

VICINITY MAP



**AMERICAN TOWER®**

ATC SITE NAME: MCNEIL CEMETARY NC  
 ATC SITE NUMBER: 21278  
 T-MOBILE SITE NAME: ATC CO MCNEIL CEMETARY  
 T-MOBILE SITE NUMBER: 5RA0215A  
 SITE ADDRESS: 14180 NC 210 SOUTH  
 SPRING LAKE, NC, 28390  
 T-MOBILE ANCHOR ANTENNA AMENDMENT PLAN  
 67D5A998C ODE+6160 CONFIGURATION



LOCATION MAP



**Kimley»Horn**

COA: F-0102  
 421 FAYETTEVILLE ST, SUITE 600  
 RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
A	PRELIM	RG	04/26/21
0	ISSUED FOR CONSTRUCTION	RG	05/07/21

ATC SITE NUMBER:  
**21278**  
 ATC SITE NAME:  
**MCNEIL CEMETARY NC**  
 T-MOBILE SITE NAME:  
**ATC CO MCNEIL CEMETARY**  
 SITE ADDRESS:  
 14180 NC 210 SOUTH  
 SPRING LAKE, NC, 28390

SEAL:

DocuSigned by:  
 Michael L. Oglesby  
 669961268640184...

5/8/21  
 Exp. 12/31/21



DATE DRAWN:	05/07/21
ATC JOB NO:	XXXX
CUSTOMER ID:	ATC CO MCNEIL CEMETARY
CUSTOMER #:	5RA0215A

TITLE SHEET

SHEET NUMBER:  
**G-001**  
 REVISION:  
**0**

COMPLIANCE CODE	PROJECT SUMMARY	PROJECT DESCRIPTION	SHEET INDEX				
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNMENT AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.  1. 2018 NORTH CAROLINA BUILDING CODE (NCBC) 2. 2017 NATIONAL ELECTRIC CODE (NEC) WITH NC AMENDMENTS 3. LOCAL BUILDING CODE 4. CITY/COUNTY ORDINANCES	<u>SITE ADDRESS:</u> 14180 NC 210 SOUTH SPRING LAKE, NC, 28390 COUNTY: HARNETT  <u>GEOGRAPHIC COORDINATES:</u> LATITUDE: 35.22349444 LONGITUDE: -78.93970000 GROUND ELEVATION: 180' AMSL  <u>ZONING INFORMATION:</u> JURISDICTION: HARNETT COUNTY PARCEL #: <u>010513 0193</u>	THE PROPOSED PROJECT INCLUDES MODIFYING GROUND BASED AND TOWER MOUNTED EQUIPMENT AS INDICATED PER BELOW: <u>TOWER WORK:</u> REMOVE (3) AIR21 KRC118046-1 B2P B4A ANTENNA(s), (3) KRY 112 489/2 TMA(s), (1) 1 3/8" HYBRID CABLE, (1) 1 5/8" FIBER, AND (1) 1 5/8" COAX CABLE  INSTALL (3) APX17DWV-17DWV-S-E-A20 ANTENNA(s), (3) AIR6449 B41 ANTENNA(s), (3) RADIO 4424 B25 RRH(s), (3) RADIO 4415 B66A RRH(s) AND (3) 1 1/4" HYBRID CABLE  EXISTING (3) APXVAARR24 43-U-NA20 ANTENNA(s), (3) RADIO 4449 B71+B85 RRH(s), AND (5) 1 5/8" COAX CABLE(s) TO REMAIN  <u>GROUND WORK:</u> INSTALL (1) ENCLOSURE 616 CABINET, (1) B160 BATTERY CABINET, (1) CSR IXRE V2 ROUTER, (1) BB 6648, AND (1) 6'-0" X 6'-4" CONCRETE PAD  EXISTING (1) RBS 6201 ODE CABINET, (1) DUG20, (2) BB 6630, AND (6) RUS01 B2 TO REMAIN	SHEET NO:	DESCRIPTION:	REV:	DATE:	BY:
	<u>PROJECT TEAM</u>  <u>TOWER OWNER:</u> AMERICAN TOWER 10 PRESIDENTIAL WAY WOBURN, MA 01801  <u>ENGINEER:</u> KIMLEY-HORN & ASSOCIATES, INC. 421 FAYETTEVILLE ST, STE 600 RALEIGH, NC 27601 COA: F-0102  <u>PROPERTY OWNER:</u> WILLIAM LASATER 18 ANGUS LN SPRING LAKE, NC 28390  <u>APPLICANT:</u> T-MOBILE 2105 WATER RIDGE PKWY CHARLOTTE, NC 28217	THE PROPOSED PROJECT DOES NOT INCLUDE ELECTRICAL SCOPE  <u>PROJECT NOTES</u> 1. THE FACILITY IS UNMANNED. 2. A TECHNICIAN WILL VISIT THE SITE APPROXIMATELY ONCE A MONTH FOR ROUTINE INSPECTION AND MAINTENANCE. 3. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT LAND DISTURBANCE OR EFFECT OF STORM WATER DRAINAGE. 4. NO SANITARY SEWER, POTABLE WATER OR TRASH DISPOSAL IS REQUIRED. 5. HANDICAP ACCESS IS NOT REQUIRED.	G-001	TITLE SHEET	0	05/07/21	RG
<u>UTILITY COMPANIES</u>  POWER COMPANY: SOUTH RIVER EMC PHONE: (800) 338-5530  TELEPHONE COMPANY: CENTURY LINK PHONE: (855) 707-4993		<u>PROJECT LOCATION DIRECTIONS</u>  FROM RALEIGH: TAKE HWY 401 SOUTH 30 MILES TO LILLINGTON, STAY ON HWY 401 SOUTH THRU LILLINGTON. TURN RIGHT ONTO N MAIN ST/NC-210 S 16 MILES DOWN HWY 210. SITE SITS BEHIND A MINI ROADSIDE FLEA MARKET ON THE RIGHT SIDE OF ROAD.	G-002	GENERAL NOTES	0	05/07/21	RG
			G-003	APPENDIX B	0	05/07/21	RG
			G-004	APPENDIX B	0	05/07/21	RG
			G-005	APPENDIX B	0	05/07/21	RG
			G-006	APPENDIX B	0	05/07/21	RG
			G-007	APPENDIX B	0	05/07/21	RG
			C-101	DETAILED SITE PLAN	0	05/07/21	RG
			C-102	DETAILED GROUND PLAN	0	05/07/21	RG
			C-201	TOWER ELEVATION	0	05/07/21	RG
			C-401	ANTENNA INFORMATION & SCHEDULE	0	05/07/21	RG
			C-501	CONSTRUCTION DETAILS	0	05/07/21	RG
			E-501	GROUNDING DETAILS	0	05/07/21	RG
			R-601	SUPPLEMENTAL			
			R-602	SUPPLEMENTAL			
			R-603	SUPPLEMENTAL			
			R-604	SUPPLEMENTAL			



**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 ANSIEIA/NTIA-222, AND COMPLY WITH ATC CONSTRUCTION SPECIFICATIONS.
4. CONTRACTOR SHALL CONTACT LOCAL 811 FOR IDENTIFICATION OF UNDERGROUND UTILITIES PRIOR TO START OF CONSTRUCTION.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL REQUIRED INSPECTIONS.
6. ALL DIMENSIONS TO, OF, AND ON EXISTING BUILDINGS, DRAINAGE STRUCTURES, AND SITE IMPROVEMENTS SHALL BE VERIFIED IN FIELD BY CONTRACTOR WITH ALL DISCREPANCIES REPORTED TO THE ENGINEER.
7. DO NOT CHANGE SIZE OR SPACING OF STRUCTURAL ELEMENTS.
8. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS UNLESS OTHERWISE NOTED.
9. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
10. CONTRACTOR SHALL BRACE STRUCTURES UNTIL ALL STRUCTURAL ELEMENTS NEEDED FOR STABILITY ARE INSTALLED. THESE ELEMENTS ARE AS FOLLOWS: LATERAL BRACING, ANCHOR BOLTS, ETC.
11. CONTRACTOR SHALL DETERMINE EXACT LOCATION OF EXISTING UTILITIES, GROUNDS DRAINS, DRAIN PIPES, VENTS, ETC. BEFORE COMMENCING WORK.
12. INCORRECTLY FABRICATED, DAMAGED, OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE T-MOBILE REP PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH REMEDIAL ACTION SHALL REQUIRE WRITTEN APPROVAL BY THE T-MOBILE REP PRIOR TO PROCEEDING.
13. EACH CONTRACTOR SHALL COOPERATE WITH THE T-MOBILE REP, AND COORDINATE HIS WORK WITH THE WORK OF OTHERS.
14. CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED BY CONSTRUCTION OF THIS PROJECT TO MATCH EXISTING PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE T-MOBILE CONSTRUCTION MANAGER.
15. ALL CABLE/CONDUIT ENTRY/EXIT PORTS SHALL BE WEATHERPROOFED DURING INSTALLATION USING A SILICONE SEALANT.
16. WHERE EXISTING CONDITIONS DO NOT MATCH THOSE SHOWN IN THIS PLAN SET, CONTRACTOR SHALL NOTIFY THE T-MOBILE REP AND ENGINEER OF RECORD IMMEDIATELY.
17. CONTRACTOR SHALL ENSURE ALL SUBCONTRACTORS ARE PROVIDED WITH A COMPLETE AND CURRENT SET OF DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REMOVE ALL RUBBISH AND DEBRIS FROM THE SITE AT THE END OF EACH DAY.
19. CONTRACTOR SHALL COORDINATE WORK SCHEDULE WITH AMERICAN TOWER CORPORATION (ATC) AND TAKE PRECAUTIONS TO MINIMIZE IMPACT AND DISRUPTION OF OTHER OCCUPANTS OF THE FACILITY.
20. CONTRACTOR SHALL FURNISH T-MOBILE AND AMERICAN TOWER CORPORATION (ATC) WITH A PDF MARKED UP AS-BUILT SET OF DRAWINGS UPON COMPLETION OF WORK.
21. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE WHAT, IF ANY, ITEMS WILL BE PROVIDED. ALL ITEMS NOT PROVIDED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR. CONTRACTOR WILL INSTALL ALL ITEMS PROVIDED.

22. PRIOR TO SUBMISSION OF BID, CONTRACTOR SHALL COORDINATE WITH T-MOBILE REP TO DETERMINE IF ANY PERMITS WILL BE OBTAINED BY CONTRACTOR. ALL REQUIRED PERMITS NOT OBTAINED BY T-MOBILE MUST BE OBTAINED, AND PAID FOR, BY THE CONTRACTOR.
23. CONTRACTOR SHALL INSTALL ALL SITE SIGNAGE IN ACCORDANCE WITH T-MOBILE SPECIFICATIONS AND REQUIREMENTS.
24. CONTRACTOR SHALL SUBMIT ALL SHOP DRAWINGS TO T-MOBILE FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
25. ALL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND LOCATED ACCORDING TO T-MOBILE SPECIFICATIONS, AND AS SHOWN IN THESE PLANS.
26. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
27. CONTRACTOR SHALL NOTIFY T-MOBILE REP A MINIMUM OF 48 HOURS IN ADVANCE OF POURING CONCRETE OR BACKFILLING ANY UNDERGROUND UTILITIES, FOUNDATIONS OR SEALING ANY WALL, FLOOR OR ROOF PENETRATIONS FOR ENGINEERING REVIEW AND APPROVAL.
28. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SAFETY INCLUDING COMPLIANCE WITH ALL APPLICABLE OSHA STANDARDS AND RECOMMENDATIONS AND SHALL PROVIDE ALL NECESSARY SAFETY DEVICES INCLUDING PPE AND PPM AND CONSTRUCTION DEVICES SUCH AS WELDING AND FIRE PREVENTION, TEMPORARY SHORING, SCAFFOLDING, TRENCH BOXES/SLOPING, BARRIERS, ETC.
29. THE CONTRACTOR SHALL PROTECT AT HIS OWN EXPENSE, ALL EXISTING FACILITIES AND SUCH OF HIS NEW WORK LIABLE TO INJURY DURING THE CONSTRUCTION PERIOD. ANY DAMAGE CAUSED BY NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, OR BY THE ELEMENTS DUE TO NEGLIGENCE ON THE PART OF THIS CONTRACTOR OR HIS REPRESENTATIVES, EITHER TO THE EXISTING WORK, OR TO HIS WORK OR THE WORK OF ANY OTHER CONTRACTOR, SHALL BE REPAIRED AT HIS EXPENSE TO THE OWNER'S SATISFACTION.
30. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. THE QUALITY OF WORKMANSHIP SHALL BE SUBJECT TO THE APPROVAL OF THE T-MOBILE REP. ANY WORK FOUND BY THE T-MOBILE REP TO BE OF INFERIOR QUALITY AND/OR WORKMANSHIP SHALL BE REPLACED AND/OR REWORKED AT CONTRACTOR EXPENSE UNTIL APPROVAL IS OBTAINED.
31. IN ORDER TO ESTABLISH STANDARDS OF QUALITY AND PERFORMANCE, ALL TYPES OF MATERIALS LISTED HEREINAFTER BY MANUFACTURER'S NAMES AND/OR MANUFACTURER'S CATALOG NUMBER SHALL BE PROVIDED BY THESE MANUFACTURERS AS SPECIFIED.
32. T-MOBILE FURNISHED EQUIPMENT SHALL BE PICKED-UP AT THE T-MOBILE WAREHOUSE, NO LATER THAN 48HR AFTER BEING NOTIFIED INSURED, STORED, UNCRATE, PROTECTED AND INSTALLED BY THE CONTRACTOR WITH ALL APPURTENANCES REQUIRED TO PLACE THE EQUIPMENT IN OPERATION, READY FOR USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE EQUIPMENT AFTER PICKING IT UP.
33. T-MOBILE OR HIS ARCHITECT/ENGINEER RESERVES THE RIGHT TO REJECT ANY EQUIPMENT OR MATERIALS WHICH, IN HIS OWN OPINION ARE NOT IN COMPLIANCE WITH THE CONTRACT DOCUMENTS, EITHER BEFORE OR AFTER INSTALLATION AND THE EQUIPMENT SHALL BE REPLACED WITH EQUIPMENT CONFORMING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS BY THE CONTRACTOR AT NO COST TO T-MOBILE OR THEIR ARCHITECT/ENGINEER.

**SPECIAL CONSTRUCTION**

**ANTENNA INSTALLATION NOTES:**

1. WORK INCLUDED:
  - A. ANTENNA AND COAXIAL CABLES ARE FURNISHED BY T-MOBILE UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUBCONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL.
  - B. INSTALL ANTENNA AS INDICATED ON DRAWINGS AND T-MOBILE SPECIFICATIONS.
  - C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
  - D. INSTALL FURNISHED GALVANIZED STEEL OR ALUMINUM WAVEGUIDE AND PROVIDE PRINTOUT OF THAT TEST.
  - E. CONTRACTOR SHALL PROVIDE FOUR (4) SETS OF SWEEP TESTS USING ANRITZU-PACKARD 8713B RF SCALAR NETWORK ANALYZER. SUBMIT FREQUENCY DOMAIN REFLECTOMETER(FDR) TESTS RESULTS TO THE PROJECT MANAGER. SWEEP TESTS SHALL BE AS PER ATTACHED RFS "MINIMUM FIELD TESTING RECOMMENDED FOR ANTENNA AND HELIAX COAXIAL CABLE SYSTEMS" DATED 10/5/93. TESTING SHALL BE PERFORMED BY AN INDEPENDENT TESTING SERVICE AND BE BOUND AND SUBMITTED WITHIN ONE WEEK OF WORK COMPLETION.
  - F. INSTALL COAXIAL CABLES AND TERMINATING BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTIONS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
  - G. ANTENNA AND COAXIAL CABLE GROUNDING:
    - i. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED WITH RFS CONNECTORS/SPLICE WEATHERPROOFING KIT #221213 OR EQUAL.
    - ii. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT

RUNS OF COAXIAL CABLE (NOT WITHIN BENDS).

**CONCRETE AND REINFORCING STEEL NOTES:**

2. DESIGN AND CONSTRUCTION OF ALL CONCRETE ELEMENTS SHALL CONFORM TO THE LATEST EDITIONS OF ALL APPLICABLE CODES INCLUDING: ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", ACI 117 "SPECIFICATIONS FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS", AND ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
3. MIX DESIGN SHALL BE APPROVED BY T-MOBILE REP PRIOR TO PLACING CONCRETE.
4. CONCRETE SHALL BE NORMAL WEIGHT, 6 % AIR ENTRAINED (+/- 1.5%) WITH A SLUMP RANGE OF 3-6" AND HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI UNLESS OTHERWISE NOTED.
5. THE FOLLOWING MATERIALS SHALL BE USED:
  - PORTLAND CEMENT: ASTM C150, TYPE 2
  - REINFORCEMENT: ASTM A185, PLAIN STEEL WELDED WIRE FABRIC
  - REINFORCEMENT BARS: ASTM A615, GRADE 60, DEFORMED
  - NORMAL WEIGHT AGGREGATE: ASTM C33
  - WATER: ASTM C 94/C 94M
  - WELDED WIRE FABRIC: ASTM A185
  - ADMIXTURES:
    - WATER-REDUCING AGENT: ASTM C 494/C 494M, TYPE A
    - AIR-ENTERING AGENT: ASTM C 260/C 260M
    - SUPERPLASTICIZER: ASTM C494, TYPE F OR TYPE G
    - RETARDING: ASTM C 494/C 494M, TYPE B
6. MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE NO LESS THAN 3".
7. A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE IN ACCORDANCE WITH ACI 301 SECTION 4.2.4, UNLESS NOTED OTHERWISE.
8. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR APPROVAL FROM AN ATC ENGINEER WHEN DRILLING HOLES IN CONCRETE.
9. ADMIXTURES SHALL CONFORM TO THE APPROPRIATE ASTM STANDARD AS REFERENCED IN "METHOD 1" OF ACI 301.
10. DO NOT WELD OR TACK WELD REINFORCING STEEL.
11. ALL DOWELS, ANCHOR BOLTS, EMBEDDED STEEL, ELECTRICAL CONDUITS, PIPE SLEEVES, GROUNDS AND ALL OTHER EMBEDDED ITEMS AND FORMED DETAILS SHALL BE IN PLACE BEFORE START OF CONCRETE PLACEMENT.
12. REINFORCEMENT SHALL BE COLD BENT WHENEVER BENDING IS REQUIRED.
13. DO NOT PLACE CONCRETE IN WATER, ICE, OR ON FROZEN GROUND.
14. FOR COLD-WEATHER (ACI 306) AND HOT-WEATHER (ACI 301M) CONCRETE PLACEMENT, CONFORM TO APPLICABLE ACI CODES AND RECOMMENDATIONS. IN EITHER CASE, MATERIALS CONTAINING CHLORIDE, CALCIUM, SALTS, ETC. SHALL NOT BE USED. PROTECT FRESH CONCRETE FROM WEATHER FOR 7 DAYS, MINIMUM.
15. ALL CONCRETE SHALL HAVE A "SMOOTH FORM FINISH."
16. SPLICING OF REINFORCEMENT IS PERMITTED ONLY AT LOCATIONS SHOWN IN THE CONTRACT DRAWINGS OR AS ACCEPTED BY THE ENGINEER. UNLESS OTHERWISE SHOWN OR NOTED REINFORCING STEEL SHALL BE SPLICED TO DEVELOP ITS FULL TENSILE CAPACITY (CLASS A) IN ACCORDANCE WITH ACI 318.
17. DETAILING OF REINFORCING STEEL SHALL CONFORM TO "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES" (ACI 315).
18. ALL SLAB CONSTRUCTION SHALL BE CAST MONOLITHICALLY WITHOUT HORIZONTAL CONSTRUCTION JOINTS, UNLESS SHOWN IN THE CONTRACT DRAWINGS.
19. LOCATION OF ALL CONSTRUCTION JOINTS ARE SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, CONFORMANCE WITH ACI 318, AND ACCEPTANCE OF THE ENGINEER. DRAWINGS SHOWING LOCATION OF DETAILS OF THE PROPOSED CONSTRUCTION JOINTS SHALL BE SUBMITTED WITH REINFORCING STEEL PLACEMENT DRAWINGS.
20. SPLICES OF WWF, AT ALL SPLICED EDGES, SHALL BE SUCH THAT THE OVERLAP MEASURED BETWEEN OUTERMOST CROSS WIRES OF EACH FABRIC SHEET IS NOT LESS THAN THE SPACING OF THE CROSS WIRE PLUS 2 INCHES, NOR LESS THAN 6".
21. BAR SUPPORTS SHALL BE ALL-GALVANIZED METAL WITH PLASTIC TIPS.
22. ALL REINFORCEMENT SHALL BE SECURELY TIED IN PLACE TO PREVENT DISPLACEMENT BY CONSTRUCTION TRAFFIC OR CONCRETE. TIE WIRE SHALL BE OF SUFFICIENT STRENGTH FOR INTENDED PURPOSE, BUT NOT LESS THAN NO. 18 GAUGE.
23. SLAB ON GROUND: COMPACT STRUCTURAL FILL TO 95% DENSITY AND THEN PLACE 6" GRAVEL BENEATH SLAB.

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



**Kimley»Horn**

**COA: F-0102  
421 FAYETTEVILLE ST, SUITE 600  
RALEIGH, NC 27601**

REV.	DESCRIPTION	BY	DATE
A	PRELIM	RG	04/26/21
0	ISSUED FOR CONSTRUCTION	RG	05/07/21

ATC SITE NUMBER:  
**21278**  
ATC SITE NAME:  
**MCNEIL CEMETARY NC**  
T-MOBILE SITE NAME:  
**ATC CO MCNEIL CEMETARY**  
SITE ADDRESS:  
14180 NC 210 SOUTH  
SPRING LAKE, NC, 28390

SEAL:

DocuSigned by:  
Michael L. Oglesby  
6695B1268A0484...

5/8/21  
Exp. 12/31/21



DATE DRAWN:	05/07/21
ATC JOB NO:	XXXX
CUSTOMER ID:	ATC CO MCNEIL CEMETARY
CUSTOMER #:	5RA0215A

**GENERAL NOTES**

SHEET NUMBER: <b>G-002</b>	REVISION: <b>0</b>
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**2018 APPENDIX B  
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)**  
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: T-MOBILE - MCNEIL CEMETERY NC  
 Address: 14180 NC 210 SOUTH, SPRING LAKE, NC Zip Code 28390  
 Owner/Authorized Agent: AMERICAN TOWERS, LLC Phone # (919) 468-0112 E-Mail AE@AMERICANTOWER.COM  
 Owned By:  City/County  Private  State  
 Code Enforcement Jurisdiction:  City  County HARNETT  State

**CONTACT:**

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural				( )	
Civil	KIMLEY-HORN & ASSOCIATES, INC.	MICHAEL OGLESBY, PE	039954	(919) 677-2054	MICHAEL.OGLESBY@KIMLEY-HORN.COM
Electrical				( )	
Fire Alarm				( )	
Plumbing				( )	
Mechanical				( )	
Sprinkler-Standpipe				( )	
Structural				( )	
Retaining Walls >5' High				( )	
Other				( )	

**2018 NC BUILDING CODE:**  New Building  Addition  Renovation  
 1<sup>st</sup> Time Interior Completion  
 Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements  
 Phased Construction - Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements

**2018 NC EXISTING BUILDING CODE: EXISTING**  Alter  Additive  Repair  Chapter 14  
 Level I  Level II  Level III  Level IV  
 Historic Property  Change of Use

**CONSTRUCTED:** (date) \_\_\_\_\_ **OCCUPANCY(S)** (Ch. 3): \_\_\_\_\_  
**RENOVATED:** (date) \_\_\_\_\_ **EXISTING OCCUPANCY(S)** (Ch. 3): \_\_\_\_\_

**RISK CATEGORY** (Table 1604.5):  I  II  III  IV  
 I  II  III  IV

**BASIC BUILDING DATA**

**Construction Type:**  I-A  II-A  III-A  IV  V-A  
 I-B  II-B  III-B  V-B  
**Sprinklers:**  No  Partial  Yes  NFPA 13  NFPA 13R  NFPA 13D  
**Standpipes:**  No  Yes Class  I  II  III  Wet  Dry  
**Fire District:**  No  Yes **Flood Hazard Area:**  No  Yes  
**Special Inspections Required:**  No  Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

2018 NC Administrative Code and Policies

FLOOR	EXISTING (SQ FT)	NEW (SQ FT)	SUB-TOTAL
3 <sup>rd</sup> Floor			
2 <sup>nd</sup> Floor			
Mezzanine			
1 <sup>st</sup> Floor			
Basement			
TOTAL			

**ALLOWABLE AREA**

**Primary Occupancy Classification(s):** Select one Select one Select one Select one Select one Select one

- Assembly  A-1  A-2  A-3  A-4  A-5
- Business
- Educational
- Factory  F-1 Moderate  F-2 Low
- Hazardous  H-1 Detonate  H-2 Deflagrate  H-3 Corrosive  H-4 Health  H-5 HPM
- Institutional  I-1 Condition  1  2  
 I-2 Condition  1  2  
 I-3 Condition  1  2  5  
 I-4
- Mercantile
- Residential  R-1  R-2  R-3  R-4
- Storage  S-1 Moderate  S-2 High-piled  
 Parking Garage  Repair Garage
- Utility and Miscellaneous

NOT A BUILDING

**Accessory Occupancy Classification(s):** \_\_\_\_\_

**Incidental Uses** (Table 509): \_\_\_\_\_

**Special Uses (Chapter 4 – List Code Sections):** \_\_\_\_\_

**Special Provisions: (Chapter 5 – List Code Sections):** \_\_\_\_\_

**Mixed Occupancy:**  No  Yes Separation: \_\_\_\_\_ Hr. Exception: \_\_\_\_\_

Non-Separated Use (508.3) - The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.

Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

$$_____ + _____ + \dots = _____ \leq 1.00$$

2018 NC Administrative Code and Policies



**Kimley»Horn**

**COA: F-0102  
421 FAYETTEVILLE ST, SUITE 600  
RALEIGH, NC 27601**

REV.	DESCRIPTION	BY	DATE
A	PRELIM	RG	04/26/21
B	ISSUED FOR CONSTRUCTION	RG	05/07/21

ATC SITE NUMBER:

**21278**

ATC SITE NAME:

**MCNEIL CEMETARY NC**

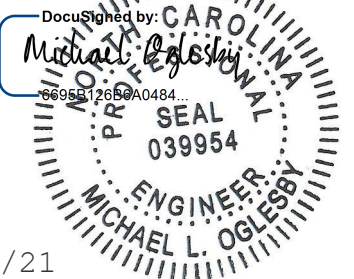
T-MOBILE SITE NAME:

**ATC CO MCNEIL CEMETARY**

SITE ADDRESS:

14180 NC 210 SOUTH  
SPRING LAKE, NC, 28390

SEAL:



5/8/21

Exp. 12/31/21



DATE DRAWN:	05/07/21
ATC JOB NO:	XXXX
CUSTOMER ID:	ATC CO MCNEIL CEMETARY
CUSTOMER #:	5RA0215A

**DETAILED SITE PLAN**

SHEET NUMBER:  
**G-003**

REVISION:  
**0**

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STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 <sup>4</sup> AREA	(C) AREA FOR FRONTAGE INCREASE <sup>1,5</sup>	(D) ALLOWABLE AREA PER STORY OR UNLIMITED <sup>2,3</sup>

- <sup>1</sup> Frontage area increases from Section 506.2 are computed thus:
- a. Perimeter which fronts a public way or open space having 20 feet minimum width = \_\_\_\_\_ (F)
  - b. Total Building Perimeter = \_\_\_\_\_ (P)
  - c. Ratio (F/P) = \_\_\_\_\_ (F/P)
  - d. W = Minimum width of public way = \_\_\_\_\_ (W)
  - e. Percent of frontage increase  $I_f = 100[F/P - 0.25] \times W/30 =$  \_\_\_\_\_ (%)

- <sup>2</sup> Unlimited area applicable under conditions of Section 507.  
<sup>3</sup> Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).  
<sup>4</sup> The maximum area of open parking garages must comply with Table 412.3.4. The maximum area of air traffic control towers must comply with Table 412.3.1.  
<sup>5</sup> Frontage increase is based on the unsprinklered area value in Table 412.3.1.

ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)		
Building Height in Stories (Table 504.4)		

<sup>1</sup> Provide code reference if the "Shown on Plans" quantity is less than table 504.3 or 504.4.

NOT A BUILDING

**FIRE PROTECTION REQUIREMENTS**

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	RATING		DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
		REQ'D	PROVIDED (W/ _____* REDUCTION)				
Structural Frame, including columns, girders, trusses							
Bearing Walls							
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions							
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction							
Including supporting beams and joists							
Floor Ceiling Assembly							
Columns Supporting Floors							
Roof Construction, including supporting beams and joists							
Roof Ceiling Assembly							
Columns Supporting Roof							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation							
Occupancy/Fire Barrier Separation							
Party/Fire Wall Separation							
Smoke Barrier Separation							
Smoke Partition							
Tenant/Dwelling Unit/Sleeping Unit Separation							
Incidental Use Separation							

NOT A BUILDING

\* Indicate section number permitting reduction



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**21278**  
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**MCNEIL CEMETARY NC**  
 T-MOBILE SITE NAME:  
**ATC CO MCNEIL CEMETARY**  
 SITE ADDRESS:  
 14180 NC 210 SOUTH  
 SPRING LAKE, NC, 28390

SEAL:

DocuSigned by:  
 Michael L. Oglesby  
 6607842656A048

5/8/21  
 Exp. 12/31/21



DATE DRAWN:	05/07/21
ATC JOB NO:	XXXX
CUSTOMER ID:	ATC CO MCNEIL CEMETARY
CUSTOMER #:	5RA0215A

**DETAILED SITE PLAN**

SHEET NUMBER:	REVISION:
<b>G-004</b>	<b>0</b>



**PERCENTAGE OF WALL OPENING CALCULATIONS**

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)

**LIFE SAFETY SYSTEM REQUIREMENTS**

- Emergency Lighting:  No  Yes
- Exit Signs:  No  Yes
- Fire Alarm:  No  Yes
- Smoke Detection Systems:  No  Yes  Partial
- Carbon Monoxide Detection:  No  Yes

**LIFE SAFETY PLAN COMMENTS**

Life Safety Plan Sheet #: \_\_\_\_\_

- Fire and/or smoke rated wall locations (Chapter 1006.2.1)
- Assumed and real property line locations (Chapter 1006.2.1)
- Exterior wall opening area with respect to assumed property lines (705.8)
- Occupancy Use for each area as it relates to load calculation (Table 1004.1.2)
- Occupant loads for each area
- Exit access travel distances (1017)
- Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- Dead end lengths (1020.4)
- Clear exit widths for each exit door
- Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- Actual occupant load for each exit door
- A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- Location of doors with panic hardware (1010.1.10)
- Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- Location of doors with electromagnetic egress locks (1010.1.9.9)
- Location of doors equipped with hold-open devices
- Location of emergency escape windows (1030)
- The square footage of each fire area (202)
- The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- Note any code exceptions or table notes that may have been utilized regarding the items above

2018 NC Administrative Code and Policies

**ACCESSIBLE DWELLING UNITS (SECTION 1107)**

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED

**ACCESSIBLE PARKING (SECTION 1106)**

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES		# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
	REQUIRED	PROVIDED	REGULAR WITH 5' ACCESS AISLE	132" ACCESS AISLE	8' ACCESS AISLE	
TOTAL						

**PLUMBING FIXTURES**

USE	SPACE	WATERCLOSETS			LAVATORIES			SHOWERS /TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNISEX	MALE	FEMALE	UNISEX		REGULAR	ACCESSIBLE
EXIST'G										
NEW										
REQ'D										

**SPECIAL APPROVALS**

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)

\_\_\_\_\_

\_\_\_\_\_

2018 NC Administrative Code and Policies



**Kimley»Horn**

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421 FAYETTEVILLE ST, SUITE 600  
RALEIGH, NC 27601

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**21278**

ATC SITE NAME:

**MCNEIL CEMETARY NC**

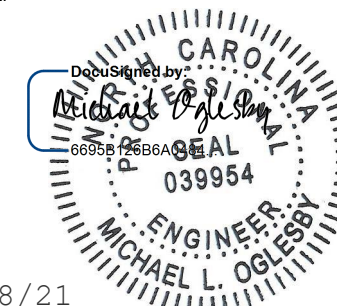
T-MOBILE SITE NAME:

**ATC CO MCNEIL CEMETARY**

SITE ADDRESS:

14180 NC 210 SOUTH  
SPRING LAKE, NC, 28390

SEAL:



5/8/21

Exp. 12/31/21



DATE DRAWN:	05/07/21
ATC JOB NO:	XXXX
CUSTOMER ID:	ATC CO MCNEIL CEMETARY
CUSTOMER #:	5RA0215A

**DETAILED SITE PLAN**

SHEET NUMBER:

**G-005**

REVISION:

**0**

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**ENERGY SUMMARY**

**ENERGY REQUIREMENTS:**

The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code:  No  Yes (The remainder of this section is not applicable)

Exempt Building:  No  Yes (Provide code or statutory reference): \_\_\_\_\_

Climate Zone:  3A  4A  5A

Method of Compliance: Energy Code  Performance  Prescriptive  
 ASHRAE 90.1  Performance  Prescriptive  
 (If "Other" specify source here) \_\_\_\_\_

**THERMAL ENVELOPE (Prescriptive method only)**

**Roof/ceiling Assembly (each assembly)**

Description of assembly: \_\_\_\_\_  
 U-Value of total assembly: \_\_\_\_\_  
 R-Value of insulation: \_\_\_\_\_  
 Skylights in each assembly:  
 U-Value of skylight: \_\_\_\_\_  
 total square footage of skylight assembly: \_\_\_\_\_

**Exterior Walls (each assembly)**

Description of assembly: \_\_\_\_\_  
 U-Value of total assembly: \_\_\_\_\_  
 R-Value of insulation: \_\_\_\_\_  
 Openings (windows or doors with glazing)  
 U-Value of assembly: \_\_\_\_\_  
 Solar heat gain coefficient: \_\_\_\_\_  
 projection factor: \_\_\_\_\_  
 Door R-Values: \_\_\_\_\_

**Walls below grade (each assembly)**

Description of assembly: \_\_\_\_\_  
 U-Value of total assembly: \_\_\_\_\_  
 R-Value of insulation: \_\_\_\_\_

**Floors over unconditioned space (each assembly)**

Description of assembly: \_\_\_\_\_  
 U-Value of total assembly: \_\_\_\_\_  
 R-Value of insulation: \_\_\_\_\_

**Floors slab on grade**

Description of assembly: \_\_\_\_\_  
 U-Value of total assembly: \_\_\_\_\_  
 R-Value of insulation: \_\_\_\_\_  
 Horizontal/vertical requirement: \_\_\_\_\_  
 slab heated: \_\_\_\_\_

**2018 APPENDIX B  
 BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  
 STRUCTURAL DESIGN**

(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)

**DESIGN LOADS:**

Importance Factors: Snow (I<sub>s</sub>) \_\_\_\_\_  
 Seismic (I<sub>E</sub>) \_\_\_\_\_

Live Loads: Roof \_\_\_\_\_ psf  
 Mezzanine \_\_\_\_\_ psf  
 Floor \_\_\_\_\_ psf

Ground Snow Load: \_\_\_\_\_ psf

Wind Load: Basic Wind Speed \_\_\_\_\_ mph (ASCE-7)  
 Exposure Category \_\_\_\_\_

SEISMIC DESIGN CATEGORY:  A  B

Provide the following Seismic Design Parameters:

Risk Category (Table 1604.5)  I  II  III  IV  
 Spectral Response Acceleration S<sub>1</sub> \_\_\_\_\_ %g

Site Classification (ASCE 7)  A  B  C  D  E  F  
 Data Source:  Presumptive  Historical Data

Basic structural system  Dual w/Special Moment Frame  
 Built-up frame  Dual w/Intermediate R/C or Special Steel  
 Moment Frame  Inverted Pendulum

Analysis Procedure:  Simplified  Equivalent Lateral Force  Dynamic

Architectural, Mechanical, Components anchored?  Yes  No

LATERAL DESIGN CONTROL: Earthquake  Wind

**SOIL BEARING CAPACITIES:**

Field Test (provide copy of test report) \_\_\_\_\_ psf  
 Presumptive Bearing capacity \_\_\_\_\_ psf  
 Pile size, type, and capacity \_\_\_\_\_



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 421 FAYETTEVILLE ST, SUITE 600  
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ATC SITE NUMBER:

21278

ATC SITE NAME:

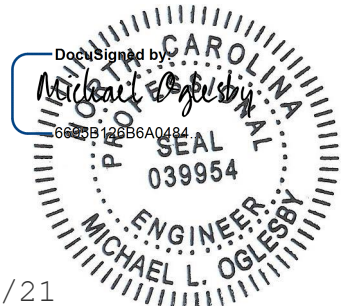
MCNEIL CEMETARY NC

T-MOBILE SITE NAME:

ATC CO MCNEIL CEMETARY

SITE ADDRESS:  
 14180 NC 210 SOUTH  
 SPRING LAKE, NC, 28390

SEAL:



5/8/21

Exp. 12/31/21



DATE DRAWN:	05/07/21
ATC JOB NO:	XXXX
CUSTOMER ID:	ATC CO MCNEIL CEMETARY
CUSTOMER #:	5RA0215A

DETAILED SITE PLAN

SHEET NUMBER: **G-006**  
 REVISION: **0**



**2018 APPENDIX B  
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  
MECHANICAL DESIGN  
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)**

**MECHANICAL SUMMARY**

**MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT**

**Thermal Zone**

winter dry bulb: \_\_\_\_\_  
summer dry bulb: \_\_\_\_\_

**Interior design conditions**

winter dry bulb: \_\_\_\_\_  
summer dry bulb: \_\_\_\_\_  
relative humidity: \_\_\_\_\_

**Building heating load:** \_\_\_\_\_

**Building cooling load:** \_\_\_\_\_

**Mechanical Spacing Conditioning Sys**

Unitary  
description of unit: \_\_\_\_\_  
heating efficiency: \_\_\_\_\_  
cooling efficiency: \_\_\_\_\_  
size category of unit: \_\_\_\_\_

**Boiler**

Size category. If oversized, state reason.: \_\_\_\_\_

**Chiller**

Size category. If oversized, state reason.: \_\_\_\_\_

**List equipment efficiencies:** \_\_\_\_\_

**NOT A BUILDING**

**2018 APPENDIX B  
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  
ELECTRICAL DESIGN  
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)**

**ELECTRICAL SUMMARY**

**ELECTRICAL SYSTEM AND EQUIPMENT**

**Method of Compliance:** Energy Code  Performance  Prescriptive  
ASHRAE 90.1  Performance  Prescriptive

**Lighting schedule** (each fixture type)

lamp type required in fixture \_\_\_\_\_  
number of lamps in fixture \_\_\_\_\_  
ballast type used in the fixture \_\_\_\_\_  
number of ballasts in fixture \_\_\_\_\_  
total wattage per fixture \_\_\_\_\_  
total interior wattage specified vs. allowed \_\_\_\_\_ (or space by space)  
total exterior wattage specified vs. allowed \_\_\_\_\_

**Additional Efficiency Package Options  
(When using the 2018 NCECC; not required for ASHRAE 90.1)**

- C406.2 More Efficient HVAC System Performance
- C406.3 Reduced Lighting Energy
- C406.4 Enhanced Digital Controls
- C406.5 On-Site Renewable Energy
- C406.6 Dedicated Outdoor Air System
- C406.7 Reduced Energy Use in Service Water Heating

**NOT A BUILDING**



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421 FAYETTEVILLE ST, SUITE 600  
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**21278**  
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**MCNEIL CEMETARY NC**  
T-MOBILE SITE NAME:  
**ATC CO MCNEIL CEMETARY**  
SITE ADDRESS:  
14180 NC 210 SOUTH  
SPRING LAKE, NC, 28390

SEAL:

5/8/21  
Exp. 12/31/21

**T-Mobile**

DATE DRAWN:	05/07/21
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CUSTOMER #:	5RA0215A

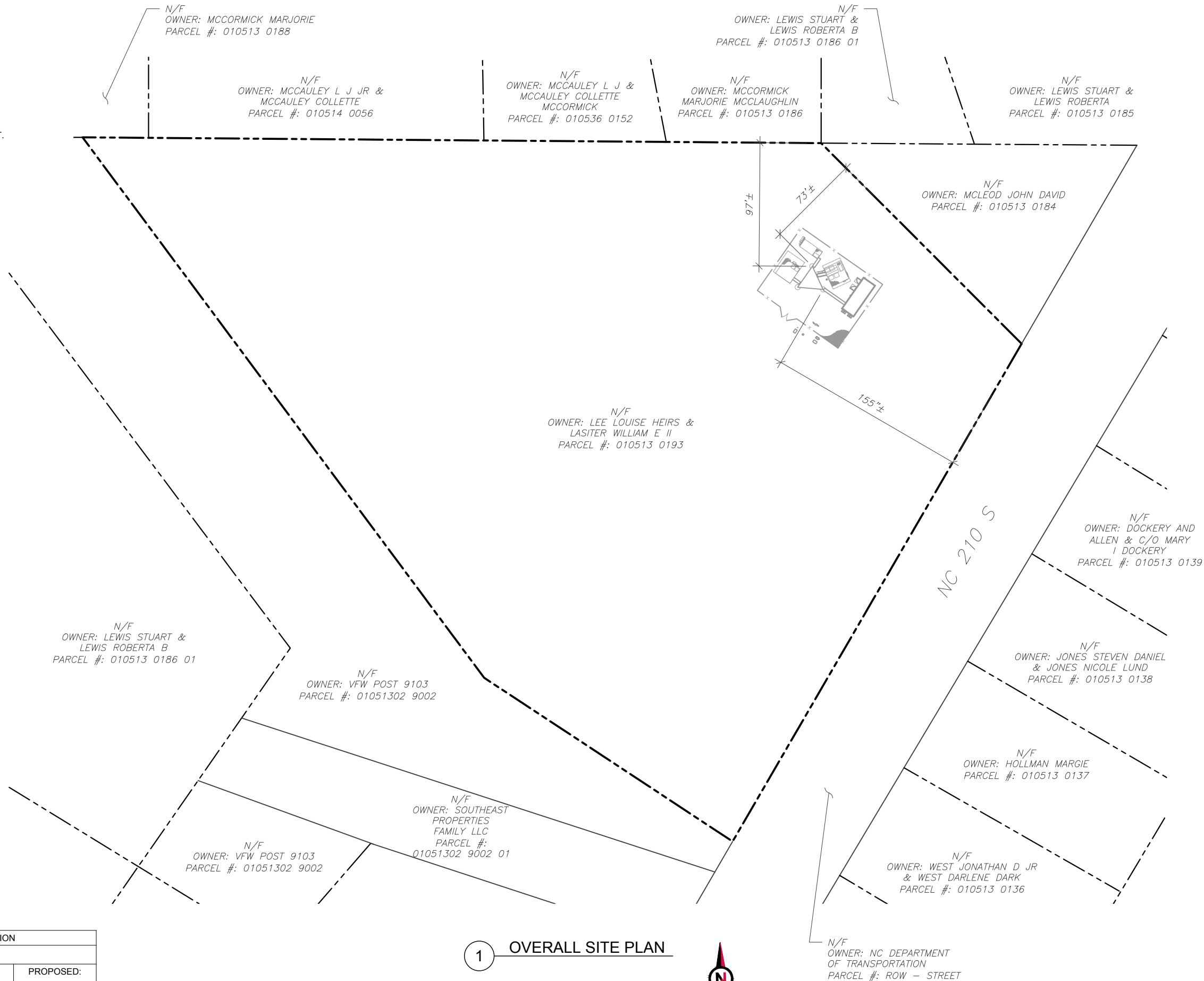
**DETAILED SITE PLAN**

SHEET NUMBER:	REVISION:
<b>G-007</b>	<b>0</b>

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**NOTES:**

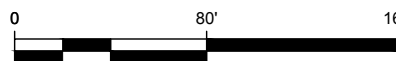
- BOUNDARY LINES OBTAINED FROM COUNTY OF HARNETT, NC ONLINE GIS.
- ZONING INFORMATION OBTAINED FROM COUNTY OF HARNETT, NC.
- A SITE SURVEY HAS NOT BEEN COMPLETED AND THEREFORE THERE IS NO CLAIM TO THE ACCURACY OF THE INFORMATION DEPICTED ON THIS SHEET.



PARCEL SETBACK INFORMATION		
DISTRICT: COUNTY OF HARNETT, NC		
	EXISTING:	PROPOSED:
MAX HEIGHT:	176'±	176'±*
MIN FRONT YARD SETBACK:	155'±	155'±*
MIN SIDE YARD SETBACK:	73'±	73'±*
MIN REAR YARD SETBACK:	97'±	97'±*

\* NO CHANGE TO EXISTING

**1 OVERALL SITE PLAN**



SCALE: 1"=80' (11X17)  
1"=40' (22X34)



**Kimley»Horn**

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14180 NC 210 SOUTH  
SPRING LAKE, NC, 28390

SEAL:

DocuSigner by:  
Michael Oglesby  
069512006A0484

5/8/21  
Exp. 12/31/21

**T-Mobile**

DATE DRAWN:	05/07/21
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CUSTOMER #:	5RA0215A

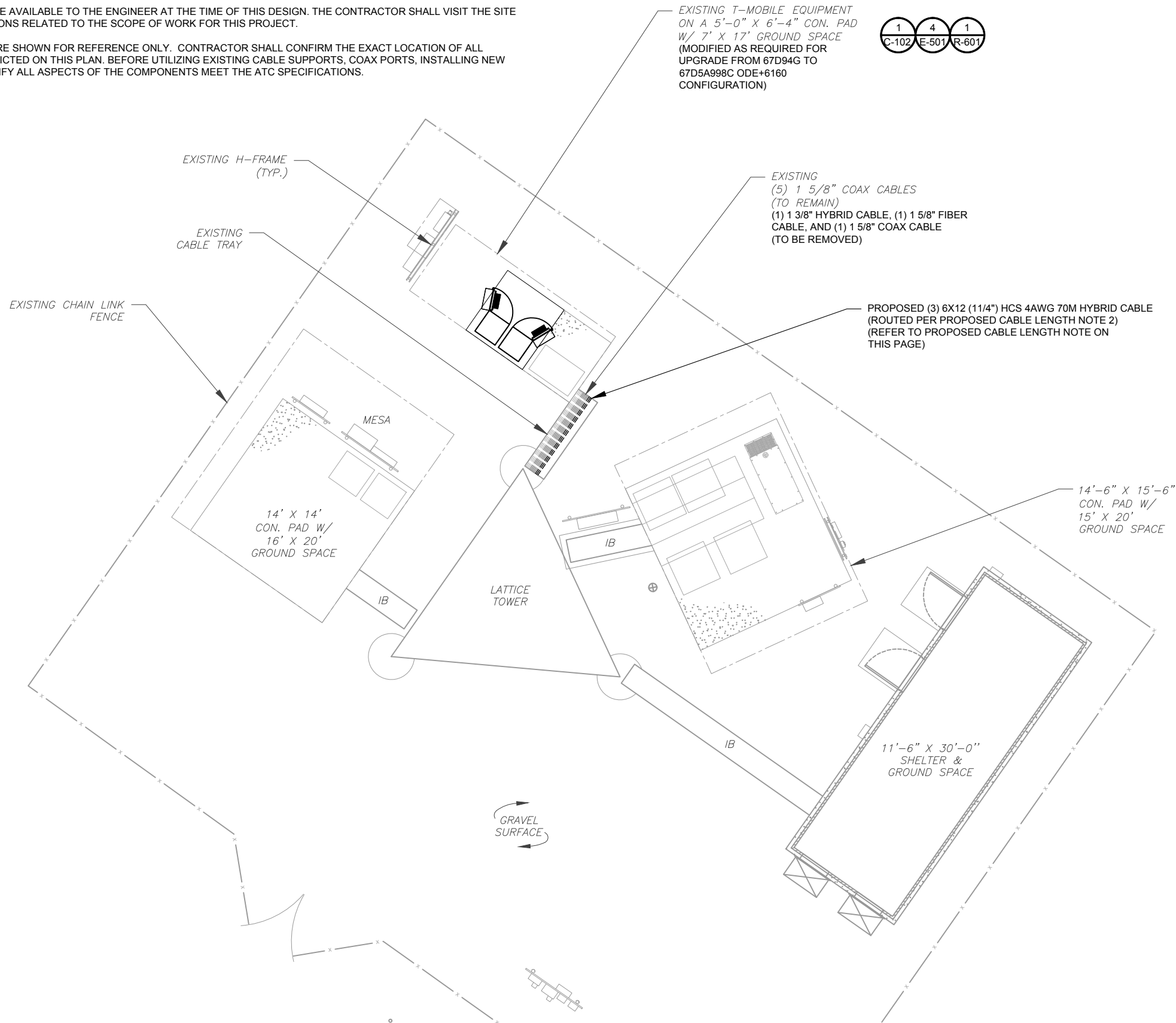
OVERALL SITE PLAN	
SHEET NUMBER:	REVISION:
<b>C-001</b>	<b>0</b>



**SITE PLAN NOTES:**

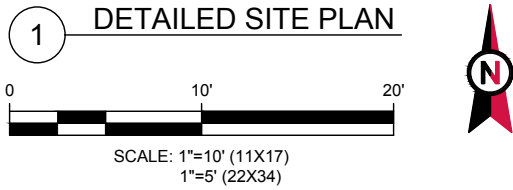
1. THIS SITE PLAN REPRESENTS THE BEST PRESENT KNOWLEDGE AVAILABLE TO THE ENGINEER AT THE TIME OF THIS DESIGN. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO CONSTRUCTION AND VERIFY ALL EXISTING CONDITIONS RELATED TO THE SCOPE OF WORK FOR THIS PROJECT.
2. ICE BRIDGE, CABLE LADDER, COAX PORT, AND COAX CABLE ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL CONFIRM THE EXACT LOCATION OF ALL PROPOSED AND EXISTING EQUIPMENT AND STRUCTURES DEPICTED ON THIS PLAN. BEFORE UTILIZING EXISTING CABLE SUPPORTS, COAX PORTS, INSTALLING NEW PORTS OR ANY OTHER EQUIPMENT, CONTRACTOR SHALL VERIFY ALL ASPECTS OF THE COMPONENTS MEET THE ATC SPECIFICATIONS.
3. 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 RECEPTACAL
HH, V	HAND HOLE, VAULT
IB	ICE BRIDGE
K	KENTROX BOX
LC	LIGHTING CONTROL
M	METER
PB	PULL BOX
PP	POWER POLE
T	TELCO
TRN	TRANSFORMER
— x —	CHAINLINK FENCE



**PROPOSED CABLE LENGTH:**

1. ESTIMATED LENGTH OF PROPOSED CABLE IS **199'**. ESTIMATED LENGTH OF CABLE WAS PROVIDED BY CUSTOMER OR CALCULATED BY ADDING THE RAD CENTER AND THE DISTANCE FROM THE SHELTER ENTRY PLATE TO THE TOWER (ALONG THE ICE BRIDGE) AND A SAFETY FACTOR MEASUREMENT OF 15% (OF THE TWO PREVIOUS VALUES). CDS DEFER TO GREATEST CABLE LENGTH.
2. ROUTE PROPOSED CABLES ALONG SAME PATH AS EXISTING CABLES AND IN ACCORDANCE WITH STRUCTURAL ANALYSIS. WHERE POSSIBLE UTILIZE EXISTING CABLE SUPPORT STRUCTURES AS PROVIDED FOR CARRIER TO ADEQUATELY SECURE CABLES, USING EITHER APPROPRIATELY SIZED STAINLESS STEEL SNAP-INS OR MOUNTING HARDWARE AND BRACKETS AS SPECIFIED BY CABLE MANUFACTURER. OTHERWISE, ATTACH CABLES TO HORIZONTAL OR DIAGONAL TOWER MEMBERS USING PROPOSED STAINLESS STEEL ADAPTERS (DO NOT ATTACH TO TOWER LEG).



**Kimley»Horn**

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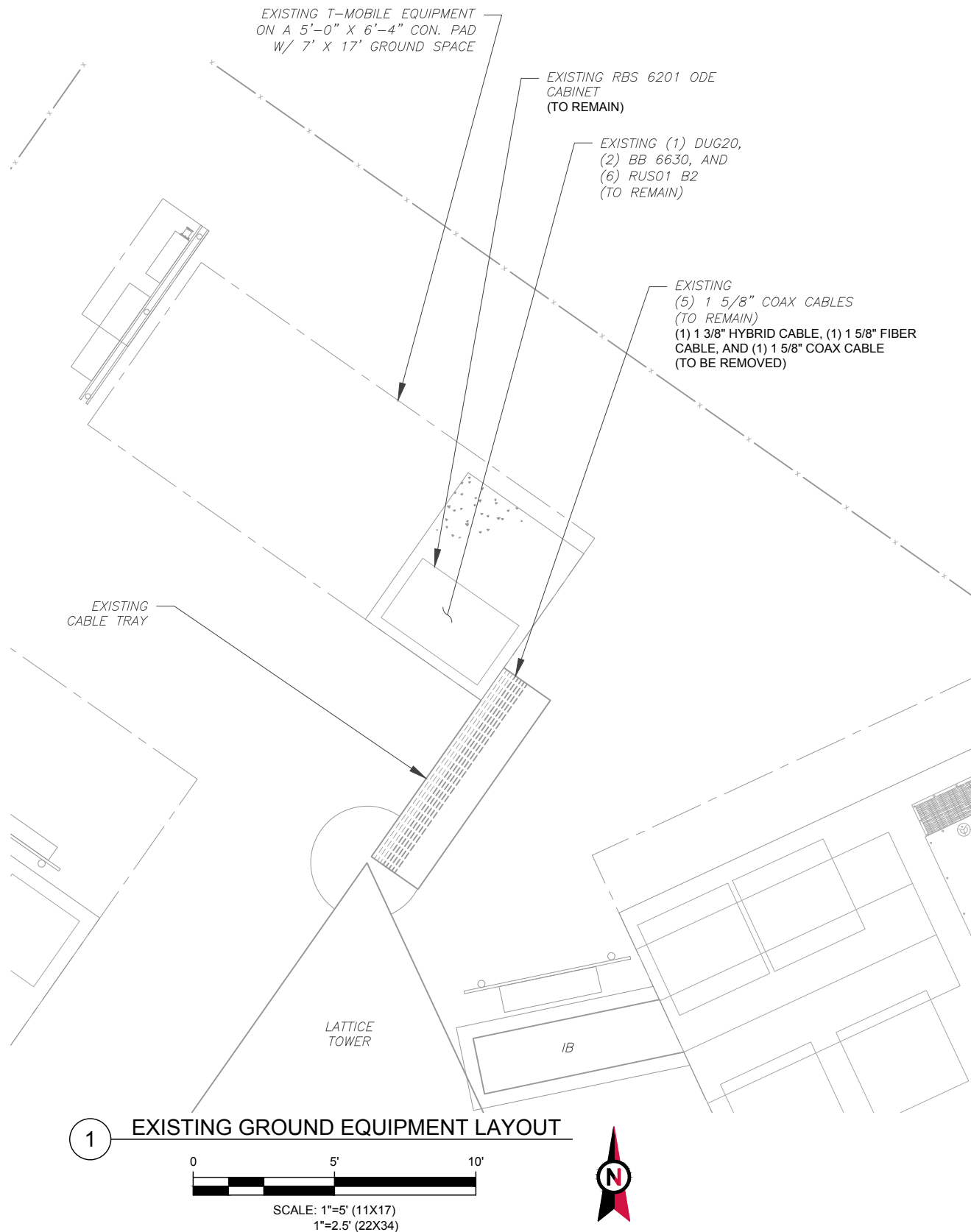
**DETAILED SITE PLAN**

SHEET NUMBER:	REVISION:
<b>C-101</b>	<b>0</b>

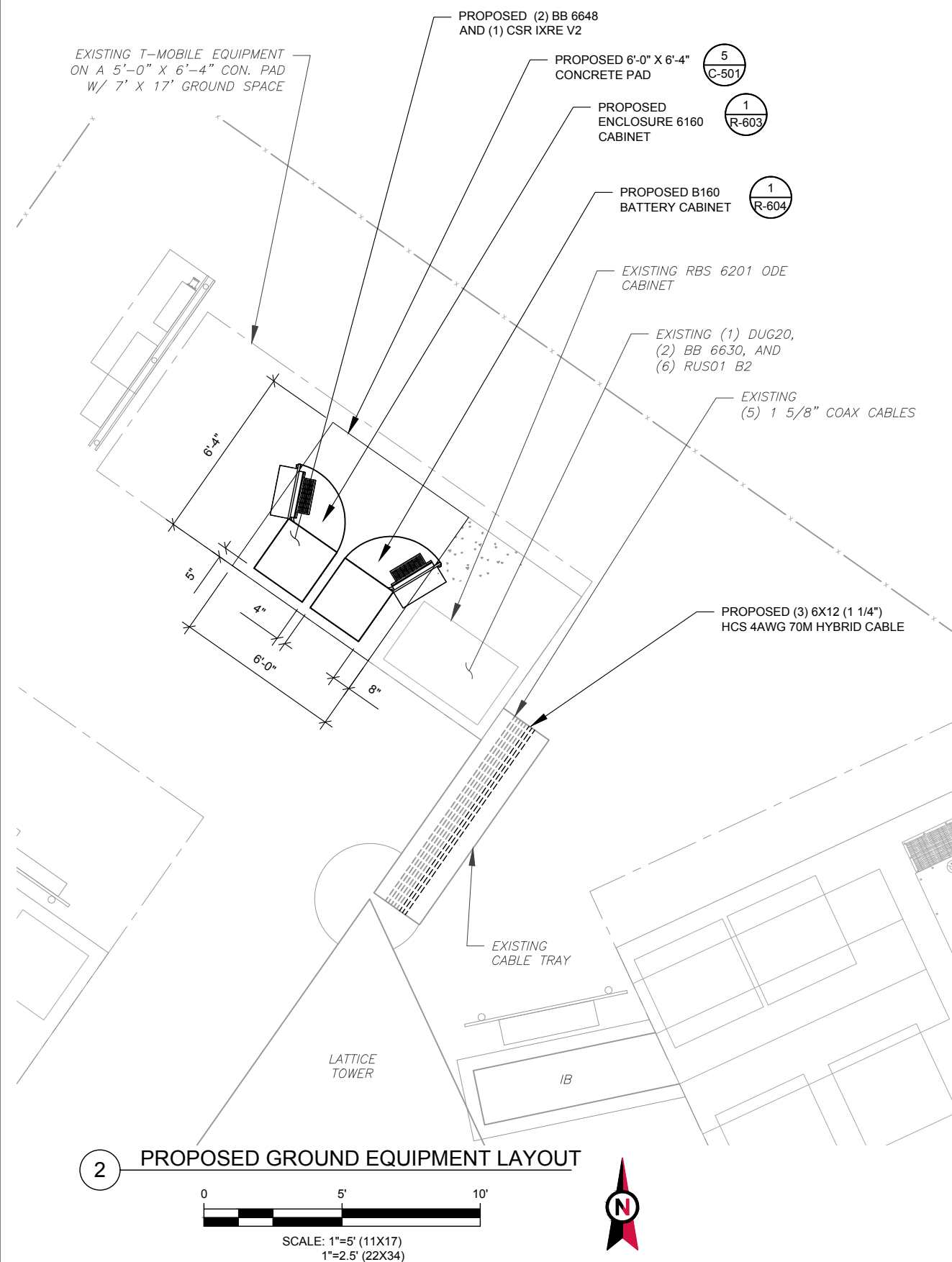
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**SITE PLAN NOTES:**

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



**T-MOBILE CM APPROVAL REQUIRED BEFORE INSTALLING CABINETS**



**Kimley»Horn**

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REV.	DESCRIPTION	BY	DATE
A	PRELIM	RG	04/26/21
0	ISSUED FOR CONSTRUCTION	RG	05/07/21

ATC SITE NUMBER:  
**21278**  
ATC SITE NAME:  
**MCNEIL CEMETARY NC**  
T-MOBILE SITE NAME:  
**ATC CO MCNEIL CEMETARY**  
SITE ADDRESS:  
14180 NC 210 SOUTH  
SPRING LAKE, NC, 28390

SEAL:

5/8/21  
Exp. 12/31/21



DATE DRAWN:	05/07/21
ATC JOB NO:	XXXX
CUSTOMER ID:	ATC CO MCNEIL CEMETARY
CUSTOMER #:	5RA0215A

**DETAILED GROUND PLAN**

SHEET NUMBER:	REVISION:
<b>C-102</b>	<b>0</b>

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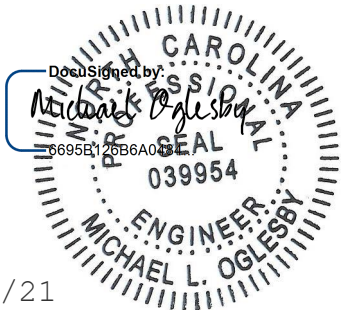
**Kimley»Horn**

COA: F-0102  
421 FAYETTEVILLE ST, SUITE 600  
RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
A	PRELIM	RG	04/26/21
0	ISSUED FOR CONSTRUCTION	RG	05/07/21

ATC SITE NUMBER:  
**21278**  
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**MCNEIL CEMETARY NC**  
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SITE ADDRESS:  
14180 NC 210 SOUTH  
SPRING LAKE, NC, 28390

SEAL:



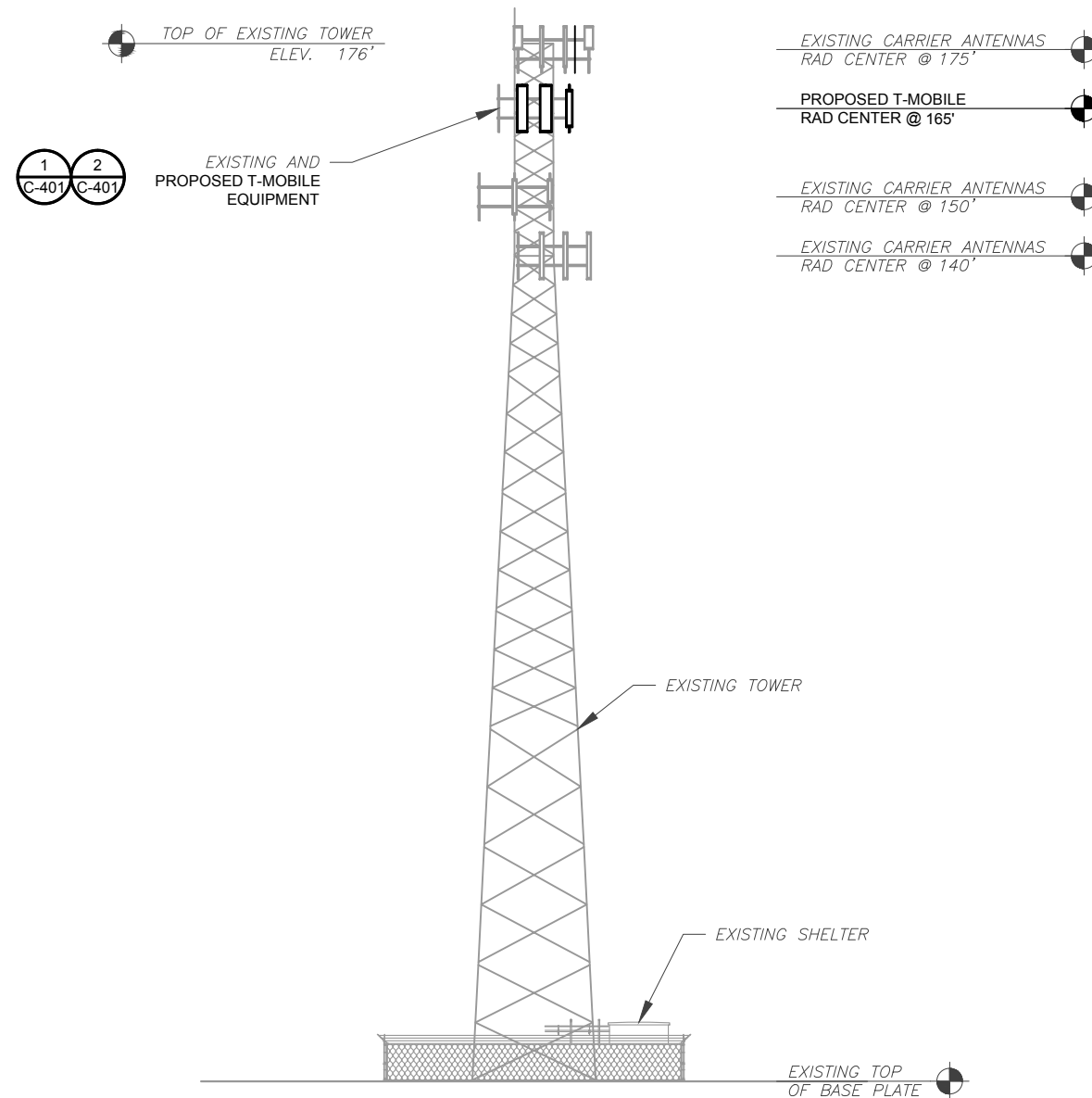
5/8/21  
Exp. 12/31/21



DATE DRAWN:	05/07/21
ATC JOB NO:	XXXX
CUSTOMER ID:	ATC CO MCNEIL CEMETARY
CUSTOMER #:	5RA0215A

**TOWER ELEVATION**

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



ATC IS ANALYZING THE ANTENNA MOUNT UNDER A SEPARATE PROJECT. CONSTRUCTION IS NOT TO PROCEED UNTIL THE MOUNT ANALYSIS IS COMPLETE AND INDICATES THE ADDITIONAL LOADING DOES NOT OVERSTRESS THE MOUNT.

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

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

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**Kimley»Horn**

COA: F-0102  
421 FAYETTEVILLE ST, SUITE 600  
RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
A	PRELIM	RG	04/26/21
0	ISSUED FOR CONSTRUCTION	RG	05/07/21

ATC SITE NUMBER:  
**21278**  
ATC SITE NAME:  
**MCNEIL CEMETARY NC**  
T-MOBILE SITE NAME:  
**ATC CO MCNEIL CEMETARY**  
SITE ADDRESS:  
14180 NC 210 SOUTH  
SPRING LAKE, NC, 28390

SEAL:

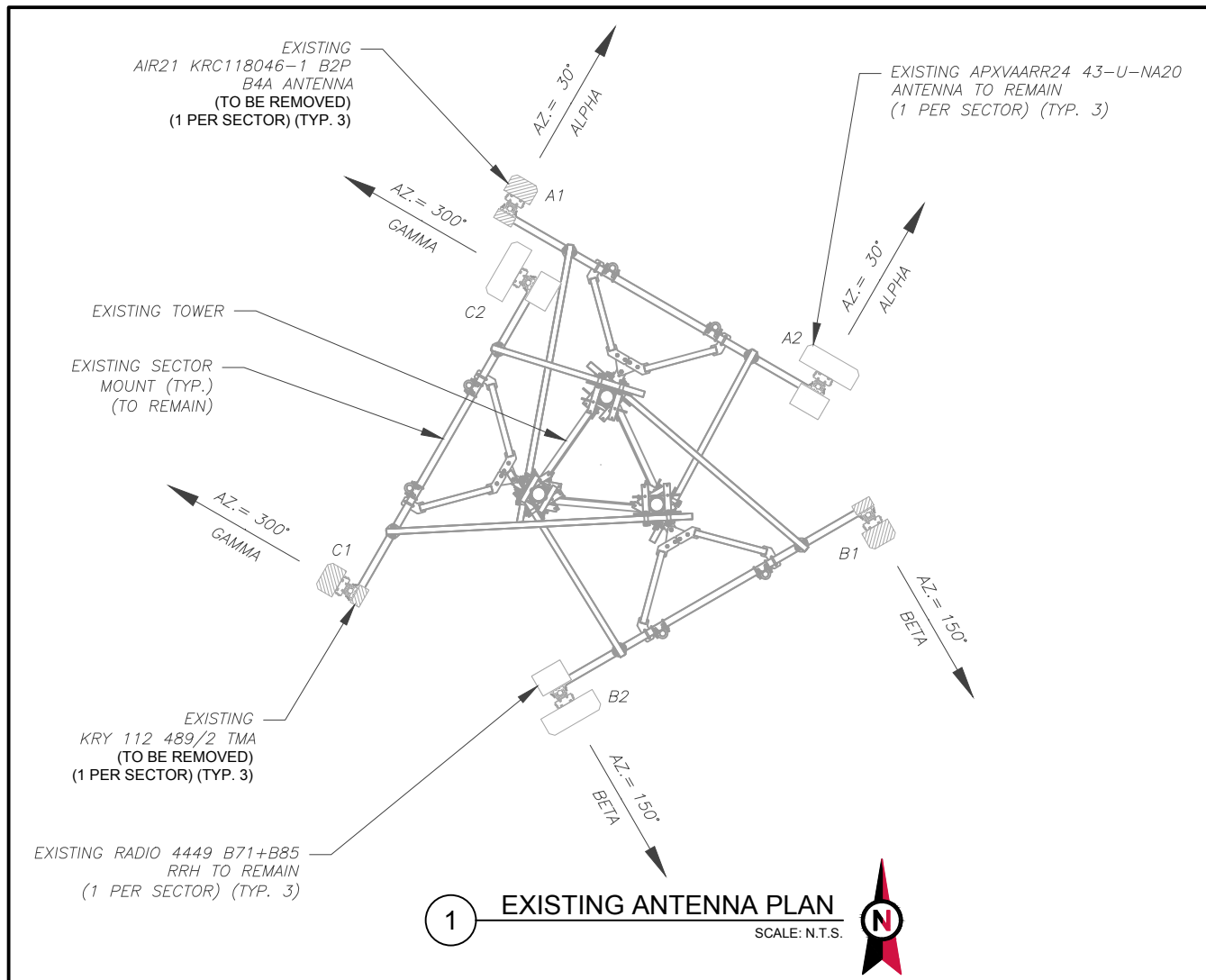
5/8/21  
Exp. 12/31/21



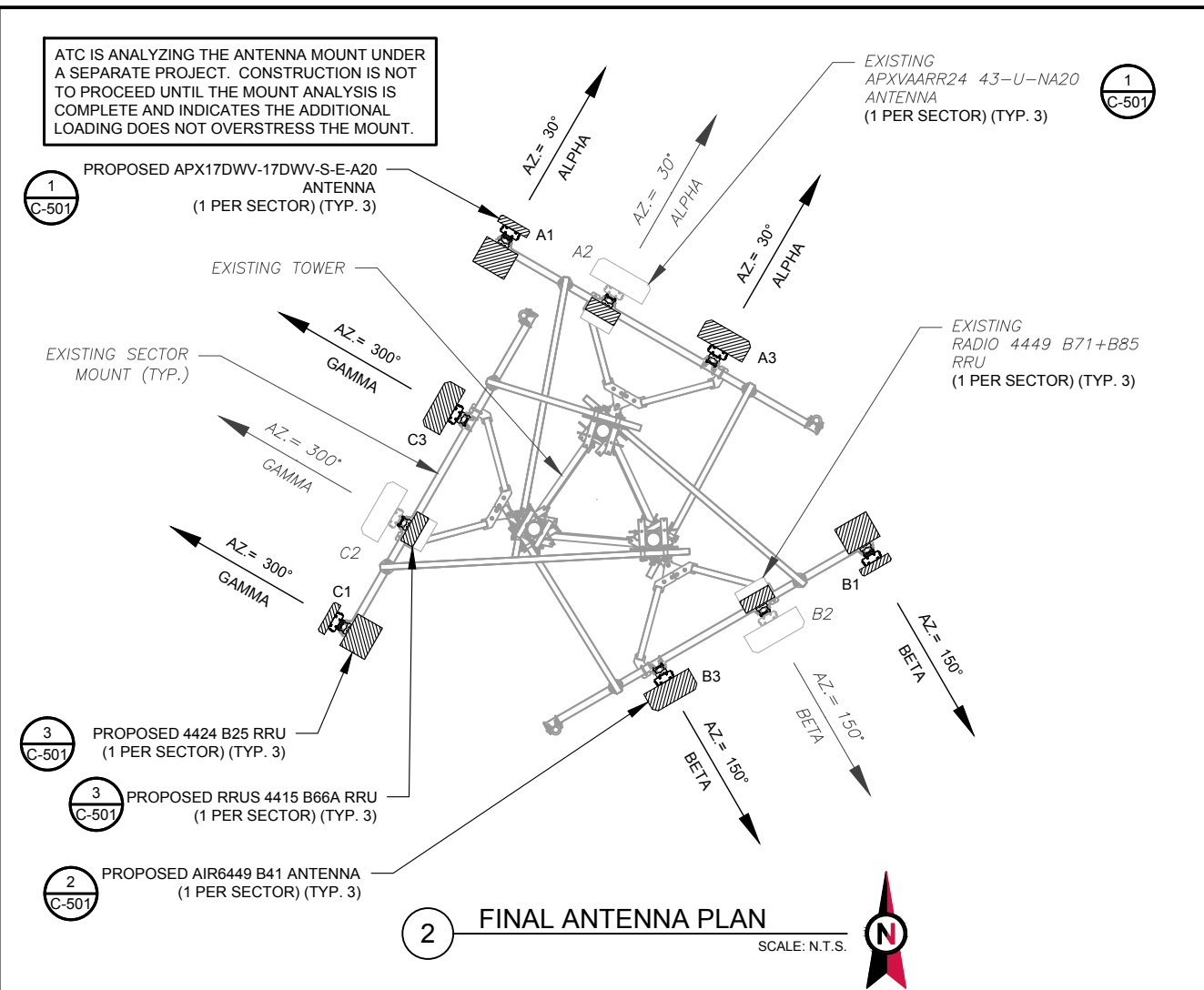
DATE DRAWN:	05/07/21
ATC JOB NO:	XXXX
CUSTOMER ID:	ATC CO MCNEIL CEMETARY
CUSTOMER #:	5RA0215A

**ANTENNA INFORMATION & SCHEDULE**

SHEET NUMBER:	REVISION:
<b>C-401</b>	<b>0</b>



**1 EXISTING ANTENNA PLAN**  
SCALE: N.T.S.



**2 FINAL ANTENNA PLAN**  
SCALE: N.T.S.

EXISTING ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	165'	30°	A1	AIR21 KRC118046-1 B2P-B4	L2100/L1900/G1900	0°	RMV	KRY 112 489/2	RMV
			A2	APXVAARR24 43-U-NA20	L600/N600/L700/L2100	0°	RMN	RADIO 4449 B71+B85	RMN
BETA	165'	150°	B1	AIR21 KRC118046-1 B2P-B4	L2100/L1900/G1900	0°	RMV	KRY 112 489/2	RMV
			B2	APXVAARR24 43-U-NA20	L600/N600/L700/L2100	0°	RMN	RADIO 4449 B71+B85	RMN
GAMMA	165'	300°	C1	AIR21 KRC118046-1 B2P-B4	L2100/L1900/G1900	0°	RMV	KRY 112 489/2	RMV
			C2	APXVAARR24 43-U-NA20	L600/N600/L700/L2100	0°	RMN	RADIO 4449 B71+B85	RMN

**NOTES**

- CONFIRM WITH T-MOBILE REP FOR APPLICABLE UPDATES/REVISIONS AND MOST RECENT RFDS FOR NSN CONFIGURATION (CONFIG). GC TO CAP ALL UNUSED PORTS.
- CONFIRM SPACING OF PROPOSED EQUIP DOES NOT CAUSE TOWER CONFLICTS NOR IMPEDE TOWER CLIMBING PEGS.

**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'

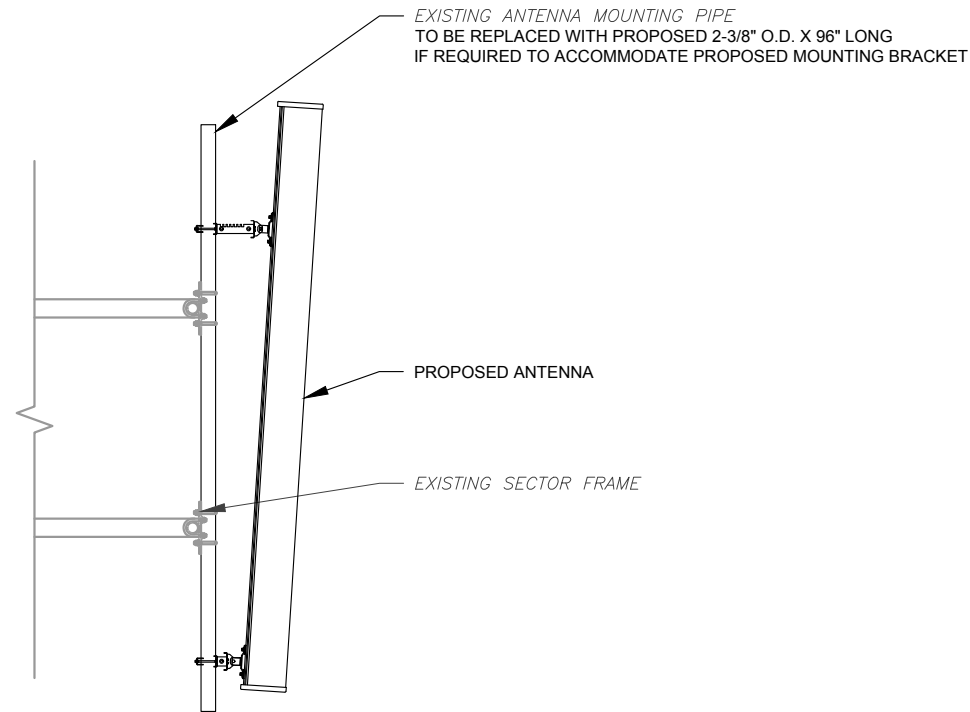
FINAL ANTENNA SCHEDULE									
LOCATION			ANTENNA SUMMARY				NON ANTENNA SUMMARY		
SECTOR	RAD	AZ	POS	ANTENNA	BAND	MECH/ELEC D-TILT	STATUS	ADDITIONAL TOWER MOUNTED EQUIPMENT	STATUS
ALPHA	165'	30°	A1	APX17DWV-17DWV-S-E-A20	L1900/G1900	0°	ADD	RADIO 4424 B25	ADD
			A2	APXVAARR24 43-U-NA20	L600/N600/L700/L2100	0°	RMN	RRUS 4415 B66 RADIO 4449 B71+B85	ADD RMN
			A3	AIR6449 B41	L2500/N2500	0°	ADD	-	-
BETA	165'	150°	B1	APX17DWV-17DWV-S-E-A20	L1900/G1900	0°	ADD	RADIO 4424 B25	ADD
			B2	APXVAARR24 43-U-NA20	L600/N600/L700/L2100	0°	RMN	RRUS 4415 B66 RADIO 4449 B71+B85	ADD RMN
			B3	AIR6449 B41	L2500/N2500	0°	ADD	-	-
GAMMA	165'	300°	C1	APX17DWV-17DWV-S-E-A20	L1900/G1900	0°	ADD	RADIO 4424 B25	ADD
			C2	APXVAARR24 43-U-NA20	L600/N600/L700/L2100	0°	RMN	RRUS 4415 B66 RADIO 4449 B71+B85	ADD RMN
			C3	AIR6449 B41	L2500/N2500	0°	ADD	-	-

EXISTING FIBER DISTRIBUTION/OVP BOX		EXISTING CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	(1) 1 5/8" (5) 1 5/8"	-	RMV RMN
-	-	-	(1) 1 3/8" (1) 1 5/8"	RMV RMV

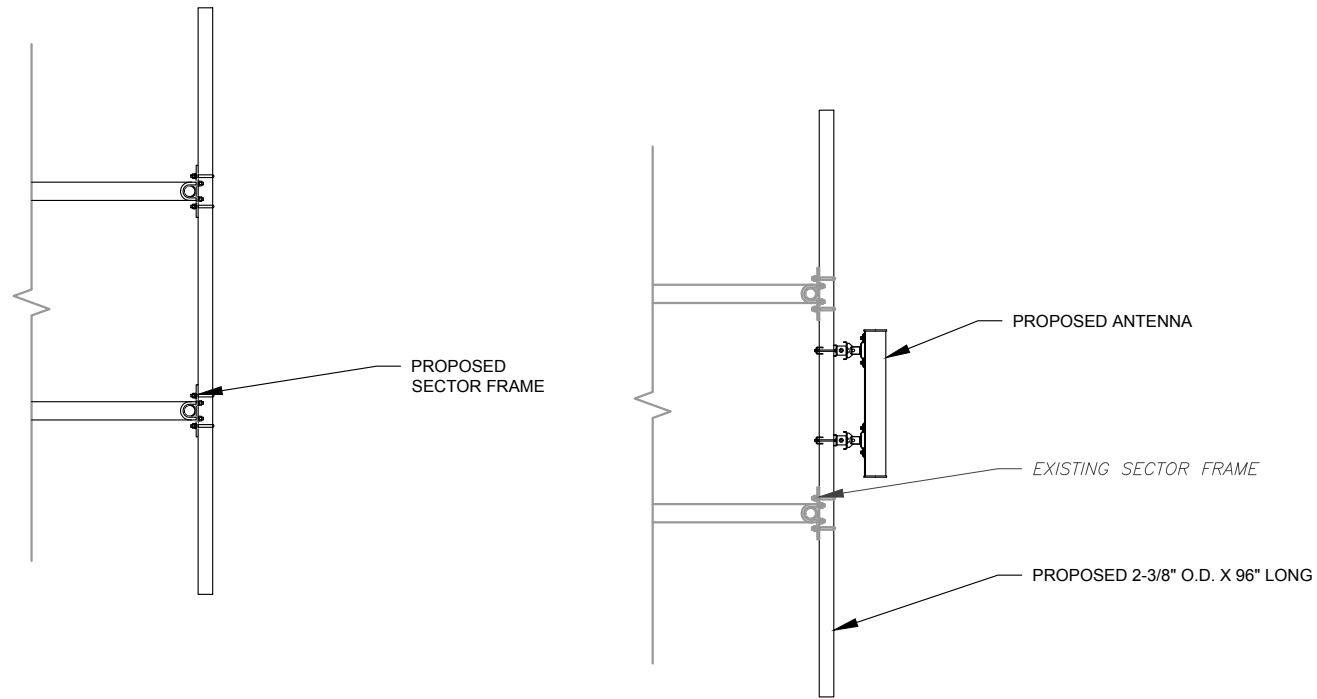
**3 EQUIPMENT SCHEDULES**

FINAL FIBER DISTRIBUTION / OVP BOX		FINAL CABLING SUMMARY		
MODEL NUMBER	STATUS	COAX	HYBRID	STATUS
-	-	(5) 1 5/8"	-	RMN
-	-	-	(3) 1 1/4"	ADD

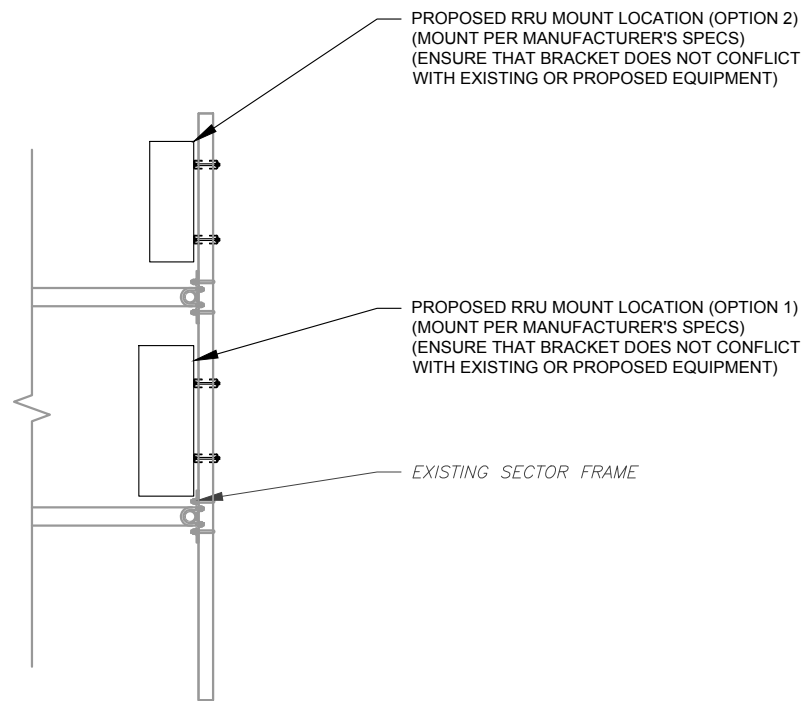
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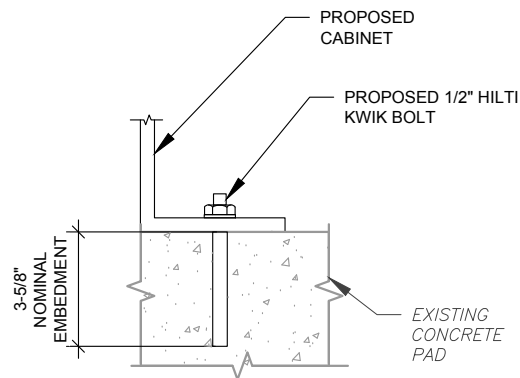
1 PROPOSED ANTENNA MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.



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

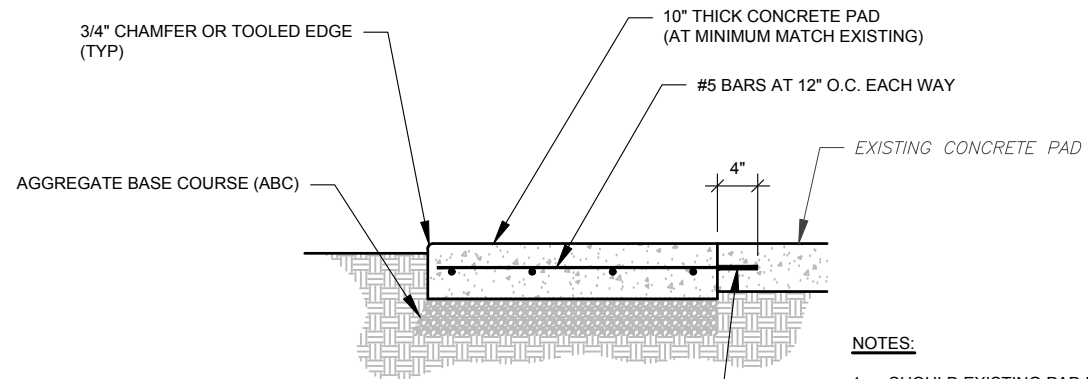


3 PROPOSED RRU MOUNTING DETAIL - TYPICAL  
SCALE: N.T.S.



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

4 CABINET ATTACHMENT DETAIL  
SCALE: NOT TO SCALE



ALL BARS PERPENDICULAR TO EXISTING PAD TO BE DOWELED INTO EXISTING CONCRETE WITH SIMPSON STRONG-TIE SET-XP EPOXY ADHESIVE (ICC ESR-2508). DOWELS TO BE CENTERED VERTICALLY IN EXISTING CONCRETE.

- NOTES:**
1. SHOULD EXISTING PAD EXCEED 12" IN THICKNESS, CONTACT EOR.
  2. VERIFY EXACT PLACEMENT OF EXISTING CONCRETE PAD. EXTEND PAD TO ACCOMMODATE PROPOSED CABINETS AS NEEDED.

5 CONCRETE PAD EXTENSION DETAIL  
SCALE: NOT TO SCALE



**Kimley»Horn**

COA: F-0102  
421 FAYETTEVILLE ST, SUITE 600  
RALEIGH, NC 27601

REV.	DESCRIPTION	BY	DATE
A	PRELIM	RG	04/26/21
0	ISSUED FOR CONSTRUCTION	RG	05/07/21

ATC SITE NUMBER:  
**21278**  
ATC SITE NAME:  
**MCNEIL CEMETARY NC**  
T-MOBILE SITE NAME:  
**ATC CO MCNEIL CEMETARY**  
SITE ADDRESS:  
14180 NC 210 SOUTH  
SPRING LAKE, NC, 28390

SEAL:

DocuSigned By:  
Michael Oglesby  
6695B72955A048

5/8/21  
Exp. 12/31/21



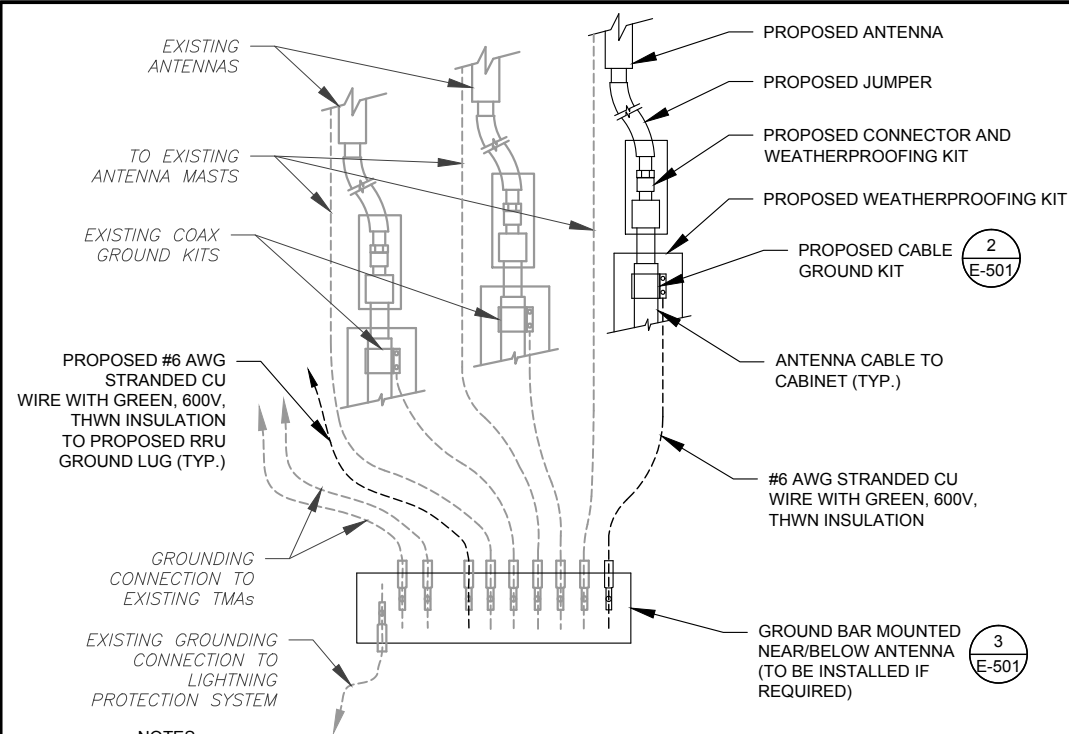
DATE DRAWN:	05/07/21
ATC JOB NO:	XXXX
CUSTOMER ID:	ATC CO MCNEIL CEMETARY
CUSTOMER #:	5RA0215A

**CONSTRUCTION  
DETAILS**

SHEET NUMBER:  
**C-501**

REVISION:  
**0**

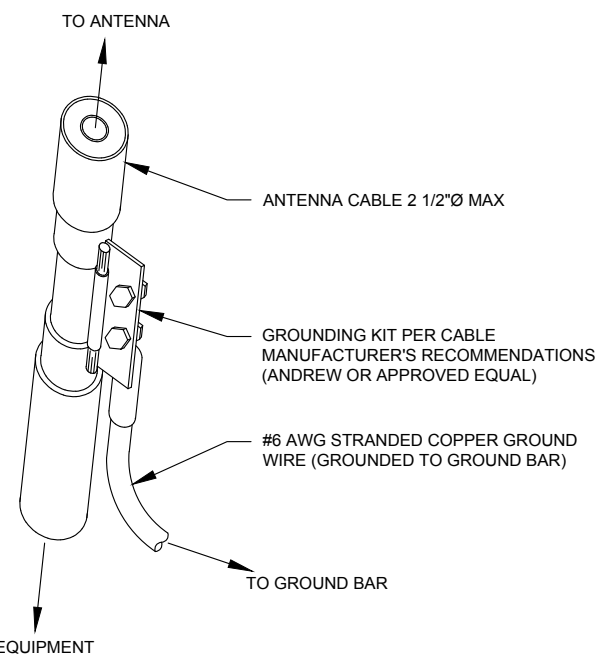




**NOTES:**

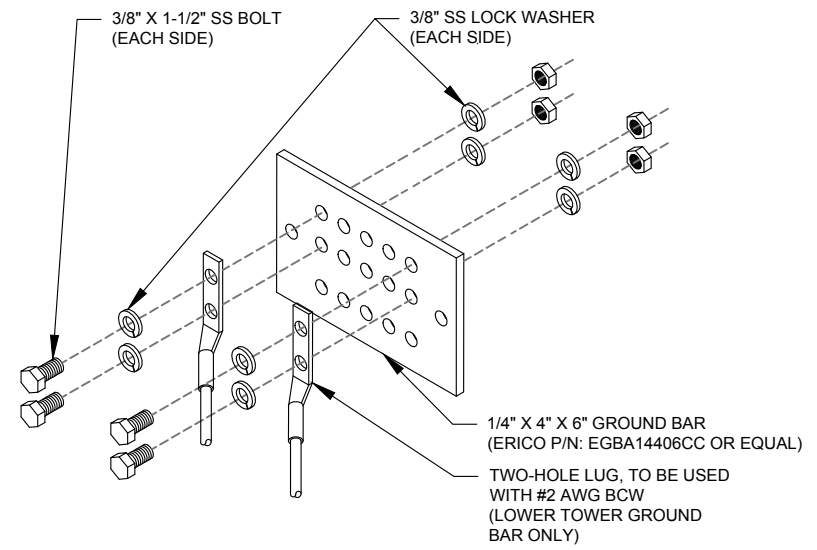
1. THIS DETAIL IS INTENDED TO SHOW THE GENERAL GROUNDING REQUIREMENTS. SLIGHT ADJUSTMENTS MAY BE REQUIRED BASED ON EXISTING SITE CONDITIONS. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED AND INFORM THE CONSTRUCTION MANAGER OF ANY CONFLICTS.
2. SITE GROUNDING SHALL COMPLY WITH T-MOBILE GROUNDING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

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



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

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



**GROUND BAR NOTES:**

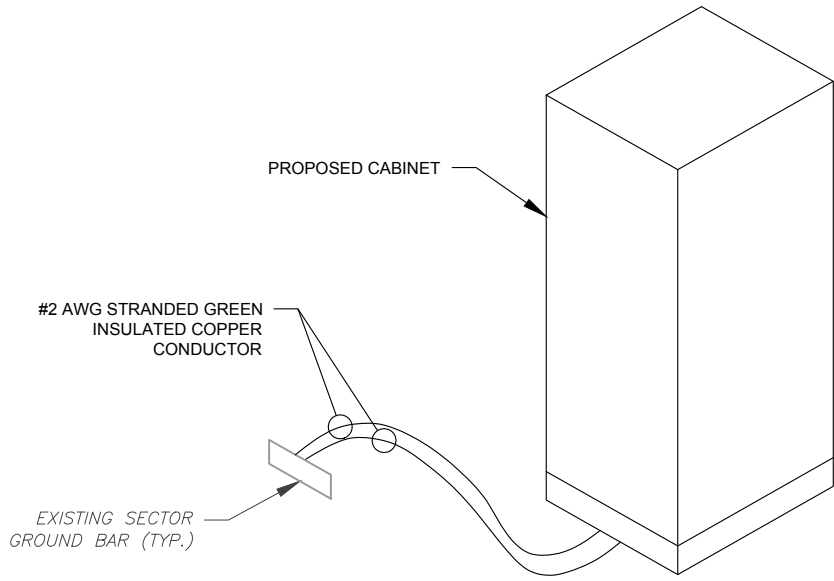
1. GROUND BAR KITS COME WITH ALL HARDWARE, NUTS, BOLTS, WASHERS, ETC. EXCEPT THE STRUCTURAL MOUNTING MEMBER(S).
2. GROUND BAR TO BE BONDED DIRECTLY TO TOWER.

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

**ELECTRICAL NOTES:**

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

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



**4 CABINET GROUNDING DETAIL**  
SCALE: N.T.S.



**Kimley»Horn**

COA: F-0102  
421 FAYETTEVILLE ST, SUITE 600  
RALEIGH, NC 27601

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**MCNEIL CEMETARY NC**  
T-MOBILE SITE NAME:  
**ATC CO MCNEIL CEMETARY**  
SITE ADDRESS:  
14180 NC 210 SOUTH  
SPRING LAKE, NC, 28390

SEAL:

DocuSigned by:  
Michael L. Oglesby  
66958 2286A044

5/8/21  
Exp. 12/31/21

**T-Mobile**

DATE DRAWN:	05/07/21
ATC JOB NO:	XXXX
CUSTOMER ID:	ATC CO MCNEIL CEMETARY
CUSTOMER #:	5RA0215A

**GROUNDING DETAILS**

SHEET NUMBER: <b>E-501</b>	REVISION: <b>0</b>
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3/25/2021

5RA0215A\_Anchor\_9\_2021-03-25

5RA0215A\_Anchor\_9

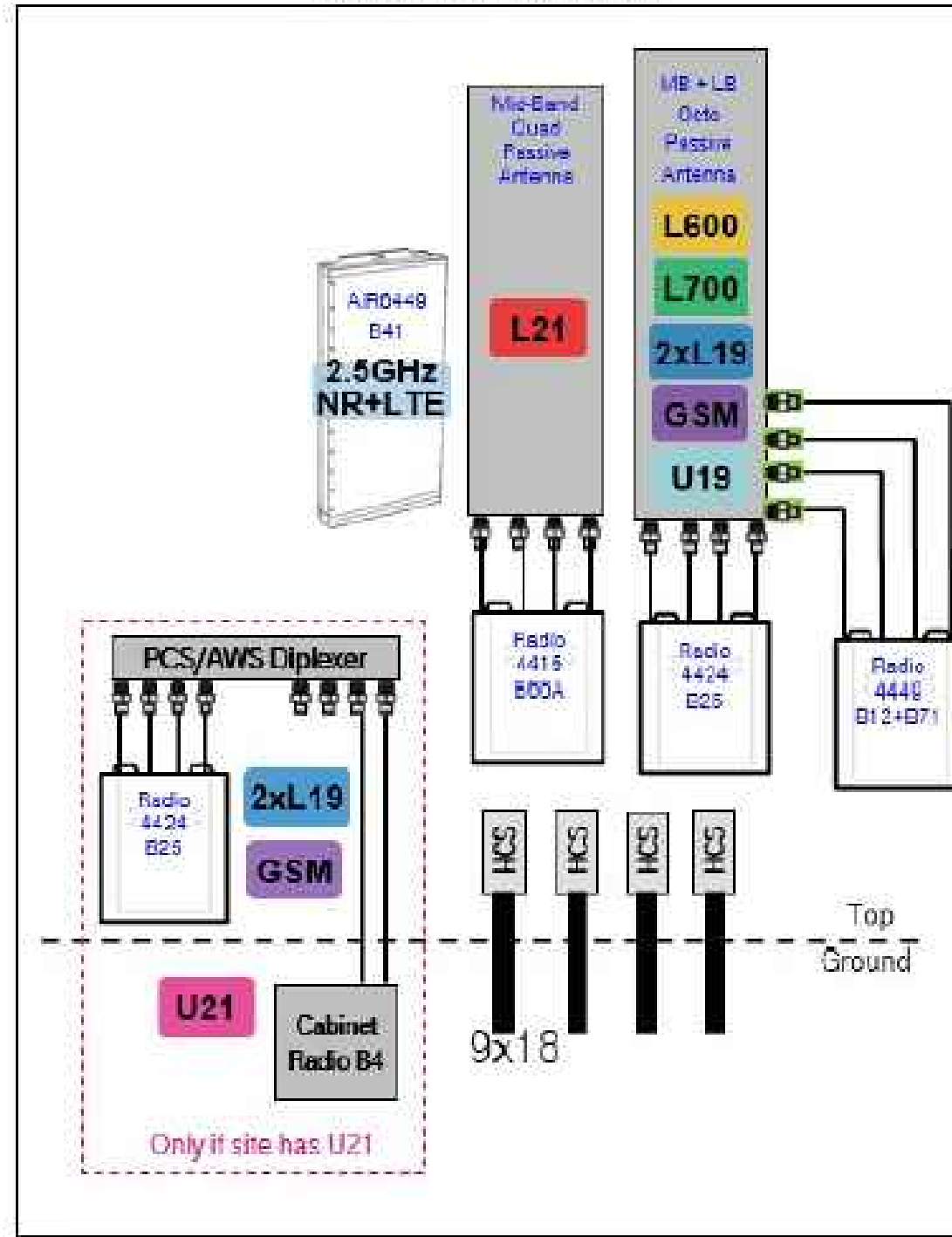
RAN Template: 67D5A998C ODE+6160	A&L Template: 67D5998C_1xAIR+1QP+1OP
-------------------------------------	---

Print Name: Standard  
PORs: Anchor Phase 3  
Radio Upgrade\_CMR4 AIR32

Proposed RAN Equipment			
Template: 67D5A998C ODE+6160			
Enclosure	1	2	3
Enclosure Type	RBG 6201 ODE	Enclosure 6160	6160
Baseband	DUG20 (Q1900) BB 6630 (L1900, L2100, L800, N600)	BB 6648 (L2500, N2500)	
Hybrid Cable System	Ericsson 6x12 HCS 4AWG 70m (x 2) Ericsson 6x12 HCS 4AWG 60m	PGU 4813	
Radio	RUG01 B2 (x 6)		
Transport System	CSR IXR-e V2 (Gen2)		
RAN Scope of Work:			
Install (1) BB6648, (1) 6x12 4AWG 70m, (1) PGU4813, (1) IXR-e router, (1) E6160 & (1) B160.			

1 CABINET CONFIGURATION  
SCALE: NOT TO SCALE

67D5998C\_1xAIR+1QP+1OP.PNG



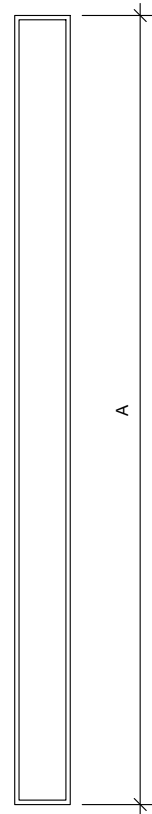
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2 ANTENNA CONFIGURATION  
SCALE: NOT TO SCALE

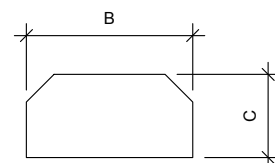
NOTE: THIS SHEET CREATED BY OTHERS AND PROVIDED BY REQUEST OF CUSTOMER WITHOUT EDIT.

SUPPLEMENTAL

SHEET NUMBER: <b>R-601</b>	REVISION: <b>0</b>
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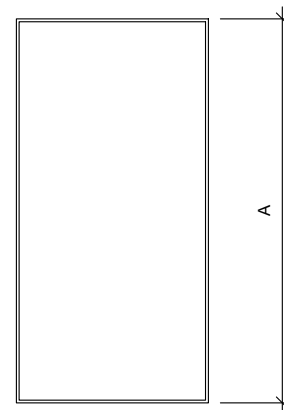
FRONT VIEW



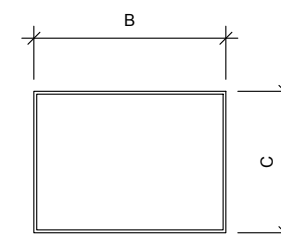
TOP VIEW

**1 ANTENNA SPECIFICATIONS**  
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

ANTENNA SPECIFICATIONS				
ANTENNA MODEL	A	B	C	WEIGHT (LBS)
APX17DWV-17DWVS-E-A20	75.8"	13.3"	3.1"	39.6
AIR6449 B41	33.1"	20.6"	8.6"	104.0



FRONT VIEW



TOP VIEW

**2 RRU SPECIFICATIONS**  
FOR ILLUSTRATIVE PURPOSES ONLY - NOT TO SCALE

RRU SPECIFICATIONS				
RRU MODEL	A	B	C	WEIGHT (LBS)
4424 B25	17.1"	14.4"	11.3"	86
RRUS 4415 B66	15.0"	13.2"	5.4"	46

SUPPLEMENTAL

SHEET NUMBER:  
**R-602**

REVISION:  
**0**





# Enclosure 6160 AC

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

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

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

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

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

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



## Preliminary technical specification for Enclosure 6160 AC

### CAPACITY

Rack space user equipment	19U (19" rack)
Hardware capabilities	Power and CPRI support for multi-standard remote radios (RRU or AIR) ERS Baseband and Transport units Li-Ion batteries 3PP equipment Additional power feed available as option

### MECHANICAL SPECIFICATION

Weight	145 kg (excluding active equipment) 320 lbs (excluding active equipment)
Dimension (H x W x D)	1600 x 650 x 650 mm (incl. Base frame) 63 x 26 x 26 in. (incl. Base frame)
Base frame height	150 mm 6 in.
Mounting position	Ground
Enclosure material	Aluminum
Color	Power paint NCS 2002-B
Door	Front access
Rack type	19" (IEC 60297-3-100)
Locking type	Pad lock or Cylinder

### POWER SYSTEM

Input voltage	3P+N+PE: 346/200-415/240 VAC 2P+N+PE: 208/120-220/127 VAC 1P+N+PE: 200-250 VAC
Input power	<33kW
Output load (-48VDC)	24kW
Total capacity (-48VDC)	31.5kW
AC SPD	Class 2/Type 2
DC SPD	Class 2/Type 2
PSU Slots	9x
Service outlet	Optional
Priority load	8x Circuit Breaker
LLVD 1	6x Circuit Breaker
LLVD 2	6x Circuit Breaker
CB ratings	3A / 5A / 10A / 15A / 20A / 25A / 30A / 40A / 50A / 60A / 80A / 100A
Battery Interface	2x Circuit Breaker
Battery Circuit Breaker rating	125A 2pol (200A)
PSU capacity	3500W

SUPPLEMENTAL

SHEET NUMBER:

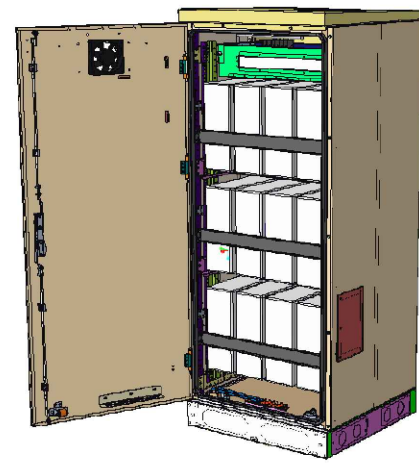
R-603

REVISION:

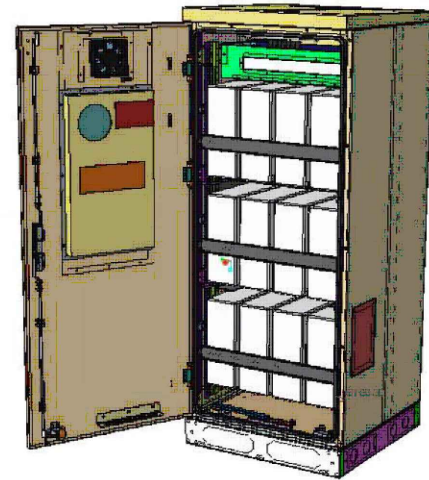
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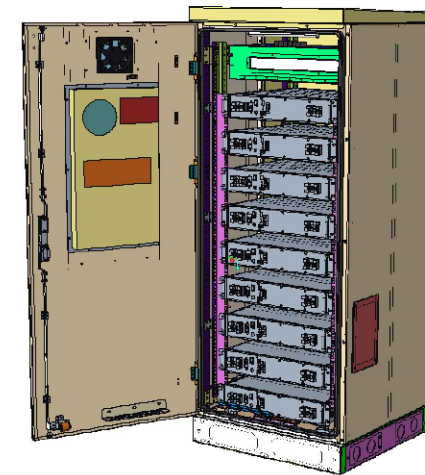
# Enclosure B160



Enclosure B160  
AirCon + VRLA



Enclosure B160  
AirCon + Li-Ion



Enclosure B160  
Convection Cooling  
+ VRLA

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

# Enclosure B160

## Capacity

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

## Electrical specification

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

## Mechanical specification

- Weight: 134kg
- Dimensions: 63 x 26 x 26 in. (incl. Base frame)
- Base frame height: 6 in.
- Material: Galvanized steel (180g/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

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SUPPLEMENTAL

SHEET NUMBER:

R-604

REVISION:

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