



ATC SITE NAME: LACROSSE FL 6  
ATC SITE NUMBER: 303048  
T-MOBILE SITE NAME: 9JK0174A  
T-MOBILE SITE NUMBER: 9JK0174A  
SITE ADDRESS: 183 SOUTHEAST WATERLEAF DRIVE  
LAKE CITY, FL 32024  
SITE CLASS: GUYED



# Patrick Barry

Digitally signed by Patrick  
Barry  
Date: 2024.07.10 16:16:02  
-04'00'



THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

ATC SITE NUMBER:  
**303048**

ATC SITE NAME:  
**LACROSSE FL 6**

T-MOBILE SITE NAME:  
**9JK0174A**

SITE ADDRESS:  
**183 SOUTHEAST WATERLEAF  
LAKE CITY, FL 32024**

SEAL:



# TITLE SHEET

SHEET NUMBER:

G-001

REVISION:

0

Copyright © 2024 ATC IP LLC, All Rights Reserved.

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.

WHEN THE PROJECT SCOPE REQUIRES THE USE OF THE SAFETY CLIMB, THE GENERAL CONTRACTOR SHALL ENSURE THE SAFETY CLIMB IS FREE OF OBSTRUCTIONS, NOT RUBBING ON OR TRAPPED BY ANY INSTALLED CUSTOMER EQUIPMENT, IS VISUALLY TAUT, MEETS MANUFACTURER INSTALLATION SPECIFICATIONS, AND IS FIRMLY SECURED AT ALL CABLE GUIDE LOCATIONS UPON PROJECT COMPLETION.
29.

COMPLETION OF PROJECT SHALL NOT OBSTRUCT, TRAP, LOOSEN, OR OTHERWISE CAUSE FAILURE TO MEET MANUFACTURER INSTALLATION REQUIREMENTS FOR THE SAFETY CLIMB.
30.

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.
31.

THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLECT ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
32.

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.
33.

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.
34.

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.
35.

T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO T-MOBILE OR THEIR ARCHITECT/ENGINEER.

SPECIAL CONSTRUCTION

ANTENNA INSTALLATION NOTES:

1.

WORK INCLUDED:
- A.

ANTENNA AND COAXIAL/HYBRID 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.
- E.

INSTALL COAXIAL/HYBRID 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/HYBRID CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
2.

ANTENNA AND COAXIAL/HYBRID CABLE GROUNDING:
- A.

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

- B.

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

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

AMERICAN TOWER®

ATC TOWER SERVICES, LLC

1 FENTON MAIN

SUITE 300

CARY, NC 27511

PHONE: (919) 468-0112

9053

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

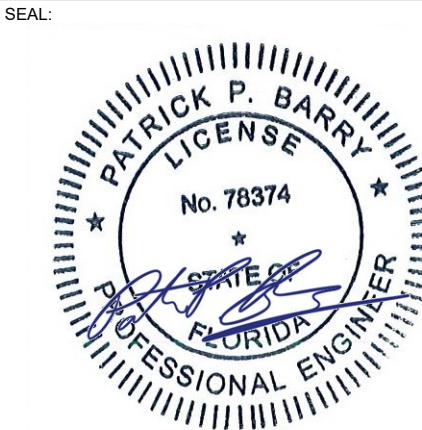
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	7/10/2024

ATC SITE NUMBER:  
**303048**

ATC SITE NAME:  
**LACROSSE FL 6**

T-MOBILE SITE NAME:  
**9JK0174A**

SITE ADDRESS:  
183 SOUTHEAST WATERLEAF DRIVE  
LAKE CITY, FL 32024



Digitally Signed: 2024-07-10



ATC PROJ. #:	14863653_G0
CUST. ID:	9JK0174A
CUST. #:	9JK0174A

GENERAL NOTES

SHEET NUMBER: <b>G-002</b>	REVISION: <b>0</b>
-------------------------------	-----------------------



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.
- NO ELECTRICAL SCOPE IS INCLUDED IN 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 RECEPTACLE

HH, V

HAND HOLE, VAULT

IB

ICE BRIDGE

K

KENTROX BOX

LC

LIGHTING CONTROL

M

METER

PB

PULL BOX

PP

POWER POLE

T

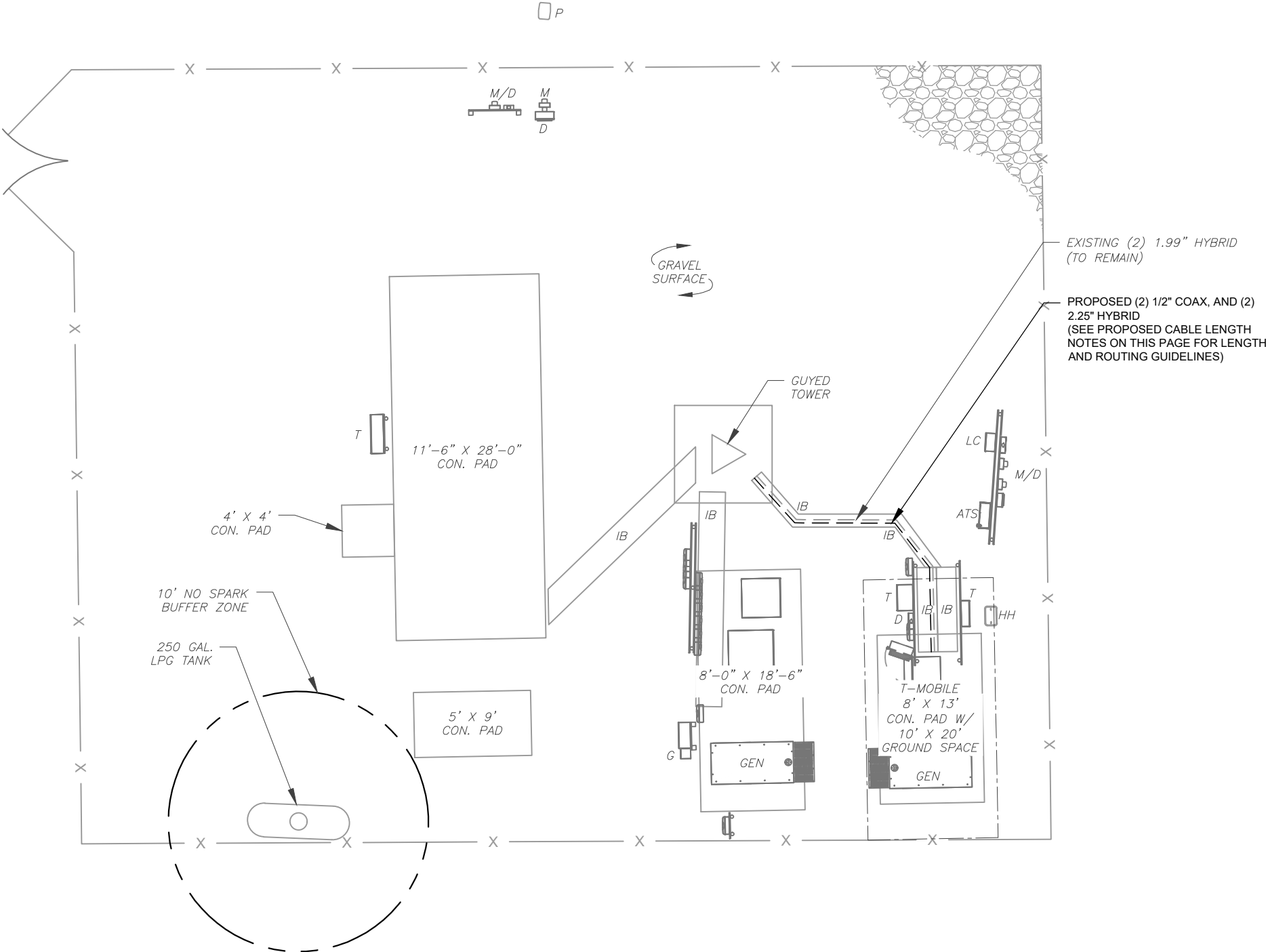
TELCO

TRN

TRANSFORMER

CHAINLINK FENCE

- PROPOSED CABLE NOTES:
- ESTIMATED LENGTH OF PROPOSED CABLE IS **250'**. 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. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).



1 DETAILED SITE PLAN

GRAPHIC SCALE

10

0

5

10

( IN FEET )

1 UNIT = 10 FEET

N

AMERICAN TOWER®

ATC TOWER SERVICES, LLC

1 FENTON MAIN

SUITE 300

CARY, NC 27511

PHONE: (919) 468-0112

9053

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

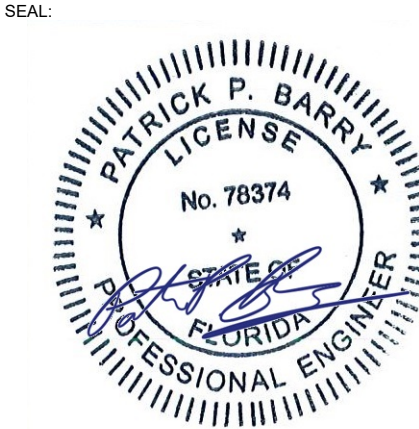
REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	7/10/2024

ATC SITE NUMBER:  
**303048**

ATC SITE NAME:  
**LACROSSE FL 6**

T-MOBILE SITE NAME:  
**9JK0174A**

SITE ADDRESS:  
183 SOUTHEAST WATERLEAF DRIVE  
LAKE CITY, FL 32024



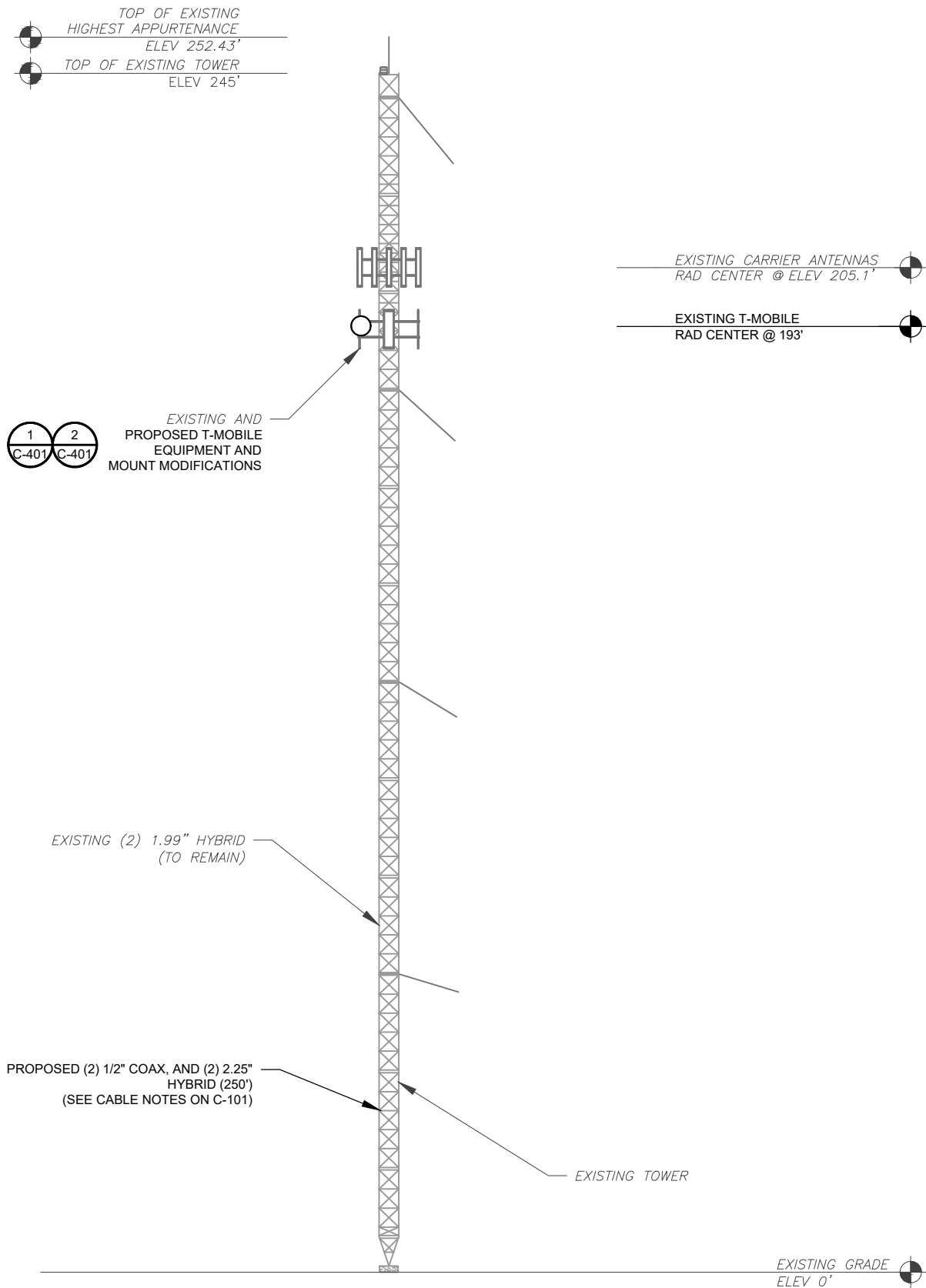
Digitally Signed: 2024-07-10



ATC PROJ. #:	14863653_G0
CUST. ID:	9JK0174A
CUST. #:	9JK0174A

DETAILED SITE PLAN

SHEET NUMBER:	REVISION:
C-101	0



1 TOWER ELEVATION  
SCALE: N.T.S.

PER MOUNT ANALYSIS COMPLETED BY ATC, DATED 06/27/24, THE EXISTING MOUNT MUST BE MODIFIED TO ADEQUATELY SUPPORT THE PROPOSED LOADING. THE MOUNT MODIFICATION PROPOSED IN THE MOUNT ANALYSIS, INCLUDED AT THE END OF THIS PLAN SET, MUST BE INSTALLED PRIOR TO THE INSTALLATION OF THE PROPOSED ANTENNAS AND OTHER EQUIPMENT.

ALL ELEVATIONS REFLECT ABOVE GROUND LEVEL (A.G.L.)

- 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. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).
  - TOWER ELEVATION DEPICTION MAY NOT REFLECT ALL EQUIPMENT INCLUDED IN STRUCTURAL ANALYSIS. REFER TO STRUCTURAL ANALYSIS FOR FULL TOWER LOADING.

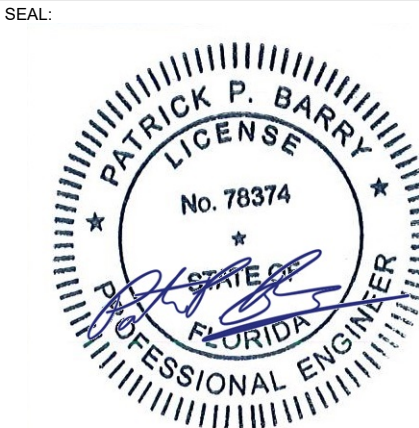


**AMERICAN TOWER®**  
**ATC TOWER SERVICES, LLC**  
1 FENTON MAIN  
SUITE 300  
CARY, NC 27511  
PHONE: (919) 468-0112  
9053

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	7/10/2024

ATC SITE NUMBER:  
**303048**  
ATC SITE NAME:  
**LACROSSE FL 6**  
T-MOBILE SITE NAME:  
**9JK0174A**  
SITE ADDRESS:  
183 SOUTHEAST WATERLEAF DRIVE  
LAKE CITY, FL 32024



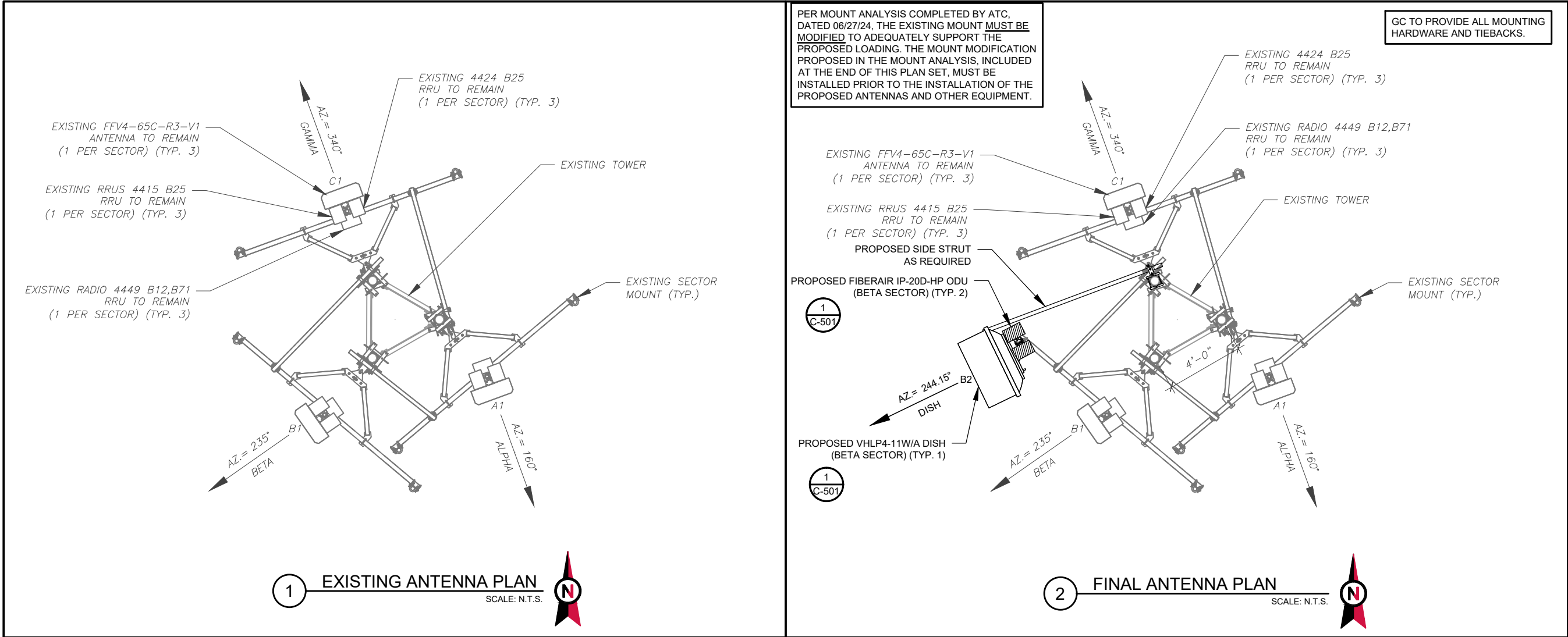
Digitally Signed: 2024-07-10



ATC PROJ. #:	14863653_G0
CUST. ID:	9JK0174A
CUST. #:	9JK0174A

TOWER ELEVATION

SHEET NUMBER: <b>C-201</b>	REVISION: <b>0</b>
-------------------------------	-----------------------



EXISTING ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	193'	160°	A1	FFV4-65C-R3-V1	-	-	RMN	(1) RRUS 4415 B25 (1) 4424 B25 (1) RADIO 4449 B12,B71	RMN RMN RMN
BETA	193'	235°	B1	FFV4-65C-R3-V1	-	-	RMN	(1) RRUS 4415 B25 (1) 4424 B25 (1) RADIO 4449 B12,B71	RMN RMN RMN
GAMMA	193'	340°	C1	FFV4-65C-R3-V1	-	-	RMN	(1) RRUS 4415 B25 (1) 4424 B25 (1) RADIO 4449 B12,B71	RMN RMN RMN

- NOTES
1. GC TO VERIFY THE FINAL RFDS MATCHES THE FINAL CONSTRUCTION DRAWINGS. GC TO NOTIFY ATC PM OF ANY DISCREPANCY PRIOR TO INSTALLING THE EQUIPMENT.

2. GC TO CAP ALL UNUSED PORTS.

3. GC TO CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.
- STATUS ABBREVIATIONS
- RMV: TO BE REMOVED

RMN: TO REMAIN

REL: TO BE RELOCATED

ADD: TO BE ADDED

CABLE LENGTHS FOR JUMPERS

JUNCTION BOX TO RRU: 15'

RRU TO ANTENNA: 10'

FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	193'	160°	A1	FFV4-65C-R3-V1	-	-	RMN	(1) RRUS 4415 B25 (1) 4424 B25 (1) RADIO 4449 B12,B71	RMN RMN RMN
BETA	193'	235°	B1	FFV4-65C-R3-V1	-	-	RMN	(1) RRUS 4415 B25 (1) 4424 B25 (1) RADIO 4449 B12,B71	RMN RMN RMN
		244.15°	B2	VHLP4-11W/A			ADD	(2) FIBEAIR IP-20D-HP	ADD
GAMMA	193'	340°	C1	FFV4-65C-R3-V1	-	-	RMN	(1) RRUS 4415 B25 (1) 4424 B25 (1) RADIO 4449 B12,B71	RMN RMN RMN

EXISTING FIBER DISTRIBUTION / OVP BOX		EXISTING CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
-	RMN	(2) 1.99" HYBRID	RMN
-	RMV	----	RMV

3 EQUIPMENT SCHEDULES

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY	
MODEL NUMBER	STATUS	CABLE QTY, SIZE, TYPE	STATUS
-	RMN	(2) 1.99" HYBRID	RMN
-	ADD	(2) 1/2" COAX, AND (2) 2.25" HYBRID	ADD

ATC TOWER SERVICES, LLC

1 FENTON MAIN  
SUITE 300  
CARY, NC 27511  
PHONE: (919) 468-0112  
9053

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	7/10/2024

ATC SITE NUMBER:  
303048

ATC SITE NAME:  
LACROSSE FL 6

T-MOBILE SITE NAME:  
9JK0174A

SITE ADDRESS:  
183 SOUTHEAST WATERLEAF DRIVE  
LAKE CITY, FL 32024

SEAL:

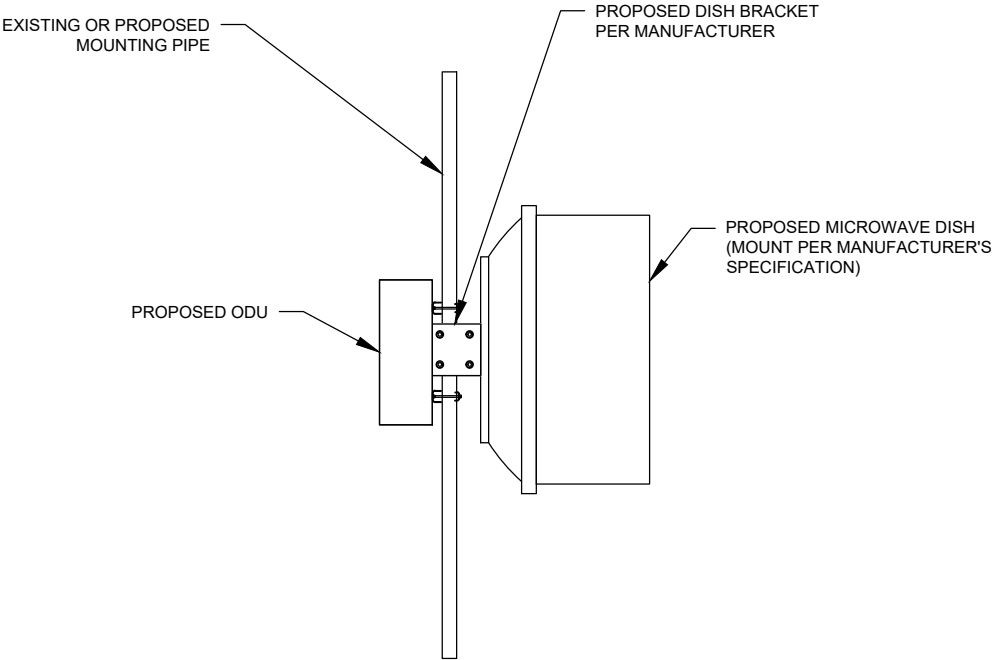
Digitally Signed: 2024-07-10

ATC PROJ. #:	14863653_G0
CUST. ID:	9JK0174A
CUST. #:	9JK0174A

ANTENNA INFORMATION & SCHEDULE

SHEET NUMBER: C-401	REVISION: 0
------------------------	----------------

EXISTING/PROPOSED MOUNTS AND/OR MOUNT MODIFICATIONS NOT SHOWN FOR CLARITY. REFER TO ANTENNA PLANS, MOUNT ANALYSES AND/OR MOUNT MODIFICATION DOCUMENTS FOR ADDITIONAL DETAIL.



1 PROPOSED MICROWAVE MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.



**AMERICAN TOWER®**  
**ATC TOWER SERVICES, LLC**  
1 FENTON MAIN  
SUITE 300  
CARY, NC 27511  
PHONE: (919) 468-0112  
9053

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	7/10/2024

ATC SITE NUMBER:

303048

ATC SITE NAME:

LACROSSE FL 6

T-MOBILE SITE NAME:

9JK0174A

SITE ADDRESS:

183 SOUTHEAST WATERLEAF DRIVE  
LAKE CITY, FL 32024

SEAL:



Digitally Signed: 2024-07-10

**T-Mobile**

ATC PROJ. #: 14863653\_G0

CUST. ID: 9JK0174A

CUST. #: 9JK0174A

CONSTRUCTION  
DETAILS

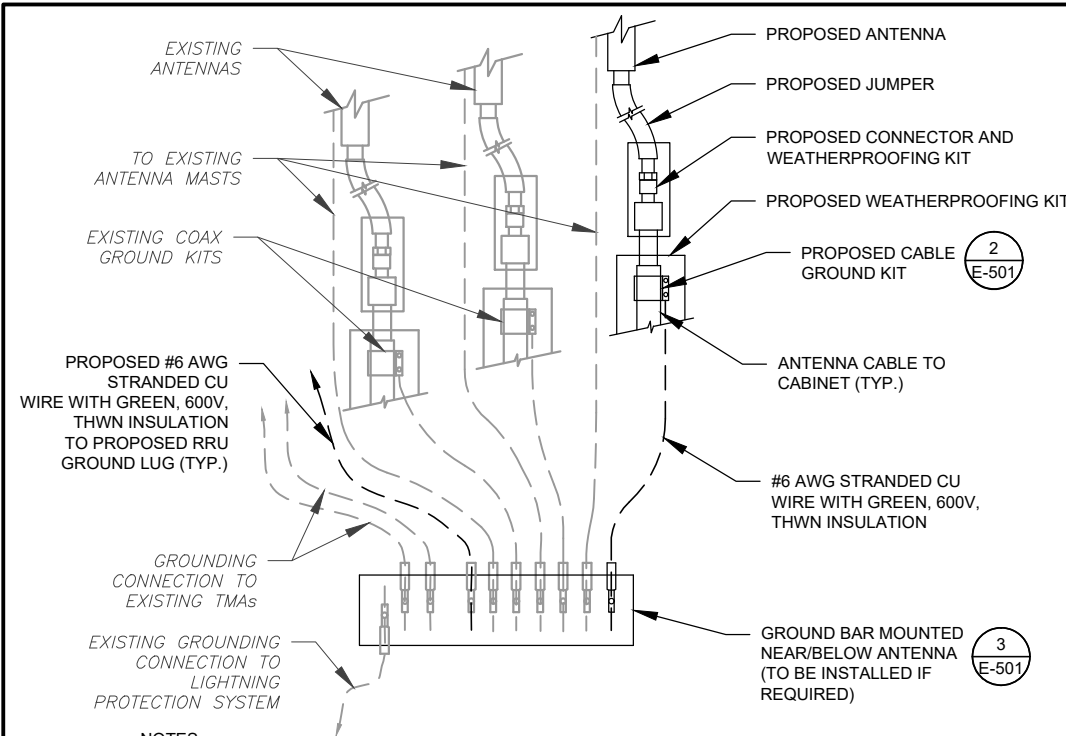
SHEET NUMBER:

C-501

REVISION:

0

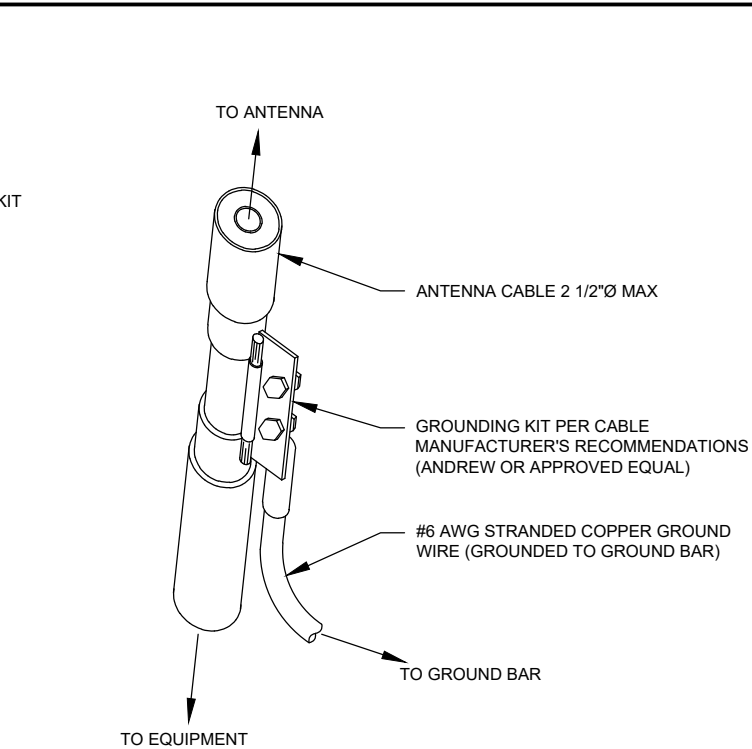




NOTES:

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

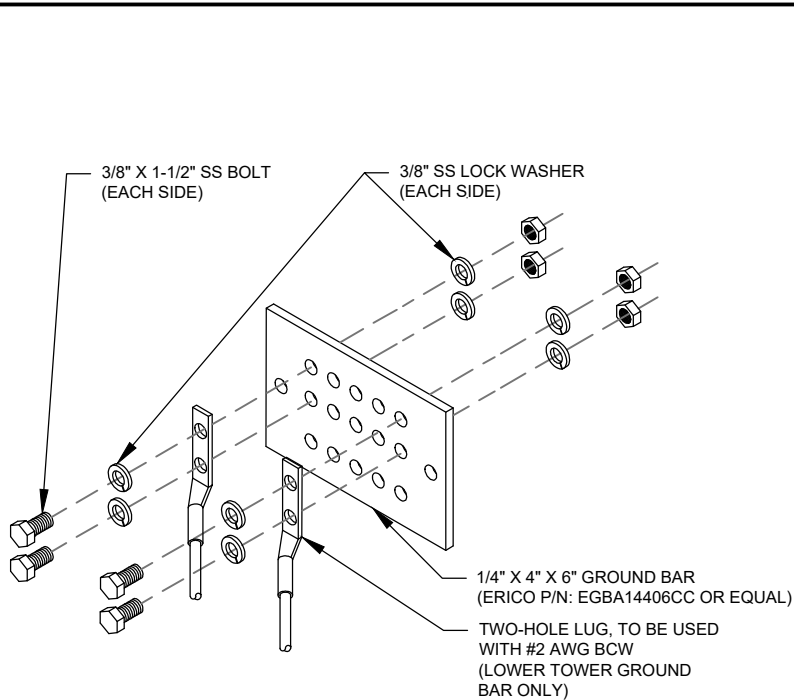
1 TYPICAL ANTENNA GROUNDING DIAGRAM  
SCALE: N.T.S.



GROUND KIT NOTES:

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

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



GROUND BAR NOTES:

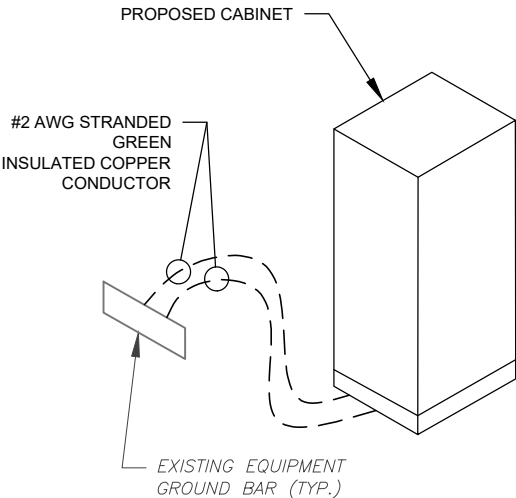
- GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
- GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

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

ELECTRICAL NOTES:

- 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.
- ATC HAS NOT VERIFIED ANY EXISTING T-MOBILE GROUND EQUIPMENT OR ELECTRICAL LOADING. PROPOSED WORK BASED ON INSTALLATION CONFIGURATION PROVIDED BY T-MOBILE. CONTRACTOR TO VERIFY EXISTING T-MOBILE PANEL HAS SUFFICIENT SPACE FOR PROPOSED BREAKER. PROPOSED CABLE AND CONDUIT SHALL BE MINIMUM SIZE PER BELOW IN CHART.
- FOR SPECIFIC CABINET / ANCILLARY EQUIPMENT WIRING REQUIREMENTS, THE T-MOBILE CONTRACTOR SHOULD REFERENCE DESIGN DOCUMENTS PROVIDED BY T-MOBILE FOR THIS CURRENT PROJECT CONFIGURATION, IN ACCORDANCE WITH LOCAL JURISDICTION REQUIREMENTS & NEC STANDARDS & PRACTICES.

VOLTS	OCPD SIZE	WIRE SIZE	GROUND	CONDUIT
120/240V OR 120/208V	80A/2P	3-#3 AWG	#8 AWG	1-1/4"
	100/2P	3-#2 AWG	#8 AWG	1-1/4"
	125A/2P	3-#3/0 AWG	#6 AWG	2"
	150A/2P	3-#3/0 AWG	#6 AWG	2"
240V OR 208V	200A/2P	3-#3/0 AWG	#6 AWG	2"
	80A/2P	2-#3 AWG	#8 AWG	1-1/4"
	100/2P	2-#2 AWG	#8 AWG	1-1/4"
	125A/2P	2-#3/0 AWG	#6 AWG	2"
	150A/2P	2-#3/0 AWG	#6 AWG	2"
	200A/2P	2-#3/0 AWG	#6 AWG	2"



5 CABINET GROUNDING DETAIL  
SCALE: N.T.S.

6 ELECTRICAL NOTES

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 GUIDLINES	ABOVE GROUND	MAT BE USED AS A LOWER COST ALTERNATIVE TO METALLIC RMC, MUST MEET OR EXCEED FEDERAL SPEC: WV-C-540C, UL-6A, ANSI C80.5, NEC 344.10 (A) ALLOWS THE USE OF EITHER ALUMINUM OR GALVANIZED FITTINGS

4 CONDUIT USE TABLES

**AMERICAN TOWER®**  
ATC TOWER SERVICES, LLC  
1 FENTON MAIN  
SUITE 300  
CARY, NC 27511  
PHONE: (919) 468-0112  
9053

THE USE AND PUBLICATION OF THESE DRAWINGS SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OR THE SPECIFIED CARRIER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION.

REV.	DESCRIPTION	BY	DATE
0	FOR CONSTRUCTION	EDNA	7/10/2024

ATC SITE NUMBER:  
**303048**

ATC SITE NAME:  
**LACROSSE FL 6**

T-MOBILE SITE NAME:  
**9JK0174A**

SITE ADDRESS:  
183 SOUTHEAST WATERLEAF DRIVE  
LAKE CITY, FL 32024

SEAL:

Digitally Signed: 2024-07-10

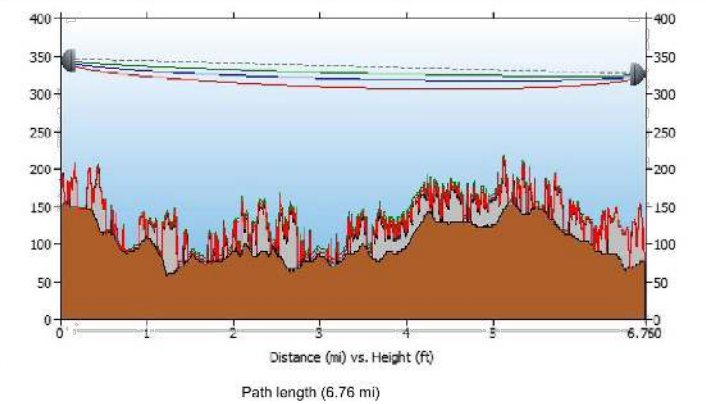
ATC PROJ. #: 14863653\_G0

CUST. ID: 9JK0174A

CUST. #: 9JK0174A

GROUNDING DETAILS

SHEET NUMBER: <b>E-501</b>	REVISION: <b>0</b>
-------------------------------	-----------------------



9JK0174A	
Latitude:	29-57- 5.4 N
Longitude:	82-34-14.6 W
Azimuth:	244.15 Deg
Elevation:	150.92 ft

Frequency (GHz) = 11.00 GHz	
K1:	1.33
%F1:	0.60
K2:	0.67
%F2:	0.30

9JK0345B	
Latitude:	29-54-31.2 N
Longitude:	82-40-19.6 W
Azimuth:	64.10 Deg
Elevation:	75.46 ft

Antenna CL:	194.00 ft AGL
-------------	---------------

K3:	1.33
%F3:	1.00

Antenna CL:	250.00 ft AGL
-------------	---------------

Transmission details		
SITE ID:	9JK0174A	9JK0345B
[CLUSTER_ID_LABEL]:	[CLUSTER_ID_A]	[CLUSTER_ID_B]
[CALL_SIGN_LABEL]:	[CALL_SIGN_A]	[CALL_SIGN_B]
ASR #:		
AAV_CONTRACT_ID:	ATT224	WST185-
AAV_CONTRACT_STATUS:	Selected	Selected
Ethernet Installed:	Ethernet	Ethernet
Latitude:	29-57- 5.4 N	29-54-31.2 N
Longitude:	82-34-14.6 W	82-40-19.6 W
Azimuth (deg):	244.15 Deg	64.10 Deg
Vertical angle (deg):	0.07 Down	0.01 Down
Elevation:	150.92 ft	75.46 ft
Antenna model:	VHLP4-11WA	VHLP4-11WA
Antenna manufacturer:	ANDREW CORPORATION	ANDREW CORPORATION
Antenna Id:	228	228
Antenna gain (dBi):	40.70 dBi	40.70 dBi
Antenna diameter:	3.94 ft	3.94 ft
Antenna CL:	194.00 ft AGL	250.00 ft AGL
Diversity Antenna model:		
Diversity Antenna manufacturer:		
Diversity Antenna Id:		
Diversity Antenna gain (dBi):		
Diversity Antenna diameter:		
Diversity Antenna CL:		
Branch Loss Tx/Rx (dB):	4.60/4.60	4.60/4.60
Attenuator Common/Tx/Rx (dB):		
Waveguide #1 Model, Len, Loss(dB):		
Waveguide #2 Model, Len, Loss(dB):		
Waveguide #3 Model, Len, Loss(dB):		

Total Waveguide Loss (dB):		
Other Losses (dB):	0.00	0.00
Frequency (GHz):	11.00 GHz	
Path length:	6.76 mi	
Free space loss (dB):	134.01 dB	
Atmospheric absorption loss (dB):	0.16 dB	
Obstruction Loss (dB):	0.00 dB (oLOS)	
Field margin (dB):	1.00 dB	
Net path loss (dB):	58.37 dB	58.37 dB
Configuration:	4+0/DP/DM	4+0/DP/DM
Radio model:	IP20D-HP11-80X-A_4501	IP20D-HP11-80X-A_4501
Radio manufacturer:	Ceragon Networks	Ceragon Networks
Radio Id:	754	754
Frequency Plan: Frequency (MHz):	High: N/A	Low: N/A
Polarization:	N/A	N/A
Emission designator:	80MOD7W	80MOD7W
Climatic factor:	1.00	
Terrain roughness factor:	2.26	
Average annual temperature:	68.26 degF	
Design Path Polarity:	Vertical	
Rain region:	Jacksonville, Florida	
0.01% Rain Rate:	72.9 mm/hr	
Passive Repeaters		
Antenna model:		
Antenna manufacturer:		
Antenna height:		

Modulation / Throughput	Tx Power A/B (dBm)		EIRP A/B (dBm)		Receive Signal A/B (dBm)		Composite Fade Margin A/B (dB)		Radio Threshold/ ACM Drop Level A/B (dBm)	
BPSK 67.00 Mbps	36.00	36.00	72.10	72.10	-25.97	-25.97	59.33	59.33	-86.30	-86.30



4QAM 136.00 Mbps	36.00	36.00	72.10	72.10	-25.97	-25.97	53.53	53.53	-80.50	-80.50
8QAM 195.00 Mbps	36.00	36.00	72.10	72.10	-25.97	-25.97	49.83	49.83	-76.80	-76.80
16QAM 279.00 Mbps	35.00	35.00	71.10	71.10	-26.97	-26.97	45.83	45.83	-73.80	-73.80
32QAM 368.00 Mbps	35.00	35.00	71.10	71.10	-26.97	-26.97	42.43	42.43	-70.40	-70.40
64QAM 451.00 Mbps	34.00	34.00	70.10	70.10	-27.97	-27.97	38.53	38.53	-67.50	-67.50
128QAM 533.00 Mbps	33.00	33.00	69.10	69.10	-28.97	-28.97	34.53	34.53	-64.50	-64.50
256QAM 614.00 Mbps	32.00	32.00	68.10	68.10	-29.97	-29.97	30.83	30.83	-61.80	-61.80
512QAM 675.00 Mbps	32.00	32.00	68.10	68.10	-29.97	-29.97	28.13	28.13	-59.10	-59.10
1KLQAM 735.00 Mbps	31.00	31.00	67.10	67.10	-30.97	-30.97	23.93	23.93	-55.90	-55.90
1KHQAM 780.00 Mbps	31.00	31.00	67.10	67.10	-30.97	-30.97	23.53	23.53	-55.50	-55.50
2KQAM 826.00 Mbps	31.00	31.00	67.10	67.10	-30.97	-30.97	20.63	20.63	-52.60	-52.60

Modulation/Throughput	Worst Month Multipath		Worst Month Rain		Annual Multipath		Annual Rain		Total Annual		Total Active in Mode	
	(100-%)	(s)	(100-%)	(s)	(100-%)	(s)	(100-%)	(s)	(100-%)	(s)	(100-%)	(s)
BPSK 67.00 Mbps	99.999996	0.12	99.998255	45.85	99.999998	0.48	99.999798	63.66	99.999797	64.14	0.000122	38.34
4QAM 136.00 Mbps	99.999983	0.45	99.997402	68.28	99.999994	1.83	99.999681	100.65	99.999675	102.48	0.000125	39.33
8QAM 195.00 Mbps	99.999960	1.05	99.996592	89.57	99.999986	4.30	99.999564	137.51	99.999550	141.81	0.000205	64.75
16QAM 279.00 Mbps	99.999900	2.63	99.995366	121.77	99.999966	10.79	99.999379	195.77	99.999345	206.56	0.000268	84.58
32QAM 368.00 Mbps	99.999781	5.76	99.993921	159.77	99.999925	23.60	99.999152	267.53	99.999077	291.13	0.000493	155.53
64QAM 451.00 Mbps	99.999462	14.15	99.991587	221.10	99.999816	57.94	99.998767	388.72	99.998584	446.66	0.000879	277.11
128QAM 533.00 Mbps	99.998648	35.53	99.988117	312.29	99.999539	145.54	99.998166	578.23	99.997705	723.77	0.001467	462.67
256QAM 614.00 Mbps	99.996830	83.30	99.983468	434.45	99.998918	341.17	99.997320	845.27	99.996238	1186.44	0.001838	579.50
512QAM 675.00 Mbps	99.994098	155.11	99.978710	559.50	99.997986	635.29	99.996415	1130.65	99.994400	1765.94	0.005415	1707.80
1KLQAM 735.00 Mbps	99.984475	407.99	99.968058	839.43	99.994701	1670.97	99.994283	1802.76	99.988985	3473.74	0.000783	246.90
1KHQAM 780.00 Mbps	99.982977	447.36	99.966742	874.02	99.994190	1832.19	99.994012	1888.45	99.988202	3720.64	0.007983	2517.36
2KQAM 826.00 Mbps	99.966808	872.27	99.955121	1179.43	99.988672	3572.48	99.991548	2665.52	99.980219	6238.01	99.980219	31529761.99

Multipath fading method - VIGANTS  
Rain fading method - Crane City/Jacksonville, Florida

VHLP4-11W/A



1.2 m | 4 ft ValuLine® High Performance Low Profile Antenna, single-polarized, 10.125–11.700 GHz

Product Classification

Product Type	Microwave antenna
Product Brand	ValuLine®

General Specifications

Antenna Type	VHLP - ValuLine® High Performance Low Profile Antenna, single-polarized
Polarization	Single
Side Struts, Included	1 inboard
Side Struts, Optional	1 inboard
Dimensions	
Diameter, nominal	1.2 m   4 ft

VHLP4-11W/A

VSWR	1.3
Radiation Pattern Envelope Reference (RPE)	7182A
Electrical Compliance	Brazil Anatel Class 2   Canada SRSP 310.5   Canada SRSP 310.7 Part B   ETSI 302 217 Class 3   US FCC Part 101A @ 10.55–10.7 GHz   US FCC Part 101A @ 10.7–11.7 GHz   US FCC Part 101B @ 10.125–11.7 GHz
Mechanical Specifications	
Compatible Mounting Pipe Diameter	115 mm   4.5 in
Fine Azimuth Adjustment Range	±15°
Fine Elevation Adjustment Range	±15°
Wind Speed, operational	200 km/h   124.274 mph
Wind Speed, survival	250 km/h   155.343 mph

Wind Forces at Wind Velocity Survival Rating

Axial Force (FA)	5326 N   1,197.333 lbf
Side Force (FS)	2638 N   593.046 lbf
Twisting Moment (MT)	2162 N-m   19,135.312 in lb
Force on Inboard Strut Side	2862 N   643.403 lbf
Zcg without Ice	43 mm   1.693 in
Zcg with 1/2 in (12 mm) Radial Ice	284 mm   11.181 in
Weight with 1/2 in (12 mm) Radial Ice	74 kg   163.142 lb

FibeAir IP-20A



High-availability, split-mount, modular multicore aggregation node

Designed uniquely for the North American market, FibeAir IP-20A is a highly-flexible aggregation node that delivers multi-Gbps radio capacity at a very large scale. Now available with multicore technology and new radio units, IP-20A features high modularity and flexibility and supports up to 8 radio links with an exceptionally wide variety of line interfaces via pluggable modules, in a wide range of network topologies - making it the preferred node for your transport network's aggregation sites.

The FibeAir IP-20A operates within the entire microwave and millimeter-wave spectrum, offering high spectral efficiency across licensed and license-exempt frequency bands (4-86 GHz). It also supports all high-speed data interfaces (10G/1G/FE) and a wide variety of TDM interfaces (DS1, OC-3); operates with a wide variety of multicore, standard and high-power radios; and accommodates various network configurations including 1x 8+0, 4x 2+0, and 8x 1+0.

**Note:** For exact feature availability, contact your Ceragon representative. In case of discrepancy between this Datasheet and the Technical Description for the product, the Technical Description prevails.

General

Assembly options

1RU Chassis – 5x Universal slots;  
2RU Chassis –10x Universal slots  
Redundant TCC slots (2RU chassis only)

Radio

Supported Frequency Range

Standard Power: 6-42 GHz, 71-76 GHz, 81-86 GHz  
High Power: 4-11 GHz

Supported RFUs

RFU-D – High-capacity MultiCore radio  
RFU-D-HP – High-capacity, high-power MultiCore radio  
RFU-E – High capacity E-band radio  
RFU-S – High-capacity radio  
RFU-C – High-capacity radio  
RFU-A – High-capacity, high-power radio  
1500HP/RFU-HP – High-capacity, high-power radio

Typical Radio Configurations

N+0 (up to N=8), 1x 8+0, 2x 4+0, 4x 2+0, 8x 1+0, 1+1, 2+2  
Split Mount (Standard Power, High Power)  
All Indoor (High Power)

Radio Features

Multi-Carrier Adaptive Bandwidth Control (up to 8+0)  
Protection and Diversity: HSB, SD (BBC and BBS)  
High spectral utilization: BPSK to 4096 QAM w/ACM  
Channel bandwidth:

- 4-42 GHz: up to 112 MHz
- E-Band: up to 500 MHz

**Note:** 112 channels are planned for future release.

XPIC  
Multiband (with IP-50E/IP-20E)  
Advanced Space Diversity (ASD)\*  
Field Replaceable Diplexers/ Field Replaceable Channel Filters

Ethernet

Ethernet Interfaces

1RU/2RU Traffic Interfaces - Up to 10 x 1000Base-T (RJ-45) or 1000base-X (SFP)  
Up to 2 x 10Gbase-X (SFP+)  
Management Interfaces - 2 x 10/100 Base-T (RJ-45)  
SFP Types - Optical 1000Base-LX (1310 nm) or SX (850 nm)

Ethernet Features

MTU – 9600 Bytes  
Quality of Service

- Multiple Classification criteria (VLAN ID, IP-bits, IPv4 DSCP, IPv6 TC, MPLS EXP)
- 8 priority queues per port
- Deep buffering (configurable up to 64 Mbit per queue)
- WRED
- P-bit marking/remarking

4K VLANs  
VLAN add/remove  
MSTP, ERP (ITU-T G.8032)  
Frame Cut Through – controlled latency and PDV for delay sensitive applications  
Header DeDuplication – Capacity boosting by eliminating inefficiency in all layers (L2, MPLS, L3, L4, Tunneling – GTP for LTE, GRE)  
Y.1731 Ethernet OAM  
Y.1731 Ethernet Bandwidth Notification (ETH-BN)

Technical Specifications

Mechanical Specifications

1RU Chassis – 1.8" (H), 17.5" (W), 9.6" (D), 6.5 lbs. (empty);  
2RU Chassis – 3.46" (H), 17.5" (W), 9.6" (D), 13.2 lbs. (empty)  
PlugIn Card Weights: 0.66 – 3.3 lbs.  
RFU-D – 9.05" (H), 9.17" (W), 3.85" (D), 14.33 lbs. (includes diplexer unit)  
RFU-D-HP – 12.56" (H), 11.26" (W), 4.21" (D), 26.5 lbs. (includes diplexer or OCU unit)  
RFU-E – 8.66" (H), 7.8" (W), 3" (D), 6.6 lbs.  
RFU-S – 8.54" (H), 8.27" (W), 3.35" (D), 8.82 lbs.  
RFU-C – 7.87" (H), 7.87" (W), 3.35" (D), 9 lbs.  
RFU-A – 1.8" (H), 19" (W), 13.18" (D), 26.45 lbs.  
1500HP/RFU-HP – 19" (H), 6" (W), 11" (D), 15 lbs. (excluding Branching)  
1500HP/RFU-HP OCB Branching (Split Mount and Compact All-Indoor) – 16.5" (H), 4.33" (W), 15" (D), 15 lbs. per carrier

Environmental Specifications

IDU: +23°F to +131°F (-13°F to +149°F extended);  
RFU: -27°F to +131°F (-49°F to +140°F extended)

Power Input Specifications

IDU Standard Input: -48 VDC  
IDU DC Input range: -40 to -60 VDC, with maximum current of up to 15A (1RU chassis) or 30A (2RU chassis)  
Dual-feed power support

Power Consumption Specifications

TCC – 25W; RMC – 17W; RIC-D – 12W; 1X10G LIC – 12W; 4XGE LIC – 9W; 16XDS1 LIC – 17W; ch-OC-3 LIC – 25W; OC-3 – 9W  
Fans (1RU/2RU) – 6/30W max (4/6W-25°C)  
RFU-D – 75W  
RFU-D-HP – 130W/180W  
RFU-E – 43W  
RFU-S – 43W  
RFU-C – 6-26 GHz (1+0/1+1): 22W/39W; 28-42 GHz (1+0/1+1): 26W/43W  
RFU-A\* (1+0) – High Level: 77W; Medium Level: 53W; Low Level: 43W; Mute: 24W  
RFU-A\* (1+1 HSB/SD BBS) – High Level: 101W; Medium Level: 77W; Low Level: 67W; Mute: 48W  
RFU-HP (6-8 GHz) – Max Bias: 73W; Mid Bias: 48W; Min Bias: 34W; Mute: 18W  
RFU-HP (11 GHz) – Max Bias: 74W; Mid Bias: 64W; Mute: 21W  
1500HP – Max Bias: 85W; Mid Bias: 72W; Mute: 29W

SUPPLEMENTAL

SHEET NUMBER: <b>R-603</b>	REVISION: <b>0</b>
-------------------------------	-----------------------

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



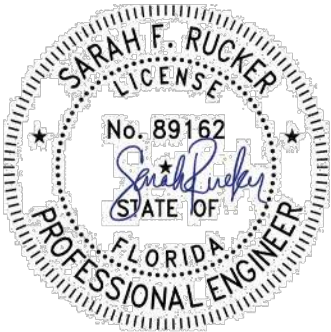


Mount Analysis Report

ATC Asset Name : Lacrosse FL 6  
ATC Asset Number : 303048  
Engineering Number : 14863653\_C8\_01  
Mount Elevation : 191.75 ft  
Proposed Carrier : T-Mobile  
Carrier Site Name : 9JK0174A  
Carrier Site Number : 9JK0174A  
Site Location : 183 Southeast Waterleaf Drive  
Lake City, FL 32024-0001  
29.951501, -82.570729  
  
County : Columbia  
Date : June 26, 2024  
Max Usage : 88%  
Analysis Result : Contingent Pass

Prepared By:  
Joseph Swier  
Structural Engineer I

Joseph Swier



This item has been electronically signed and sealed by Sarah F. Rucker, PE on the date shown using a digital signature. Printed copies are not considered signed and sealed and the signature must be verified on any electronic copies.

Sarah Rucker  
Digitally signed by Sarah Rucker  
Date: 2024.06.27 18:51:12 -04'00'

COA: 9053

Introduction

The purpose of this report is to summarize results of the mount analysis performed for T-Mobile at 191.75 ft.

Supporting Documents

Specifications Sheet:	Sabre C10857007C, dated October 19, 2016
Radio Frequency Data Sheet:	RFDS ID #9JK0174A, dated May 30, 2024
Reference Photos:	Site photos from 2023

Analysis

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

Basic Wind Speed:	121 mph (3-Second Gust)
Basic Wind Speed w/ Ice:	No Ice Considered
Codes:	ANSI/TIA-222-H / 2021 IBC / 8th ED (2023) Florida Building Code
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 = 0.081, S1 = 0.048
Site Class:	D - Stiff Soil - Default
Live Loads:	Lm = 500 lbs, Lv = 250 lbs

\*Live Load(s) reduction is confirmed to either not govern or not be applicable

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:

- On Beta, install P4 (4.5” x 72”) in mount pipe position B2 to be located 3” from right end of mount face looking out from tower. Connect with Site Pro 1 SCX7-U (or approved equivalent) crossover plate kits.
- No structural failures were addressed with the noted contingencies. Contingencies address Carrier’s antenna spacing requirements.

If you have any questions or require additional information, please reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact MountAnalysis@americantower.com. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

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

SUPPLEMENTAL

SHEET NUMBER:

R-604

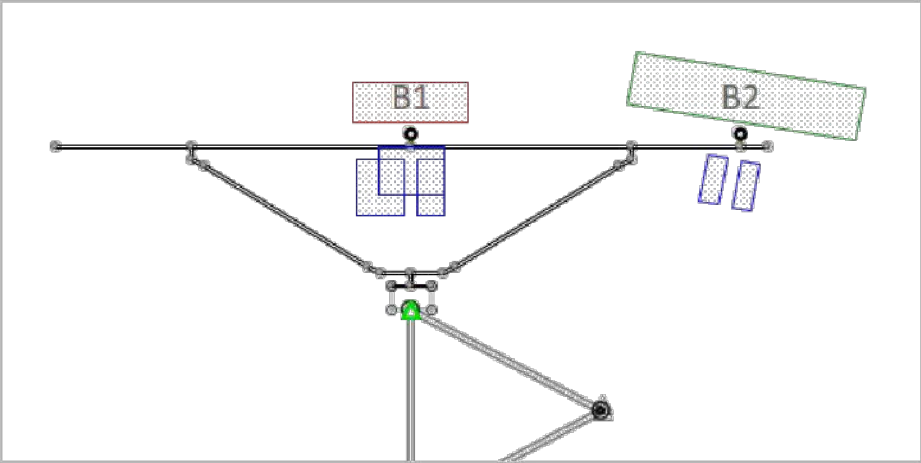
REVISION:

0





Mount Layout



Equipment Position Table

MP	RAD Center (ft)	Qty.	Antenna Model	Max Width (in)	Left (in)	Right (in)
B1	193.0	1	Commscope FFV4-65C-R3-V1	25.2	N/A	N/A
	193.0	1	Ericsson Radio 4449 B12,B71 (75 lbs)			
	193.0	1	Ericsson RRUS 4415 B25			
	193.0	1	Ericsson 4424 B25			
B2	193.0	1	Commscope VHLP4-11W/A	-	-	-
	193.0	2	Ceragon FibeAir IP-20D-HP			

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

SUPPLEMENTAL

SHEET NUMBER:

R-605

REVISION:

0