

TO: MAYOR AND CITY COUNCIL

FROM: Neil Jensen, City Administrator

SUBJECT: Verizon Fourth Amendment to Communications Site Lease Agreement

MEETING DATE: June 20, 2023

BACKGROUND

Verizon is in the process of reinstalling the antennas back on the water tower and is requesting approval of the tower plans and the site agreement. The term of the agreement is for one renewal term of 3 years and 3 additional 3-year terms. The lease can be terminated upon 60-day notice before the end of the current term. The annual rent increase is 3% on the anniversary of the agreement. Last year's payment was \$20,355.25.

The antennas going back on the water tower have been reviewed by WHKS and Goodhue County Emergency Services for interference with other 911 antennas.

This Lease Agreement has been reviewed and approved by the Finance Committee at their June 12th meeting.

STAFF RECOMMENDATION

Please approve the Verizon Fourth Amendment to Communications Site Lease Agreement.

REQUESTED COUNCIL ACTION

Please make a motion to approve the Verizon Fourth Amendment to Communications Site Lease Agreement.

FOURTH AMENDMENT TO COMMUNICATIONS SITE LEASE AGREEMENT

This FOURTH AMENDMENT TO COMMUNICATIONS SITE LEASE AGREEMENT (the “Amendment”) is made this _____ day of _____, 20____ (the “Effective Date”) by and between the City of Cannon Falls, a Minnesota municipal corporation (“Owner”), with its principal offices located at 918 River Road, Cannon Falls, Minnesota 55009 and Cellco Partnership d/b/a Verizon Wireless (“Lessee”), as successor-in-interest to Verizon Wireless (VAW) LLC d/b/a Verizon Wireless and Midwest Wireless Communications L.L.C., with its principal offices located at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920. Owner and Lessee are at times collectively referred to hereinafter as the “Parties” or individually as the “Party.”

RECITALS

A. The Parties, or their predecessors-in-interest, are parties to a Communications Site Lease Agreement dated August 1, 2004, as amended by that certain 1st Amendment to Communications Site Lease Agreement dated August 15, 2004 (“First Amendment”) as amended by that certain Amendment No. 2 to Communications Site Lease Agreement dated April 5, 2012, as further amended by a Third Amendment to Communications Site Lease Agreement (“Third Amendment”) dated April 17, 2013 (collectively, the “Agreement”) whereby Lessee leases from Owner certain Leased Premises in Goodhue County, Minnesota, including space on a water tower structure (“Tower”), as further described in the Agreement; and

B. All references to “Lessee” herein shall have same meaning as “Midwest” under terms of the Agreement; and

C. Pursuant to prior written agreement between the Parties, Lessee removed its equipment from Tower on a temporary basis due to Owner’s need to refurbish and maintain said Tower structure; and

D. Lessee and Owner intend to document and memorialize Lessee’s installation of equipment on back on the refurbished Tower in order to permit Lessee to operate its equipment within Leased Premises pursuant to terms of the Agreement;

E. The Agreement is expected to expire on July 31, 2024; and

F. The Parties desire to amend the Agreement to: (i) allow for installation of Lessee’s equipment as described and depicted in Exhibit B-2 attached hereto; (ii) extend the term thereof; and (iii) modify other provisions thereof, as provided herein.

AGREEMENT

NOW THEREFORE, in consideration of the facts contained in the Recitals above, the mutual covenants and conditions below, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

1. Equipment Installation on Lessee’s Leased Premises, Including Tower. Section 1 of the Agreement, Exhibit B and Exhibit B-1 attached to the Third Amendment are hereby modified and replaced with Exhibit B-2, attached hereto and incorporated by reference herein. All references to Exhibit B and Exhibit B-1 are hereafter references to Exhibit B-2. Upon receipt of all necessary governmental approvals, Lessee may install the antennas, communications equipment and ancillary items in the approximate locations and manner as described in Exhibit B-2 and no further approval from Owner shall be necessary.

2. TERM EXTENSION; ANNUAL RENT INCREASES. Commencing on August 1, 2024 (the "Additional Renewal Term Commencement Date"), the term of the Agreement shall extend for one (1) additional three (3) year term ("Additional Renewal Term"). Thereafter, upon expiration of the Additional Renewal Term, the Agreement shall automatically extend for three (3) additional renewal terms of three (3) years each (each an "Additional Extension Term"), unless Lessee gives Owner a notice of nonrenewal at least sixty (60) days before the end of the current term. It is understood that, per the terms of the Agreement, the annual rent shall increase by three percent (3%) on each annual anniversary of the Additional Renewal Term Commencement Date throughout the Additional Renewal Term and each Additional Extension Term, if any.

3. NOTICE. Lessee's notice address for purposes of Paragraph 19 of the Agreement as amended via the First Amendment shall be modified as follows:

LESSEE: Cellco Partnership
 d/b/a Verizon Wireless
 180 Washington Valley Road
 Bedminster, New Jersey 07921
 Attention: Network Real Estate

4. RATIFICATION OF THE AGREEMENT. Except as specifically modified by this Amendment, the Parties agree that all of the terms and conditions of the Agreement are in full force and effect and remain unmodified, and the Parties hereby ratify and reaffirm the terms and conditions of the Agreement and agree to perform and comply with the same. In the event of a conflict between any term or provision of the Agreement and this Amendment, the terms and provisions of this Amendment shall control. In addition, except as otherwise stated in this Amendment, all initially capitalized terms will have the same respective defined meaning stated in the Agreement. All captions are for reference purposes only and shall not be used in the construction or interpretation of this Amendment.

(Signatures appear on the following page)

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IN WITNESS WHEREOF, the Parties hereto have executed in duplicate this Amendment on the day and year first above written.

OWNER:

City of Cannon Falls

By: _____

Name: _____

Its: _____

Date: _____

LESSEE:

Cellco Partnership d/b/a Verizon Wireless

By: _____

Name: _____

Its: _____

Date: _____

Exhibit B-2

Lessee's Leased Premises and equipment installation

(see attached plans – to be added upon approval of parties)

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SECTION 1: GENERAL REQUIREMENTS

1.1 PURPOSE AND INTENT

- A. THE DRAWINGS ARE SUPPLEMENTAL TO ANY WRITTEN SPECIFICATIONS OR REQUIREMENTS. SHOULD ANYTHING BE SHOWN, INDICATED, OR SPECIFIED IN ONE AND NOT THE OTHER, OR IF ANY DISCREPANCIES OR DISAGREEMENTS ARE IDENTIFIED, THIS SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER AND/OR ENGINEER.

- B. THE CONTRACTOR SHALL INCLUDE ALL LABOR AND MATERIALS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.

1.2 CONFLICTS

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL MEASUREMENTS AT THE SITE BEFORE ORDERING MATERIALS OR DOING ANY WORK. NO EXTRA COMPENSATION WILL BE ALLOWED DUE TO DIFFERENCES BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS SHOWN ON THE PLANS. CONTRACTOR MUST SUBMIT NOTICE OF ANY DISCREPANCY IN DIMENSIONS TO OWNER FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK IN THE AFFECTED AREAS.

- B. THE CONTRACTOR IS REQUIRED TO VISIT THE SITE TO ASSESS CONDITIONS PRIOR TO BIDDING. IN ADDITION, CONTRACTOR SHALL PERFORM TESTING AND ADDITIONAL INVESTIGATION AS DEEMED NECESSARY TO SUBMIT A FIXED BID. IGNORANCE OF THE SITE OR PROJECT CONDITIONS WILL NOT BE GROUNDS FOR CHANGE ORDERS OR ALTERING THE SCHEDULE.

1.3 CLEANUP

- A. THE CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATION OF WASTE CAUSED BY EMPLOYEES. AT THE COMPLETION OF THE WORK, REMOVE ALL WASTE AND NON-CONSTRUCTION MATERIAL, INCLUDING ALL CONTRACTOR TOOLS. LEAVE THE SITE CLEAN AND READY FOR USE.

- B. IF CLEARING IS REQUIRED, ALL BRUSH, STUMPS, AND OTHER WASTE MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY. THE OWNER SHALL BE CONSULTED FOR SPECIFICATIONS ON TREE PLACEMENT AND DISPOSAL. IF REQUIREMENTS ARE NOT SPECIFIED, A CONSERVATIVE ASSUMPTION SHALL BE UTILIZED FOR BIDDING PURPOSES.

- C. THE SITE SHALL BE LEFT IN A CONDITION EQUIVALENT TO THE PRE-CONSTRUCTION CONDITION AND SATISFACTORY TO THE OWNER.

1.4 CODES

- A. CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL FEDERAL, STATE, AND LOCAL LAWS, REGULATIONS, AND RULES. THIS RESPONSIBILITY IS IN EFFECT REGARDLESS OF WHETHER THE LAW, ORDINANCE, REGULATION OR RULE IS MENTIONED IN THE DRAWINGS OR WRITTEN SPECIFICATIONS.

- B. IN ADDITION TO ALL CODES, CONTRACTOR SHALL FOLLOW ALL MANUFACTURER RECOMMENDATIONS AND APPLICABLE STANDARDS (ACI, IBC, NEC, ETC.).

1.5 QUALITY ASSURANCE

- A. THE CONTRACTOR SHALL PROVIDE A PROJECT SCHEDULE PRIOR TO COMMENCING ANY WORK. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY CHANGES TO THE SCHEDULE AS SOON AS THEY ARE KNOWN. THE CONTRACTOR SHALL PROVIDE 48-HOUR ADVANCE NOTICE OF SPECIFIC INSPECTION MILESTONES (SUCH AS FOUNDATION POURING). ADVANCE NOTICE WILL ALLOW FOR COORDINATION WITH INSPECTION COMPANIES.

PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL REQUEST A LIST OF INSPECTIONS FROM THE OWNER OR ENGINEER. AT A MINIMUM THIS WILL TYPICALLY INCLUDE THE FOUNDATION, GROUNDING, SUBSTANTIAL COMPLETION, AND FINAL.

- B. THE CONTRACTOR SHALL TAKE PHOTOGRAPHS OF ALL COMPLETED WORK AND PROVIDE THESE TO THE OWNER ON A WEEKLY BASIS. PHOTOGRAPHS SHALL INCLUDE DOCUMENTATION OF ALL SUBGRADE WORK THAT CANNOT BE VISIBLY INSPECTED UPON COMPLETION (GROUNDING, FOUNDATION, UTILITIES, ETC.).

- C. THE CONTRACTOR IS THE GUARANTOR OF ALL WORK. FAILURE TO IDENTIFY A DISCREPANCY/DEFECT OR IMMEDIATELY NOTIFY THE CONTRACTOR OF SAID DEFECT DOES NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITIES IN THIS REGARD.

- D. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT INSPECTIONS OCCUR PRIOR TO COMPLETION OF WORK. IF AN ITEM IS COMPLETED WITHOUT THE REQUESTED INSPECTION, THE OWNER WILL HAVE THE RIGHT TO ASSUME THAT THE WORK WAS NOT COMPLETED PROPERLY AND MUST BE REPLACED.

1.6 BUILDING PERMITS

THE CONTRACTOR IS RESPONSIBLE TO OBTAIN THE BUILDING PERMIT. CONTRACTOR SHALL COORDINATE AND SCHEDULE REQUIRED INSPECTIONS AT THE JOB SITE, COMPLY WITH SPECIFIC PROJECT RELATED REQUESTS AND SUGGESTIONS MADE BY BUILDING INSPECTOR, AND INFORM THE OWNER OF ANY REQUIREMENTS THAT MAY DEViate FROM THE CONSTRUCTION DOCUMENTS.

1.7 FAA PERMIT AND TOWER LIGHTING

REFER TO CONSTRUCTION DOCUMENTS AND CONSTRUCTION MANAGER FOR FAA AND STATE LIGHTING REQUIREMENTS. CONTRACTOR SHALL PROVIDE TEMPORARY FAA APPROVED LIGHTING UNTIL PERMANENT LIGHTING IS OPERATIONAL. THE CONTRACTOR SHALL ENSURE THAT ANY FAA ELEVATION LIMITATIONS ARE NOT EXCEEDED.

1.8 TOWER SECURITY

THE CONTRACTOR IS RESPONSIBLE FOR SITE SECURITY THROUGHOUT THE CONSTRUCTION PHASE. THE SITE MUST BE SECURELY FENCED (PERMANENTLY OR TEMPORARILY) WITHIN 24 HOURS OF TOWER ERECTION.

1.9 SITE CONTROL

- A. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR CONTAINMENT OF SEDIMENT AND CONTROL OF EROSION AT THE SITE. ANY DAMAGE TO ADJACENT OR DOWNSTREAM PROPERTIES WILL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO OWNER.

- B. IF WETLANDS ARE PRESENT IN THE PROJECT VICINITY THE CONTRACTOR IS RESPONSIBLE TO TAKE ALL NECESSARY PRECAUTIONS TO ENSURE THAT THEY ARE NOT DISTURBED IN ANY MANNER. IF DISTURBANCE OCCURS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS AND CONSEQUENCES, INCLUDING FINES (EVEN IF ASSESSED TO THE OWNER).

- C. THE CONTRACTOR IS TO MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES. DO NOT ALLOW WATER TO STAND OR POND. ANY DAMAGE TO STRUCTURES OR THE SITE CAUSED BY INADEQUATE MAINTENANCE OF DRAINAGE PROVISIONS WILL BE THE RESPINSIBILITY OF CONTRACTOR.

- D. THE CONTRACTOR SHALL CONTAIN ALL CONSTRUCTION ACTIVITIES, MATERIALS, EQUIPMENT, ETC. TO THE LEASED AREA AND LEGAL EASEMENTS UNLESS PERMISSION TO DO OTHERWISE IS GRANTED BY THE PROPERTY OWNER.

1.10 CHANGE ORDER PROCEDURE

THE CONTRACTOR MUST PROVIDE NOTICE IN WRITING ON PROPER FORMS OF ANY POTENTIAL CLAIM FOR CONCEALED OR UNKNOWN CONDITIONS, OR ANY OTHER ITEM (EVEN IF A REQUEST BY OWNER) THAT MAY RESULT IN A TIME DELAY OR COST CHANGE WITHIN 1 DAY OF FIRST KNOWLEDGE. ANY CLAIM (CHANGE ORDER) MUST BE APPROVED BY THE OWNER PRIOR TO PROCEEDING OR INCURRING ANY COSTS. ANY CHANGES IN SCOPE OF WORK OR MATERIALS WHICH ARE PERFORMED BY THE CONTRACTOR WITHOUT WRITTEN APPROVAL BY THE OWNER SHALL PLACE FULL RESPONSIBILITY OF THESE ACTIONS ON THE CONTRACTOR AND ANY ASSOCIATED COST INCURRED WILL NOT BE PAID.

SECTION 2: EARTHWORK

2.1 SCOPE OF WORK

REFER TO THE SURVEY AND SITE PLAN FOR EXISTING GRADES AND FINAL ELEVATIONS.

2.2 SITE PREPARATION

- A. CLEAR TREES, BRUSH AND DEBRIS FROM COMPOUND, ACCESS DRIVE, AND UTILITY PATH AS REQUIRED. SEE SITE PLAN FOR APPROPRIATE AREA TO BE CLEARED. REMOVE STUMPS, ORGANIC SOIL, AND OTHER DETRIMENTAL MATERIAL COMPLETELY UNDER ENTIRE COMPOUND AND DRIVE. ALL WASTE MATERIALS INCLUDING, BUT NOT LIMITED TO, STUMPS AND DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF PROPERLY.

- B. STRIP ALL ORGANIC MATERIAL FROM COMPOUND AND ACCESS DRIVE. IF SITE CONTAINS WET SOIL, CONTRACTOR SHALL OVER EXCAVATE A MINIMUM OF 18 INCHES OF MATERIAL FROM THE ENTIRE COMPOUND AND ACCESS DRIVE.

- C. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, CONTRACTOR SHALL REMOVE ALL TOPSOIL, ORGANIC MATERIALS AND WET OR POOR SOILS. IF MORE THAN 2'-0" OF POOR SOILS ARE ENCOUNTERED, CONTRACTOR SHOULD IMMEDIATELY CONTACT CONSTRUCTION MANAGER AND/OR ENGINEER FOR GUIDANCE.

- D. CONTRACTOR SHALL FOLLOW RECOMMENDATIONS CONTAINED IN PLANS AND GEOTECHNICAL REPORT.

2.3 EXCAVATION

- A. CONTRACTOR SHALL EXCAVATE TO DEPTH, AND GRADES SHOWN ON THE PLANS.

MINIMUM COMPACTION SHALL BE 90% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557 FOR SITE WORK AND 95% MAXIMUM DRY DENSITY UNDER STRUCTURAL ELEMENTS. AREAS OF SETTLEMENT IDENTIFIED WITHIN ONE YEAR OF ACCEPTANCE OF FINAL CONSTRUCTION BY OWNER WILL BE EXCAVATED, FILLED, AND RECOMPACTED AT CONTRACTOR'S EXPENSE.

- B. CONTRACTOR SHALL REVIEW THE GRADING PLANS, GEOTECHNICAL REPORT, AND TOWER FOUNDATION PLANS THOROUGHLY PRIOR TO BIDDING. ANY DISCREPANCIES OR INCONSISTENCIES SHOULD BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.

- C. IT IS RECOMMENDED THAT THE OWNER HIRE AN INDEPENDENT GEOTECHNICAL ENGINEER TO REVIEW SOIL CONDITIONS AND AN ACI CERTIFIED INSPECTOR TO REVIEW ALL FOUNDATION ELEMENTS.

- D. REGARDLESS OF THE ABOVE RECOMMENDATION, THE CONTRACTOR IS RESPONSIBLE TO OBSERVE SITE AND SOIL CONDITIONS THROUGHOUT THE CONSTRUCTION PROCESS AND COMPARE THE ABOVE TO THE GEOTECHNICAL REPORT, THE PLANS, AND THE TOWER DRAWINGS. ANY INCONSISTENCIES, DISCREPANCIES, OR ASSUMPTIONS THAT PROVE TO BE INCORRECT, SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER.

2.4 SITE GRADING

ANY INCONSISTENCIES BETWEEN THE GEOTECHNICAL REPORT, SITE DRAWINGS, TOWER PLANS, AND SPECIFICATIONS SHALL BE RESOLVED IN FAVOR OF THE STRICTER REQUIREMENT.

- A. CONTRACTOR SHALL USE ON-SITE MATERIALS OR IMPORTED FILL TO MATCH THE LINES, GRADES, AND CROSS SECTIONS SHOWN ON THE DRAWINGS. HOWEVER, IN NO CASE SHALL ORGANIC MATERIALS, WET SOIL, FROZEN SOIL, OR POOR SOIL BE USED AS ON-SITE FILL. IN ADDITION, ALL FILL (ON-SITE OR IMPORTED) SHALL BE ADEQUATELY COMPACTED PER THE EARTHWORK SPECIFICATIONS.

- B. IF DISCREPANCIES ARE IDENTIFIED BETWEEN THE GRADING PLAN AND ACTUAL SITE CONDITIONS, THESE SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH WORK. ANY CHANGES TO THE GRADING PLAN CONTOURS MUST BE PREAPPROVED.

- C. THE CONTRACTOR SHALL LIMIT ALL SITE GRADING AND CONSTRUCTION ACTIVITIES TO THE LEASED AREA AND ASSOCIATED EASEMENT. IF THIS IS NOT POSSIBLE, CONTACT THE PROJECT MANAGER AND OBTAIN OWNER APPROVAL PRIOR TO WORKING OUTSIDE THE ABOVE LIMITS.

- D. REGARDLESS OF THE CONTOURS DEPICTED IN THE PLANS, ALL REQUIREMENTS IN THE TOWER FOUNDATION DRAWINGS (INCLUDING THE MINIMUM SOIL COVER) MUST BE ADHERED TO STRICTLY.

- E. ALL FINISHED SURFACES SHOULD BE GRADED TO DRAIN FROM FOUNDATION, PROVIDE PROPER DITCHING AND ROUTING OF SURFACE WATER, AND AVOID PONDING AND EROSION.

- F. ALL EXPOSED SOIL SHALL BE PROPERLY SEEDED AND PROTECTED FROM EROSION.

- G. THE FINISHED GRADE SHALL EXTEND A MINIMUM OF ONE FOOT BEYOND THE COMPOUND FENCE.

2.5 GRAVEL SURFACING

- A. CONSTRUCT GRAVEL DRIVE AND COMPOUND AREAS USING CRUSHED AGGREGATE BASE AND FINISH COURSES AS SPECIFIED IN THE CONSTRUCTION DOCUMENTS OR AS DIRECTED BY THE CONSTRUCTION MANAGER.

- B. PLACE FILL OR STONE IN MAXIMUM EIGHT INCH LIFTS AND COMPACT TO SPECIFIED DENSITY PRIOR TO PLACING NEXT LIFT.

2.6 RETAINING WALLS

- A. RETAINING WALLS TO BE INSTALLED BY AN EXPERIENCED CONTRACTOR FAMILIAR WITH AT LEAST TEN (10) PROJECTS OF SIMILAR SIZE AND SCOPE.

- B. CONTRACTOR SHALL FOLLOW ALL MANUFACTURER DESIGN CHARTS AND INSTALLATION GUIDELINES.

- C. ALL BACKFILLED MATERIAL SHALL BE QUALITY SOILS (SAND, GRAVEL, OR SILTY SAND) WITH A MINIMUM SOIL BEARING CAPACITY OF 2,500 P.S.F. LL BACKFILLED MATERIAL SHALL BE COMPACTED TO 95% STANDARD PROCTOR IN MAXIMUM 8" LIFTS.

- D. DRAINAGE TILE SHALL BE USED BEHIND THE RETAINING WALL. THE DRAINAGE TILE SHALL RUN TO DAYLIGHT AT A MAXIMUM INTERVAL OF 20'. WHEN SITE CONDITIONS REQUIRE, WRAP DRAINAGE TILE IN 3/4" CRUSHED AGGREGATE AND FILTER FABRIC WITH DRAINAGE COMPOSITE OR AGGREGATE BACK DRAIN.

- E. RETAINING WALL EMBEDMENT SHALL BE AT LEAST THE MINIMUM SPECIFIED IN THE DRAWINGS. IN ADDITION, MINIMUM EMBEDMENT MUST EXCEED ANY MANUFACTURER DESIGN GUIDELINES.

- F. ALL GEOGRID MATERIAL IS TO BE COATED POLYESTER WITH A MINIMUM ALLOWABLE DESIGN STRENGTH OF LTDS = 1350 PK.

CONSULTANT:



CLIENT:



GENERAL SPECIFICATIONS
MN11 CANNON FALLS
CANNON FALLS, MN

ENGINEER SEAL:

APPROVED-
SEE TITLE SHEET FOR
ENGINEER SEAL

SIGNATURE: _____

DATE: _____

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PROJECT NO: 20232421025

LOCATION CODE: 236827

RFDS DATE: 12/01/2022

STRUCTURAL ANALYSIS:

DATE: DESCRIPTION:

SUBMITTAL:

INT. DATE: DESCRIPTION:

DBS 06/02/2023 REV. A

PER 06/12/2023 REV. 0

CHECKED BY: OGD

PLOT DATE: 6/12/2023

PROJECT NUMBER: 35800

SET TYPE: FINAL

SHEET NUMBER: G-002

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SECTION 3: TRENCHING

3.1 MATERIALS

FILL MATERIALS SHALL BE OBTAINED, WHEN POSSIBLE, FROM MATERIALS EXCAVATED FROM TRENCHES ON-SITE. STRUCTURAL FILL, SAND OR SLURRY SHALL BE APPROVED BY THE CONSTRUCTION MANAGER AND SHALL CONFORM TO LOCAL UTILITY COMPANY REQUIREMENTS. THE FILL MATERIAL SHALL CONTAIN NO ORGANIC MATERIALS OR ROCKS. ALL FILL MATERIAL SHALL BE FREE OF OBJECTIONABLE MATERIALS AND/OR MATERIALS DESIGNATED AS HAZARDOUS OR POTENTIALLY HAZARDOUS. THE FILL MATERIAL SHALL CONTAIN FINES SUFFICIENT TO FILL ALL VOIDS IN THE MATERIAL. COMPACTION OF SOIL SHALL BE IN 8 INCH LOOSE LIFTS WHEN UTILIZING HEAVY COMPACTION EQUIPMENT OR 6 INCH LOOSE LIFTS WHEN UTILIZING HAND OPERATED TAMPERS.

3.2 PIPE DETECTION AND IDENTIFICATION

ALL ELECTRIC SERVICE TRENCHES SHALL BE MARKED WITH DETECTABLE WARNING TAPE.

3.3 TRENCH EXCAVATION

- A. DIG TRENCH TO DEPTHS AND GRADES SHOWN ON THE PLANS OR AS DIRECTED BY THE CONSTRUCTION MANAGER.
- B. TRENCH LENGTH SHALL BE SUFFICIENT TO ALLOW FOR SATISFACTORY CONSTRUCTION AND INSPECTION OF THE PROJECT, WITHOUT ENDANGERING OTHER CONSTRUCTION WORK OR ADJACENT FACILITIES.
- C. DISPOSE OF EXCESS AND UNSUITABLE EXCAVATION MATERIAL PROPERLY.
- D. USE HAND EXCAVATION METHODS WHEN REQUIRED BY LOCAL OR STATE GUIDELINES, OR WHEN NECESSARY TO AVOID ENDANGERING EXISTING OR NEW STRUCTURES OR OTHER FACILITIES.

3.4 TRENCH PROTECTION

- A. PROVIDE MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO PROTECT TRENCHES AT ALL TIMES.
- B. SHEETING AND BRACING SHOULD MEET OR EXCEED OSHA REQUIREMENTS.

3.5 BACKFILLING

- A. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER AT LEAST 24 HOURS IN ADVANCE OF BACKFILLING.
- B. PROTECT CONDUIT FROM LATERAL MOVEMENT, DAMAGE FROM IMPACT, OR UNBALANCED LOADING TO AVOID DISPLACEMENT OF CONDUIT AND/OR STRUCTURES. DO NOT FREE FALL BACKFILL INTO TRENCH UNTIL THERE IS AT LEAST 12 INCHES OF COVER OVER THE CONDUIT.
- C. ANY SUBSEQUENT SETTLEMENT OF TRENCH OR BACKFILL DURING MAINTENANCE PERIOD (1 YEAR MINIMUM) SHALL BE REMOVED, REPLACED, AND RECOMPACTED BY CONTRACTOR AT NO ADDITIONAL EXPENSE TO OWNER.

SECTION 4: CONCRETE WORK

4.1 CONCRETE FORMWORK

CONTRACTOR SHALL FOLLOW ALL APPLICABLE CODES AND STANDARDS (IBC, ACI, ETC.) WHEN COMPLETING CONCRETE WORK.

- A. FORMS SHALL BE SMOOTH AND FREE OF SURFACE IRREGULARITIES. CONTRACTOR SHALL UTILIZE FORM RELEASE AGENTS AS NECESSARY.
- B. EXPOSED EDGES OF ALL TOWER FOUNDATIONS SHALL RECEIVE A 3/4" CHAMFER. OTHER EXPOSED EDGES SHALL RECEIVE A TOOLED RADIUS FINISH.
- C. UPON COMPLETION, CONTRACTOR SHALL REMOVE ALL FORMS, INCLUDING THOSE CONCEALED OR BURIED.
- D. REFER TO PLANS AND TOWER DRAWINGS FOR ADDITIONAL REQUIREMENTS.

4.2 CONCRETE REINFORCEMENT

REFER TO PLANS AND TOWER DRAWINGS FOR REINFORCEMENT REQUIREMENTS.

4.3 CAST-IN-PLACE CONCRETE

REFER TO STRUCTURAL DRAWINGS FOR CONCRETE REQUIREMENTS FOR FOOTINGS, FOUNDATIONS, ETC. ANY NON-STRUCTURAL SITE CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

- A. ALL CONCRETE SUBJECT TO FREEZE-THAW SHALL CONTAIN 4-8% AIR ENTRAINMENT.
- B. ALL CONCRETE SHALL BE VIBRATED IN PLACE USING HIGH FREQUENCY, LOW AMPLITUDE MECHANICAL IMMERSION TYPE VIBRATORS. INSERT VIBRATORS IN CONCRETE AT REGULAR INTERVALS AND OVER ENTIRE SURFACE TO SOLIDLY FILL AROUND AND BETWEEN REINFORCEMENT AND INTO CORNERS AND IRREGULARITIES. DISCONTINUE VIBRATION WHEN RISING ENTRAPPED AIR BUBBLES STOP BREAKING THE LEVELING SURFACE. DO NOT OVERVIBRATE AS THIS MAY CAUSE SEGREGATION.

4.4 QUALITY CONTROL

- A. ALL STRUCTURAL CONCRETE SHALL BE INSPECTED BY INDEPENDENT, QUALIFIED PERSONNEL (ACI OR OTHERWISE). ALL STRUCTURAL CONCRETE SHALL BE TESTED BY AN INDEPENDENT LAB. AT A MINIMUM, 5 CYLINDERS SHALL BE CAST AND TESTED AT 7, 14, AND 28 DAYS. THE REMAINING CYLINDER SHALL BE RESERVED FOR RE-TESTING, IF NECESSARY.

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH THE CONSTRUCTION MANAGER AND/OR TESTING AGENCY A MINIMUM OF 48 HOURS PRIOR TO EACH FOUNDATION POUR. IF A POUR OCCURS WITHOUT THE REQUESTED INSPECTION, THE OWNER CAN ASSUME THAT THE INSTALLATION WAS NOT INSTALLED CORRECTLY AND REQUIRE REPLACEMENT.

- B. THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE AND REPLACE, AT HIS SOLE EXPENSE, ANY CONCRETE THAT DOES NOT MEET THE ABOVE SPECIFICATIONS, OR SIMILAR SPECIFICATIONS CONTAINED IN THE PLANS OR TOWER DRAWINGS. ANY CONCRETE THAT DOES NOT MEET THE MINIMUM COMPRESSIVE STRENGTH REQUIRED UPON COMPLETION OF LAB TESTING SHALL BE REPLACED. THE AVERAGE OF THE TWO 28 DAY BREAK RESULTS SHALL GOVERN. NO DISPUTES REGARDING THE METHOD USED TO COLLECT THE TEST CYLINDERS OR PERFORM THE LAB TESTING ARE ALLOWED. IF THE CONTRACTOR CHOOSES, HE MAY COLLECT AND TEST ADDITIONAL CYLINDERS AT HIS SOLE EXPENSE.
- C. DESPITE THE ABOVE REQUIREMENT, THE CONTRACTOR IS RESPONSIBLE TO PERFORM QUALITY WORK AND IS THE GUARANTOR OF THE FINISHED PRODUCT. IF A DEFECT IS NOT IMMEDIATELY IDENTIFIED BY THE INSPECTOR, OWNER, OR CONSTRUCTION MANAGER, BUT IDENTIFIED SUBSEQUENTLY, THE CONTRACTOR SHALL STILL BE RESPONSIBLE TO CORRECT SAID DEFECT.
- D. CONTRACTOR MUST VERIFY THAT CONCRETE MEETS DESIGN REQUIREMENT (FOR STRENGTH AND OTHER PARAMETERS) BEFORE PLACING ANY SERVICE LOADS.

SECTION 5: STRUCTURAL STEEL

- A. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315).
- B. ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL, CONFORMING TO ASTM A-615, GRADE 60, DEFORMED.
- C. HEATING AND WELDING OF BARS IS PROHIBITED UNLESS WRITTEN APPROVAL IS OBTAINED FROM THE STRUCTURAL ENGINEER.
- D. ALL REINFORCEMENT BARS ARE TO BE FREE FROM LOOSE RUST AND SCALE.
- E. UNLESS OTHERWISE NOTED, ALL REINFORCEMENT SHALL HAVE A MINIMUM CONCRETE COVER OF 3 INCHES. CONTRACTOR SHALL UTILIZE SPACERS AND CHAIRS AS REQUIRED.
- F. SPLICES IN REINFORCEMENT STEEL ARE PROHIBITED, UNLESS APPROVED BY THE STRUCTURAL ENGINEER. ALL SPLICES MUST THEN MEET ALL APPLICABLE ASTM STANDARDS FOR SPLICING.
- G. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWG) D.1.1-92. STRUCTURAL WELDING CODE.

SECTION 6: GROUNDING

- A. GROUND RING IS TO BE CONSTRUCTED OF MATERIALS INDICATED ON THE DRAWINGS. ALL ABOVE GROUND LEADS TO BE SEALED IN CARFLEX CONDUITS.
- B. GROUND ALL CORNER POSTS WITH EXOTHERMIC WELDS (CONNECTION TO BE NO MORE THAN 12 INCHES ABOVE GROUND BUT MUST BE VISIBLE).
- C. ICE BRIDGE GROUND - GROUND SUPPORT POST TO GROUND RING AND GROUND ICE BRIDGE TO THE POST.
- D. A SMOOTH, DOWNWARD PATH TO GROUND IS REQUIRED FOR ALL GROUND LEADS.
- E. CONTRACTOR TO BOND PROPOSED GROUND SYSTEM TO EQUIPMENT/BUILDING GROUND RING IN 2 LOCATIONS.
- F. PROPOSED GROUND RING SHALL BE INSTALLED A MINIMUM OF 2' FROM ANY STRUCTURE.
- G. AT BASE OF ANTENNA TOWER, ATTACH GROUND KITS FROM COAXIAL CABLES TO TOWER GROUND BAR. LOCATE GROUND RING AROUND TOWER AND BOND GROUND BAR TO GROUND RING AS INDICATED ON DRAWINGS. CONTRACTOR TO PROVIDE GROUND BAR AND ALL MOUNTING HARDWARE.
- H. DOUBLING UP OR "STACKING" OF CONNECTION IS NOT PERMITTED.

- I. OXIDE INHIBITING COMPOUND TO BE USED AT ALL CONNECTIONS.
- J. RESISTIVITY TEST SHALL BE PERFORMED BY THE CONTRACTOR PRIOR TO BACKFILLING. A MAXIMUM RESISTIVITY OF 5 OHMS MUST BE ACHIEVED PRIOR TO PROCEEDING. THE RESULTS OF THIS TEST SHALL BE DOCUMENTED, WITH COPIES PROVIDED TO THE OWNER AND CONSTRUCTION MANAGER.
- K. DO NOT INSTALL BURIED GROUND RING OUTSIDE OF THE LEASED AREA. CONTRACTOR SHALL NOTIFY THE OWNER 24 HOURS IN ADVANCE OF THE GROUND RING INSTALLATION SO THAT A REPRESENTATIVE CAN INSPECT THE GROUND RING BEFORE IT IS BACKFILLED. IF A REPRESENTATIVE IS NOT PRESENT, CONTRACTOR SHALL PHOTOGRAPH ENTIRE INSTALLATION AND PROVIDE PHOTOGRAPHS TO CONSTRUCTION MANAGER WITHIN 48 HOURS.

SECTION 7: ELECTRICAL

- A. PROVIDE 2 PULL STRINGS SECURELY FASTENED AT EACH END OF ALL CONDUITS.
- B. THE CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING UNDERGROUND POWER, TELCO, GROUNDING CONDUITS, AND ALL OTHER UTILITY EASEMENTS AND/OR WIRES PRIOR TO TRENCHING. ANY DAMAGE CAUSED TO THE EXISTING UNDERGROUND SERVICES OR SYSTEMS SHALL BE REPAIRED AT THE CONTRACTOR'S SOLE EXPENSE.
- C. CONTRACTOR SHALL CONTACT UTILITY PROVIDER PRIOR TO BIDDING AND CONSTRUCTION TO VERIFY THAT SERVICE HAS BEEN ORDERED AND DISCUSS ANY SITE SPECIFIC REQUIREMENTS. CHANGE ORDERS RELATED TO UTILITY REQUIREMENTS OR REQUESTS WILL NOT BE ALLOWED UNLESS THIS CONDITION HAS BEEN MET.
- D. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS SHALL BE PAID BY CONTRACTOR.
- E. ALL MATERIALS UTILIZED SHALL BE U.L. LISTED.

SECTION 8: TOWER AND ANTENNA INSTALLATION

- A. IF REQUIRED, ERECT FURNISHED TOWER. PRIOR TO ERECTION, CONTRACTOR MUST VERIFY THAT CONCRETE HAS MET THE MINIMUM STRENGTH REQUIREMENTS AS WELL AS ANY OTHER INSPECTION OR TESTING REQUIREMENTS.
- B. INSTALL ANTENNAS AND LINES AS INDICATED ON THE DRAWINGS AND PER OWNER SPECIFICATIONS.
- C. INSTALL ANTENNA AND COAX MOUNTING HARDWARE AS INDICATED ON THE DRAWINGS OR APPROVED BY THE CONSTRUCTION MANAGER.
- D. ASSIST OWNER TECHNICIANS IN PERFORMING SWEEP TEST OF INSTALLED COAX.
- E. ANTENNA INSTALLATION TO BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF ANTENNAS, TRANSMISSION LINES AND SUPPORT STRUCTURES.
- F. CONTRACTOR SHALL FOLLOW ALL APPLICABLE STANDARDS INCLUDING, BUT NOT LIMITED TO: EIA 222 (LATEST VERSION), FAA ADVISORY CIRCULAR AC70/7460-1A, FCC RULES & REGULATIONS.

SECTION 9: LANDSCAPING & SITE RESTORATION

CONTRACTOR SHALL FURNISH, INSTALL, AND MAINTAIN LANDSCAPE WORK AS SHOWN ON THE CONSTRUCTION DRAWINGS OR REQUIRED IN THE SPECIFICATIONS.

CONTRACTOR SHALL UTILIZE THE SERVICES OF A LANDSCAPE CONTRACTOR TO ENSURE THE LANDSCAPING IS PROPERLY INSTALLED, WATERED, AND OTHERWISE MAINTAINED. CONTRACTOR SHALL GUARANTEE LANDSCAPING FOR A MINIMUM OF 1 YEAR AND SHALL REPLACE ANY DEAD OR VISIBLY DISTRESSED PLANTS WITHIN THIS PERIOD.

9.1 PROTECTION

- A. CONTRACTOR SHALL PROTECT SEEDED AREAS FROM EROSION THROUGH THE USE OF AN EROSION CONTROL MESH OR MULCH NET.
- B. ALL TREES PLACED IN CONJUNCTION WITH A LANDSCAPE PLAN WILL BE WRAPPED, TIED WITH HOSE PROTECTED WIRE AND SECURED TO A STEEL ANGLE EXTENDING TWO FEET INTO THE GROUND ON FOUR SIDES OF THE TREE.
- C. ALL EXPOSED AREAS SHALL BE PROTECTED AGAINST WASHOUTS AND SOIL EROSION.

9.2 INSTALLATION

- A. SEED AND FERTILIZER SHALL BE APPLIED TO SURFACE CONDITIONS TO ENCOURAGE ROOTING. RAKE AREAS TO BE SEEDED TO EVEN THE SURFACE AND LOOSEN THE SOIL.
- B. SOW SEED IN TWO DIRECTIONS IN TWICE THE QUANTITY RECOMMENDED BY THE SEED PRODUCER.
- C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE GROWTH OF SEEDED AND LANDSCAPED AREAS BY WATERING. CONTINUE TO REWORK BARE AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.

CONSULTANT:



CLIENT:



GENERAL SPECIFICATIONS
MN11 CANNON FALLS
CANNON FALLS, MN

ENGINEER SEAL:

APPROVED-
SEE TITLE SHEET FOR
ENGINEER SEAL

SIGNATURE: _____
DATE: _____

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

PROJECT NO:	20232421025
LOCATION CODE:	236827
RFDS DATE:	12/01/2022

STRUCTURAL ANALYSIS:	
DATE:	DESCRIPTION:

SUBMITTAL:		
INT.	DATE:	DESCRIPTION:
DBS	06/02/2023	REV. A
PER	06/12/2023	REV. 0

CHECKED BY:	OGD
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PLOT DATE	6/12/2023
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PROJECT NUMBER	35800
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SET TYPE	FINAL
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SHEET NUMBER	G-003
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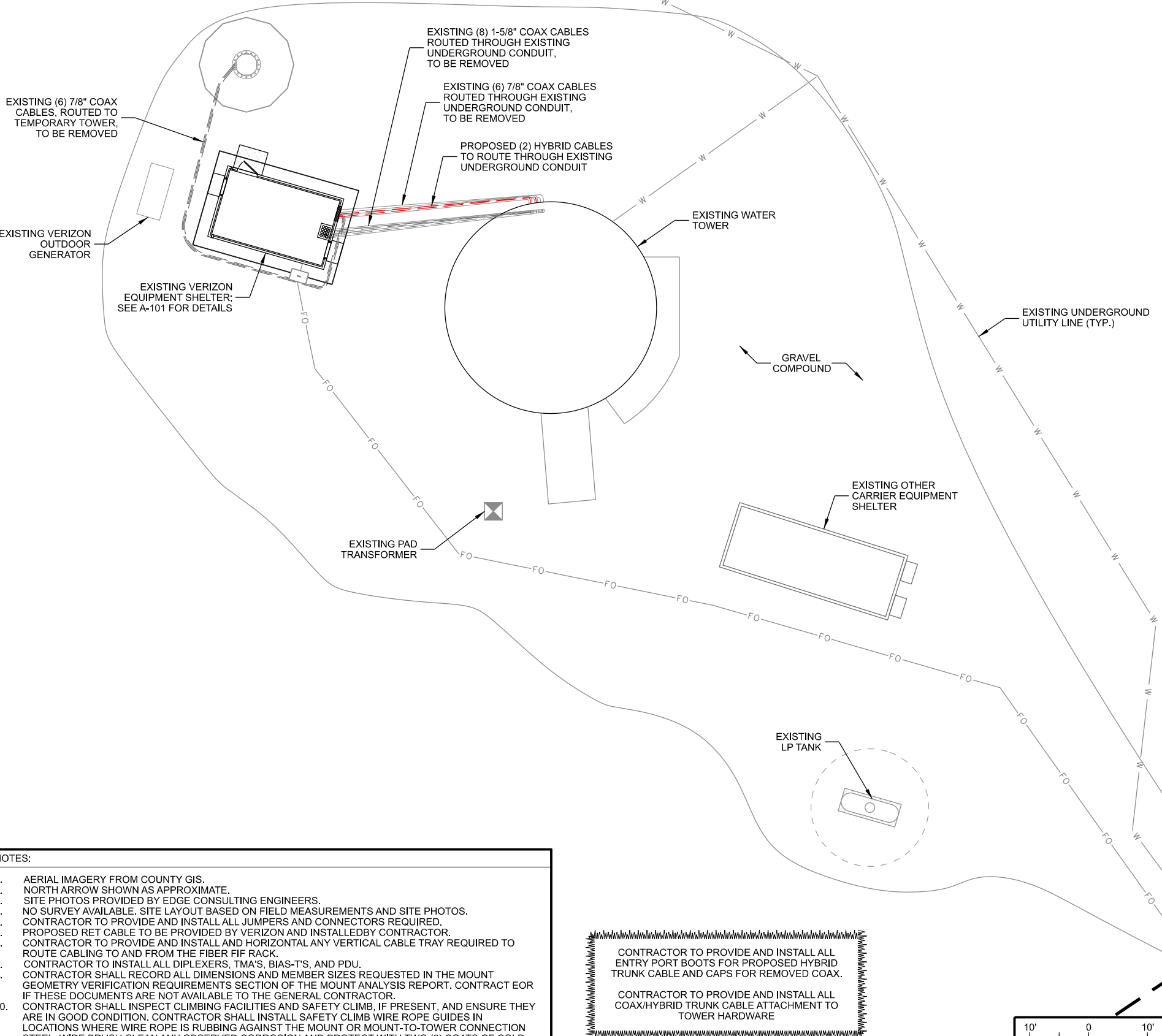
A COMPOUND OVERVIEW



B COMPOUND OVERVIEW



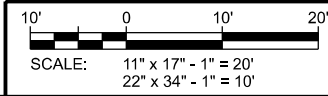
C COMPOUND OVERVIEW



- NOTES:
1. AERIAL IMAGERY FROM COUNTY GIS.
 2. NORTH ARROW SHOWN AS APPROXIMATE.
 3. SITE PHOTOS PROVIDED BY EDGE CONSULTING ENGINEERS.
 4. NO SURVEY AVAILABLE. SITE LAYOUT BASED ON FIELD MEASUREMENTS AND SITE PHOTOS.
 5. CONTRACTOR TO PROVIDE AND INSTALL ALL JUMPERS AND CONNECTORS REQUIRED.
 6. PROPOSED RET CABLE TO BE PROVIDED BY VERIZON AND INSTALLED BY CONTRACTOR.
 7. CONTRACTOR TO PROVIDE AND INSTALL AND HORIZONTAL ANY VERTICAL CABLE TRAY REQUIRED TO ROUTE CABLING TO AND FROM THE FIBER RACK.
 8. CONTRACTOR TO INSTALL ALL DIPLEXERS, TMA'S, BIAS-T'S, AND PDU.
 9. CONTRACTOR SHALL RECORD ALL DIMENSIONS AND MEMBER SIZES REQUESTED IN THE MOUNT GEOMETRY VERIFICATION REQUIREMENTS SECTION OF THE MOUNT ANALYSIS REPORT. CONTRACTOR IF THESE DOCUMENTS ARE NOT AVAILABLE TO THE GENERAL CONTRACTOR.
 10. CONTRACTOR SHALL INSPECT CLIMBING FACILITIES AND SAFETY CLIMB, IF PRESENT, AND ENSURE THEY ARE IN GOOD CONDITION. CONTRACTOR SHALL INSTALL SAFETY CLIMB WIRE ROPE GUIDES IN LOCATIONS WHERE WIRE ROPE IS RUBBING AGAINST THE MOUNT OR MOUNT-TO-TOWER CONNECTION STEEL. WIRE BRUSH CLEAN ANY OBSERVED CORROSION AND PROTECT WITH TWO (2) COATS OF COLD GALVANIZATION (ZINGA OR ZINC KOTE). CONTRACTOR SHALL PROVIDE PHOTOS OF WIRE ROPE GUIDE INSTALLATION AS PART OF PMI DOCUMENTS. CONTRACTOR IF ADDITIONAL GUIDANCE IS REQUIRED.

CONTRACTOR TO PROVIDE AND INSTALL ALL ENTRY PORT BOOTS FOR PROPOSED HYBRID TRUNK CABLE AND CAPS FOR REMOVED COAX.

CONTRACTOR TO PROVIDE AND INSTALL ALL COAX/HYBRID TRUNK CABLE ATTACHMENT TO TOWER HARDWARE



CONSULTANT:

Edge
Consulting Engineers, Inc.
2101 HIGHWAY 13 W
BURNSVILLE, MN 55337
952.683.1032 VOICE
952.405.8563 FAX
www.edgeconsult.com

CLIENT:

verizon
10801 BUSH LAKE ROAD
BLOOMINGTON, MN 55438

ENLARGED SITE PLAN
MN11 CANNON FALLS
CANNON FALLS, MN

ENGINEER SEAL:

**APPROVED-
SEE TITLE SHEET FOR
ENGINEER SEAL**

SIGNATURE: _____
DATE: _____

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PROJECT NO: 20232421025
LOCATION CODE: 236827
RFDS DATE: 12/01/2022

STRUCTURAL ANALYSIS:	
DATE:	DESCRIPTION:

SUBMITTAL:		
INT.	DATE:	DESCRIPTION:
DBS	06/02/2023	REV. A
PER	06/12/2023	REV. 0

CHECKED BY: OGD

PLOT DATE: 6/12/2023

PROJECT NUMBER: 35800

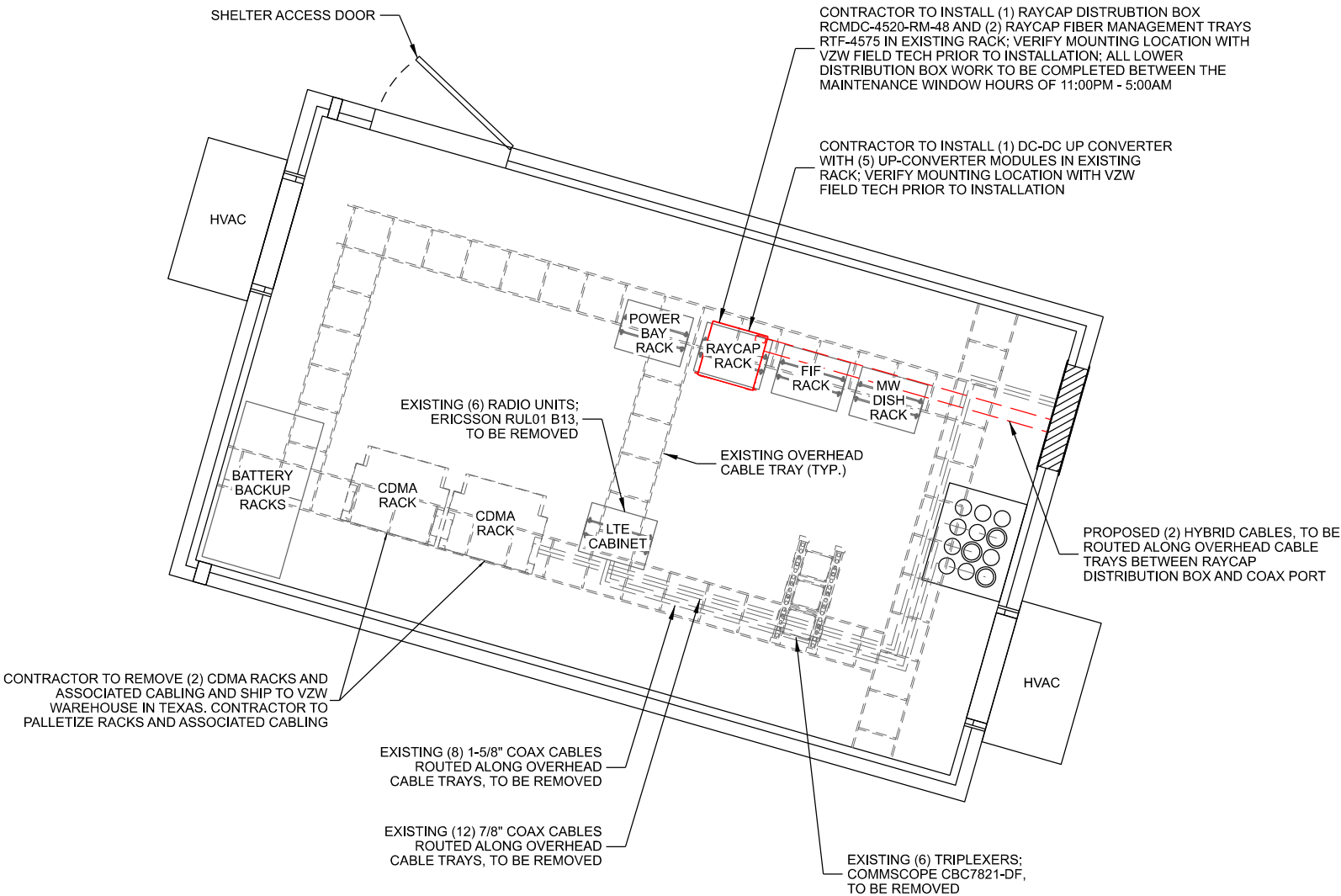
SET TYPE: FINAL

SHEET NUMBER: **C-102**



CONTRACTOR TO PROVIDE AND INSTALL ALL ENTRY PORT BOOTS FOR PROPOSED HYBRID TRUNK CABLE AND CAPS FOR REMOVED COAX.

CONTRACTOR TO PROVIDE AND INSTALL ALL COAX/HYBRID TRUNK CABLE ATTACHMENT TO TOWER HARDWARE



CONTRACTOR TO REMOVE (2) CDMA RACKS AND ASSOCIATED CABLING AND SHIP TO VZW WAREHOUSE IN TEXAS. CONTRACTOR TO PALLETIZE RACKS AND ASSOCIATED CABLING

EXISTING (8) 1-5/8" COAX CABLES ROUTED ALONG OVERHEAD CABLE TRAYS, TO BE REMOVED

EXISTING (12) 7/8" COAX CABLES ROUTED ALONG OVERHEAD CABLE TRAYS, TO BE REMOVED

EXISTING (6) TRIPLEXERS; COMMScope CBC7821-DF, TO BE REMOVED

NOTES:

1. NORTH ARROW SHOWN AS APPROXIMATE.
2. SITE PHOTOS PROVIDED BY EDGE CONSULTING ENGINEERS.
3. NO SURVEY AVAILABLE. SITE LAYOUT BASED ON FIELD MEASUREMENTS AND SITE PHOTOS.
4. CONTRACTOR TO PROVIDE AND INSTALL ALL JUMPERS AND CONNECTORS REQUIRED.
5. CONTRACTOR TO PROVIDE AND INSTALL ANY HORIZONTAL AND VERTICAL CABLE TRAY REQUIRED TO ROUTE CABLING TO AND FROM THE FIBER FIF RACK.
6. CONTRACTOR SHALL INSPECT CLIMBING FACILITIES AND SAFETY CLIMB, IF PRESENT, AND ENSURE THEY ARE IN GOOD CONDITION. CONTRACTOR SHALL INSTALL SAFETY CLIMB WIRE ROPE GUIDES IN LOCATIONS WHERE WIRE ROPE IS RUBBING AGAINST THE MOUNT OR MOUNT-TO-TOWER CONNECTION STEEL. WIRE BRUSH CLEAN ANY OBSERVED CORROSION AND PROTECT WITH TWO (2) COATS OF COLD GALVANIZATION (ZINGA OR ZINC KOTE). CONTRACTOR SHALL PROVIDE PHOTOS OF WIRE ROPE GUIDE INSTALLATION AS PART OF PMI DOCUMENTS. CONTRACT EOR IF ADDITIONAL GUIDANCE IS REQUIRED.

A SHELTER INTERIOR LAYOUT

SCALE: 11" x 17" - 1/4" = 1'-0"
22" x 34" - 1/2" = 1'-0"



B EXISTING POWER BAY RACK



C EXISTING RAYCAP RACK



D EXISTING FIF RACK

CONSULTANT:

Edge
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2101 HIGHWAY 13 W
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952.683.1032 VOICE
952.405.8563 FAX
www.edgeconsult.com

CLIENT:

verizon
10801 BUSH LAKE ROAD
BLOOMINGTON, MN 55438

EQUIPMENT SHELTER LAYOUT
MN11 CANNON FALLS
CANNON FALLS, MN

ENGINEER SEAL:

APPROVED-
SEE TITLE SHEET FOR
ENGINEER SEAL

SIGNATURE: _____
DATE: _____

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PROJECT NO: 20232421025
LOCATION CODE: 236827
RFDS DATE: 12/01/2022

STRUCTURAL ANALYSIS:
DATE: DESCRIPTION:

SUBMITTAL:
INT. DATE: DESCRIPTION:
DBS 06/02/2023 REV. A
PER 06/12/2023 REV. 0

CHECKED BY: OGD

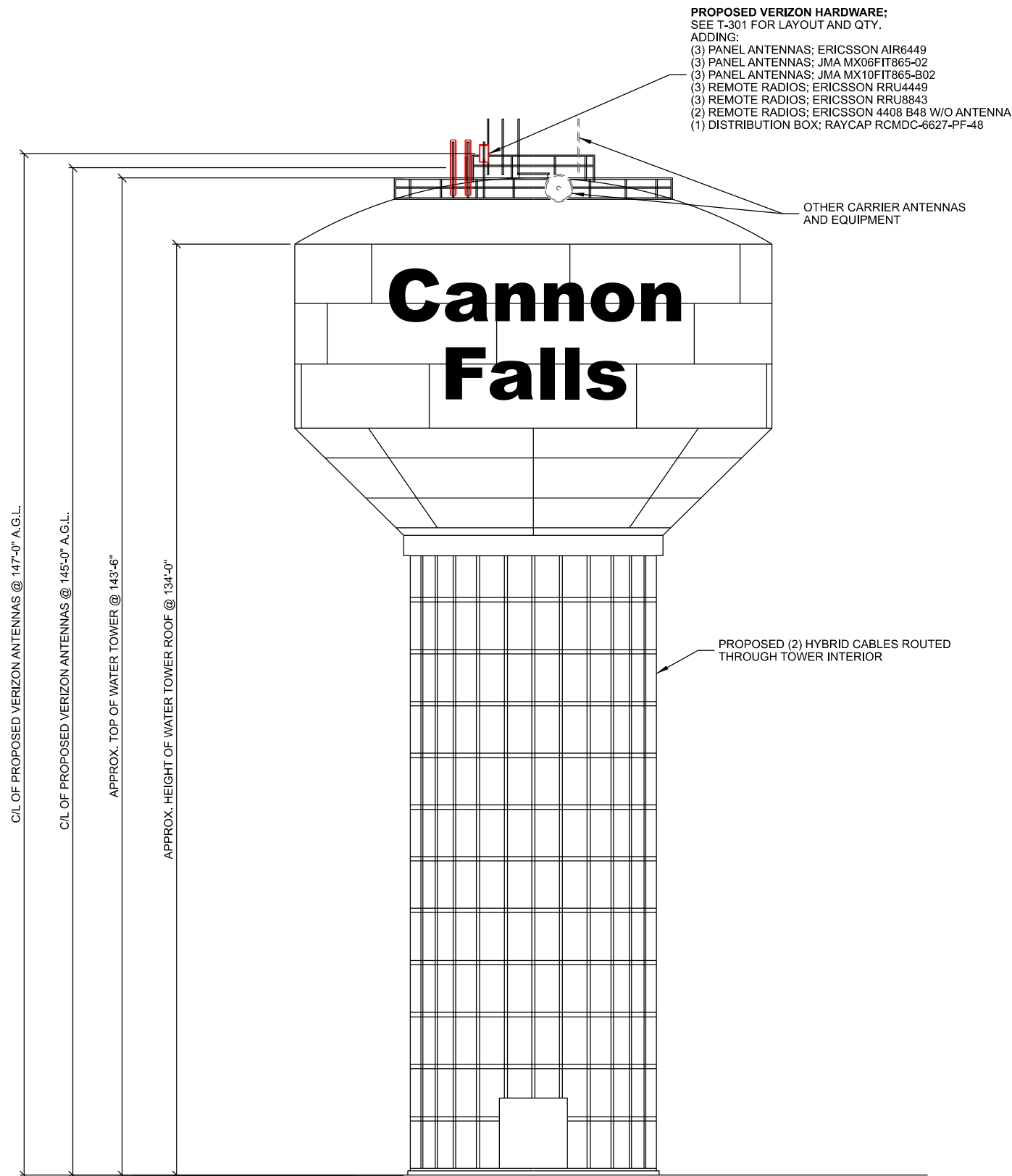
PLOT DATE: 6/12/2023

PROJECT NUMBER: 35800

SET TYPE: FINAL

SHEET NUMBER: **A-101**

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A

SITE ELEVATION

SCALE: 11" x 17" - 1" = 20'-0"
22" x 34" - 1" = 10'-0"



B

EXISTING SITE ELEVATION

CONSULTANT:
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952.405.8563 FAX
www.edgeconsult.com

CLIENT:
verizon
10801 BUSH LAKE ROAD
BLOOMINGTON, MN 55438

SITE ELEVATION
MN11 CANNON FALLS
CANNON FALLS, MN

ENGINEER SEAL:

APPROVED-
SEE TITLE SHEET FOR
ENGINEER SEAL

SIGNATURE: _____
DATE: _____

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PROJECT NO:	20232421025
LOCATION CODE:	236827
RFDS DATE:	12/01/2022

STRUCTURAL ANALYSIS:	
DATE:	DESCRIPTION:

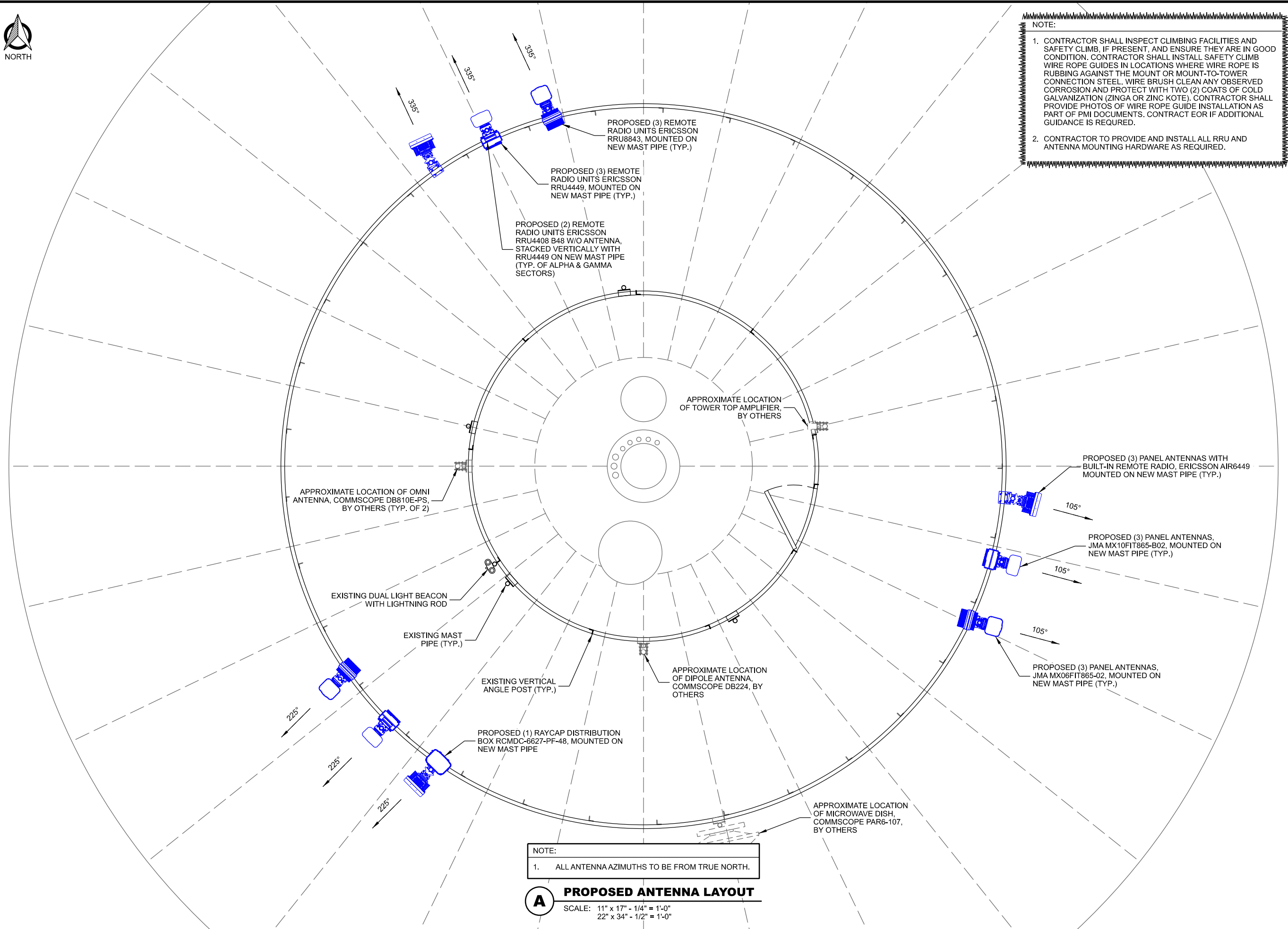
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INT.	DATE:	DESCRIPTION:
DBS	06/02/2023	REV. A
PER	06/12/2023	REV. 0

CHECKED BY:	OGD
PLOT DATE:	6/12/2023
PROJECT NUMBER:	35800
SET TYPE:	FINAL

SHEET NUMBER:	T-201
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NORTH



- NOTE:
1. CONTRACTOR SHALL INSPECT CLIMBING FACILITIES AND SAFETY CLIMB, IF PRESENT, AND ENSURE THEY ARE IN GOOD CONDITION. CONTRACTOR SHALL INSTALL SAFETY CLIMB WIRE ROPE GUIDES IN LOCATIONS WHERE WIRE ROPE IS RUBBING AGAINST THE MOUNT OR MOUNT-TO-TOWER CONNECTION STEEL. WIRE BRUSH CLEAN ANY OBSERVED CORROSION AND PROTECT WITH TWO (2) COATS OF COLD GALVANIZATION (ZINGA OR ZINC KOTE). CONTRACTOR SHALL PROVIDE PHOTOS OF WIRE ROPE GUIDE INSTALLATION AS PART OF PMI DOCUMENTS. CONTRACT EOR IF ADDITIONAL GUIDANCE IS REQUIRED.
 2. CONTRACTOR TO PROVIDE AND INSTALL ALL RRU AND ANTENNA MOUNTING HARDWARE AS REQUIRED.

NOTE:
1. ALL ANTENNA AZIMUTHS TO BE FROM TRUE NORTH.

A **PROPOSED ANTENNA LAYOUT**
SCALE: 11" x 17" - 1/4" = 1'-0"
22" x 34" - 1/2" = 1'-0"

CONSULTANT:
Edge
Consulting Engineers, Inc.
2101 HIGHWAY 13 W
BURNSVILLE, MN 55337
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952.405.8563 FAX
www.edgeconsult.com

CLIENT:
verizon
10801 BUSH LAKE ROAD
BLOOMINGTON, MN 55438

**ANTENNA AND EQUIPMENT
CONFIGURATION**
MN11 CANNON FALLS
CANNON FALLS, MN

ENGINEER SEAL:
**APPROVED-
SEE TITLE SHEET FOR
ENGINEER SEAL**

SIGNATURE: _____
DATE: _____

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UNDER THE LAWS OF THE STATE OF
MINNESOTA.

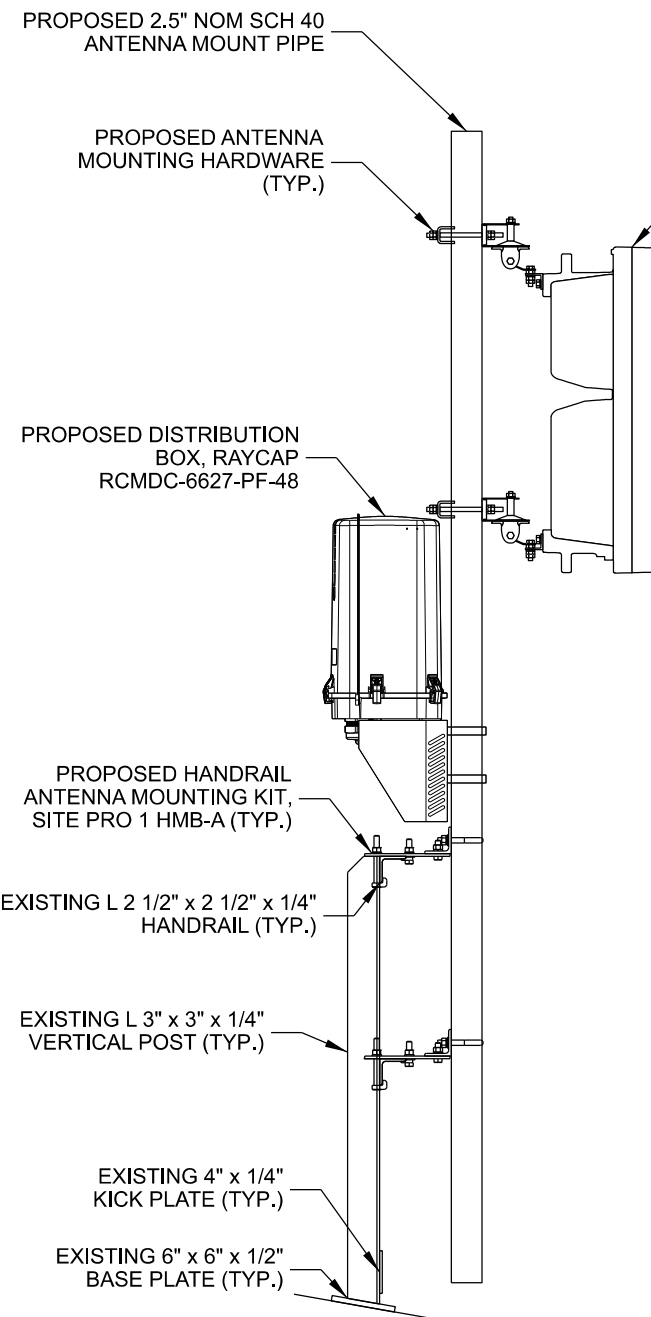
PROJECT NO: 20232421025
LOCATION CODE: 236827
RFDS DATE: 12/01/2022

STRUCTURAL ANALYSIS:	
DATE:	DESCRIPTION:

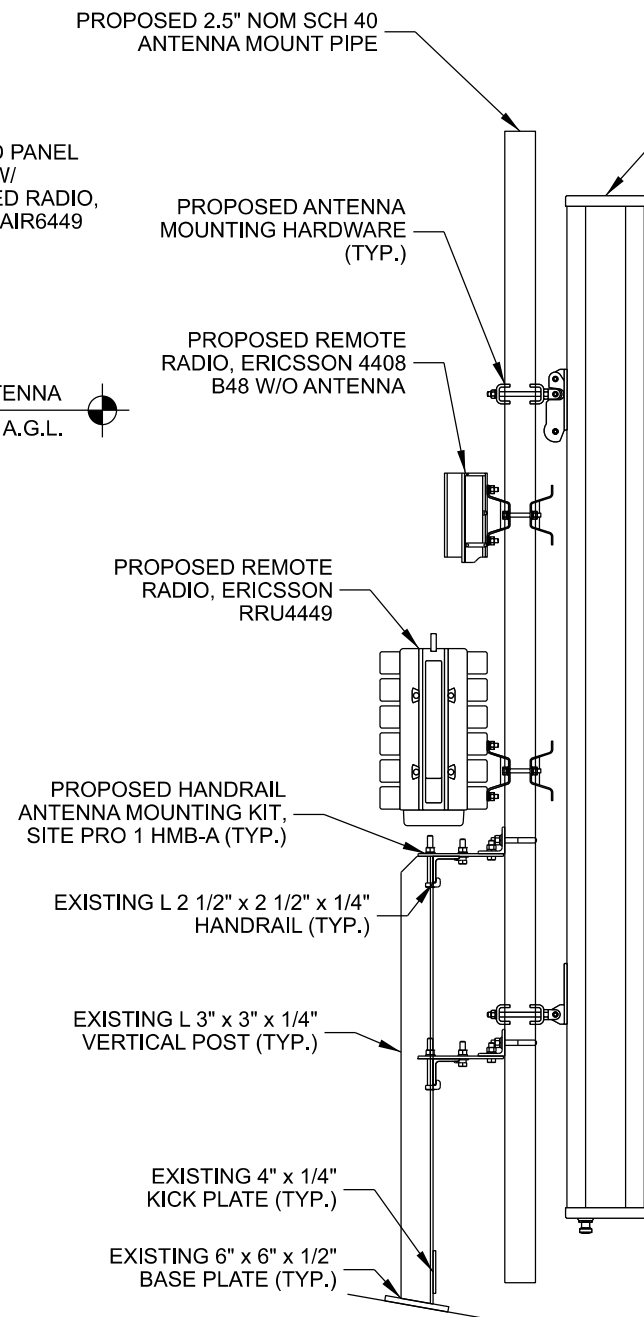
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PER	06/12/2023	REV. 0

CHECKED BY	OGD
PLOT DATE	6/12/2023
PROJECT NUMBER	35800
SET TYPE	FINAL
SHEET NUMBER	T-301

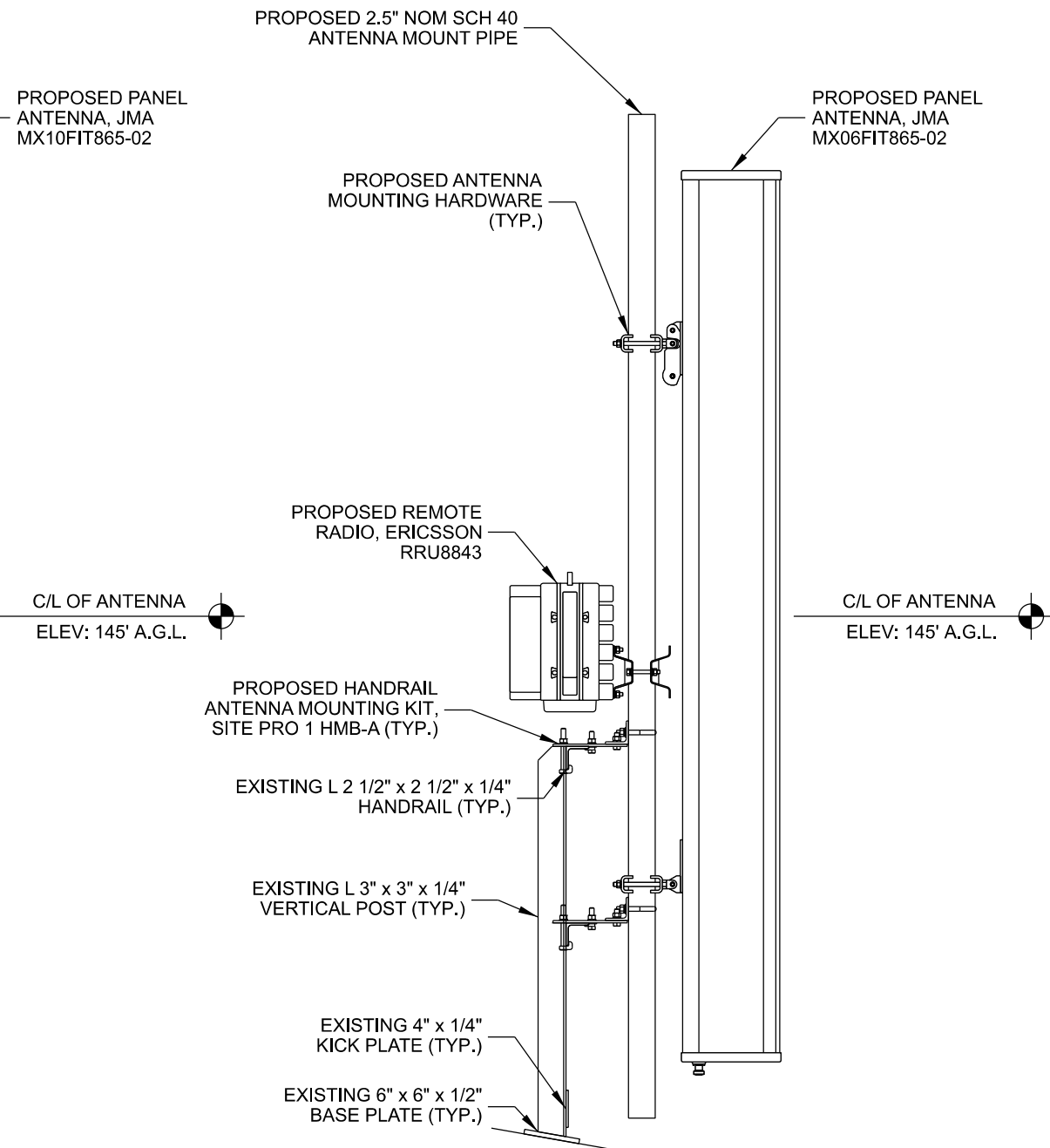
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A MOUNTING DETAIL
SCALE: 11" x 17" - 3/8" = 1'-0"
22" x 34" - 3/4" = 1'-0"



B MOUNTING DETAIL
SCALE: 11" x 17" - 3/8" = 1'-0"
22" x 34" - 3/4" = 1'-0"



C MOUNTING DETAIL
SCALE: 11" x 17" - 3/8" = 1'-0"
22" x 34" - 3/4" = 1'-0"

CONSULTANT:

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Consulting Engineers, Inc.
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BURNSVILLE, MN 55337
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952.405.8563 FAX
www.edgeconsult.com

CLIENT:

verizon
10801 BUSH LAKE ROAD
BLOOMINGTON, MN 55438

**ANTENNA AND EQUIPMENT
MOUNTING DETAILS**
MN11 CANNON FALLS
CANNON FALLS, MN

ENGINEER SEAL:

APPROVED-
SEE TITLE SHEET FOR
ENGINEER SEAL

SIGNATURE: _____
DATE: _____

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LOCATION CODE: 236827
RFDS DATE: 12/01/2022

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DATE: DESCRIPTION:

SUBMITTAL:
INT. DATE DESCRIPTION:
DBS 06/02/2023 REV. A
PER 06/12/2023 REV. 0

CHECKED BY	OGD
PLOT DATE	6/12/2023
PROJECT NUMBER	35800
SET TYPE	FINAL
SHEET NUMBER	T-302

CONSULTANT:

Edge

Consulting Engineers, Inc.

2101 HIGHWAY 13 W

BURNSVILLE, MN 55337

952.683.1032 VOICE

952.405.8583 FAX

www.edgeconsult.com

CLIENT:

verizon

10801 BUSH LAKE ROAD

BLOOMINGTON, MN 55438

PROPOSED ANTENNA AND
EQUIPMENT SUMMARY

MN11 CANNON FALLS
CANNON FALLS, MN

ENGINEER SEAL:

-APPROVED-
SEE TITLE SHEET FOR
ENGINEER SEAL

SIGNATURE: _____
DATE: _____

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PROJECT NO:

20232421025

LOCATION CODE:

236827

RFDS DATE:

12/01/2022

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DATE:

DESCRIPTION:

SUBMITTAL:

INT.

DATE:

DESCRIPTION:

DBS

06/02/2023

REV. A

PER

06/12/2023

REV. 0

CHECKED BY

OGD

PLOT DATE

6/12/2023

PROJECT NUMBER

35800

SET TYPE

FINAL

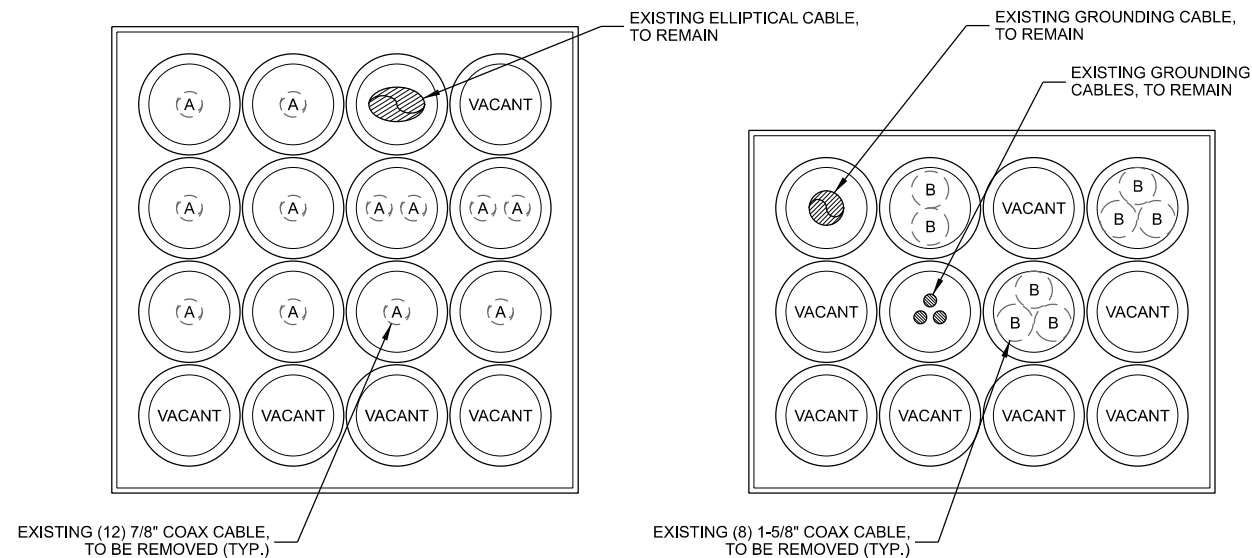
SHEET NUMBER

T-501

NOTE:	
1.	RF DESIGN DETAILED ON THIS SHEET PROVIDED BY VERIZON AND IS INCLUDED FOR CONVENIENCE ONLY. FINAL RF DESIGN TO BE VERIFIED WITH VERIZON PRIOR TO CONSTRUCTION. IF SIGNIFICANT CHANGES OR DISCREPANCIES ARE IDENTIFIED, CONTACT ENGINEER PRIOR TO INSTALLATION.
2.	IF CABLE LENGTH EXCEEDS MAXIMUM ALLOWED LENGTH CONTRACTOR SHALL CONTACT CLIENT AND ENGINEER TO RESOLVE PRIOR TO CONSTRUCTION.

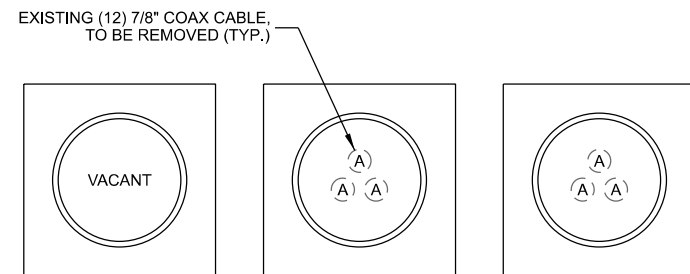
A PROPOSED ANTENNA SUMMARY

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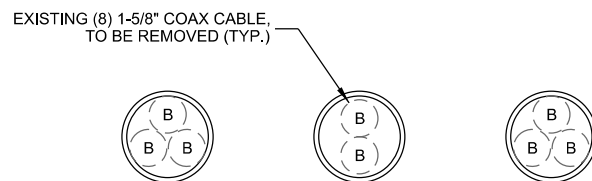


A **EXISTING SHELTER COAX PORT**
(INTERIOR VIEW - WALL)

B **EXISTING SHELTER COAX PORT**
(INTERIOR VIEW - FLOOR)



C **EXISTING TOWER COAX PORT**
(INTERIOR VIEW - WALL)

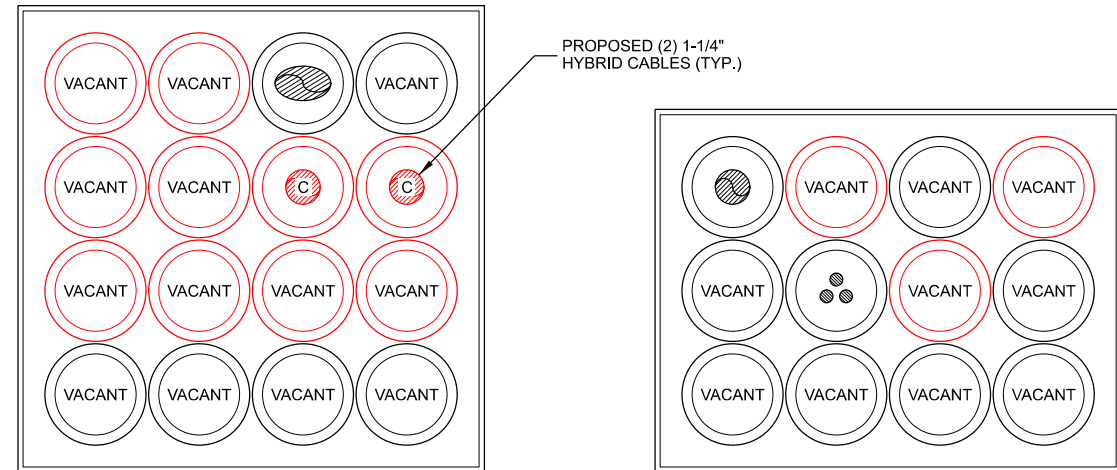


D **EXISTING TOWER COAX PORT**
(INTERIOR VIEW - FLOOR)

COAX SYMBOL	(#) SIZE	MOUNTING TYPE	CARRIER / OWNER	TECHNOLOGY	MOUNT HEIGHT
A	(12) 7/8"	TOWER INTERIOR	VERIZON	CDMA	-
B	(8) 1-5/8"	TOWER INTERIOR	VERIZON	LTE	-

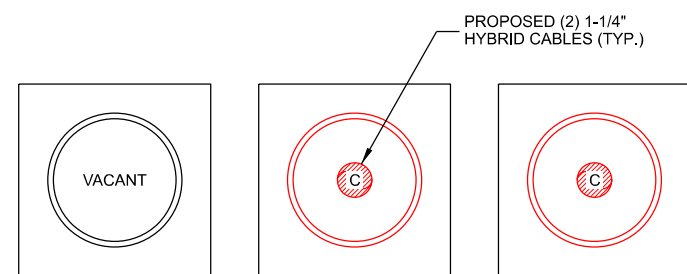
CONTRACTOR TO PROVIDE AND INSTALL ALL ENTRY PORT BOOTS FOR PROPOSED HYBRID TRUNK CABLE AND CAPS FOR REMOVED COAX.

CONTRACTOR TO PROVIDE AND INSTALL ALL COAX/HYBRID TRUNK CABLE ATTACHMENT TO TOWER HARDWARE



E **PROPOSED SHELTER COAX PORT**
(INTERIOR VIEW - WALL)

F **PROPOSED SHELTER COAX PORT**
(INTERIOR VIEW - FLOOR)



G **PROPOSED TOWER COAX PORT**
(INTERIOR VIEW - WALL)



H **PROPOSED TOWER COAX PORT**
(INTERIOR VIEW - FLOOR)

COAX SYMBOL	(#) SIZE	MOUNTING TYPE	CARRIER / OWNER	TECHNOLOGY	MOUNT HEIGHT
C	(2) 1-1/4"	TOWER INTERIOR	VERIZON	HYBRID	145'

CONSULTANT:

Edge
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2101 HIGHWAY 13 W
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952.405.8563 FAX
www.edgeconsult.com

CLIENT:

verizon
10801 BUSH LAKE ROAD
BLOOMINGTON, MN 55438

CABLE ROUTING
MN11 CANNON FALLS
CANNON FALLS, MN

ENGINEER SEAL:

APPROVED-
SEE TITLE SHEET FOR
ENGINEER SEAL

SIGNATURE: _____
DATE: _____

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PROJECT NO: 20232421025
LOCATION CODE: 236827
RFDS DATE: 12/01/2022

STRUCTURAL ANALYSIS:
DATE: DESCRIPTION:

SUBMITTAL:
INT. DATE: DESCRIPTION:
DBS 06/02/2023 REV. A
PER 06/12/2023 REV. 0

CHECKED BY: OGD
PLOT DATE: 6/12/2023
PROJECT NUMBER: 35800
SET TYPE: FINAL
SHEET NUMBER: **T-502**

MANUFACTURER: RAYCAP
MODEL: MOUNTING BRACKET
INCLUDED WITH RAYCAP SPD.

RAYCAP SURGE PROTECTOR DEVICE (SPD)

METAL MOUNTING FRAME

MOUNTING OPTION 1; MOUNT BRACKET TO 2" TO 4" DIA. PIPE (HARDWARE INCLUDED)

MOUNTING OPTION 2; SECURE TO UNISTRUT (NOT INCLUDED)

MOUNTING OPTION 3; USE 1" STAINLESS STEEL BANDS (NOT INCLUDED) THROUGH SLOTS ON BRACKET

A RAYCAP SURGE PROTECTOR DEVICE (SPD) MOUNT

MANUFACTURER: ERICSSON
MODEL: SXK 109 2064/1 (SWIVEL ANGLE)
SXK 109 2065/1 (SWIVEL ANGLE AND TILT ANGLE)
WEIGHT: 9.7 LBS. (SWIVEL ANGLE)
13.0 LBS. (SWIVEL ANGLE AND TILT ANGLE)

POLE	CICULAR	SQUARE	90° ANGLE
MIN. OUTER DIMENSION	3" DIA.	2" x 2"	2" x 2"
MAX. OUTER DIMENSION	4.5" DIA.	3.15" x 3.15"	3.15" x 3.15"

POLE MOUNT (CIRCULAR)

WALL MOUNT

POLE MOUNT (SQUARE)

POLE MOUNT (90° ANGLE)

20° ~ 0°

20° ~ 0°

30° 0° 30°

B ERICSSON SWIVEL MOUNT KIT

MANUFACTURER: ERICSSON
MODEL: SXK 109 1973/2
WEIGHT: 3.75 LBS

BRACKET FOR ATTACHING TWO STANDARD OR HEAVY ERS UNITS WITH A HOLE PATTERN OF CC 30 MM AND/OR CC 80 MM., EITHER TO A POLE, WALL, ANGLE TOWER OR SQUARE TUBE.

BOLTS FOR ATTACHING TWO ERS UNITS ARE SUPPLIED IN THE PACKAGE.

3.15"
1.18"
4.33"
5.12"
PLATE MOUNTING PATTERN

DUAL RADIO ATTACHMENT

ISOMETRIC VIEW

C DUAL ERS BRACKET

Raycap Layout - (1) 6627 or (1) 4520

POWER					
6	G - HB			12	G - C-Band/CBRS/Spare
5	G - LB			11	G - HB/FD-MIMO/C-Band
4	B - HB			10	B - C-Band/CBRS/Spare
3	B - LB			9	B - HB/FD-MIMO/C-Band
2	A - HB			8	A - C-Band/CBRS/Spare
1	A - LB			7	A - HB/FD-MIMO/C-Band

FIBER					
1	A - LB	2	A - HB	3	B - LB
				4	B - HB
				5	G - LB
				6	G - HB
7	A - Spare	8	A - Spare	9	B - Spare
				10	B - Spare
				11	G - Spare
				12	G - Spare
13	A - HB/FD-MIMO/CBRS	14	A - C-Band (3)	15	B - HB/FD-MIMO/CBRS
				16	B - C-Band (3)
				17	G - HB/FD-MIMO/CBRS
				18	G - C-Band (3)
19	A - C-Band (1)	20	A - C-Band (2)	21	B - C-Band (1)
				22	B - C-Band (2)
				23	G - C-Band (1)
				24	G - C-Band (2)

D SURGE PROTECTOR LAYOUT

THIS SPACE INTENTIONALLY LEFT BLANK

CONSULTANT:

2101 HIGHWAY 13 W
BURNSVILLE, MN 55337
952.683.1032 VOICE
952.405.8563 FAX
www.edgeconsult.com

CLIENT:

10801 BUSH LAKE ROAD
BLOOMINGTON, MN 55438

MOUNTING SPECIFICATIONS
MN11 CANNON FALLS
CANNON FALLS, MN

ENGINEER SEAL:

APPROVED-
SEE TITLE SHEET FOR
ENGINEER SEAL

SIGNATURE: _____
DATE: _____

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

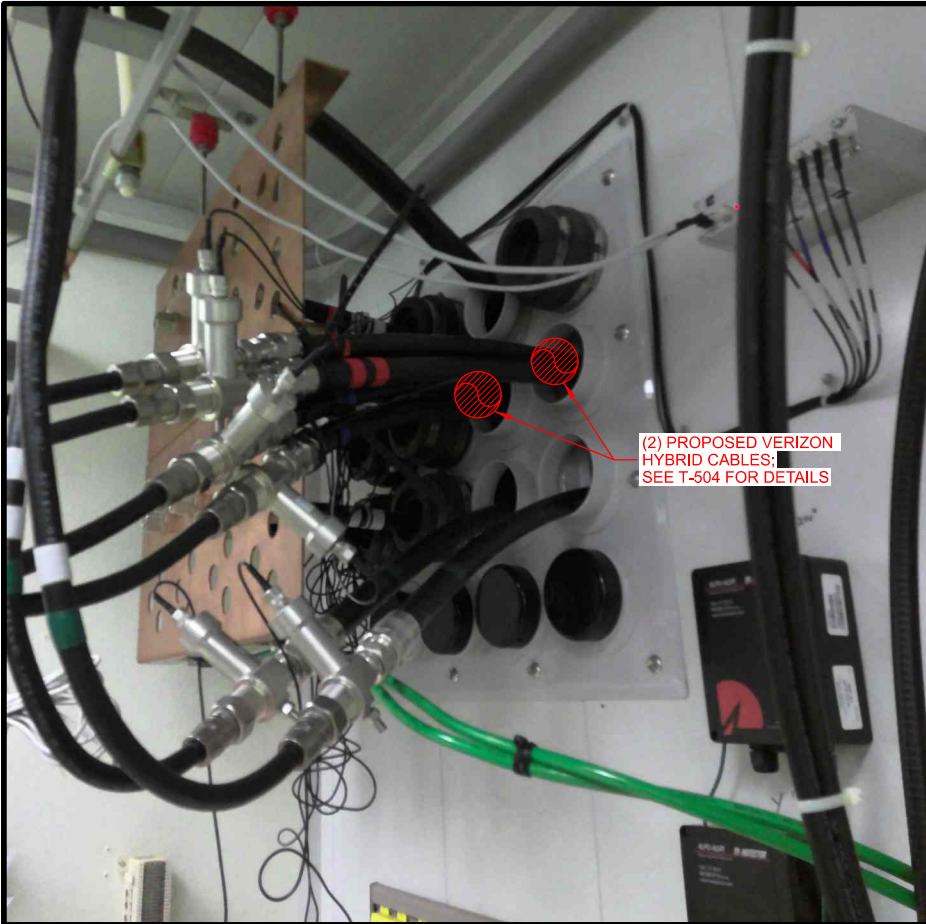
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LOCATION CODE: 236827
RFDS DATE: 12/01/2022

STRUCTURAL ANALYSIS:
DATE: DESCRIPTION:

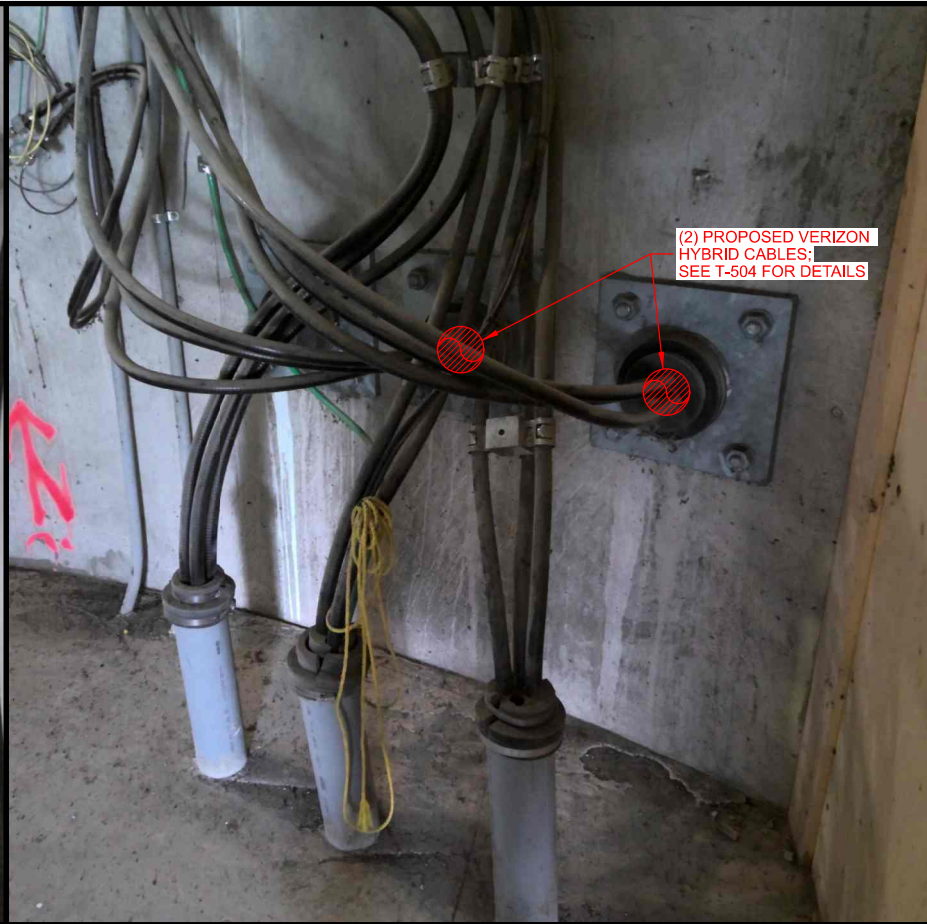
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INT. DATE: DESCRIPTION:
DBS 06/02/2023 REV. A
PER 06/12/2023 REV. 0

CHECKED BY: OGD
PLOT DATE: 6/12/2023
PROJECT NUMBER: 35800
SET TYPE: FINAL
SHEET NUMBER: T-503

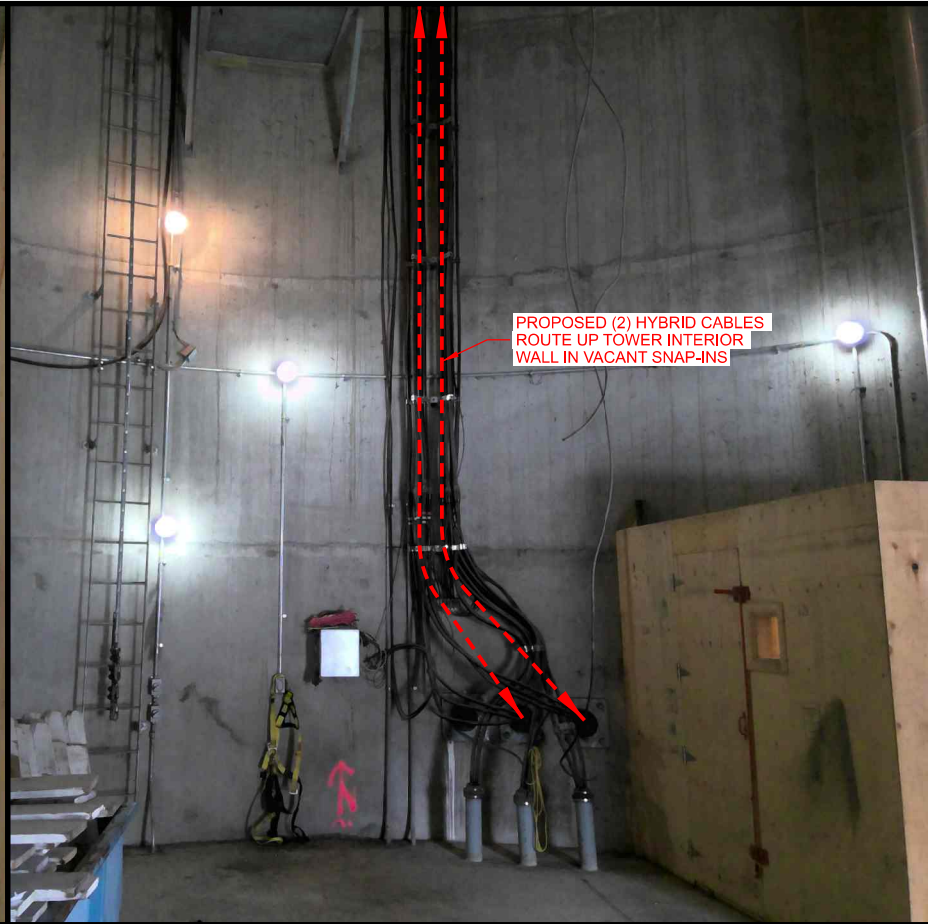
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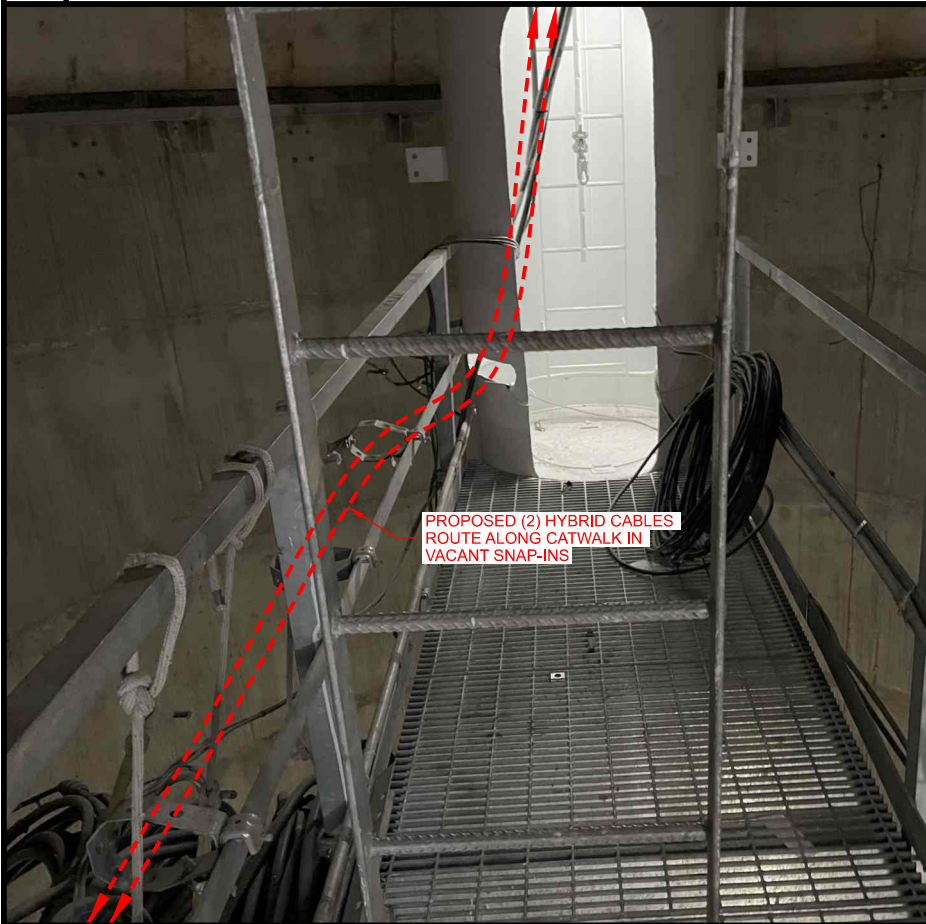
A SHELTER COAX PORT (SHELTER INTERIOR)



B TOWER COAX PORT (TOWER EXTERIOR)



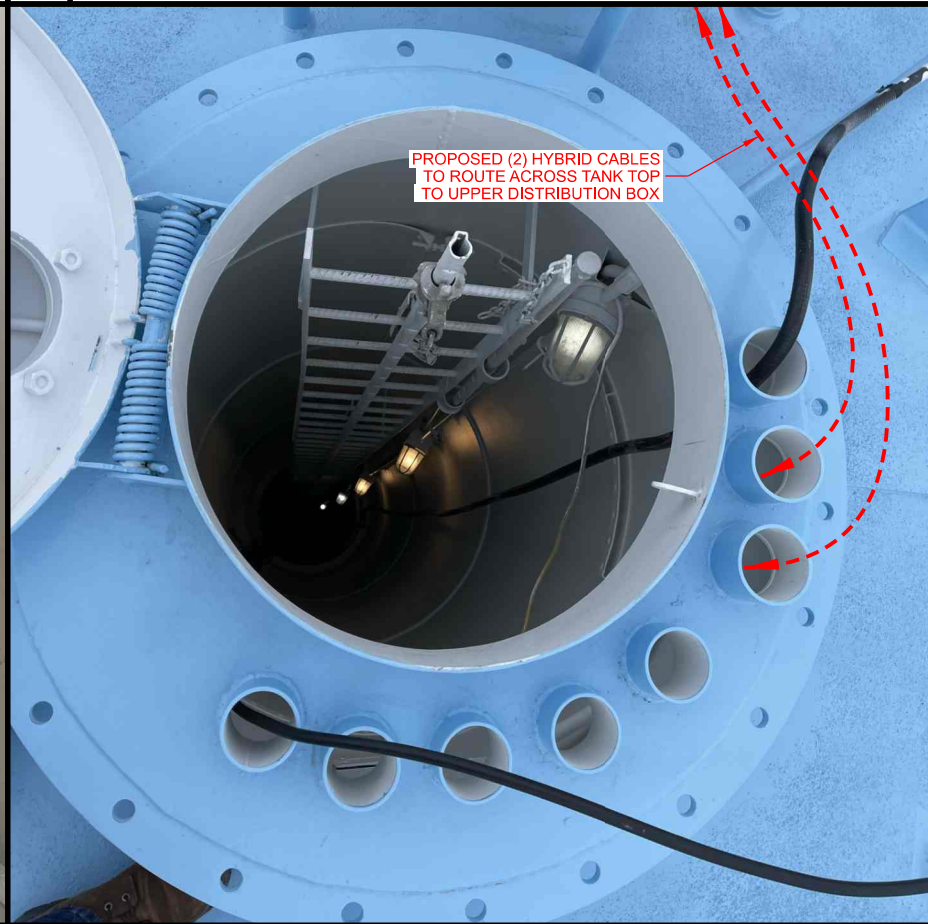
C CABLE ROUTING



D CABLE ROUTING



E CABLE ROUTING



F CABLE ROUTING

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BLOOMINGTON, MN 55438

SITE PHOTOS

MN11 CANNON FALLS
CANNON FALLS, MN

ENGINEER SEAL:

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SEE TITLE SHEET FOR
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SIGNATURE: _____
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PROJECT NO:

20232421025

LOCATION CODE:

236827

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12/01/2022

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DESCRIPTION:

SUBMITTAL:

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DATE:

DESCRIPTION:

DBS

06/02/2023

REV. A

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06/12/2023

REV. 0

CHECKED BY:

OGD

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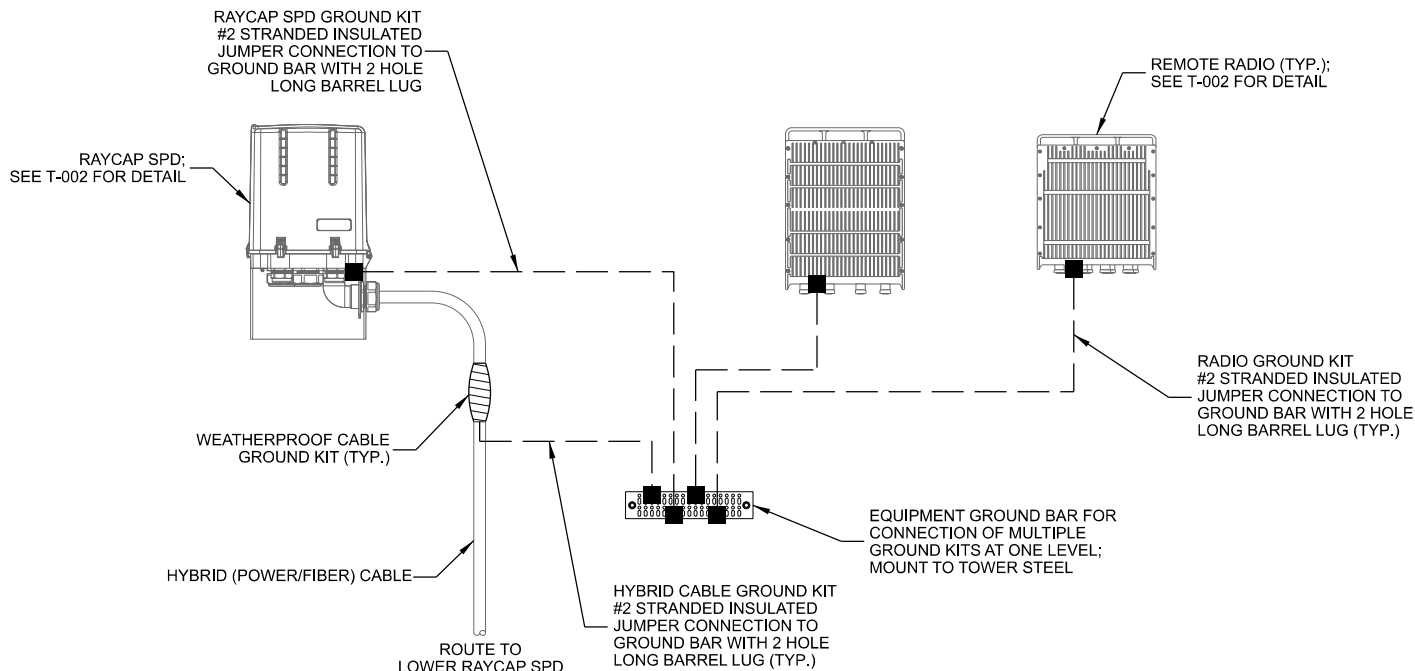
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FINAL

SHEET NUMBER:

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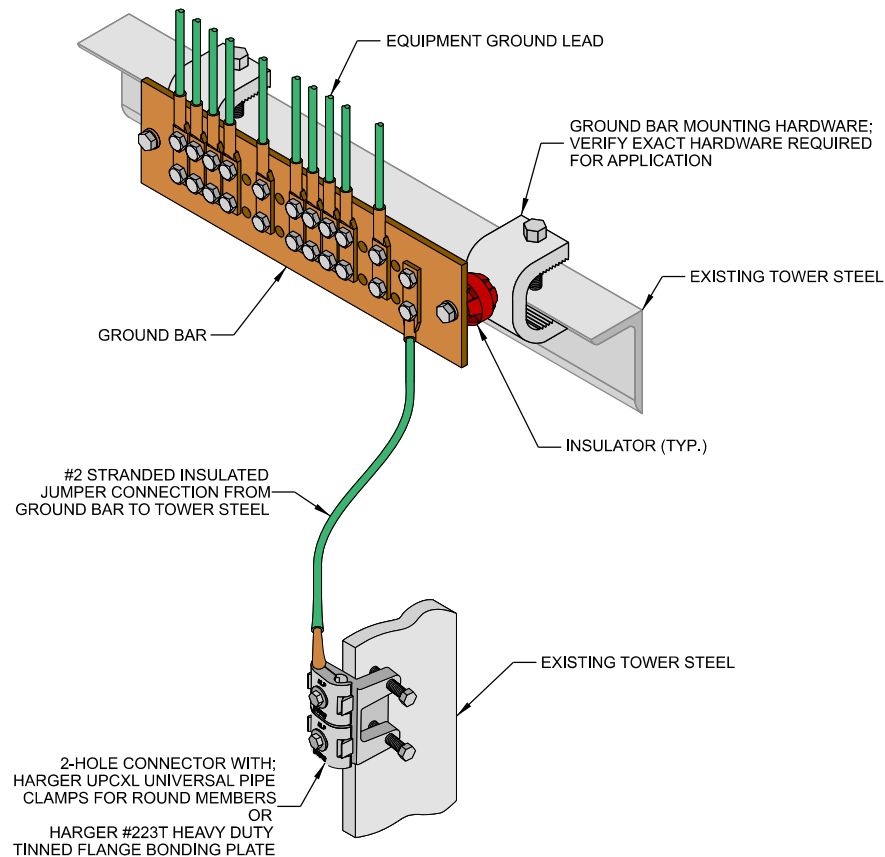
© EDGE CONSULTING ENGINEERS, INC.



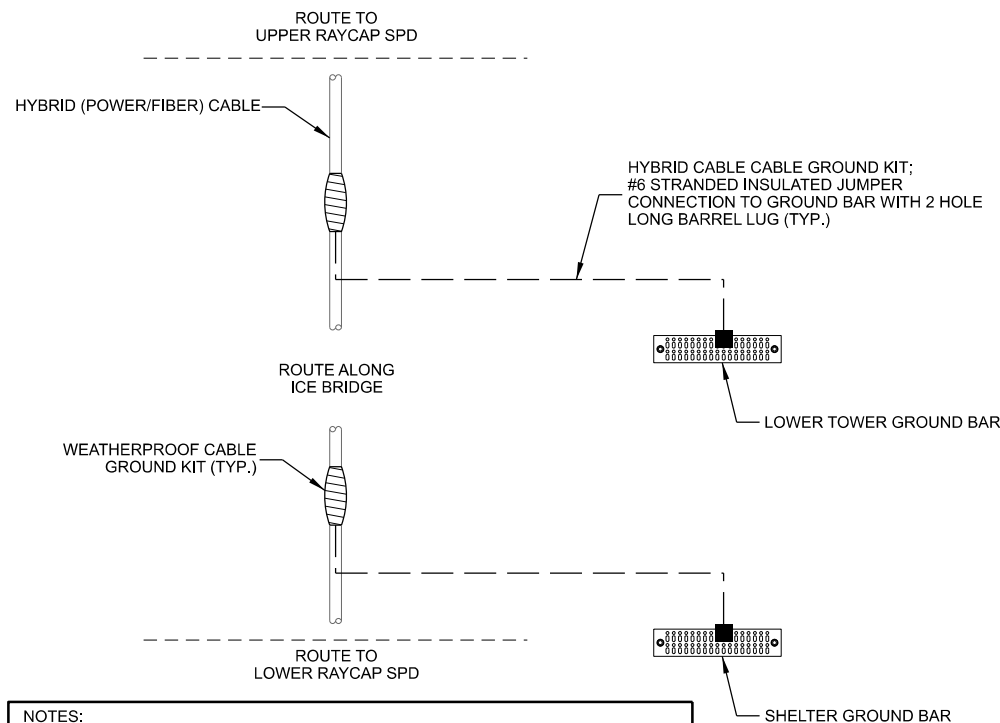
NOTES:

1. ALL CABLING AND/OR GROUNDING RUNS SHALL BE INSTALLED IN A NEAT AND ORDERLY FASHION AS DICTATED BY EXISTING CONDITIONS.
2. CONTRACTOR SHALL INSTALL PER LATEST EDITION OF THE N.E.C.
3. SCHEMATIC DETAIL ONLY. REFER TO ANTENNA AND EQUIPMENT CONFIGURATION FOR EQUIPMENT QUANTITY AND LOCATION. CONTRACTOR TO VERIFY GROUND BAR CAPACITY AND DETERMINE IF NEW GROUND BAR REQUIRED PRIOR TO CONSTRUCTION.

A UPPER EQUIPMENT GROUNDING



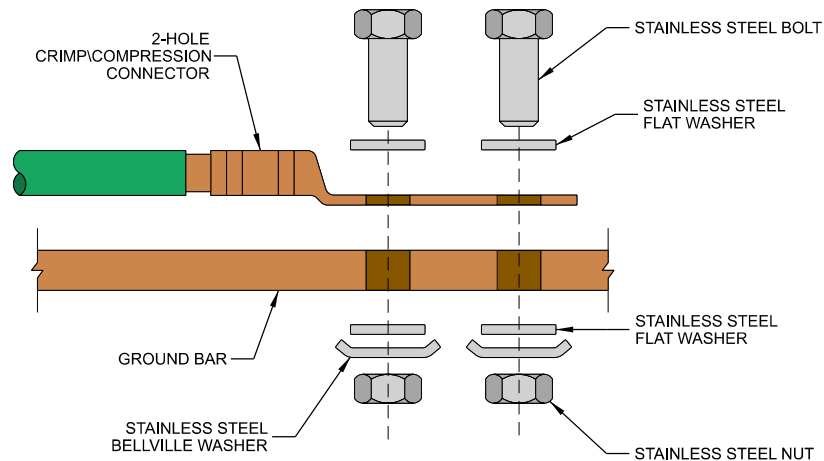
C GROUND BAR



NOTES:

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2. CONTRACTOR SHALL INSTALL PER LATEST EDITION OF THE N.E.C.
3. SCHEMATIC DETAIL ONLY. CONTRACTOR TO VERIFY GROUND BAR CAPACITY AND DETERMINE IF NEW GROUND BAR REQUIRED PRIOR TO CONSTRUCTION.

B LOWER CABLE GROUNDING



NOTES:

1. ALL OUTDOOR HARDWARE (BOLTS, SCREWS, NUTS, WASHERS) SHALL BE 18-8 STAINLESS STEEL TYPE GRADE. INDOORS, GRADE 5 STEEL HARDWARE MAY BE USED.
2. CHOOSE BOLT LENGTH TO ALLOW THE EXPOSURE OF AT LEAST TWO THREADS.
3. BACK TO BACK LUG CONNECTIONS ARE AN ACCEPTABLE PRACTICE WHEN BONDED TO A GROUND BAR OR STEEL OBJECTS.
4. AT CONNECTIONS MADE TO STEEL OR ANY OTHER DISSIMILAR METALS, A DRAGON TOOTH WASHER MEETING VZW PRACTICES SHALL BE USED BETWEEN THE CONNECTOR AND STEEL.
5. IF NOT USING DRAGON TOOTH WASHERS, THOROUGHLY REMOVE A SECTION OF PAINT OR COATING APPROXIMATELY THE SAME SIZE AS CONNECTOR. REMOVE THE PAINT FROM SURFACE USING A DREMEL TYPE TOOL.
6. USE AN APPROVED ANTI-OXIDATION COMPOUND ON ALL GROUNDING CONNECTIONS. A COPPER COSMOLINE GREASE BASED COMPOUND (NO OX-ID) SHALL BE USED ON ALL COPPER TO COPPER CONNECTIONS. A ZINC BASED (GREY COLORED) COMPOUND SHALL BE USED ON ALL COPPER TO STEEL CONNECTIONS.
7. WHEN BONDING TO A METALLIC OBJECT WHERE ACCESS IS LIMITED TO ONLY ONE SURFACE, DRILLING & TAPPING OR SELF DRILLING SCREWS ARE THE PREFERRED AND ACCEPTABLE MEANS OF CONNECTION. SHEET METAL SCREWS SHALL NOT BE USED.

D GROUNDING LUG

CONSULTANT:

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GROUNDING DETAILS
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PER 06/12/2023 REV. 0

CHECKED BY: OGD

PLOT DATE: 6/12/2023

PROJECT NUMBER: 35800

SET TYPE: FINAL

SHEET NUMBER: **E-501**