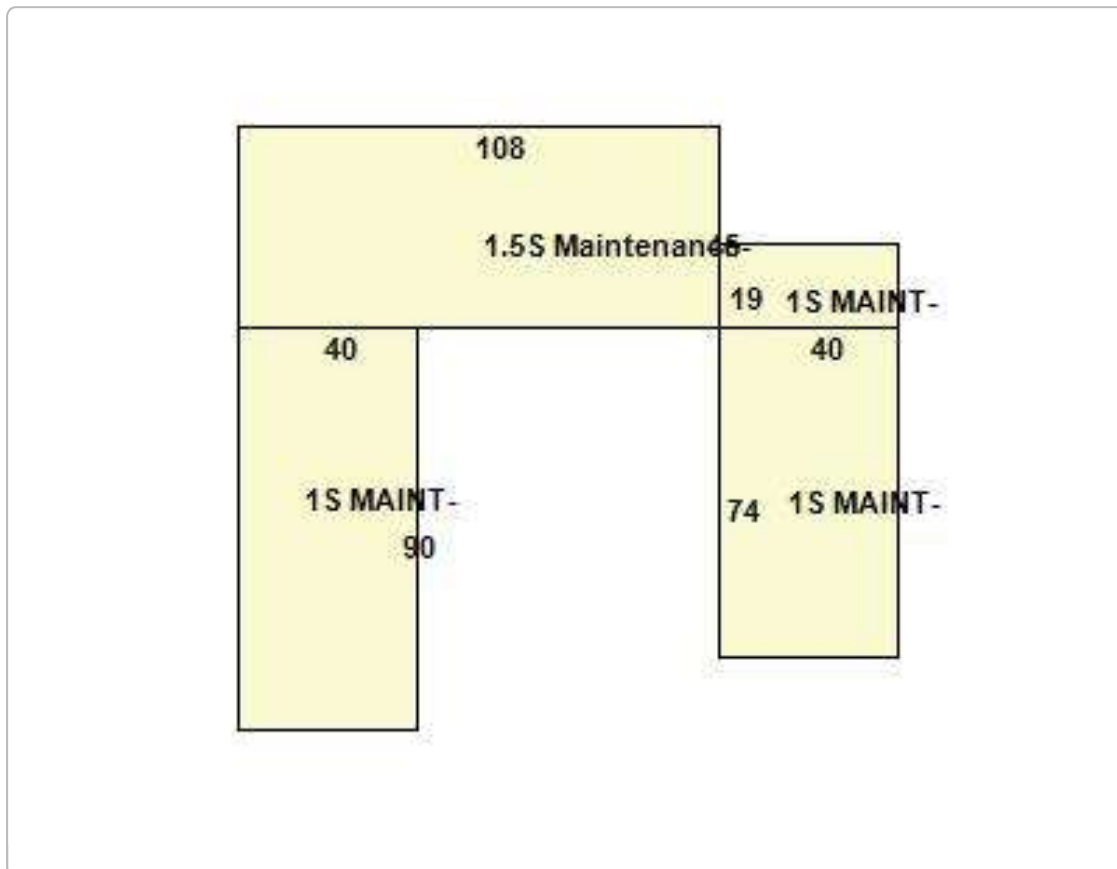
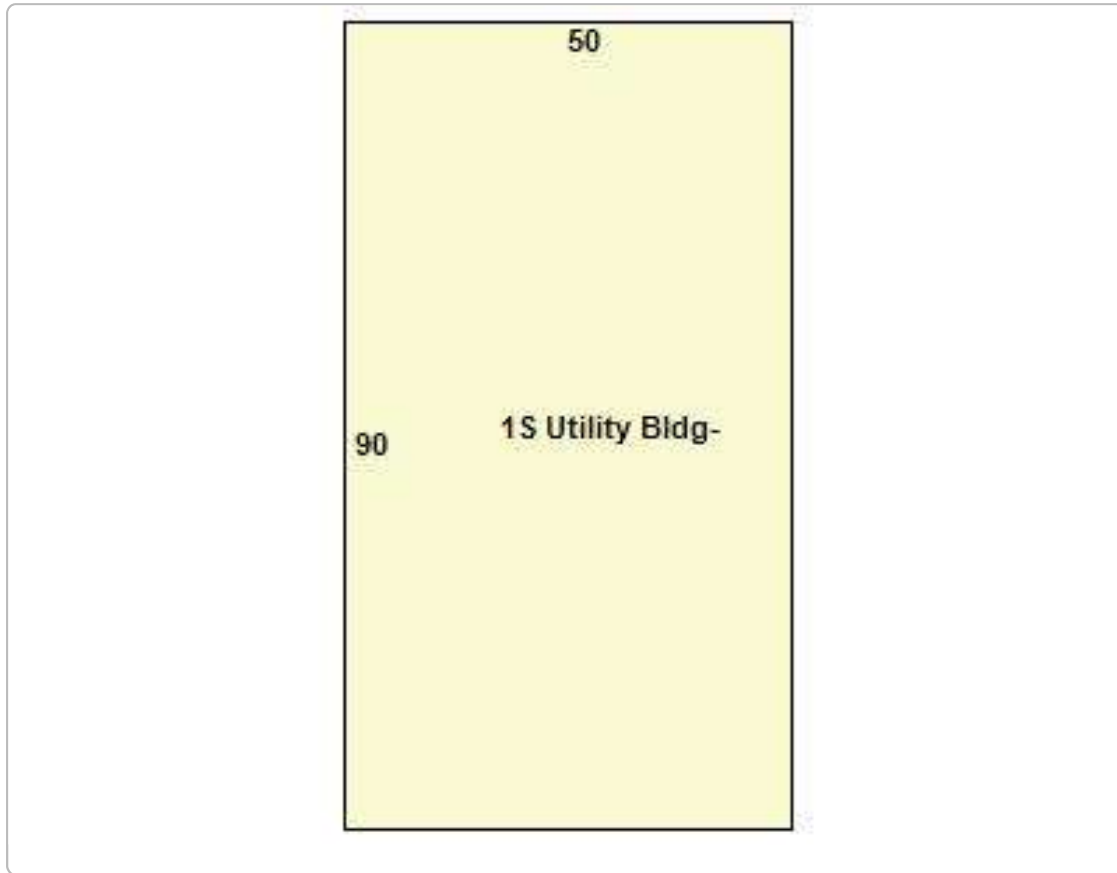
Out Buildings\Extra Features

Description	Sub Description	Area	Year Built	Value
Generator	Generator	1	2014	\$4,950
Paving	Paving	2000	2014	\$5,174
Paving	Paving	4875	2014	\$12,613
Paving	Paving	12000	1996	\$32,400
Metal Shed	Shed	6000	2007	\$93,600

Permit Information

Permit ID	Issue Date	Type	Amount	Inspection Date	% Complete	Date Complete	Comments
24008	07-22-2021	Electrical	\$5,000	1/1/1900 12:00:00 AM	0	08-31-2021	GARAGE GAS PUMP WIRING
22743	11-14-2019	Building	\$40,000	1/1/1900 12:00:00 AM	0	12-31-2018	MODIFY EXSTG AT&T ANTENNA FACILITY
20933	02-07-2017	Repair	\$15,000	1/1/1900 12:00:00 AM	100	03-13-2017	MODFY EXIST AT+T ANTENNA SITE
20077	10-26-2015	Electrical	\$25,000	1/1/1900 12:00:00 AM	100	04-29-2016	SVC PWR TO PREFAB SHLTR AT&T MOBILITY
19477	11-05-2014	Building	\$80,000	1/1/1900 12:00:00 AM	100	05-05-2015	11' 5" X 24' EQUIP PRTL W SHLTR & GNRTR
19461	10-28-2014	Electrical	\$30,000	1/1/1900 12:00:00 AM	100	04-28-2015	SVC FOR NW CELL TWR
19366	09-17-2014	Building	\$17,810	1/1/1900 12:00:00 AM	100	03-17-2015	SLT SHD RMV CUPOLA RRF W SHLD & DRP EDGS
19344	09-10-2014	Outbuilding/Yard Item	\$328,000	1/1/1900 12:00:00 AM	100	03-10-2015	CONSTRUCT 135 FT CELL TOWER W 67'X65' FENCED AREA AROUND
19081	05-13-2014	Mechanical	\$213,000	1/1/1900 12:00:00 AM	100	11-13-2014	INSTL HVAC PER PLANS & SPECS
19031	04-17-2014	Electrical	\$135,000	1/1/1900 12:00:00 AM	100	09-01-2014	NEW DPW ADDITION TO PLAN & REPLACE
19048	04-15-2014	Building	\$803,651	1/1/1900 12:00:00 AM	100	09-01-2014	BLDG ADDITN TO EXIS TOWN GARGE
15975	06-21-2012	Commercial Demolition	\$13,800	1/1/1900 12:00:00 AM	100	07-16-2012	DEMO & REMOVE FIRE DAMAGED GARAGE
8195	08-09-2000		\$464,000	1/1/1900 12:00:00 AM	0	01-01-1900	'96-TOWN GARAGE (\$242,000) STEEL GARAGE 56X180 8530-18,000-UNIT HEATERS

Sketch



Photos



No data available for the following modules: Buildings Data, Sales History.

The Town of Washington Assessor makes every effort to produce the most accurate information possible. No warranties, expressed or implied are provided for the data herein, its use or interpretation. The assessment information is from the last certified tax roll. All other data is subject to change.


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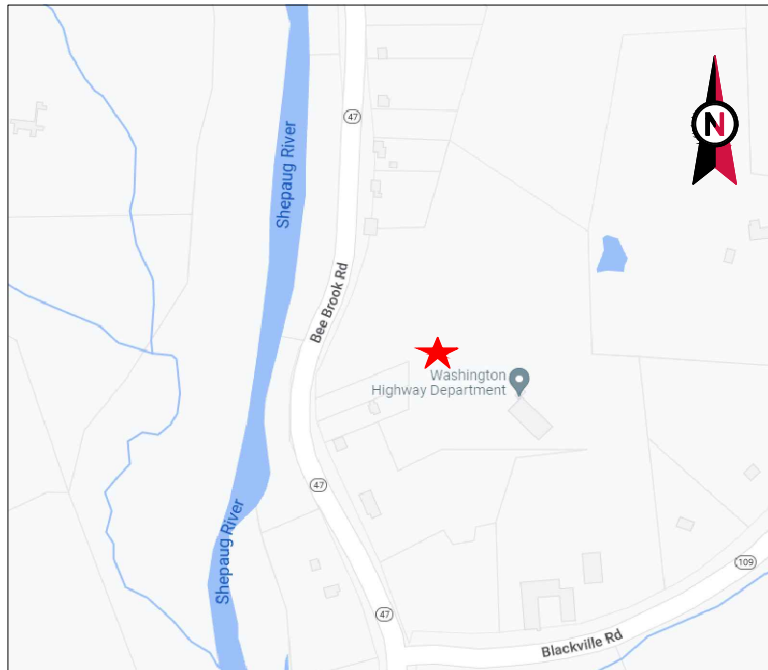


POWERED BY 
842789.80, 797381.61

Parcel ID	3008	Alternate ID	460ddb4-1a87-42	Owner Address	WASHINGTON TOWN OF
Sec/Twp/Rng	n/a	Class	Commercial		PO BOX 383
Property Address	10 BLACKVILLE RD	Acreage	15.34		WASHINGTON DEPOT, CT 06794
District	n/a				
Brief Tax Description	n/a				

(Note: Not to be used on legal documents)

Exhibit C

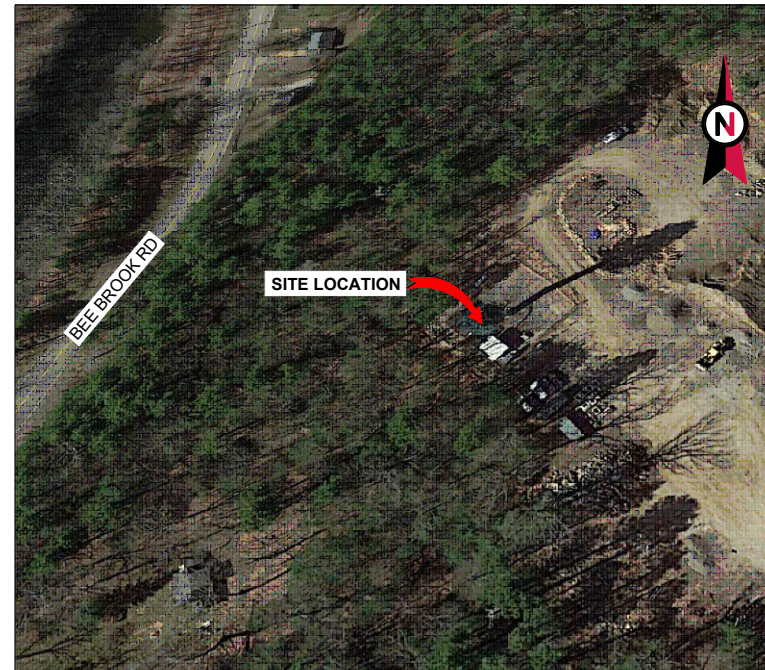


VICINITY MAP



AMERICAN TOWER®

ATC SITE NAME: WASHINGTON 2
 ATC SITE NUMBER: 209259
 T-MOBILE SITE NAME: BLACKVILLE
 WASHINGTON ATC
 T-MOBILE SITE NUMBER: CTNH295A
 SITE ADDRESS: 10 BLACKVILLE ROAD
 WASHINGTON, CT 06794



LOCATION MAP

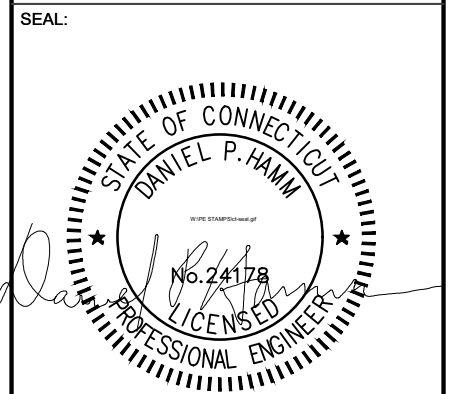
T-MOBILE COVERAGE STRATEGY COLLOCATION PLAN
 67E5D998E 6160 CONFIGURATION



45 BEECHWOOD DRIVE N. ANDOVER, MA 01845 TEL: (978) 557-5553 FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	VPP	06/03/22
0	FINALS	BB	06/15/22
1	FINALS REVISED	TR	09/14/22

ATC SITE NUMBER:
209259
 ATC SITE NAME:
WASHINGTON 2
 T-MOBILE SITE NAME:
BLACKVILLE WASHINGTON ATC
 SITE ADDRESS:
 10 BLACKVILLE ROAD
 WASHINGTON, CT 06794



DATE DRAWN:	05/31/22
ATC JOB NO:	14099766_G2
CUSTOMER ID:	BLACKVILLE WASHINGTON ATC
CUSTOMER #:	CTNH295A

TITLE SHEET

SHEET NUMBER:	REVISION:
G-001	1

COMPLIANCE CODE
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
1. INTERNATIONAL BUILDING CODE (IBC) 2. NATIONAL ELECTRIC CODE (NEC) 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES

PROJECT SUMMARY
<u>SITE ADDRESS:</u> 10 BLACKVILLE ROAD WASHINGTON, CT 06794 COUNTY: LITCHFIELD
<u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 41.64655713 LONGITUDE: -73.31608111 GROUND ELEVATION: 596' AMSL
<u>PROJECT TEAM</u>
<u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801
<u>APPLICANT:</u> T-MOBILE
<u>ENGINEER:</u> HUDSON DESIGN GROUP, LLC. 45 BEECHWOOD DRIVE NORTH ANDOVER, MA 01845
<u>PROPERTY OWNER:</u> TOWN OF WASHINGTON 10 BLACKVILLE ROAD WASHINGTON, CT 06794

PROJECT DESCRIPTION
THE PROPOSED PROJECT INCLUDES INSTALLING EQUIPMENT CABINETS AND A GENERATOR ON A PROPOSED CONCRETE PAD INSIDE A 10' X 15' GROUND SPACE WITHIN THE EXISTING COMPOUND, AND INSTALLING NEW EQUIPMENT AND MOUNTS ON THE EXISTING TOWER. TOWER SCOPE: INSTALL (3) SECTOR FRAME(S), (9) ANTENNA(S), (1) DISH ANTENNA, (6) RRH(S), (3) 6/24 4AWG HYBRID TRUNK CABLE(S) AND (1) 1/2" COAX GROUND SCOPE: INSTALL (1) 10'X15' CONCRETE PAD, (1) 6160 CABINET, (1) B160 BATTERY CABINET, (1) RBS 6601 CABINET, (2) PSU 4813(S), (2) BB 6648, (1) DUG20, (1) CSR IXRE V2 (GEN), (1) 10' ICE BRIDGE, (1) ICE CANOPY, (1) H-FRAME, (1) PURCELL CABINET (1) HOFFMAN BOX, (1) POWER PANEL, (1) ATS, (4) LED LUMINARE(S), (1) GENERAC RD048 KW GENERATOR, (1) METER AND DISCONNECT AND POWER AND TELCO ROUTING
<u>PROJECT NOTES</u>
1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED. 6. THE PROJECT DEPICTED IN THESE PLANS QUALIFIES AS AN ELIGIBLE FACILITIES REQUEST ENTITLED TO EXPEDITED REVIEW UNDER 47 U.S.C. § 1455(A) AS A MODIFICATION OF AN EXISTING WIRELESS TOWER THAT INVOLVES THE COLLOCATION, REMOVAL, AND/OR REPLACEMENT OF TRANSMISSION EQUIPMENT THAT IS NOT A SUBSTANTIAL CHANGE UNDER CFR § 1.61000 (B)(7).

SHEET INDEX				
SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
G-001	TITLE SHEET	1	09/14/22	TR
G-002	GENERAL NOTES	1	09/14/22	TR
C-101	DETAILED SITE PLAN	1	09/14/22	TR
C-102	PROPOSED GROUND EQUIPMENT LAYOUT	1	09/14/22	TR
C-201	TOWER ELEVATION	1	09/14/22	TR
C-401	ANTENNA INFORMATION & SCHEDULE	1	09/14/22	TR
C-501	MOUNT DETAILS	1	09/14/22	TR
C-502	CONSTRUCTION DETAILS	1	09/14/22	TR
C-503	CONSTRUCTION DETAILS	1	09/14/22	TR
E-101	GROUNDING DETAILS & ELECTRICAL SCHEMATIC	1	09/14/22	TR
E-501	GROUNDING DETAILS	1	09/14/22	TR
E-601	PANEL SCHEDULE	1	09/14/22	TR
R-601-R613	SUPPLEMENTAL	1		

UTILITY COMPANIES
POWER COMPANY: UTILITY COMPANY DIRECT PHONE: UNKNOWN TELEPHONE COMPANY: UNKNOWN PHONE: UNKNOWN

PROJECT LOCATION DIRECTIONS
START OUT GOING NORTHEAST ON HALLS HILL RD/COUNTY HWY-28 TOWARD LEES LN. TURN LEFT ONTO SERVICE RD. TURN RIGHT TO STAY ON SERVICE RD. TURN RIGHT ONTO GOVERNMENT BLVD/US-50 EAL-16. MERGE ONTO I-45 N TOWARD MONT GOMERY. MERGE ONTO I-49 N VIA EXIT 250 TOWARD ATLANTA/GADSDEN. MERGE ONTO I-59 N VIA EXIT 338 TOWARD GADSDEN (CROSSING INTO GEORGIA). MERGE ONTO I-24 E TOWARD CHATTANOOGA (CROSSING INTO TENNESSEE). MERGE ONTO I-75 N VIA EXIT 1858 ON THE LEFT TOWARD KNOXVILLE. TAKE I-40 E TOWARD KNOXVILLE. MERGE ONTO I-81 N VIA EXIT 421 ON THE LEFT TOWARD BRISTOL (PASSING THROUGH VIRGINIA, WEST VIRGINIA AND MARYLAND, THEN CROSSING INTO PENNSYLVANIA). KEEP LEFT TO TAKE I-81 N TOWARD HAZLET/ALLENTOWN-78. MERGE ONTO I-78 E VIA EXIT 89 TOWARD ALLENTOWN (CROSSING INTO NEW JERSEY). MERGE ONTO I-287 N VIA EXIT 22 TOWARD LEBANON/BRISTOL-TOWNSHIP-26/US-206 (CROSSING INTO NEW YORK). MERGE ONTO I-87 S/287 E TOWARD TAPPAN ZEE BRIDGE/NEW YORK CITY (PORTIONS TOLL). TAKE THE I-87 S EXIT TOWARD SAW MILL PKWY/NEW YORK CITY. TAKE THE SAW MILL PKWY/NEW YORK CITY EXIT. EXIT 8A, TOWARD ELMFORD. KEEP LEFT TO TAKE THE SAW MILL RIVER PKWY N RAMP TOWARD KATONAH. MERGE ONTO SAVI MILL RIVER PKWY. MERGE ONTO I-484 N VIA THE EXIT ON THE LEFT. MERGE ONTO I-44 E VIA EXIT SE TOWARD DANBURY (CROSSING INTO CONNECTICUT). KEEP LEFT TO TAKE US-7 N VIA EXIT 7 TOWARD BROOKFIELD/NEW MILFORD. TURN RIGHT ONTO BRIDGE ST/US-202 E. TURN LEFT ONTO EAST ST. EAST ST BECOMES US-202 E. TURN RIGHT ONTO CHESTNUT LAND RD/CT-109. CONTINUE TO FOLLOW CT-109. TURN RIGHT ONTO CALHOUN ST/CT-109. TAKE THE 1ST LEFT ONTO BEE BROOK RD/CT-47/CT-109. TAKE THE 2ND RIGHT ONTO BLACKVILLE RD/CT-109. 10 BLACKVILLE RD, WASHINGTON, CT 06794-1207, 10 BLACKVILLE RD IS ON THE LEFT.

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.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
2. STRUCTURAL STEEL ROLLED SHAPES, PLATES AND BARS SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS:
 - A. ASTM A-572, GRADE 50 - ALL W SHAPES, UNLESS NOTED OR A992 OTHERWISE
 - B. ASTM A-36 - ALL OTHER ROLLED SHAPES, PLATES AND BARS UNLESS NOTED OTHERWISE.
 - C. ASTM A-500, GRADE B - HSS SECTION (SQUARE, RECTANGULAR, AND ROUND)
 - D. ASTM A-325, TYPE SC OR N - ALL BOLTS FOR CONNECTING STRUCTURAL MEMBERS
 - E. ASTM F-1554 07 - ALL ANCHOR BOLTS, UNLESS NOTED OTHERWISE
3. ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
4. ALL FIELD CUT SURFACES, FIELD DRILLED HOLES AND GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.
5. DO NOT DRILL HOLES THROUGH STRUCTURAL STEEL MEMBERS EXCEPT AS SHOWN AND DETAILED ON STRUCTURAL DRAWINGS.
6. CONNECTIONS:
 - A. ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.

- B. ALL WELDS SHALL BE INSPECTED VISUALLY. 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
- C. INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
- D. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE BURNING/WELDING PERMITS AS REQUIRED BY LOCAL GOVERNING AUTHORITY AND IF REQUIRED SHALL HAVE FIRE DEPARTMENT DETAIL FOR ANY WELDING ACTIVITY.
- E. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
- F. MINIMUM WELD SIZE TO BE 0.1875 INCH FILLET WELDS, UNLESS NOTED OTHERWISE.
- G. PRIOR TO FIELD WELDING GALVANIZING MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
- H. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE REQUIRED DURING CONSTRUCTION UNTIL ALL CONNECTIONS ARE COMPLETE.
- I. ANY FIELD CHANGES OR SUBSTITUTIONS SHALL HAVE PRIOR APPROVAL FROM THE ENGINEER, AND T-MOBILE PROJECT MANAGER IN WRITING

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 ANTENNAS 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 AND PROVIDE PRINTOUT OF THAT TEST.
 - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
 - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
 - G. ANTENNA AND COAXIAL CABLE GROUNDING:

2. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
3. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS).

CONCRETE AND REINFORCING STEEL NOTES:

1. DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS OF ALL APPLICABLE CODES INCLUDING: ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", ACI 117 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS", AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
2. MIX DESIGN SHALL BE APPROVED BY T-MOBILE REP PRIOR TO PLACING CONCRETE.
3. CONCRETE SHALL BE NORMAL WEIGHT, 6 % AIR ENTRAINED (+/- 1.5%) WITH A SLUMP RANGE OF 3-6" AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE NOTED.
4. THE FOLLOWING MATERIALS SHALL BE USED:

PORTLAND CEMENT:	ASTM C150, TYPE 2
REINFORCEMENT:	ASTM A185, PLAIN STEEL WELDED WIRE FABRIC
REINFORCEMENT BARS:	ASTM A615, GRADE 60, DEFORMED
NORMAL WEIGHT AGGREGATE:	ASTM C33
WATER:	ASTM C 94/C 94M
WELDED WIRE FABRIC:	ASTM A185
ADMIXTURES:	
-WATER-REDUCING AGENT:	ASTM C 494/C 494M, TYPE A
-AIR-ENTERING AGENT:	ASTM C 260/C 260M
-SUPERPLASTICIZER:	ASTM C494, TYPE F OR TYPE G

-RETARDING: ASTM C 494/C 494M, TYPE B

5. MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE NO LESS THAN 3".
6. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE IN ACCORDANCE WITH ACI 301 SECTION 4.2.4, UNLESS NOTED OTHERWISE.
7. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL, OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR APPROVAL FROM AN ATC ENGINEER WHEN DRILLING HOLES IN CONCRETE.
8. ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN "METHOD 1" OF ACI 301.
9. DO NOT WELD OR TACK WELD REINFORCING STEEL.
10. ALL DOWELS, ANCHOR BOLTS, EMBEDDED STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES, GROUNDS AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAILS SHALL BE IN PLACE BEFORE START OF CONCRETE PLACEMENT.
11. REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQUIRED.
12. DO NOT PLACE CONCRETE IN WATER, ICE, OR ON FROZEN GROUND.
13. FOR COLD-WEATHER (ACI 306) AND HOT-WEATHER (ACI 301M) CONCRETE PLACEMENT, CONFORM TO APPLICABLE ACI CODES AND RECOMMENDATIONS. IN EITHER CASE, MATERIALS CONTAINING CHLORIDE, CALCIUM, SALTS, ETC. SHALL NOT BE USED. PROTECT FRESH CONCRETE FROM WEATHER FOR 7 DAYS, MINIMUM.
14. ALL CONCRETE SHALL HAVE A "SMOOTH FORM FINISH."
15. SPLICING OF REINFORCEMENT IS PERMITTED ONLY AT LOCATIONS SHOWN IN THE CONTRACT DRAWINGS OR AS ACCEPTED BY THE ENGINEER. UNLESS OTHERWISE SHOWN OR NOTED REINFORCING STEEL SHALL BE SPLICED TO DEVELOP ITS FULL TENSILE CAPACITY (CLASS A) IN ACCORDANCE WITH ACI 318.
16. DETAILING OF REINFORCING STEEL SHALL CONFORM TO "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).
17. ALL SLAB CONSTRUCTION SHALL BE CAST MONOLITHICALLY WITHOUT HORIZONTAL CONSTRUCTION JOINTS, UNLESS SHOWN IN THE CONTRACT DRAWINGS.
18. LOCATION OF ALL CONSTRUCTION JOINTS ARE SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, CONFORMANCE WITH ACI 318, AND ACCEPTANCE OF THE ENGINEER. DRAWINGS SHOWING LOCATION OF DETAILS OF THE PROPOSED CONSTRUCTION JOINTS SHALL BE SUBMITTED WITH REINFORCING STEEL PLACEMENT DRAWINGS.
19. SPLICES OF WWF, AT ALL SPLICED EDGES, SHALL BE SUCH THAT THE OVERLAP MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET IS NOT LESS THAN THE SPACING OF THE CROSS WIRE PLUS 2 INCHES, NOR LESS THAN 6".
20. BAR SUPPORTS SHALL BE ALL-GALVANIZED METAL WITH PLASTIC TIPS.
21. ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE TO PREVENT DISPLACEMENT BY CONSTRUCTION TRAFFIC OR CONCRETE. TIE WIRE SHALL BE OF SUFFICIENT STRENGTH FOR INTENDED PURPOSE, BUT NOT LESS THAN NO. 18 GAUGE.
22. SLAB ON GROUND: COMPACT STRUCTURAL FILL TO 95% DENSITY AND THEN PLACE 6" GRAVEL BENEATH SLAB.

ELECTRICAL NOTES:

1. ELECTRICAL WORK SHALL BE PERFORMED BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL ENSURE THAT ALL WORK COMPLIES WITH ALL APPLICABLE LOCAL AND STATE CODES AND NATIONAL ELECTRICAL CODE.
2. ALL SUGGESTED ELECTRICAL ELEMENTS (SUCH AS BREAKER SIZES, WIRE SIZES, CONDUITS SIZES) ARE FOR ZONING PURPOSES ONLY. IT IS THE RESPONSIBILITY TO OF THE ELECTRICAL CONTRACTOR TO CONFIRM COMPLIANCE WITH LOCAL ELECTRICAL CODES AND PASS ALL APPLICABLE AND NECESSARY INSPECTIONS. IN SOME EVENTS, IT MAY BE NECESSARY TO PERFORM AN ELECTRICAL LOAD STUDY TO VERIFY THE CAPACITY OF THE EXISTING SERVICE. THIS IS NOT THE RESPONSIBILITY OF ATC. IT IS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. CONTRACTOR SHALL FIELD LOCATE ALL BELOW GRADE GROUNDING CABLES AND UTILITY LINES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF ALL UTILITIES AND GROUNDING LINES THAT MAY BECOME DISTURBED OR CONFLICTING IN THE COURSE OF CONSTRUCTION.

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.



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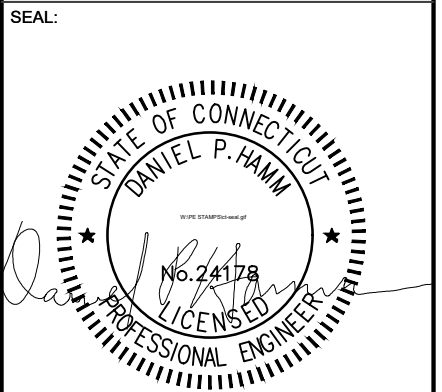
REV.	DESCRIPTION	BY	DATE
A	PRELIM	VPP	06/03/22
0	FINALS	BB	06/15/22
1	FINALS REVISED	TR	09/14/22

ATC SITE NUMBER:
209259

ATC SITE NAME:
WASHINGTON 2

T-MOBILE SITE NAME:
BLACKVILLE WASHINGTON ATC

SITE ADDRESS:
**10 BLACKVILLE ROAD
WASHINGTON, CT 06794**



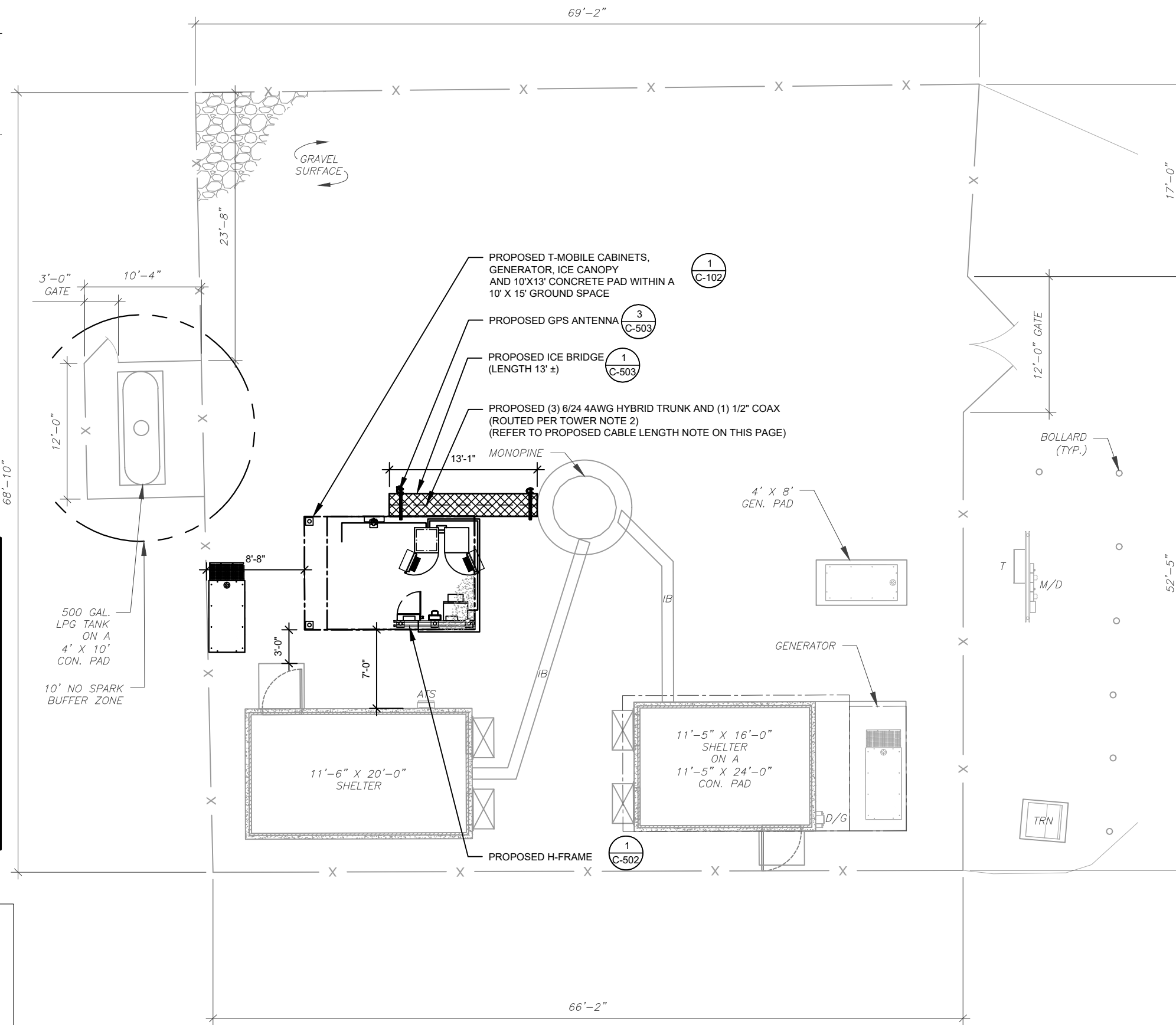
DATE DRAWN:	05/31/22
ATC JOB NO:	14099766_G2
CUSTOMER ID:	BLACKVILLE WASHINGTON ATC
CUSTOMER #:	CTNH295A

GENERAL NOTES	
SHEET NUMBER: G-002	REVISION: 1

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SITE PLAN NOTES:

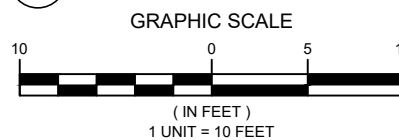
- THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
- ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE 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.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE T-MOBILE REPRESENTATIVE AND LOCAL UTILITY COMPANY FOR THE INSTALLATION OF CONDUITS, CONDUCTORS, BREAKERS, DISCONNECTS, OR ANY OTHER EQUIPMENT REQUIRED FOR ELECTRICAL SERVICE. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE STATE AND NATIONAL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS PROJECT.



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
---	CHAINLINK FENCE

- PROPOSED CABLE LENGTH:**
- ESTIMATED LENGTH OF PROPOSED CABLE IS 140'. 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.
 - 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.

1 DETAILED SITE PLAN



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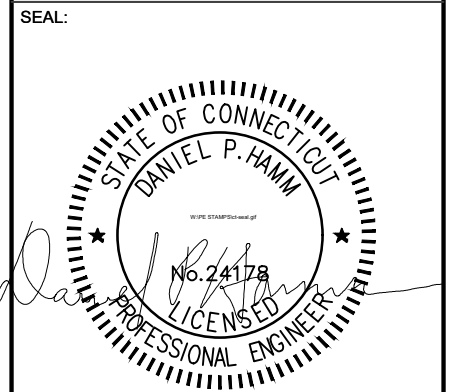
REV.	DESCRIPTION	BY	DATE
A	PRELIM	VPP	05/31/22
0	FINALS	BB	06/15/22
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ATC SITE NUMBER:
209259

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SITE ADDRESS:
10 BLACKVILLE ROAD
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DATE DRAWN:	05/31/22
ATC JOB NO:	14099766_G2
CUSTOMER ID:	BLACKVILLE WASHINGTON ATC
CUSTOMER #:	CTNH295A

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	1

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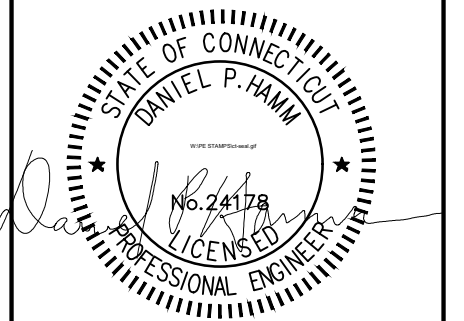
ATC SITE NUMBER:
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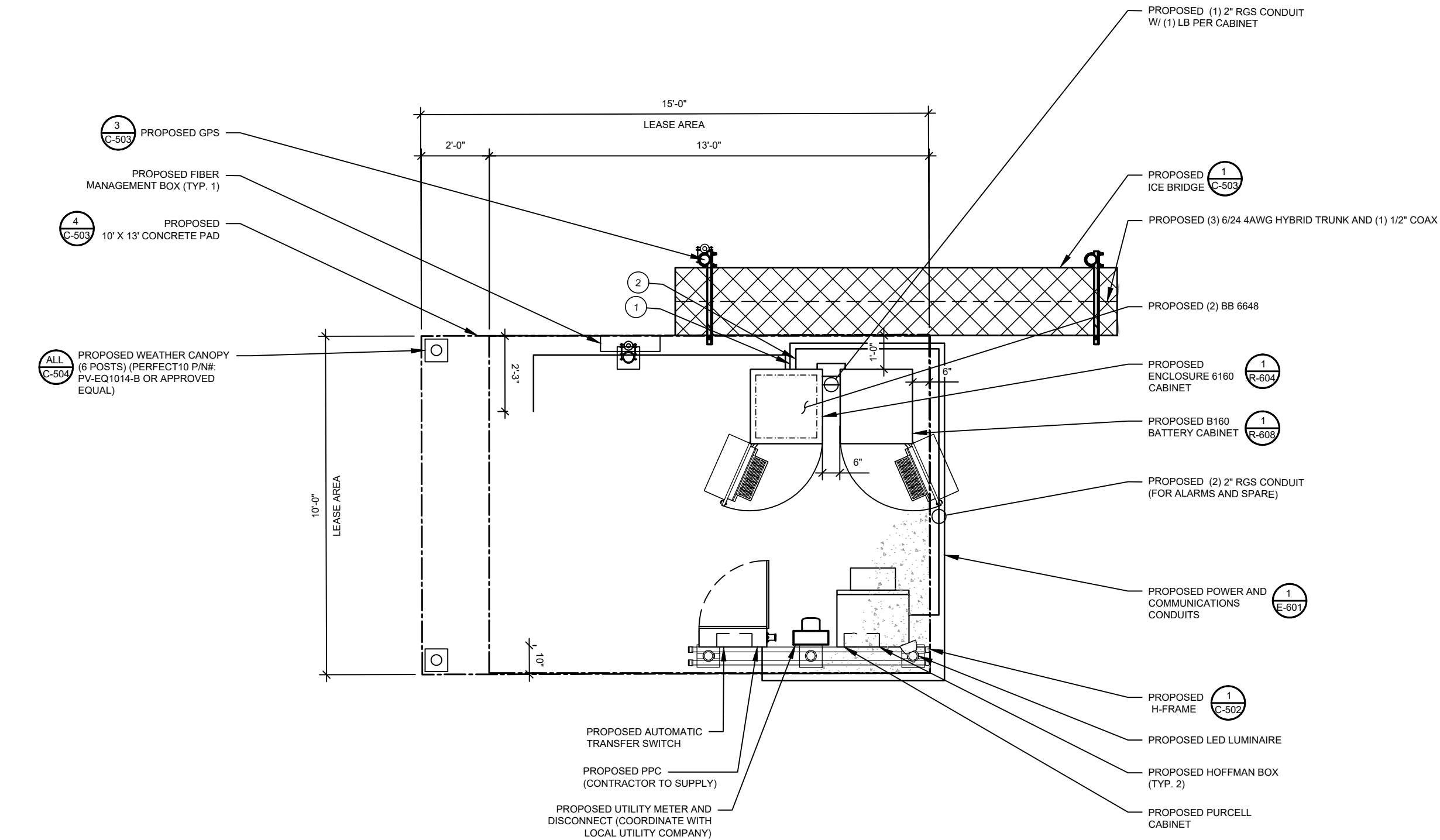
SEAL:



DATE DRAWN:	05/31/22
ATC JOB NO:	14099766_G2
CUSTOMER ID:	BLACKVILLE WASHINGTON ATC
CUSTOMER #:	CTNH295A

DETAILED EQUIPMENT PLAN

SHEET NUMBER:	REVISION:
C-102	1



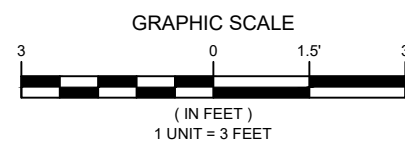
EQUIPMENT POWER NOTES:

- 2" CONDUIT W/ 3-#3/0 CU, (1) #6 AWG G, PPC POWER
- 2" CONDUIT FOR TELCO FEEDER SERVICE TO TELCO SOURCE PER UTILITY
- 2-#12, 1 #12G IN 3/4" CONDUIT FROM TELCO CAB TO 6160
- 3-#1, 1-#8 IN 2" CONDUIT
- 2" CONDUIT, FOR CAT6
- (2) CONDUITS CONNECTING FROM AC GENERATOR TO ATC PER MANUFACTURER SPECIFICATION

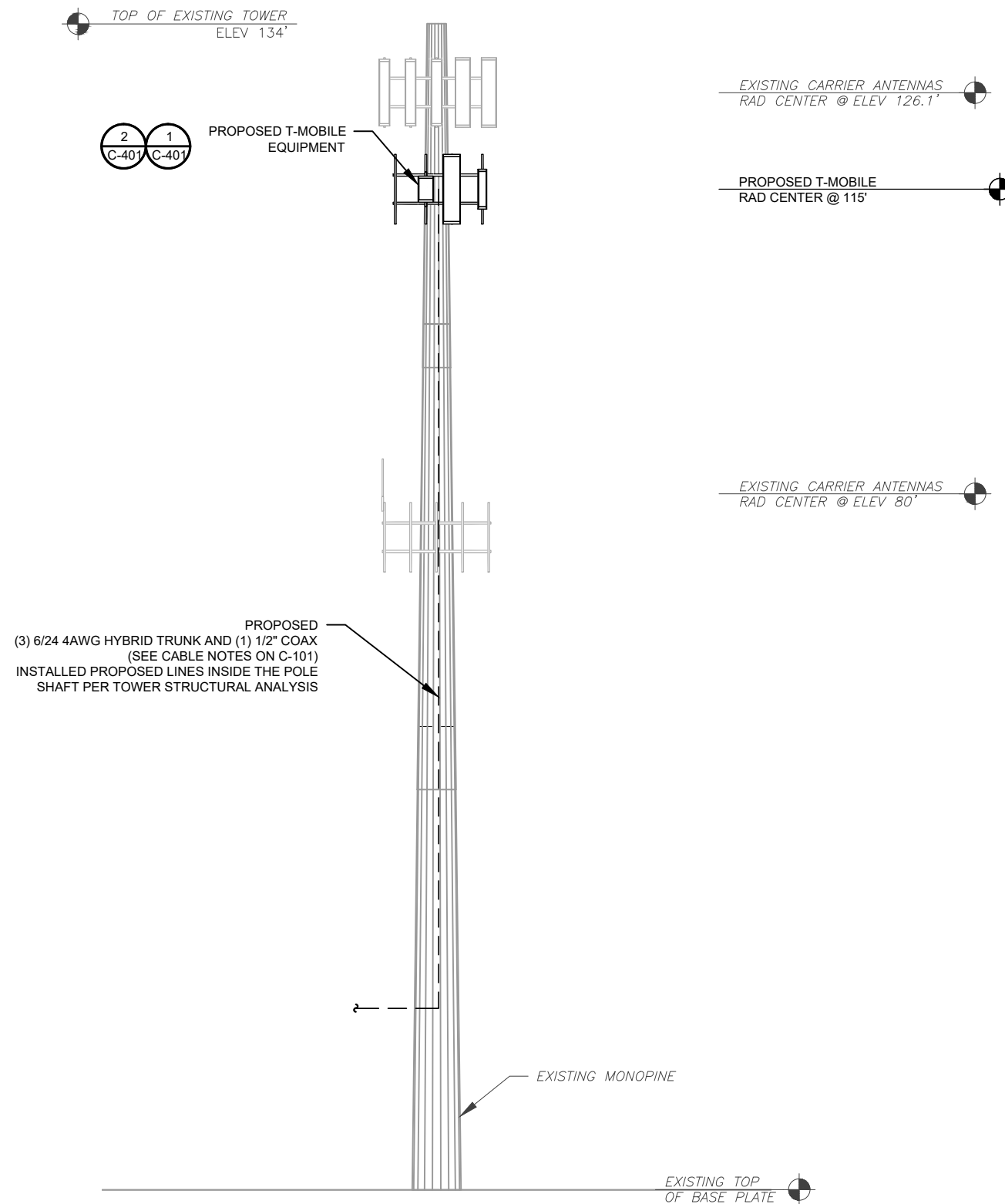
NOTE:

- CABINETS SHALL BE ORIENTED AND INSTALLED EXACTLY AS SHOWN
- WEIGHT OF BTS UNIT IS 615 LBS (WEIGHT IS WITHOUT EQUIPMENT)

1 PROPOSED GROUND EQUIPMENT LAYOUT



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PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 05/18/22, THE PROPOSED MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.

PROPOSED (3) 6/24 4AWG HYBRID TRUNK AND (1) 1/2" COAX (SEE CABLE NOTES ON C-101) INSTALLED PROPOSED LINES INSIDE THE POLE SHAFT PER TOWER STRUCTURAL ANALYSIS

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.)
- TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.

1 TOWER ELEVATION
SCALE: N.T.S.



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REV.	DESCRIPTION	BY	DATE
A	PRELIM	VPP	05/31/22
0	FINALS	BB	06/15/22
1	FINALS REVISED	TR	09/14/22

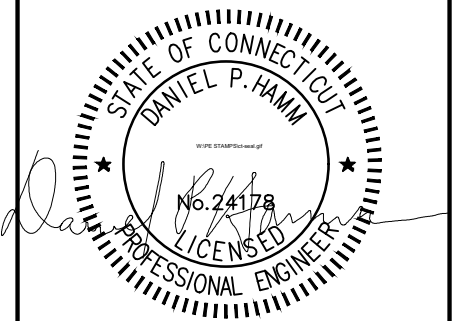
ATC SITE NUMBER:
209259

ATC SITE NAME:
WASHINGTON 2

T-MOBILE SITE NAME:
BLACKVILLE WASHINGTON ATC

SITE ADDRESS:
10 BLACKVILLE ROAD
WASHINGTON, CT 06794

SEAL:

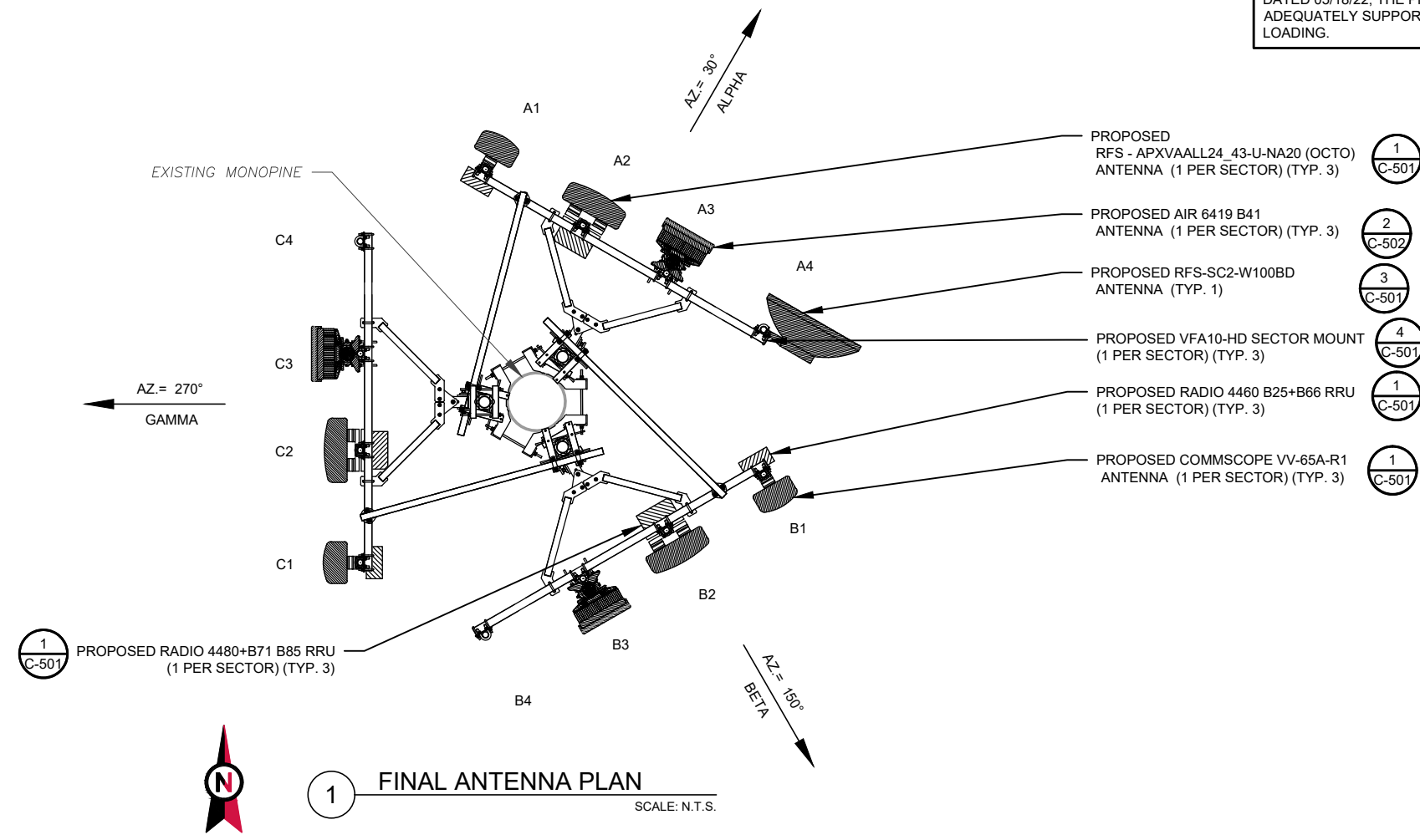


DATE DRAWN:	05/31/22
ATC JOB NO:	14099766_G2
CUSTOMER ID:	BLACKVILLE WASHINGTON ATC
CUSTOMER #:	CTNH295A

TOWER ELEVATION

SHEET NUMBER:	REVISION:
C-201	1

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 05/18/22. THE PROPOSED MOUNT CAN ADEQUATELY SUPPORT THE PROPOSED LOADING.



FINAL ANTENNA/ COAX SCHEDULE						
SECTOR	ANT.	MODEL #	RAD CENTER	AZIMUTH	ADDITIONAL TOWER MOUNTED EQUIPMENT	CABLE DESCRIPTION
ALPHA	A1	COMMSCOPE_VV-65A-R1	115'	30°	RRU 4460 B25+B26	(3) 6/24 4AWG HYBRID TRUNK AND (1) 1/2" COAX
ALPHA	A2	RFS - APXVAALL24_43-U-NA20	115'	30°	RRU 4480 B71+B85	
ALPHA	A3	AIR 6419 B41	115'	30°	-	
ALPHA	A4	RFS SC2-W100BD	115'	30°	-	
BETA	B1	COMMSCOPE_VV-65A-R1	115'	150°	RRU 4460 B25+B26	
BETA	B2	RFS - APXVAALL24_43-U-NA20	115'	150°	RRU 4480 B71+B85	
BETA	B3	AIR 6419 B41	115'	150°	-	
BETA	B4	-	-	-	-	
GAMMA	C1	COMMSCOPE_VV-65A-R1	115'	270°	RRU 4460 B25+B26	
GAMMA	C2	RFS - APXVAALL24_43-U-NA20	115'	270°	RRU 4480 B71+B85	
GAMMA	C3	AIR 6419 B41	115'	270°	-	
GAMMA	C4	-	-	-	-	

- CONFIRM WITH CARRIER REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS.
- ALL PROPOSED EQUIPMENT INCLUDING ANTENNAS, COAX, ETC. SHALL BE MOUNTED IN ACCORDANCE WITH THE TOWER STRUCTURAL ANALYSIS ON FILE WITH THE ATC CM.
- SPACING OF PROPOSED EQUIPMENT SHALL BE CONFIRMED FOR TOWER CONFLICTS AND PROPOSED MOUNTS SHALL NOT IMPEDE TOWER CLIMBING PEGS.

2 ANTENNA SCHEDULE

RF JUMPER LENGTH
MONOPOLE = 15'± GUYED / SELF SUPPORT = FACE WIDTH + 15'
REFER TO FINAL RFDS FOR TYPE AND QUANTITY



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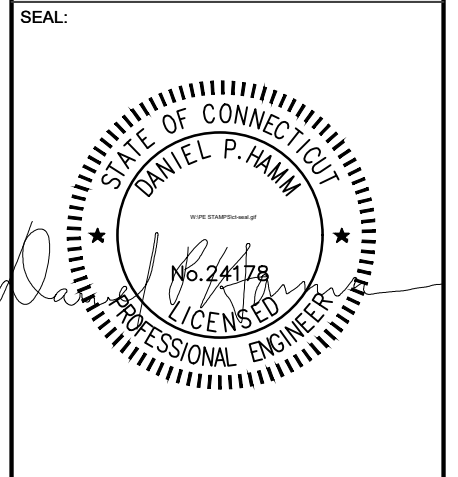
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0	FINALS	BB	06/15/22
1	FINALS REVISED	TR	09/14/22

ATC SITE NUMBER:
209259

ATC SITE NAME:
WASHINGTON 2

T-MOBILE SITE NAME:
BLACKVILLE WASHINGTON ATC

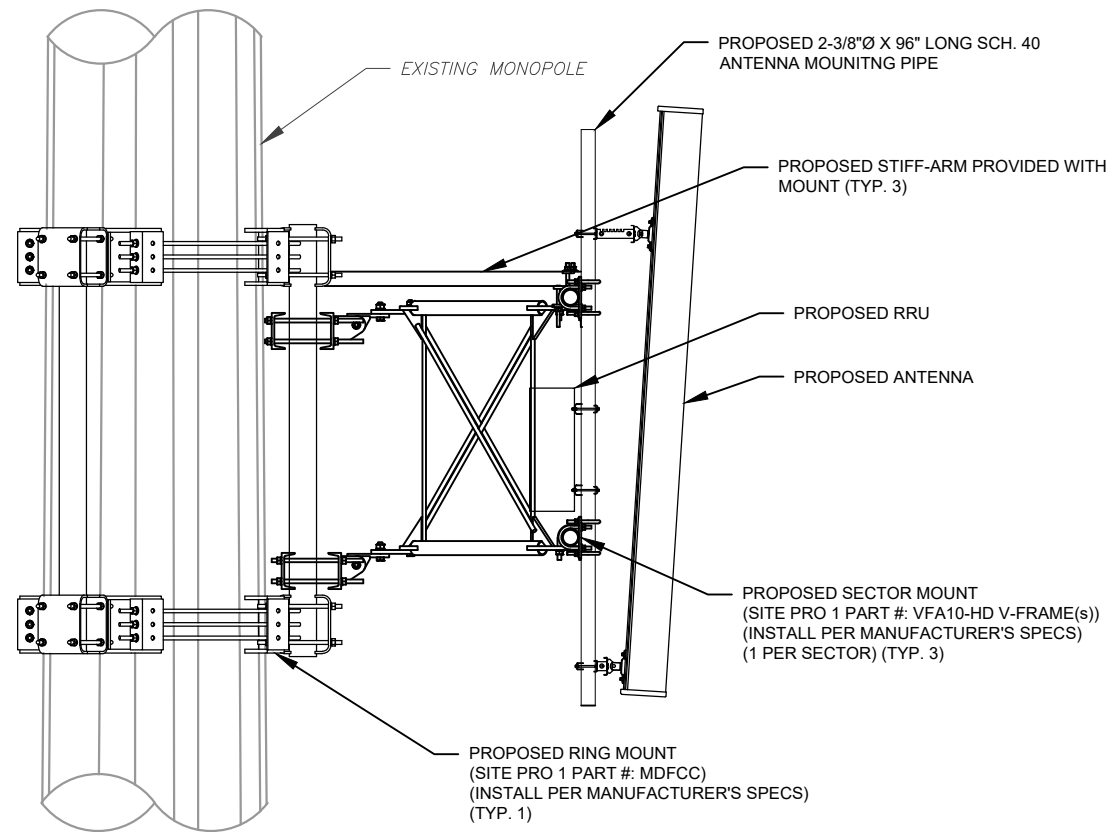
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10 BLACKVILLE ROAD
WASHINGTON, CT 06794



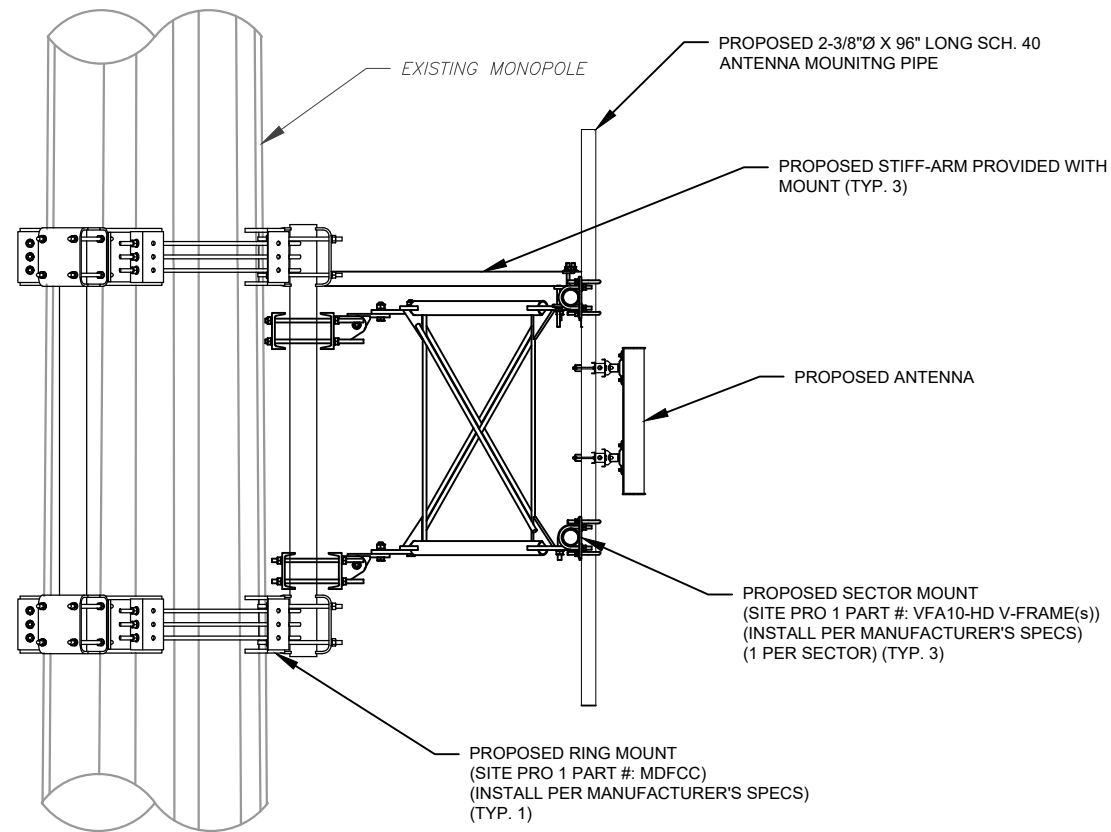
DATE DRAWN:	05/31/22
ATC JOB NO:	14099766_G2
CUSTOMER ID:	BLACKVILLE WASHINGTON ATC
CUSTOMER #:	CTNH295A

ANTENNA INFORMATION & SCHEDULE	
SHEET NUMBER: C-401	REVISION: 1

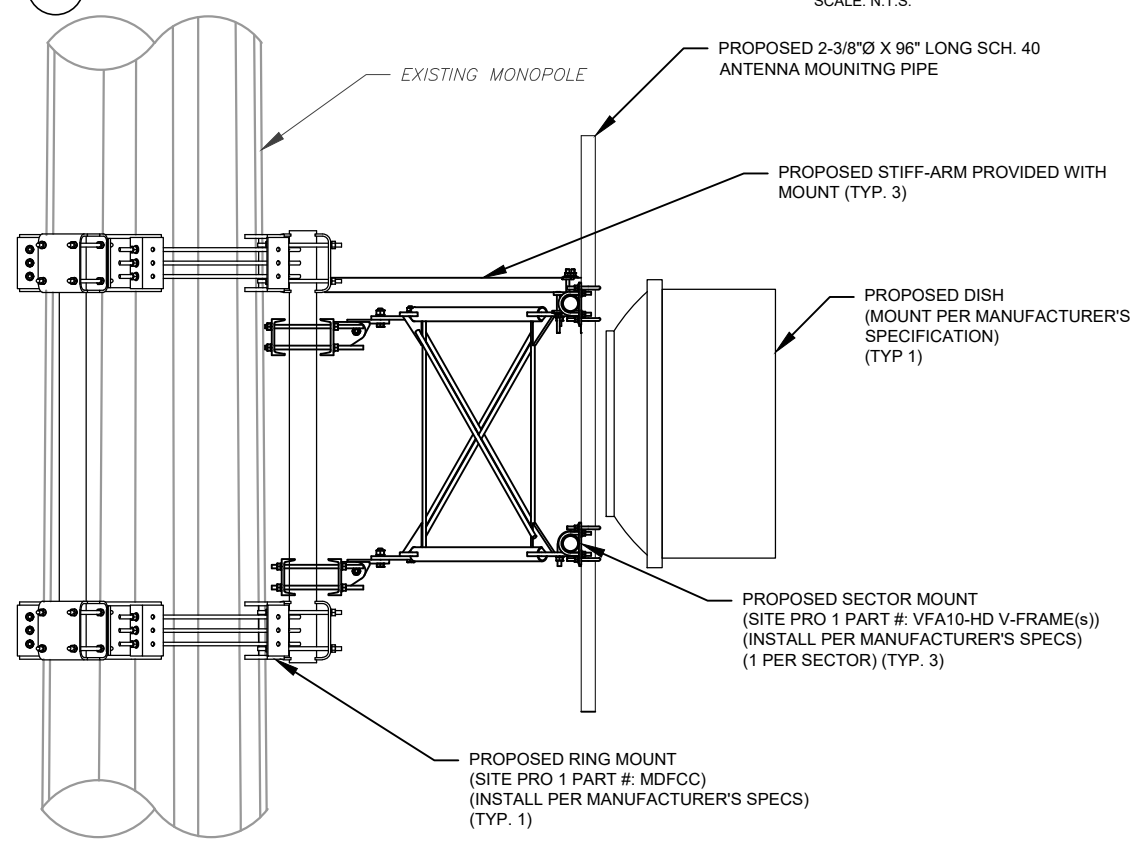
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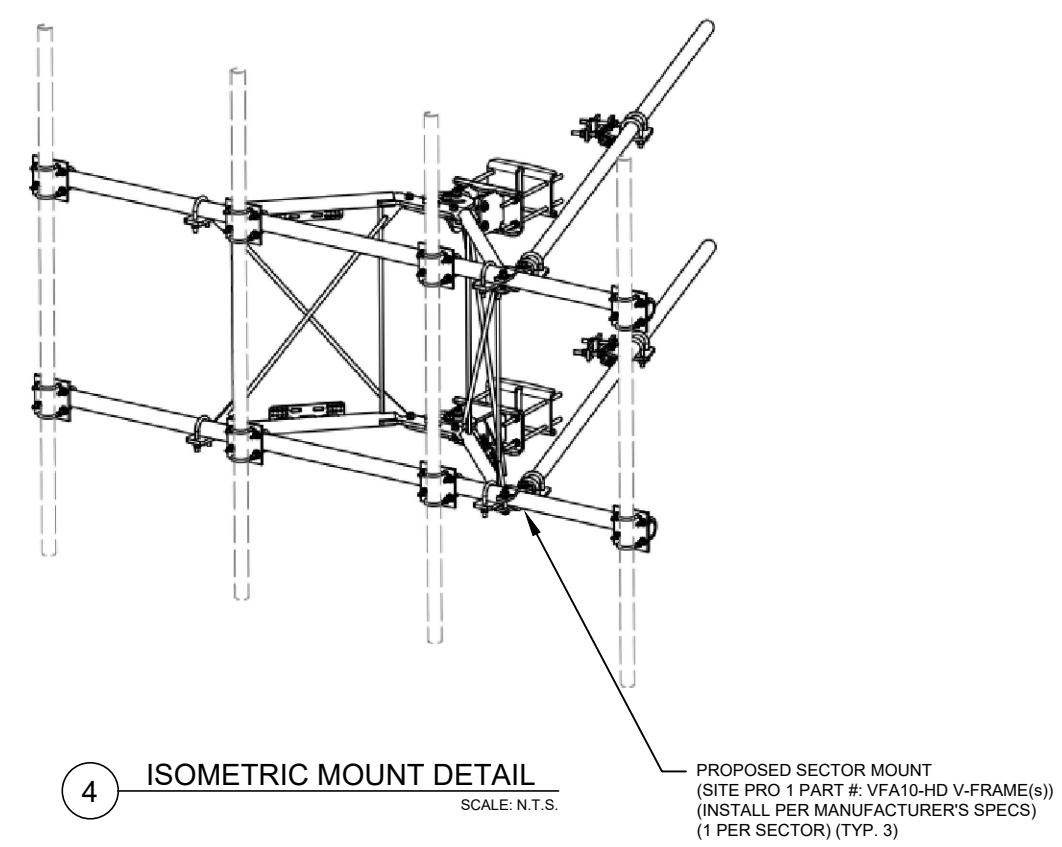
1 PROPOSED ANTENNA MOUNTING DETAIL (ELEVATION) SCALE: N.T.S.



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



3 PROPOSED DISH MOUNTING DETAIL (ELEVATION) SCALE: N.T.S.



4 ISOMETRIC MOUNT DETAIL SCALE: N.T.S.



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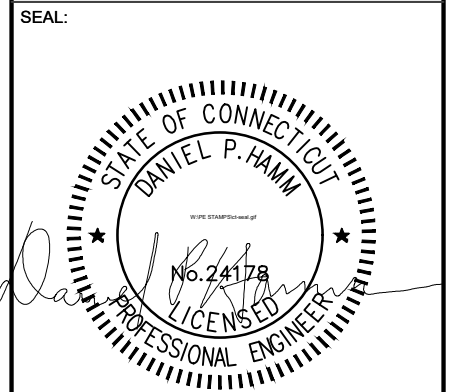
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CUSTOMER #:	CTNH295A

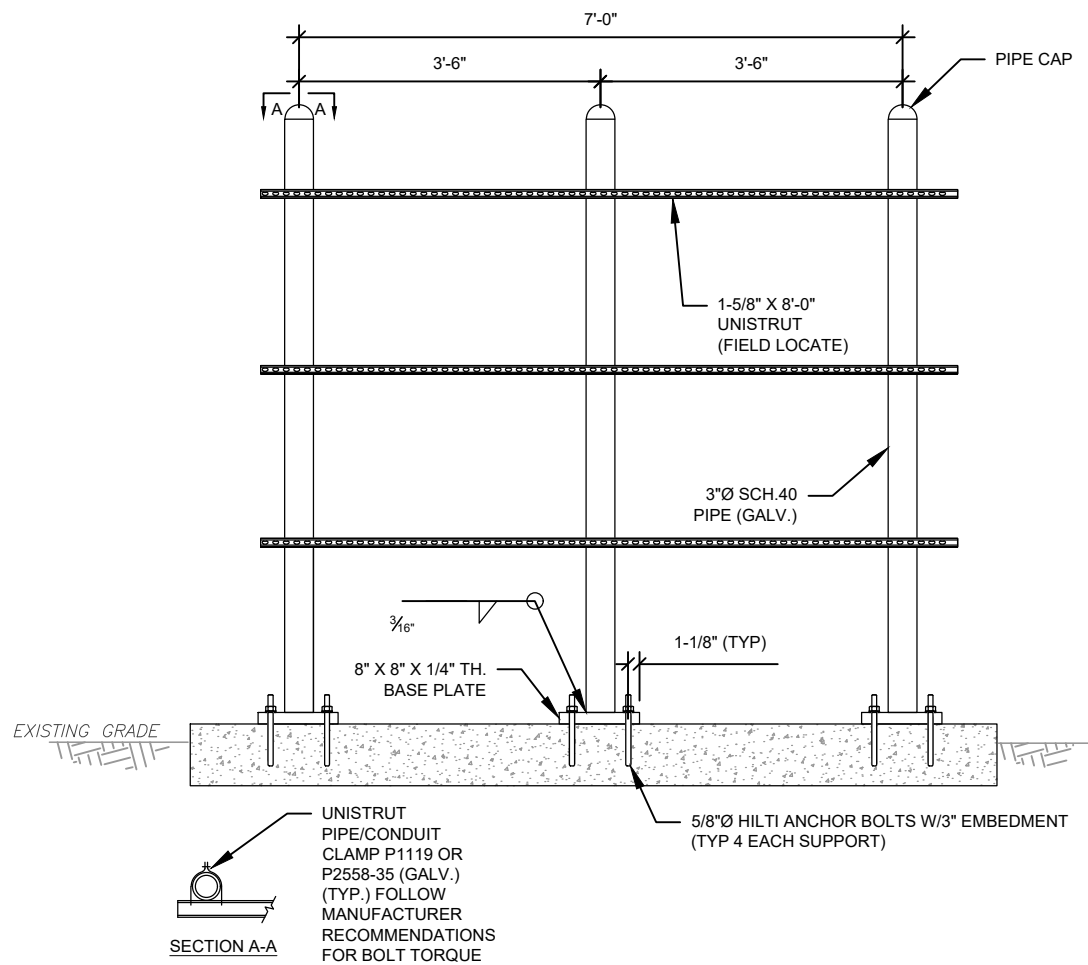
MOUNT DETAILS

SHEET NUMBER:	REVISION:
C-501	1

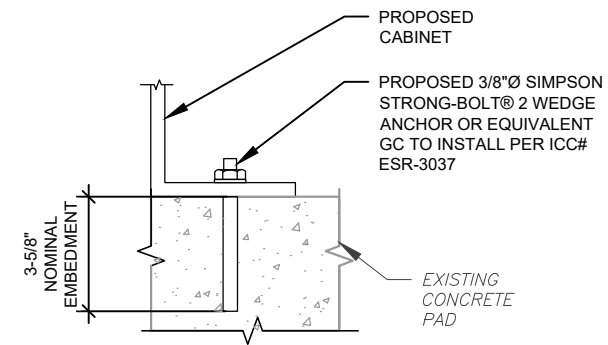
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H-FRAME NOTES:

1. IF IT IS NECESSARY TO EXTEND THE H-FRAME, AN ADDITIONAL POST WILL ALWAYS BE REQUIRED.
2. PROPOSED UNISTRUTS TO BE FIELD CUT AND SHOULD NOT EXTEND MORE THAN 6 INCHES BEYOND THE LAST POST.
3. SPRAY ENDS OF UNISTRUT WITH COLD GALVANIZING SPRAY PAINT, ALLOW TO DRY, THEN COVER WITH RUBBER PROTECTIVE CAPS FOR SAFETY.
4. UNISTRUT TO BE CUT FLUSH WITH NO SHARP OR JAGGED EDGES.
5. ALL PROPOSED HARDWARE TO BE MOUNTED PER MANUFACTURERS SPECS.
6. ALL H-FRAME POSTS SHALL BE GROUNDED TO EQUIPMENT GROUND RING.



1 TYPICAL H-FRAME DETAIL
SCALE: N.T.S.



NOTE:

INSTALL SIMPSON STRONG-TIE® STRONG-BOLT® 2 WEDGE ANCHOR(S) STRICTLY PER INSTALLATION INSTRUCTIONS INCLUDED WITH PRODUCT OR FOUND ONLINE AT WWW.STRONGTIE.COM. PROPER INSTALLATION IS CRITICAL FOR FULL PERFORMANCE.

2 CABINET ATTACHMENT DETAIL
SCALE: N.T.S.



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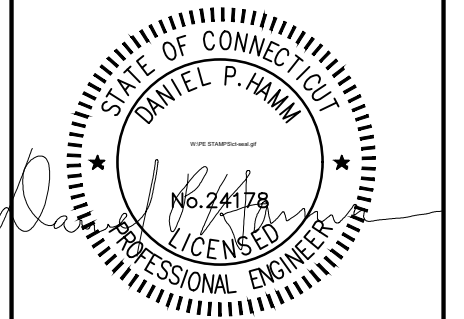
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ATC SITE NAME:
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BLACKVILLE WASHINGTON ATC

SITE ADDRESS:
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SEAL:



DATE DRAWN:	05/31/22
ATC JOB NO:	14099766_G2
CUSTOMER ID:	BLACKVILLE WASHINGTON ATC
CUSTOMER #:	CTNH295A

CONSTRUCTION DETAILS

SHEET NUMBER:	REVISION:
C-502	1

REV.	DESCRIPTION	BY	DATE
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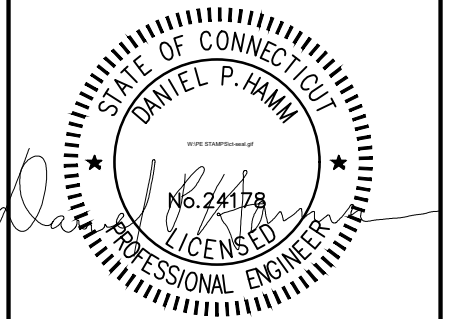
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209259

ATC SITE NAME:
WASHINGTON 2

T-MOBILE SITE NAME:
BLACKVILLE WASHINGTON ATC

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WASHINGTON, CT 06794

SEAL:

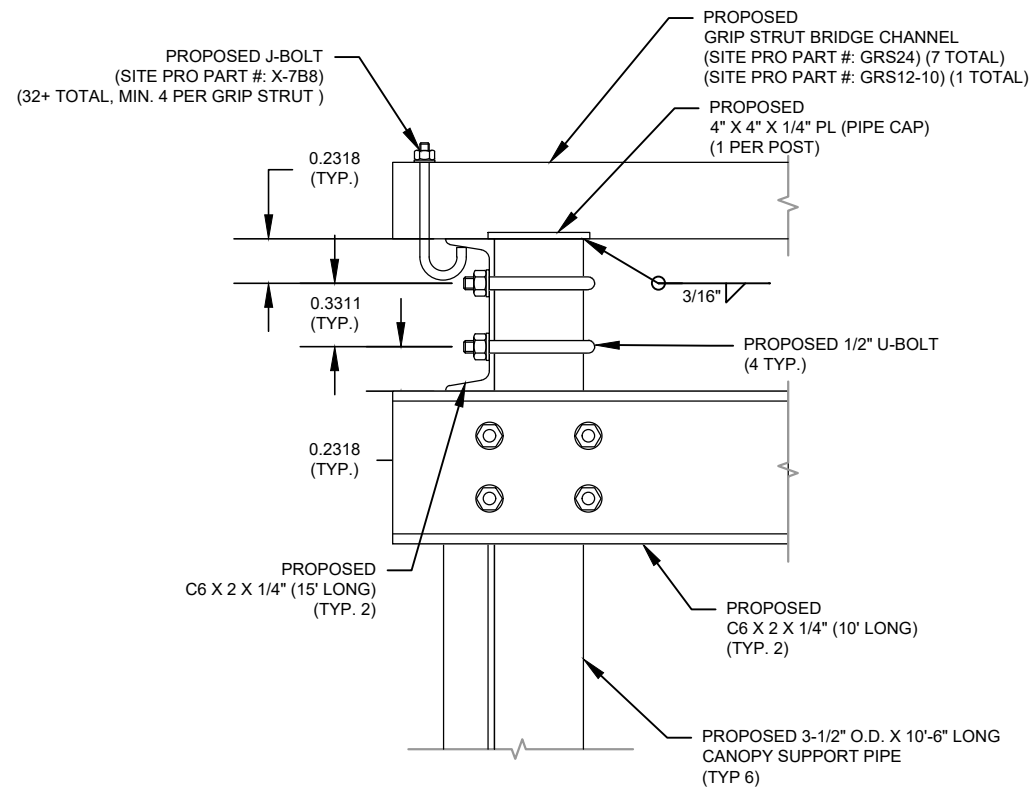


DATE DRAWN:	05/31/22
ATC JOB NO:	14099766_G2
CUSTOMER ID:	BLACKVILLE WASHINGTON ATC
CUSTOMER #:	CTNH295A

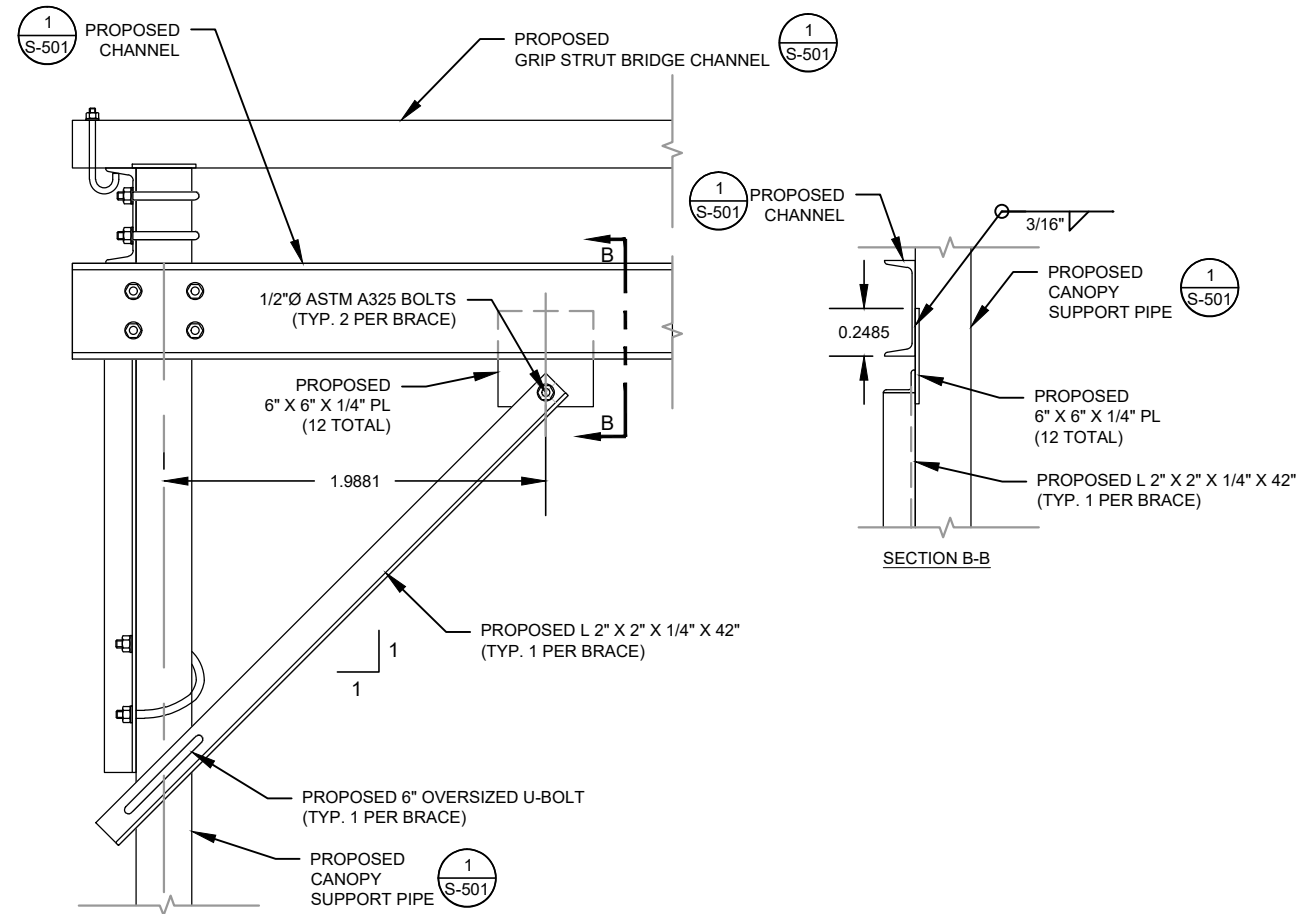
**CONSTRUCTION
DETAILS**

SHEET NUMBER:	REVISION:
C-504	1

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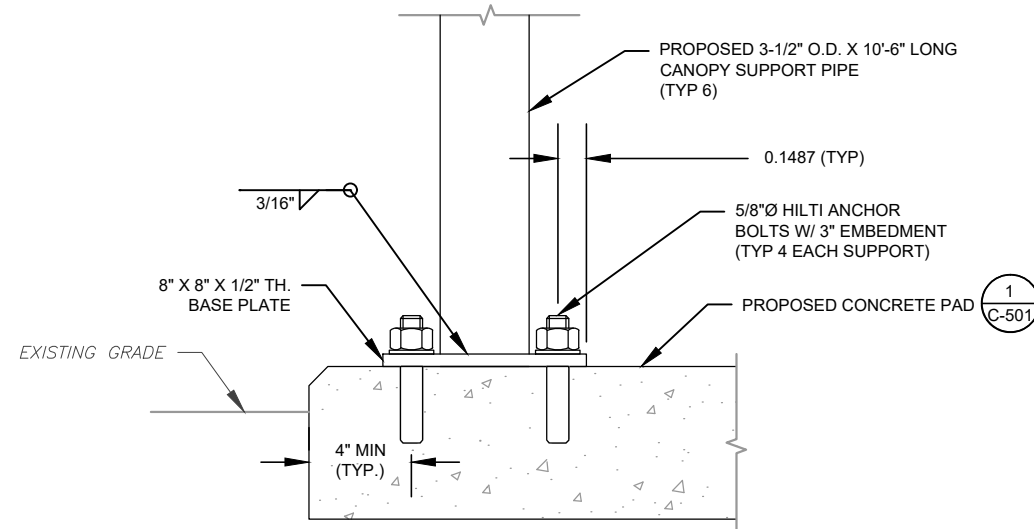


1 CANOPY SUPPORT DETIAL A-A
SCALE: N.T.S.



NOTE: EACH CANOPY POST SHALL HAVE (2) BRACES PER POST

2 CANOPY BRACING DETAIL
SCALE: N.T.S.



3 CANOPY SUPPORT/ANCHOR DETAIL
SCALE: N.T.S.

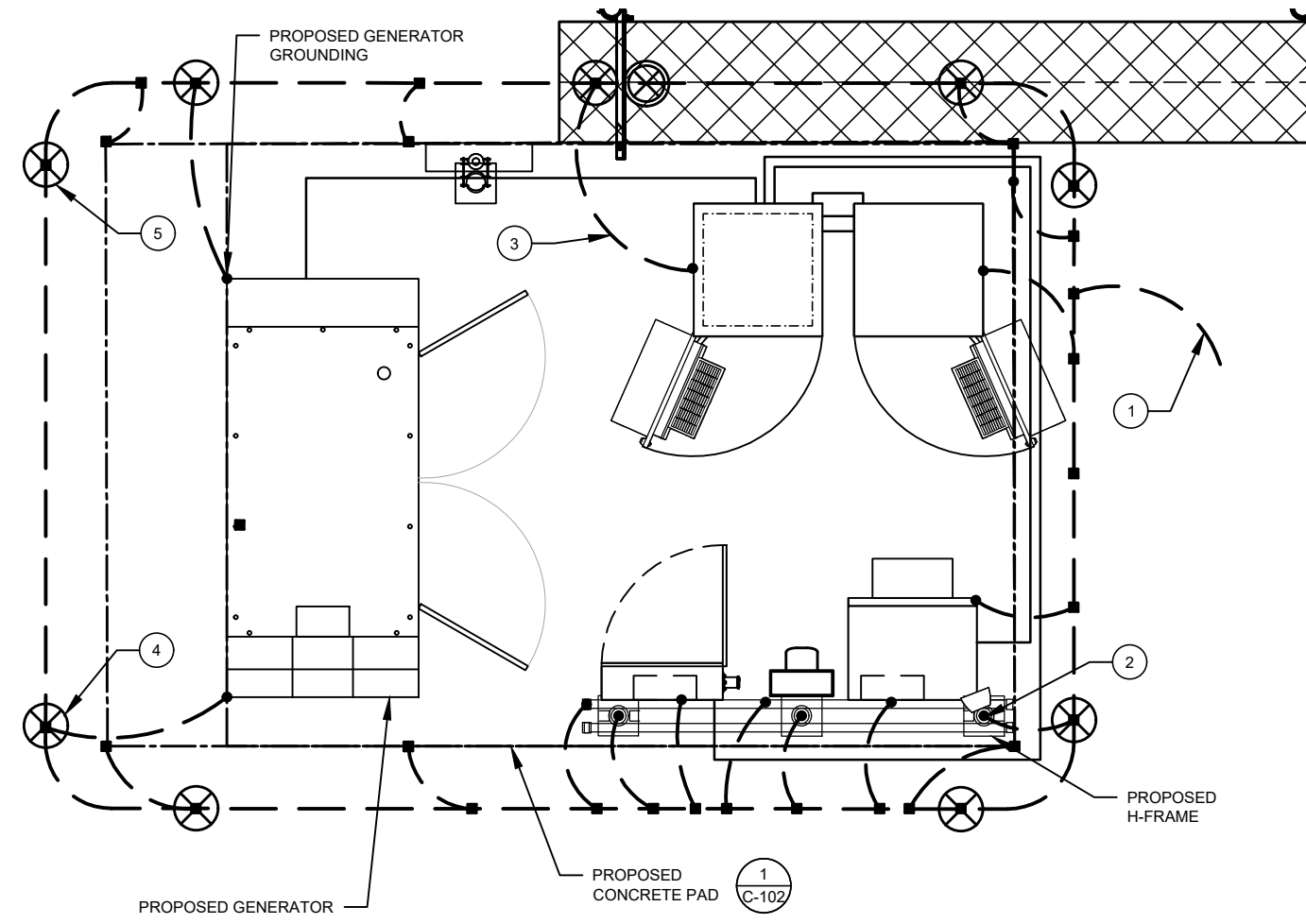
GROUNDING NOTES:

1. ALL EQUIPMENT ENCLOSURES, DEVICES AND CONDUITS SHALL BE GROUNDED TO CONFORM WITH THE LATEST REQUIREMENTS OF THE NEC BY THE INSTALLATION OF A SEPARATE, GREEN, INSULATED GROUND CONDUCTOR FOR ALL FEEDER AND BRANCH CIRCUITS. GROUND CONDUCTORS SHALL BE OF THE SIZE INDICATED ON THE DRAWINGS. GROUND CONDUCTORS SHALL BE CONTINUOUS IN LENGTH AND SHALL BE BONDED TO EACH ENCLOSURE THEY PASS THROUGH. CONDUIT SHALL NOT BE USED AS A GROUNDING CONDUCTOR.
2. GROUNDING CONDUCTORS SHALL:
 - A. BE #2 AWG SOLID BARE TINNED COPPER (SBTC) FOR ALL GROUNDING SYSTEM WIRE UNLESS OTHERWISE NOTED, OR OTHERWISE REQUIRED BY CODE.
 - B. BE MINIMUM 12" BEND RADIUS. KEEP NUMBER OF BENDS TO A MINIMUM.
 - C. AVOID LONG BONDING CONNECTION RUNS. MAKE DIRECT AS POSSIBLE.
 - D. NOT HAVE ANY U-SHAPED RUNS.
 - E. BE IN NON-METALLIC CONDUIT ONLY, IF IN CONDUIT.
 - F. BE PLACED THROUGH NON-METALLIC SLEEVES IN FLOORS, WALLS, CEILINGS, ETC.
 - G. PROTECTED IN NON-METALLIC CONDUIT WHERE EXPOSED ABOVE GRADE.
2. INSTALL ALL GROUNDING RINGS AND RADIALS WITH CONDUCTIVE CEMENT, SANKOSHA AS DISTRIBUTED BY ELECTRIC MOTION COMPANY, INC., WINSTED, CT 06098, OR AS SPECIFICALLY INDICATED. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
3. GROUND RINGS SHALL BE:
 - A. MINIMUM 30" BELOW GRADE, OR BELOW FROST LINE WHICHEVER IS DEEPER.
 - B. MINIMUM 2' FROM FOUNDATIONS, FOOTINGS, OTHER GROUNDING SYSTEMS AND ALL CONDUCTIVE OBJECTS.
 - C. WITH MINIMUM 12" BEND RADIUS.
 - D. WITH ALL CONNECTIONS IN CONTACT WITH EARTH, BONDED BY EXOTHERMIC WELDING.
 - E. BONDED TO A SINGLE POINT GROUND (SPG) WITH A SINGLE WIRE AS INDICATED ON DRAWINGS.
4. GROUND RODS SHALL BE:
 - A. MINIMUM 5/8" DIAMETER.
 - B. MINIMUM 10' LONG.
 - C. COPPER-CLAD GALVANIZED STEEL OR STAINLESS STEEL.
 - D. PLACED IN UNDISTURBED SOIL AND BELOW THE FROST LINE.
 - E. INSTALLED WITH MINIMUM SEPARATION DISTANCE OF TWICE THE DEPTH OF THE ROD(S), OR AS INDICATED ON DRAWINGS.
 - F. MINIMUM TWO (2) RODS ON THE TOWER RING OR ONE (1) PER LEG WHICHEVER IS LARGER, MINIMUM FOUR (4) RODS ON EVERY EQUIPMENT BUILDING RING WITH ONE AT EACH CORNER OR AS INDICATED, MINIMUM ONE (1) ROD FOR POWER SERVICE GROUNDING ELECTRODE, AND MINIMUM ONE (1) ROD AT END OF EACH RADIAL.
5. CONDUCTIVE OBJECTS, SUCH AS FENCES, SHALL BE BONDED TO THE GROUNDING SYSTEM IF WITHIN 20' OF THE TOWER GROUNDING SYSTEM, OR 5' OF ANY OTHER GROUNDED COMPONENT.

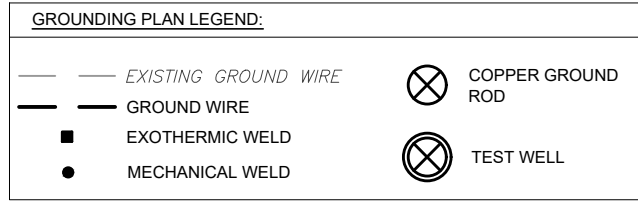
EQUIPMENT POWER NOTES:

- 1 2" CONDUIT W/ 3-#3/0 CU, (1) #6 AWG G, PPC POWER
- 2 2" CONDUIT FOR TELCO FEEDER SERVICE TO TELCO SOURCE PER UTILITY
- 3 2-#12, 1 #12G IN 3/4" CONDUIT FROM TELCO CAB TO 6102
- 4 3-#1, 1-#8 IN 2" CONDUIT
- 5 2" CONDUIT, FOR CAT6
- 6 (2) CONDUITS CONNECTING FROM 40KW DIESEL GENERATOR WITH 220 TANK SIZE, MODEL TBD TO 6160 PER MANUFACTURER SPECIFICATION

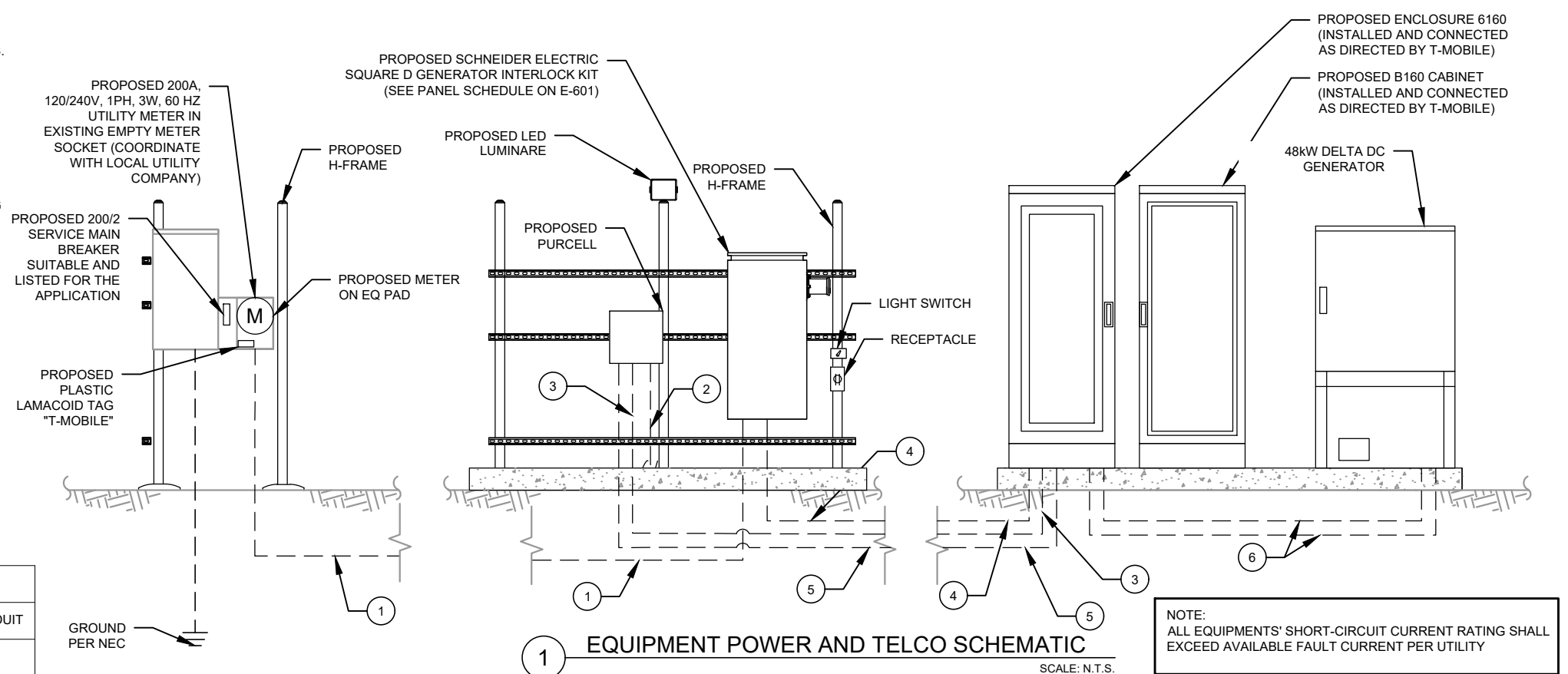
GENERATOR MCB SIZE	CIRCUIT WIRING
600A DC	(2) SETS OF 2-#350 KCMIL IN (2) 3" CONDUIT
200A DC	2-#3/0 IN 2" CONDUIT



1 DETAILED GROUNDING PLAN
SCALE: NOT TO SCALE



- GROUNDING KEYED NOTES:**
- 1 BOND TO TOWER GROUND RING
 - 2 #2 AWG BOND FROM VERTICAL H-FRAME AND ICE BRIDGE POST TO EXTERNAL GROUND RING (TYP. EVERY POST).
 - 3 #2 AWG SBTC BOND FROM TOWER GROUND RING TO EQUIPMENT.
 - 4 EQUIPMENT BOND TO GROUND RING (TYP.)
 - 5 5/8" X 10 FT GROUND ROD.



1 EQUIPMENT POWER AND TELCO SCHEMATIC
SCALE: N.T.S.

NOTE:
ALL EQUIPMENTS' SHORT-CIRCUIT CURRENT RATING SHALL EXCEED AVAILABLE FAULT CURRENT PER UTILITY



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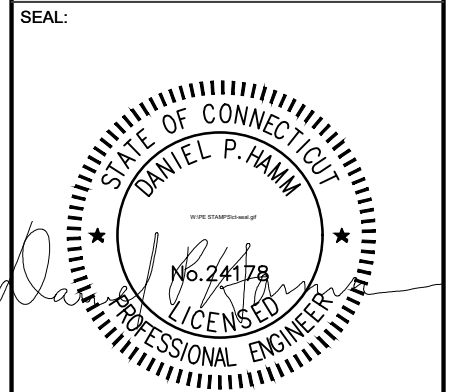
REV.	DESCRIPTION	BY	DATE
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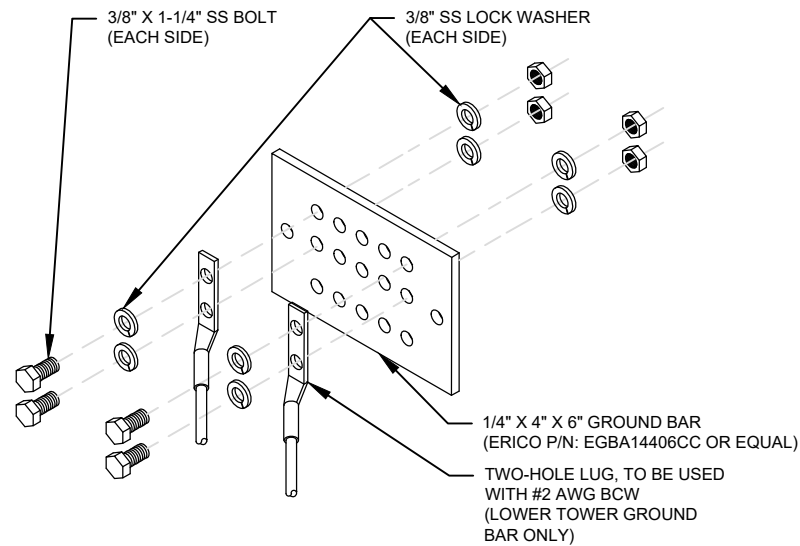


DATE DRAWN:	05/31/22
ATC JOB NO:	14099766_G2
CUSTOMER ID:	BLACKVILLE WASHINGTON ATC
CUSTOMER #:	CTNH295A

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-101	1

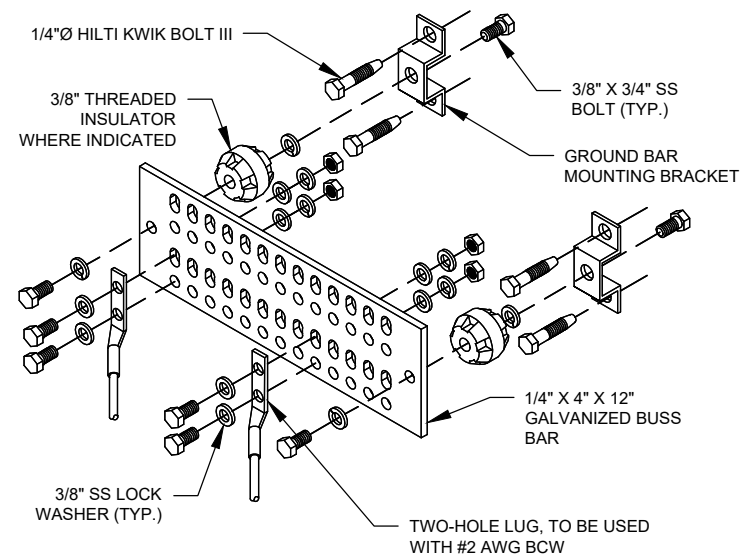
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GROUND BAR NOTES:

- 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.

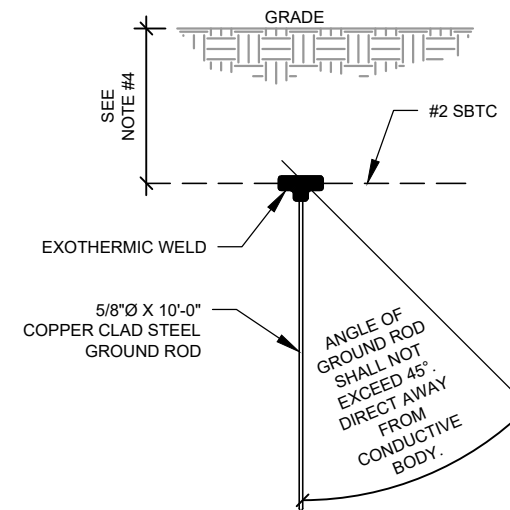
1 TOWER GROUND BAR DETAIL
SCALE: N.T.S.



GROUND BAR NOTES

- GROUND KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
- GROUND BAR SHALL BE BOLTED TO STRUCTURAL MEMBER OR ANCHORED TO CONCRETE SLAB W/ HILTI KWIK BOLT III.

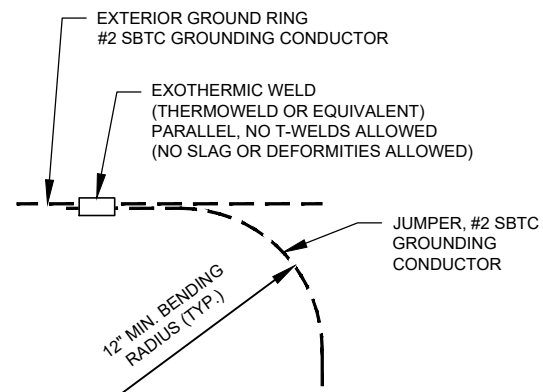
2 MAIN GROUND BAR DETAIL
SCALE: N.T.S.



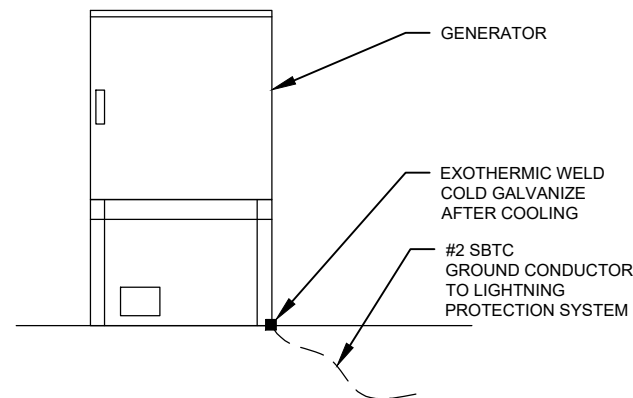
NOTES:

- SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS.
- COORDINATE UTILITY, LOCATE BEFORE DIGGING.
- CONDUIT TRENCHING DEPTHS AT 36\"/>

3 GROUND ROD DETAIL
SCALE: N.T.S.



4 TIE CONNECTION DETAIL
SCALE: N.T.S.



GENERATOR INSTALLATION NOTE:

INSTALL GENERATOR AND TRANSFER SWITCH WITH ALL SUPPLIED ACCESSORIES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND SPECIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, ACCESSORIES FOR THE EXHAUST SYSTEM, FUEL SYSTEM, ENCLOSURE INTEGRITY (CAPS, PLUGS, COVERS, ETC.), ELECTRICAL CONNECTIONS, AND GROUNDING CONNECTIONS.

5 GENERATOR GROUNDING
SCALE: N.T.S.



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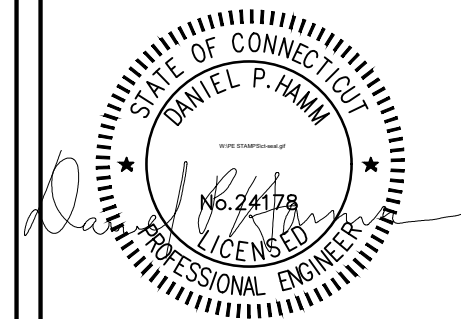
ATC SITE NUMBER:
209259

ATC SITE NAME:
WASHINGTON 2

T-MOBILE SITE NAME:
BLACKVILLE WASHINGTON ATC

SITE ADDRESS:
10 BLACKVILLE ROAD
WASHINGTON, CT 06794

SEAL:



DATE DRAWN:	05/31/22
ATC JOB NO:	14099766_G2
CUSTOMER ID:	BLACKVILLE WASHINGTON ATC
CUSTOMER #:	CTNH295A

GROUNDING DETAILS

SHEET NUMBER:	REVISION:
E-501	1

PANEL DESIGNATION: TMO		TYPE: LIGHTING & APPLIANCE	SYSTEM: 120/240V, 1Ø, 3W, 24 CKT	LOCATION: TMO LEASE EQUIPMENT AREA
		MOUNTING: SURFACE	MAIN BREAKER (MB): 200A	
		ENCLOSURE: NEMA 3R	MAIN BUS RATING: 200A	PANEL NOTES: PROPOSED
			MN. A.I.C. RATING: N/A	

CONNECTED LOAD (kVA)	BRIEF DESCRIPTION	FEEDER OR BRANCH CIRCUIT						CIRCUIT NOTES	FEEDER OR BRANCH CIRCUIT						CONNECTED LOAD (kVA)	
		BREAKER	CIRCUIT	POLE	CIRCUIT	POLE	CIRCUIT		BREAKER	CIRCUIT	POLE	CIRCUIT	A	B		
A	B	AMPS	POLES	WIRE	GND	COND	NO.	NO.	COND	GND	WIRE	POLES	AMPS			
0.01		60	2	3-#6	#10	1"	1	2	1/2"	#12	2-#12	1	20			
0.01	SURGE						3	4	1/2"	#12	2-#12	1	20		0.18	
7.50		150	2	2-#3/0	#6	2"	5	6	1/2"	#12	2-#12	1	20			
0.18	6160 GR	20	1	2-#12	#12		7	8	1/2"	#12	2-#12	1	20		0.50	
0.00							9	10	1/2"	#12	2-#12	1	20		0.15	
0.00							11	12							1.50	
0.00							13	14							0.50	
0.00							15	16							0.00	
0.00							17	18							0.00	
0.00							19	20							0.00	
0.00							21	22							0.00	
0.00							23	24							0.00	
7.7	7.5						A	B	TOTAL					0.8	2.0	
		8.5	9.5	18.0												
		8.5	9.5	18.0												

DERATING FACTOR (80%) DEMANDLOAD SIZING: 94 AMPS

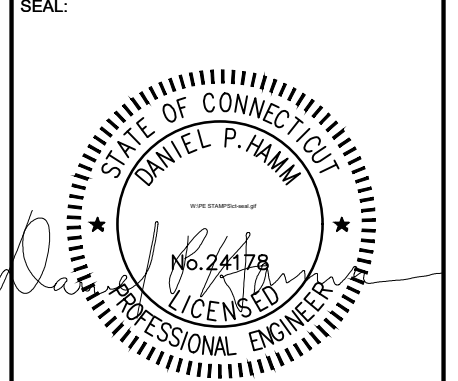
NOTE:
 1. ALL EQUIPMENTS' SHORT-CIRCUIT CURRENT RATING SHALL EXCEED AVAILABLE FAULT CURRENT PER UTILITY
 2. CONTRACTOR TO INSTALL HANDHOLES AT EVERY 3RD 90° TURN



45 BEECHWOOD DRIVE N. ANDOVER, MA 01845
 TEL: (978) 557-5553 FAX: (978) 336-5586

REV.	DESCRIPTION	BY	DATE
A	PRELIM	VPP	05/31/22
O	FINALS	BB	06/15/22
1	FINALS REVISED	TR	09/14/22

ATC SITE NUMBER: 209259
 ATC SITE NAME: WASHINGTON 2
 T-MOBILE SITE NAME: BLACKVILLE WASHINGTON ATC
 SITE ADDRESS: 10 BLACKVILLE ROAD WASHINGTON, CT 06794

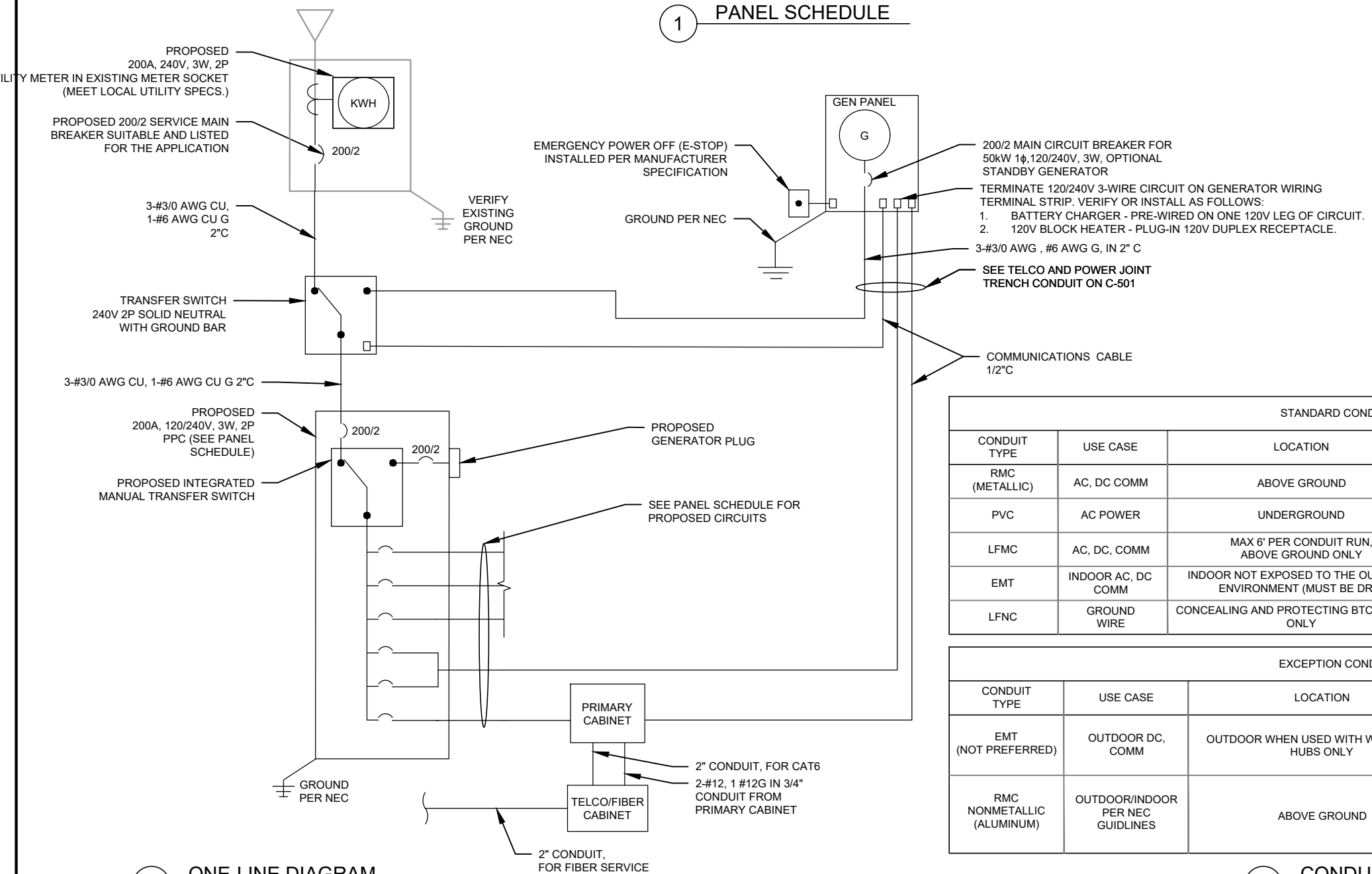


DATE DRAWN:	05/31/22
ATC JOB NO:	14099766_G2
CUSTOMER ID:	BLACKVILLE WASHINGTON ATC
CUSTOMER #:	CTNH295A

PANEL SCHEDULE & ONE-LINE DIAGRAM

SHEET NUMBER:	REVISION:
E-601	1

1 PANEL SCHEDULE



2 ONE-LINE DIAGRAM

3 CONDUIT USE TABLES

STANDARD CONDUIT USE TABLE			
CONDUIT TYPE	USE CASE	LOCATION	USE CASE EXAMPLE
RMC (METALLIC)	AC, DC COMM	ABOVE GROUND	ABOVE GROUND PPC TO SSC
PVC	AC POWER	UNDERGROUND	UNDERGROUND PPC TO SSC OR BACKHAUL TRANSPORT HUB TO SSC
LFMC	AC, DC, COMM	MAX 6' PER CONDUIT RUN, ABOVE GROUND ONLY	TIGHT LOCATIONS BETWEEN HUB AND CONDUIT BUT NOT TO BE USED WHERE IT CAN BE STEPPED ON
EMT	INDOOR AC, DC COMM	INDOOR NOT EXPOSED TO THE OUTDOOR ENVIRONMENT (MUST BE DRY)	CIRCUIT PANEL TO JUNCTION BOX
LFNC	GROUND WIRE	CONCEALING AND PROTECTING BTCW RISERS ONLY	GROUND RING TO MGB OR SSC

EXCEPTION CONDUIT USE TABLE			
CONDUIT TYPE	USE CASE	LOCATION	USE CASE EXAMPLE
EMT (NOT PREFERRED)	OUTDOOR DC, COMM	OUTDOOR WHEN USED WITH WATERTIGHT HUBS ONLY	BETWEEN EQUIPMENT AND BATTERY CABINET OR EQUIPMENT TO EQUIPMENT CABINETS FOR INTER CABINET CONNECTION
RMC NONMETALLIC (ALUMINUM)	OUTDOOR/INDOOR PER NEC GUIDELINES	ABOVE GROUND	MAY BE USED AS A LOWER COST ALTERNATIVE TO METALLIC RMC, MUST MEET OR EXCEED FEDERAL SPEC: WW-C-540C, UL-6A, ANSI C80.5, NEC 344.10 (A) ALLOWS THE USE OF EITHER ALUMINUM OR GALVANIZED FITTINGS

3/4/22, 2:40 PM CTNH295A_Coverage Strategy_1_2022-03-04

RAN Template: 67E5D998E 6160 A&L Template: 67E5998E_1xAIR+1QP+1QP CTNH295A_Coverage Strategy_1 Print Name: Standard

Section 1 - Site Information

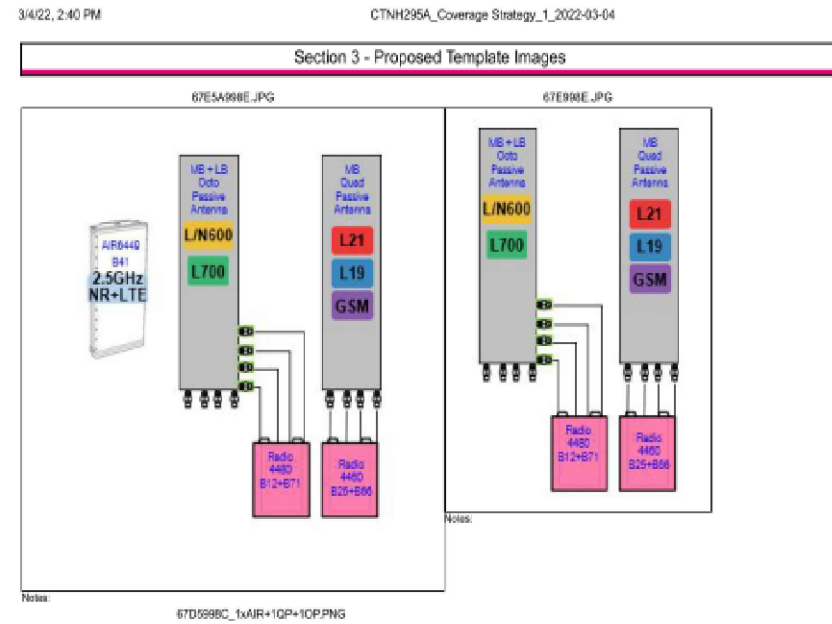
Site ID: CTNH295A Site Name: Blackville Washington ATC Latitude: 41.54653000
 Status: Final Site Class: Monopole Longitude: -73.31810600
 Version: 1 Site Type: Structure: Non Building Address: 10 Blackville Rd
 Project Type: Coverage Strategy Plan Year: 2022 Market: CONNECTICUT CT City, State: Washington Depot, CT
 Approved: 3/4/2022 2:39:48 PM Vendor: Ericsson Landlord: Not Specified
 Approved By: Justin.Darrow@t-mobile.com
 Last Modified: 3/4/2022 2:39:48 PM
 Last Modified By: Justin.Darrow@t-mobile.com

RAN Template: 67E5D998E 6160 A&L Template: 67E5998E_1xAIR+1QP+1QP

Sector Count: 3 Antenna Count: 9 Coax Line Count: 9 TMA Count: 0 RRU Count: 6

Section 2 - Existing Template Images

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



Section 4 - Siteplan Images

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

3/4/22, 2:40 PM CTNH295A_Coverage Strategy_1_2022-03-04

RAN Template: 67E5D998E 6160 A&L Template: 67E5998E_1xAIR+1QP+1QP CTNH295A_Coverage Strategy_1 Print Name: Standard

Section 5 - RAN Equipment

Existing RAN Equipment

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

Proposed RAN Equipment

Template: 67E5D998E 6160

Enclosure	1	2	3
Enclosure Type	Enclosure 6160 AC V1	B160	RBS 6601
Baseband	BB 6648 L2500 L700 N2500 L800 N600 L2100 L1900		DUG20 G1900
Hybrid Cable System	Ericsson Hybrid Trunk 6/24 4AWG 40m (x 3)		
Transport System	PSU 4813 vR2A (R2) (x 2)		
Transport System	CSR 3XR v2 (Gen2)		

RAN Scope of Work:

3/4/22, 2:40 PM CTNH295A_Coverage Strategy_1_2022-03-04

RAN Template: 67E5D998E 6160 A&L Template: 67E5998E_1xAIR+1QP+1QP CTNH295A_Coverage Strategy_1 Print Name: Standard

Section 6 - A&L Equipment

Existing Template: Custom
Proposed Template: 67E5998E_1xAIR+1QP+1QP

Sector 1 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Comscope_VV-65A-R1 (Quad)		RFS-APXVAALL24_43-U-NA20 (Octo)				AIR 6419 B41 (Active Antenna - Massive MIMO)	
Antenna Azimuth	30		30				30	
M. Tilt	115		115				115	
Height	115		115				115	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2100 L1900 G1900	L2100 L1900 G1900	L700 L600 N600	L700 L800 N600			L2500 N2500	L2500 N2500
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt								
Cables	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)				
TMA								
Diplexers / Combiners								
Radio	Radio 4480 B25+B88 (A Antenna)	Radio 4480 B25+B88 (A Antenna)	Radio 4480 B71+B88 S (A Antenna)	Radio 4480 B71+B88 S (A Antenna)				
Sector Equipment								
Unconnected Equipment:								
Scope of Work:								

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

3/4/22, 2:40 PM CTNH295A_Coverage Strategy_1_2022-03-04

RAN Template: 67E5D998E 6160 A&L Template: 67E5998E_1xAIR+1QP+1QP CTNH295A_Coverage Strategy_1 Print Name: Standard

Sector 2 (Proposed) view from behind

Coverage Type	A - Outdoor Macro							
Antenna	1		2				3	
Antenna Model	Comscope_VV-65A-R1 (Quad)		RFS-APXVAALL24_43-U-NA20 (Octo)				AIR 6419 B41 (Active Antenna - Massive MIMO)	
Antenna Azimuth	150		150				150	
M. Tilt	115		115				115	
Height	115		115				115	
Ports	P1	P2	P3	P4	P5	P6	P7	P8
Active Tech.	L2100 L1900 G1900	L2100 L1900 G1900	L700 L600 N600	L700 L600 N600			L2500 N2500	L2500 N2500
Dark Tech.								
Restricted Tech.								
Decomm. Tech.								
E. Tilt								
Cables	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)				
TMA								
Diplexers / Combiners								
Radio	Radio 4480 B25+B88 (A Antenna)	Radio 4480 B25+B88 (A Antenna)	Radio 4480 B71+B88 S (A Antenna)	Radio 4480 B71+B88 S (A Antenna)				
Sector Equipment								
Unconnected Equipment:								
Scope of Work:								

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

SUPPLEMENTAL

SHEET NUMBER: R-601 REVISION: 1

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

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RAN Template: 67E5D998E 6160
 A&L Template: 67E5998E_1xAIR+1OP+1QP

CTNH295A_Coverage Strategy_1
 Print Name: Standard

Sector 3 (Proposed) view from behind									
Coverage Type	A - Outdoor Macro								
Antenna	1			2			3		
Antenna Model	Commscope_VV-65A-R1 (Quad)			RFS - APXVAALL24_43-U-NA20 (Octo)			AIR 6419 B41 (Active Antenna - Massive MIMO)		
Azimuth	270			270			270		
M. Tilt									
Height	115			115			115		
Ports	P1	P2	P3	P4	P5	P6	P7	P8	
Active Tech.	L2100 G1900 L1900	L2100 G1900 L1900	L700 L800 N600	L700 L800 N600			L2500 N2500	L2500 N2500	
Dark Tech.									
Restricted Tech.									
Decomm. Tech.									
E. Tilt									
Cables	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)	Coax Jumper (x2)					
TMA's									
Diplexers / Combiners									
Radio	Radio 4460 B25+B66 (At Antenna)	SHARED Radio 4460 B25+B66 (At Antenna)	Radio 4480 B71+B85 (At Antenna)	SHARED Radio 4480 B71+B85 (At Antenna)					
Sector Equipment									
Unconnected Equipment:									
Scope of Work:									

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

RAN Template: 67E5D998E 6160
 A&L Template: 67E5998E_1xAIR+1OP+1QP

UP40523A_Coverage Strategy_1_draft

Print Name: Preliminary
 PORs: Coverage Strategy_Regional Coverage

Section 7 - Power Systems Equipment	
Existing Power Systems Equipment	
----- This section is intentionally blank. -----	
Proposed Power Systems Equipment	
Enclosure	1
Enclosure Type	Enclosure 6180 AC V1

SUPPLEMENTAL

SHEET NUMBER: R-602
 REVISION: 1



From the World Leader in VRLA Battery Technology

Designed for durability in Telecommunications and Electric Utility applications, the GNB Industrial Power MARATHON® M12V180FT Battery provides high performance and reliability in long duration discharge applications. The location of the terminals on the front (vs. the top) of the battery greatly facilitates the installation and maintenance of the product when placed in a cabinet enclosure or on a standard relay rack tray. The MARATHON® M12V180FT Battery highlights another example of GNB Industrial Power's extensive experience and world wide leadership in VRLA technology.

"Designed in" Quality Manufacturing

Quality manufacturing processes for the MARATHON® M12V180FT Battery incorporates the industry's most advanced technologies including: an automated helium leak detection system, a computer controlled "fill by weight" acid filler, and a temperature controlled water bath formation process. Each and every unit is capacity tested.

High Performance MARATHON® M12V180FT Features

- Patented "Diamond Side-Wall" Design maintains structural integrity in higher operating temperatures
- Durable Flame Retardant Polypropylene Container and Cover complies with UL94 V-0; 28% L.O.I.
- Carry Handles facilitates ease of installation
- High-Compression Absorbent Glass Mat (AGM) Technology ensures greater than 99% recombination efficiency
- Integrated Flash Arrestor ultrasonically welded into cover for secure and safe protection
- 10 Year Design Life in float applications @ 25°C (77°F); 12 year @ 20°C (68°F)
- Superior Lead-Tin-Calcium Positive Alloy helps to resist corrosion
- Higher Vent Opening Pressure minimizes unnecessary gassing; one-way self resealing device
- Front Accessible Copper Alloy, 6 mm, Female Terminals ensures low resistance, high integrity connections
- "Easy On/Easy Off" Terminal Post Protector provides added safety
- Wider Bushing allows access for larger probes
- Footprint Ready fits in all standard 23" Relay Rack Applications
- Compliance: Designed in accordance with IEC 60896-21/-22
- No Transport Restrictions: Complies with IATA/ICAO Special Provision A67; DOT-CFR Title 49; IMDG Amendment 34-08

Applications

The MARATHON® M12V180FT Battery incorporates GNB Industrial Power's advanced VRLA technology designed for long life and high performance in:

Telecommunications

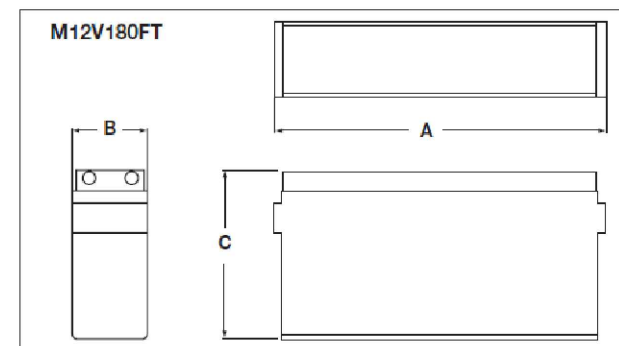
- Distributed Power
- PCS
- Cellular
- Broadband

Electric Utility

- Switchgear Control Power
- Communications



Model Number	Voltage	Capacity (AH)		Nominal Dimensions						Nominal Weight	
		8 hr to 1.75 VPC @ 25°C	10 hr to 1.80 VPC @ 20°C	Inches			Millimeters			lbs.	Kg
				A	B	C	A	B	C		
M12V180FT	12	180	175	22.00	4.90	12.50	559	124	318	133	60



Float Voltage & Charging

Constant Voltage charging is recommended
 Recommended float voltage: 2.27 VPC @ 25°C (77°F)
 Float Voltage Range: 2.25 to 2.30 VPC @ 25°C (77°F)
 Equalize Voltage: 2.35 VPC for 24 Hours or 2.40 VPC for 12 Hours

Marathon® M12V180FT Electrical Data

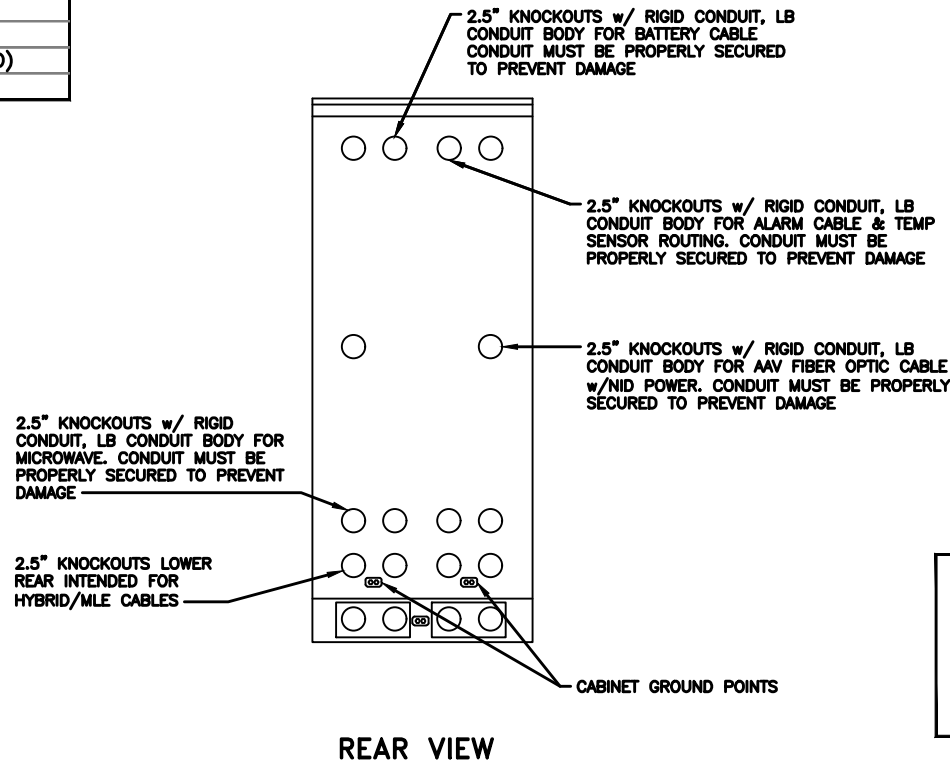
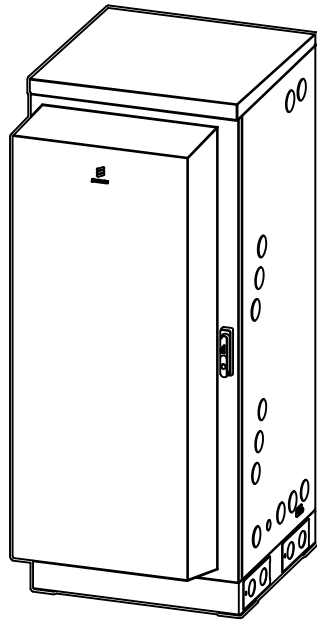
Model Number	Short Circuit Current Amps	Internal Resistance (mOhms)
M12V180FT	4147	3.0

NOTE: Design and/or specifications subject to change without notice. If questions arise, contact your local GNB Industrial Power sales representative for clarification

Marathon M12V180FT Performance Specifications
Amperes @ 25° (77°F)

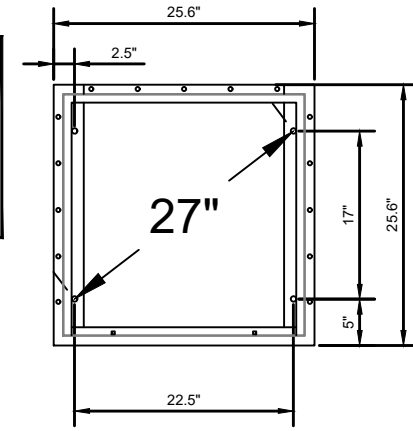
End Voltage Per Cell	Time															
	24 hr	20 hr	12 hr	10 hr	9 hr	8 hr	7 hr	6 hr	5 hr	4 hr	3 hr	2.5 hr	2 hr	1.5 hr	1 hr	0.5 hr
1.94 Final Volts Per Cell	6.4	7.6	12.2	14.4	15.9	17.7	20.0	22.5	26.1	31.2	36.4	45.6	54.6	69.1	89.8	134.0
1.92 Final Volts Per Cell	6.8	8.0	12.9	15.3	16.9	18.9	21.1	23.8	27.6	33.1	41.9	48.6	63.3	73.1	96.1	144.5
1.90 Final Volts Per Cell	7.1	8.4	13.6	16.1	17.8	19.9	22.0	24.9	28.9	34.8	44.0	51.2	61.5	76.6	101.7	154.6
1.87 Final Volts Per Cell	7.5	8.9	14.3	16.9	18.6	20.8	23.5	26.5	30.6	36.5	45.8	52.8	63.0	79.0	106.7	167.9
1.85 Final Volts Per Cell	7.7	9.1	14.6	17.3	19.1	21.3	24.1	27.1	31.3	37.4	47.1	54.4	65.0	81.7	112.7	175.2
1.83 Final Volts Per Cell	7.9	9.3	14.9	17.6	19.5	21.7	24.5	27.6	31.9	38.2	48.0	55.6	66.5	83.8	115.9	181.5
1.81 Final Volts Per Cell	7.9	9.4	15.1	17.9	19.7	22.0	24.9	27.9	32.3	38.7	48.8	56.5	67.6	85.3	118.2	186.4
1.80 Final Volts Per Cell	8.0	9.4	15.2	18.0	19.8	22.1	25.0	28.0	32.5	38.9	49.1	56.8	68.0	85.8	119.1	188.5
1.78 Final Volts Per Cell	8.0	9.5	15.3	18.1	20.0	22.3	25.2	28.2	32.7	39.2	49.5	57.4	68.7	86.7	120.3	191.9
1.75 Final Volts Per Cell	8.1	9.6	15.4	18.3	20.2	22.5	25.5	28.4	33.0	39.5	49.9	57.9	69.4	87.6	121.7	194.5

MANUFACTURER:	ERICSSON
MODEL:	6160 SITE SUPPORT CABINET
DIMENSIONS:	63" x 25.6" x 33.6" (H x W x D)
WEIGHT:	373 LBS



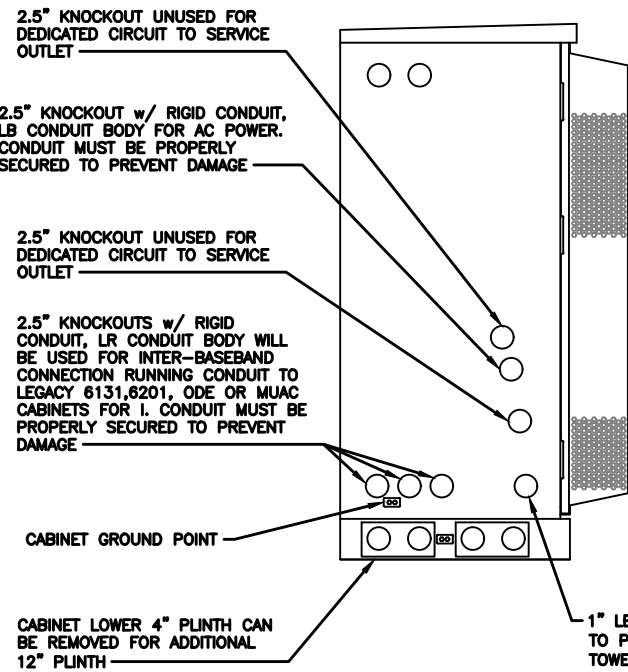
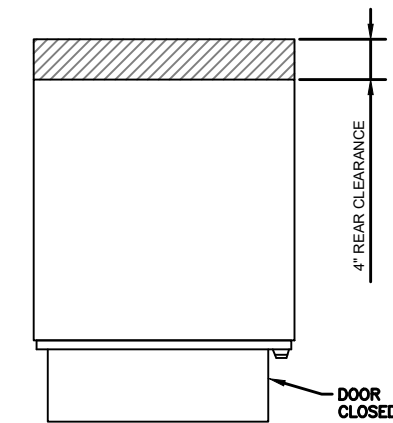
NOTE:

- CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS
- CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING

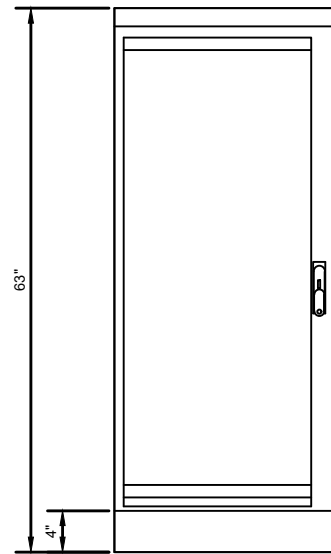


GROUNDING NOTE:

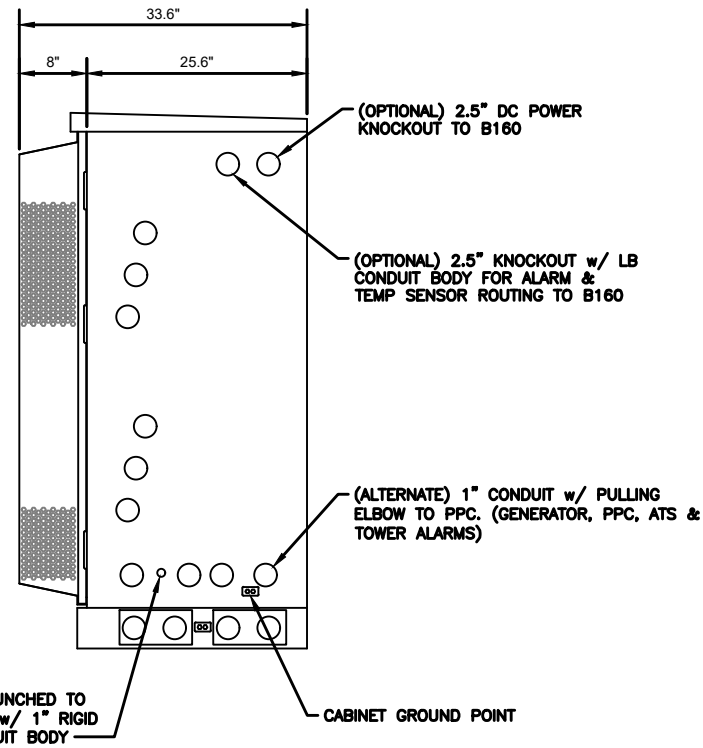
"CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."



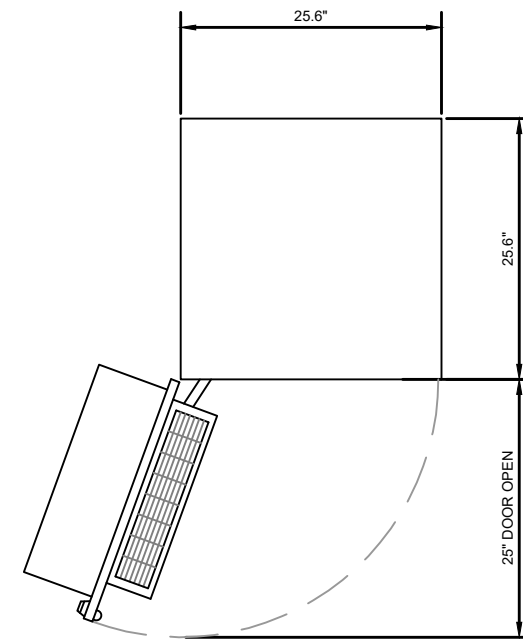
LEFT VIEW



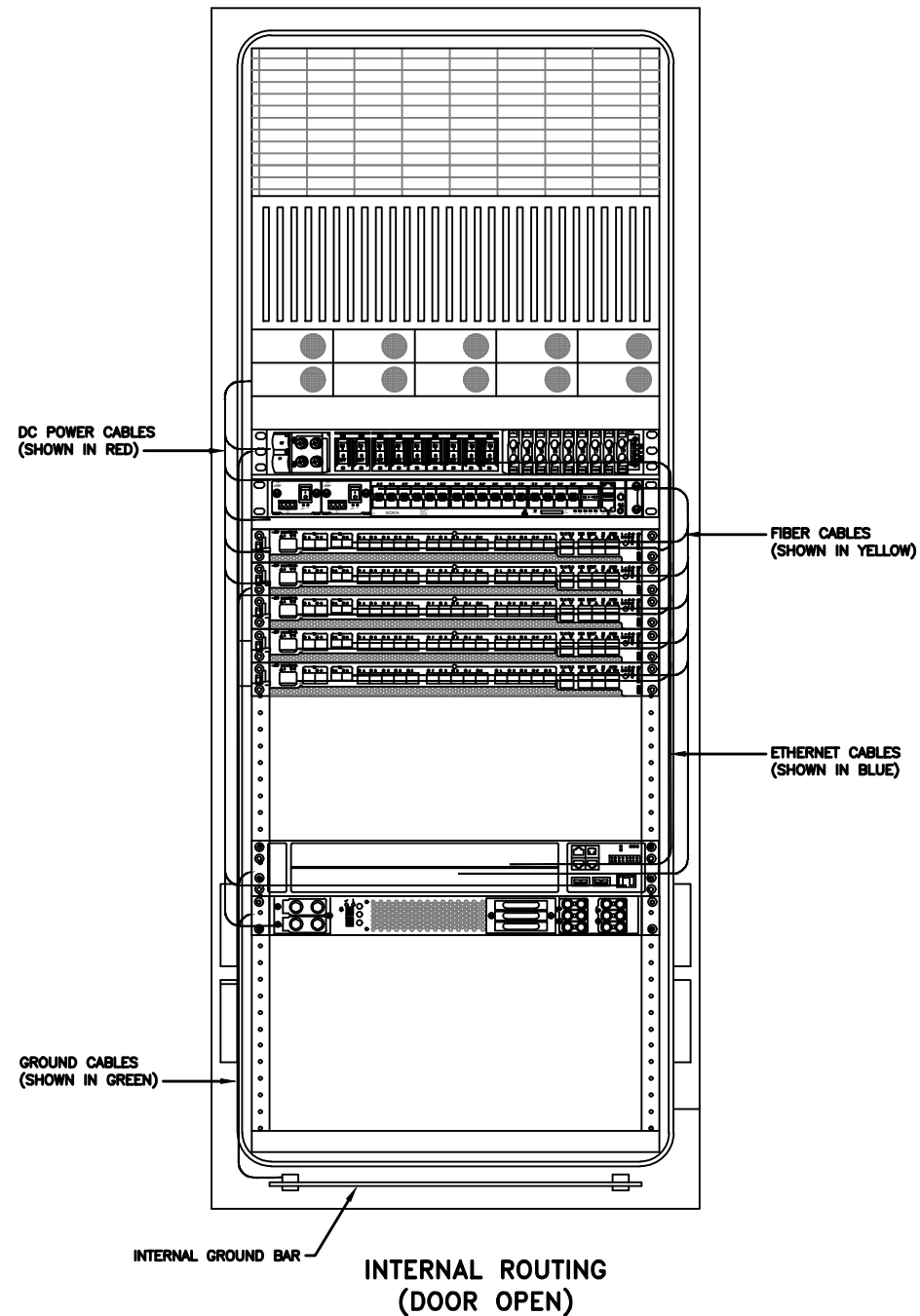
FRONT VIEW



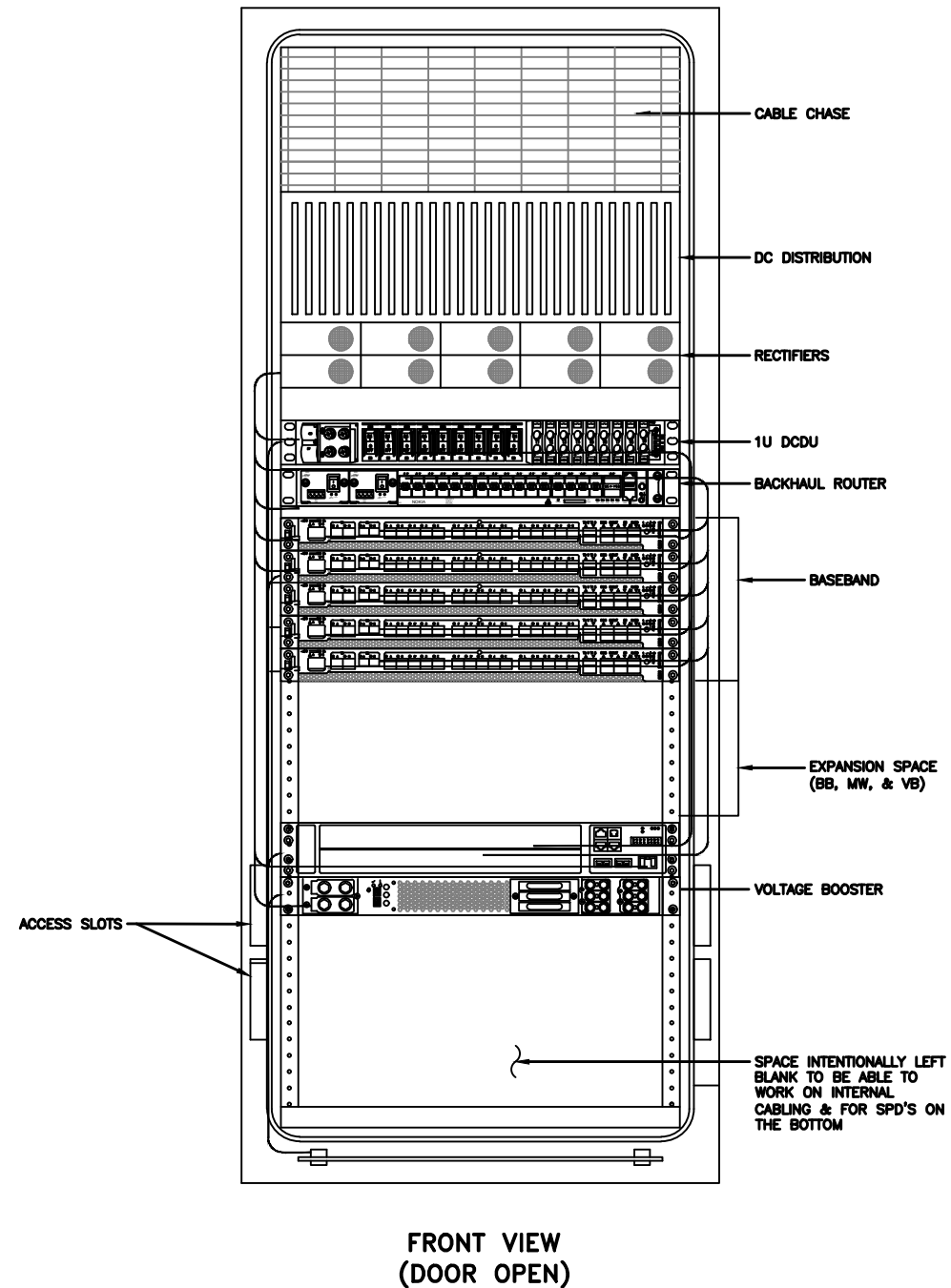
RIGHT VIEW



PLAN VIEW



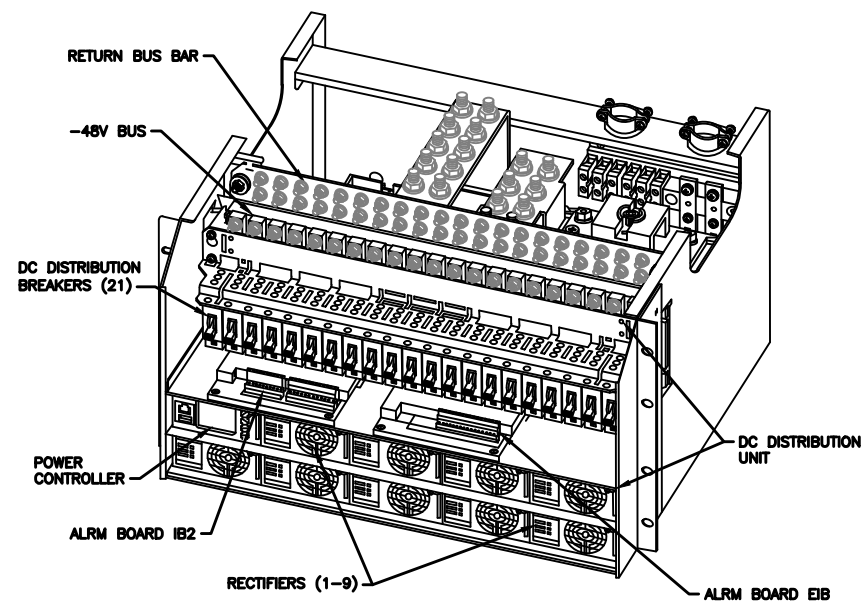
RACK ASSIGNMENTS	
RU SLOTS	DESCRIPTION
1	DC DISTRIBUTION
2	
3	
4	
5	RECTIFIER SHELF
6	
7	FIBER BOX
8	DCDU
9	BACKHAUL ROUTER
10	
11	1ST BASEBAND
12	2ND BASEBAND
13	3RD BASEBAND
14	4TH BASEBAND
15	5TH BASEBAND
16	EXPANSION
17	
18	
19	EXPANSION / LEGACY BASEBAND / VOLTAGE BOOSTER
20	
21	VOLTAGE BOOSTER
22	
23	OPEN SPACE FOR SPD ACCESS
24	
25	



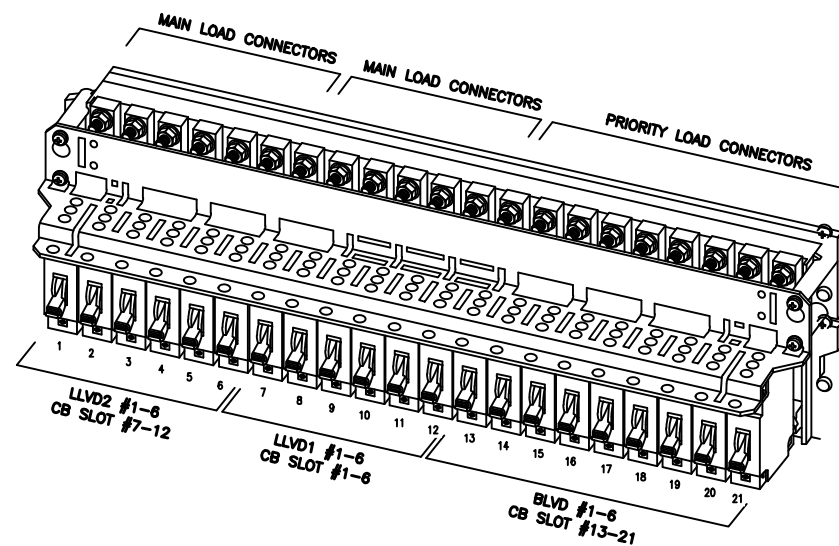
NOTE:
THIS IS FOR REFERENCE ONLY, CHECK
FOR SPECIFIC DETAIL IN T-MOBILE
CABINET SPECIFIC INSTALLATION GUIDES

Breaker Allocation for E6160				
CB SLOT	Ckt #	w/ DCDCU Prior to availability of the 4460 and 4480	w/ DCDCU Later Design Post-4460 and Post-4480	w/ DCDCU 4 and 6 Sector designs
1	1	Router PS-2*/Future		Radio 4460 B25/66 ζ-1
2	2	Future		Radio 4460 B25/66 ζ-2
3	LVD1	PSU 4813 feeding B25/66 α, β and γ (AIR 1641s)	PSU 4813 feeding B41-δ & B71/12-δ (Air 6449s and Radio 4480s)	PSU 4813 feeding B41 α, β and γ (Air 6449s)
4	4			
5	5			
6	6			
7	1	PSU 4813 feeding B71/12 α, β and γ (Radio 4449s)	PSU 4813 feeding B71/12 α, β and γ (Radio 4480s)	
8	2			
9	LVD2	Future	Future	Radio 4460 B25/66 δ-1
10	45.1V	Future	Future	Radio 4460 B25/66 δ-2
11	4	Future	Future	Radio 4460 B25/66 ε-1
12	6	Future	Future	Radio 4460 B25/66 ε-2
13	1	Router PS-1		
14	2	Radio 4415 B25/66 α	Radio 4460 B25/66 α-1	
15	3	Radio 4415 B25/66 β	Radio 4460 B25/66 α-2	
16	4	Radio 4415 B25/66 γ	Radio 4460 B25/66 β-1	
17	5	PSU 4813 feeding B2/25 α, β and γ (Radio 4424s)	Radio 4460 B25/66 β-2	
18	6		Radio 4460 B25/66 γ-1	
19	7	Future	Radio 4460 B25/66 γ-2	
20	8	DCDCU		
21	9	AAV		

Sector Identification
α = Alpha, β = Beta, γ = Gamma, δ = Delta, ε = Epsilon, ζ = Zeta



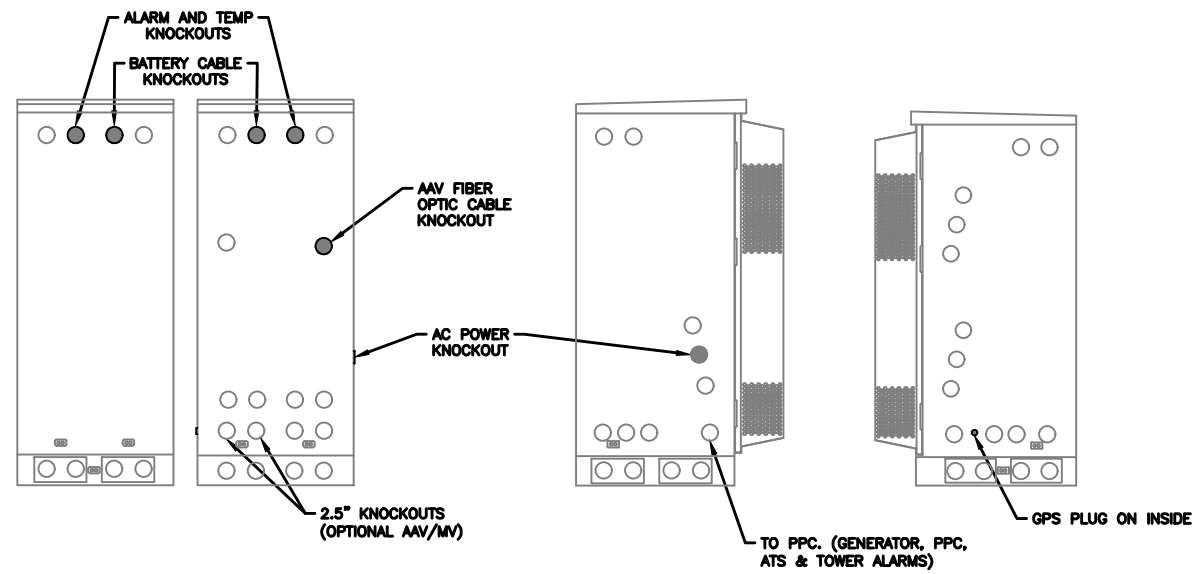
POWER SUBRACK



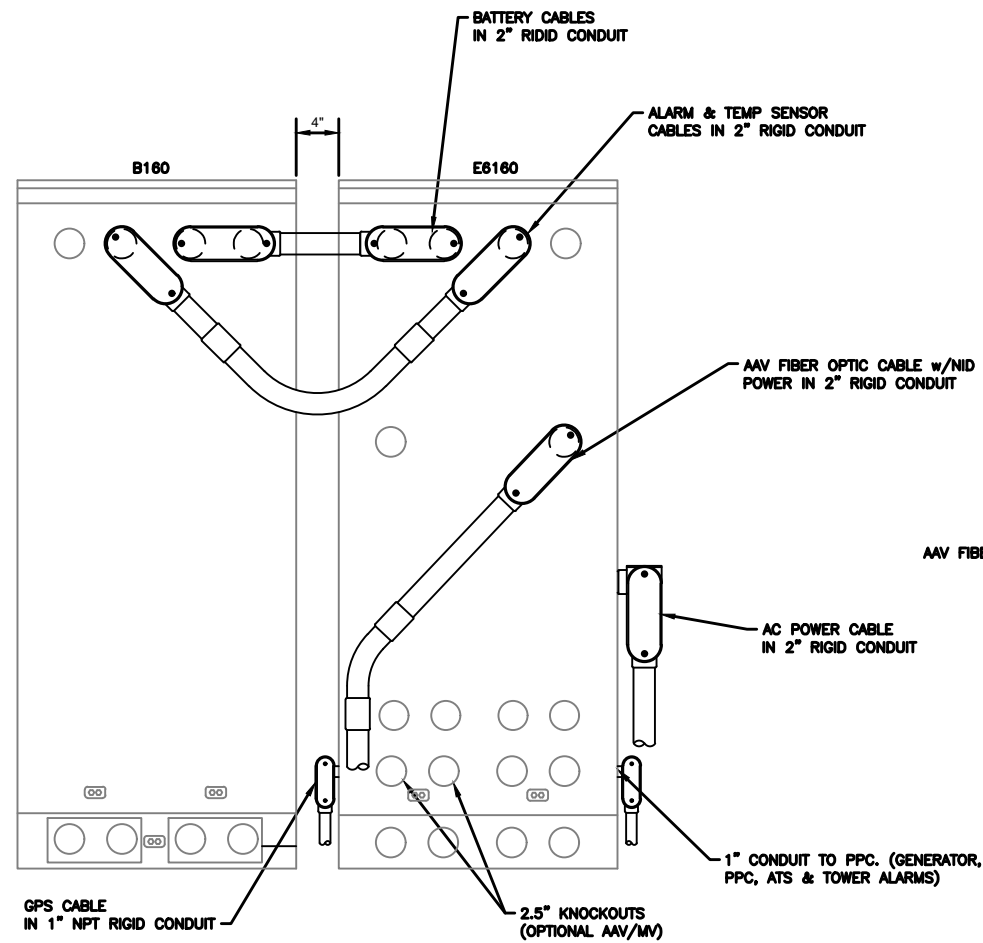
DC DISTRIBUTION

NOTE:

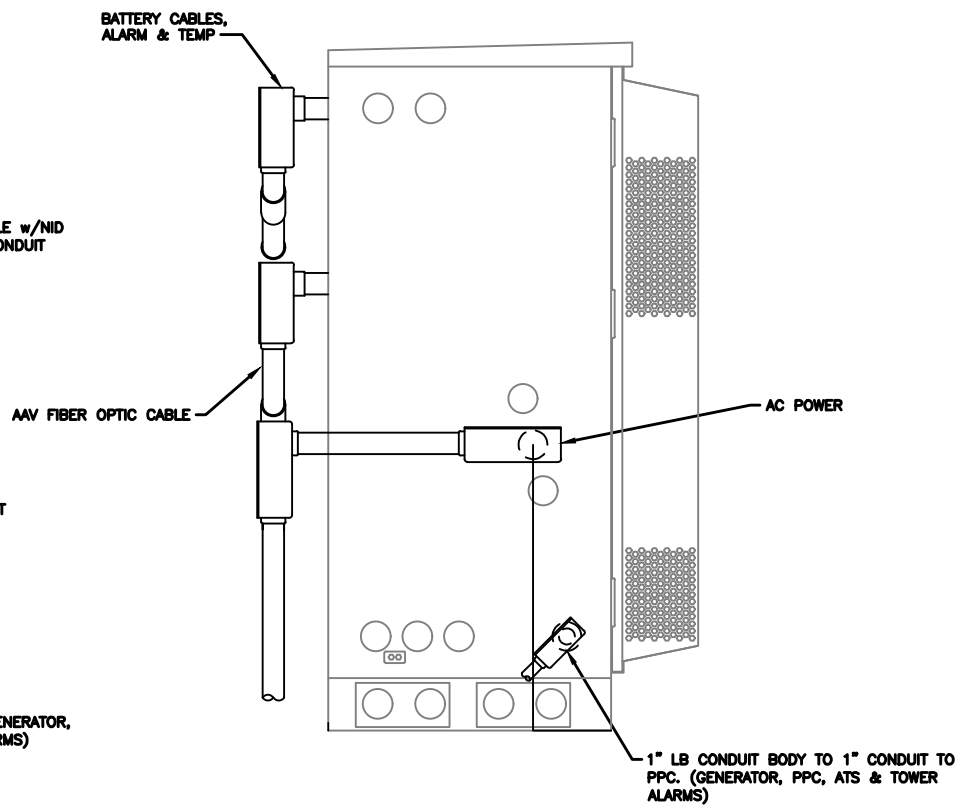
1. ALL CONDUIT AND FITTING ENTRANCES INTO CABINETS AND ENCLOSURES MUST UTILIZE MYERS OR EQUIVALENT HUBS OR SEALING WASHERS TO PREVENT WATER ENTRY/SEEPAGE INTO CABINETS AND ENCLOSURES.
2. (LIQUIDFLEX) FLEXIBLE METALLIC CONDUIT (LFMC) & ASSOCIATED FITTINGS CAN BE USED AS NEEDED BUT ONLY FOR TIGHT CONDUIT BENDS AND RUNS SUBJECT TO UL AND NEC LIMITATIONS. 6' MAX PER CONDUIT RUN.
3. POWER CONDUIT BODY ATTACHED WITH SHORT NIPPLE AND SEALING WASHER INSIDE & OUT. (FOR DOOR HOOD CLEARANCE)
4. PULLING ELBOWS MAY BE USED IN LIEU OF A CONDUIT BODIES WHEN CLEARANCE IS LIMITED.
5. ALL EXTERNAL ALARM CONDUITS ARE TO TERMINATE AT THE PPC WITH A SINGLE 1" ALARM CONDUIT TO THE 6160.
6. (DO NOT USE CHASE NIPPLES) CONDUIT SHOULD HAVE SEALING WASHERS INSIDE AND OUT w/ LOCK NUT AND CAP.



CONDUIT LOCATIONS



REAR VIEW



SIDE VIEW

1 ERICSSON 6160/B160 CONDUIT ROUTING DETAILS

SCALE: N.T.S.

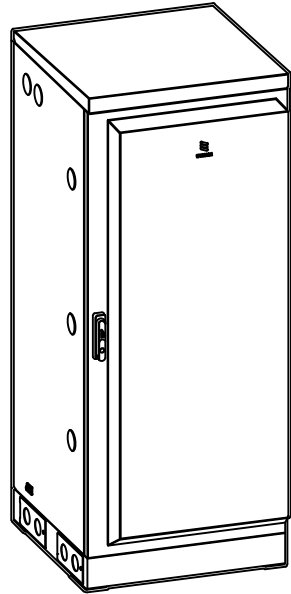
NOTE: THIS SHEET WAS CREATED BY OTHERS AND PROVIDED AT THE REQUEST OF THE CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

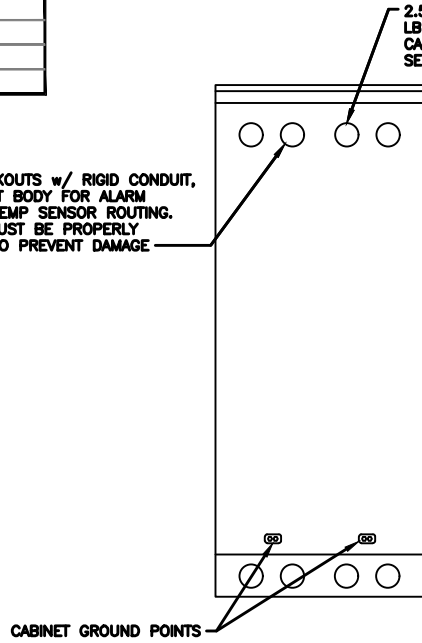
SHEET NUMBER:
R-607

REVISION:
1

MANUFACTURER:	ERICSSON
MODEL:	B160 BATTERY CABINET
DIMENSIONS:	63" x 25.6" x 29.5" (H x W x D)
WEIGHT:	295 LBS (WITHOUT BATTERIES)

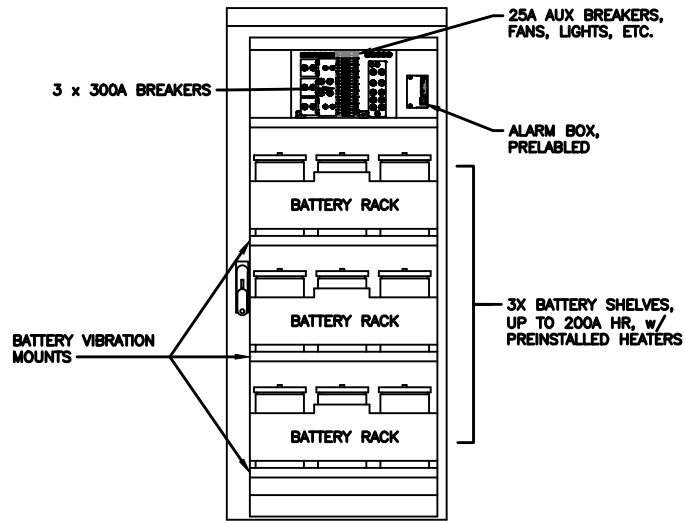


2.5" KNOCKOUTS w/ RIGID CONDUIT, LB CONDUIT BODY FOR ALARM CABLE & TEMP SENSOR ROUTING. CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE



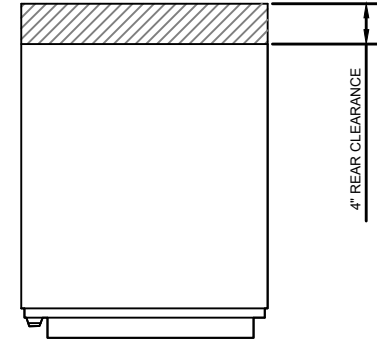
REAR VIEW

2.5" KNOCKOUTS w/ RIGID CONDUIT, LB CONDUIT BODY FOR BATTERY CABLE CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE



FRONT VIEW (DOOR OPEN)

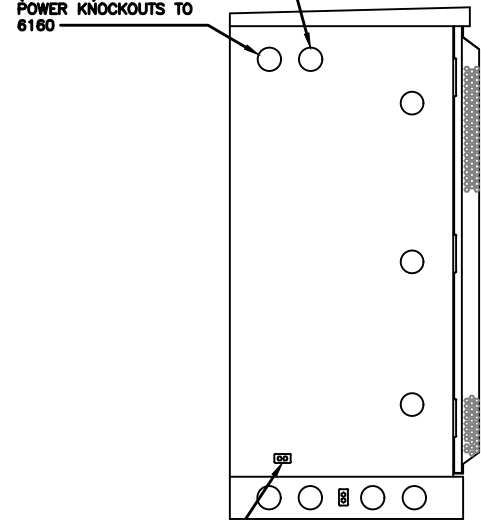
NOTE:
 • CORRECT KNOCKOUT TOOL REQUIRED FOR PUNCHING KNOCKOUTS. DO NOT DRILL THROUGH KNOCKOUTS
 • CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING



GROUNDING NOTE:
 "CABINET GROUNDING TO USE A SINGLE, #2 BTCW CONDUCTOR, W/ 2-HOLE, 1" C-C, LONG BARREL, WINDOW LUG, IN 3/4" LFNC TO GROUND RING. PLINTH GROUNDING IS NOT REQUIRED."

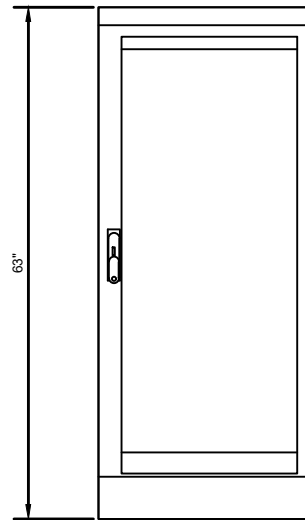
(OPTIONAL) 2.5" KNOCKOUTS FOR ALARM & TEMP SENSOR ROUTING TO 6160

(OPTIONAL) 2.5" DC POWER KNOCKOUTS TO 6160

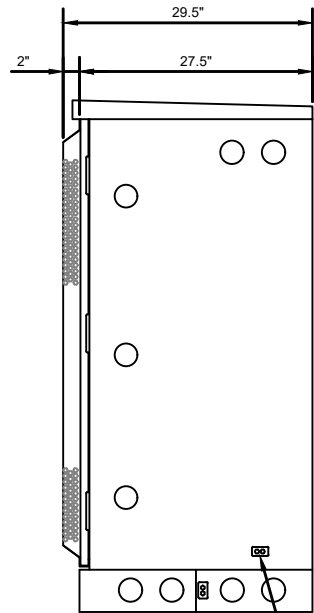


CABINET GROUND POINT

LEFT VIEW

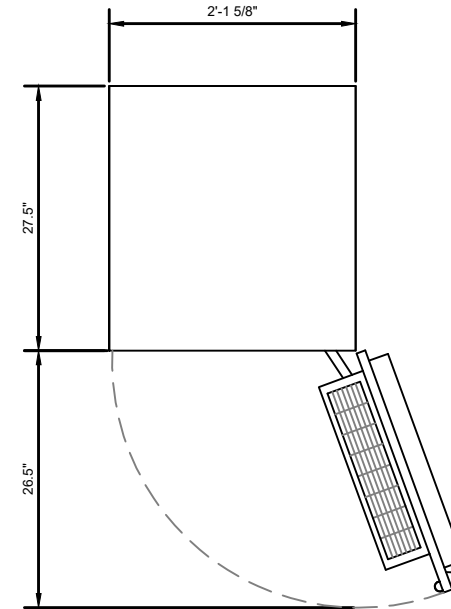


FRONT VIEW



RIGHT VIEW

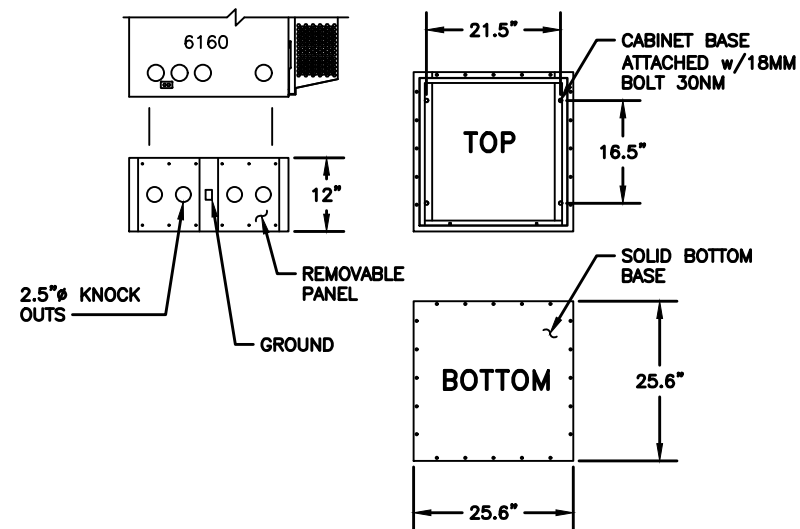
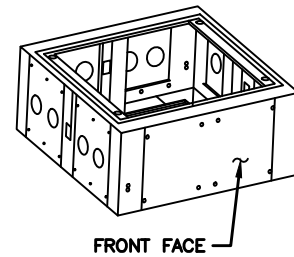
CABINET GROUND POINT



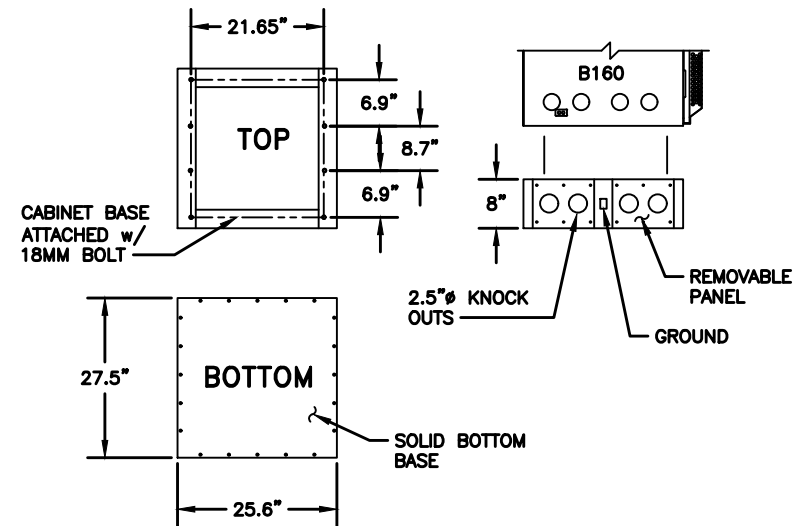
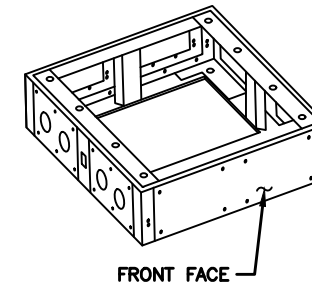
PLAN VIEW

B160 ERICSSON SITE SUPPORT BATTERY CABINET

MANUFACTURER:	ERICSSON
MODEL:	6160 12" BASE FRAME (SXX 125 5009/1)
DIMENSIONS:	12" x 25.6" x 25.6" (H x D x W)
WEIGHT:	73 LBS



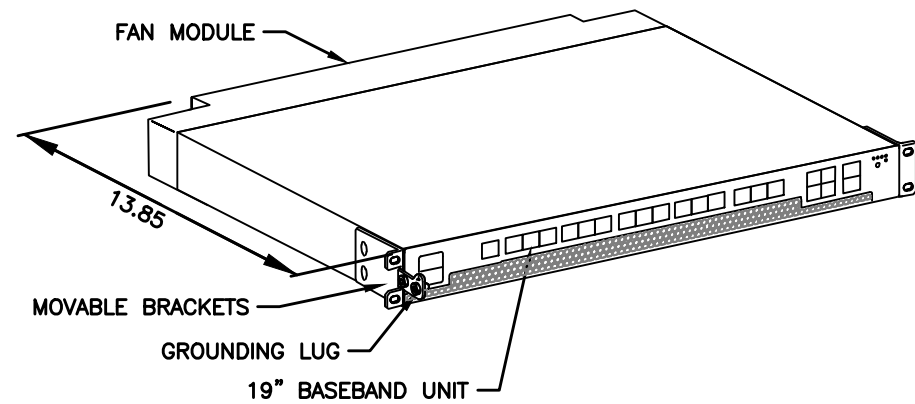
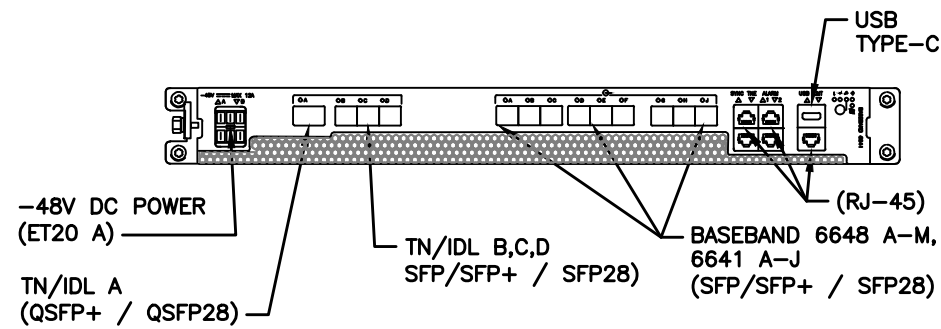
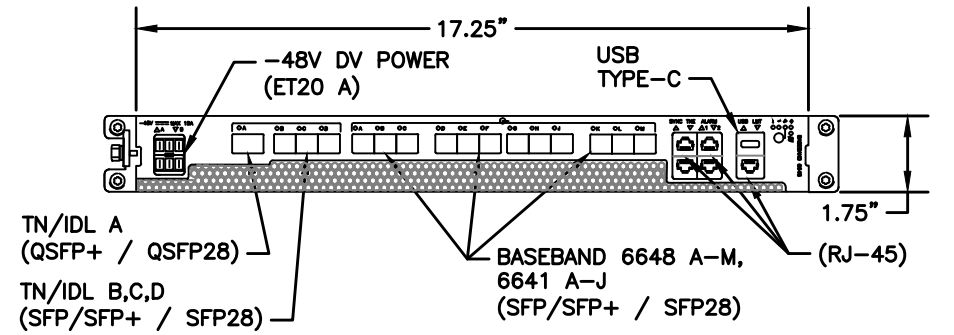
MANUFACTURER:	ERICSSON
MODEL:	B160 8" BASE FRAME (SXX 125 5010/1)
DIMENSIONS:	8" x 27.5" x 25.6" (H x W x D)
WEIGHT:	60 LBS



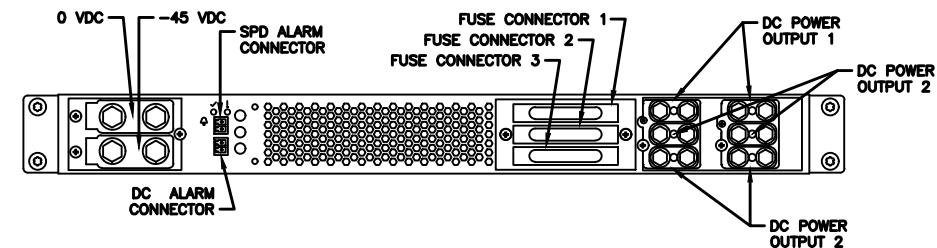
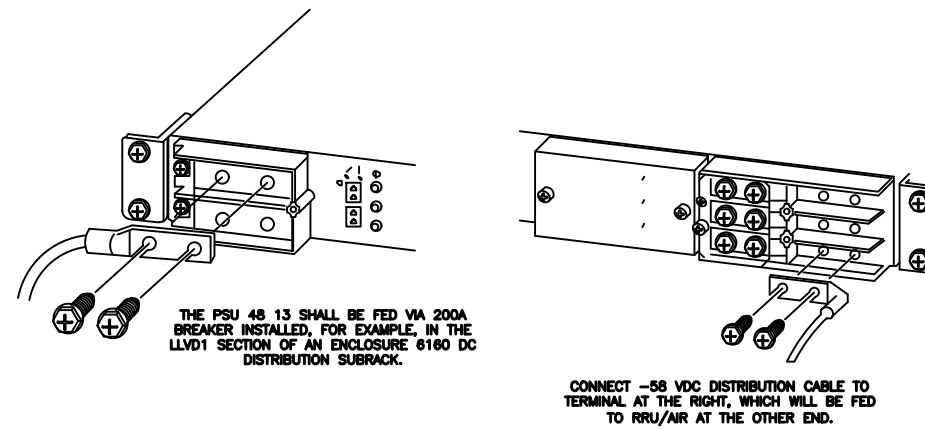
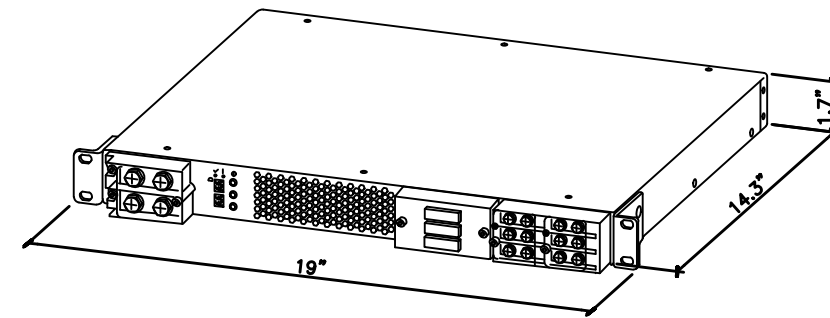
MANUFACTURER:	ERICSSON
MODEL:	BASEBAND 6648
DIMENSIONS:	1.75" x 17.25" x 13.85" (H" x W" x D")
WEIGHT:	16.54 LBS

MANUFACTURER:	ERICSSON
MODEL:	PSU 48 13
WEIGHT:	17.1 LBS
DIMENSIONS:	19"x 1.7"x 14.3"

NEEDED INSTALL KIT (PICK 1)
34133 PSU4813 INSTALL KIT FOR RBS61XX
34134 PSU4813 INSTALL KIT FOR PBC6200
34135 PSU4813 INSTALL KIT FOR 6X60/RBS6230



1 34111 - ERICSSON BASEBAND 6648 (WITH FAN)
SCALE: N.T.S.



2 SKU# 34132 - PSU 48 13
SCALE: N.T.S.

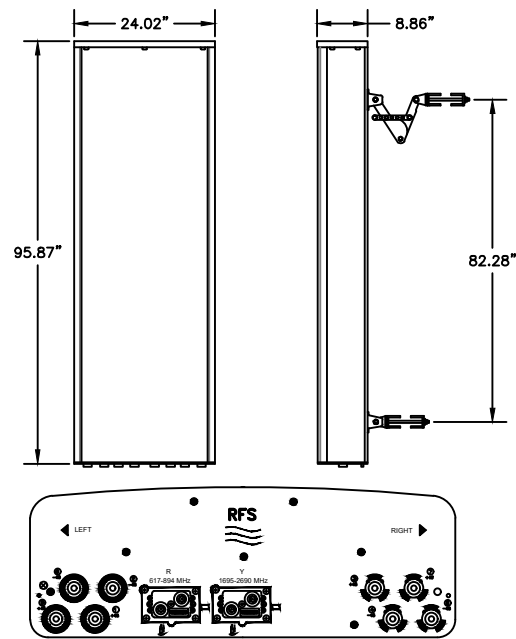
SUPPLEMENTAL

SHEET NUMBER: REVISION:

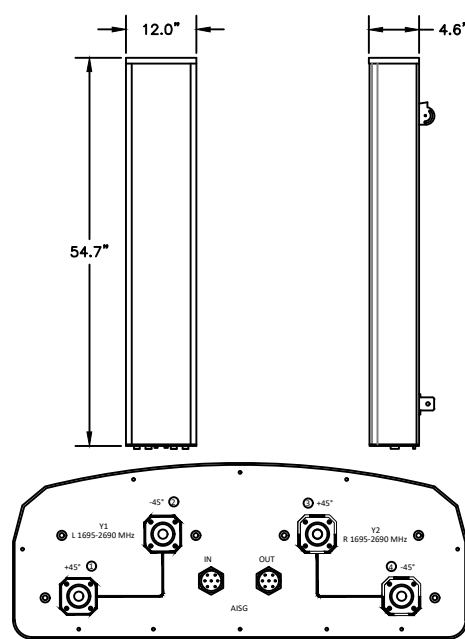
R-610

1

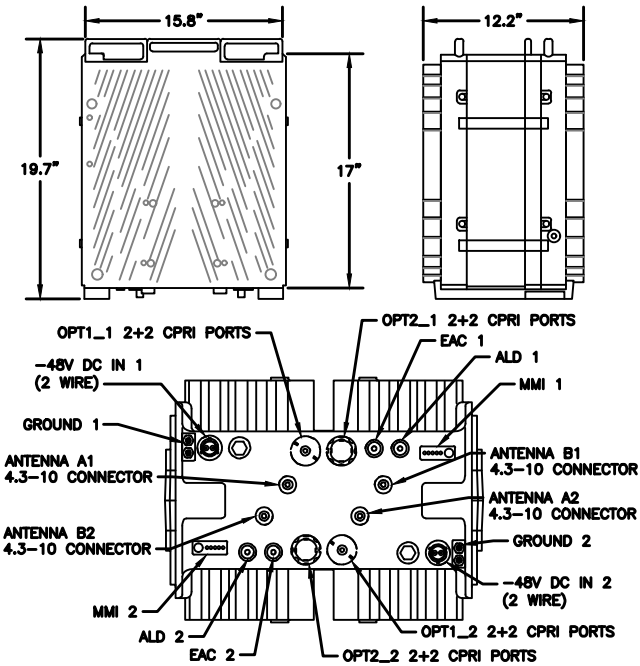
MANUFACTURER:	RFS
MODEL:	APXVAALL24_43-U-NA20
DIMENSIONS:	95.87" x 24.02" x 8.86"
WEIGHT:	119 LB
BAND:	QUAD BAND (8 PORT)
MOUNTING KIT & WEIGHT:	APM40-10E BEAM TILT KIT (INCLUDED) (16.53 LBS)



MANUFACTURER:	COMMSCOPE
MODEL:	VV-65A-R1
DIMENSIONS:	54.7" x 12.1" x 4.6" (H x W x D)
WEIGHT:	24.7 LB
INTERFACE:	4-PORT 4.3-10 FEMALE
MOUNTING KIT:	600898A-2 (INCLUDED) WEIGHT: 8.6 LB



MANUFACTURER:	ERICSSON
MODEL:	4460 RADIO B2/25 B66 (KRC 161 912/3)
DIMENSIONS:	19.7" x 15.8" x 12.2" (H" x W" x D")
WEIGHT:	109 LBS
BRACKET WEIGHT:	4.8 LBS (ERS HEAVY #SXX1255993/1)

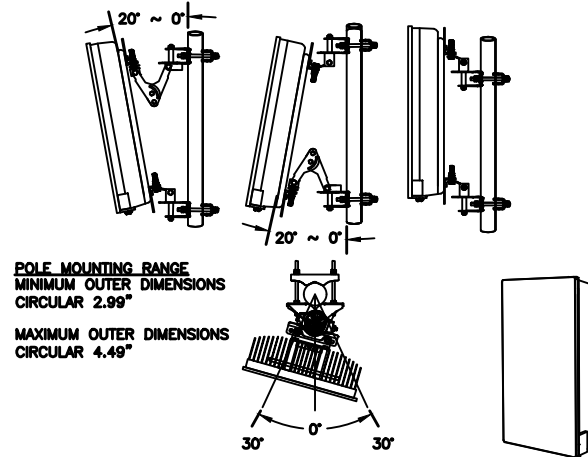
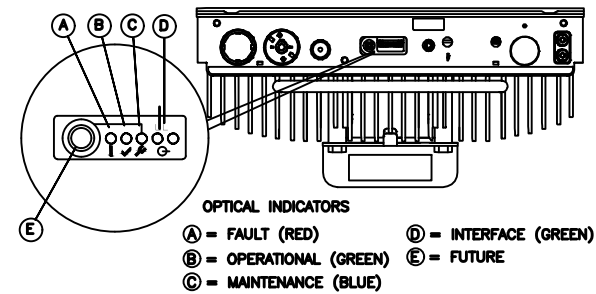
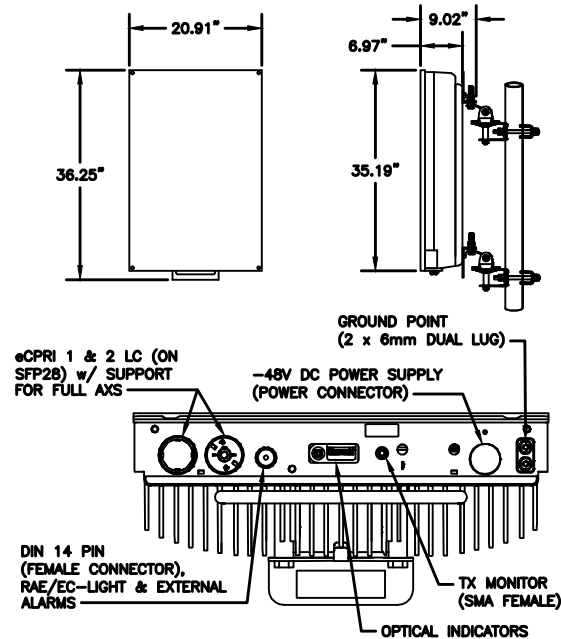


1 34087 - RFS APXVAALL24_43-U-NA20
SCALE: N.T.S.

2 34401 - COMMSCOPE VV-65A-R1
SCALE: N.T.S.

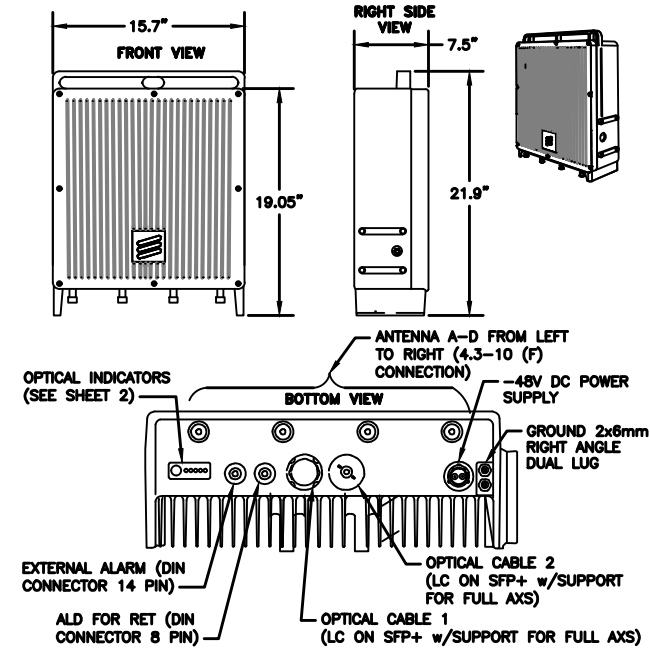
3 34373 - ERICSSON 4460 RADIO B2/25 B66
SCALE: N.T.S.

MANUFACTURER:	ERICSSON
MODEL:	AIR 6419 B41 (2.5GHz M-MIMO)
DIMENSIONS:	36.25" x 20.91" x 9.02" NOT TO EXCEED (H x W x D)
WEIGHT:	83 LBS (EXCLUDING MOUNTING KIT)
MOUNT WEIGHT:	13.5 LBS (SXX109 2016/1)



4 34552 - ERICSSON AIR 6419 BAND 41
SCALE: N.T.S.

MANUFACTURER:	ERICSSON
MODEL:	4480 RADIO (KRC 161 922/1)
DIMENSIONS:	21.9" x 15.7" x 7.5" (H x W x D)
MODEL BAND:	B71, B85 FOR NR AND LTE
WEIGHT:	81 LBS
BRACKET WEIGHT:	3.75 LBS (MULTI ERS #109 1973/2)



5 34372 - ERICSSON 4480 RADIO
SCALE: N.T.S.

SUPPLEMENTAL

SHEET NUMBER: REVISION:

R-611

1

SD050 | 3.4L | 50 kW
INDUSTRIAL DIESEL GENERATOR SET
 EPA Certified Stationary Emergency



STANDBY POWER RATING
 60 kW, 63 kVA, 60 Hz

PRIME POWER RATING*
 45 kW, 58 kVA, 60 Hz

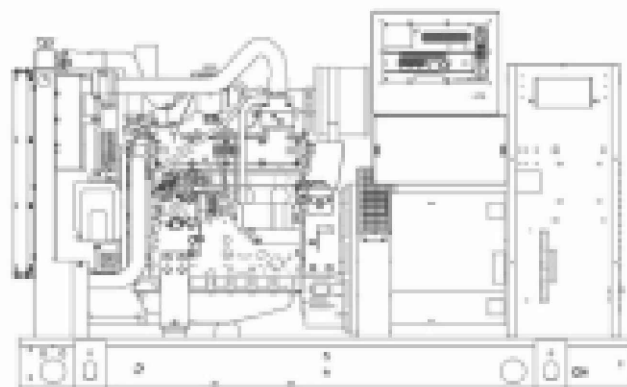


Image used for illustration purposes only



*Our latest, advanced generator technology

*EPA Certified Prime ratings are not available in the U.S. or its Territories.

**Certain options or customizations may not hold certification.

CODES AND STANDARDS

Generac products are designed to the following standards:

UL2200, UL508, UL142, UL498

NFPA75, 66, 110, 37

NEMA 310, 311, 312, 313

ISO9001, 8528, 3046, 7637, Phase #2b, 4

NEMA ICS10, MG1, 250, ICS6, AB1

ANSI C82.41

POWERING AHEAD

For over 50 years, Generac has led the industry with innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac's gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the stand-by power needs of practically every application.

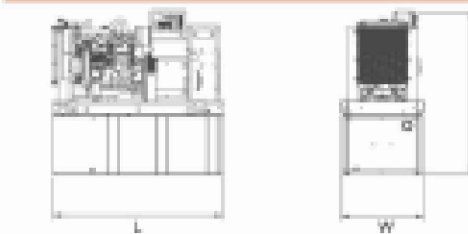
Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial application under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SD050 | 3.4L | 50 kW
INDUSTRIAL DIESEL GENERATOR SET
 EPA Certified Stationary Emergency

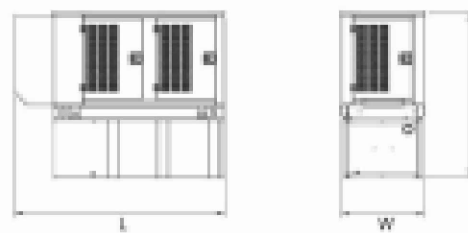


DIMENSIONS AND WEIGHTS*



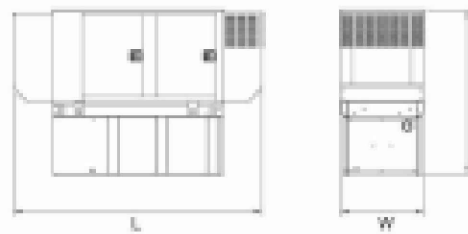
OPEN SET

RUN TIME HOURS	US GALE CAPACITY GAL. U.S.	L x W x H (in/mm)	WT lbs (kg) - Tank & Open Set
NO TANK	-	75 (1930.4) x 36 (914.4) x 45 (1143)	1758 (798)
15	54 (204.4)	75 (1930.4) x 36 (914.4) x 58 (1472)	2028 (924)
31	102 (388.7)	75 (1930.4) x 36 (914.4) x 70 (1778)	2468 (1119)
46	151 (568.7)	75 (1930.4) x 36 (914.4) x 82 (2082)	2875 (1303)
70	200 (757.6)	82 (2082.2) x 36 (914.4) x 95 (2414)	3738 (1694)



STANDARD ENCLOSURE

RUN TIME HOURS	US GALE CAPACITY GAL. U.S.	L x W x H (in/mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	85 (2152) x 36 (914.4) x 50 (1270)		
15	54 (204.4)	85 (2152) x 36 (914.4) x 63 (1600)		
31	102 (388.7)	85 (2152) x 36 (914.4) x 75 (1905)	304 (138)	178 (80)
46	151 (568.7)	85 (2152) x 36 (914.4) x 87 (2214)		
70	200 (757.6)	92 (2342) x 36 (914.4) x 99 (2514)		



LEVEL 1 ACOUSTIC ENCLOSURE

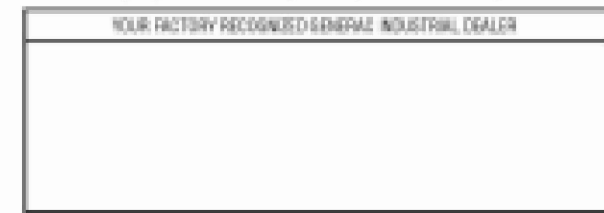
RUN TIME HOURS	US GALE CAPACITY GAL. U.S.	L x W x H (in/mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	113 (2870) x 36 (914.4) x 58 (1478)		
15	54 (204.4)	113 (2870) x 36 (914.4) x 71 (1803)		
31	102 (388.7)	113 (2870) x 36 (914.4) x 83 (2108)	426 (193)	194 (88)
46	151 (568.7)	113 (2870) x 36 (914.4) x 95 (2413)		
70	200 (757.6)	113 (2870) x 36 (914.4) x 107 (2718)		



LEVEL 2 ACOUSTIC ENCLOSURE

RUN TIME HOURS	US GALE CAPACITY GAL. U.S.	L x W x H (in/mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	85 (2152) x 36 (914.4) x 62 (1574)		
15	54 (204.4)	85 (2152) x 36 (914.4) x 75 (1905)		
31	102 (388.7)	85 (2152) x 36 (914.4) x 87 (2210)	309 (139)	178 (80)
46	151 (568.7)	85 (2152) x 36 (914.4) x 99 (2515)		
70	200 (757.6)	85 (2152) x 36 (914.4) x 111 (2815)		

*All measurements are approximate and for estimation purposes only. Sound (dB) can be found on the sound data sheet. Enclosure only weight is added to Tank & Open Set weight to determine total weight.



Specifications are subject to change without notice. Dimensions and weights are for primary purposes only. Please contact a Generac Power Systems Industrial Dealer for additional information.

Generac Power Systems, Inc. | P.O. Box 8 | Wisconsin, WI 53187
 P: (262) 544-4871 | © 2015 Generac Power Systems, Inc. All rights reserved. All specifications are subject to change without notice.

Part No. 000080
 Rev. 0 06/04/15

SPEC SHEET

5 of 6

SUPPLEMENTAL

SHEET NUMBER:
R-612

REVISION:
1

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

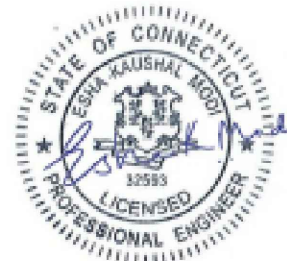


Mount Analysis Report

ATC Site Name : Washington 2, CT
ATC Site Number : 209259
Engineering Number : 14099766_C8_01
Mount Elevation : 115 ft
Carrier : T-Mobile
Carrier Site Name : Blackville Washington ATC
Carrier Site Number : CTNH295A
Site Location : 10 Blackville Road
 Washington, CT 6794
 41.64655713 , -73.31608111
County : Litchfield
Date : May 18, 2022
Max Usage : 49%
Result : Contingent Pass

Prepared By:
 Charles Faulkner
 Structural Engineer

Reviewed By:



Authorized by "EOR"
 18 May 2022 09:45:55

COA: PEC.0001553

Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 115 ft.

Supporting Documents

Specifications Sheet	Site Pro 1 VFA10-HD, dated June 29, 2018
Radio Frequency Data Sheet	RFDS ID #CTNH295A, dated March 4, 2022
Reference Photos	Site photos from 2021

Analysis

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

Basic Wind Speed:	115 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1.00" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.187, S1 = 0.054
Site Class:	D - Stiff Soil - Default
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

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

- Analysis based on new installation of Site Pro 1 VFA10-HD V-Frame(s) (M1200R(2800)-4[6]) with P2 (2.375" x 126") antenna mounting pipe (Mount Pipe A, B, C, D) with Site Pro 1 SCX7-U (or approved equivalent) crossover plate kits and Site Pro 1 MDFCC collar attachment kit.

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.

SUPPLEMENTAL

SHEET NUMBER:
R-613

REVISION:
1

Exhibit D



AMERICAN TOWER®
CORPORATION

This report was prepared for American Tower Corporation by



**TOWER
ENGINEERING
PROFESSIONALS**

Structural Analysis Report

Structure : 134 ft Monopine
ATC Site Name : Washington 2,CT
ATC Site Number : 209259
Engineering Number : 14099766_C3_04
Proposed Carrier : T-MOBILE
Carrier Site Name : Blackville Washington ATC
Carrier Site Number : CTNH295A
Site Location : 10 Blackville Road
Washington, CT 06794
41.6466, -73.3161
County : Litchfield
Date : May 20, 2022
Max Usage : 23%
Result : Pass

Prepared By:
Joshua Ward
TEP

Reviewed By:



05/20/2022

COA : PEC.0001553



Table of Contents

Introduction3

Supporting Documents3

Analysis3

Conclusion3

Existing and Reserved Equipment.....4

Equipment to be Removed4

Proposed Equipment4

Structure Usages.....5

Foundations5

Deflection, Twist and Sway*5

Standard Conditions6

CalculationsAttached



Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 134 ft Monopine to reflect the change in loading by T-MOBILE.

Supporting Documents

Tower Drawings	Structural Analysis By Sabre Order #116883, dated January 20, 2015
Foundation Drawing	Mapping By Delta Oaks Group Project #BG121-08947-01, dated May 18, 2021
Geotechnical Report	Terracon Project #J2145120, dated March 20, 2014
Mount Analysis	ATC Project #14099766_C8_01, dated May 18, 2022

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:	115 mph (3-second gust)
Basic Wind Speed w/ Ice:	50 mph (3-second gust) w/ 1.00" radial ice concurrent
Code:	ANSI/TIA-222-H
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Crest Height (H):	0 ft
Spectral Response:	$S_s = 0.19, S_i = 0.05$
Site Class:	D - Stiff Soil - Default

Conclusion

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

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



Existing and Reserved Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
136.4	2	Generic 5' Omni	Flush	(2) 7/8" Coax	LITCHFIELD COUNTY DISPATCH INC
126.0	3	Ericsson RRUS-32 (77 lbs)	T-Arms	(3) 0.51" (13mm) Hybrid (10) 0.76" (19.2mm) 8 AWG 6 (3) 2" Carflex Non-Metallic Conduit (3) 0.51" (13mm) Cable	AT&T MOBILITY
	6	CCI DMP65R-BU8D			
	6	CCI HPA-65R-BUU-H8			
	3	Raycap DC6-48-60-18-8F			
122.0	3	Ericsson RRUS E2			
	3	Ericsson RRUS 4478 B14			
	3	Ericsson RRUS 4449 B5, B12			
	3	Ericsson RRUS A2 Module			
	3	Ericsson RRUS-12 800 MHz			
75.0	1	Generic 5' Omni			

Equipment to be Removed

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
No loading was considered as removed as part of this analysis.					

Proposed Equipment

Elev. ¹ (ft)	Qty	Equipment	Mount Type	Lines	Carrier
115.0	3	Ericsson 4460 BAND 2/25	Sector Frames	(3) 1.99" (50.7mm) Hybrid (1) 1/2" Coax	T-MOBILE
	3	Ericsson 4480 BAND 71			
	1	RFS SC2-W100BD			
	3	Commscope VV-65A-R1B			
	3	Ericsson AIR 6419 B41			
	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.

Install proposed lines inside the pole shaft.



Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Anchor Bolts	19%	Pass
Shaft	21%	Pass
Base Plate	6%	Pass

Foundations

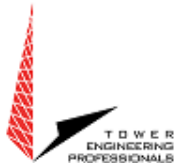
Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	1956.8	23%
Axial (Kips)	47.1	8%
Shear (Kips)	21.3	7%

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, Twist and Sway*

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Sway (Rotation) (°)
115.0	Ericsson 4460 BAND 2/25	T-MOBILE	0.309	0.330
	Ericsson 4480 BAND 71			
	RFS APXVAALL24 43-U-NA20			
	Commscope VV-65A-R1B			
	Ericsson AIR 6419 B41			
	RFS SC2-W100BD			

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



Standard Conditions

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

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

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

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

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

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

Asset : 209259, Washington 2
 Client : T-MOBILE
 Code : ANSI/TIA-222-H

Height : 134 ft
 Base Width : 66.31
 Shape : 18 Sides

SITE PARAMETERS

Nominal Wind: 115 mph wind with no ice **Topo Category:** 1
Ice Wind: 50 mph wind with 1" radial **Topo Method:** Method 1
Base Elev (ft): 0.00 **Taper :** 0.33800(ln/ft) **Topo Feature:**
Structure Class: II **Exposure :** B **S_s :** 0.187 **S₁ :** 0.054

SECTION PROPERTIES

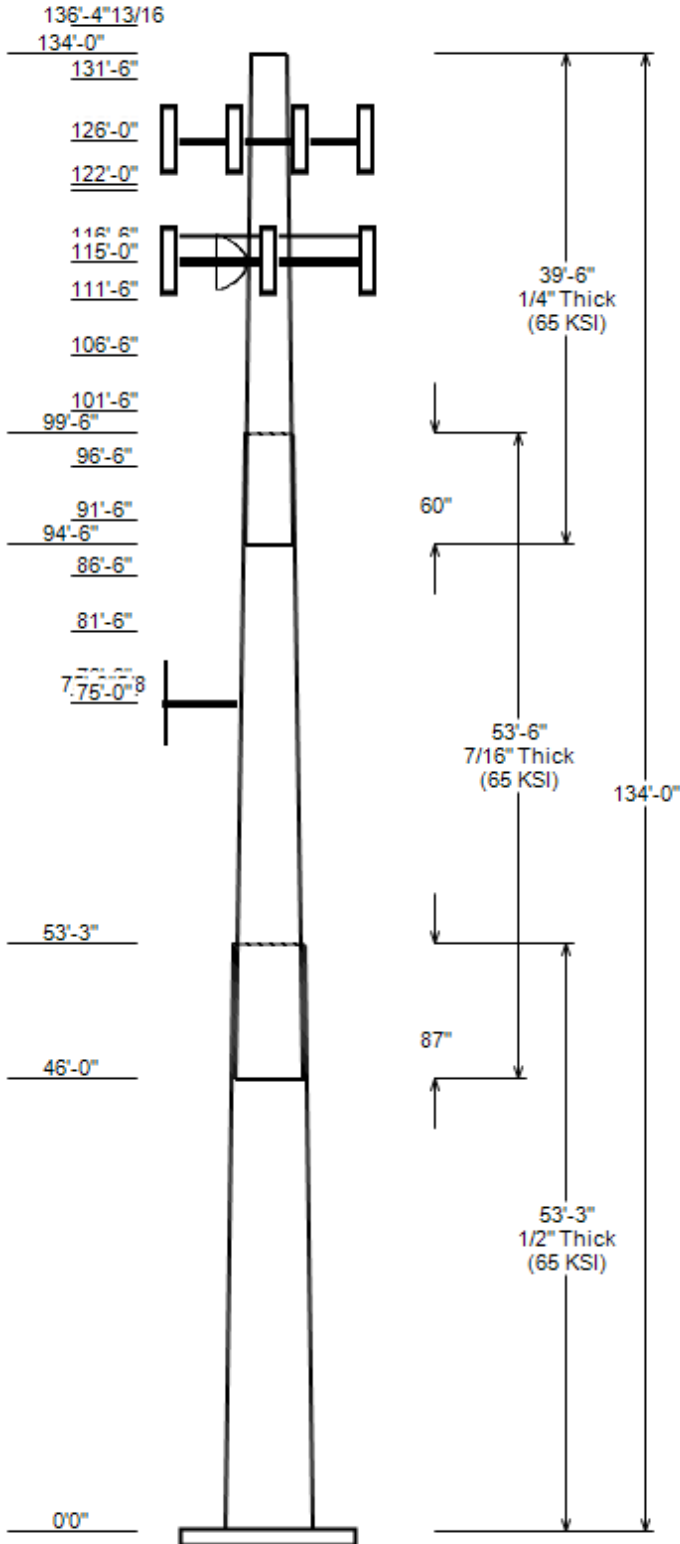
Shaft Section	Length (ft)	Diameter (in)		Thick Joint (in)	Type	Overlap Length (in)	Shape	Steel Grade (ksi)
		Across Flats Top	Across Flats Bottom					
1	53.250	48.31	66.31	0.500		0.000	18 Sides	65
2	53.500	33.55	51.64	0.438	Slip Joint	87.000	18 Sides	65
3	39.500	22.39	35.74	0.250	Slip Joint	60.000	18 Sides	65

DISCRETE APPURTENANCE

Attach Elev (ft)	Force Elev (ft)	Qty	Description
136.4	136.4	2	Generic 5' Omni
131.5	131.5	1	Chameleon 10' Pine Branch
126.5	126.5	1	Chameleon 10' Pine Branch
126.0	126.0	3	Raycap DC6-48-60-18-8F
126.0	126.0	3	Ericsson RRUS-32 (77 lbs)
126.0	126.0	3	Generic Round T-Arm
126.0	126.0	6	CCI HPA-65R-BUU-H8
126.0	126.0	6	CCI DMP65R-BU8D
122.0	122.0	3	Ericsson RRUS A2 Module
122.0	122.0	3	Ericsson RRUS 4478 B14
122.0	122.0	3	Ericsson RRUS 4449 B5, B12
122.0	122.0	3	Ericsson RRUS E2
122.0	122.0	3	Ericsson RRUS-12 800 MHz
122.0	122.0	9	Ericsson RRUS-11
121.5	121.5	1	Chameleon 10' Pine Branch
116.5	116.5	1	Chameleon 10' Pine Branch
115.0	115.0	3	Ericsson 4460 BAND 2/25
115.0	115.0	3	Ericsson 4480 BAND 71
115.0	115.0	1	RFS SC2-W100BD
115.0	115.0	3	Commscope VV-65A-R1B
115.0	115.0	3	Ericsson AIR 6419 B41
115.0	115.0	3	Generic Flat Light Sector Fram
115.0	115.0	3	RFS APXVAALL24 43-U-NA20
111.5	111.5	1	Chameleon 10' Pine Branch
106.5	106.5	1	Chameleon 12' Pine Branch
101.5	101.5	1	Chameleon 12' Pine Branch
96.5	96.5	1	Chameleon 12' Pine Branch
91.5	91.5	1	Chameleon 12' Pine Branch
86.5	86.5	1	Chameleon 12' Pine Branch
81.5	81.5	1	Chameleon 12' Pine Branch
76.5	76.5	1	Chameleon 12' Pine Branch
75.8	75.8	1	Chameleon 12' Pine Branch
75.0	75.0	1	Generic 5' Omni
75.0	75.0	1	Generic Flat Stand-Off

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	136.0	7/8" Coax	No
0.0	126.0	2" Carflex Non-Metallic Conduit	No
0.0	126.0	0.76" (19.2mm) 8 AWG 6	No
0.0	126.0	0.51" (13mm) Hybrid	No
0.0	122.0	0.51" (13mm) Cable	No



JOB INFORMATION

Asset : 209259, Washington 2
 Client : T-MOBILE
 Code : ANSI/TIA-222-H

Height : 134 ft
 Base Width : 66.31
 Shape : 18 Sides

LINEAR APPURTENANCE

Elev From (ft)	Elev To (ft)	Description	Exp To Wind
0.0	115.0	1/2" Coax	No
0.0	115.0	1.99" (50.7mm) Hybrid	No
0.0	75.0	7/8" Coax	No

LOAD CASES

1.2D + 1.0W	115 mph wind with no ice
0.9D + 1.0W	115 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

REACTIONS

Load Case	Moment (kip-ft)	Shear (Kip)	Axial (Kip)
1.2D + 1.0W	1956.75	21.30	47.11
0.9D + 1.0W	1950.29	21.30	35.33
1.2D + 1.0Di + 1.0Wi	533.66	6.03	61.20
1.2D + 1.0Ev + 1.0Eh	182.07	1.94	46.42
0.9D - 1.0Ev + 1.0Eh	181.37	1.94	32.20
1.0D + 1.0W	475.51	5.19	39.27

DISH DEFLECTIONS

Load Case	Attach Elev (ft)	Deflection (in)	Rotation (deg)
1.0D + 1.0W	115.00	3.712	0.325

ASSET: 209259, Washington 2
CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
ENG NO: 14099766_C3_04

ANALYSIS PARAMETERS

Location:	Litchfield County,CT	Height:	134 ft
Type and Shape:	Taper, 18 Sides	Base Diameter:	66.31 in
Manufacturer:	Sabre	Top Diameter:	22.39 in
K_d (non-service):	0.95	Taper:	0.3380 in/ft
K_e:	0.98	Rotation:	0.000°

ICE & WIND PARAMETERS

Exposure Category:	B	Design Wind Speed w/o Ice:	115 mph
Risk Category:	II	Design Wind Speed w/Ice:	50 mph
Topo Factor Procedure:	Method 1	Operational Wind Speed:	60 mph
Topographic Category:	1	Design Ice Thickness:	1.00 in
Crest Height:	0 ft	HMSL:	596.00 ft

SEISMIC PARAMETERS

Analysis Method:	Equivalent Lateral Force Method		
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):	1.16
T_L (sec):	6	P:	1
S_s:	0.187	S₁:	0.054
F_a:	1.600	F_v:	2.400
S_{ds}:	0.199	S_{dt}:	0.086
		C_s:	0.049
		C_s Max:	0.049
		C_s Min:	0.030

LOAD CASES

1.2D + 1.0W	115 mph wind with no ice
0.9D + 1.0W	115 mph wind with no ice
1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice
1.2D + 1.0Ev + 1.0Eh	Seismic
0.9D - 1.0Ev + 1.0Eh	Seismic (Reduced DL)
1.0D + 1.0W	60 mph Wind with No Ice

ASSET: 209259, Washington 2
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
 ENG NO: 14099766_C3_04

SHAFT SECTION PROPERTIES

Sect Info	Length (ft)	Thick (in)	Fy (ksi)	Joint Type	Slip Joint len (in)	Weight (lb)	Bottom						Top						
							Dia (in)	Elev (ft)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Dia (in)	Elev (in)	Area (in ²)	Ix (in ⁴)	W/t Ratio	D/t Ratio	Taper (in/ft)
							104.4						21,912.0						
1-18	53.25	0.5000	65		0.00	16,336	66.31	0.000	4	57,146.6	21.62	132.62	48.31	53.25	75.87		15.27	96.62	0.3380
2-18	53.50	0.4375	65	Slip	87.00	10,657	51.64	46.000	71.09	23,544.9	19.05	118.03	33.55	99.50	45.98	6,370.6	11.76	76.69	0.3380
3-18	39.50	0.2500	65	Slip	60.00	3,073	35.74	94.500	28.16	4,482.1	23.45	142.97	22.39	134.00	17.57	1,088.0	14.03	89.56	0.3380

Shaft Weight 30,066

DISCRETE APPURTENANCE PROPERTIES

Attach Elev (ft)	Description	Qty	Ka	Vert Ecc (ft)	No Ice			Ice		
					Weight (lb)	EPAa (sf)	Orientation Factor	Weight (lb)	EPAa (sf)	Orientation Factor
136.40	Generic 5' Omni	2	1.00	0.000	10.00	1.000	1.00	28.08	1.904	1.00
131.50	Chameleon 10' Pine Branch	1	1.00	0.000	85.00	3.770	1.00	200.10	5.328	1.00
126.50	Chameleon 10' Pine Branch	1	1.00	0.000	85.00	3.770	1.00	199.70	5.322	1.00
126.00	CCI DMP65R-BU8D	6	0.80	0.000	95.70	17.871	0.63	318.74	20.289	0.63
126.00	CCI HPA-65R-BUU-H8	6	0.80	0.000	68.00	12.976	0.67	236.62	15.325	0.67
126.00	Generic Round T-Arm	3	0.75	0.000	312.50	9.700	0.67	483.94	15.110	0.67
126.00	Ericsson RRUS-32 (77 lbs)	3	0.80	0.000	77.00	3.314	0.71	140.82	4.156	0.71
126.00	Raycap DC6-48-60-18-8F	3	0.80	0.000	20.00	1.260	0.67	54.55	1.692	0.67
122.00	Ericsson RRUS-11	9	0.80	0.000	55.00	3.792	0.61	113.73	4.632	0.61
122.00	Ericsson RRUS-12 800 MHz	3	0.80	0.000	60.00	2.700	0.67	108.51	3.403	0.67
122.00	Ericsson RRUS A2 Module	3	0.80	0.000	21.20	1.600	0.50	44.78	2.147	0.50
122.00	Ericsson RRUS 4478 B14	3	0.80	0.000	59.90	1.842	0.50	96.07	2.429	0.50
122.00	Ericsson RRUS 4449 B5, B12	3	0.80	0.000	71.00	1.969	0.50	113.17	2.579	0.50
122.00	Ericsson RRUS E2	3	0.80	0.000	52.90	2.475	0.67	93.84	3.150	0.67
121.50	Chameleon 10' Pine Branch	1	1.00	0.000	85.00	3.770	1.00	199.19	5.315	1.00
116.50	Chameleon 10' Pine Branch	1	1.00	0.000	85.00	3.770	1.00	198.71	5.309	1.00
115.00	Ericsson 4460 BAND 2/25	3	0.80	0.000	109.00	2.564	0.67	166.41	3.249	0.67
115.00	Generic Flat Light Sector Fram	3	0.75	0.000	400.00	17.900	0.75	595.48	27.701	0.75
115.00	RFS APXVAALL24 43-U-NA20	3	0.80	0.000	122.80	20.243	0.63	375.79	22.652	0.63
115.00	Ericsson AIR 6419 B41	3	0.80	0.000	83.30	6.322	0.63	181.60	7.420	0.63
115.00	Commscope VV-65A-R1B	3	0.80	0.000	24.70	5.887	0.63	100.62	7.262	0.63
115.00	RFS SC2-W100BD	1	1.00	0.000	20.00	4.796	1.00	80.20	5.634	1.00
115.00	Ericsson 4480 BAND 71	3	0.80	0.000	81.00	2.878	0.67	130.44	3.607	0.67
111.50	Chameleon 10' Pine Branch	1	1.00	0.000	85.00	3.770	1.00	198.21	5.302	1.00
106.50	Chameleon 12' Pine Branch	1	1.00	0.000	95.00	4.420	1.00	218.81	6.208	1.00
101.50	Chameleon 12' Pine Branch	1	1.00	0.000	95.00	4.420	1.00	218.21	6.199	1.00
96.50	Chameleon 12' Pine Branch	1	1.00	0.000	95.00	4.420	1.00	217.59	6.190	1.00
91.50	Chameleon 12' Pine Branch	1	1.00	0.000	95.00	4.420	1.00	216.93	6.181	1.00
86.50	Chameleon 12' Pine Branch	1	1.00	0.000	95.00	4.420	1.00	216.24	6.171	1.00
81.50	Chameleon 12' Pine Branch	1	1.00	0.000	95.00	4.420	1.00	215.52	6.160	1.00
76.50	Chameleon 12' Pine Branch	1	1.00	0.000	95.00	4.420	1.00	214.81	6.150	1.00
75.80	Chameleon 12' Pine Branch	1	1.00	0.000	95.00	4.420	1.00	214.69	6.148	1.00
75.00	Generic Flat Stand-Off	1	1.00	0.000	187.50	6.300	1.00	270.26	8.236	1.00
75.00	Generic 5' Omni	1	1.00	0.000	10.00	1.000	1.00	27.02	1.851	1.00
Totals	Num Loadings: 34		81			7,385.60		15,576.14		

LINEAR APPURTENANCE PROPERTIES

Load Case Azimuth (deg) : _

Elev From (ft)	Elev To (ft)	Qty	Description	Coax Dia (in)	Coax Wt (lb/ft)	Max Coax/ Row	Dist Between Rows (in)	Dist Between Cols (in)	Azimuth (deg)	Dist From Face (in)	Exposed To Wind	Carrier
0.00	136.00	2	7/8" Coax	1.09	0.33	N	0	0	0	0	N	LITCHFIELD CO
0.00	126.00	10	0.76" (19.2mm) 8 AWG	0.76	0.53	N	0	0	0	0	N	AT&T MOBILITY
0.00	126.00	3	0.51" (13mm) Hybrid	0.51	0.14	N	0	0	0	0	N	AT&T MOBILITY
0.00	126.00	3	2" Carflex Non-Metall	2.36	0.68	N	0	0	0	0	N	AT&T MOBILITY
0.00	122.00	3	0.51" (13mm) Cable	0.51	0.14	N	0	0	0	0	N	AT&T MOBILITY
0.00	115.00	3	1.99" (50.7mm) Hybrid	1.99	1.9	N	0	0	0	0	N	T-MOBILE
0.00	115.00	1	1/2" Coax	0.63	0.15	N	0	0	0	0	N	T-MOBILE
0.00	75.00	1	7/8" Coax	1.09	0.33	N	0	0	0	0	N	LITCHFIELD CO

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	Fy (ksi)	S (in ³)	Z (in ³)	Weight (lb)
0.00		0.5000	66.310	104.437	57,146.60	21.62	132.62	76	1697.4	0.0	0.0
5.00		0.5000	64.620	101.755	52,855.80	21.03	129.24	76.7	1611.0	0.0	1,754.1
10.00		0.5000	62.930	99.073	48,785.40	20.43	125.86	77.4	1526.9	0.0	1,708.4
15.00		0.5000	61.240	96.390	44,929.60	19.83	122.48	78.1	1445.0	0.0	1,662.8
20.00		0.5000	59.550	93.708	41,282.40	19.24	119.10	78.8	1365.4	0.0	1,617.2
25.00		0.5000	57.860	91.026	37,838.20	18.64	115.72	79.5	1288.1	0.0	1,571.5
30.00		0.5000	56.169	88.344	34,591.10	18.05	112.34	80.2	1213.0	0.0	1,525.9
35.00		0.5000	54.479	85.662	31,535.20	17.45	108.96	80.9	1140.1	0.0	1,480.3
40.00		0.5000	52.789	82.980	28,664.90	16.85	105.58	81.6	1069.5	0.0	1,434.6
45.00		0.5000	51.099	80.298	25,974.20	16.26	102.20	82.3	1001.2	0.0	1,389.0
46.00	Bot - Section 2	0.5000	50.761	79.761	25,457.20	16.14	101.52	82.4	987.8	0.0	272.3
50.00		0.5000	49.409	77.616	23,457.40	15.66	98.82	82.6	935.1	0.0	2,025.9
53.25	Top - Section 1	0.4375	49.185	67.690	20,323.20	18.06	112.42	80.2	813.8	0.0	1,605.7
55.00		0.4375	48.594	66.869	19,592.30	17.82	111.07	80.4	794.1	0.0	400.6
60.00		0.4375	46.904	64.522	17,601.00	17.14	107.21	81.2	739.1	0.0	1,117.7
65.00		0.4375	45.214	62.175	15,749.40	16.46	103.35	82	686.1	0.0	1,077.8
70.00		0.4375	43.524	59.828	14,032.50	15.78	99.48	82.6	635.0	0.0	1,037.9
75.00		0.4375	41.834	57.481	12,445.10	15.10	95.62	82.6	585.9	0.0	997.9
75.80		0.4375	41.563	57.106	12,202.80	14.99	95.00	82.6	578.3	0.0	156.0
76.50		0.4375	41.326	56.777	11,993.40	14.89	94.46	82.6	571.6	0.0	135.6
80.00		0.4375	40.143	55.135	10,982.20	14.42	91.76	82.6	538.8	0.0	666.4
81.50		0.4375	39.636	54.431	10,566.80	14.21	90.60	82.6	525.1	0.0	279.6
85.00		0.4375	38.453	52.788	9,638.60	13.73	87.89	82.6	493.7	0.0	638.5
86.50		0.4375	37.946	52.084	9,258.10	13.53	86.73	82.6	480.5	0.0	267.6
90.00		0.4375	36.763	50.441	8,409.40	13.05	84.03	82.6	450.5	0.0	610.5
91.50		0.4375	36.256	49.737	8,062.10	12.85	82.87	82.6	438.0	0.0	255.7
94.50	Bot - Section 3	0.4375	35.242	48.329	7,396.60	12.44	80.55	82.6	413.4	0.0	500.5
95.00		0.4375	35.073	48.094	7,289.40	12.37	80.17	82.6	409.4	0.0	129.8
96.50		0.4375	34.566	47.390	6,973.90	12.17	79.01	82.6	397.4	0.0	385.7
99.50	Top - Section 2	0.2500	34.052	26.821	3,871.80	22.25	136.21	75.2	223.9	0.0	754.5
100.00		0.2500	33.883	26.687	3,814.00	22.13	135.53	75.4	221.7	0.0	45.5
101.50		0.2500	33.376	26.285	3,644.10	21.78	133.50	75.8	215.0	0.0	135.2
105.00		0.2500	32.193	25.346	3,267.40	20.94	128.77	76.8	199.9	0.0	307.5
106.50		0.2500	31.686	24.943	3,114.30	20.59	126.74	77.2	193.6	0.0	128.3
110.00		0.2500	30.503	24.005	2,775.80	19.75	122.01	78.2	179.2	0.0	291.5
111.50		0.2500	29.996	23.602	2,638.50	19.39	119.98	78.6	173.3	0.0	121.5
115.00		0.2500	28.813	22.664	2,336.10	18.56	115.25	79.6	159.7	0.0	275.5
116.50		0.2500	28.306	22.261	2,213.80	18.20	113.22	80	154.0	0.0	114.7
120.00		0.2500	27.123	21.323	1,945.40	17.37	108.49	81	141.3	0.0	259.5
121.50		0.2500	26.616	20.920	1,837.40	17.01	106.46	81.4	136.0	0.0	107.8
122.00		0.2500	26.447	20.786	1,802.30	16.89	105.79	81.5	134.2	0.0	35.5
125.00		0.2500	25.433	19.982	1,601.00	16.17	101.73	82.4	124.0	0.0	208.1
126.00		0.2500	25.094	19.713	1,537.40	15.94	100.38	82.6	120.7	0.0	67.5
126.50		0.2500	24.925	19.579	1,506.20	15.82	99.70	82.6	119.0	0.0	33.4
130.00		0.2500	23.742	18.641	1,299.80	14.98	94.97	82.6	107.8	0.0	227.6
131.50		0.2500	23.235	18.238	1,217.40	14.62	92.94	82.6	103.2	0.0	94.1
134.00		0.2500	22.390	17.568	1,088.00	14.03	89.56	82.6	95.7	0.0	152.3

Totals: 30,065.5

Load Case: 1.2D + 1.0W	115 mph wind with no ice	20 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	-47.11	-21.30	0.00	-1,956.8	0.00	1,956.75	7,140.68	1,832.86	10,894.70	9,671.58	0	0	0.209
5.00	-44.90	-20.86	0.00	-1,850.2	0.00	1,850.23	7,021.49	1,785.79	10,342.36	9,264.07	0.03	-0.05	0.206
10.00	-42.74	-20.42	0.00	-1,746.0	0.00	1,745.95	6,898.92	1,738.72	9,804.39	8,860.58	0.1	-0.1	0.203
15.00	-40.64	-19.99	0.00	-1,643.9	0.00	1,643.86	6,772.97	1,691.65	9,280.79	8,461.44	0.23	-0.15	0.200
20.00	-38.59	-19.57	0.00	-1,543.9	0.00	1,543.90	6,643.63	1,644.58	8,771.56	8,067.03	0.41	-0.2	0.197
25.00	-36.60	-19.17	0.00	-1,446.0	0.00	1,446.02	6,510.90	1,597.51	8,276.69	7,677.69	0.64	-0.25	0.194
30.00	-34.66	-18.76	0.00	-1,350.2	0.00	1,350.19	6,374.80	1,550.44	7,796.20	7,293.79	0.93	-0.3	0.191
35.00	-32.78	-18.36	0.00	-1,256.4	0.00	1,256.37	6,235.31	1,503.37	7,330.07	6,915.67	1.27	-0.35	0.187
40.00	-30.96	-17.95	0.00	-1,164.6	0.00	1,164.57	6,092.43	1,456.30	6,878.30	6,543.69	1.67	-0.41	0.183
45.00	-29.19	-17.69	0.00	-1,074.8	0.00	1,074.84	5,946.17	1,409.23	6,440.91	6,178.21	2.13	-0.46	0.179
46.00	-28.84	-17.49	0.00	-1,057.2	0.00	1,057.15	5,916.51	1,399.81	6,355.15	6,105.93	2.23	-0.48	0.178
50.00	-26.33	-17.17	0.00	-987.2	0.00	987.20	5,766.46	1,362.16	6,017.88	5,789.41	2.65	-0.52	0.175
53.25	-24.34	-16.94	0.00	-931.4	0.00	931.40	4,883.36	1,187.96	5,230.82	4,892.69	3.01	-0.56	0.196
55.00	-23.81	-16.67	0.00	-901.8	0.00	901.75	4,840.98	1,173.55	5,104.66	4,790.85	3.22	-0.58	0.193
60.00	-22.37	-16.25	0.00	-818.4	0.00	818.42	4,717.60	1,132.36	4,752.69	4,503.42	3.86	-0.64	0.187
65.00	-20.97	-15.83	0.00	-737.2	0.00	737.19	4,590.84	1,091.17	4,413.29	4,221.53	4.57	-0.7	0.179
70.00	-19.63	-15.42	0.00	-658.0	0.00	658.03	4,444.94	1,049.99	4,086.46	3,931.60	5.34	-0.77	0.172
75.00	-18.10	-14.94	0.00	-580.9	0.00	580.93	4,270.58	1,008.80	3,772.21	3,627.71	6.18	-0.83	0.165
75.80	-17.78	-14.74	0.00	-569.0	0.00	568.97	4,242.69	1,002.21	3,723.09	3,580.23	6.32	-0.84	0.163
76.50	-17.49	-14.44	0.00	-558.6	0.00	558.65	4,218.28	996.44	3,680.38	3,538.93	6.45	-0.85	0.162
80.00	-16.63	-14.23	0.00	-508.1	0.00	508.13	4,096.23	967.61	3,470.52	3,336.06	7.09	-0.89	0.157
81.50	-16.15	-13.89	0.00	-486.8	0.00	486.78	4,043.92	955.26	3,382.47	3,250.94	7.37	-0.91	0.154
85.00	-15.32	-13.69	0.00	-438.2	0.00	438.16	3,921.87	926.43	3,181.41	3,056.62	8.06	-0.96	0.147
86.50	-14.85	-13.36	0.00	-417.6	0.00	417.62	3,869.56	914.07	3,097.13	2,975.17	8.36	-0.98	0.144
90.00	-14.06	-13.16	0.00	-370.9	0.00	370.87	3,747.51	885.24	2,904.87	2,789.40	9.1	-1.02	0.137
91.50	-13.61	-12.85	0.00	-351.1	0.00	351.12	3,695.20	872.88	2,824.35	2,711.62	9.42	-1.04	0.133
94.50	-12.95	-12.71	0.00	-312.6	0.00	312.59	3,590.59	848.17	2,666.73	2,559.36	10.08	-1.07	0.126
95.00	-12.79	-12.63	0.00	-306.2	0.00	306.23	3,573.15	844.05	2,640.90	2,534.41	10.2	-1.08	0.125
96.50	-12.18	-12.31	0.00	-287.3	0.00	287.28	3,520.85	831.70	2,564.16	2,460.29	10.54	-1.1	0.120
99.50	-11.22	-12.17	0.00	-250.3	0.00	250.34	1,815.87	470.71	1,437.09	1,263.52	11.24	-1.13	0.205
100.00	-11.16	-12.10	0.00	-244.3	0.00	244.26	1,810.16	468.35	1,422.76	1,253.20	11.36	-1.13	0.202
101.50	-10.85	-11.78	0.00	-226.1	0.00	226.10	1,792.82	461.29	1,380.19	1,222.34	11.72	-1.16	0.192
105.00	-10.42	-11.60	0.00	-184.9	0.00	184.88	1,751.18	444.82	1,283.37	1,150.99	12.59	-1.22	0.167
106.50	-10.12	-11.28	0.00	-167.5	0.00	167.48	1,732.82	437.76	1,242.96	1,120.71	12.98	-1.24	0.156
110.00	-9.71	-11.11	0.00	-128.0	0.00	128.01	1,688.81	421.28	1,151.17	1,050.82	13.9	-1.29	0.128
111.50	-9.44	-10.81	0.00	-111.4	0.00	111.35	1,669.44	414.22	1,112.92	1,021.21	14.31	-1.31	0.115
115.00	-6.15	-7.27	0.00	-73.5	0.00	73.51	1,623.06	397.75	1,026.16	953.02	15.28	-1.34	0.081
116.50	-5.89	-6.98	0.00	-62.6	0.00	62.60	1,602.68	390.69	990.06	924.20	15.71	-1.35	0.072
120.00	-5.55	-6.82	0.00	-38.2	0.00	38.18	1,553.93	374.21	908.33	857.97	16.71	-1.38	0.048
121.50	-5.30	-6.62	0.00	-28.0	0.00	27.95	1,532.53	367.15	874.38	830.04	17.14	-1.38	0.037
122.00	-3.74	-5.34	0.00	-24.6	0.00	24.64	1,525.33	364.80	863.21	820.80	17.29	-1.38	0.033
125.00	-3.46	-5.21	0.00	-8.6	0.00	8.63	1,481.41	350.68	797.68	766.02	18.16	-1.39	0.014
126.00	-0.82	-0.79	0.00	-3.4	0.00	3.42	1,464.61	345.97	776.41	747.06	18.45	-1.39	0.005
126.50	-0.69	-0.54	0.00	-3.0	0.00	3.02	1,454.64	343.62	765.89	736.88	18.6	-1.39	0.005
130.00	-0.42	-0.40	0.00	-1.1	0.00	1.14	1,384.90	327.14	694.22	667.58	19.62	-1.4	0.002
131.50	-0.21	-0.15	0.00	-0.5	0.00	0.54	1,355.01	320.08	664.58	638.92	20.06	-1.4	0.001
134.00	0.00	-0.14	0.00	-0.2	0.00	0.18	1,305.19	308.31	616.62	592.56	20.79	-1.4	0.000

Load Case: 0.9D + 1.0W	115 mph wind with no ice	20 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	-35.33	-21.30	0.00	-1,950.3	0.00	1,950.29	7,140.68	1,832.86	10,894.70	9,671.58	0	0	0.207
5.00	-33.67	-20.84	0.00	-1,843.8	0.00	1,843.80	7,021.49	1,785.79	10,342.36	9,264.07	0.03	-0.05	0.204
10.00	-32.05	-20.40	0.00	-1,739.6	0.00	1,739.58	6,898.92	1,738.72	9,804.39	8,860.58	0.1	-0.1	0.201
15.00	-30.46	-19.96	0.00	-1,637.6	0.00	1,637.60	6,772.97	1,691.65	9,280.79	8,461.44	0.23	-0.14	0.198
20.00	-28.93	-19.54	0.00	-1,537.8	0.00	1,537.80	6,643.63	1,644.58	8,771.56	8,067.03	0.41	-0.19	0.195
25.00	-27.43	-19.12	0.00	-1,440.1	0.00	1,440.11	6,510.90	1,597.51	8,276.69	7,677.69	0.64	-0.25	0.192
30.00	-25.97	-18.71	0.00	-1,344.5	0.00	1,344.50	6,374.80	1,550.44	7,796.20	7,293.79	0.93	-0.3	0.189
35.00	-24.56	-18.30	0.00	-1,250.9	0.00	1,250.93	6,235.31	1,503.37	7,330.07	6,915.67	1.27	-0.35	0.185
40.00	-23.18	-17.89	0.00	-1,159.4	0.00	1,159.41	6,092.43	1,456.30	6,878.30	6,543.69	1.67	-0.41	0.181
45.00	-21.86	-17.63	0.00	-1,070.0	0.00	1,069.98	5,946.17	1,409.23	6,440.91	6,178.21	2.12	-0.46	0.177
46.00	-21.59	-17.42	0.00	-1,052.4	0.00	1,052.35	5,916.51	1,399.81	6,355.15	6,105.93	2.22	-0.47	0.176
50.00	-19.71	-17.11	0.00	-982.6	0.00	982.65	5,766.46	1,362.16	6,017.88	5,789.41	2.64	-0.52	0.173
53.25	-18.21	-16.88	0.00	-927.1	0.00	927.06	4,883.36	1,187.96	5,230.82	4,892.69	3	-0.56	0.193
55.00	-17.82	-16.60	0.00	-897.5	0.00	897.52	4,840.98	1,173.55	5,104.66	4,790.85	3.21	-0.58	0.191
60.00	-16.73	-16.18	0.00	-814.5	0.00	814.51	4,717.60	1,132.36	4,752.69	4,503.42	3.85	-0.64	0.185
65.00	-15.68	-15.76	0.00	-733.6	0.00	733.61	4,590.84	1,091.17	4,413.29	4,221.53	4.55	-0.7	0.177
70.00	-14.67	-15.35	0.00	-654.8	0.00	654.80	4,444.94	1,049.99	4,086.46	3,931.60	5.32	-0.76	0.170
75.00	-13.52	-14.87	0.00	-578.0	0.00	578.05	4,270.58	1,008.80	3,772.21	3,627.71	6.16	-0.83	0.163
75.80	-13.29	-14.67	0.00	-566.2	0.00	566.15	4,242.69	1,002.21	3,723.09	3,580.23	6.3	-0.84	0.161
76.50	-13.07	-14.37	0.00	-555.9	0.00	555.88	4,218.28	996.44	3,680.38	3,538.93	6.42	-0.85	0.160
80.00	-12.42	-14.16	0.00	-505.6	0.00	505.60	4,096.23	967.61	3,470.52	3,336.06	7.06	-0.89	0.155
81.50	-12.06	-13.83	0.00	-484.4	0.00	484.35	4,043.92	955.26	3,382.47	3,250.94	7.34	-0.91	0.152
85.00	-11.43	-13.63	0.00	-436.0	0.00	435.96	3,921.87	926.43	3,181.41	3,056.62	8.03	-0.95	0.146
86.50	-11.08	-13.29	0.00	-415.5	0.00	415.52	3,869.56	914.07	3,097.13	2,975.17	8.33	-0.97	0.143
90.00	-10.48	-13.10	0.00	-369.0	0.00	369.00	3,747.51	885.24	2,904.87	2,789.40	9.06	-1.01	0.135
91.50	-10.15	-12.78	0.00	-349.4	0.00	349.36	3,695.20	872.88	2,824.35	2,711.62	9.38	-1.03	0.132
94.50	-9.66	-12.65	0.00	-311.0	0.00	311.01	3,590.59	848.17	2,666.73	2,559.36	10.04	-1.07	0.124
95.00	-9.53	-12.57	0.00	-304.7	0.00	304.69	3,573.15	844.05	2,640.90	2,534.41	10.15	-1.07	0.123
96.50	-9.08	-12.25	0.00	-285.8	0.00	285.84	3,520.85	831.70	2,564.16	2,460.29	10.49	-1.09	0.119
99.50	-8.36	-12.11	0.00	-249.1	0.00	249.08	1,815.87	470.71	1,437.09	1,263.52	11.19	-1.12	0.202
100.00	-8.31	-12.04	0.00	-243.0	0.00	243.02	1,810.16	468.35	1,422.76	1,253.20	11.31	-1.13	0.199
101.50	-8.08	-11.72	0.00	-225.0	0.00	224.95	1,792.82	461.29	1,380.19	1,222.34	11.67	-1.16	0.189
105.00	-7.75	-11.54	0.00	-183.9	0.00	183.94	1,751.18	444.82	1,283.37	1,150.99	12.54	-1.21	0.165
106.50	-7.53	-11.22	0.00	-166.6	0.00	166.62	1,732.82	437.76	1,242.96	1,120.71	12.92	-1.23	0.154
110.00	-7.22	-11.05	0.00	-127.4	0.00	127.35	1,688.81	421.28	1,151.17	1,050.82	13.84	-1.28	0.126
111.50	-7.02	-10.75	0.00	-110.8	0.00	110.78	1,669.44	414.22	1,112.92	1,021.21	14.25	-1.3	0.113
115.00	-4.57	-7.23	0.00	-73.1	0.00	73.13	1,623.06	397.75	1,026.16	953.02	15.22	-1.33	0.080
116.50	-4.38	-6.94	0.00	-62.3	0.00	62.28	1,602.68	390.69	990.06	924.20	15.64	-1.35	0.070
120.00	-4.12	-6.78	0.00	-38.0	0.00	37.99	1,553.93	374.21	908.33	857.97	16.64	-1.37	0.047
121.50	-3.94	-6.58	0.00	-27.8	0.00	27.82	1,532.53	367.15	874.38	830.04	17.07	-1.38	0.036
122.00	-2.77	-5.31	0.00	-24.5	0.00	24.52	1,525.33	364.80	863.21	820.80	17.21	-1.38	0.032
125.00	-2.57	-5.19	0.00	-8.6	0.00	8.58	1,481.41	350.68	797.68	766.02	18.08	-1.39	0.013
126.00	-0.61	-0.79	0.00	-3.4	0.00	3.39	1,464.61	345.97	776.41	747.06	18.37	-1.39	0.005
126.50	-0.51	-0.53	0.00	-3.0	0.00	3.00	1,454.64	343.62	765.89	736.88	18.52	-1.39	0.004
130.00	-0.31	-0.39	0.00	-1.1	0.00	1.13	1,384.90	327.14	694.22	667.58	19.53	-1.39	0.002
131.50	-0.15	-0.14	0.00	-0.5	0.00	0.54	1,355.01	320.08	664.58	638.92	19.97	-1.39	0.001
134.00	0.00	-0.14	0.00	-0.2	0.00	0.18	1,305.19	308.31	616.62	592.56	20.7	-1.39	0.000

ASSET: 209259, Washington 2
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
 ENG NO: 14099766_C3_04

Load Case: 1.2D + 1.0Di + 1.0Wi	50 mph wind with 1" radial ice		19 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	-61.20	-6.03	0.00	-533.7	0.00	533.66	7,140.68	1,832.86	10,894.70	9,671.58	0	0	0.064
5.00	-58.68	-5.89	0.00	-503.5	0.00	503.49	7,021.49	1,785.79	10,342.36	9,264.07	0.01	-0.01	0.063
10.00	-56.20	-5.75	0.00	-474.0	0.00	474.04	6,898.92	1,738.72	9,804.39	8,860.58	0.03	-0.03	0.062
15.00	-53.76	-5.62	0.00	-445.3	0.00	445.28	6,772.97	1,691.65	9,280.79	8,461.44	0.06	-0.04	0.061
20.00	-51.37	-5.49	0.00	-417.2	0.00	417.19	6,643.63	1,644.58	8,771.56	8,067.03	0.11	-0.05	0.059
25.00	-49.04	-5.36	0.00	-389.8	0.00	389.76	6,510.90	1,597.51	8,276.69	7,677.69	0.17	-0.07	0.058
30.00	-46.77	-5.23	0.00	-363.0	0.00	362.99	6,374.80	1,550.44	7,796.20	7,293.79	0.25	-0.08	0.057
35.00	-44.55	-5.10	0.00	-336.8	0.00	336.85	6,235.31	1,503.37	7,330.07	6,915.67	0.35	-0.1	0.056
40.00	-42.40	-4.97	0.00	-311.4	0.00	311.36	6,092.43	1,456.30	6,878.30	6,543.69	0.45	-0.11	0.055
45.00	-40.30	-4.89	0.00	-286.5	0.00	286.53	5,946.17	1,409.23	6,440.91	6,178.21	0.58	-0.13	0.053
46.00	-39.89	-4.82	0.00	-281.6	0.00	281.64	5,916.51	1,399.81	6,355.15	6,105.93	0.6	-0.13	0.053
50.00	-37.12	-4.72	0.00	-262.4	0.00	262.36	5,766.46	1,362.16	6,017.88	5,789.41	0.72	-0.14	0.052
53.25	-34.92	-4.65	0.00	-247.0	0.00	247.03	4,883.36	1,187.96	5,230.82	4,892.69	0.82	-0.15	0.058
55.00	-34.29	-4.56	0.00	-238.9	0.00	238.90	4,840.98	1,173.55	5,104.66	4,790.85	0.87	-0.16	0.057
60.00	-32.54	-4.42	0.00	-216.1	0.00	216.11	4,717.60	1,132.36	4,752.69	4,503.42	1.04	-0.17	0.055
65.00	-30.85	-4.29	0.00	-194.0	0.00	194.00	4,590.84	1,091.17	4,413.29	4,221.53	1.23	-0.19	0.053
70.00	-29.21	-4.16	0.00	-172.6	0.00	172.56	4,444.94	1,049.99	4,086.46	3,931.60	1.44	-0.21	0.050
75.00	-27.32	-4.02	0.00	-151.8	0.00	151.77	4,270.58	1,008.80	3,772.21	3,627.71	1.66	-0.22	0.048
75.80	-26.87	-3.96	0.00	-148.6	0.00	148.56	4,242.69	1,002.21	3,723.09	3,580.23	1.7	-0.22	0.048
76.50	-26.45	-3.87	0.00	-145.8	0.00	145.79	4,218.28	996.44	3,680.38	3,538.93	1.74	-0.23	0.047
80.00	-25.39	-3.80	0.00	-132.2	0.00	132.25	4,096.23	967.61	3,470.52	3,336.06	1.91	-0.24	0.046
81.50	-24.73	-3.70	0.00	-126.6	0.00	126.55	4,043.92	955.26	3,382.47	3,250.94	1.98	-0.24	0.045
85.00	-23.72	-3.64	0.00	-113.6	0.00	113.59	3,921.87	926.43	3,181.41	3,056.62	2.16	-0.25	0.043
86.50	-23.08	-3.54	0.00	-108.1	0.00	108.14	3,869.56	914.07	3,097.13	2,975.17	2.25	-0.26	0.042
90.00	-22.10	-3.47	0.00	-95.8	0.00	95.77	3,747.51	885.24	2,904.87	2,789.40	2.44	-0.27	0.040
91.50	-21.48	-3.38	0.00	-90.6	0.00	90.56	3,695.20	872.88	2,824.35	2,711.62	2.53	-0.28	0.039
94.50	-20.68	-3.33	0.00	-80.4	0.00	80.43	3,590.59	848.17	2,666.73	2,559.36	2.7	-0.28	0.037
95.00	-20.49	-3.31	0.00	-78.8	0.00	78.76	3,573.15	844.05	2,640.90	2,534.41	2.73	-0.29	0.037
96.50	-19.71	-3.21	0.00	-73.8	0.00	73.80	3,520.85	831.70	2,564.16	2,460.29	2.82	-0.29	0.036
99.50	-18.61	-3.17	0.00	-64.2	0.00	64.17	1,815.87	470.71	1,437.09	1,263.52	3.01	-0.3	0.061
100.00	-18.52	-3.14	0.00	-62.6	0.00	62.58	1,810.16	468.35	1,422.76	1,253.20	3.04	-0.3	0.060
101.50	-18.05	-3.05	0.00	-57.9	0.00	57.87	1,792.82	461.29	1,380.19	1,222.34	3.14	-0.31	0.057
105.00	-17.46	-2.99	0.00	-47.2	0.00	47.21	1,751.18	444.82	1,283.37	1,150.99	3.37	-0.32	0.051
106.50	-17.00	-2.89	0.00	-42.7	0.00	42.72	1,732.82	437.76	1,242.96	1,120.71	3.47	-0.33	0.048
110.00	-16.43	-2.83	0.00	-32.6	0.00	32.61	1,688.81	421.28	1,151.17	1,050.82	3.71	-0.34	0.041
111.50	-16.00	-2.74	0.00	-28.4	0.00	28.35	1,669.44	414.22	1,112.92	1,021.21	3.82	-0.34	0.037
115.00	-10.73	-1.85	0.00	-18.8	0.00	18.75	1,623.06	397.75	1,026.16	953.02	4.08	-0.35	0.026
116.50	-10.33	-1.76	0.00	-16.0	0.00	15.97	1,602.68	390.69	990.06	924.20	4.19	-0.36	0.024
120.00	-9.84	-1.71	0.00	-9.8	0.00	9.80	1,553.93	374.21	908.33	857.97	4.45	-0.36	0.018
121.50	-9.44	-1.65	0.00	-7.2	0.00	7.23	1,532.53	367.15	874.38	830.04	4.57	-0.36	0.015
122.00	-6.97	-1.33	0.00	-6.4	0.00	6.41	1,525.33	364.80	863.21	820.80	4.61	-0.36	0.012
125.00	-6.57	-1.29	0.00	-2.4	0.00	2.41	1,481.41	350.68	797.68	766.02	4.83	-0.37	0.008
126.00	-1.33	-0.25	0.00	-1.1	0.00	1.12	1,464.61	345.97	776.41	747.06	4.91	-0.37	0.002
126.50	-1.08	-0.18	0.00	-1.0	0.00	1.00	1,454.64	343.62	765.89	736.88	4.95	-0.37	0.002
130.00	-0.68	-0.13	0.00	-0.4	0.00	0.38	1,384.90	327.14	694.22	667.58	5.22	-0.37	0.001
131.50	-0.32	-0.05	0.00	-0.2	0.00	0.19	1,355.01	320.08	664.58	638.92	5.33	-0.37	0.001
134.00	0.00	-0.05	0.00	-0.1	0.00	0.06	1,305.19	308.31	616.62	592.56	5.53	-0.37	0.000

Load Case: 1.0D + 1.0W	60 mph Wind with No Ice	19 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	-39.27	-5.19	0.00	-475.5	0.00	475.51	7,140.68	1,832.86	10,894.70	9,671.58	0	0	0.055
5.00	-37.44	-5.08	0.00	-449.6	0.00	449.57	7,021.49	1,785.79	10,342.36	9,264.07	0.01	-0.01	0.054
10.00	-35.65	-4.97	0.00	-424.2	0.00	424.19	6,898.92	1,738.72	9,804.39	8,860.58	0.02	-0.02	0.053
15.00	-33.91	-4.86	0.00	-399.3	0.00	399.34	6,772.97	1,691.65	9,280.79	8,461.44	0.06	-0.04	0.052
20.00	-32.22	-4.76	0.00	-375.0	0.00	375.03	6,643.63	1,644.58	8,771.56	8,067.03	0.1	-0.05	0.051
25.00	-30.57	-4.66	0.00	-351.2	0.00	351.22	6,510.90	1,597.51	8,276.69	7,677.69	0.16	-0.06	0.050
30.00	-28.97	-4.56	0.00	-327.9	0.00	327.92	6,374.80	1,550.44	7,796.20	7,293.79	0.23	-0.07	0.050
35.00	-27.41	-4.46	0.00	-305.1	0.00	305.11	6,235.31	1,503.37	7,330.07	6,915.67	0.31	-0.09	0.049
40.00	-25.90	-4.36	0.00	-282.8	0.00	282.80	6,092.43	1,456.30	6,878.30	6,543.69	0.41	-0.1	0.047
45.00	-24.44	-4.30	0.00	-261.0	0.00	261.00	5,946.17	1,409.23	6,440.91	6,178.21	0.52	-0.11	0.046
46.00	-24.15	-4.25	0.00	-256.7	0.00	256.70	5,916.51	1,399.81	6,355.15	6,105.93	0.54	-0.12	0.046
50.00	-22.06	-4.17	0.00	-239.7	0.00	239.70	5,766.46	1,362.16	6,017.88	5,789.41	0.64	-0.13	0.045
53.25	-20.41	-4.12	0.00	-226.2	0.00	226.15	4,883.36	1,187.96	5,230.82	4,892.69	0.73	-0.14	0.050
55.00	-19.98	-4.05	0.00	-218.9	0.00	218.94	4,840.98	1,173.55	5,104.66	4,790.85	0.78	-0.14	0.050
60.00	-18.79	-3.95	0.00	-198.7	0.00	198.70	4,717.60	1,132.36	4,752.69	4,503.42	0.94	-0.16	0.048
65.00	-17.63	-3.84	0.00	-179.0	0.00	178.97	4,590.84	1,091.17	4,413.29	4,221.53	1.11	-0.17	0.046
70.00	-16.52	-3.74	0.00	-159.8	0.00	159.75	4,444.94	1,049.99	4,086.46	3,931.60	1.3	-0.19	0.044
75.00	-15.25	-3.63	0.00	-141.0	0.00	141.03	4,270.58	1,008.80	3,772.21	3,627.71	1.5	-0.2	0.042
75.80	-14.99	-3.58	0.00	-138.1	0.00	138.13	4,242.69	1,002.21	3,723.09	3,580.23	1.54	-0.2	0.042
76.50	-14.75	-3.50	0.00	-135.6	0.00	135.62	4,218.28	996.44	3,680.38	3,538.93	1.57	-0.21	0.042
80.00	-14.03	-3.46	0.00	-123.4	0.00	123.36	4,096.23	967.61	3,470.52	3,336.06	1.72	-0.22	0.040
81.50	-13.63	-3.37	0.00	-118.2	0.00	118.17	4,043.92	955.26	3,382.47	3,250.94	1.79	-0.22	0.040
85.00	-12.94	-3.32	0.00	-106.4	0.00	106.37	3,921.87	926.43	3,181.41	3,056.62	1.96	-0.23	0.038
86.50	-12.56	-3.24	0.00	-101.4	0.00	101.38	3,869.56	914.07	3,097.13	2,975.17	2.03	-0.24	0.037
90.00	-11.89	-3.20	0.00	-90.0	0.00	90.03	3,747.51	885.24	2,904.87	2,789.40	2.21	-0.25	0.035
91.50	-11.52	-3.12	0.00	-85.2	0.00	85.24	3,695.20	872.88	2,824.35	2,711.62	2.29	-0.25	0.035
94.50	-10.98	-3.09	0.00	-75.9	0.00	75.89	3,590.59	848.17	2,666.73	2,559.36	2.45	-0.26	0.033
95.00	-10.84	-3.07	0.00	-74.3	0.00	74.34	3,573.15	844.05	2,640.90	2,534.41	2.48	-0.26	0.032
96.50	-10.34	-2.99	0.00	-69.7	0.00	69.74	3,520.85	831.70	2,564.16	2,460.29	2.56	-0.27	0.031
99.50	-9.54	-2.96	0.00	-60.8	0.00	60.77	1,815.87	470.71	1,437.09	1,263.52	2.73	-0.27	0.053
100.00	-9.49	-2.94	0.00	-59.3	0.00	59.30	1,810.16	468.35	1,422.76	1,253.20	2.76	-0.28	0.053
101.50	-9.23	-2.86	0.00	-54.9	0.00	54.89	1,792.82	461.29	1,380.19	1,222.34	2.85	-0.28	0.050
105.00	-8.87	-2.82	0.00	-44.9	0.00	44.88	1,751.18	444.82	1,283.37	1,150.99	3.06	-0.3	0.044
106.50	-8.63	-2.74	0.00	-40.7	0.00	40.66	1,732.82	437.76	1,242.96	1,120.71	3.15	-0.3	0.041
110.00	-8.29	-2.70	0.00	-31.1	0.00	31.07	1,688.81	421.28	1,151.17	1,050.82	3.38	-0.31	0.035
111.50	-8.06	-2.62	0.00	-27.0	0.00	27.03	1,669.44	414.22	1,112.92	1,021.21	3.48	-0.32	0.031
115.00	-5.25	-1.77	0.00	-17.8	0.00	17.84	1,623.06	397.75	1,026.16	953.02	3.71	-0.33	0.022
116.50	-5.04	-1.69	0.00	-15.2	0.00	15.20	1,602.68	390.69	990.06	924.20	3.81	-0.33	0.020
120.00	-4.75	-1.66	0.00	-9.3	0.00	9.27	1,553.93	374.21	908.33	857.97	4.06	-0.33	0.014
121.50	-4.54	-1.61	0.00	-6.8	0.00	6.79	1,532.53	367.15	874.38	830.04	4.16	-0.34	0.011
122.00	-3.22	-1.30	0.00	-6.0	0.00	5.98	1,525.33	364.80	863.21	820.80	4.2	-0.34	0.009
125.00	-2.98	-1.27	0.00	-2.1	0.00	2.09	1,481.41	350.68	797.68	766.02	4.41	-0.34	0.005
126.00	-0.70	-0.19	0.00	-0.8	0.00	0.83	1,464.61	345.97	776.41	747.06	4.48	-0.34	0.002
126.50	-0.58	-0.13	0.00	-0.7	0.00	0.73	1,454.64	343.62	765.89	736.88	4.52	-0.34	0.001
130.00	-0.35	-0.10	0.00	-0.3	0.00	0.28	1,384.90	327.14	694.22	667.58	4.76	-0.34	0.001
131.50	-0.17	-0.04	0.00	-0.1	0.00	0.13	1,355.01	320.08	664.58	638.92	4.87	-0.34	0.000
134.00	0.00	-0.03	0.00	-0.0	0.00	0.04	1,305.19	308.31	616.62	592.56	5.05	-0.34	0.000

EQUIVALENT LATERAL FORCES METHOD ANALYSIS

(Based on ASCE7-16 Chapters 11, 12 and 15)

Spectral Response Acceleration for Short Period (S_S):	0.187
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.054
Long-Period Transition Period (T_L – Seconds):	6
Importance Factor (I_e):	1.000
Site Coefficient F_a :	1.600
Site Coefficient F_v :	2.400
Response Modification Coefficient (R):	1.500
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.199
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.086
Seismic Response Coefficient (C_s):	0.049
Upper Limit C_s :	0.049
Lower Limit C_s :	0.030
Period based on Rayleigh Method (sec):	1.160
Redundancy Factor (ρ):	1.000
Seismic Force Distribution Exponent (k):	1.330
Total Unfactored Dead Load:	39.270 k
Seismic Base Shear (E):	1.940 k

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)
46	132.75	154	104	0.010	19	191
45	130.75	95	63	0.006	11	118
44	128.25	230	148	0.014	27	285
43	126.25	34	21	0.002	4	42
42	125.5	76	47	0.004	9	94
41	123.5	233	143	0.013	26	289
40	121.75	40	24	0.002	4	49
39	120.75	121	72	0.007	13	150
38	118.25	290	167	0.016	30	360
37	115.75	128	72	0.007	13	159
36	113.25	327	178	0.017	32	405
35	110.75	144	76	0.007	14	178
34	108.25	343	176	0.016	32	425
33	105.75	150	75	0.007	14	186
32	103.25	359	173	0.016	31	445
31	100.75	157	73	0.007	13	195
30	99.75	53	24	0.002	4	66
29	98	799	358	0.033	65	990
28	95.75	408	177	0.016	32	506
27	94.75	137	59	0.006	11	170
26	93	545	228	0.021	41	675
25	90.75	278	113	0.010	20	344
24	88.25	662	258	0.024	47	821
23	85.75	290	109	0.010	20	359
22	83.25	690	249	0.023	45	855
21	80.75	302	105	0.010	19	374
20	78.25	718	239	0.022	43	890
19	76.15	146	47	0.004	8	181
18	75.4	168	53	0.005	10	208
17	72.5	1,073	322	0.030	58	1,330
16	67.5	1,113	304	0.028	55	1,380
15	62.5	1,153	284	0.026	51	1,429
14	57.5	1,193	263	0.024	48	1,479
13	54.125	427	87	0.008	16	529

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
12	51.625	1,655	316	0.029	57	2,051
11	48	2,086	362	0.034	65	2,586
10	45.5	287	46	0.004	8	356
9	42.5	1,464	216	0.020	39	1,815
8	37.5	1,510	189	0.018	34	1,872
7	32.5	1,555	161	0.015	29	1,928
6	27.5	1,601	132	0.012	24	1,985
5	22.5	1,647	104	0.010	19	2,042
4	17.5	1,692	77	0.007	14	2,098
3	12.5	1,738	50	0.005	9	2,155
2	7.5	1,784	26	0.002	5	2,211
1	2.5	1,829	6	0.001	1	2,268
Generic 5' Omni	134	20	14	0.001	2	25
Generic 5' Omni	75	10	3	0.000	1	12
Chameleon 10' Pine Branch	131.5	85	56	0.005	10	105
Chameleon 10' Pine Branch	126.5	85	54	0.005	10	105
Chameleon 10' Pine Branch	121.5	85	51	0.005	9	105
Chameleon 10' Pine Branch	116.5	85	48	0.004	9	105
Chameleon 10' Pine Branch	111.5	85	45	0.004	8	105
Raycap DC6-48-60-18-8F	126	60	38	0.004	7	74
Ericsson RRUS-32 (77 lbs)	126	231	145	0.014	26	286
Generic Round T-Arm	126	938	588	0.055	106	1,162
CCI HPA-65R-BUU-H8	126	408	256	0.024	46	506
CCI DMP65R-BU8D	126	574	360	0.034	65	712
Ericsson RRUS A2 Module	122	64	38	0.004	7	79
Ericsson RRUS 4478 B14	122	180	108	0.010	20	223
Ericsson RRUS 4449 B5, B12	122	213	128	0.012	23	264
Ericsson RRUS E2	122	159	95	0.009	17	197
Ericsson RRUS-12 800 MHz	122	180	108	0.010	20	223
Ericsson RRUS-11	122	495	297	0.028	54	614
Ericsson 4460 BAND 2/25	115	327	182	0.017	33	405
Ericsson 4480 BAND 71	115	243	135	0.013	24	301
RFS SC2-W100BD	115	20	11	0.001	2	25
Commscope VV-65A-R1B	115	74	41	0.004	7	92
Ericsson AIR 6419 B41	115	250	139	0.013	25	310
Generic Flat Light Sector Frame	115	1,200	667	0.062	121	1,488
RFS APXVAALL24 43-U-NA20	115	368	205	0.019	37	457
Chameleon 12' Pine Branch	106.5	95	48	0.004	9	118
Chameleon 12' Pine Branch	101.5	95	45	0.004	8	118
Chameleon 12' Pine Branch	96.5	95	42	0.004	8	118
Chameleon 12' Pine Branch	91.5	95	39	0.004	7	118
Chameleon 12' Pine Branch	86.5	95	36	0.003	7	118
Chameleon 12' Pine Branch	81.5	95	33	0.003	6	118
Chameleon 12' Pine Branch	76.5	95	31	0.003	6	118
Chameleon 12' Pine Branch	75.8	95	30	0.003	5	118
Generic Flat Stand-Off	75	188	59	0.006	11	232
		39,266	10,750	1.000	1,943	48,686

0.9D - 1.0Ev + 1.0Eh Seismic (Reduced DL)

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
46	132.75	154	104	0.010	19	132
45	130.75	95	63	0.006	11	82
44	128.25	230	148	0.014	27	198
43	126.25	34	21	0.002	4	29
42	125.5	76	47	0.004	9	65
41	123.5	233	143	0.013	26	201
40	121.75	40	24	0.002	4	34
39	120.75	121	72	0.007	13	104
38	118.25	290	167	0.016	30	250
37	115.75	128	72	0.007	13	110
36	113.25	327	178	0.017	32	281

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
35	110.75	144	76	0.007	14	123
34	108.25	343	176	0.016	32	295
33	105.75	150	75	0.007	14	129
32	103.25	359	173	0.016	31	309
31	100.75	157	73	0.007	13	135
30	99.75	53	24	0.002	4	45
29	98	799	358	0.033	65	687
28	95.75	408	177	0.016	32	351
27	94.75	137	59	0.006	11	118
26	93	545	228	0.021	41	468
25	90.75	278	113	0.010	20	239
24	88.25	662	258	0.024	47	569
23	85.75	290	109	0.010	20	249
22	83.25	690	249	0.023	45	593
21	80.75	302	105	0.010	19	259
20	78.25	718	239	0.022	43	617
19	76.15	146	47	0.004	8	126
18	75.4	168	53	0.005	10	144
17	72.5	1,073	322	0.030	58	923
16	67.5	1,113	304	0.028	55	957
15	62.5	1,153	284	0.026	51	992
14	57.5	1,193	263	0.024	48	1,026
13	54.125	427	87	0.008	16	367
12	51.625	1,655	316	0.029	57	1,423
11	48	2,086	362	0.034	65	1,794
10	45.5	287	46	0.004	8	247
9	42.5	1,464	216	0.020	39	1,259
8	37.5	1,510	189	0.018	34	1,299
7	32.5	1,555	161	0.015	29	1,338
6	27.5	1,601	132	0.012	24	1,377
5	22.5	1,647	104	0.010	19	1,416
4	17.5	1,692	77	0.007	14	1,456
3	12.5	1,738	50	0.005	9	1,495
2	7.5	1,784	26	0.002	5	1,534
1	2.5	1,829	6	0.001	1	1,573
Generic 5' Omni	134	20	14	0.001	2	17
Generic 5' Omni	75	10	3	0.000	1	9
Chameleon 10' Pine Branch	131.5	85	56	0.005	10	73
Chameleon 10' Pine Branch	126.5	85	54	0.005	10	73
Chameleon 10' Pine Branch	121.5	85	51	0.005	9	73
Chameleon 10' Pine Branch	116.5	85	48	0.004	9	73
Chameleon 10' Pine Branch	111.5	85	45	0.004	8	73
Raycap DC6-48-60-18-8F	126	60	38	0.004	7	52
Ericsson RRUS-32 (77 lbs)	126	231	145	0.014	26	199
Generic Round T-Arm	126	938	588	0.055	106	806
CCI HPA-65R-BUU-H8	126	408	256	0.024	46	351
CCI DMP65R-BU8D	126	574	360	0.034	65	494
Ericsson RRUS A2 Module	122	64	38	0.004	7	55
Ericsson RRUS 4478 B14	122	180	108	0.010	20	155
Ericsson RRUS 4449 B5, B12	122	213	128	0.012	23	183
Ericsson RRUS E2	122	159	95	0.009	17	136
Ericsson RRUS-12 800 MHz	122	180	108	0.010	20	155
Ericsson RRUS-11	122	495	297	0.028	54	426
Ericsson 4460 BAND 2/25	115	327	182	0.017	33	281
Ericsson 4480 BAND 71	115	243	135	0.013	24	209
RFS SC2-W100BD	115	20	11	0.001	2	17
Commscope VV-65A-R1B	115	74	41	0.004	7	64
Ericsson AIR 6419 B41	115	250	139	0.013	25	215
Generic Flat Light Sector Frame	115	1,200	667	0.062	121	1,032
RFS APXVAALL24 43-U-NA20	115	368	205	0.019	37	317
Chameleon 12' Pine Branch	106.5	95	48	0.004	9	82
Chameleon 12' Pine Branch	101.5	95	45	0.004	8	82
Chameleon 12' Pine Branch	96.5	95	42	0.004	8	82
Chameleon 12' Pine Branch	91.5	95	39	0.004	7	82
Chameleon 12' Pine Branch	86.5	95	36	0.003	7	82
Chameleon 12' Pine Branch	81.5	95	33	0.003	6	82
Chameleon 12' Pine Branch	76.5	95	31	0.003	6	82
Chameleon 12' Pine Branch	75.8	95	30	0.003	5	82
Generic Flat Stand-Off	75	188	59	0.006	11	161

Segment	Height Above Base (ft)	Weight (lb)	W _z (lb-ft)	C _{vx}	Horizontal Force (lb)	Vertical Force (lb)
		39,266	10,750	1.000	1,943	33,773

1.2D + 1.0Ev + 1.0Eh Seismic

CALCULATED FORCES

Seg Elev (ft)	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (ft-kips)	Mu MZ (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-46.42	-1.94	0.00	-182.07	0.00	182.07	7,140.68	1,832.86	10,895	9,671.58	0.00	0.00	0.03
5.00	-44.21	-1.94	0.00	-172.35	0.00	172.35	7,021.49	1,785.79	10,342	9,264.07	0.00	0.00	0.03
10.00	-42.05	-1.94	0.00	-162.64	0.00	162.64	6,898.92	1,738.72	9,804	8,860.58	0.01	-0.01	0.02
15.00	-39.95	-1.92	0.00	-152.96	0.00	152.96	6,772.97	1,691.65	9,281	8,461.44	0.02	-0.01	0.02
20.00	-37.91	-1.91	0.00	-143.34	0.00	143.34	6,643.63	1,644.58	8,772	8,067.03	0.04	-0.02	0.02
25.00	-35.93	-1.89	0.00	-133.80	0.00	133.80	6,510.90	1,597.51	8,277	7,677.69	0.06	-0.02	0.02
30.00	-34.00	-1.86	0.00	-124.36	0.00	124.36	6,374.80	1,550.44	7,796	7,293.79	0.09	-0.03	0.02
35.00	-32.13	-1.83	0.00	-115.06	0.00	115.06	6,235.31	1,503.37	7,330	6,915.67	0.12	-0.03	0.02
40.00	-30.31	-1.79	0.00	-105.93	0.00	105.93	6,092.43	1,456.30	6,878	6,543.69	0.16	-0.04	0.02
45.00	-29.95	-1.78	0.00	-96.97	0.00	96.97	5,946.17	1,409.23	6,441	6,178.21	0.20	-0.04	0.02
46.00	-27.37	-1.72	0.00	-95.19	0.00	95.19	5,916.51	1,399.81	6,355	6,105.93	0.21	-0.04	0.02
50.00	-25.32	-1.66	0.00	-88.32	0.00	88.32	5,766.46	1,362.16	6,018	5,789.41	0.25	-0.05	0.02
53.25	-24.79	-1.64	0.00	-82.93	0.00	82.93	4,883.36	1,187.96	5,231	4,892.69	0.28	-0.05	0.02
55.00	-23.31	-1.60	0.00	-80.05	0.00	80.05	4,840.98	1,173.55	5,105	4,790.85	0.30	-0.05	0.02
60.00	-21.88	-1.55	0.00	-72.07	0.00	72.07	4,717.60	1,132.36	4,753	4,503.42	0.36	-0.06	0.02
65.00	-20.50	-1.49	0.00	-64.33	0.00	64.33	4,590.84	1,091.17	4,413	4,221.53	0.42	-0.06	0.02
70.00	-19.17	-1.43	0.00	-56.87	0.00	56.87	4,444.94	1,049.99	4,086	3,931.60	0.49	-0.07	0.02
75.00	-18.71	-1.41	0.00	-49.70	0.00	49.70	4,270.58	1,008.80	3,772	3,627.71	0.57	-0.08	0.02
75.80	-18.42	-1.40	0.00	-48.57	0.00	48.57	4,242.69	1,002.21	3,723	3,580.23	0.58	-0.08	0.02
76.50	-17.41	-1.35	0.00	-47.59	0.00	47.59	4,218.28	996.44	3,680	3,538.93	0.59	-0.08	0.02
80.00	-17.03	-1.33	0.00	-42.86	0.00	42.86	4,096.23	967.61	3,471	3,336.06	0.65	-0.08	0.02
81.50	-16.06	-1.28	0.00	-40.87	0.00	40.87	4,043.92	955.26	3,382	3,250.94	0.67	-0.08	0.02
85.00	-15.70	-1.26	0.00	-36.39	0.00	36.39	3,921.87	926.43	3,181	3,056.62	0.74	-0.09	0.02
86.50	-14.76	-1.21	0.00	-34.49	0.00	34.49	3,869.56	914.07	3,097	2,975.17	0.76	-0.09	0.02
90.00	-14.42	-1.19	0.00	-30.27	0.00	30.27	3,747.51	885.24	2,905	2,789.40	0.83	-0.09	0.02
91.50	-13.63	-1.14	0.00	-28.49	0.00	28.49	3,695.20	872.88	2,824	2,711.62	0.86	-0.09	0.01
94.50	-13.46	-1.13	0.00	-25.08	0.00	25.08	3,590.59	848.17	2,667	2,559.36	0.92	-0.10	0.01
95.00	-12.95	-1.09	0.00	-24.52	0.00	24.52	3,573.15	844.05	2,641	2,534.41	0.93	-0.10	0.01
96.50	-11.84	-1.02	0.00	-22.87	0.00	22.87	3,520.85	831.70	2,564	2,460.29	0.96	-0.10	0.01
99.50	-11.78	-1.02	0.00	-19.81	0.00	19.81	1,815.87	470.71	1,437	1,263.52	1.02	-0.10	0.02
100.00	-11.58	-1.00	0.00	-19.31	0.00	19.31	1,810.16	468.35	1,423	1,253.20	1.03	-0.10	0.02
101.50	-11.02	-0.96	0.00	-17.80	0.00	17.80	1,792.82	461.29	1,380	1,222.34	1.06	-0.10	0.02
105.00	-10.83	-0.95	0.00	-14.43	0.00	14.43	1,751.18	444.82	1,283	1,150.99	1.14	-0.11	0.02
106.50	-10.29	-0.91	0.00	-13.00	0.00	13.00	1,732.82	437.76	1,243	1,120.71	1.17	-0.11	0.02
110.00	-10.11	-0.90	0.00	-9.82	0.00	9.82	1,688.81	421.28	1,151	1,050.82	1.25	-0.11	0.02
111.50	-9.60	-0.85	0.00	-8.48	0.00	8.48	1,669.44	414.22	1,113	1,021.21	1.29	-0.11	0.01
115.00	-6.36	-0.59	0.00	-5.49	0.00	5.49	1,623.06	397.75	1,026	953.02	1.37	-0.12	0.01
116.50	-5.90	-0.55	0.00	-4.61	0.00	4.61	1,602.68	390.69	990	924.20	1.41	-0.12	0.01
120.00	-5.75	-0.53	0.00	-2.70	0.00	2.70	1,553.93	374.21	908	857.97	1.50	-0.12	0.01
121.50	-5.59	-0.52	0.00	-1.90	0.00	1.90	1,532.53	367.15	874	830.04	1.53	-0.12	0.01
122.00	-3.71	-0.35	0.00	-1.64	0.00	1.64	1,525.33	364.80	863	820.80	1.55	-0.12	0.00
125.00	-3.61	-0.34	0.00	-0.59	0.00	0.59	1,481.41	350.68	798	766.02	1.62	-0.12	0.00
126.00	-0.83	-0.08	0.00	-0.25	0.00	0.25	1,464.61	345.97	776	747.06	1.65	-0.12	0.00
126.50	-0.44	-0.04	0.00	-0.21	0.00	0.21	1,454.64	343.62	766	736.88	1.66	-0.12	0.00
130.00	-0.32	-0.03	0.00	-0.05	0.00	0.05	1,384.90	327.14	694	667.58	1.75	-0.12	0.00
131.50	-0.02	0.00	0.00	-0.01	0.00	0.01	1,355.01	320.08	665	638.92	1.78	-0.12	0.00
134.00	0.00	0.00	0.00	0.00	0.00	0.00	1,305.19	308.31	617	592.56	1.85	-0.12	0.00

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 (fr-kips)	Mu Mx (ft-kips)	Resultant Moment (ft-kips)	Phi Pn (kips)	Phi Vn (kips)	Phi Tn (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
0.00	-32.20	-1.94	0.00	-181.37	0.00	181.37	7,140.68	1,832.86	10,895	9,671.58	0.00	0.00	0.02

ASSET: 209259, Washington 2
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
 ENG NO: 14099766_C3_04

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 (kips)	Phi Mn (kips)	Total Deflect (in)	Rotation (deg)	Ratio
5.00	-30.67	-1.94	0.00	-171.66	0.00	171.66	7,021.49	1,785.79	10,342	9,264.07	0.00	0.00	0.02
10.00	-29.17	-1.93	0.00	-161.96	0.00	161.96	6,898.92	1,738.72	9,804	8,860.58	0.01	-0.01	0.02
15.00	-27.72	-1.92	0.00	-152.29	0.00	152.29	6,772.97	1,691.65	9,281	8,461.44	0.02	-0.01	0.02
20.00	-26.30	-1.90	0.00	-142.68	0.00	142.68	6,643.63	1,644.58	8,772	8,067.03	0.04	-0.02	0.02
25.00	-24.92	-1.88	0.00	-133.16	0.00	133.16	6,510.90	1,597.51	8,277	7,677.69	0.06	-0.02	0.02
30.00	-23.58	-1.85	0.00	-123.75	0.00	123.75	6,374.80	1,550.44	7,796	7,293.79	0.09	-0.03	0.02
35.00	-22.28	-1.82	0.00	-114.48	0.00	114.48	6,235.31	1,503.37	7,330	6,915.67	0.12	-0.03	0.02
40.00	-21.03	-1.78	0.00	-105.37	0.00	105.37	6,092.43	1,456.30	6,878	6,543.69	0.15	-0.04	0.02
45.00	-20.78	-1.78	0.00	-96.45	0.00	96.45	5,946.17	1,409.23	6,441	6,178.21	0.20	-0.04	0.02
46.00	-18.98	-1.71	0.00	-94.68	0.00	94.68	5,916.51	1,399.81	6,355	6,105.93	0.21	-0.04	0.02
50.00	-17.56	-1.65	0.00	-87.84	0.00	87.84	5,766.46	1,362.16	6,018	5,789.41	0.24	-0.05	0.02
53.25	-17.19	-1.64	0.00	-82.47	0.00	82.47	4,883.36	1,187.96	5,231	4,892.69	0.28	-0.05	0.02
55.00	-16.17	-1.59	0.00	-79.60	0.00	79.60	4,840.98	1,173.55	5,105	4,790.85	0.30	-0.05	0.02
60.00	-15.18	-1.54	0.00	-71.65	0.00	71.65	4,717.60	1,132.36	4,753	4,503.42	0.36	-0.06	0.02
65.00	-14.22	-1.48	0.00	-63.95	0.00	63.95	4,590.84	1,091.17	4,413	4,221.53	0.42	-0.06	0.02
70.00	-13.30	-1.43	0.00	-56.53	0.00	56.53	4,444.94	1,049.99	4,086	3,931.60	0.49	-0.07	0.02
75.00	-12.98	-1.41	0.00	-49.39	0.00	49.39	4,270.58	1,008.80	3,772	3,627.71	0.57	-0.07	0.02
75.80	-12.77	-1.39	0.00	-48.27	0.00	48.27	4,242.69	1,002.21	3,723	3,580.23	0.58	-0.08	0.02
76.50	-12.08	-1.34	0.00	-47.29	0.00	47.29	4,218.28	996.44	3,680	3,538.93	0.59	-0.08	0.02
80.00	-11.82	-1.32	0.00	-42.59	0.00	42.59	4,096.23	967.61	3,471	3,336.06	0.65	-0.08	0.02
81.50	-11.14	-1.27	0.00	-40.61	0.00	40.61	4,043.92	955.26	3,382	3,250.94	0.67	-0.08	0.02
85.00	-10.89	-1.25	0.00	-36.15	0.00	36.15	3,921.87	926.43	3,181	3,056.62	0.73	-0.09	0.02
86.50	-10.24	-1.20	0.00	-34.27	0.00	34.27	3,869.56	914.07	3,097	2,975.17	0.76	-0.09	0.01
90.00	-10.00	-1.18	0.00	-30.07	0.00	30.07	3,747.51	885.24	2,905	2,789.40	0.83	-0.09	0.01
91.50	-9.45	-1.13	0.00	-28.31	0.00	28.31	3,695.20	872.88	2,824	2,711.62	0.85	-0.09	0.01
94.50	-9.33	-1.12	0.00	-24.91	0.00	24.91	3,590.59	848.17	2,667	2,559.36	0.91	-0.09	0.01
95.00	-8.98	-1.09	0.00	-24.35	0.00	24.35	3,573.15	844.05	2,641	2,534.41	0.92	-0.10	0.01
96.50	-8.21	-1.01	0.00	-22.72	0.00	22.72	3,520.85	831.70	2,564	2,460.29	0.95	-0.10	0.01
99.50	-8.17	-1.01	0.00	-19.68	0.00	19.68	1,815.87	470.71	1,437	1,263.52	1.01	-0.10	0.02
100.00	-8.03	-1.00	0.00	-19.18	0.00	19.18	1,810.16	468.35	1,423	1,253.20	1.02	-0.10	0.02
101.50	-7.64	-0.96	0.00	-17.68	0.00	17.68	1,792.82	461.29	1,380	1,222.34	1.06	-0.10	0.02
105.00	-7.51	-0.94	0.00	-14.33	0.00	14.33	1,751.18	444.82	1,283	1,150.99	1.13	-0.11	0.02
106.50	-7.14	-0.90	0.00	-12.92	0.00	12.92	1,732.82	437.76	1,243	1,120.71	1.17	-0.11	0.02
110.00	-7.01	-0.89	0.00	-9.75	0.00	9.75	1,688.81	421.28	1,151	1,050.82	1.25	-0.11	0.01
111.50	-6.66	-0.85	0.00	-8.42	0.00	8.42	1,669.44	414.22	1,113	1,021.21	1.28	-0.11	0.01
115.00	-4.41	-0.58	0.00	-5.45	0.00	5.45	1,623.06	397.75	1,026	953.02	1.37	-0.12	0.01
116.50	-4.09	-0.54	0.00	-4.58	0.00	4.58	1,602.68	390.69	990	924.20	1.40	-0.12	0.01
120.00	-3.99	-0.53	0.00	-2.68	0.00	2.68	1,553.93	374.21	908	857.97	1.49	-0.12	0.01
121.50	-3.88	-0.52	0.00	-1.88	0.00	1.88	1,532.53	367.15	874	830.04	1.52	-0.12	0.01
122.00	-2.57	-0.35	0.00	-1.63	0.00	1.63	1,525.33	364.80	863	820.80	1.54	-0.12	0.00
125.00	-2.51	-0.34	0.00	-0.58	0.00	0.58	1,481.41	350.68	798	766.02	1.61	-0.12	0.00
126.00	-0.58	-0.08	0.00	-0.25	0.00	0.25	1,464.61	345.97	776	747.06	1.64	-0.12	0.00
126.50	-0.30	-0.04	0.00	-0.20	0.00	0.20	1,454.64	343.62	766	736.88	1.65	-0.12	0.00
130.00	-0.22	-0.03	0.00	-0.05	0.00	0.05	1,384.90	327.14	694	667.58	1.74	-0.12	0.00
131.50	-0.02	0.00	0.00	-0.01	0.00	0.01	1,355.01	320.08	665	638.92	1.77	-0.12	0.00
134.00	0.00	0.00	0.00	0.00	0.00	0.00	1,305.19	308.31	617	592.56	1.84	-0.12	0.00

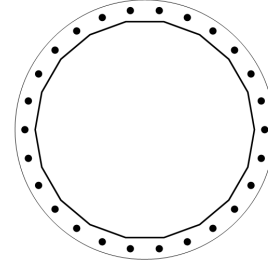
ANALYSIS SUMMARY

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	21.30	0.00	47.11	0.00	0.00	1956.75	0.00	0.21
0.9D + 1.0W	21.30	0.00	35.33	0.00	0.00	1950.29	0.00	0.21
1.2D + 1.0Di + 1.0Wi	6.03	0.00	61.20	0.00	0.00	533.66	0.00	0.06
1.2D + 1.0Ev + 1.0Eh	1.94	0.00	46.42	0.00	0.00	182.07	0.00	0.03
0.9D - 1.0Ev + 1.0Eh	1.94	0.00	32.20	0.00	0.00	181.37	0.00	0.02
1.0D + 1.0W	5.19	0.00	39.27	0.00	0.00	475.51	0.00	0.05

BASE PLATE ANALYSIS @ 0 FT

PLATE PARAMETERS (ID# 18601)

Diameter:	79.25	in
Shape:	Round	
Thickness:	3	in
Grade:	A572-50	
Yield Strength:	50	ksi
Tensile Strength:	65	ksi
Rod Detail Type:	d	
Clear Distance	3.5	in
Base Weld Size:	0.125	in
Orientation Offset:	-	°
Analysis Type:	Plastic	
Neutral Axis:	90	°



ANCHOR ROD PARAMETERS

Class	Arrangement	Quantity	Diameter (in)	Circle (in)	Grade	Fy (ksi)	Fu (ksi)	Spacing (in)	Offset (°)
Original [ID# 19071]	Radial	26	2.25	73.25	A615-75	75	100	-	-

ANCHOR ROD GEOMETRY AND APPLIED LOADS --- ORIGINAL (26) 2.25"Ø [ID 19071]

Position	Radians	X (in)	Y (in)	Moment Arm (in)	Inertia (in ⁴)	Axial Load (k)	Shear Load (k)
1	0.242	35.56	8.76	-34.286	3818.680	-36.45	0.31
2	0.483	32.43	17.02	-31.268	3175.998	-36.45	0.60
3	0.725	27.41	24.29	-26.432	2269.803	-36.45	0.85
4	0.967	20.80	30.14	-20.060	1307.693	-36.45	1.06
5	1.208	12.99	34.24	-12.522	510.077	-36.45	1.20
6	1.450	4.42	36.36	-4.256	59.679	-36.45	1.27
7	1.692	-4.42	36.36	4.256	59.679	43.70	1.27
8	1.933	-12.99	34.24	12.522	510.077	43.70	1.20
9	2.175	-20.80	30.14	20.060	1307.693	43.70	1.06
10	2.417	-27.41	24.29	26.432	2269.803	43.70	0.85
11	2.658	-32.43	17.02	31.268	3175.998	43.70	0.60
12	2.900	-35.56	8.76	34.286	3818.680	43.70	0.31
13	3.142	-36.62	0.00	35.313	4050.619	43.70	0.00
14	3.383	-35.56	-8.76	34.286	3818.680	43.70	0.31
15	3.625	-32.43	-17.02	31.268	3175.998	43.70	0.60
16	3.867	-27.41	-24.29	26.432	2269.803	43.70	0.85
17	4.108	-20.80	-30.14	20.060	1307.693	43.70	1.06
18	4.350	-12.99	-34.24	12.522	510.077	43.70	1.20
19	4.592	-4.42	-36.36	4.256	59.679	43.70	1.27
20	4.833	4.42	-36.36	-4.256	59.679	-36.45	1.27
21	5.075	12.99	-34.24	-12.522	510.077	-36.45	1.20
22	5.317	20.80	-30.14	-20.060	1307.693	-36.45	1.06
23	5.558	27.41	-24.29	-26.432	2269.803	-36.45	0.85
24	5.800	32.43	-17.02	-31.268	3175.998	-36.45	0.60
25	6.042	35.56	-8.76	-34.286	3818.680	-36.45	0.31
26	6.283	36.62	0.00	-35.313	4050.619	-36.45	0.00

REACTION DISTRIBUTION

Component	ID	Moment Mu (k-ft)	Axial Load Pu (k)	Shear Vu (k)	Moment Factor
Pole	66.31"Ø x 0.5" (18 Sides)	1956.8	47.11	21.30	1.000
Bolt Group	Original (26) 2.25"Ø	1956.8	-	21.30	1.000
TOTALS		1956.75	47.11	21.3	

COMPONENT PROPERTIES

Component	ID	Gross Area (in ²)	Net Area (in ²)	Individual Inertia (in ⁴)	Moment of Inertia (in ⁴)	Threads/in
Pole	66.31"Ø x 0.5" (18 Sides)	102.8501	-	-	55688.50	-
Bolt Group	Original (26) 2.25"Ø	3.9761	3.2477	0.8393	52668.96	4.5

ASSET: 209259, Washington 2
 CUSTOMER: T-MOBILE

CODE: ANSI/TIA-222-H
 ENG NO: 14099766

EXTERNAL BASE PLATE BEND LINE ANALYSIS @ 0 FT

POLE PROPERTIES

Flat-to-Flat Diameter: 66.44 in
 Point-to-Point Diameter: 67.46 in
 Flat Width: 11.714 in
 Flat Radians: 0.349 rad

PLATE PROPERTIES

Neutral Axis: 90 °
 Bend Line Lower Limit: 2.763 rad
 Bend Line Upper Limit: 3.520 rad

Bend Line	Chord Length (in)	Additional Length (in)	Section Modulus (in ³)	Applied Moment Mu (k-in)	Moment Capacity φMn (k-in)	Ratio
Flat	38.211	0.00	85.975	220.9	3868.9	0.057
Corner	36.371	0.00	81.835	141.0	3682.6	0.038
Circumferential	39.998	0.00	89.996	246.6	4049.8	0.061

PLASTIC ANCHOR ROD ANALYSIS

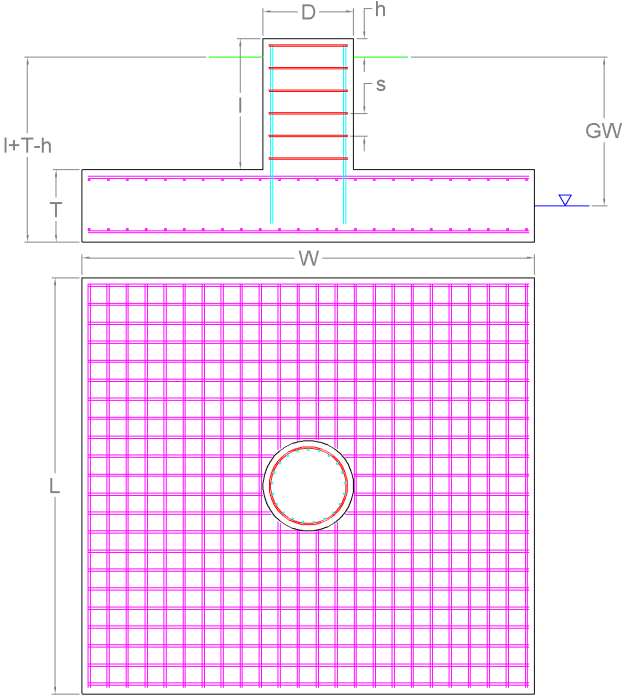
Class	Group Quantity	Rod Diameter (in)	Applied Axial Load Pu (k)	Applied Shear Load Vu (k)	Compressive Capacity φPn (k)	Ratio
Original	26	2.25	43.6	1.3	243.6	0.190

Monolithic Mat Foundation Analysis (ANSI/TIA-222-H)

Foundation & Tower Parameters			
Ignore Mat Rebar?		Y	
Ignore Pier Rebar?		Y	
Foundation has Pier(s)?		Y	
Pier Shape		Round	
Pier Diameter	<i>D</i>	8	ft
Pier Height Above Ground	<i>h</i>	0.7	ft
Pier Length	<i>l</i>	4.3	ft
Mat Base Depth	<i>l+T-h</i>	6.1	ft
Mat Length	<i>L</i>	28	ft
Mat Width	<i>W</i>	28	ft
Mat Thickness	<i>T</i>	2.5	ft
Unit Weight of Concrete		150	pcf
Tower Eccentricity	ecc	0	ft
Tower Face Width	FW	6.1	ft
Tower Leg Count		1	

Reactions			
Moment, M_u		1,956.8	k-ft
Shear, V_u		21.3	k
Axial, P_u		47.1	k
Uplift, T_u		0	k
Tower Weight		47.1	k
Tower Dead Load Factor		0.9	

Soil Parameters			
Water Table Depth [BGL]	<i>GW</i>	-	ft
Unit Weight of Soil		125	pcf
Unit Weight of Soil [Submerged]		62.6	pcf
Shear Friction Coefficient		0.5	
Ultimate Bearing Pressure		16,000	psf
Bearing Pressure Type		Net	
Conical Failure Angle		30	°
Capacity Increase (Transient Loads)		1.00	
Soil Strength Reduction Factor, ϕ_s		0.75	
Dead Load Factor		1.2	



Soil Capacities			
Design Moment, M_u		2,101.64	k-ft
Nominal Moment Capacity, $\phi_m M_n$		9,181.06	k-ft
$M_u / \phi_s M_n$		22.9%	
Net Bearing Pressure		1,032	k
Nominal Bearing Capacity, $\phi_b P_n$		12,572	k
Bearing Pressure Controlling Load Direction		Parallel to Pad Edge	
$P_u / \phi_s P_n$		8.2%	
Ultimate Friction Resistance		347.93	k
Ultimate Passive Pressure Resistance		42.44	k
Nominal Shear Capacity, $\phi_s V_n$		292.77	k
$V_u / \phi_s V_n$		7.0%	



Exhibit E



AMERICAN TOWER®
CORPORATION

Mount Analysis Report

ATC Site Name : Washington 2, CT
ATC Site Number : 209259
Engineering Number : 14099766_C8_01
Mount Elevation : 115 ft
Carrier : T-Mobile
Carrier Site Name : Blackville Washington ATC
Carrier Site Number : CTNH295A
Site Location : 10 Blackville Road
Washington, CT 6794
41.64655713 , -73.31608111
County : Litchfield
Date : May 18, 2022
Max Usage : 49%
Result : Contingent Pass

Prepared By:
Charles Faulkner
Structural Engineer

Reviewed By:



COA: PEC.0001553



Table of Contents

Introduction 1

Supporting Documents 1

Analysis 1

Conclusion 1

Application Loading 2

Structure Usages 2

Mount Layout 3

Equipment Layout 4

Standard Conditions 5

Calculations Attached



Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 115 ft.

Supporting Documents

Specifications Sheet	Site Pro 1 VFA10-HD, dated June 29, 2018
Radio Frequency Data Sheet	RFDS ID #CTNH295A, dated March 4, 2022
Reference Photos	Site photos from 2021

Analysis

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

Basic Wind Speed:	115 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 1.00" radial ice concurrent
Codes:	ANSI/TIA-222-H
Exposure Category:	C
Risk Category:	II
Topographic Factor Procedure:	Method 2
Feature:	Flat
Crest Height (H):	0 ft
Crest Length (L):	0 ft
Spectral Response:	Ss = 0.187, S1 = 0.054
Site Class:	D - Stiff Soil - Default
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

Conclusion

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

- Analysis based on new installation of Site Pro 1 VFA10-HD V-Frame(s) (M1200R(2800)-4[6]) with P2 (2.375" x 126") antenna mounting pipe (Mount Pipe A, B, C, D) with Site Pro 1 SCX7-U (or approved equivalent) crossover plate kits and Site Pro 1 MDFCC collar attachment kit.

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



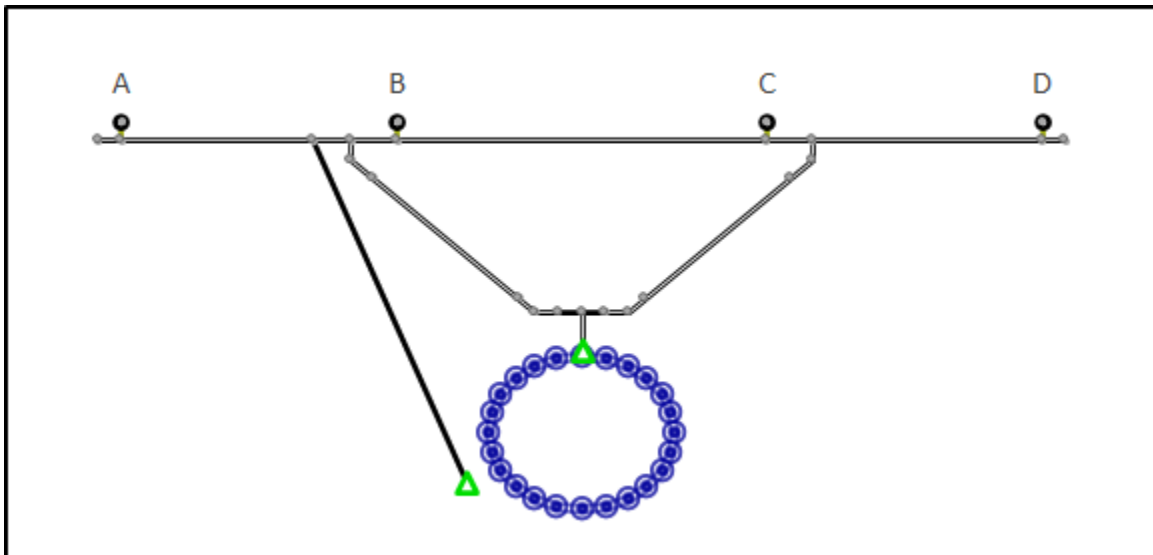
Application Loading

Mount Centerline (ft)	Equipment Centerline (ft)	Qty	Equipment Manufacturer & Model
115.0	115.0	3	RFS APXVAALL24 43-U-NA20
		3	Ericsson AIR 6419 B41
		3	Commscope VV-65A-R1B
		1	RFS SC2-W100BD
		3	Ericsson 4460 BAND 2/25
		3	Ericsson 4480 BAND 71

Structure Usages

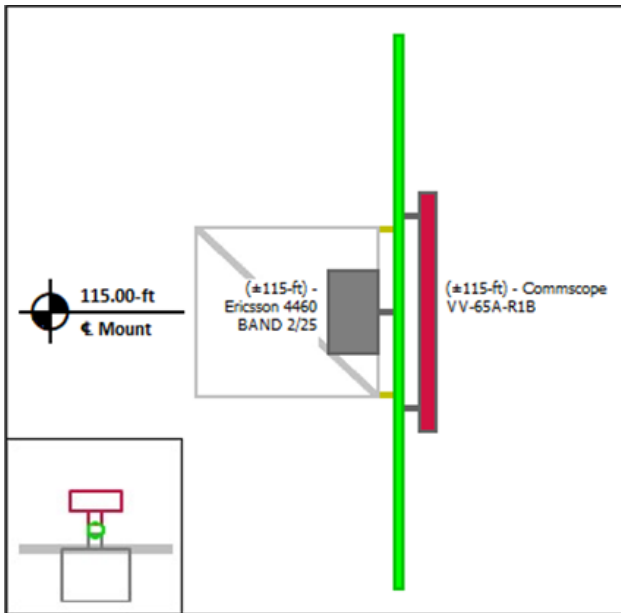
Structural Component	Controlling Usage	Pass/Fail
Horizontals	39%	Pass
Verticals	49%	Pass
Diagonals	19%	Pass
Tie-Backs	6%	Pass
Mount Pipes	34%	Pass

Mount Layout

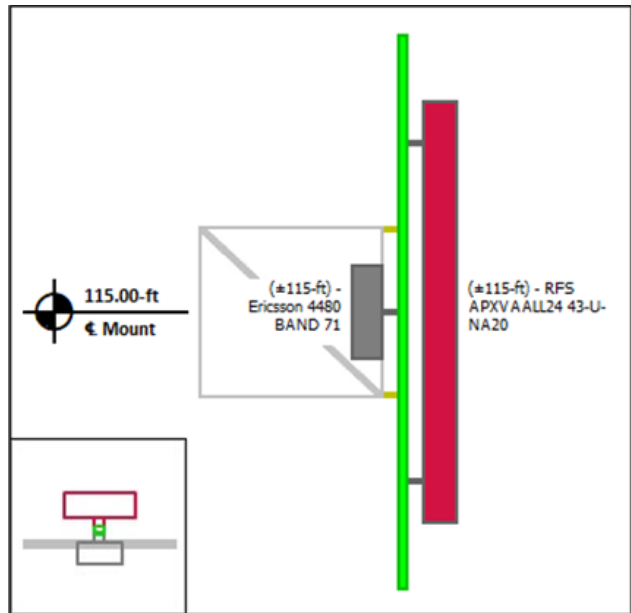


Equipment Layout

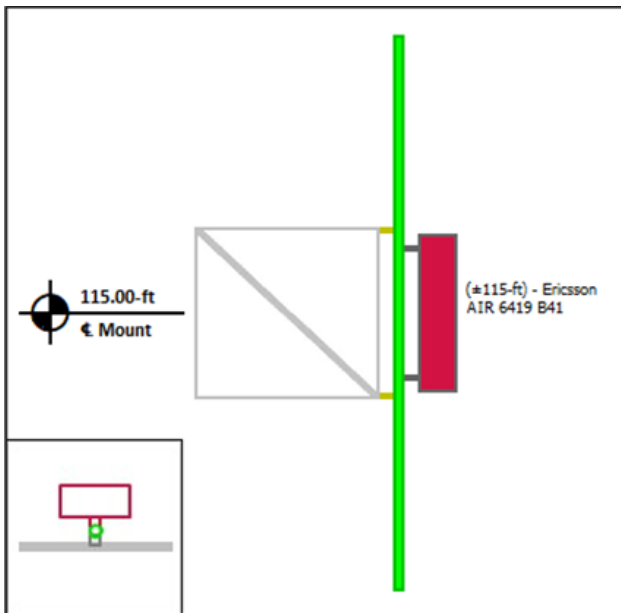
Mount Pipe A



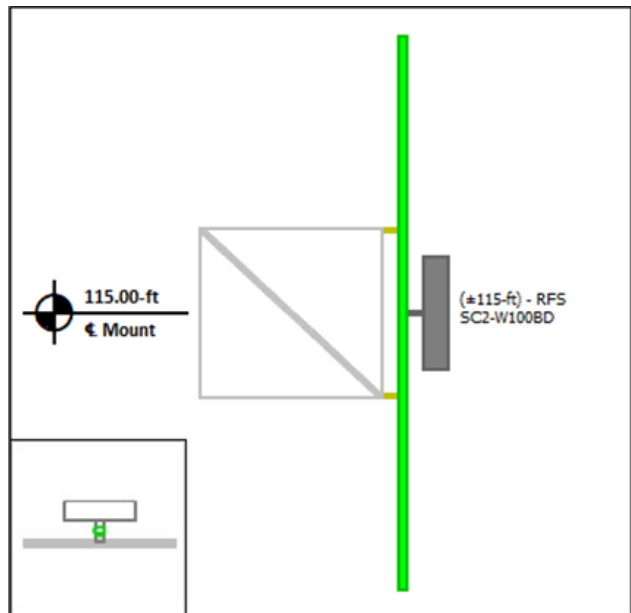
Mount Pipe B



Mount Pipe C



Mount Pipe D





Standard Conditions

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

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

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

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

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

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

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

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



Site Number: 209259
 Project Number: 14099766_C8_01
 Carrier: T-Mobile
 Mount Elevation: 115 ft
 Date: 5/18/2022

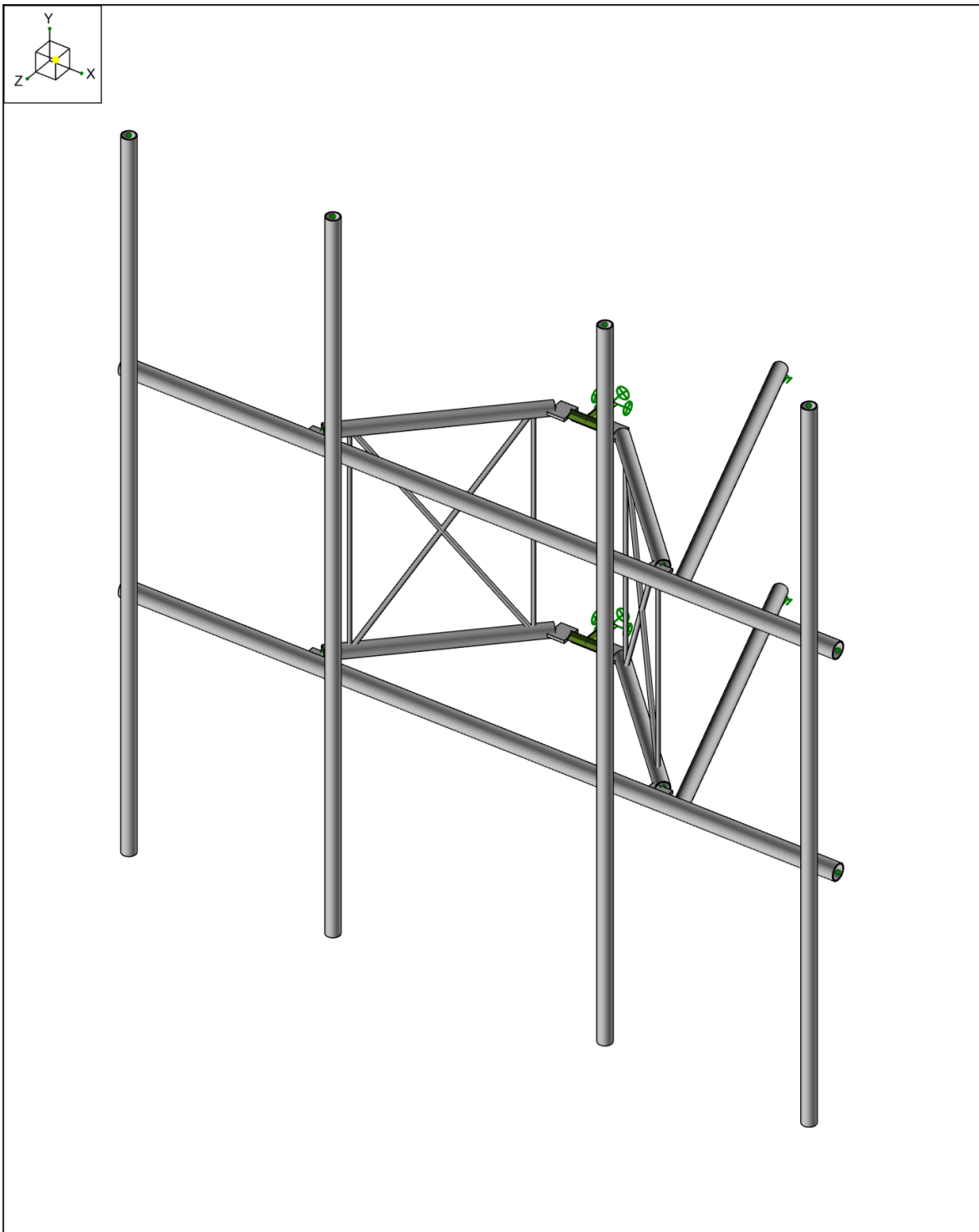
Mount Analysis Force Calculations

Wind & Ice Load Calculations			
Velocity Pressure Coefficient	K_z	1.30	
Topographic Factor	K_{zt}	1.00	
Rooftop Wind Speed-up Factor	K_s	1.00	
Shielding Factor	K_a	0.90	
Ground Elevation Factor	K_e	0.98	
Wind Direction Probability Factor	K_d	0.95	
Basic Wind Speed	V	115	mph
Velocity Pressure	q_z	41.0	psf
Height Escalation Factor	K_{iz}	1.13	
Thickness of Radial Glaze Ice	T_{iz}	1.13	in

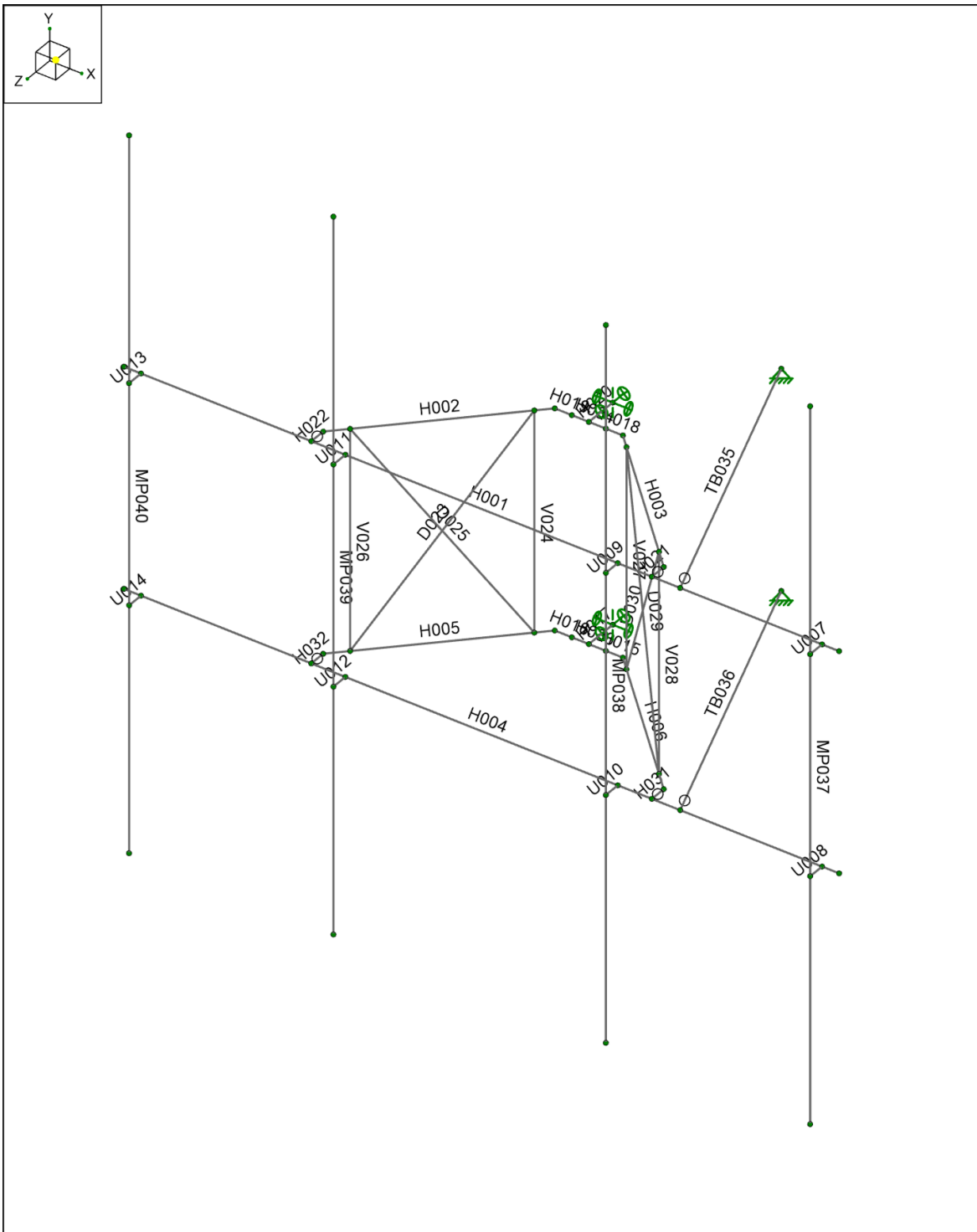
Seismic Load Calculations			
Short Period DSRAP	S_{D5}	0.150	
1 Second DSRAP	S_{D1}	0.086	
Importance Factor	I	1.0	
Response Modification Coefficient	R	2.0	
Seismic Response Coefficient	C_s	0.075	
Amplification Factor	A	1.0	
Total Weight	W	963.9	lbs
Total Shear Force	V_s	72.1	lbs
Horizontal Seismic Load	E_h	72.1	lbs
Vertical Seismic Load	E_v	28.8	lbs

Antenna Calculations (Elevations per Application/RFDS)*								
Equipment	Height	Width	Depth	Weight	EPA_N	EPA_T	EPA_{Ni}	EPA_{Ti}
Model #	in	in	in	lbs	sqft	sqft	sqft	sqft
RFS APXVAALL24 43-U-NA20	95.9	24.0	8.5	122.8	20.24	3.40	22.68	4.40
Ericsson AIR 6419 B41	36.3	20.9	9.0	83.3	6.32	1.82	7.45	2.42
Commscope VV-65A-R1B	54.7	12.0	4.6	24.7	5.89	1.37	7.29	2.12
RFS SC2-W100BD	26.4	26.4	6.6	20.0	2.42	0.67	2.85	0.98
Ericsson 4460 BAND 2/25	19.6	15.7	12.1	109.0	2.56	1.98	3.27	2.62
Ericsson 4480 BAND 71	22.0	15.7	7.5	81.0	2.88	1.40	3.63	2.01

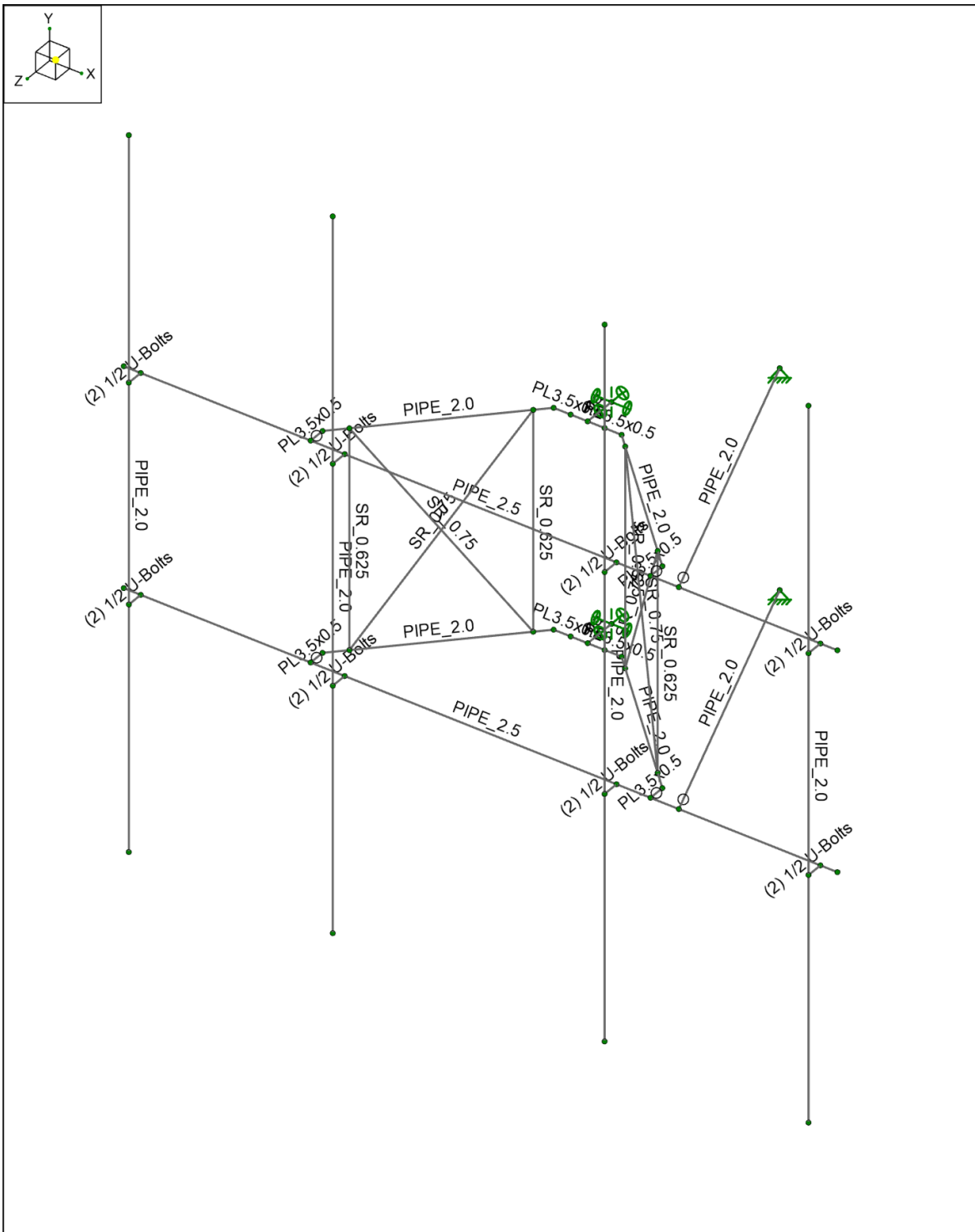
* Equipment with EPA values N/A were not considered in the mount analysis



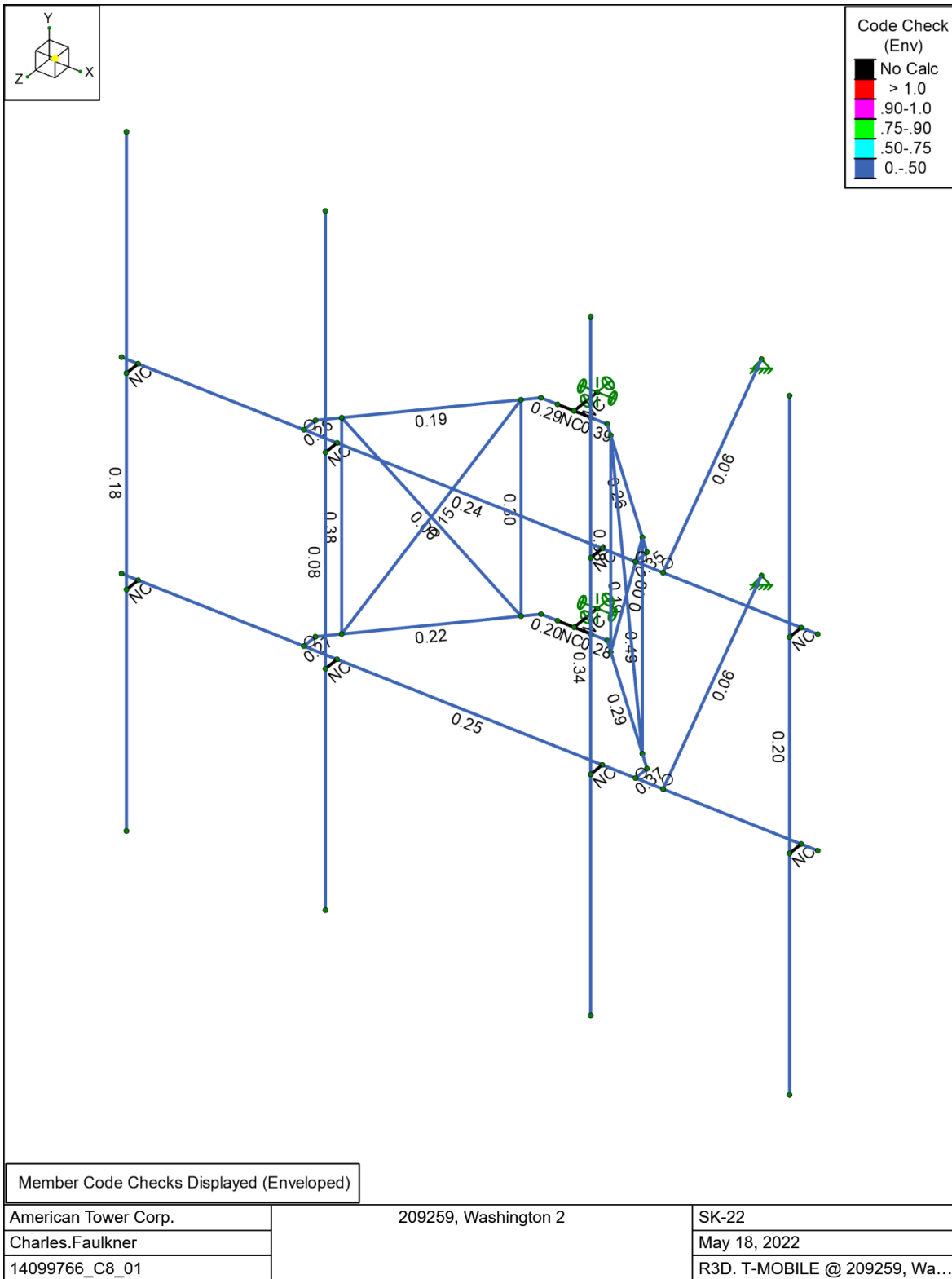
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Charles.Faulkner		May 18, 2022
14099766_C8_01		R3D. T-MOBILE @ 209259, Wa...

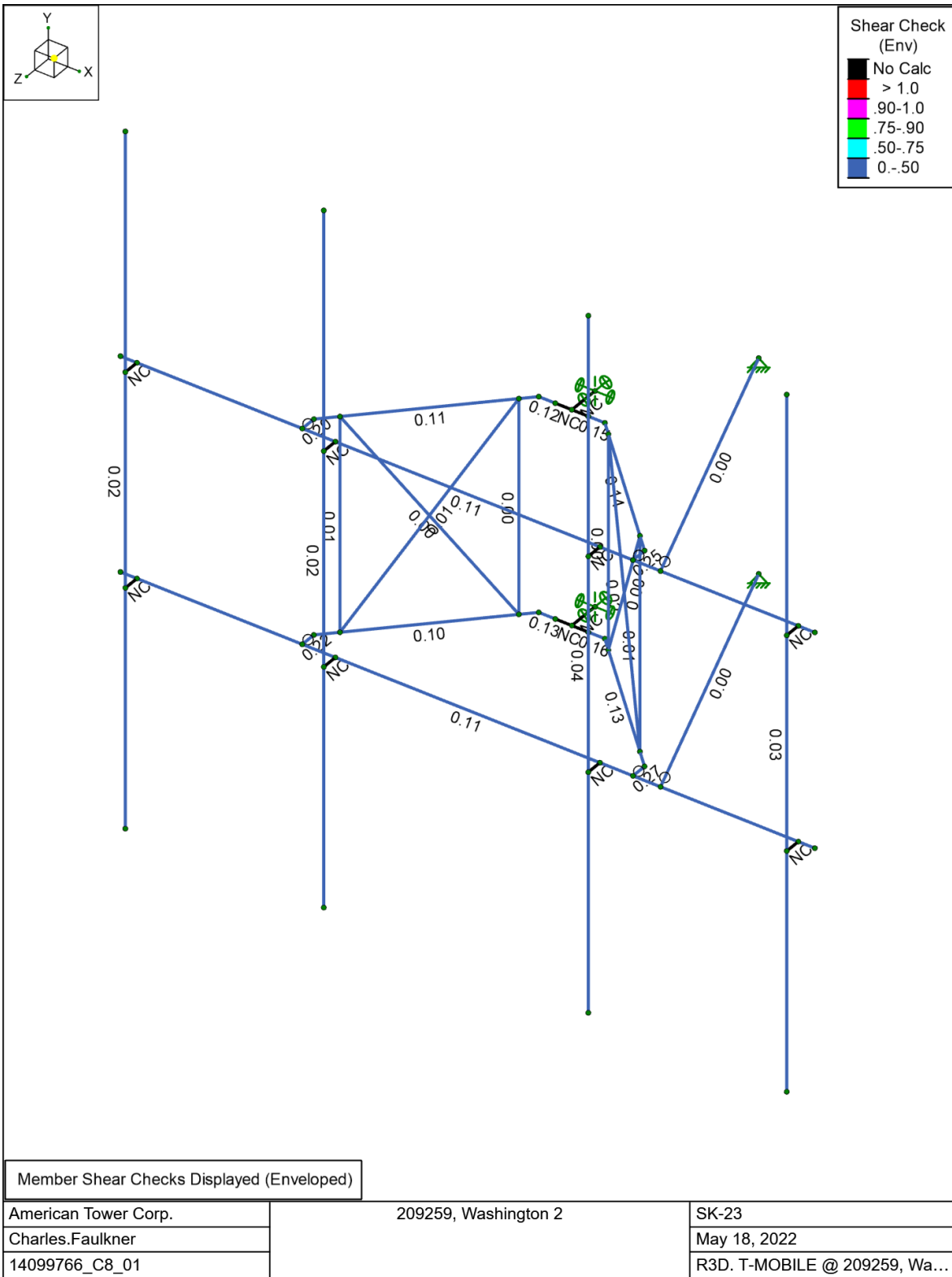


American Tower Corp.	209259, Washington 2	SK-20
Charles.Faulkner		May 18, 2022
14099766_C8_01		R3D. T-MOBILE @ 209259, Wa...



American Tower Corp.	209259, Washington 2	SK-21
Charles.Faulkner		May 18, 2022
14099766_C8_01		R3D. T-MOBILE @ 209259, Wa...







Company : American Tower Corp.
 Designer : Charles.Faulkner
 Job Number : 14099766_C8_01
 Model Name : 209259, Washington 2

5/18/2022
 1:24:15 PM
 Checked By : -

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed
1	D	DL	-1		9	
2	Di	IL			9	28
3	W 0	WL			9	39
4	W 30	WL			18	75
5	W 60	WL			18	75
6	W 90	WL			9	36
7	W 120	WL			18	75
8	W 150	WL			18	75
9	W 180	WL			9	39
10	W 210	WL			18	75
11	W 240	WL			18	75
12	W 270	WL			9	36
13	W 300	WL			18	75
14	W 330	WL			18	75
15	Wi 0	WL			9	39
16	Wi 30	WL			18	75
17	Wi 60	WL			18	75
18	Wi 90	WL			9	36
19	Wi 120	WL			18	75
20	Wi 150	WL			18	75
21	Wi 180	WL			9	39
22	Wi 210	WL			18	75
23	Wi 240	WL			18	75
24	Wi 270	WL			9	36
25	Wi 300	WL			18	75
26	Wi 330	WL			18	75
27	Ws 0	WL			9	39
28	Ws 30	WL			18	75
29	Ws 60	WL			18	75
30	Ws 90	WL			9	36
31	Ws 120	WL			18	75
32	Ws 150	WL			18	75
33	Ws 180	WL			9	39
34	Ws 210	WL			18	75
35	Ws 240	WL			18	75
36	Ws 270	WL			9	36
37	Ws 300	WL			18	75
38	Ws 330	WL			18	75
39	Ev -Y	ELY				28
40	Eh -Z	ELZ				28
41	Eh -X	ELX				28
42	Lv (1)	LL			1	
43	Lv (2)	LL			1	
44	Lv (3)	LL			1	
45	Lv (4)	LL			1	
46	Lv (5)	LL			1	
47	Lv (6)	LL			1	
48	Lv (7)	LL		1		
49	Lv (8)	LL		1		
50	Lm (1)	LL		1		
51	Lm (2)	LL		1		
52	Lm (3)	LL		1		
53	Lm (4)	LL		1		



Node Boundary Conditions

Node Label	X [lb/in]	Y [lb/in]	Z [lb/in]	X Rot [k-in/rad]	Z Rot [k-in/rad]
1 N001	Reaction	Reaction	Reaction	Reaction	Reaction
2 N006	Reaction	Reaction	Reaction	Reaction	Reaction
3 N050	Reaction	Reaction	Reaction		
4 N051	Reaction	Reaction	Reaction		

Member Primary Data

Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1 H001	N003	N002		PIPE 2.5	Beam	None	A53 Gr. B	Typical
2 H002	N032	N004		PIPE 2.0	Beam	None	A53 Gr. B	Typical
3 H003	N031	N005		PIPE 2.0	Beam	None	A53 Gr. B	Typical
4 H004	N008	N007		PIPE 2.5	Beam	None	A53 Gr. B	Typical
5 H005	N029	N009		PIPE 2.0	Beam	None	A53 Gr. B	Typical
6 H006	N028	N010		PIPE 2.0	Beam	None	A53 Gr. B	Typical
7 U007	N011	N015		(2) 1/2 U-Bolts	Beam	None	SAE J429 Gr. 2	Typical
8 U008	N016	N017		(2) 1/2 U-Bolts	Beam	None	SAE J429 Gr. 2	Typical
9 U009	N012	N018		(2) 1/2 U-Bolts	Beam	None	SAE J429 Gr. 2	Typical
10 U010	N019	N020		(2) 1/2 U-Bolts	Beam	None	SAE J429 Gr. 2	Typical
11 U011	N013	N021		(2) 1/2 U-Bolts	Beam	None	SAE J429 Gr. 2	Typical
12 U012	N022	N023		(2) 1/2 U-Bolts	Beam	None	SAE J429 Gr. 2	Typical
13 U013	N014	N024		(2) 1/2 U-Bolts	Beam	None	SAE J429 Gr. 2	Typical
14 U014	N025	N026		(2) 1/2 U-Bolts	Beam	None	SAE J429 Gr. 2	Typical
15 H015	N047	N028	90	PL3.5x0.5	Beam	None	A36	Typical
16 H016	N048	N029	90	PL3.5x0.5	Beam	None	A36	Typical
17 H017	N006	N027		RIGID	None	None	RIGID	Typical
18 H018	N045	N031	90	PL3.5x0.5	Beam	None	A36	Typical
19 H019	N046	N032	90	PL3.5x0.5	Beam	None	A36	Typical
20 H020	N001	N030		RIGID	None	None	RIGID	Typical
21 H021	N005	N034	90	PL3.5x0.5	Beam	None	A36	Typical
22 H022	N004	N033	90	PL3.5x0.5	Beam	None	A36	Typical
23 D023	N038	N035		SR 0.75	Column	None	A36	Typical
24 V024	N035	N036		SR 0.625	Column	None	A36	Typical
25 D025	N036	N037		SR 0.75	Column	None	A36	Typical
26 V026	N037	N038		SR 0.625	Column	None	A36	Typical
27 V027	N039	N040		SR 0.625	Column	None	A36	Typical
28 V028	N041	N042		SR 0.625	Column	None	A36	Typical
29 D029	N042	N039		SR 0.75	Column	None	A36	Typical
30 D030	N040	N041		SR 0.75	Column	None	A36	Typical
31 H031	N010	N044	90	PL3.5x0.5	Beam	None	A36	Typical
32 H032	N009	N043	90	PL3.5x0.5	Beam	None	A36	Typical
33 H033	N047	N048		RIGID	None	None	RIGID	Typical
34 H034	N045	N046		RIGID	None	None	RIGID	Typical
35 TB035	N050	N049		PIPE 2.0	Beam	None	A53 Gr. B	Typical
36 TB036	N051	N052		PIPE 2.0	Beam	None	A53 Gr. B	Typical
37 MP037	N053	N054		PIPE 2.0	Column	None	A53 Gr. B	Typical
38 MP038	N055	N056		PIPE 2.0	Column	None	A53 Gr. B	Typical
39 MP039	N057	N058		PIPE 2.0	Column	None	A53 Gr. B	Typical
40 MP040	N059	N060		PIPE 2.0	Column	None	A53 Gr. B	Typical

Member Advanced Data

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



Company : American Tower Corp.
 Designer : Charles.Faulkner
 Job Number : 14099766_C8_01
 Model Name : 209259, Washington 2

5/18/2022
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Member Advanced Data (Continued)

	Label	J Release	T/C Only	Physical	Deflection Ratio Options	Activation	Seismic DR
3	H003			Yes	N/A		None
4	H004			Yes	N/A		None
5	H005			Yes	N/A		None
6	H006			Yes	N/A		None
7	U007			Yes	N/A	Exclude	None
8	U008			Yes	N/A	Exclude	None
9	U009			Yes	N/A	Exclude	None
10	U010			Yes	N/A	Exclude	None
11	U011			Yes	N/A	Exclude	None
12	U012			Yes	N/A	Exclude	None
13	U013			Yes	N/A	Exclude	None
14	U014			Yes	N/A	Exclude	None
15	H015			Yes	N/A		None
16	H016			Yes	N/A		None
17	H017			Yes	** NA **		None
18	H018			Yes	N/A		None
19	H019			Yes	N/A		None
20	H020			Yes	** NA **		None
21	H021	BenPIN		Yes	N/A		None
22	H022	BenPIN		Yes	N/A		None
23	D023		Tension Only	Yes	** NA **		None
24	V024			Yes	** NA **		None
25	D025		Tension Only	Yes	** NA **		None
26	V026			Yes	** NA **		None
27	V027			Yes	** NA **		None
28	V028			Yes	** NA **		None
29	D029		Tension Only	Yes	** NA **		None
30	D030		Tension Only	Yes	** NA **		None
31	H031	BenPIN		Yes	N/A		None
32	H032	BenPIN		Yes	N/A		None
33	H033			Yes	** NA **		None
34	H034			Yes	** NA **		None
35	TB035	BenPIN		Yes	N/A		None
36	TB036	BenPIN		Yes	N/A		None
37	MP037			Yes	** NA **		None
38	MP038			Yes	** NA **		None
39	MP039			Yes	** NA **		None
40	MP040			Yes	** NA **		None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	L-Torque [in]	K y-y	K z-z	Function
1	H001	PIPE 2.5	126			Lbyy		1	1	Lateral
2	H002	PIPE 2.0	33.941			Lbyy		0.8	1	Lateral
3	H003	PIPE 2.0	33.941			Lbyy		0.8	1	Lateral
4	H004	PIPE 2.5	126			Lbyy		1	1	Lateral
5	H005	PIPE 2.0	33.941			Lbyy		0.8	1	Lateral
6	H006	PIPE 2.0	33.941			Lbyy		0.8	1	Lateral
7	U007	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
8	U008	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
9	U009	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
10	U010	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
11	U011	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
12	U012	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
13	U013	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral
14	U014	(2) 1/2 U-Bolts	3			Lbyy		0.5	0.5	Lateral



Company : American Tower Corp.
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 Job Number : 14099766_C8_01
 Model Name : 209259, Washington 2

5/18/2022
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Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [in]	Lb y-y [in]	Lb z-z [in]	Lcomp top [in]	L-Torque [in]	K y-y	K z-z	Function
15	H015	PL3.5x0.5	3			Lbyy		2.1	2.1	Lateral
16	H016	PL3.5x0.5	3			Lbyy		2.1	2.1	Lateral
17	H018	PL3.5x0.5	3			Lbyy		2.1	2.1	Lateral
18	H019	PL3.5x0.5	3			Lbyy		2.1	2.1	Lateral
19	H021	PL3.5x0.5	3			Lbyy		2.1	2.1	Lateral
20	H022	PL3.5x0.5	3			Lbyy		2.1	2.1	Lateral
21	D023	SR 0.75	47.434			Lbyy		0.65	0.65	Lateral
22	V024	SR 0.625	39			Lbyy		0.65	0.65	Lateral
23	D025	SR 0.75	47.434			Lbyy		0.65	0.65	Lateral
24	V026	SR 0.625	39			Lbyy		0.65	0.65	Lateral
25	V027	SR 0.625	39			Lbyy		0.65	0.65	Lateral
26	V028	SR 0.625	39			Lbyy		0.65	0.65	Lateral
27	D029	SR 0.75	47.434			Lbyy		0.65	0.65	Lateral
28	D030	SR 0.75	47.434			Lbyy		0.65	0.65	Lateral
29	H031	PL3.5x0.5	3			Lbyy		2.1	2.1	Lateral
30	H032	PL3.5x0.5	3			Lbyy		2.1	2.1	Lateral
31	TB035	PIPE 2.0	57.585			Lbyy		1	1	Lateral
32	TB036	PIPE 2.0	57.585			Lbyy		1	1	Lateral
33	MP037	PIPE 2.0	126	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
34	MP038	PIPE 2.0	126	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
35	MP039	PIPE 2.0	126	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral
36	MP040	PIPE 2.0	126	Segment	Segment	Lbyy	Segment	2.1	2.1	Lateral

Hot Rolled Steel Properties

	Label	E [psi]	G [psi]	Nu	Therm. Coeff. [1e ⁵ F ⁻¹]	Density [lb/ft ³]	Yield [psi]	Ry	Fu [psi]	Rt
1	A53 Gr. B	2.9e+07	1.115e+07	0.3	0.65	490	35000	1.6	60000	1.2
2	SAE J429 Gr. 2	2.9e+07	1.115e+07	0.3	0.65	490	57000	1.1	74000	1.1
3	A36	2.9e+07	1.115e+07	0.3	0.65	490	36000	1.5	58000	1.2

Envelope Node Reactions

	Node Label	X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC	
1	N001	max	1069.403	18	1281.817	26	829.635	16	-131.295	20	0	117	381.708	81
2		min	-1557.658	12	281.51	20	-2022.458	10	-704.897	26	0	1	-206.059	111
3	N006	max	1501.963	6	909.204	32	1985.757	4	-71.413	14	0	117	245.417	76
4		min	-1018.343	24	153.048	14	-788.051	22	-523.219	32	0	1	-132.834	106
5	N050	max	510.159	13	22.09	30	1410.745	13	0	117	0	117	0	117
6		min	-501.097	19	6.622	25	-1390.761	19	0	1	0	1	0	1
7	N051	max	480.71	25	22.081	30	1337.132	24	0	117	0	117	0	117
8		min	-486.379	7	7.06	24	-1357.577	6	0	1	0	1	0	1
9	Totals:	max	1533.691	18	2159.007	33	2106.239	2						
10		min	-1533.691	12	745.873	19	-2106.239	8						

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

Member	Shape	Code Check	Loc[in]	LC	Shear Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn	
1	H001	PIPE 2.5	0.241	32.812	78	0.109	28.875	13	20573.263	50715	3596.25	3596.25	1.911	H1-1b	
2	H002	PIPE 2.0	0.193	30.052	106	0.106	0	106	29191.323	32130	1871.625	1871.625	1.967	H1-1b	
3	H003	PIPE 2.0	0.256	30.052	81	0.139	0	70	29191.323	32130	1871.625	1871.625	1.965	H1-1b	
4	H004	PIPE 2.5	0.25	32.812	72	0.105	28.875	7	20573.263	50715	3596.25	3596.25	1.921	H1-1b	
5	H005	PIPE 2.0	0.216	29.698	112	0.097	30.052	99	29191.323	32130	1871.625	1871.625	1.988	H1-1b	
6	H006	PIPE 2.0	0.287	29.698	75	0.129	30.052	88	29191.323	32130	1871.625	1871.625	1.986	H1-1b	
7	H015	PL3.5x0.5	0.275	0	72	0.158	3	y	86	51289.202	56700	590.625	4134.375	1.644	H1-1b
8	H016	PL3.5x0.5	0.2	0	107	0.127	3	y	102	51289.202	56700	590.625	4134.375	1.711	H1-1b



Company : American Tower Corp.
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 Job Number : 14099766_C8_01
 Model Name : 209259, Washington 2

5/18/2022
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Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

Member	Shape	Code	Check	Loc[in]	LC	Shear	Check	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pnt [lb]	phi*Mn y-y [lb-ft]	phi*Mn z-z [lb-ft]	Cb	Eqn
9	H018	PL3.5x0.5	0.387	0	78	0.151	3	y	93	51289.202	56700	590.625	4134.375	1.65	H1-1b	
10	H019	PL3.5x0.5	0.288	0	113	0.123	3	y	96	51289.202	56700	590.625	4134.375	1.721	H1-1b	
11	H021	PL3.5x0.5	0.35	0	81	0.25	0	y	80	51289.202	56700	590.625	4134.375	1.667	H1-1b	
12	H022	PL3.5x0.5	0.256	0	107	0.201	0.031	y	111	51289.202	56700	590.625	4134.375	1.667	H1-1b	
13	D023	SR 0.75	0.147	47.434	108	0.007	0		114	3691.013	14313.882	178.924	178.924	2.547	H1-1b*	
14	V024	SR_0.625	0.299	0	112	0.003	0		32	2633.14	9940.196	103.544	103.544	2.213	H1-1a	
15	D025	SR_0.75	0	47.434	117	0	47.434		117	3691.013	14313.882	178.924	178.924	1	H1-1a	
16	V026	SR_0.625	0.38	39	106	0.005	39		78	2633.14	9940.196	103.544	103.544	2.261	H1-1a	
17	V027	SR_0.625	0.384	0	76	0.001	39		26	2633.14	9940.196	103.544	103.544	2.202	H1-1a	
18	V028	SR_0.625	0.494	39	70	0.008	39		70	2633.14	9940.196	103.544	103.544	2.259	H1-1a	
19	D029	SR_0.75	0.188	47.434	80	0.016	47.434		7	3691.013	14313.882	178.924	178.924	2.476	H1-1b*	
20	D030	SR_0.75	0	47.434	117	0	47.434		117	3691.013	14313.882	178.924	178.924	1	H1-1a	
21	H031	PL3.5x0.5	0.37	0	75	0.274	0	y	74	51289.202	56700	590.625	4134.375	1.667	H1-1b	
22	H032	PL3.5x0.5	0.271	0	113	0.219	0.031	y	117	51289.202	56700	590.625	4134.375	1.667	H1-1b	
23	TB035	PIPE 2.0	0.062	0	13	0.002	57.585		30	24378.241	32130	1871.625	1871.625	1.136	H1-1b*	
24	TB036	PIPE 2.0	0.058	0	24	0.002	57.585		36	24378.241	32130	1871.625	1871.625	1.136	H1-1b*	
25	MP037	PIPE 2.0	0.204	81.375	71	0.031	44.625		78	18380.609	32130	1871.625	1871.625	2.261	H1-1b	
26	MP038	PIPE 2.0	0.344	43.312	8	0.04	43.312		8	16038.266	32130	1871.625	1871.625	3	H1-1b	
27	MP039	PIPE 2.0	0.08	44.625	8	0.016	44.625		7	18380.609	32130	1871.625	1871.625	1.867	H1-1b	
28	MP040	PIPE 2.0	0.179	44.625	110	0.023	44.625		110	18380.609	32130	1871.625	1871.625	2.285	H1-1b	

Exhibit F



Radio Frequency Emissions Analysis Report



Site ID: CTNH295A

Blackville Washington ATC
10 Blackville Road
Washington, CT 06794

July 6, 2022

Fox Hill Telecom Project Number: 221400

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	21.08 %

July 6, 2022

T-MOBILE
Attn: RF Manager
35 Griffin Road South
Bloomfield, CT 06009

Emissions Analysis for Site: **CTNH295A – Blackville Washington ATC**

Fox Hill Telecom, Inc (“Fox Hill”) was directed to analyze the proposed upgrades to the T-MOBILE facility located at **10 Blackville Road, Washington, CT**, 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.

General population 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 & 700 MHz 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), 2500 MHz (BRS) and 11 GHz microwave 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 performed for the proposed upgrades to the T-MOBILE antenna facility located at **10 Blackville Road, Washington, CT**, 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 manufactures 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.

Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. All power values expressed and analyzed are maximum power levels expected to be used on all radios.

All emissions values for additional carriers were taken from the Connecticut Siting Council (CSC) active MPE database. Values in this database are provided by the individual carriers themselves

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

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
LTE / 5G NR	600 MHz	2	40
LTE	700 MHz	2	20
LTE	1900 MHz (PCS)	4	40
GSM	1900 MHz (PCS)	1	15
LTE	2100 MHz (AWS)	4	40
LTE / 5G NR	2500 MHz (BRS)	8	20
Microwave (Sector A)	11 GHz	1	1

Table 1: Channel Data Table



The following antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz, 700 MHz, 1900 MHz (PCS), 2100 MHz (AWS), 2500 MHz (BRS) and 11 GHz microwave frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures 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.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	RFS APXVAALL24_43-U-NA20	115
A	2	Commscope VV-65A-R1	115
A	3	Ericsson AIR6419 B41	115
A	4	RFS SC2-W100BD	115
B	1	RFS APXVAALL24_43-U-NA20	115
B	2	Commscope VV-65A-R1	115
B	3	Ericsson AIR6419 B41	115
C	1	RFS APXVAALL24_43-U-NA20	115
C	2	Commscope VV-65A-R1	115
C	3	Ericsson AIR6419 B41	115

Table 2: Antenna Data

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



RESULTS

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

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	2.03
Antenna A2	Commscope VV-65A-R1	1900 MHz (PCS) / 2100 MHz (AWS)	15.55 / 16.05	9	335	12,724.61	3.85
Antenna A3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	6.84
Antenna A4	RFS SC2-W100BD	11 GHz	32.25	1	1	1,678.80	0.05
Sector A Composite MPE%							12.77
Antenna B1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	2.03
Antenna B2	Commscope VV-65A-R1	1900 MHz (PCS) / 2100 MHz (AWS)	15.55 / 16.05	9	335	12,724.61	3.85
Antenna B3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	6.84
Sector B Composite MPE%							12.72
Antenna C1	RFS APXVAALL24_43-U-NA20	600 MHz / 700 MHz	13.65 / 13.85	4	120	2,824.56	2.03
Antenna C2	Commscope VV-65A-R1	1900 MHz (PCS) / 2100 MHz (AWS)	15.55 / 16.05	9	335	12,724.61	3.85
Antenna C3	Ericsson AIR6419 B41	2500 MHz (BRS)	21.5	8	160	22,600.60	6.84
Sector C Composite MPE%							12.72

Table 3: T-MOBILE Emissions Levels

The Following table (*table 4*) shows all additional carriers on site and their MPE% as recorded in the CSC active MPE database for this facility along with the newly calculated maximum T-MOBILE MPE contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, the sector with the largest calculated MPE% is Sector A. *Table 5* below shows a summary for each T-MOBILE Sector as well as the composite MPE value for the site.

Site Composite MPE%	
Carrier	MPE%
T-MOBILE – Max Per Sector Value	12.77 %
AT&T	8.31 %
Site Total MPE %:	21.08 %

Table 4: All Carrier MPE Contributions

T-MOBILE Sector A Total:	12.77 %
T-MOBILE Sector B Total:	12.72 %
T-MOBILE Sector C Total:	12.72 %
Site Total:	21.08 %

Table 5: Site MPE Summary



FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site MPE values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. *Table 6* below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated T-MOBILE sector(s). For this site, the sector with the largest calculated MPE% is Sector A.

T-MOBILE _ Frequency Band / Technology Max Power Values (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu\text{W}/\text{cm}^2$)	Frequency (MHz)	Allowable MPE ($\mu\text{W}/\text{cm}^2$)	Calculated % MPE
T-Mobile 600 MHz LTE / 5G NR	2	926.96	115	5.61	600 MHz	400	1.40%
T-Mobile 700 MHz LTE	2	485.32	115	2.94	700 MHz	467	0.63%
T-Mobile 1900 MHz (PCS) LTE	4	1,435.69	115	17.38	1900 MHz (PCS)	1000	1.74%
T-Mobile 1900 MHz (PCS) GSM	1	538.38	115	1.63	1900 MHz (PCS)	1000	0.16%
T-Mobile 2100 MHz (AWS) LTE	4	1,610.87	115	19.50	2100 MHz (AWS)	1000	1.95%
T-Mobile 2500 MHz (BRS) LTE / 5G NR	8	2,825.08	115	68.39	2500 MHz (BRS)	1000	6.84%
T-Mobile 11 GHz Microwave	1	1,678.80	115	0.51	11 GHz	1000	0.05%
						Total:	12.77%

Table 6: T-MOBILE Maximum Sector MPE Power Values



Summary

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

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

T-MOBILE Sector	Power Density Value (%)
Sector A:	12.77 %
Sector B:	12.72 %
Sector C:	12.72 %
T-MOBILE Maximum Total (per sector):	12.77 %
Site Total:	21.08 %
Site Compliance Status:	COMPLIANT

The anticipated composite MPE value for this site assuming all carriers present is **21.08 %** 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.

Scott Heffernan
Principal RF Engineer
Fox Hill Telecom, Inc
Holden, MA 01520
(978)660-3998

Exhibit G



AMERICAN TOWER®
CORPORATION

LETTER OF AUTHORIZATION FOR PERMITTING

ATC SITE#/NAME/PROJECT: 209259 / WASHINGTON 2 / 14099766
SITE ADDRESS: 10 BLACKVILLE ROAD, WASHINGTON, CT 06794
LICENSEE: T-MOBILE NORTHEAST LLC dba T-MOBILE

I, Margaret Robinson, Vice President, UST Legal for American Tower*, owner/operator of the tower facility located at the address identified above (the “Tower Facility”), do hereby authorize **T-MOBILE NORTHEAST LLC dba T-MOBILE** their successors and assigns, and/or their agent, (collectively, the “Licensee”) to act as American Tower’s non-exclusive agent for the sole purpose of filing and consummating any land-use, building, or electrical permit application(s) as may be required by the applicable permitting authorities for Licensee’s telecommunications’ installation on the Tower Facility.

American Tower understands that this application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by Licensee only of conditions related to Licensee’s installation and any such conditions of approval or modifications will be Licensee’s sole responsibility.

Signature:

Print Name: Margaret Robinson
Vice President, UST Legal
American Tower*

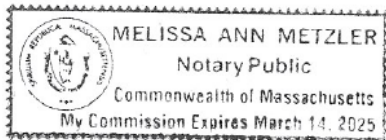
NOTARY BLOCK

Commonwealth of MASSACHUSETTS
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Vice President, UST Legal for American Tower*, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

WITNESS my hand and official seal, this 9th day of September, 2022


NOTARY SEAL



Notary Public
My Commission Expires: March 14, 2025

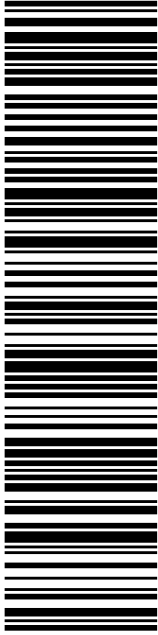
* American Tower is defined as American Tower Corporation and any of its affiliates or subsidiaries.

Exhibit :



AMERICAN TOWERS LLC
10 PRESIDENTIAL WAY
WOBURN MA 01801-1053

USPS TRACKING #



9405 5036 9930 0348 4246 97

P

USPS.com
US POSTAGE
Flat Rate Env

9405 5036 9930 0348 4246 97 0089 5000 0010 1801

U.S. POSTAGE PAID
Click-N-Ship®

09/16/2022 Mailed from 01566


PRIORITY MAIL®

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

Expected Delivery Date: 09/19/22
Ref#: CTNH295A
0000

C046

Electronic Rate Approved #038555749





Cut on dotted line.

Instructions

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

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0348 4246 97

<p>Trans. #: 571946984 Print Date: 09/16/2022 Ship Date: 09/16/2022 Expected Delivery Date: 09/19/2022</p>	<p>Priority Mail® Postage: \$8.95 Total: \$8.95</p>
--	---

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


To: AMERICAN TOWERS LLC
10 PRESIDENTIAL WAY
WOBURN MA 01801-1053

Ref#: CTNH295A

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

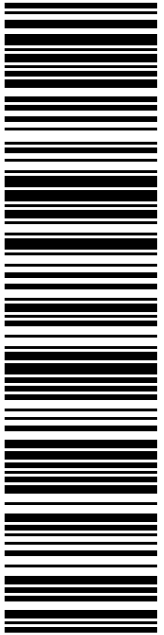


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JAMES L BRINTON
FIRST SELECTMAN- TOWN OF WASHINGTON
PO BOX 383
WASHINGTON DT CT 06794-0383

USPS TRACKING #



9405 5036 9930 0348 4247 03


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

B002

USPS TRACKING #

9405 5036 9930 0348 4247 03

Electronic Rate Approved #038555749



Expected Delivery Date: 09/19/22
Ref#: CTNH295A
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UNITED STATES POSTAL SERVICE® **Click-N-Ship®**



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5. Mail your package on the "Ship Date" you selected when creating this label.

Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0348 4247 03

Trans. #: 571946984	Priority Mail® Postage: \$8.95
Print Date: 09/16/2022	Total: \$8.95
Ship Date: 09/16/2022	
Expected Delivery Date: 09/19/2022	

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


Ref#: CTNH295A

To: JAMES L BRINTON
FIRST SELECTMAN- TOWN OF WASHINGTON
PO BOX 383
WASHINGTON DT CT 06794-0383

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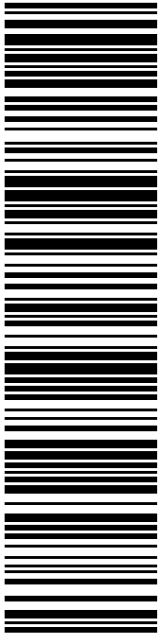


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MARYANN NUSOM HAVERSTOCK
ENFORCEMENT OFFICER
PO BOX 383
WASHINGTON DT CT 06794-0383

USPS TRACKING #



9405 5036 9930 0348 4247 10

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


B002

USPS.com 9405 5036 9930 0348 4247 10 0089 5000 0020 6794
US POSTAGE
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P
 09/16/2022 Mailed from 01566

PRIORITY MAIL®
 Expected Delivery Date: 09/19/22
 Ref#: CTNH295A
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Electronic Rate Approved #038555749





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Click-N-Ship® Label Record

USPS TRACKING # :
9405 5036 9930 0348 4247 10

Trans. #: 571946984	Priority Mail® Postage: \$8.95
Print Date: 09/16/2022	Total: \$8.95
Ship Date: 09/16/2022	
Expected Delivery Date: 09/19/2022	

From: DEBORAH CHASE Ref#: CTNH295A
 NORTHEAST SITE SOLUTIONS
 STE 1
 420 MAIN ST
 STURBRIDGE MA 01566-1359

To: MARYANN NUSOM HAVERSTOCK
 ENFORCEMENT OFFICER
 PO BOX 383
 WASHINGTON DT CT 06794-0383

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CTNH245A NSD



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

09/19/2022

04:05 PM

Product	Qty	Unit Price	Price
Prepaid Mail Woburn, MA 01801 Weight: 0 lb 2.00 oz Acceptance Date: Mon 09/19/2022 Tracking #: 9405 5036 9930 0348 4246 97	1		\$0.00
Prepaid Mail Washington Depot, CT 06794 Weight: 0 lb 9.80 oz Acceptance Date: Mon 09/19/2022 Tracking #: 9405 5036 9930 0348 4247 03	1		\$0.00
Prepaid Mail Washington Depot, CT 06794 Weight: 0 lb 9.80 oz Acceptance Date: Mon 09/19/2022 Tracking #: 9405 5036 9930 0348 4247 10	1		\$0.00
Grand Total:			\$0.00

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