

Market: Jacksonville  
Site#: 8SV0940C

**THIRD AMENDMENT TO BUILDING, ROOFTOP, WATER TANK, AND MISCELLANEOUS  
STRUCTURE ANTENNA ATTACHMENT LEASE AGREEMENT**

THIS THIRD AMENDMENT TO BUILDING, ROOFTOP, WATER TANK, AND MISCELLANEOUS ANTENNA STRUCTURE ATTACHMENT LEASE AGREEMENT (“Amendment”) is made and entered into by and between the Mayor and Aldermen of the City of Savannah, hereinafter referred to as the “Lessor”, and T-Mobile South LLC, a Delaware limited liability company (“Lessee”) (collectively, the “Parties”).

Recitals

The parties hereto recite, declare, and agree as follows:

- A. Lessor and Lessee entered into a Building, Rooftop, Water Tank, and Miscellaneous Antenna Structure Attachment Lease Agreement dated August 24, 2000, as amended by First Amendment to Building, Rooftop, Water Tank, and Miscellaneous Antenna Structure Attachment Lease Agreement dated September 16, 2013, and as amended by Second Amendment to Building, Rooftop, Water Tank, and Miscellaneous Antenna Structure Attachment Lease Agreement dated September 30, 2019 (collectively, the “Lease”), with respect to the Premises located at the Sapelo Road Water Tank.
- B. Lessor and Lessee desire to enter into this Amendment in order to modify and amend the Lessee’s Antenna Facilities as Described in Exhibit “B-2”.

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Lessor and Lessee covenant and agree as follows:

1. Lessee’s Antenna Facilities as outlined on the Site Plan attached in the Lease Antenna Facilities Site Plan Exhibit “B-1” are deleted in its entirety and replaced with new Lessee Antenna Facilities Site Plan Exhibit “B-2” attached hereto.
2. The Rent that Lessee pays Lessor will be increased by Five Hundred Dollars (\$500.00) per month, as of (I) thirty (30) days from the earlier of (a) the date of commencement of construction for the modification of the additional equipment, or (b) the date of the last party to execute this Amendment. Thereafter, Rent shall be payable in accordance with the terms of the Lease.
3. The terms and conditions of the Lease are incorporated herein by this reference, and capitalized terms used in this Amendment shall have the same meanings such terms are given in the Lease. Except as specifically set forth herein, this Amendment shall in no way modify, alter, or amend the remaining terms of the Lease, all of which are ratified by the parties and shall remain in full force and effect. To the extent there is any conflict between the terms and conditions of the Lease and this Amendment, the terms and conditions of this Amendment will govern and control.
4. Lessor and Lessee represent and warrant to each other that the consent or approval of no third party, including, without limitation, a lender, is required with respect to the execution of this Amendment, or if any such third party consent or approval is required, that third party consent or approval has been obtained.

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IN WITNESS WHEREOF, the parties have caused this Third Amendment to be duly executed and delivered as of the last date set forth below.

**LESSOR:**

**Mayor and Aldermen of the City of Savannah**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Witness

\_\_\_\_\_  
Printed Name

**LESSEE:**

**T-Mobile South LLC, a Delaware limited liability company**

DocuSigned by:  
By: *Jess Louk*  
9682A5FC2FB3400...

Name: **Jess Louk**

Title: **Director, E&O**

Date: **1/19/2022**



TMO Signatory Level : L06

DocuSigned by:  
*Chung Foo Lee*  
83D815457C944D8...  
Witness

\_\_\_\_\_  
Chung Foo Lee

\_\_\_\_\_  
Printed Name

DocuSigned by:  
*Chase Banuelos*  
33525E318A9A452...  
Witness

\_\_\_\_\_  
Chase Banuelos

\_\_\_\_\_  
Printed Name

Market: Jacksonville  
Site#: 8SV0940C

**EXHIBIT B-2**

**[Engineer stamped Site Plans dated 8/5/21 completed by SMW Engineering to be inserted]**



# WASHINGTON ISLAND ROAD

29 SAPELO ROAD  
WILMINGTON ISLAND, GEORGIA 31410  
(CHATHAM COUNTY)

## 8SV0940C

EXCALIBUR PROJECT

PROPOSED MODIFICATION TO EXISTING T-MOBILE  
ANTENNAS ON A 145' WATER TANK TOWER

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.:	21-5122
DRAWN BY:	A. ROIG
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

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12979 N. TELECOM PARKWAY  
TEMPLE TERRACE, FLORIDA 33637  
(813) 615-1422  
CERTIFICATE OF AUTHORIZATION PEF005626



7025 A.C. SKINNER PARKWAY  
JACKSONVILLE, FL 32256

JEREMY D. SHARIT PE GA LIC PE37206

### WASHINGTON ISLAND ROAD

8SV0940C

29 SAPELO ROAD  
WILMINGTON ISLAND, GEORGIA 31410  
(CHATHAM COUNTY)

SHEET NAME

TITLE SHEET

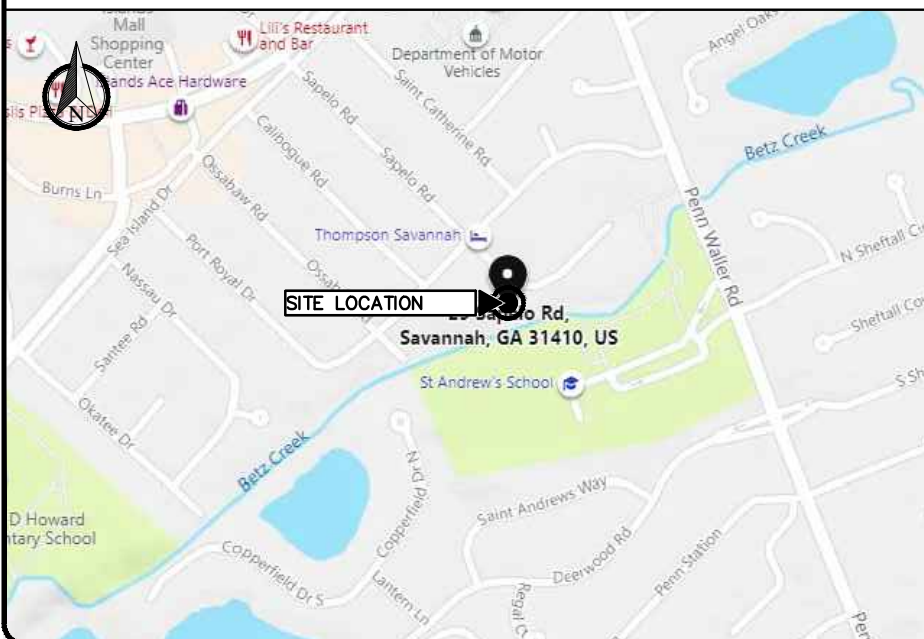
SHEET NUMBER

T1

#### LOCAL MAP



#### VICINITY MAP



#### CONTACTS

**APPLICANT:**  
T-MOBILE USA  
7025 A.C. SKINNER PARKWAY  
JACKSONVILLE, FL 32256

**PROPERTY OWNER CONTACT:**  
LANDLORD: MAYOR & ALDERMAN OF SAVANNAH

ADDRESS: PO BOX 1027  
CITY, STATE, ZIP: SAVANNAH, GEORGIA 31402-1027

**SMW ENGINEERING GROUP, INC. PROJECT MANAGER:**  
DARREN REVELS (813) 503-0218

#### DESIGN CRITERIA

DESIGN WIND SPEED: 138 MPH (ULTIMATE WIND SPEED)  
106 MPH (BASIC WIND SPEED)  
EXPOSURE CATEGORY: B  
RISK CATEGORY: II

#### PROPERTY SUMMARY

PARCEL #: 10077 09006  
LATITUDE: 32.01166200° N (AS PROVIDED)  
LONGITUDE: -80.97720500° W (AS PROVIDED)  
ZONING JURISDICTION: CHATHAM COUNTY

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#### APPLICABLE CODES

THE CONTRACTOR WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) OVER THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE: INTERNATIONAL BUILDING CODE 2018 EDITION WITH GEORGIA STATE AMENDMENTS (2020).

ELECTRICAL CODE: NATIONAL ELECTRICAL CODE, 2017 EDITION.

MECHANICAL CODE: INTERNATIONAL MECHANICAL CODE 2018 EDITION, WITH GEORGIA STATE AMENDMENTS. (2020).

FIRE CODE: INTERNATIONAL FIRE CODE 2018 EDITION

INTERNATIONAL ENERGY CONSERVATION CODE, 2015 EDITION, WITH GEORGIA SUPPLEMENTS AND AMENDMENTS (2020).

THE CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS. AMERICAN CONCRETE INSTITUTE (ACI) 318-08, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, LRFD 13th EDITION. TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H WITH APPLICABLE STANDARDS, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES: TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM, IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT.

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE").

TELCORDIA GR-1275, GENERAL INSTALLATION REQUIREMENTS, TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS, ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION.

THIS DOCUMENT HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY JEREMY D. SHARIT, PE (#37206) USING A DIGITAL SIGNATURE IN ACCORDANCE WITH SECTION 180-12.02(9) OF THE RULES AND REGULATIONS OF THE STATE OF GEORGIA, WITH A DIGITAL CERTIFICATE ISSUED BY ENTRUST, INC. PLEASE REFERENCE SHEET T1 TO VIEW THE SIGNATURE AND VERIFY ITS PROPERTIES. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.



Know what's below.  
Call before you dig.

1. FOR THE PURPOSES OF THESE CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:

OWNER – T-MOBILE SOUTH LLC  
ENGINEER – SMW ENGINEERING GROUP, INC.  
CONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)

2. PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR SHALL VISIT THE JOB SITE IN ORDER TO (1) VERIFY ALL EXISTING CONDITIONS, (2) CONFIRM WHETHER ALL DIMENSIONS ARE AS SHOWN ON THE PLANS AND (3) CONFIRM WHETHER THE WORK MAY BE ACCOMPLISHED AS SHOWN. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER.
3. A 20-FOOT HORIZONTAL CLEARANCE DISTANCE SHALL BE MAINTAINED FROM ALL EXISTING POWER LINES.
4. THE CONTRACTOR'S USE OF A CONSTRUCTION STAGING AREA SHALL BE COORDINATED WITH THE OWNER WELL IN ADVANCE OF THE CONSTRUCTION START DATE.
5. LABOR, MATERIAL, TOOLS, EQUIPMENT, TRANSPORTATION AND TEMPORARY POWER SERVICES NECESSARY FOR AND INCIDENTAL TO COMPLETION OF ALL WORK SHALL BE PROVIDED AS INDICATED ON THE DRAWINGS AND/OR AS SPECIFIED HEREIN. LABOR AND MATERIALS SHALL BE FURNISHED AS REQUIRED FOR COMPLETE SYSTEMS, INCLUDING ALL ELEMENTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER OR NOT SPECIFICALLY INDICATED ON THE PLANS.
6. FOR TASKS REQUIRED TO BE PERFORMED BUT NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOT START WORK ON SUCH TASKS WITHOUT HAVING RECEIVED WRITTEN AUTHORIZATION FROM THE CONSTRUCTION MANAGER TO PROCEED.
7. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT UNLESS OTHERWISE INDICATED BY DIMENSIONS OR DETAILS. EXACT EQUIPMENT LOCATIONS MAY BE MODIFIED AS REQUIRED BY ACTUAL FIELD CONDITIONS. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE ENGINEER AND THE CONSTRUCTION MANAGER.
8. THE CONTRACTOR SHALL OBTAIN, PAY FOR AND DELIVER ALL REQUIRED PERMITS, CERTIFICATES OF INSPECTION, INCLUDING UTILITY CONNECTION FEES, ETC., REQUIRED BY THE AUTHORITIES HAVING JURISDICTION AND SHALL DELIVER SUCH DOCUMENTS TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE WORK.
9. THE CONTRACTOR'S OPERATIONS SHALL BE CONFINED TO AREAS OF NEW CONSTRUCTION.
10. ALL NECESSARY PROVISIONS SHALL BE MADE TO PROTECT EXISTING IMPROVEMENTS, LANDSCAPING, PAVING, CURBS, GALVANIZED SURFACES, ETC, AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO SAME RESULTING FROM THE CONSTRUCTION WORK. ALL DISTURBED AND DAMAGED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER UPON COMPLETION OF ALL WORK TO THE SATISFACTION OF THE CONSTRUCTION MANAGER.
11. THE FOLLOWING CLEANUP TASKS SHALL BE PERFORMED AS FOLLOWS: (1) ON A DAILY BASIS, KEEP THE GENERAL AREA CLEAN AND HAZARD FREE, REMOVING ALL WASTE, DEBRIS AND TRASH FROM THE SITE AND DISPOSING OF SAME IN A LEGAL MANNER. (2) UPON COMPLETION, LEAVE THE PREMISES IN A CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
12. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S RECOMMENDATIONS EXCEPT WHERE IT IS SPECIFICALLY INDICATED OTHERWISE IN THE CONTRACT DOCUMENTS OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
13. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY HAVING JURISDICTION OVER THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AS WELL AS LOCAL AND STATE CODES, ORDINANCES AND APPLICABLE REGULATIONS.
14. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AT ALL TIMES, USING THE BEST SKILLS AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL OF THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK, INCLUDING CONTACT AND COORDINATION WITH THE CONSTRUCTION MANAGER AND WITH THE OWNER'S AUTHORIZED REPRESENTATIVE.
15. WITHIN TEN (10) WORKING DAYS AFTER PROJECT COMPLETION, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS, SWEEP TEST, CYLINDER TESTS, LIEN RELEASES, AND OTHER CLOSEOUT DOCUMENTATION AS REQUIRED BY THE OWNER. ALL SYSTEMS SHALL BE COMPLETELY ASSEMBLED, TESTED, ADJUSTED AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR TO THE OWNER'S ACCEPTANCE.

1. THE APPROPRIATE UTILITY LOCATING SERVICES SHALL BE CONTACTED PRIOR TO THE START OF CONSTRUCTION IN ORDER TO VERIFY THE EXACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES.
2. THE INSTALLATION OF NEW UTILITIES SHALL BE COORDINATED WITH LOCAL AUTHORITIES.
3. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES. WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SUCH UTILITIES SHALL BE RELOCATED AS DIRECTED BY THE CONSTRUCTION MANAGER. EXTREME CAUTION SHALL BE USED WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES.
4. RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES THAT INTERFERE WITH THE EXECUTION OF THE WORK SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS THAT WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF THE LANDLORD AND/OR LOCAL UTILITIES.
6. DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION SHALL BE MINIMIZED.
7. ANY AREAS OF THE CONSTRUCTION SITE DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE. SUCH GRADING SHALL CAUSE SURFACE WATER TO FLOW AWAY FROM ANY EQUIPMENT SHELTER AND TOWER AREAS AND THE SOIL SHALL BE STABILIZED TO PREVENT EROSION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
8. THE SUB-GRADE SHALL BE COMPACTED AND BROUGHT TO A UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
9. BACKFILL SHALL CONSIST OF CLEAN SAND FILL APPROVED FOR USE BY THE ENGINEER. NO UNAPPROVED MATERIAL WILL BE ALLOWED. CLEAN SAND FILL SHALL BE FREE OF ALL ROOTS, BOULDERS, OR OTHER DELETERIOUS MATERIAL.
10. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EQUAL TO OR BETTER CONDITION THAN ORIGINAL.
11. SITE SIGNAGE SHALL BE PROVIDED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS FOR SUCH SIGNAGE AS MAY BE CONTAINED IN THESE DRAWINGS.

## SITE WORK NOTES

2

1. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE LATEST EDITION OF THE AISC "STEEL CONSTRUCTION MANUAL".
2. MATERIAL:  
A. ALL STRUCTURAL STEEL WF BEAMS SHALL BE ASTM A992 AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.  
B. ALL STRUCTURAL PLATES, ANGLES, AND CHANNELS SHALL BE ASTM A36 AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS, UNLESS NOTED OTHERWISE.  
C. ALL TS MEMBERS SHALL BE ASTM A500 GRADE B (Fy=46ksi), AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.  
D. ALL STRUCTURAL PIPE MEMBERS SHALL BE ASTM A500 GRADE B (Fy=42ksi), AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS, UNLESS NOTED OTHERWISE  
E. ALL NON-STRUCTURAL PIPE MEMBERS SHALL BE ASTM A53 GRADE B, AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
2. DESIGN, FABRICATION, AND CONSTRUCTION OF ALL CONNECTIONS SHALL CONFORM TO AISC STEEL CONSTRUCTION MANUAL.
3. WELDING:  
A. ALL WELDS, WELDERS, AND WELD INSPECTIONS SHALL CONFORM TO THE REQUIREMENTS OF AWS D 1.1, LATEST REVISION.  
B. ALL WELDS SHALL BE MADE WITH E70XX LOW HYDROGEN ELECTRODES.  
C. ALL STEEL SHALL BE SPRAY GALVANIZED AFTER WELDING.
4. ALL BOLTS SHALL BE GALVANIZED 3/4" DIAMETER, A325-N, UNLESS NOTED OTHERWISE AND TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC. SECURE NUT WITH LOCKING WASHER.
5. THE CONTRACTOR/STEEL FABRICATOR SHALL LOCATE ANY REINFORCEMENT IN THE STRUCTURAL MEMBERS IN SUCH A MANNER SO THAT THERE WILL NOT BE CONFLICT WITH THE REINFORCEMENT WHEN INSTALLING ANCHORS. THE ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTION.
6. THE CONTRACTOR/STEEL FABRICATOR SHALL CONFORM TO THE MINIMUM EDGE DISTANCE REQUIREMENTS IN ACCORDANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION.
7. ALL STRUCTURAL STEEL SHALL BE FABRICATED TO FIT AT BOLTED CONNECTIONS WITHIN 1/16 INCH TOLERANCE. STRUCTURAL STEEL SHALL NOT BE FLAME CUT UNDER ANY CIRCUMSTANCES WITHOUT APPROVAL OF THE ENGINEER.
8. THE CONTRACTOR/STEEL FABRICATOR SHALL CAP OR SEAL ALL PIPES AS REQUIRED TO PREVENT WATER INTRUSION.
9. THE CONTRACTOR/STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO ANY STEEL FABRICATION. AT THE CONTRACTOR'S OPTION, FIELD SPLICES MAY BE USED FOR ERECTION PURPOSES. IF FIELD SPLICES ARE USED, THE SHOP DRAWINGS SHALL INCLUDE ALL DETAILS FOR THE PROPOSED FIELD SPLICES.
10. AT THE CONTRACTOR'S OPTION, SHOP WELDS MAY BE USED INSTEAD OF FIELD WELDS.
11. SUBMIT ORIGINAL SHOP DRAWINGS, INCLUDING COMPLETE DETAILS, SCHEDULES OF FABRICATION AND ASSEMBLY, PROCEDURES, AND DIAGRAMS. INCLUDE DETAILS OF CUTS, CONNECTIONS, CAMBER, HOLE, AND OTHER PERTINENT DATA. INDICATE WELDS BY STANDARD AWS A2.1 AND A2.4 SYMBOLS, AND SHOW SIZE, LENGTH, AND TYPE OF WELD. PROVIDE SETTING DRAWINGS, TEMPLATES, AND DIRECTIONS FOR INSTALLATION OF ANCHOR BOLTS AND OTHER ANCHORAGES TO BE INSTALLED AS WORK OF OTHERS' SECTIONS.

GENERAL NOTES

1

STRUCTURAL STEEL NOTES

3

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.:	21-5122
DRAWN BY:	A. ROIG
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

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12979 N TELECOM PARKWAY  
TEMPLE TERRACE, FLORIDA 33637  
(813) 615-1422

CERTIFICATE OF AUTHORIZATION PEFO05626

**T-Mobile**  
stick together™

7025 A.C. SKINNER PARKWAY  
JACKSONVILLE, FL 32256

THIS DOCUMENT HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY JEREMY D. SHARIT, PE (#37206) USING A DIGITAL SIGNATURE IN ACCORDANCE WITH SECTION 180-12.02(9) OF THE RULES AND REGULATIONS OF THE STATE OF GEORGIA, WITH A DIGITAL CERTIFICATE ISSUED BY ENTRUST, INC. PLEASE REFERENCE SHEET T1 TO VIEW THE SIGNATURE AND VERIFY ITS PROPERTIES. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

JEREMY D. SHARIT PE GA LIC PE37206

WASHINGTON ISLAND  
ROAD

8SV0940C

29 SAPELO ROAD  
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(CHATHAM COUNTY)

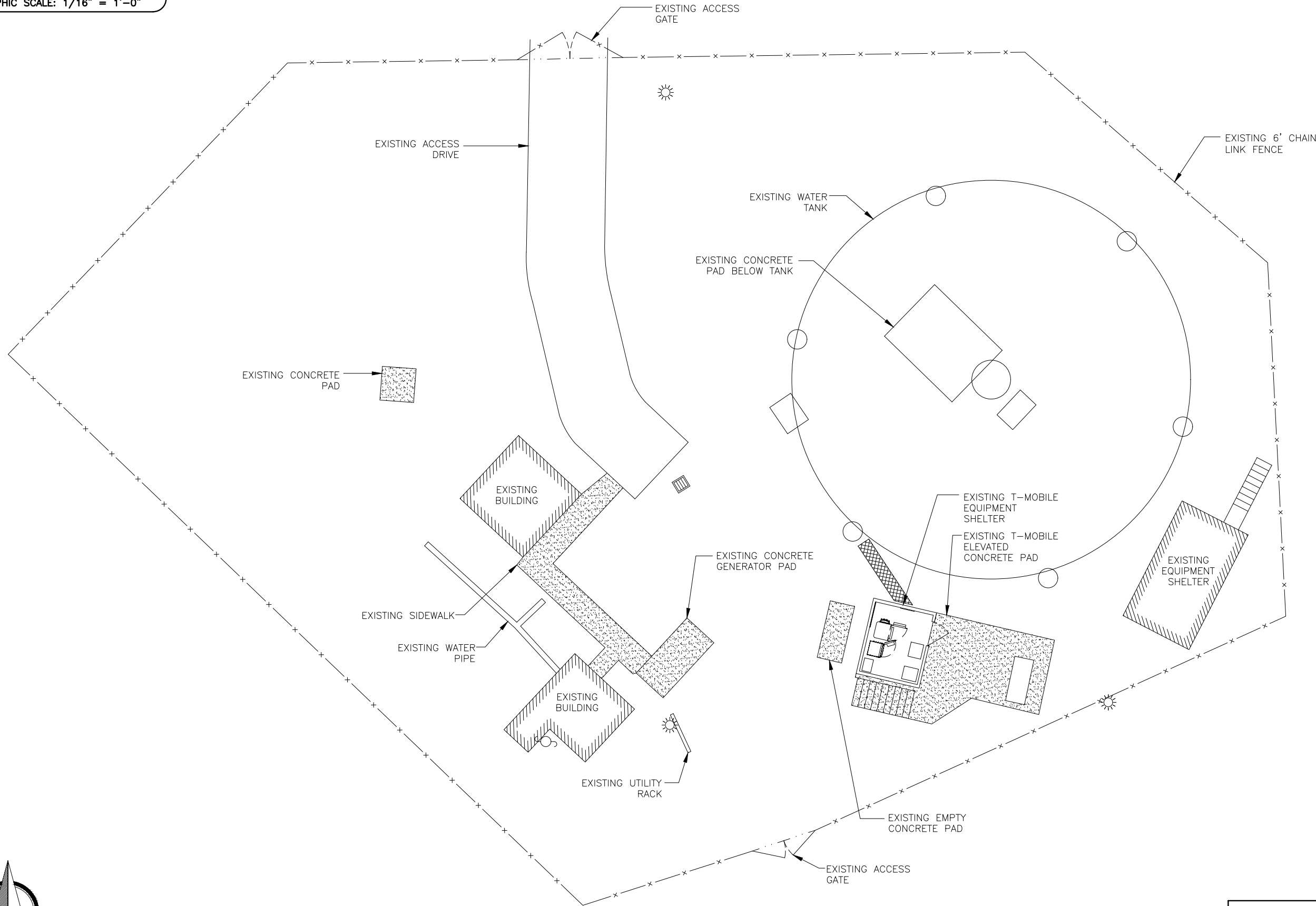
SHEET NAME

NOTES

SHEET NUMBER

T2

FOR 24"x36" DRAWINGS  
GRAPHIC SCALE: 1/8" = 1'-0"  
FOR 11"x17" DRAWINGS  
GRAPHIC SCALE: 1/16" = 1'-0"



NOTE:  
INFORMATION FOR COMPOUND DETAIL  
TAKEN FROM INFORMATION PROVIDED  
BY T-MOBILE AND A SITE WALK  
PERFORMED BY SMW ENGINEERING  
GROUP, INC. ON 06-14-21.

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.: 21-5122	
DRAWN BY:	A. ROIG
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

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ENGINEERING GROUP, INC.  
TOGETHER PLANNING A BETTER TOMORROW

12979 N. TELECOM PARKWAY  
TEMPLE TERRACE, FLORIDA 33637  
(813) 615-1422

CERTIFICATE OF AUTHORIZATION PEF005626

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**stick together**

7025 A.C. SKINNER PARKWAY  
JACKSONVILLE, FL 32256

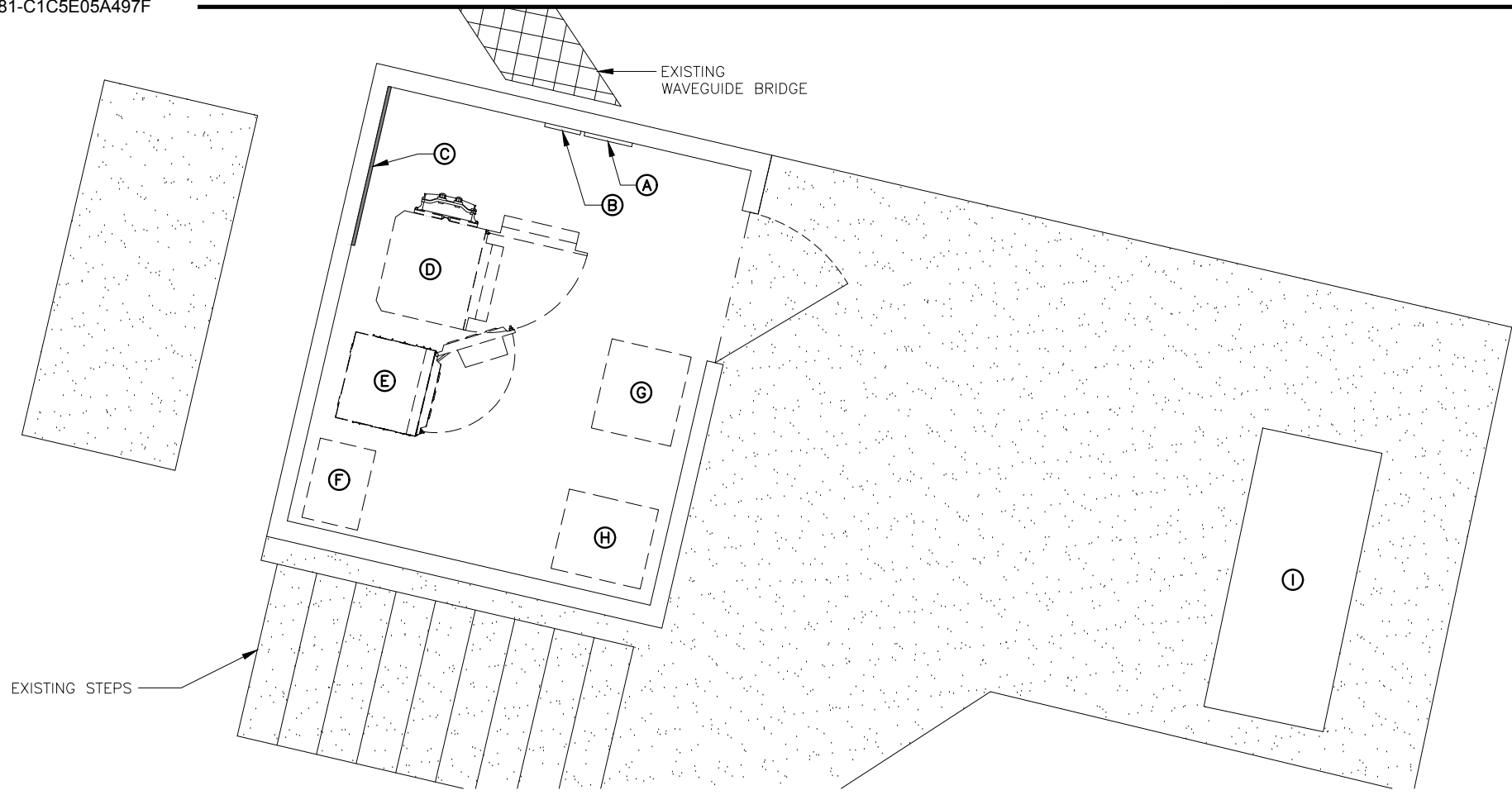
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JEREMY D. SHARIT PE GA LIC PE37206

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SHEET NAME COMPOUND DETAIL
SHEET NUMBER C1

FOR 24"x36" DRAWINGS  
 GRAPHIC SCALE: 1/2" = 1'-0"  
 FOR 11"x17" DRAWINGS  
 GRAPHIC SCALE: 1/4" = 1'-0"



T-MOBILE EQUIPMENT INVENTORY	
A	200A ELECTRICAL PANEL
B	PP2
C	TELCO BACKBOARD
D	FCOA W/OVP TO BE REMOVED
E	SMALL SSC TO BE REMOVED
F	RACK TO BE REMOVED
G	BATTERY RACK TO BE REMOVED
H	RACK TO BE REMOVED
I	GENERATOR

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
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CHECKED BY:	D. REVELS

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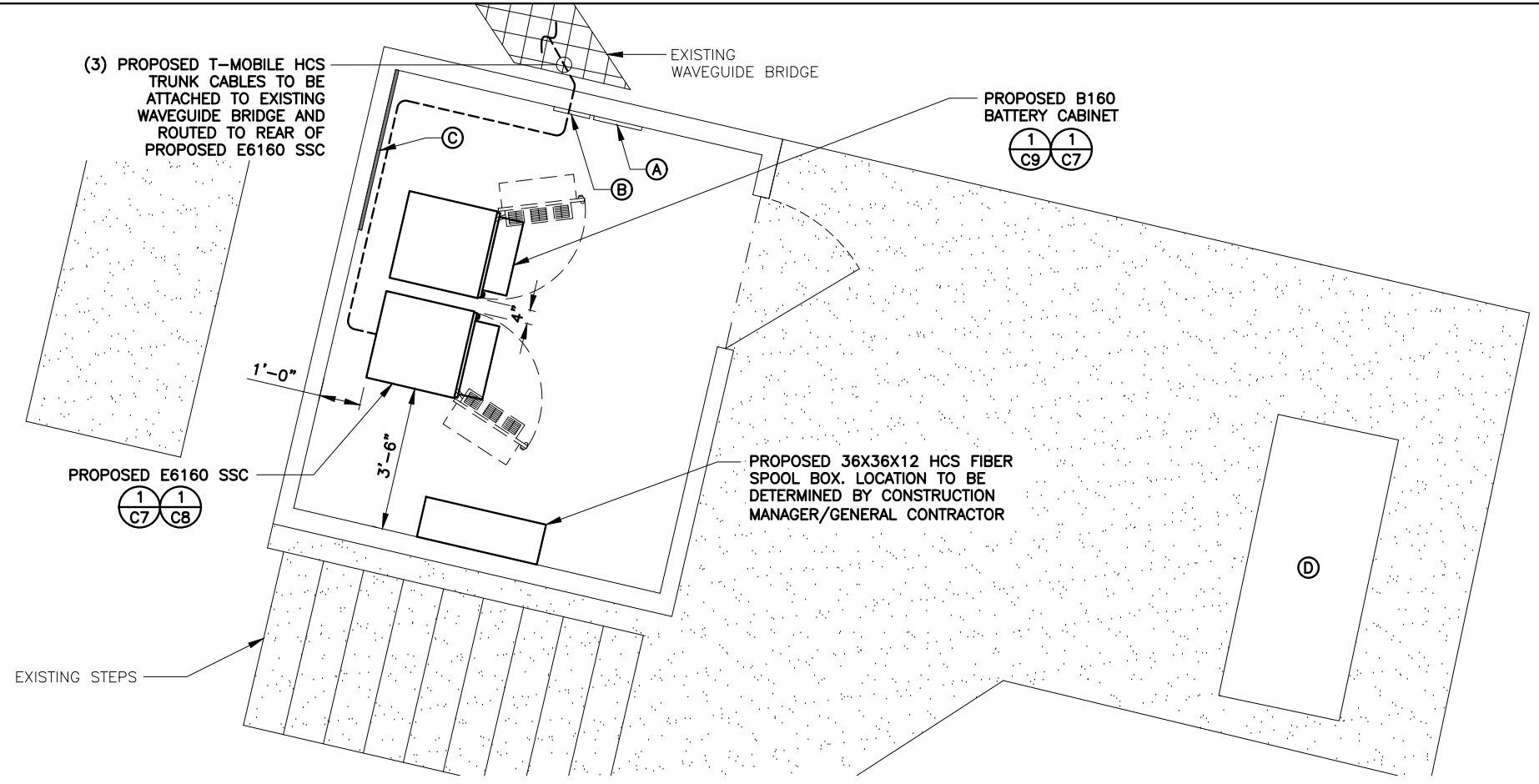
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 TEMPLE TERRACE, FLORIDA 33637  
 (813) 615-1422

CERTIFICATE OF AUTHORIZATION PEF005626

EXISTING EQUIPMENT LAYOUT

SCALE AS NOTED 1

FOR 24"x36" DRAWINGS  
 GRAPHIC SCALE: 1/2" = 1'-0"  
 FOR 11"x17" DRAWINGS  
 GRAPHIC SCALE: 1/4" = 1'-0"



T-MOBILE EQUIPMENT INVENTORY	
A	200A ELECTRICAL PANEL
B	PP2
C	TELCO BACKBOARD
D	GENERATOR

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 JACKSONVILLE, FL 32256

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PROPOSED EQUIPMENT LAYOUT

SCALE AS NOTED 2

WASHINGTON ISLAND ROAD

8SV0940C

29 SAPELO ROAD  
 WILMINGTON ISLAND, GEORGIA 31410  
 (CHATHAM COUNTY)

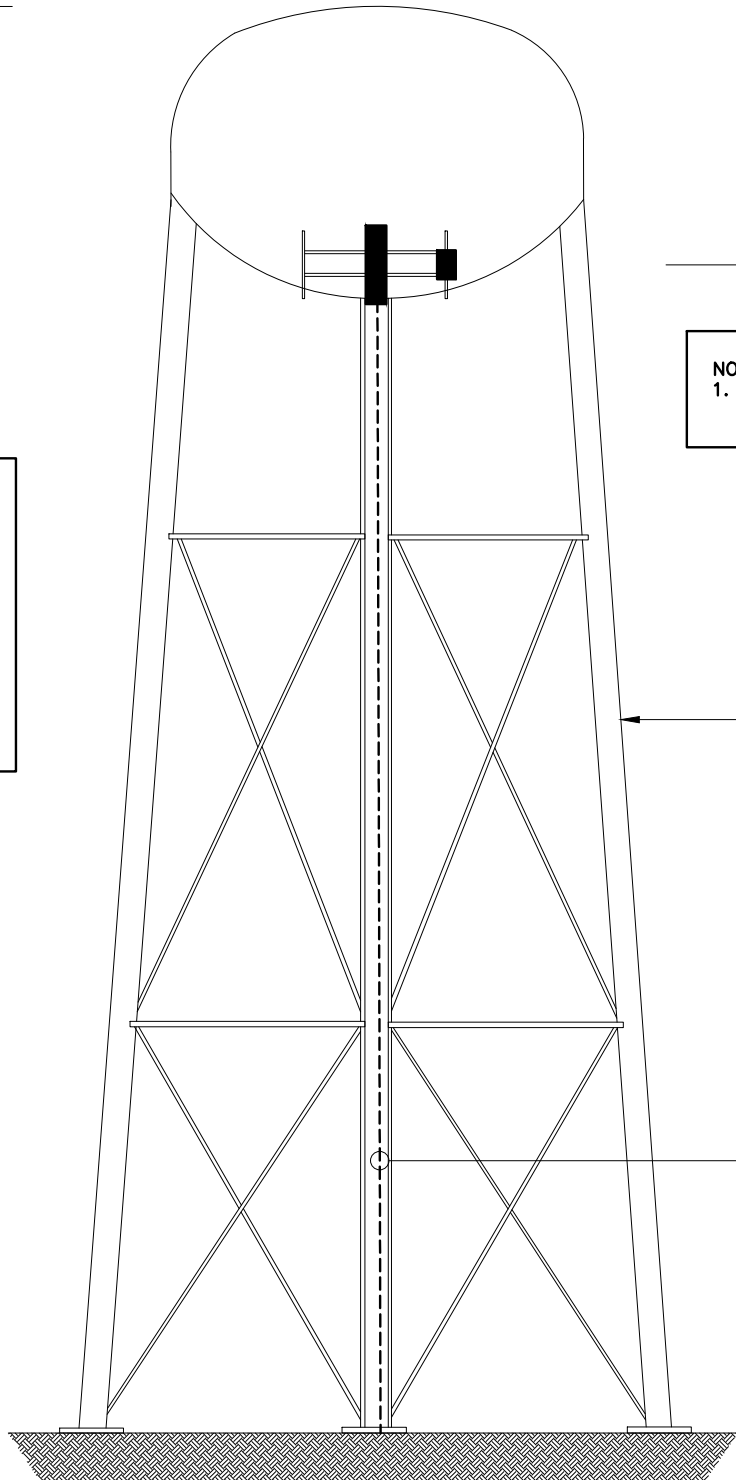
SHEET NAME  
 EQUIPMENT LAYOUT

SHEET NUMBER  
 C2

FOR 24"x36" DRAWINGS  
 GRAPHIC SCALE: 1" = 10'  
 FOR 11"x17" DRAWINGS  
 GRAPHIC SCALE: 1" = 20'

TOP OF TOWER  
 ELEV. = 145' AGL

NOTES:  
 1. FOR ANTENNA MOUNTING AND COAX ROUTING INFORMATION, SEE STRUCTURAL ANALYSIS BY OTHERS.  
 2. INFORMATION FOR TOWER ELEVATION PROVIDED BY T-MOBILE.  
 3. ANTENNA HEIGHTS/INFORMATION TAKEN FROM STRUCTURAL ANALYSIS PROVIDED BY OTHERS.



PROPOSED T-MOBILE ANTENNAS  
 RAD CENTER = 118.75' AGL

NOTE:  
 1. ALL EXISTING T-MOBILE HYBRID CABLES AND COAX CABLES ARE TO BE REMOVED.

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.:	21-5122
DRAWN BY:	A. ROIG
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

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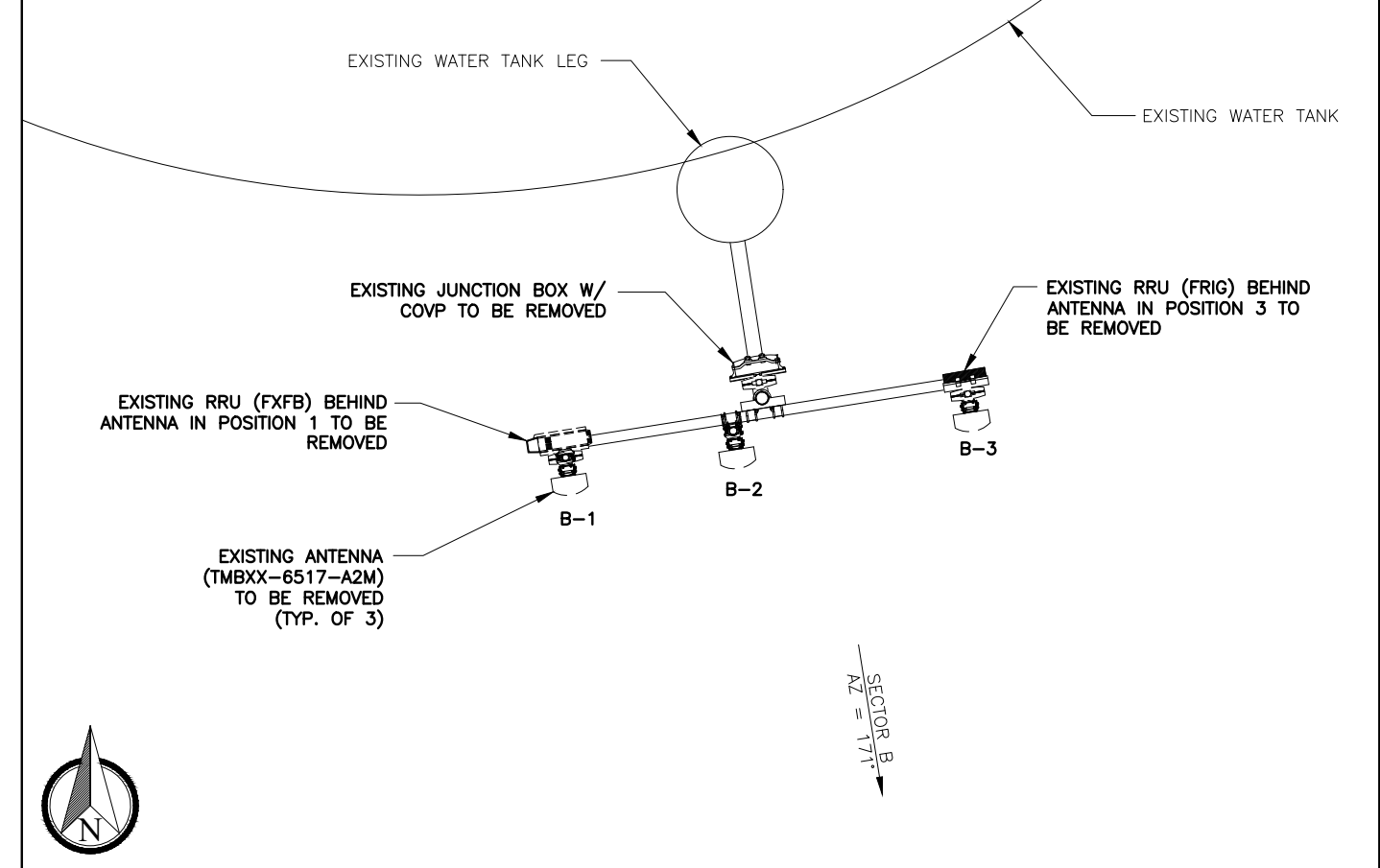
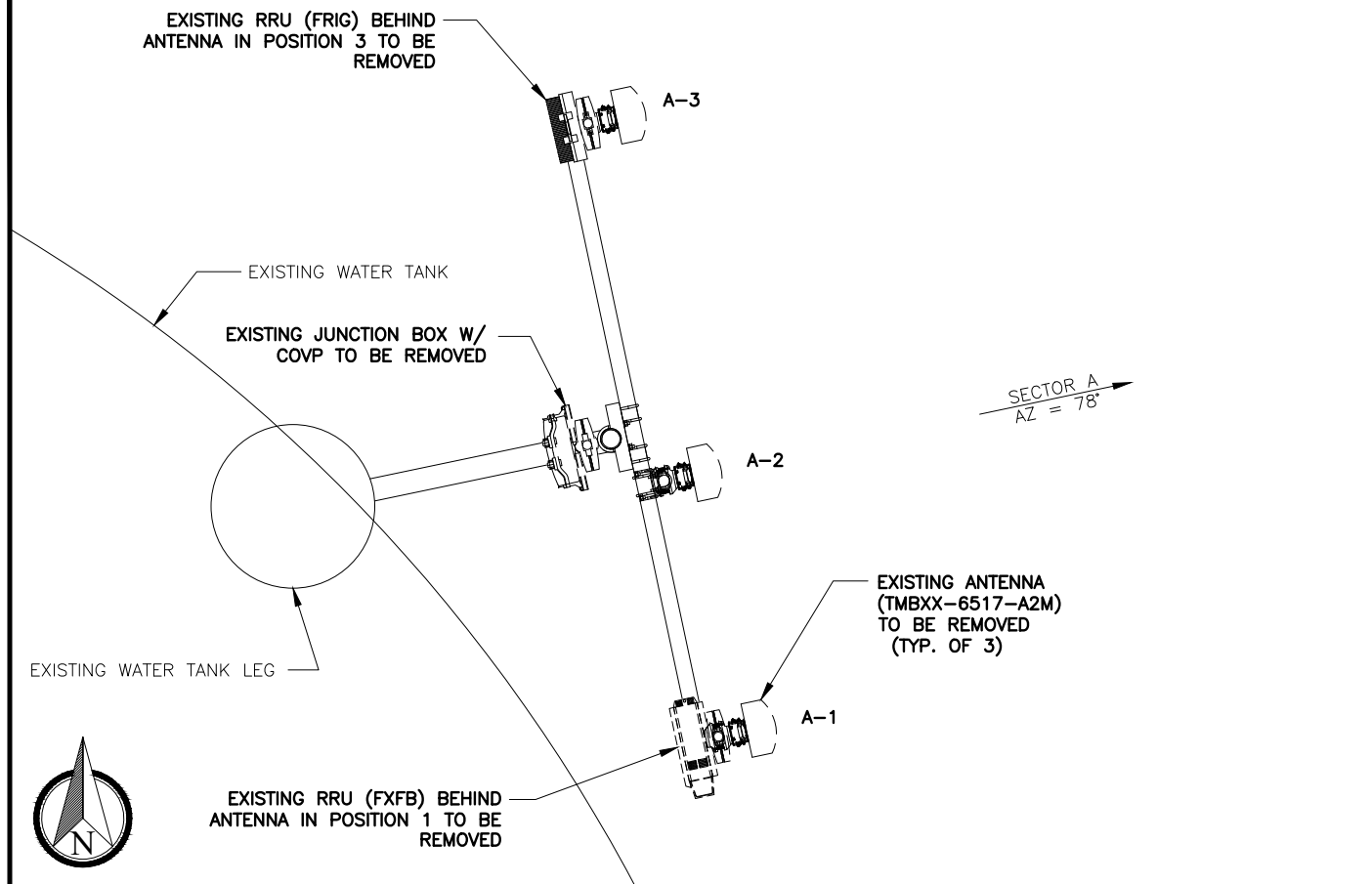
JEREMY D. SHARIT PE GA LIC PE37206

WASHINGTON ISLAND ROAD  
 8SV0940C  
 29 SAPELO ROAD  
 WILMINGTON ISLAND, GEORGIA 31410  
 (CHATHAM COUNTY)

SHEET NAME  
 TOWER ELEVATION

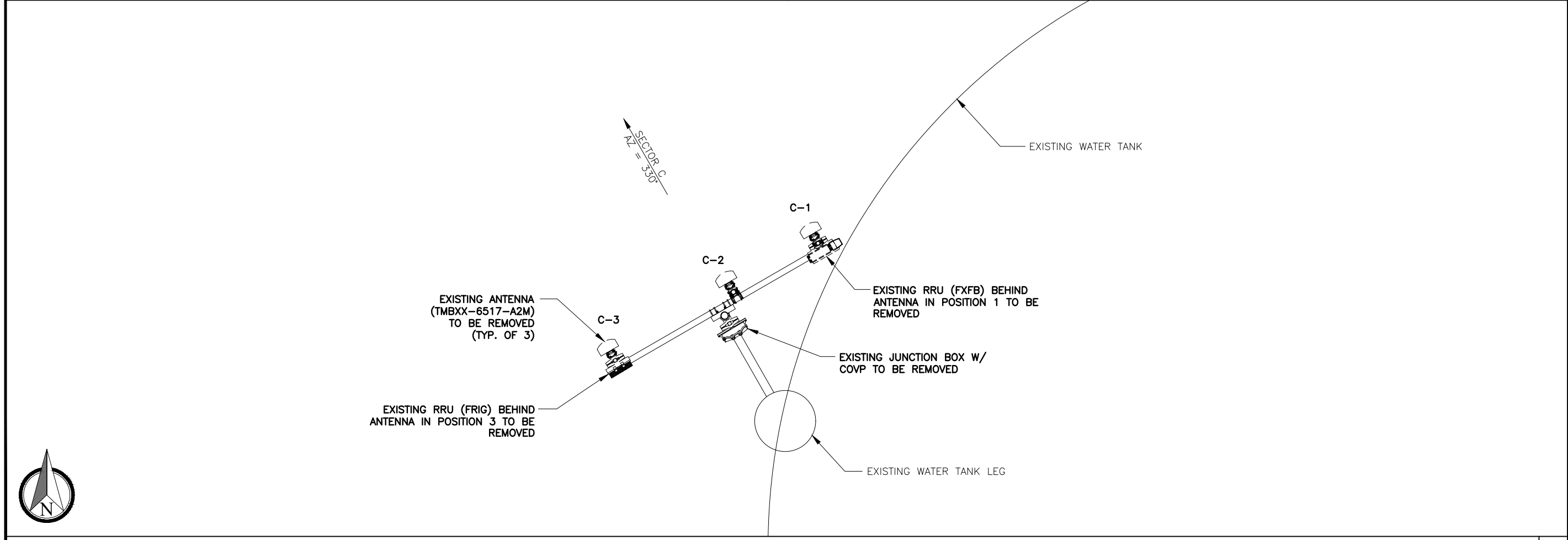
SHEET NUMBER  
 C3





EXISTING ANTENNA LAYOUT SECTOR 1 - 130' AGL NOT TO SCALE | 1

EXISTING ANTENNA LAYOUT SECTOR 2 - 130' AGL NOT TO SCALE | 2



EXISTING ANTENNA LAYOUT SECTOR 3 - 130' AGL NOT TO SCALE | 3

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED
PROJECT NO.:		21-5122
DRAWN BY:		A. ROIG
PROJECT MANAGER:		D. REVELS
CHECKED BY:		D. REVELS

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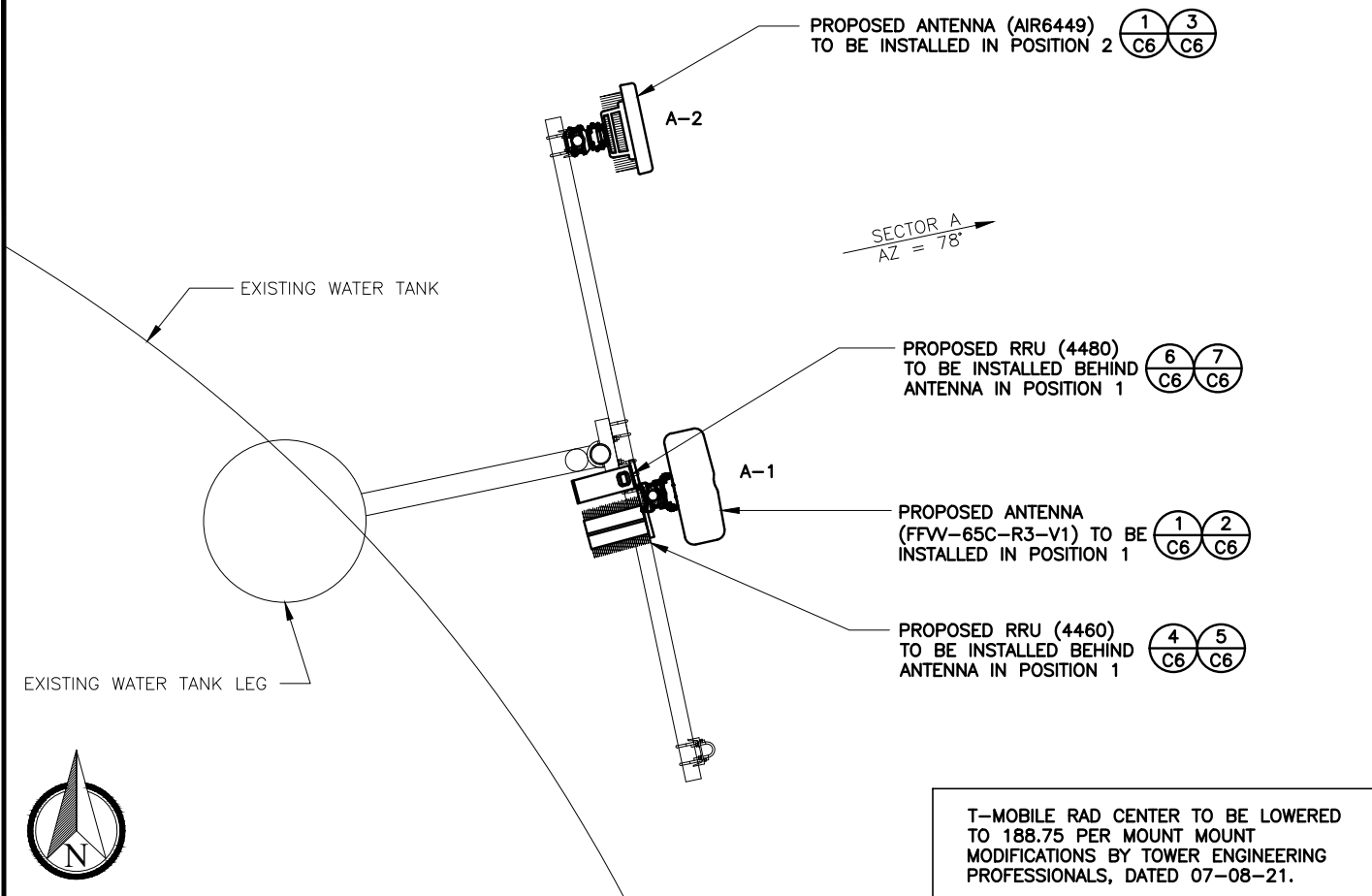
WASHINGTON ISLAND ROAD

8SV0940C

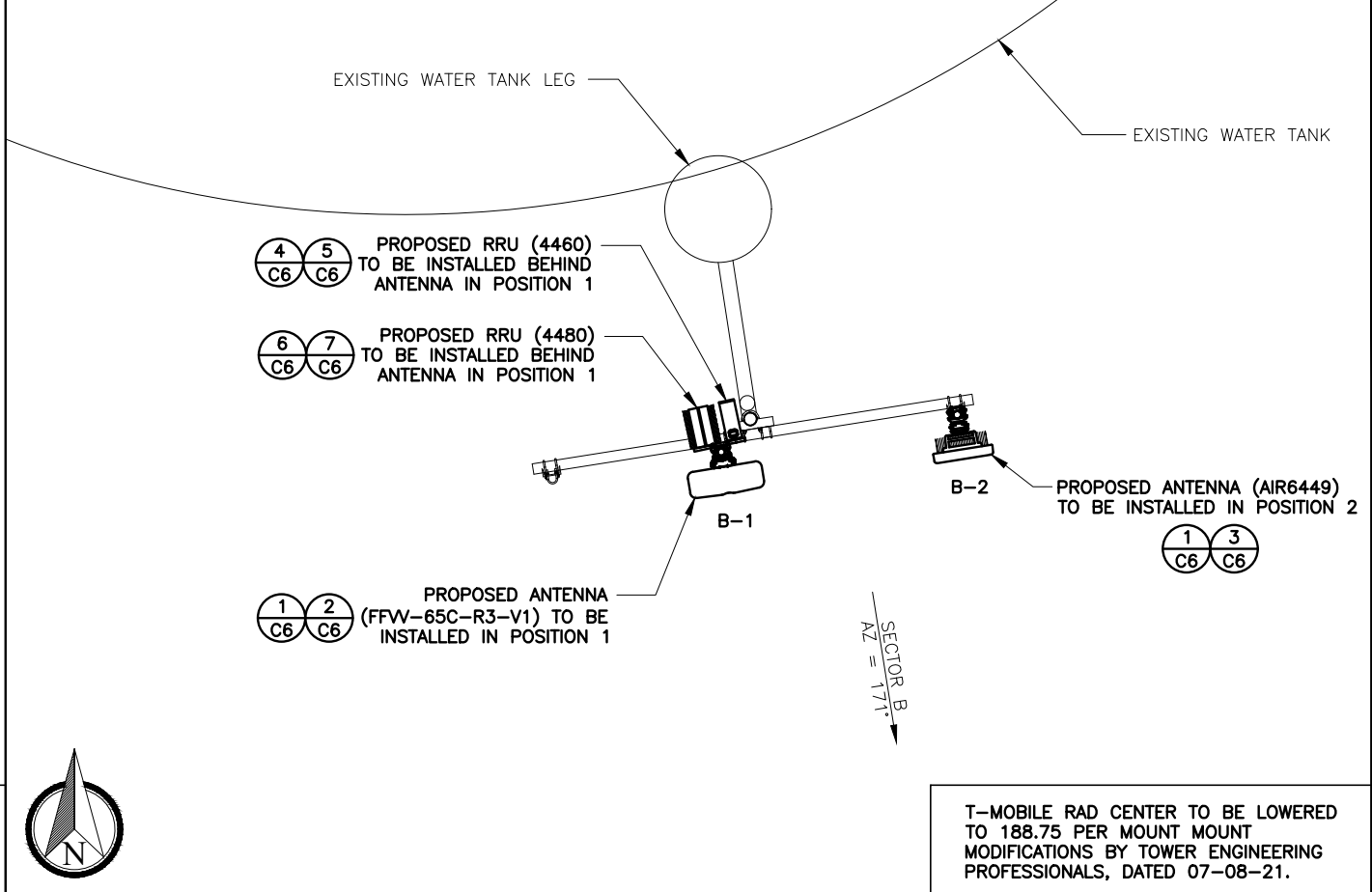
29 SAPELO ROAD  
WILMINGTON ISLAND, GEORGIA 31410  
(CHATHAM COUNTY)

SHEET NAME  
EXISTING ANTENNA LAYOUTS

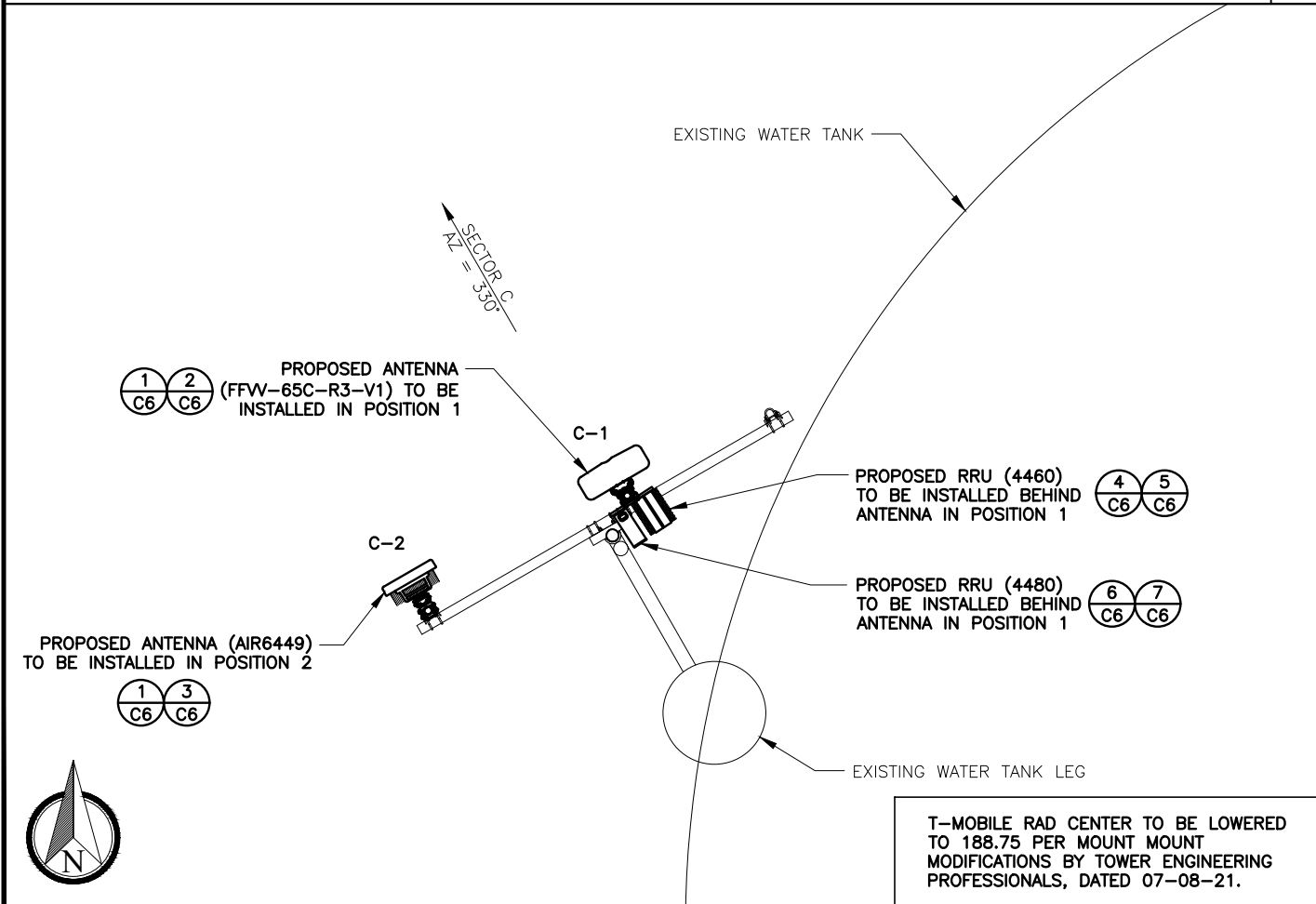
SHEET NUMBER  
C4



PROPOSED ANTENNA LAYOUT SECTOR 1 – 118.75' AGL NOT TO SCALE 1



PROPOSED ANTENNA LAYOUT SECTOR 2 – 118.75' AGL NOT TO SCALE 2



PROPOSED ANTENNA LAYOUT SECTOR 3 – 118.75' AGL NOT TO SCALE 3

**NOTES:**

- ENSURE HYBRID CABLES ARE PROPERLY SECURED ATOP THE TOWER PER STANDARDS.
- DO NOT RUN JUMPERS ON TOP OF PLATFORM SO NOT TO BE STEPPED ON AND DAMAGED.

**NOTE:**

EXISTING T-MOBILE ANTENNA MOUNT SHOWN CAN ADEQUATELY SUPPORT THE PROPOSED LOADING ONCE THE PROPOSED MODIFICATIONS ARE COMPLETED PER ANTENNA MOUNT ANALYSIS BY TOWER ENGINEERING PROFESSIONALS, DATED 07-08-21.

FINAL ANTENNA SCHEDULE						
SECTOR	RAD	AZ	POS	ANTENNA	RRU MODEL	ANTENNA CABLE DESCRIPTION
ALPHA	118.8'	78°	A1	FFV-65C-R3-V1	4460 & 4480	(1) 1.996" HYBRID TRUNK
			A2	AIR6449	-	
BETA	118.8'	171°	B1	FFV-65C-R3-V1	4460 & 4480	(1) 1.996" HYBRID TRUNK
			B2	AIR6449	-	
GAMMA	118.8'	330°	C1	FFV-65C-R3-V1	4460 & 4480	(1) 1.996" HYBRID TRUNK
			C2	AIR6449	-	

PROPOSED ANTENNA SCHEDULE 4

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.: 21-5122  
 DRAWN BY: A. ROIG  
 PROJECT MANAGER: D. REVELS  
 CHECKED BY: D. REVELS

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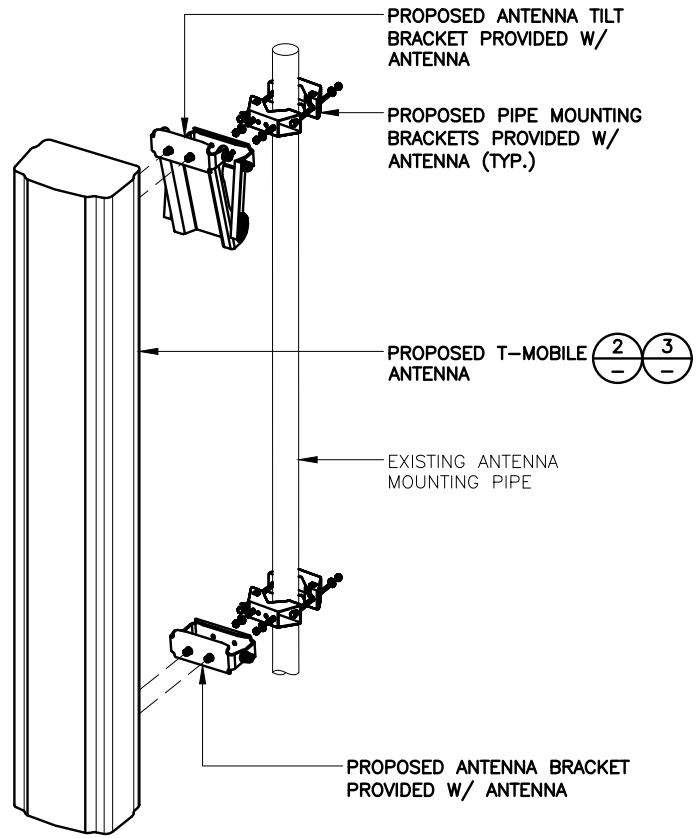
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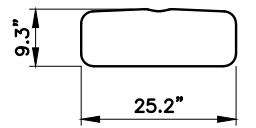
WASHINGTON ISLAND ROAD  
 8SV0940C  
 29 SAPELO ROAD  
 WILMINGTON ISLAND, GEORGIA 31410  
 (CHATHAM COUNTY)

SHEET NAME  
 PROPOSED ANTENNA LAYOUTS

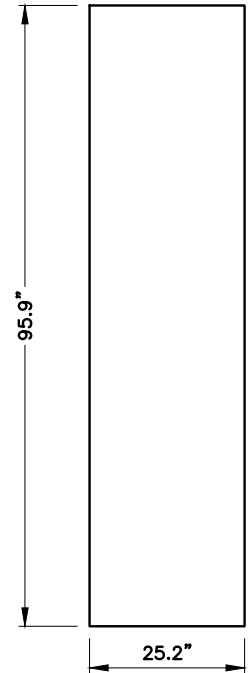
SHEET NUMBER  
 C5



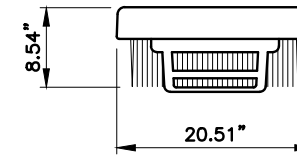
MODEL: COMMSCOPE FFW-65C-R3-V1  
WEIGHT: 183.424 LBS



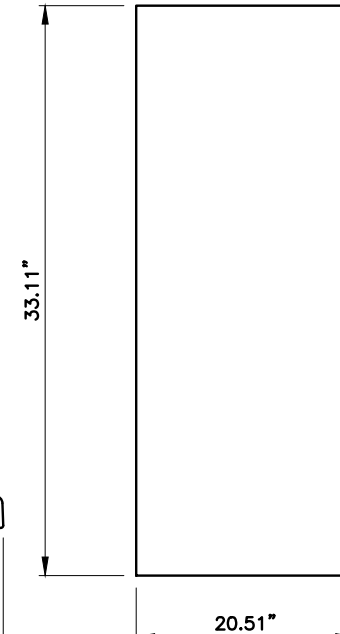
PLAN VIEW



FRONT VIEW



PLAN VIEW



FRONT VIEW

MODEL: AIR6449  
WEIGHT: 115 LBS

ANTENNA MOUNTING DETAIL

NTS

1

ANTENNA SPECS

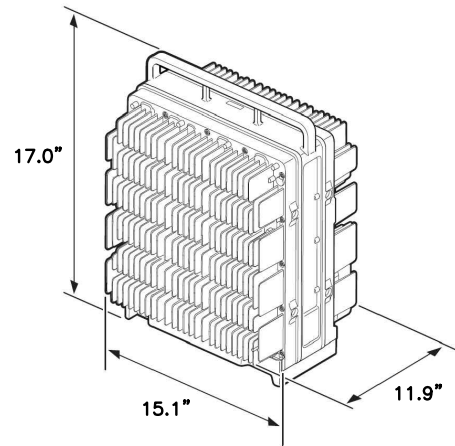
NTS

2

ANTENNA SPECS

NTS

3

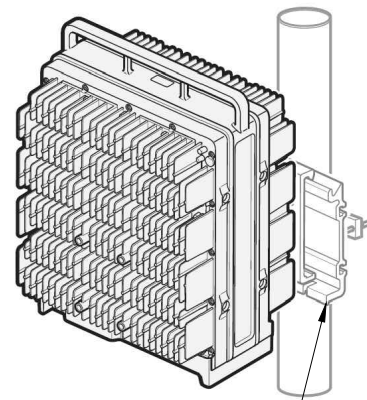


MODEL: RRU 4460  
WEIGHT: 109 LBS

4460 RRU SPECS

NTS

4

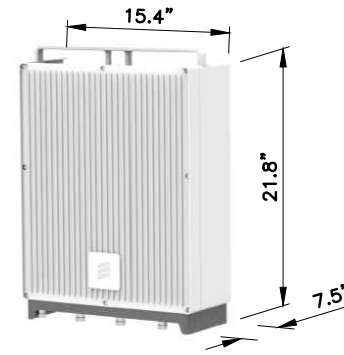


RRU POLE INSTALLATION KIT

4460 RRU MOUNTING DETAIL

NTS

5

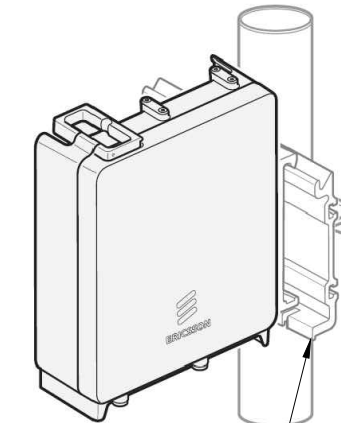


MODEL: RRU 4480  
WEIGHT: 93 LBS

4480 RRU SPECS

NTS

6



RRU POLE INSTALLATION KIT

4480 RRU MOUNTING DETAIL

NTS

7

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED
PROJECT NO.:		21-5122
DRAWN BY:		A. ROIG
PROJECT MANAGER:		D. REVELS
CHECKED BY:		D. REVELS

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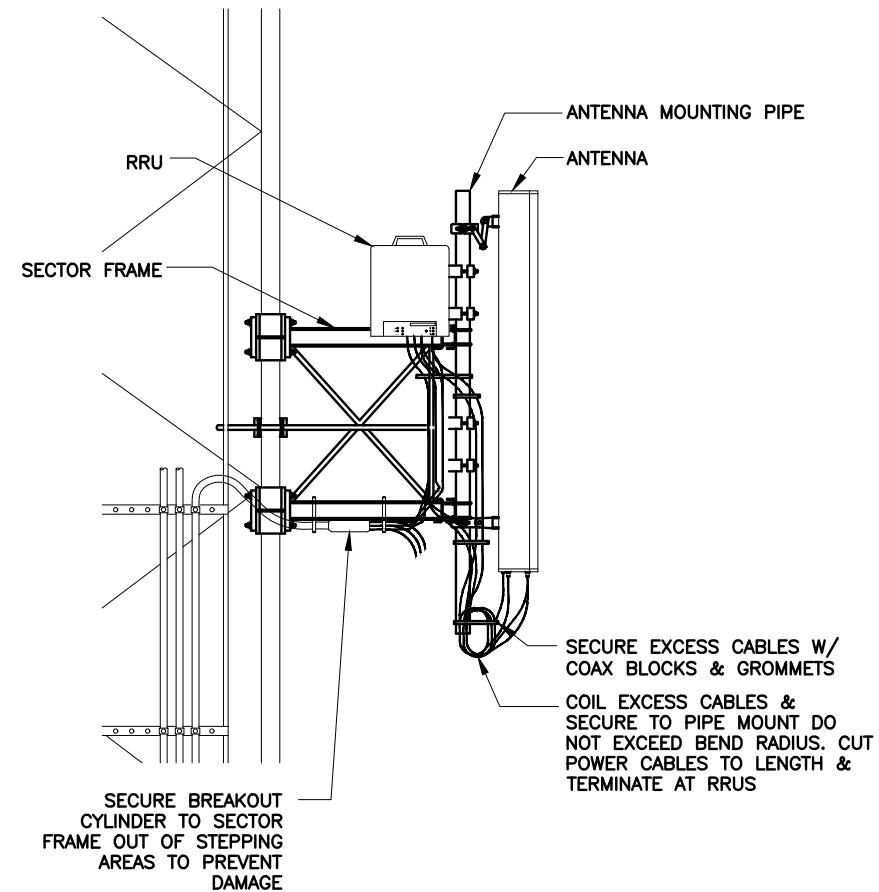
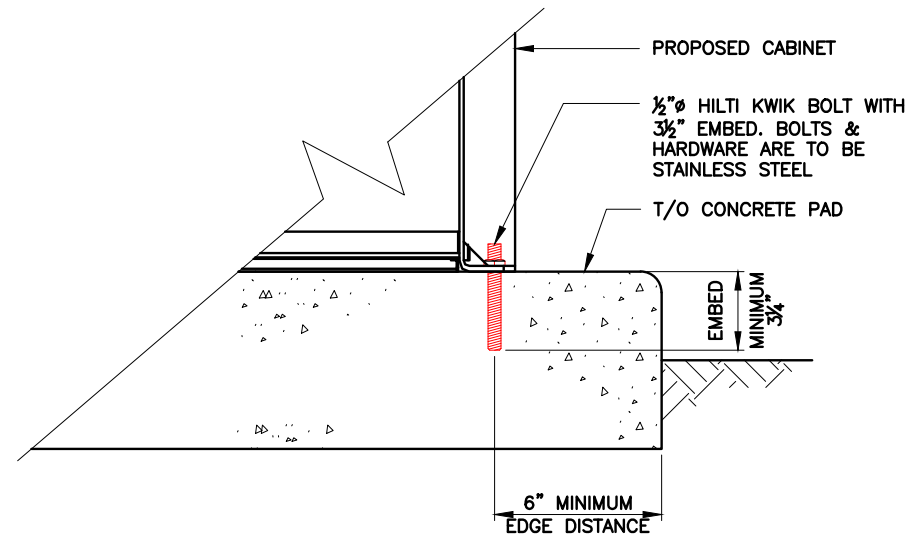
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SHEET NAME  
DETAILS  
(1 OF 2)

SHEET NUMBER  
C6



REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.:	21-5122
DRAWN BY:	A. ROIG
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

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SHEET NAME

DETAILS  
 (2 OF 2)

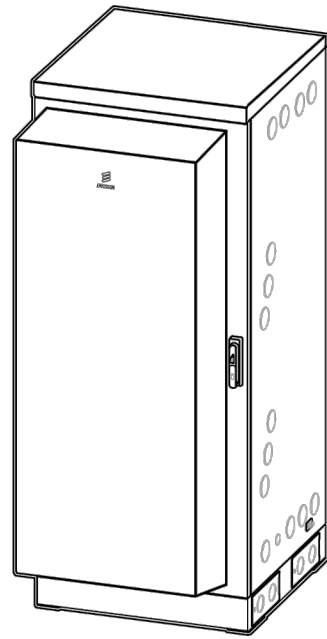
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C7

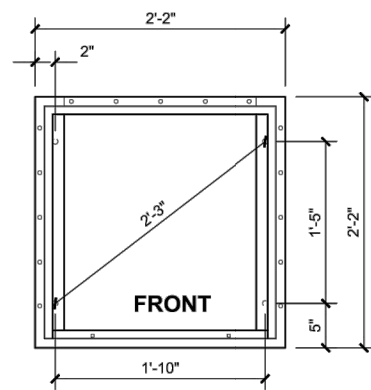
MANUFACTURER: ERICSSON  
 MODEL: 6160 SITE SUPPORT CABINET  
 WEIGHT: 295 LBS (WITHOUT EQUIPMENT)  
 DIMENSIONS: 25.6" x 33.5" x 63"

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

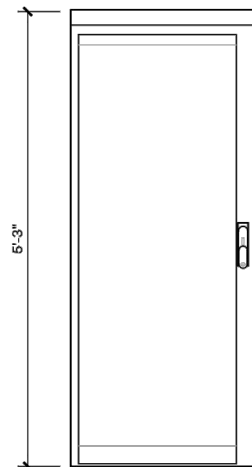
RACK ASSIGNMENT		
RACK	RU SLOT	DESCRIPTION
FULL RACK	1	RECTIFIER SHELF
	2	
	3	
	4	RECTIFIER
	5	
	6	FIBER BOX
	7	DCDU
	8	CSR/IXR-e
	9	
	10	1ST BASEBAND
	11	
	12	2ND BASEBAND
	13	3RD BASEBAND
	14	4TH BASEBAND
	15	5TH BASEBAND
	16	6TH BASEBAND
	17	7TH BASEBAND
	18	8TH BASEBAND
	19	LEGACY BASEBAND
	20	
	21	PSU 4813
	22	
	23	
	24	
	25	



ISO VIEW



FRONT



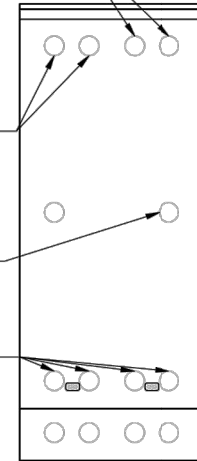
FRONT VIEW

2" KNOCKOUTS WITH LBs FOR ALARM CABLE AND TEMP SENSOR ROUTING. UPPER REAR CENTER WORK BEST FOR THIS INSTALL FOR EASE OF INSTALL AND REPLACEMENT IN THE EVENT OF FAILURE. CONDUIT MUST BE PROPERLY SECURED TO PREVENT DAMAGE TO CABINETS AND OR CABLING

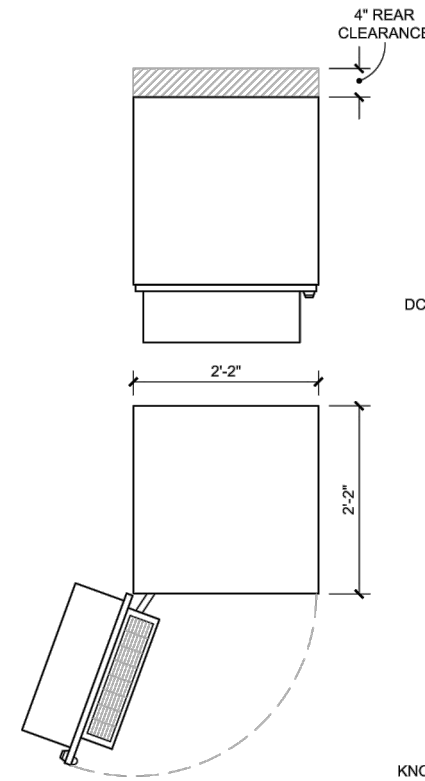
2" KNOCKOUTS WITH RIGID CONDUIT AND LB FOR 3/0 BATTERY CABLE INSTALL, AND AUX POWER CABLE. OUTSIDE KNOCKOUTS WORK BEST FOR EASE OF INSTALL

2" KNOCKOUTS FOR AAV AND FIBER ROUTING BETWEEN MACRO CABINETS ON SITE. LB WITH RIGID CONDUIT IS PREFERRED.

2" KNOCKOUTS AT LOWER REAR OF THE CABINET INTENDED FOR HYBRID/MLE CABLES



REAR VIEW



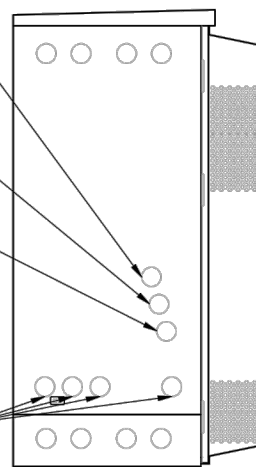
PLAN VIEW

2" KNOCKOUT, UNUSED ON THIS SITE FOR DEDICATED CIRCUIT TO SERVICE OUTLET

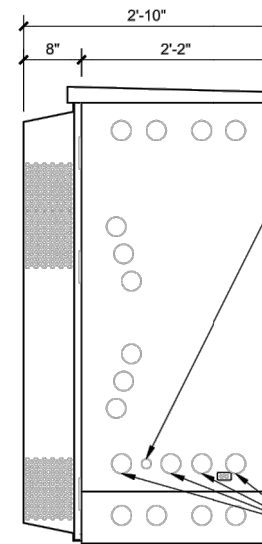
2" KNOCKOUT ON LEFT HAND SIDE OF CABINET USED AC POWER, WITH RIGID CONDUIT AND LR. PENETRATION IS DIRECTLY BELOW ACCU

2" KNOCKOUT, UNUSED ON THIS SITE FOR DEDICATED CIRCUIT TO SERVICE OUTLET

2" KNOCKOUT ON LEFT BOTTOM SIDE OF CABINET FOR INTER-BASEBAND CABINET CONNECTING. A RIGID OR FLEXIBLE CONDUIT WITH AN LR WILL BE USED WHEN RUNNING THIS CONDUIT TO THE LEGACY 6131, 6102, ODE OR MUAC CABINET.



LEFT VIEW

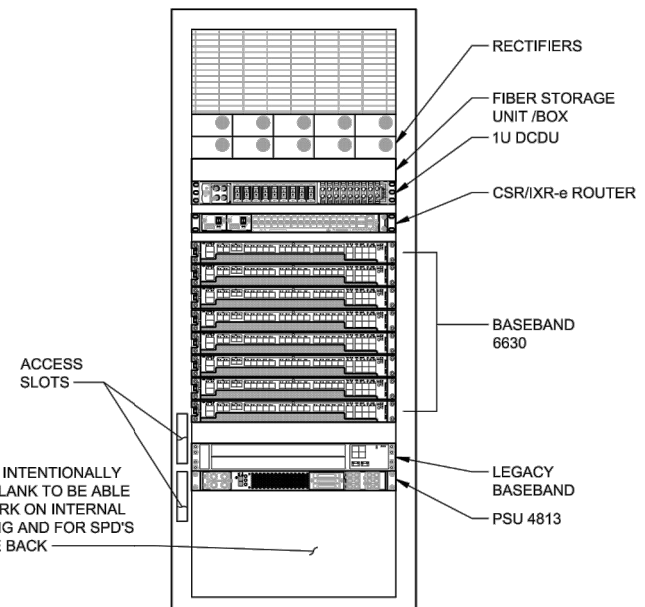


RIGHT VIEW

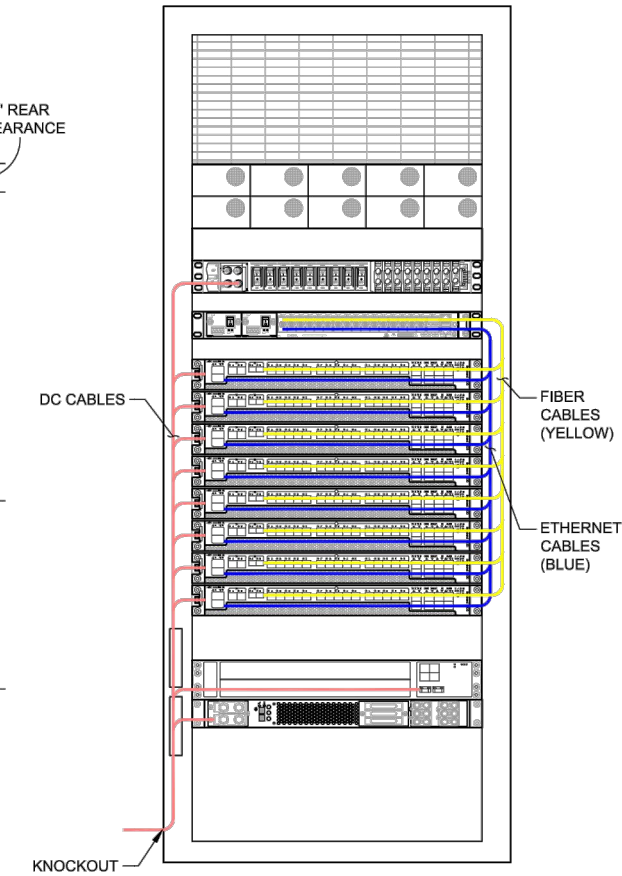
DEDICATED 1" FOR GNSS/GPS KNOCKOUT ON RIGHT HAND SIDE OF THE CABINET, RECOMMEND USING LL, RATHER THAN LB OR 90 DUE TO CLOSE PROXIMITY TO B160 BATTERY CABINET. 4" RIGID OR FLEX CONDUIT MAY BE USED.

UNUSABLE 2" KNOCKOUTS DUE TO CLOSE PROXIMITY TO B160 CABINET

SPACE INTENTIONALLY LEFT BLANK TO BE ABLE TO WORK ON INTERNAL CABLING AND FOR SPD'S AT THE BACK



FRONT VIEW (OPEN)



INTERNAL ROUTING

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.: 21-5122  
 DRAWN BY: A. ROIG  
 PROJECT MANAGER: D. REVELS  
 CHECKED BY: D. REVELS

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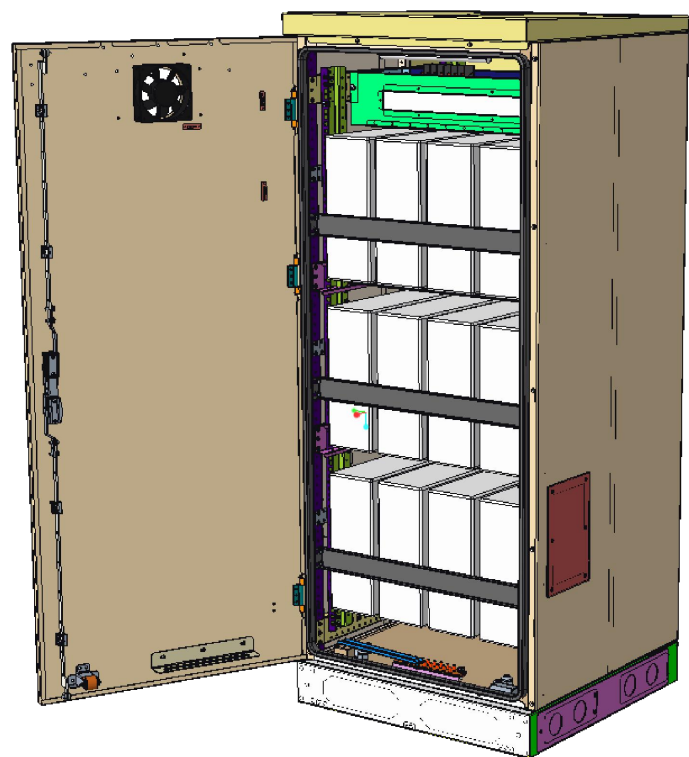
WASHINGTON ISLAND ROAD  
 8SV0940C  
 29 SAPELO ROAD  
 WILMINGTON ISLAND, GEORGIA 31410  
 (CHATHAM COUNTY)

SHEET NAME  
 CABINET DETAILS  
 (1 OF 2)  
 SHEET NUMBER  
 C8

SKU# 33953 - ERICSSON 6160 SITE SUPPORT CABINET

22"x34" SCALE: N.T.S. 11"x17" SCALE: N.T.S.

1



**Capacity**

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

**Electrical specification**

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

**Mechanical specification**

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

**Environmental specification**

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

**Climate system**

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

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.: 21-5122	
DRAWN BY:	A. ROIG
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

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12979 N. TELECOM PARKWAY  
TEMPLE TERRACE, FLORIDA 33637  
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CERTIFICATE OF AUTHORIZATION PEFO05626

7025 A.C. SKINNER PARKWAY  
JACKSONVILLE, FL 32256

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JEREMY D. SHARIT PE GA LIC PE37206

WASHINGTON ISLAND ROAD

8SV0940C

29 SAPELO ROAD  
WILMINGTON ISLAND, GEORGIA 31410  
(CHATHAM COUNTY)

SHEET NAME  
CABINET DETAILS  
(2 OF 2)

SHEET NUMBER  
C9

**A – GENERAL**

- A1. ALL ELECTRICAL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (EDITION ADOPTED BY LOCAL JURISDICTION) AND APPLICABLE LOCAL CODES.
- A2. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.
- A3. ALL ELECTRICAL EQUIPMENT AND ACCESSORIES SHALL BE U.L. APPROVED OR LISTED.
- A4. ALL POWER WIRING SHALL BE STRANDED COPPER, TYPE THHN/THHW, AND 90 DEGREES C RATED.
- A5. GROUNDING ELECTRODE CONDUCTORS SHALL BE BARE, TIN COATED COPPER AND EQUIPMENT GROUND CONDUCTORS SHALL BE GREEN INSULATED, UNLESS OTHERWISE NOTED.
- A6. ALL POWER WIRING SHALL BE INSTALLED IN GALVANIZED RIGID STEEL CONDUIT, PVC, OR FLEXIBLE LIQUIDTIGHT CONDUIT, AS INDICATED.
- A7. CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY PERMIT FEES, AND SCHEDULE INSPECTIONS.
- A8. CONTRACTOR SHALL APPLY FOR ELECTRICAL SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS, SERVICE ROUTING, AND METER SOCKET TYPE WITH LOCAL POWER COMPANY.
- A9. CONTRACTOR SHALL APPLY FOR TELEPHONE SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS AND SERVICE ROUTING WITH TELEPHONE COMPANY.
- A10. PROVIDE ALL LABOR AND MATERIAL DESCRIBED ON THIS DRAWING, AND ALL ITEMS INCIDENTAL TO COMPLETING AND PRESENTING THIS PROJECT AS FULLY OPERATIONAL.
- A11. WHERE LONG POWER CABLE RUNS PREVAIL, CONTRACTOR SHALL CALCULATE THE VOLTAGE DROP AND SIZE WIRES AND CONDUIT ACCORDINGLY.
- A12. WHERE TRANSFORMER IS REQUIRED FOR ELECTRICAL SERVICE, TRANSFORMER SECONDARY SHALL BE GROUNDED PER N.E.C., ARTICLE 250-26.
- A13. REFER TO SITE SPECIFIC DWGS FOR ELEVATIONS.
- A14. ALL ELECTRICAL DEVICES EXPOSED TO WEATHER SHALL BE OF RAINPROOF CONSTRUCTION AND SHALL REQUIRE WATER TIGHT CONDUIT HUBS. NEMA 3R TYPICAL
- A15. CONTRACTOR SHALL COIL CABLES AT HANDHOLE WITH LENGTHS AS REQUIRED BY ELECTRICAL UTILITY FOR CONNECTION BY UTILITY.
- A16. ALL UNDERGROUND SERVICE ENTRANCE POWER CABLES SHALL BE TYPE FOR SUCH USE. CONTRACTOR SHALL CALCULATE VOLTAGE DROP AND RE-SIZE CABLES PER NEC REQUIREMENTS FOR CABLE RUNS EXCEEDING 250 FEET.

**B – POWER CABLE AND SERVICE**

- B1. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRING TO BTS AND VERIFY EXACT CONDUIT ROUTING. RACEWAY SYSTEM MATERIALS AND DEVICES FURNISHED SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS OF ANSI, NEMA, AND UL. RACEWAY SYSTEM COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE N.E.C.
- B2. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS THROUGH WALLS, FLOORS AND ROOFS TO PREVENT MOISTURE PENETRATION OR VERMIN INFESTATION.
- B3. CONDUCTORS RUNNING ALONG HORIZONTAL SURFACES (ROOF TOP OR SLAB) SHALL BE INSTALLED IN RIGID CONDUIT SUPPORTED ON ELECTRICAL CONDUIT SUPPORT.
- B4. ALL VERTICAL RUNS OF POWER CABLE EXCEEDING 80 FEET IN LENGTH SHALL BE SUPPORTED PER N.E.C. ARTICLE 300 USING KELLEMS GRIPS OR ACCEPTABLE EQUAL CABLE SUPPORT SYSTEM.
- B5. WHERE A SEPARATE ELECTRICAL SERVICE DROP IS ADDED, CONTRACTOR SHALL INSTALL PERMANENT SERVICE DISCONNECT OR GROUPING THEREOF, DENOTING ALL OTHER SERVICE ENTRANCES, LOCATION OF EACH AND THE AREAS SERVED BY EACH.
- B6. WHERE ELECTRICAL POWER IS TO BE SUB-FED FROM AN EXISTING DISTRIBUTION SYSTEM, THE FOLLOWING SHALL APPLY:
  - A) CONTRACTOR SHALL PERFORM LOAD TESTING TO DETERMINE MAXIMUM FEEDER DEMAND PER N.E.C. ARTICLE 220-35.
  - B) CONTRACTOR SHALL VERIFY WHETHER EXISTING FEEDER CAPACITY EXCEEDS VALUE CALCULATED PER N.E.C. ARTICLE 220-35
  - C) EACH BRANCH CIRCUIT PROTECTIVE DEVICE SHALL HAVE SAME INTERRUPTING RATING AS EQUIPMENT SUPPLYING IT.
  - D) PREFERRED MEANS OF SUPPLY SHALL BE A BRANCH CIRCUIT PROTECTIVE DEVICE LOCATED IN EXISTING PANEL.
  - E) IF A BRANCH CIRCUIT PROTECTIVE DEVICE CANNOT BE OBTAINED OR SPACE IS NOT AVAILABLE, A BRANCH CIRCUIT MAY BE TAPPED FROM EXISTING FEEDER CONDUCTORS USING AN INSTALLED 2-POLE FUSED DISCONNECT AND METER BASE PER N.E.C. ARTICLE 240-21 WITH TEN FOOT (10) MAXIMUM TAP CONDUCTORS. FUSED DISCONNECT SHALL BE LISTED SAME OR BETTER INTERRUPTING RATING AS EXISTING SOURCE OF SUPPLY.

**C – RF (COAX) AND LOW VOLTAGE CABLE**

- C1. RF CABLES AND LOW VOLTAGE CABLING BETWEEN BTS, LNA OR TMA AND ANTENNA SHALL BE SUPPORTED USING ANDREW "SNAP-IN" HANGERS OR ACCEPTABLE EQUAL.
- C2. RF CABLES AND LOW VOLTAGE CABLING BETWEEN BTS, LNA OR TMA AND ANTENNA SHALL BE ROUTED AS FOLLOWS:
  - A) RUNNING ALONG HORIZONTAL SURFACES: USE WAVEGUIDE SUPPORTS OR BRIDGE KIT MOUNTED ON CONCRETE SLEEPERS.
  - B) RUNNING ALONG VERTICAL TOWER FACE: WAVEGUIDE LADDER W/HANGERS OR KELLEMS GRIPS.
  - C) RUNNING ALONG OR ADJACENT TO BTS PLATFORM: USE 12 X 3 OPEN OR COVERED ELECTRICAL LADDER TRAY.

**D – IDENTIFICATION**

- D1. LOCATE NAMEPLATE, MARKING, OR OTHER IDENTIFICATION MEANS ON OUTSIDE EQUIPMENT OR BOX FRONT COVERS.
- D2. PROVIDE NAMEPLATE ENGRAVED WITH EQUIPMENT DESIGNATION FOR EACH SAFETY SWITCH AND ALL OTHER ELECTRICAL CABINETS, ETC.
- D3. DURING TRENCH BACK-FILLING FOR EACH UNDERGROUND ELECTRICAL, TELEPHONE, SIGNAL AND COMMUNICATIONS LINE, PROVIDE A CONTINUOUS UNDERGROUND WARNING TAPE TWELVE INCHES BELOW FINISHED GRADE.

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.:	21-5122
DRAWN BY:	A. ROIG
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

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WASHINGTON ISLAND ROAD  
 8SV0940C  
 29 SAPELO ROAD  
 WILMINGTON ISLAND, GEORGIA 31410  
 (CHATHAM COUNTY)

SHEET NAME  
 ELECTRICAL NOTES

SHEET NUMBER  
 E1

A - GENERAL

- A1. INSTALLATION OF GROUNDING ELECTRODE SYSTEM SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE AND WITH ALL BUILDING CODES OF AUTHORITIES HAVING JURISDICTION.
A2. GROUNDING CONDUCTORS SHALL BE #2 AWG TINNED SOLID BARE COPPER BELOW AND ABOVE GRADE, UNLESS OTHERWISE NOTED AND SHALL BE ROUTED IN A DOWNWARD PATH TOWARDS GROUND BARS.
A3. GROUNDING CONDUCTORS SHALL BE KEPT AS SHORT AND DIRECT AS POSSIBLE WITH MINIMUM BEND RADIUS OF 12 INCHES.
A4. ALL BELOW GRADE CONNECTIONS SHALL BE CADWELD TYPE CONNECTIONS AND ALL CONNECTIONS TO EQUIPMENT AND GROUND BARS SHALL BE 2-HOLE BRONZE COMPRESSION CONNECTORS UNLESS OTHERWISE NOTED.
A5. CONTRACTOR SHALL INSTALL NEW PCS GROUNDING SYSTEM PER SPECIFICATIONS AND INTERCONNECT NEW SYSTEMS TO ANY EXISTING GROUNDING SYSTEMS AS REQUIRED BY NFPA 70 AND 780 (THIS APPLIES TO ELECTRICAL POWER DISTRIBUTION GROUNDING SYSTEM, LIGHTNING PROTECTION GROUNDING SYSTEM, COAX CABLE GROUNDING SYSTEM AND ANY OTHER EXISTING GROUNDING SYSTEMS).
A6. GROUNDING CONDUCTORS SHALL BE BONDED TO CABLE SUPPORTS, ANTENNA FRAMES, AND ANY SUPPORT FRAMES OR RACKS USING CADWELD OR MECHANICAL CONNECTIONS.
A7. CONTRACTOR SHALL PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS, STAINLESS STEEL HARDWARE SHALL BE USED THROUGHOUT.
A8. GROUNDING CONDUCTORS EMBEDDED IN CONCRETE OR PENETRATING WALLS AND FLOORS SHALL BE ENCASED IN PVC CONDUIT. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTORS UNLESS REQUIRED BY LOCAL CODES OR OTHERWISE INDICATED ON DRAWINGS. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS TO PREVENT MOISTURE PENETRATION AND VERMIN INFESTATION.
A9. CONTRACTOR SHALL BOND PCS GROUNDING SYSTEM VIA THE MASTER GROUND BAR TO ALL METAL OBJECTS WITHIN 12 FEET OF EQUIPMENT, CONDUIT AND CABLES.
A10. BONDING OF GROUNDED CONDUCTOR (NEUTRAL) AND GROUNDING CONDUCTOR SHALL BE AT SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250-28.
A11. CONTRACTOR SHALL VERIFY EXACT CONDUIT ROUTING FOR GROUNDING CONDUCTORS WHERE APPLICABLE.
A12. A GROUND LEAD IS REQUIRED ONLY FOR BTS SUPPORTED ON STEEL FRAME. AN ADDITIONAL GROUND LEAD IS REQUIRED IF CABLE TRAY IS USED.
A13. CONNECTIONS TO CGB SHALL BE ARRANGED IN THE FOLLOWING THREE GROUPS:
\* SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO CABINET AND POWER PEDESTAL GROUND).
\* SURGE ABSORBERS (GROUNDING ELECTRODE RING OR BUILDING STEEL).
\* NON-SURGING OBJECTS (EGB GROUND IN BTS).
A14. DOUBLING OR STACKING OF ANY GROUNDING CONNECTIONS IS NOT ACCEPTABLE.
A15. ALL GROUND BARS SHALL BE INSTALLED WITH STAND OFF INSULATORS.

B - PREPARATION

- B1. SURFACES: ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FIELD INSPECTED TO ENSURE PROPER CONTACT. ALL GALVANIZED SURFACES ON WHICH GALVANIZING HAS BEEN REMOVED BY CUTTING, DRILLING, OR ANY OTHER OPERATION SHALL BE RE-GALVANIZED IN ACCORDANCE WITH ASTM A780 USING "ZINC RICH" COATING AS MANUFACTURED BY ZRC CHEMICAL PRODUCTS COMPANY (LOCATED IN QUINCY, MASSACHUSETTS), OR ACCEPTABLE EQUAL. NO WASHERS ARE ALLOWED BETWEEN ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NON-OXIDIZING AGENT ("COPPER SHIELD") APPLIED PRIOR TO INSTALLATION.
B2. GROUND BAR: ALL COPPER GROUND BARS SHALL BE CLEANED, POLISHED AND A NON-OXIDIZING AGENT ("COPPER SHIELD") APPLIED. NO FINGER PRINTS OR DISCOLORED COPPER SHALL BE PERMITTED.

C - BUILDINGS

- C1. ELECTRICAL CONTRACTOR SHALL PERFORM REQUIRED TESTING ON GROUNDING SYSTEM ONCE GROUNDING SYSTEM IS COMPLETELY CONSTRUCTED AND BEFORE SERVICE POWER AND GROUND IS CONNECTED (SEE NOTE T1 FOR TEST DESCRIPTION).
C2. A #4/0 AWG COPPER CONDUCTOR SHALL BE ROUTED FROM MASTER GROUND BAR AT BTS SITE TO MAIN METAL COLD WATER PIPE AND BONDED TO PIPE WITH BRONZE 2-HOLE PIPE CLAMP. CLAMP SHALL BE CONNECTED TO WATER PIPE WITHIN 5 FEET OF ENTRY OF PIPE INTO BUILDING WITH NO DEVICES BETWEEN ENTRY POINT AND CONNECTION AND SHALL COME IN CONTACT WITH PIPE FOR A MINIMUM DISTANCE OF 4 INCHES.
C3. METAL RACEWAYS, ENCLOSURES, FRAMES AND OTHER NON-CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT SHALL BE KEPT AT LEAST 6 FEET AWAY FROM LIGHTNING ROD CONDUCTORS OR THEY MUST BE BONDED TO LIGHTNING ROD CONDUCTORS AT THE LOCATION WHERE SEPARATION DISTANCE IS LESS THAN 6 FEET.
C4. A MASTER GROUND BAR (MGB) SHALL BE INSTALLED NEAR BTS WITH BUILDING PRINCIPAL GROUND BAR (BPG) INSTALLED NEAR ENTRANCE OF MAIN METAL COLD WATER PIPE INTO BUILDING. A #4/0 AWG STRANDED COPPER DOWN CONDUCTOR (VERTICAL GROUND RISER) SHALL BE USED TO INTERCONNECT GROUND BARS.
C5. VERTICAL RISER SHALL CONSIST OF A #4/0 AWG (THWN) STRANDED COPPER CONDUCTOR INSIDE 3/4" CONDUIT.
C6. CONTRACTOR SHALL BOND BUILDING PRINCIPAL GROUND BAR (BPG) NEAR MAIN METAL COLD WATER PIPE TO EXISTING BUILDING GROUND RING AS WELL AS TO MAIN METAL COLD WATER PIPE WITH #4/0 AWG (THWN) STRANDED COPPER CONDUCTOR.
C6. ANTENNA GROUND BARS (AGB) SHALL BE INSTALLED NEAR ANTENNAS AND SHALL BE BONDED TO MASTER GROUND BAR (MGB) WITH #2 AWG TINNED SOLID BARE COPPER CONDUCTOR.
C8. IF CODES REQUIRE VERTICAL RISER TO BE ISOLATED IN CONDUIT, PVC CONDUIT IS PREFERRED. IF METALLIC CONDUIT IS USED, GROUNDING BUSHINGS SHALL BE INSTALLED ON EACH END OF THE CONDUIT AND BONDED TO GROUND BARS USING #2 AWG (THWN) STRANDED COPPER CONDUCTORS WITH GREEN INSULATION.

D - LAND BUILDS AND CO-LOCATES

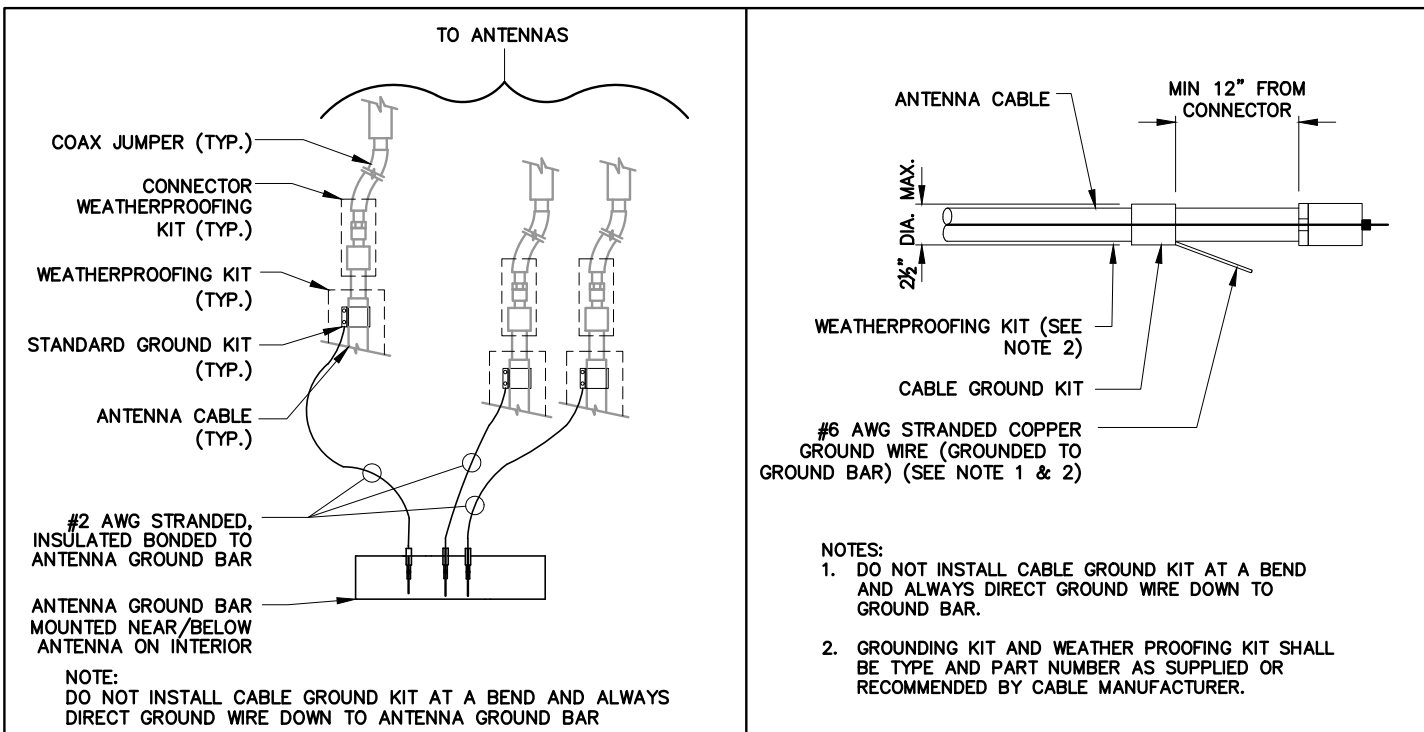
- D1. THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS UNIFORMLY SPACED AROUND THE EQUIPMENT FOUNDATION AND AROUND THE PERIMETER OF THE TOWER FOUNDATION. THE GROUND RODS SHALL BE 5/8" X 10'-0" COPPER CLAD STEEL INTERCONNECTED WITH #2 SOLID TINNED BARE COPPER GROUND CONDUCTOR TO FORM A GROUND RING AT A DEPTH OF 30 INCHES BELOW THE SURFACE OF THE SOIL. A MINIMUM OF 1 FOOT AND A MAXIMUM OF 3 FEET CLEARANCES SHALL BE MAINTAINED FROM FOUNDATIONS. TOWER AND EQUIPMENT GROUND RINGS SHALL BE INTERCONNECTED WITH TWO GROUNDING CONDUCTORS OF EQUAL LENGTH AND MATERIALS.
D2. GROUND RODS SHALL BE BONDED TO GROUND RINGS AND INTERCONNECTING CONDUCTORS AT EQUAL INTERVALS OF APPROXIMATELY 10 FEET.
D3. WAVEGUIDE BRIDGE SHALL BE BONDED TO GROUND RINGS OR INTERCONNECTING CONDUCTORS WITH GROUNDING CONDUCTORS BONDED TO DIAGONALLY OPPOSED SUPPORT POSTS.
D4. GROUND BARS SHALL BE BONDED TO GROUND RING WITH SINGLE GROUNDING CONDUCTOR.
D5. BONDS TO ANTENNA MASTS, FENCE POSTS, WAVEGUIDE BRIDGE, TOWER STEEL (UNLESS PROHIBITED BY TOWER MANUFACTURER) AND THOSE BELOW GRADE SHALL BE EXOTHERMIC TYPE (CADWELD). ALL OTHER BONDS SHALL BE BRONZE 2-HOLE COMPRESSION FITTINGS UNLESS OTHERWISE NOTED.
D6. GROUNDING CONDUCTORS MAKING A TRANSITION FROM ABOVE TO BELOW GRADE SHALL BE INSULATED FROM EARTH CONTACT BY PASSING THROUGH PVC CONDUIT. THE CONDUIT SHALL EXTEND AT LEAST 6 INCHES ABOVE AND 12 INCHES BELOW GRADE LEVEL.

E - LIGHTNING PROTECTION

- E1. IF EXISTING BUILDING HAS AN NFPA 780 AIR TERMINAL SYSTEM, EXISTING SYSTEM SHALL BE BONDED TO A GROUND BAR TO BOND THE EXISTING SYSTEM TO THE NEW SYSTEM. SHOULD THE EXISTING SYSTEM COME WITHIN 8 FEET OF ANTENNA STRUCTURES, EXISTING SYSTEM SHALL ALSO BE BONDED TO COAX GROUND BARS.
E2. IF SITE IS IN A HIGH RISK AREA AND ANTENNAS DO NOT FALL WITHIN EXISTING CONE OF PROTECTION FOR BUILDING, AIR TERMINALS SHALL BE INSTALLED AT ANTENNAS. A SINGLE AIR TERMINAL MAY BE USED WHEN TWO ANTENNAS ARE MOUNTED ON SAME STRUCTURE AND IT HAS BEEN DETERMINED THAT BOTH ANTENNAS WILL FALL WITHIN LIGHTNING CONE OF PROTECTION FOR SINGLE AIR TERMINAL.

T - GROUNDING REQUIREMENTS

- T1. CONTRACTOR SHALL INSPECT AND TEST ANY NEW OR EXISTING T-MOBILE GROUNDING SYSTEM WITH A BIDDLE-MEGGER TESTER UTILIZING THE FALL OF POTENTIAL METHOD AND CONTACT CONSTRUCTION MANAGER IF RESISTANCE EXCEEDS 5 OHMS AND SHALL FIELD MODIFY GROUNDING SYSTEM AS NECESSARY TO ACHIEVE COMPLIANCE. TEST RESULTS AND CONCLUSIONS SHALL BE RECORDED FOR PROJECT CLOSE-OUT DOCUMENTATION.
T2. COAX CABLE OUTER CONDUCTORS (SHIELDS) SHALL BE GROUNDED USING COAX GROUNDING KITS AT A MINIMUM OF TWO POINTS, INCLUDING AT ANTENNA AND AT MASTER GROUND BAR. THE COAXIAL CABLE SHALL NOT EXCEED 100 FEET BETWEEN GROUNDING KITS.
T3. GROUNDING CONDUCTOR CONSISTING OF 2-#2 AWG TINNED SOLID BARE COPPER WIRE SHALL BE BONDED TO WAVEGUIDE ENTRY GROUND BAR USING CADWELD CONNECTIONS.
T4. COAX CABLE ENTERING A BUILDING SHALL BE GROUNDED WITH COAX GROUNDING KITS TO AN INSULATED COAX GROUND BAR WHICH SHALL BE INSTALLED ON THE OUTSIDE FACE OF THE BUILDING, BELOW THE CABLE ENTRY PORTS.
T5. WHEN COAX CABLES ENTER A BUILDING FROM A TOWER, THE COAX GROUND BAR AT THE BUILDING SHALL BE CONNECTED TO THE EXTERNAL GROUND RING USING 2-#2 AWG BARE TINNED SOLID COPPER ISOLATED IN PVC CONDUIT.
T6. WHEN COAX CABLES ENTER A BUILDING FROM A ROOF TOP, THE COAX GROUND BAR AT THE BUILDING SHALL BE CONNECTED TO THE MASTER GROUND BAR NEAR THE BTS USING #2 AWG STRANDED INSULATED COPPER CONDUCTOR (SEE BUILDINGS NOTES ON THIS DRAWING FOR CONNECTION TO PRINCIPLE GROUND BAR AND BUILDING GROUND).



NOTE: DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO ANTENNA GROUND BAR

- NOTES:
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT AND WEATHER PROOFING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

Table with 3 columns: REV, DATE, DESCRIPTION. Row 1: A, 07/21/21, PRELIM PLANS. Row 2: 0, 08/05/21, FINAL PLANS ISSUED. Below table: PROJECT NO.: 21-5122, DRAWN BY: A. ROIG, PROJECT MANAGER: D. REVELS, CHECKED BY: D. REVELS

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SNW ENGINEERING GROUP, INC. TOGETHER PLANNING A BETTER TOMORROW. 12979 N. TELECOM PARKWAY, TEMPLE TERRACE, FLORIDA 33637. (813) 615-1422. CERTIFICATE OF AUTHORIZATION PEF005626

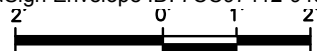
T-Mobile stick together logo. 7025 A.C. SKINNER PARKWAY, JACKSONVILLE, FL 32256

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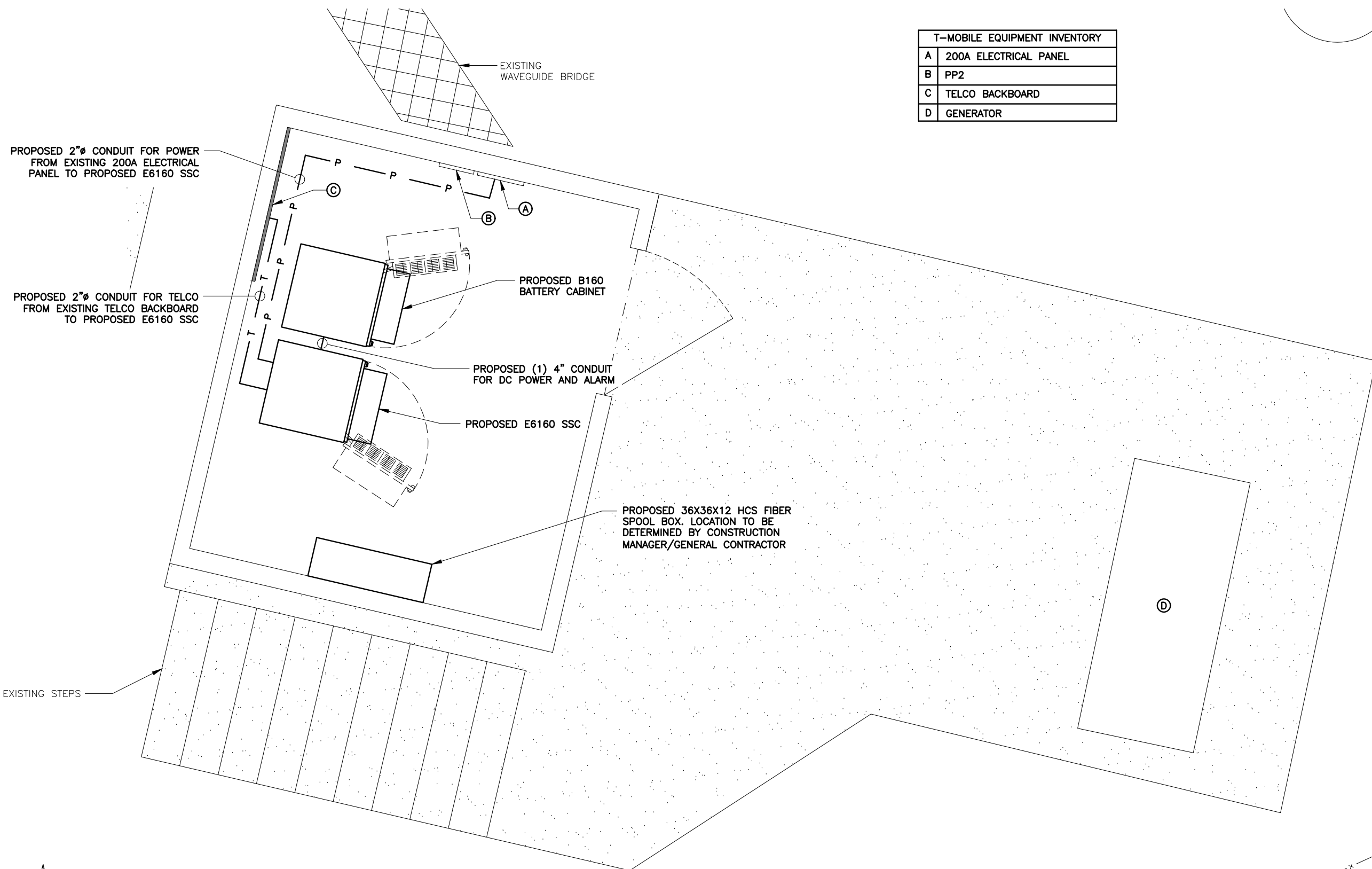
WASHINGTON ISLAND ROAD, 8SV0940C, 29 SAPELO ROAD, WILMINGTON ISLAND, GEORGIA 31410 (CHATHAM COUNTY)

SHEET NAME: GROUNDING NOTES & DETAILS





FOR 24"x36" DRAWINGS  
 GRAPHIC SCALE: 3/4" = 1'-0"  
 FOR 11"x17" DRAWINGS  
 GRAPHIC SCALE: 3/8" = 1'-0"



T-MOBILE EQUIPMENT INVENTORY	
A	200A ELECTRICAL PANEL
B	PP2
C	TELCO BACKBOARD
D	GENERATOR

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.: 21-5122

DRAWN BY: A. ROIG

PROJECT MANAGER: D. REVELS

CHECKED BY: D. REVELS

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WASHINGTON ISLAND ROAD  
 8SV0940C  
 29 SAPELO ROAD  
 WILMINGTON ISLAND, GEORGIA 31410  
 (CHATHAM COUNTY)

SHEET NAME  
 ENLARGED UTILITY ROUTING PLAN

SHEET NUMBER  
 E3



PANEL NAME: T-MOBILE LOCATION: H-FRAME		PANEL RATING 200 AMPS 120/240 VOLTS PHASE 1 WIRE 3										200 MCB RATING 200 AMP MAIN LUG ONLY		CKT NO.	
CKT NO.	DESCRIPTION	KVA		AMP POLE	WIRE	GND	COND	COND	GND	WIRE	AMP POLE	KVA		DESCRIPTION	CKT NO.
		A	B									A	B		
1	SURGE	0	-	60/2	(E)	(E)	(E)	(E)	(E)	(E)	30/2	2	-	HVAC	2
3		-	0									-	2		4
5	HVAC	2	-	30/2	(E)	(E)	(E)	(E)	(E)	(E)	20/1	0.5	-	RECEPTACLE	6
7		-	2					(E)	(E)	(E)	20/1	-	0.5	RECEPTACLE	8
9	LIGHTS	0.5	-	20/1	(E)	(E)	(E)	(E)	(E)	(E)	20/2	0	-	SPARE	10
11	SPARE	-	0	20/2	(E)	(E)	(E)	(E)	(E)	(E)	20/2	-	0	SPARE	12
13		0	-					(E)	(E)	(E)	20/2	0	-	SPARE	14
15	SPARE	-	0	20/2	(E)	(E)	(E)	(E)	(E)	(E)	20/2	-	0	SPARE	16
17		0	-					(E)	(E)	(E)	20/2	0	-	SPARE	18
19	SPARE	-	0	20/2	(E)	(E)	(E)	(E)	(E)	(E)	20/2	-	0	SPARE	20
21		0	-					(E)	(E)	(E)	60/2	0	-	SPARE	22
23	SMOKE DETECTOR	-	0.5	15/1	(E)	(E)	(E)	(E)	(E)	(E)	60/2	-	0	SPARE	24
25	AC FAIL RELAY	0.5	-	15/2	(E)	(E)	(E)	(E)	(E)	(E)	100/2	5.75	-	SSC	26
27		-	0.5					(E)	(E)	(E)	100/2	-	5.75	SSC	28
29	SPARE	0	-	15/1	(E)	(E)	(E)	-	-	-	-	-	-	SPACE	30
31	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	32
33	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	34
35	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	36
37	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	38
39	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	40
41	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	42
SUB TOTAL KVA (CONT)		0	0									0	0	SUB TOTAL KVA (CONT)	
SUB TOTAL KVA (NON-CONT)		3	3									8.25	8.25	SUB TOTAL KVA (NON-CONT)	
TOTAL KVA														TOTAL AMPS	
NON-CONT + 125% CONT.														TOTAL AMPS	
(**) TO BE REMOVED														TOTAL AMPS	

**NOTE:**  
CONTRACTOR TO VERIFY  
BREAKER ASSIGNMENTS  
PRIOR TO CONSTRUCTION.

EXISTING PANEL SCHEDULE

1

PANEL NAME: T-MOBILE LOCATION: H-FRAME		PANEL RATING 200 AMPS 120/240 VOLTS PHASE 1 WIRE 3										200 MCB RATING 200 AMP MAIN LUG ONLY		CKT NO.	
CKT NO.	DESCRIPTION	KVA		AMP POLE	WIRE	GND	COND	COND	GND	WIRE	AMP POLE	KVA		DESCRIPTION	CKT NO.
		A	B									A	B		
1	SURGE	0	-	60/2	(E)	(E)	(E)	(E)	(E)	(E)	30/2	2	-	HVAC	2
3		-	0									-	2		4
5	HVAC	2	-	30/2	(E)	(E)	(E)	(E)	(E)	(E)	20/1	0.5	-	RECEPTACLE	6
7		-	2					(E)	(E)	(E)	20/1	-	0.5	RECEPTACLE	8
9	LIGHTS	0.5	-	20/1	(E)	(E)	(E)	(E)	(E)	(E)	20/2	0	-	SPARE	10
11	SPARE	-	0	20/2	(E)	(E)	(E)	(E)	(E)	(E)	20/2	-	0	SPARE	12
13		0	-					(E)	(E)	(E)	20/2	0	-	SPARE	14
15	SPARE	-	0	20/2	(E)	(E)	(E)	(E)	(E)	(E)	20/2	-	0	SPARE	16
17		0	-					(E)	(E)	(E)	20/2	0	-	SPARE	18
19	SPARE	-	0	20/2	(E)	(E)	(E)	(E)	(E)	(E)	20/2	-	0	SPARE	20
21		0	-					(E)	(E)	(E)	60/2	0	-	SPARE	22
23	SMOKE DETECTOR	-	0.5	15/1	(E)	(E)	(E)	(E)	(E)	(E)	60/2	-	0	SPARE	24
25	AC FAIL RELAY	0.5	-	15/2	(E)	(E)	(E)	(E)	(E)	(E)	100/2	0	-	SPARE	26
27		-	0.5					(E)	(E)	(E)	100/2	-	0	SPARE	28
29	SPARE	0	-	15/1	(E)	(E)	(E)	2"	#4	(3) #3/0	200/2	11.5	-	(P) E6160 SSC	30
31	SPACE	-	-	-	-	-	-	-	-	-	-	-	-		32
33	SPACE	-	-	-	-	-	-	-	-	-	-	-	11.5		34
35	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	36	
37	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	38
39	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	40
41	SPACE	-	-	-	-	-	-	-	-	-	-	-	-	SPACE	42
SUB TOTAL KVA (CONT)		0	0									0	0	SUB TOTAL KVA (CONT)	
SUB TOTAL KVA (NON-CONT)		3	3									14	14	SUB TOTAL KVA (NON-CONT)	
TOTAL KVA														TOTAL AMPS	
NON-CONT + 125% CONT.														TOTAL AMPS	
(P) PROPOSED														TOTAL AMPS	

**NOTE:**  
CONTRACTOR TO VERIFY  
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PRIOR TO CONSTRUCTION.

PROPOSED PANEL SCHEDULE

2

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.:	21-5122
DRAWN BY:	A. ROIG
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

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12979 N. TELECOM PARKWAY  
TEMPLE TERRACE, FLORIDA 33637  
(813) 615-1422

CERTIFICATE OF AUTHORIZATION PEF005626

**T-Mobile**  
stick together

7025 A.C. SKINNER PARKWAY  
JACKSONVILLE, FL 32256

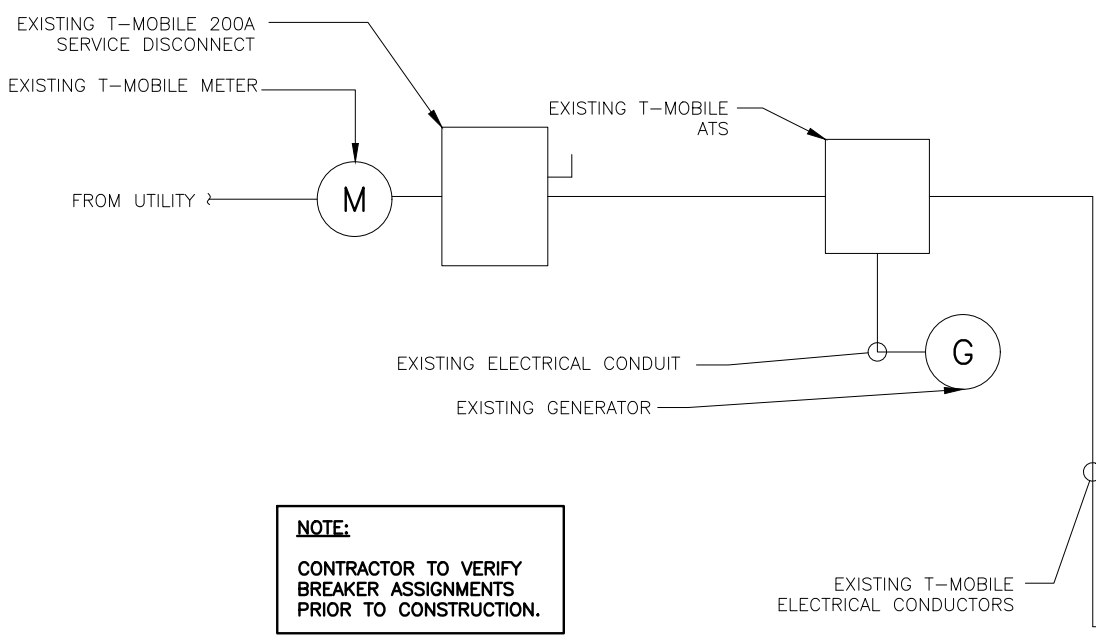
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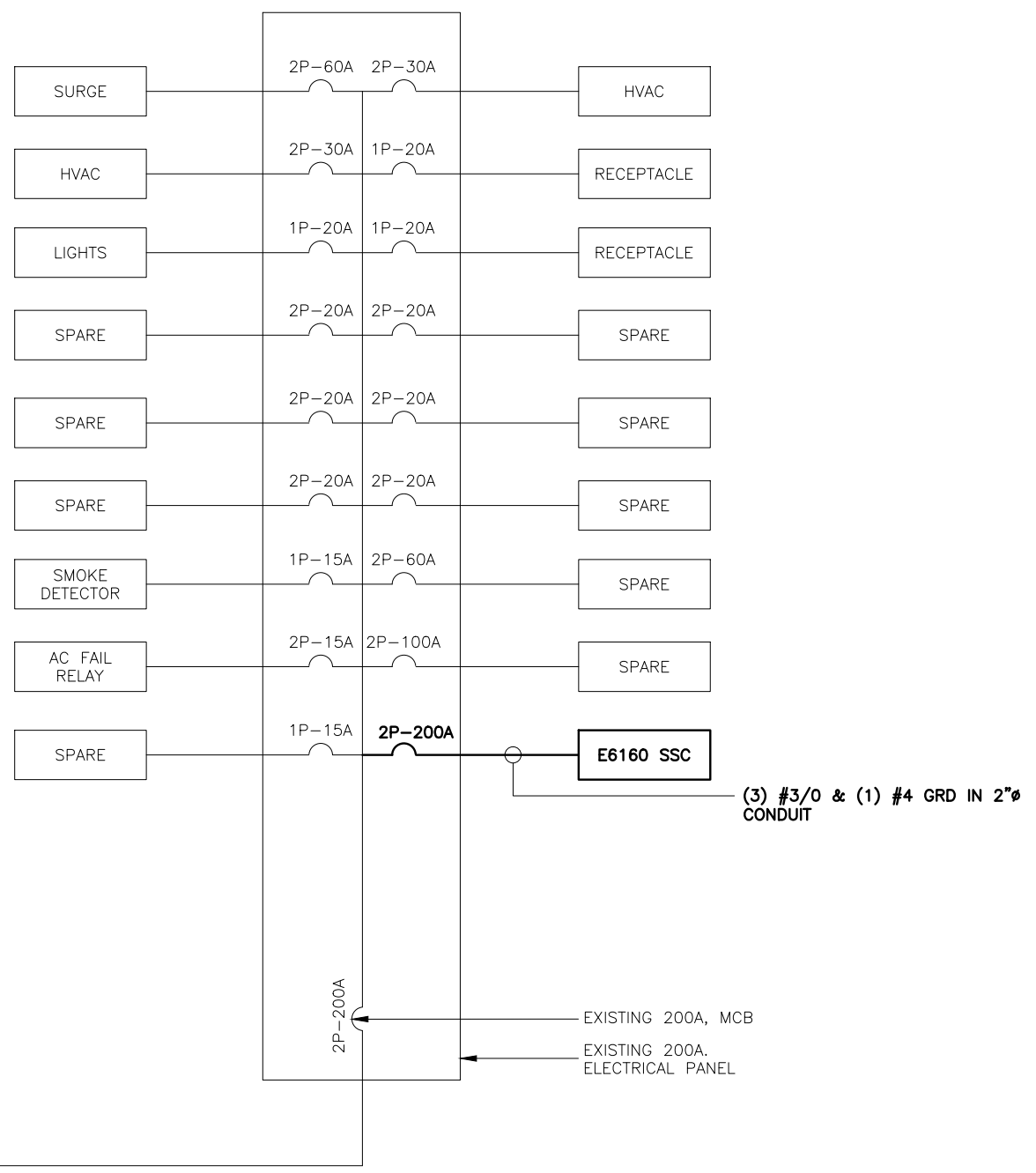
WASHINGTON ISLAND ROAD  
8SV0940C  
29 SAPELO ROAD  
WILMINGTON ISLAND, GEORGIA 31410  
(CHATHAM COUNTY)

SHEET NAME  
PANEL SCHEDULES

SHEET NUMBER  
E4



**NOTE:**  
CONTRACTOR TO VERIFY BREAKER ASSIGNMENTS PRIOR TO CONSTRUCTION.



REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.: 21-5122

DRAWN BY: A. ROIG

PROJECT MANAGER: D. REVELS

CHECKED BY: D. REVELS

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SNW ENGINEERING GROUP, INC.  
TOGETHER PLANNING A BETTER TOMORROW

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TEMPLE TERRACE, FLORIDA 33637  
(813) 615-1422

CERTIFICATE OF AUTHORIZATION PEF005626

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7025 A.C. SKINNER PARKWAY  
JACKSONVILLE, FL 32256

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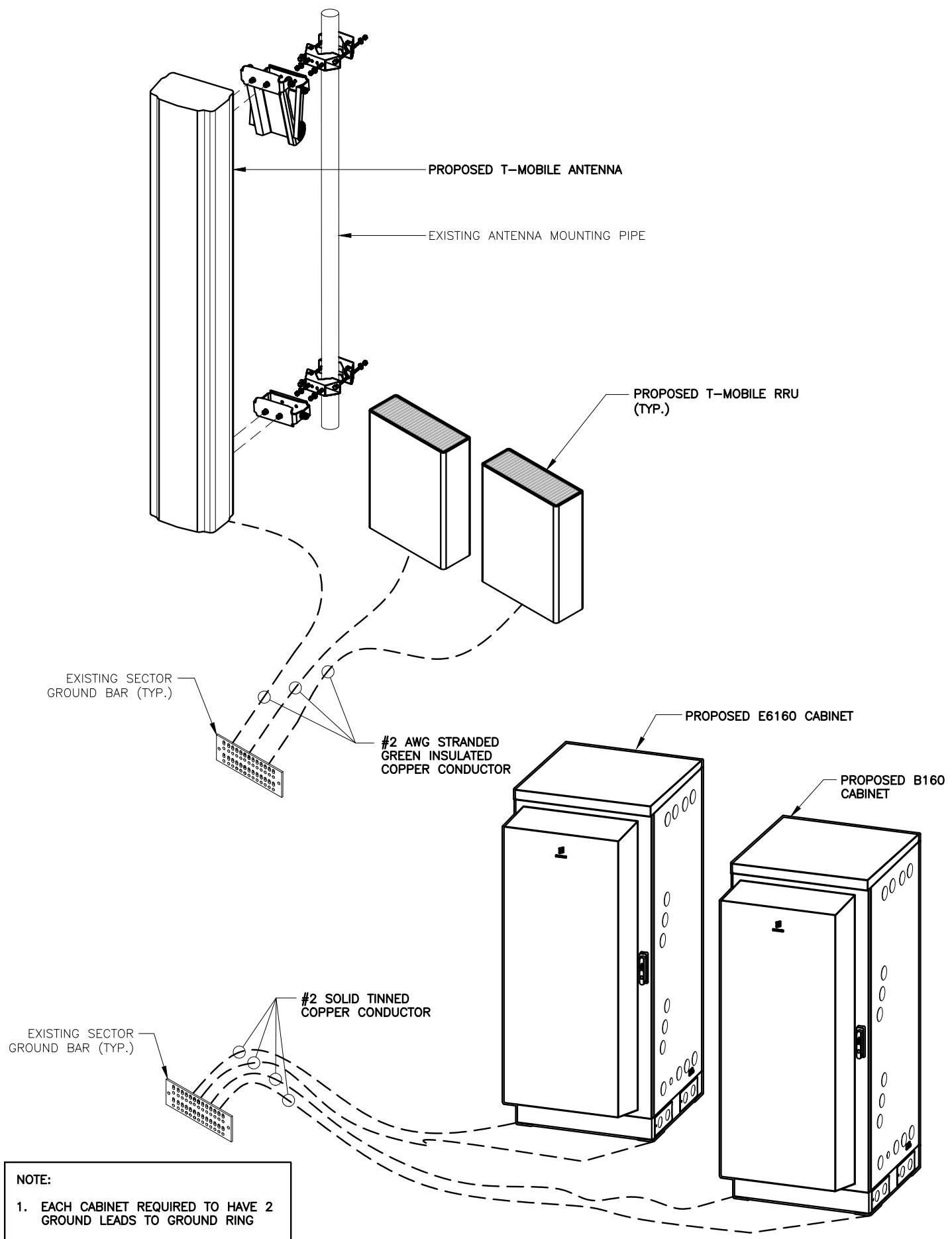
WASHINGTON ISLAND ROAD

8SV0940C

29 SAPELO ROAD  
WILMINGTON ISLAND, GEORGIA 31410  
(CHATHAM COUNTY)

SHEET NAME  
ONE-LINE DIAGRAM

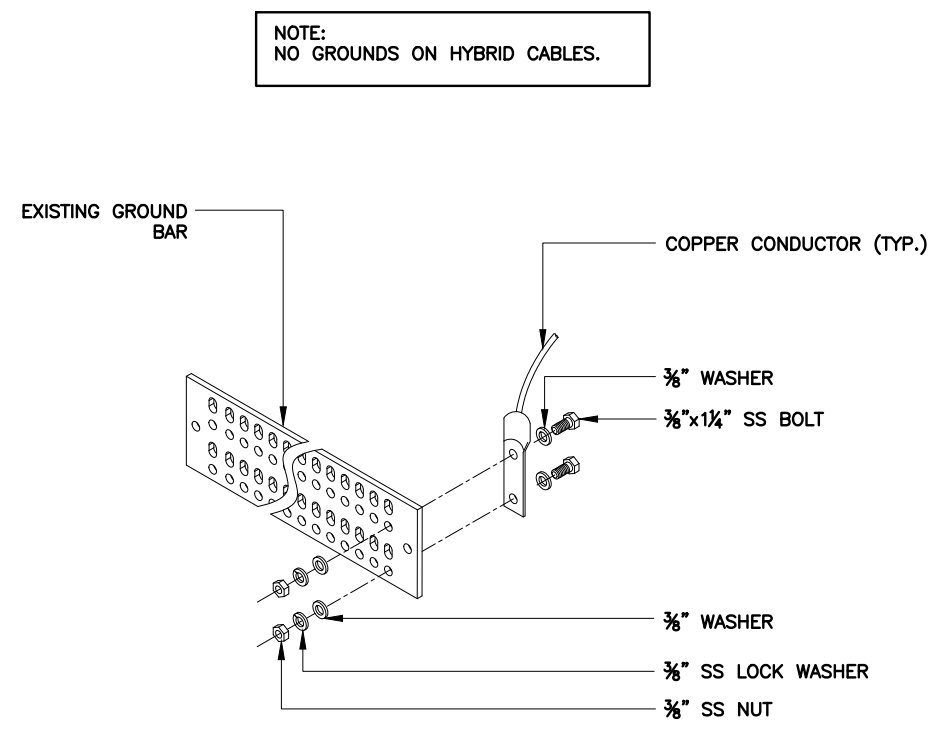
SHEET NUMBER  
E5



NOTE:  
1. EACH CABINET REQUIRED TO HAVE 2 GROUND LEADS TO GROUND RING

TYPICAL GROUND BAR CONNECTION DETAIL

NTS 2



NOTE:  
NO GROUNDS ON HYBRID CABLES.

- RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES, SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DOCUMENTS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.
- GUARANTEE/WARRANTY: GUARANTEE INSTALLATION TO BE FREE OF DEFECTS, SHORTS, GROUNDS, ETC., FOR A PERIOD OF ONE YEAR. FURNISH WARRANTY SO THE DEFECTIVE MATERIAL AND/OR WORKMANSHIP WILL BE REPAIRED/REPLACED IMMEDIATELY UPON NOTIFICATION AT NO COST TO THE OWNER FOR PERIOD OF WARRANTY.
- ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
- ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
- METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
- NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.

NTS 1 GROUNDING NOTES

3

GROUNDING DIAGRAM (TYP.)

REV	DATE	DESCRIPTION
A	07/21/21	PRELIM PLANS
0	08/05/21	FINAL PLANS ISSUED

PROJECT NO.: 21-5122

DRAWN BY:	A. ROIG
PROJECT MANAGER:	D. REVELS
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JEREMY D. SHARIT PE GA LIC PE37206

WASHINGTON ISLAND ROAD  
8SV0940C  
29 SAPELO ROAD  
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(CHATHAM COUNTY)

SHEET NAME  
GROUNDING PLAN  
& DETAILS

SHEET NUMBER  
E6