

March 24, 2016

Ms. Jennifer Franich,
Associate Planner,
El Dorado County Planning Services
2850 Fairlane Court, Building C,
Placerville CA 95667

Re: Special Use Permit renewal application for Verizon Wireless antenna facility known as "New Hillsdale"; 6170 Latrobe Road, Shingle Springs CA (APN 087-260-02)

Dear Ms. Franich and Reviewing Parties,

Please consider this as a formal request to renew Special Use Permit Revision 1 S04-0030-R-1. The SUP Revision is due for a 5 year renewal which is requested with this letter and the enclosed documents for modifications to the above-captioned existing wireless site:

- Special Use Permit application;
- 10 sets construction drawings @ 11" x 17";
- 1 thumb drive containing electronic copies of all submittal materials;
- Application narrative (including applicable site photos where relevant) addressing conformity with conditions to Special Use Revision S04-0030-R-1;
- Check for \$500.00 made out to El Dorado County

The SUP was issued by the El Dorado County Zoning Administrator on July 21, 2010, and included a 20' extension of the existing antenna support structure, attachment of antennas, and installation of a Verizon Wireless equipment shelter. The conditions that follow were placed on S04-0030-R-1. The narrative and photos that follow address the steps taken to meet the conditions with the previous construction, and the applicability of the listed conditions to the present application.

Special Use Permit S04-0030-R-1 Conditions of Approval

Revision S04-0030-R - 1 consists of the following:

This Special Use Permit revision is based upon and limited to compliance with the project description, the hearing exhibits marked A through I-2 and conditions of approval set forth below. Any deviations from the project description, exhibits or conditions must be reviewed and approved by the County for conformity with this approval. Deviations may require approved changes to the permit and/or further environmental review. Deviations without the above described approval shall constitute a violation of permit approval.

The revision amends the original permit to allow the collocation of 12 panel antennas and two, 8-foot microwave dishes on an existing 92-foot tall metal lattice tower, on the parcel identified by Assessor's Parcel Number 087-260-02, and referred to by the site name New Hillsdale. A 20-foot tall extension shall be added to the top of the tower for the new antennas as well as to allow the relocation of the existing Cal Fire antenna to the top of the extension. An 11-foot 6-inch by 16-

foot prefabricated concrete communications equipment shelter and diesel-powered backup generator shall be surrounded by a 6-foot tall chain link fence with brown slats within the Verizon Wireless lease area.

The grading, development use, and maintenance of the property, the size, shape, arrangement, and location of structures, parking areas and landscape areas, and the protection and preservation of resources shall conform to the project description above and the hearing exhibits and conditions of approval below. The property and any portions thereof shall be sold, leased or financed in compliance with this project description and the approved hearing exhibits and conditions of approval hereto. All plans must be submitted for review and approval and shall be implemented as approved by the County.

2. All site improvements shall conform to the site plans and elevations attached as Exhibits E-1 to F-3.

Response

The previous improvements were constructed in conformity with the stated conditions, as evidenced by the final inspection report for permit # 198911, which is included with this submittal.

3. All equipment shelters, cabinets or other auxiliary structures shall be painted in a matching color. All facility RF antennas shall be painted with non-reflective paint and maintained to blend with the silver/gray color of the tower. The applicant shall provide Planning Services with proof that said painting of the structures and antennas prior to issuance of final occupancy of the facility through Building Services.

Response

The previous improvements were constructed in conformity with the stated conditions, as evidenced by the final inspection report for permit # 198911, which is attached. Photos of existing antennas and the equipment shelter are attached, showing conformity with this condition. In addition, the proposed antennas have an exterior treatment that is light gray in color, so that painting is not required. See photo of proposed antenna, which is included with this submittal.

4. Expansions to the lease area or additional antennas mounted on the tower shall be subject to review and approval by the Development Services Director. Should the Director find that additional lease area or antennas may create a visual impact, the Director shall refer the project to the Zoning Administrator for review and approval.

Response

There are no expansions to the lease area proposed with the present submittal. The six (6) existing antennas will be replaced with antennas that are 2 feet longer, but more narrow than the existing (existing antennas are 48" x 24"; proposed are 72" x 18"). The remote radio units that are being added will be placed behind the antennas so that they will not have a significant visual impact.

5. The applicant shall assume full responsibility for resolving television reception interference or other electrical interference caused by the operation of this facility. The

applicant shall take corrective action within 30 days of the receipt of any written complaint.

Response

The applicant is not aware of any issues of this sort associated with the existing facility. It should also be noted that issues of electronic or radio interference are under the purview of the Federal Communications Commission rather than local jurisdictions.

6. All improvements associated with the communication facility, including equipment shelters, towers, antenna, and fencing shall be properly maintained at all times. Planning Services requires that that all colors of the equipment enclosure and other improvements visible to the public shall be maintained to ensure the appearance remains consistent. Colors of the antennas, support structures, tower and other improvements shall be maintained in order to provide a quality and aesthetically pleasing exterior finish, including maintenance and upkeep, so as to remain consistent with the visual simulation provided as Exhibits F-1 to F-3. All improvements must be consistent and all paint shall be non-reflective and match the existing silver/gray color of the tower.

Response

The proper operation of the facility is dependent upon the site being maintained. The photographs submitted with this application were taken in late Spring 2015, and show the site to be in good repair.

7. The applicant shall maintain a minimum of 3 inches of aggregate base along the 15-foot wide access roadway from Latrobe Road to the leased area.

Response

As shown in the submitted photograph, attached, and evidenced by the final inspections of building permit 198911, which is included with this submittal, the proper drive approach has been constructed at Latrobe Road.

8. All obsolete or unused communication facilities shall be removed within six (6) months after the use of that facility has ceased or the facility has been abandoned. The applicant shall notify the Planning Department at the time of abandonment and all disturbance related to the communication facility shall be restored to pre-project condition.

Response

There are no plans for abandonment of the existing facility. However, Verizon Wireless understands and acknowledges this condition.

9. Due to the ever-changing technology of wireless communication systems, this special use permit shall be reviewed by the County Development Services Department every five years. At each five-year review, the permit holder shall provide the Development Services Department with a status report on the then current use of the subject site and related equipment. Development Services shall review the status and present that report to the approving authority with a recommendation whether to:

(A) Allow the facility to continue to operate under all applicable conditions; or

(B) Hold a public hearing to determine whether to modify the conditions of approval in order to reduce identified adverse impacts; or initiate proceedings to revoke the special use permit, requiring the facility's removal if it is no longer an integral part of the wireless communications system.

Response

The present application is submitted in accordance with this condition. The current proposal is to replace the existing panel antennas with updated models. As evidenced in the information submitted with this application (photos and final inspection report from 2011), the site is currently constructed and operated in accordance with the conditions of approval of the approved permit.

10. Prior to commencement of any use authorized by this permit, the applicant shall provide a written description, together with appropriate documentation, showing conformance of the project with each condition imposed as part of the project approval. The applicant shall also schedule an inspection by Planning Services for verification of compliance with applicable conditions of approval. The operator shall pay Planning Services for the time spent reviewing the site on a time and materials basis. All future development plans shall include this condition on the submitted plans.

Response

The submitted application is made in accordance with this requirement.

11. A \$50.00 administrative processing fee is required by the County Recorder to file the Notice of Exemption. This fee must be delivered to the El Dorado County Planning Services prior to the issuance of any development permit being issued on the project parcel.

Response

The required fee was paid at building permit application submittal. See attached receipt.

12. The operator (lessee) and property owner (lessor) are responsible for complying with all conditions of approval contained in this Special Use Permit. Any zoning violations concerning the installation, operation, and/or abandonment of the facility are the responsibility of the owner and the operator.

Response

Verizon Wireless and American Tower understand and acknowledge this condition.

13. All Development Services fees for processing this application shall be paid in full prior to issuance of a Building Permit.

Response

Verizon Wireless understands and acknowledges this condition.

14. If human remains are discovered at any time during the improvement phase, the County Coroner and Native American Heritage Commission shall be contacted per Section 7050.5 of the Health and Safety Code and Section 5097.89 of the Public

Resources Code. The procedures set forth in Supplementary Document J, Section VIII, of the California Environmental Quality Act (CEQA) Guidelines concerning treatment of the remains shall be followed. If archaeological sites or artifacts are discovered, the subdivider shall retain an archaeologist to evaluate the resource.

If the resource is determined to be important, as defined in Appendix K of the CEQA Guidelines, mitigation measures, as agreed to by the subdivider, archaeologist, and Planning Services shall be implemented. Treatment of Native American remains and/or archaeological artifacts shall be the responsibility of the subdivider and shall be subject to review and approval by Planning Services.

Response

There are no plans for any excavation activities with the current application. Therefore, this condition would appear not to apply.

15. In the event of any legal action instituted by a third party challenging the validity of any provision of this approval, the applicant and landowner agrees to be responsible for the costs of defending such suit and shall hold County harmless from any legal fees or costs County may incur as a result of such action.

The applicant and land owner shall defend, indemnify, and hold harmless El Dorado County and its agents, officers, and employees from any claim, action, or proceeding against El Dorado County or its agents, officers, or employees to attack, set aside, void, or annul an approval of El Dorado County concerning a Special Use Permit Revision.

The County shall notify the applicant/owner of any claim, action, or proceeding and County will cooperate fully in the defense.

Response

It is hard to imagine how a tower that has been in place for over 50 years, and which is relatively isolated would result in a third party challenging the validity of the Special Use Permit renewal. However, Verizon Wireless understands and acknowledges this condition.

El Dorado County Building Services

16. Project facilities shall be subject to issuance of a building permit from the El Dorado County Building Department

Response

Verizon Wireless understands and acknowledges this condition. The applicant has submitted application for a building permit for the proposed antenna modification at the subject site.

El Dorado County Department of Transportation

17. The applicant shall comply with all County requirements related to the Department of Transportation including, but not limited to, "Design and Improvement Standards Manual," the "Grading, Erosion and Sediment Control Ordinance," the "Drainage Manual," the "Off- Street Parking and Loading Ordinance", the State of California Handicapped Accessibility Standards and the Storm Water Management Plan.

Response

There are no plans for any excavation activities with the current application, and there will be no change to the parking available at the subject site. Therefore, this condition would appear to not apply.

18. The applicant shall construct/verify the encroachment onto Latrobe Road per El Dorado County DISM 103B-1. The improvements shall be completed to the satisfaction of the Department of Transportation or the applicant shall obtain an approved improvement agreement with security, prior to issuance of final occupancy for the building permit.

Response

The previous improvements were constructed in conformity with the stated conditions, as evidenced by the final inspection report for permit # 198911, which is attached with this application.

Air Quality Management District

19. The applicant shall comply with all El Dorado County Air Quality Management District Rules and Regulations available at: www.co.el-dorado.ca.us/emd prior to the issuance of a building permit

Response

There are no sources of emissions being added with the current project. The previous improvements were constructed in conformity with the stated conditions, as evidenced by the final inspection report for permit # 198911.

Environmental Health- Hazardous Materials/Solid Waste Division

20. Under the CUPA programs, if the operation will involve the storage of reportable quantities of hazardous materials (55 gallons, 500 lbs, 200 cubic feet) for backup power generation, a hazardous materials business plan for the site must be submitted to the Department and applicable fees paid.

Response

The proposed modification involves antenna work only. No additional hazardous materials will be added with the current project. The previous improvements were constructed in conformity with the stated conditions, as evidenced by the final inspection report for permit # 198911.

Latrobe Fire Protection District

21. The applicant shall submit a site plan review fee of \$85.00 to the Latrobe Fire Protection District prior to issuance of Final Occupancy for a County Building Permit.
22. The applicant shall provide a low security Knox lock for: a) the access road gate at Latrobe Road; and b) the gate to the fence surrounding facility, and proof of compliance shall be received by the fire district prior to issuance of Final Occupancy

for a County Building Permit . Knox lock order forms are available at Latrobe Fire protection District main office at 7660 South Shingle Road, Shingle Springs, CA 95682

23. The applicant shall provide a High Security Knox box to be installed on the prefab equipment shelter. The box shall contain the keys to all locked cabinets and other areas of access, within the fenced area, and proof of compliance shall be received by the fire district prior to issuance of Final Occupancy for a County Building Permit.
24. The applicant shall provide one minimum rated 2A10 BC fire extinguisher in a weather proof box. It shall be mounted in a location that is readily visible and easily accessible. The top of the box shall be no higher than 5 feet from the ground and proof of compliance shall be received by the fire district prior to issuance of Final Occupancy for a County Building Permit.

Response

The proposed modification involves antenna work only. No changes will be made to the existing fire protections outlined by the Fire District. The previous improvements were constructed in conformity with the stated conditions, as evidenced by the final inspection report for permit # 198911.

In summary, the existing improvements constructed by Verizon Wireless in 2010/11 were built and are being managed in accordance with the previously approved permits, as demonstrated in the photographs and copy of the final inspection report for the previously constructed improvements. The proposed antenna change will have little effect on the appearance or operation of the subject site. Verizon Wireless therefore requests approval of the renewal of S04-0030-R-1.

Section 6409 Eligible Facilities Request

And finally, the proposed minor modification qualifies as an Eligible Facilities Request in accordance with Section 6409/47 CFR § 1.40001. Per this Federal regulation, a minor modification is one that meets the following limits n eligible facilities modification is one that involves the addition or replacement of antennas that does not involve a substantial change to the site. A substantial change, according to the regulation is one that involves one of the following:

- An increase in tower height of 10% or 20 feet, whichever is greater;

Response

There would be no increase in tower height.

- Antennas extending horizontally 20 feet or more from the edge of the tower

Response

There would be no change in the horizontal dimension of the antenna projections. The existing sector frames extend a maximum of 4 feet from the tower face. There would be no change to these sector frames.

- The addition of 4 or more equipment cabinets or an additional shelter

Response

There would be no visible change to the existing shelter on the site. No excavation outside of the current lease area would occur.

As the proposed modification does not meet any of the criteria for a “substantial change”, it is a minor modification in the context of the regulation, and is thus an eligible facilities request. Based on a filing date of approximately March 28, 2016, the projected FCC deadline for a decision is May 27, 2016.

A copy of the FCC rule for Section 6409 Applications (47 CFR § 1.40001) is also enclosed for your information.

Should there be any questions regarding the submitted materials or anything related to the existing or proposed site development, I may be reached at madeline.chaney@campassoc.com, or by phone at (425) 346-0128.

Sincerely,

Madeline Chaney
Camp + Associates
Applicant on behalf of Verizon Wireless

Title 47: Telecommunication

[PART 1—PRACTICE AND PROCEDURE](#)

[Subpart CC—State and Local Review of Applications for Wireless Service Facility Modification](#)

§1.40001 Wireless Facility Modifications.

(a) *Purpose.* These rules implement section 6409 of the Spectrum Act (codified at 47 U.S.C. 1455), which requires a State or local government to approve any eligible facilities request for a modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station.

(b) *Definitions.* Terms used in this section have the following meanings.

(1) *Base station.* A structure or equipment at a fixed location that enables Commission-licensed or authorized wireless communications between user equipment and a communications network. The term does not encompass a tower as defined in this subpart or any equipment associated with a tower.

(i) The term includes, but is not limited to, equipment associated with wireless communications services such as private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.

(ii) The term includes, but is not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supplies, and comparable equipment, regardless of technological configuration (including Distributed Antenna Systems and small-cell networks).

(iii) The term includes any structure other than a tower that, at the time the relevant application is filed with the State or local government under this section, supports or houses equipment described in paragraphs (b)(1)(i) through (ii) of this section that has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, even if the structure was not built for the sole or primary purpose of providing such support.

(iv) The term does not include any structure that, at the time the relevant application is filed with the State or local government under this section, does not support or house equipment described in paragraphs (b)(1)(i)-(ii) of this section.

(2) *Collocation*. The mounting or installation of transmission equipment on an eligible support structure for the purpose of transmitting and/or receiving radio frequency signals for communications purposes.

(3) *Eligible facilities request*. Any request for modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station, involving:

- (i) Collocation of new transmission equipment;
- (ii) Removal of transmission equipment; or
- (iii) Replacement of transmission equipment.

(4) *Eligible support structure*. Any tower or base station as defined in this section, provided that it is existing at the time the relevant application is filed with the State or local government under this section.

(5) *Existing*. A constructed tower or base station is existing for purposes of this section if it has been reviewed and approved under the applicable zoning or siting process, or under another State or local regulatory review process, provided that a tower that has not been reviewed and approved because it was not in a zoned area when it was built, but was lawfully constructed, is existing for purposes of this definition.

(6) *Site*. For towers other than towers in the public rights-of-way, the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site, and, for other eligible support structures, further restricted to that area in proximity to the structure and to other transmission equipment already deployed on the ground.

(7) *Substantial change*. A modification substantially changes the physical dimensions of an eligible support structure if it meets any of the following criteria:

(i) For towers other than towers in the public rights-of-way, it increases the height of the tower by more than 10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater; for other eligible support structures, it increases the height of the structure by more than 10% or more than ten feet, whichever is greater;

(A) Changes in height should be measured from the original support structure in cases where deployments are or will be separated horizontally, such as on buildings' rooftops; in other circumstances, changes in height should be measured from the dimensions of the tower or base station, inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of the Spectrum Act.

(ii) For towers other than towers in the public rights-of-way, it involves adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater; for other eligible support structures, it involves adding an appurtenance to the body of the structure that would protrude from the edge of the structure by more than six feet;

(iii) For any eligible support structure, it involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets; or, for towers in the public rights-of-way and base stations, it involves installation of any new equipment cabinets on the ground if there are no pre-existing ground cabinets associated with the structure, or else involves installation of ground cabinets that are more than 10% larger in height or overall volume than any other ground cabinets associated with the structure;

(iv) It entails any excavation or deployment outside the current site;

(v) It would defeat the concealment elements of the eligible support structure; or

(vi) It does not comply with conditions associated with the siting approval of the construction or modification of the eligible support structure or base station equipment, provided however that this limitation does not apply to any modification that is non-compliant only in a manner that would not exceed the thresholds identified in §1.40001(b)(7)(i) through (iv).

(8) *Transmission equipment.* Equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, and regular and backup power supply. The term includes equipment associated with wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.

(9) *Tower.* Any structure built for the sole or primary purpose of supporting any Commission-licensed or authorized antennas and their associated facilities, including structures that are constructed for wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul, and the associated site.

(c) *Review of applications.* A State or local government may not deny and shall approve any eligible facilities request for modification of an eligible support structure that does not substantially change the physical dimensions of such structure.

(1) *Documentation requirement for review.* When an applicant asserts in writing that a request for modification is covered by this section, a State or local government may require the applicant to provide documentation or information only to the extent

reasonably related to determining whether the request meets the requirements of this section. A State or local government may not require an applicant to submit any other documentation, including but not limited to documentation intended to illustrate the need for such wireless facilities or to justify the business decision to modify such wireless facilities.

(2) *Timeframe for review.* Within 60 days of the date on which an applicant submits a request seeking approval under this section, the State or local government shall approve the application unless it determines that the application is not covered by this section.

(3) *Tolling of the timeframe for review.* The 60-day period begins to run when the application is filed, and may be tolled only by mutual agreement or in cases where the reviewing State or local government determines that the application is incomplete. The timeframe for review is not tolled by a moratorium on the review of applications.

(i) To toll the timeframe for incompleteness, the reviewing State or local government must provide written notice to the applicant within 30 days of receipt of the application, clearly and specifically delineating all missing documents or information. Such delineated information is limited to documents or information meeting the standard under paragraph (c)(1) of this section.

(ii) The timeframe for review begins running again when the applicant makes a supplemental submission in response to the State or local government's notice of incompleteness.

(iii) Following a supplemental submission, the State or local government will have 10 days to notify the applicant that the supplemental submission did not provide the information identified in the original notice delineating missing information. The timeframe is tolled in the case of second or subsequent notices pursuant to the procedures identified in this paragraph (c)(3). Second or subsequent notices of incompleteness may not specify missing documents or information that were not delineated in the original notice of incompleteness.

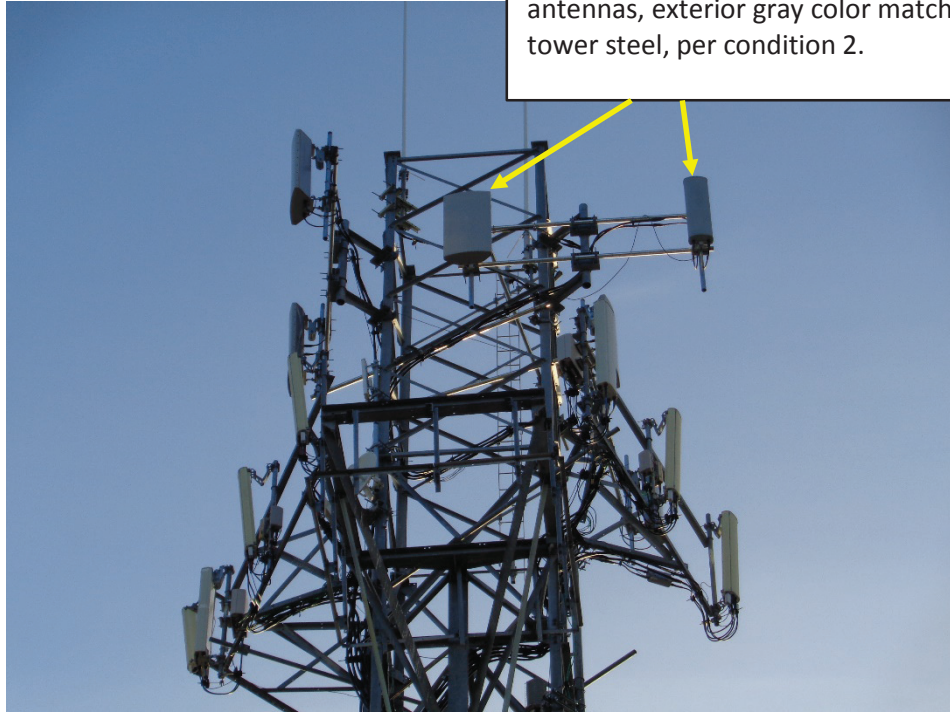
(4) *Failure to act.* In the event the reviewing State or local government fails to approve or deny a request seeking approval under this section within the timeframe for review (accounting for any tolling), the request shall be deemed granted. The deemed grant does not become effective until the applicant notifies the applicable reviewing authority in writing after the review period has expired (accounting for any tolling) that the application has been deemed granted.

(5) *Remedies.* Applicants and reviewing authorities may bring claims related to Section 6409(a) to any court of competent jurisdiction.

[80 FR 1269, Jan. 8, 2015]

Verizon Wireless Photos for Renewal of S04-0030-R-1,
6170 Latrobe Road, Shingle Springs CA (APN 087-260-02)

Existing Verizon Wireless panel
antennas, exterior gray color matches
tower steel, per condition 2.



Existing Verizon Wireless
microwave antenna,
painted to match tower
per condition 2.





Verizon Wireless equipment shelter, surrounded by chain link fence with dark brown slats, per condition 1



Driveway leading to American Tower site at Latrobe Road showing aggregate drive approach per Condition 7.

Proposed SBNHH-1D45B antenna-exterior gray color matches tower steel



CONTRACTOR NOTES:

THE ARCHITECTS/ENGINEERS HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. CONTRACTORS BIDDING THE JOB ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS. THE BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE ARCHITECT/ENGINEER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.

GENERAL NOTES:

DRAWINGS ARE NOT TO BE SCALED, WRITTEN DIMENSIONS TAKE PRECEDENCE, AND THIS SET OF PLANS IS INTENDED TO BE USED FOR DIAGRAMMATIC PURPOSES ONLY, UNLESS NOTED OTHERWISE. THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR, AND ANYTHING ELSE DEEMED NECESSARY TO COMPLETE INSTALLATIONS AS DESCRIBED HEREIN.

PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE NEW PROJECT, WITH THE CONSTRUCTION AND CONTRACT DOCUMENTS, FIELD CONDITIONS AND CONFIRM THAT THE PROJECT MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY ERRORS, OMISSIONS, OR DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER IN WRITING.

THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S/ VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

ALL WORK PERFORMED ON PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.

THE STRUCTURAL COMPONENTS OF THIS PROJECT SITE/FACILITY ARE NOT TO BE ALTERED BY THIS CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.

ANTENNA SUPPORTING POLE IS UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION SUB-CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF PERSONNEL AND PROPERTY FROM HAZARDOUS EXPOSURE TO OVERHEAD DANGERS.

GENERAL CONTRACTOR SHALL PROVIDE AT THE PROJECT SITE A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS AND ADDENDA OR CLARIFICATIONS FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.

DETAILS INCLUDED HEREIN ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB CONDITIONS OR SITUATIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE SCOPE OF WORK.

THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION UPON COMPLETION OF WORK. CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.

CONTRACTOR SHALL ENSURE THE GENERAL WORK AREA IS KEPT CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY, PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.

THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND NATIONAL CODES, REGULATIONS AND SAFETY REGULATIONS, ALL OSHA REGULATIONS, ALL PUBLIC AND MUNICIPAL AUTHORITIES, AND ANY UTILITY COMPANIES' REGULATIONS AND DIRECTIVES.

THE DRAWINGS AND SPECIFICATIONS ARE A GENERAL DIRECTIVE FOR THE SCOPE OF WORK. EXACT DIMENSIONS AND LOCATIONS MAY CHANGE IN THE FIELD. THE CONTRACTOR IS TO VERIFY THE DIMENSIONS AND LOCATIONS AND REPORT ANY AND ALL DISCREPANCIES TO REPRESENTATIVE. ANY MINOR ERRORS AND OMISSIONS IN THE DRAWINGS AND SPECIFICATIONS DOES NOT EXCUSE THE CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.

CONTRACTOR IS RESPONSIBLE FOR FIELD MEASUREMENTS TO CONFIRM LENGTHS OF CABLE TRAYS AND ELECTRICAL LINES AND ANTENNA MOUNTING.

VERIFICATION THAT EXISTING TOWER/POLE/STRUCTURE CAN SUPPORT THE PROPOSED ANTENNA, COAX & ADDITIONAL EQUIPMENT LOADING IS TO BE DONE BY OTHERS.

METAL NOTES:

PART 1 – GENERAL

1. SECTION INCLUDES: STRUCTURAL STEEL FRAMING MEMBERS, BASE PLATES, PLATES, BARS AND GROUTING UNDER BASE PLATES.
2. SUBMITTALS: SHOP DRAWINGS: INDICATE SIZES, SPACING, AND LOCATIONS OF STRUCTURAL MEMBERS, OPENINGS, CONNECTIONS, CAMBERS, LOADS, AND WELDED SECTIONS.
3. QUALITY ASSURANCE
 - A. FABRICATE STRUCTURAL STEEL MEMBERS IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
 - B. PERFORM DESIGN UNDER DIRECT SUPERVISION OF A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE.

PART 2 – PRODUCTS

1. MATERIALS:
 - A. STRUCTURAL STEEL MEMBERS: ASTM A572, GRADE 50
 - B. STRUCTURAL TUBING: ASTM A500, GRADE B
 - C. PIPE: ASTM A53, TYPE E OR S, GRADE B
 - D. BOLTS, NUTS, AND WASHERS: ASTM A325
 - E. ANCHOR BOLTS: ASTM A307
 - F. WELDING MATERIALS: AWS D1.1, TYPE REQUIRED FOR MATERIALS BEING WELDED
 - G. GROUT: NON-SHRINK TYPE, PREMIXED COMPOUND CONSISTING OF NONMETALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING ADDITIVES, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 7000 psi AT 28 DAYS.
 - H. SHOP AND TOUCH-UP PRIMER: SSPC 15, TYPE 1, RED OXIDE
 - I. TOUCH-UP PRIMER FOR GALV. SURFACES: ZINC RICH TYPE
2. FABRICATION: CONTINUOUSLY SEAL JOINTED MEMBERS BY CONTINUOUS WELDS. GRIND EXPOSED WELDS SMOOTH.
3. FINISH:
 - A. PREPARE STRUCTURAL COMPONENT SURFACES IN ACCORDANCE WITH SSPC SP-1 TO SP-10 PROCEDURES.
 - B. STRUCTURAL STEEL MEMBERS SHALL BE HOT DIPPED GALVANIZED.

PART 3 – EXECUTION

1. EXAMINATION AND PREPARATION: VERIFY THAT THE FIELD CONDITIONS ARE ACCEPTABLE.
2. ERECTION:
 - A. ALLOW FOR ERECTION LOADS. PROVIDE TEMPORARY BRACING TO MAINTAIN FRAMING IN ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRIDGING AND BRACING.
 - B. FIELD WELD COMPONENTS INDICATED ON SHOP DRAWINGS.
 - C. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT APPROVAL OF THE ARCHITECT/ENGINEER.
 - D. AFTER ERECTION, TOUCH-UP WELDS, ABRASIONS, AND SURFACES NOT SHOP PRIMED OR GALVANIZED WITH TOUCH-UP PRIMERS AS SPECIFIED UNDER SECTION 05000--METALS, PART 2 – PRODUCTS, H & I. SURFACES TO BE IN CONTACT WITH CONCRETE NOT INCLUDED.
3. FIELD QUALITY CONTROL: FIELD INSPECTION OF MEMBERS, CONNECTIONS, WELDS AND TORQUING.

TELECOMMUNICATIONS WIRING COMPONENTS (COAXIAL ANTENNA CABLE)

1. GENERAL
 - A. ALL MATERIALS, PRODUCTS OR PROCEDURES INCORPORATED INTO WORK SHALL BE NEW AND OF STANDARD COMMERCIAL QUALITY.
 - B. CERTAIN MATERIALS AND PRODUCTS WILL BE SUPPLIED BY THE OWNER (REFER TO GENERAL CONDITIONS FOR THE LIST OF OWNER FURNISHED EQUIPMENT, MATERIALS AND SUPPLIES FOR THESE ITEMS). THE CONTRACTOR IS RESPONSIBLE FOR PICKUP AND DELIVERY OF ALL SUCH MATERIALS
 - C. ALL OTHER MATERIALS AND PRODUCTS SPECIFIED IN THE CONTRACT DOCUMENTS SHALL BE SUPPLIED BY THE CONTRACTOR.
2. MATERIALS:
 - A. COAXIAL CABLE:
 1. INSTALL COAXIAL CABLE AND TERMINATIONS BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS WITH COAXIAL CABLES SUPPORTED AT NO MORE THAN 3'-0" O.C. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURERS' REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF EQUIPMENT LOCATION UNLESS OTHERWISE STATED.
 2. ALL COAX RUN LENGTHS GREATER THAN 143 FEET SHALL BE 1-5/8" AND IN LENGTH LESS THAN OR EQUAL TO 143 FEET SHALL BE 7/8".
3. ANTENNA AND COAXIAL CABLE GROUNDING
 - A. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)
4. COAXIAL CABLE IDENTIFICATION
 - A. TO PROVIDE EASY IDENTIFICATION AND UNIFORM MARKING OF ANTENNA CABLING, PLASTIC TAGS SHALL BE USED AT THE FOLLOWING LOCATIONS:
 1. FIRST LOCATION IS AT THE END OF THE COAX NEAREST THE ANTENNA (WHERE THE COAXIAL CABLE AND JUMPER ARE CONNECTED).
 2. SECOND LOCATION IS INSIDE THE EQUIPMENT SHELTER NEAR THE WAVEGUIDE ENTRY PORT.
 - B. USE ANDREW CABLE TIES (PT.# 27290) TO SECURE IDENTIFICATION TAGS.
5. TESTING

VERIZON WIRELESS SHALL PROVIDE AN INDEPENDENT TESTING AGENCY TO PERFORM THE COAXIAL SWEEP TEST & REPORT. THE CONTRACTOR IS TO PROVIDE CLIMBER QUALIFIED PERSONNEL TO ASSIST IN ANY REPAIRS AND WEATHERPROOFING ONCE THE TEST IS COMPLETE. THE CONTRACTOR IS TO PROVIDE VERIZON WIRELESS A MINIMUM OF 48 HOURS NOTICE PRIOR TO THE TIME OF THE SWEEP TEST.

ELECTRICAL NOTES:

INSTALLATION OF SECONDARY POWER AND CONNECTION TO METER SHALL BE COMPLETED IN COMPLIANCE WITH NATIONAL ELECTRIC CODE, NFPA 70, AND THE STATE LAWS, RULES AND REGULATIONS FOR INSTALLING ELECTRIC WIRES & EQUIPMENT, ALL LATEST ISSUE, AND WITH SPECIFICATIONS PER A.S.T.M. B 231, B 400, I.C.E.A. S651-401, I.C.E.A. P81-570, & LOCAL PUD.

PROVIDE A METER BASE PER LOCAL UTILITY STANDARDS. MOUNT ON SIDE OF OWNER FURNISHED BACK BOARD.

UNDERGROUND CONDUIT SHALL BE RIGID POLYVINYL CHLORIDE CONDUIT: SCHEDULE 40, TYPE 1, CONFORMING TO UL ARTICLE 651: WESTERN PLASTICS OR CARLON MANUFACTURER. COUPLINGS SHALL BE SLIP-ON, SOLVENT SEALED T PIPE: SOLVENT, WESTERN TYPE COMPATIBLE WITH PVC DUCT. ALL BENDS SHALL BE "WIDE SWEEP" TYPE WITH A 24" MINIMUM RADIUS. ALL CONDUIT UNDER ROADS SHALL BE RGS, (OR PVC ENCASED IN 8"x18" RED CONCRETE DUCTBANK).

CONDUIT USED INDOORS SHALL BE E.M.T., AND RIGID GALVANIZED STEEL FOR OUTDOORS. COUPLINGS SHALL BE RIGID STEEL AND COMPRESSION TYPE FOR E.M.T. SET SCREW FITTINGS ARE NOT PERMITTED. FOR ALL STUBS-UPS, USE RIGID GALVANIZED STEEL CONDUIT.

WIRE AND CABLE SHALL BE OF THE TYPE AND SIZE AS REQUIRED BY NEC. THERE WILL BE NO SPLICES ALLOWED. PROVIDE HOPE PULLING HAND HOLES AS NEEDED.

CONTRACTOR SHALL PROVIDE TEST OF THE GROUNDING SYSTEM BY CERTIFIED TESTING AGENT. PROVIDE INDEPENDENT TEST RESULTS TO THE PROJECT MANAGER FOR REVIEW. GROUNDING SYSTEM RESISTANCE TO GROUND SHALL NOT EXCEED 5 OHMS. ALL ABOVE GRADE INTERIOR GROUNDING CONNECTORS SHALL BE DOUBLE-LUG COMPRESSION TYPE. ALL BELOW GRADE AND EXPOSED EXTERIOR GROUNDING CONNECTIONS TO PERMANENT EQUIPMENT AND FIXED BUILDING ELEMENTS SHALL BE CADWELD TYPE. CARE SHALL BE TAKEN TO REVIEW CONNECTION LOCATIONS AND MATERIAL TYPES TO AVOID POSSIBLE GALVANIC CORROSION. ALL EXPOSED GROUNDING CONNECTIONS TO BE COATED WITH ANTI-CORROSIVE AGENT SUCH AS "NO-OXY", "NOALX" OR "PENETROX". VERIFY PRODUCT WITH PROJECT MANAGER. ALL BOLTS, WASHERS AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.

ALL EXTERIOR GROUND BARS SHALL BE COATED WITH ANTI-CORROSIVE AGENT SUCH AS LPS-3 OR AS PER NOTE 6 ABOVE.

ALL JUNCTION AND OUTLET BOXES TO BE LABELED WITH KROY TAPE, OR EQUAL, DESIGNATING ALL CIRCUIT NUMBERS CONTAINED IN EACH BOX.

CONTRACTOR TO ENSURE ILC PROVIDED WITH (2) INTERNAL TVSS.

CONTRACTOR SHALL COORDINATE WITH SITE SURVEY TO LOCATE EXISTING UNDERGROUND UTILITIES. WHEREVER POTENTIAL CONFLICTS/ INTERFERENCES EXIST, HAND EXCAVATE TO AVOID DAMAGE. CONTACT ALL UTILITIES TO LOCATE UNDERGROUND PIPING IN PUBLIC ROW.

VERIFY THAT A.I.C. OF THE UTILITY DOES NOT EXCEED THE A.I.C. RATING OF THE PROVIDED EQUIPMENT SHELTER PACKAGE. IF OVER 10KAIC, PROVIDE FUSIBLE SERVICE ENTRANCE SWITCH AND CONFIRM LOWERING OF AIC TO ACCEPTABLE LEVELS.

UTILITY POINTS OF SERVICE AND WORK / MATERIALS SHOWN ARE BASED UPON PRELIMINARY INFORMATION PROVIDED BY THE UTILITY COMPANIES AND ARE FOR BID PURPOSES ONLY.

CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR FINAL AND EXACT WORK / MATERIALS REQUIREMENTS AND CONSTRUCT TO UTILITY COMPANY ENGINEERING PLANS AND SPECIFICATIONS ONLY. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, PULL ROPES, CABLES, PULL BOXES, CONCRETE ENCASEMENT OF CONDUIT (IF REQUIRED), TRANSFORMER PAD, BARRIERS, POLE RISERS, TRENCHING, BACKFILL, PAY ALL UTILITY COMPANY FEES AND INCLUDE ALL REQUIREMENTS IN SCOPE OF WORK.

GROUNDING NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE DESIGN AND CONSTRUCTION SPECIFICATIONS AND ALL APPLICABLE LOCAL CODES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
4. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).
5. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING TWO (2) HIGH PRESS CRIMPS.
6. ALL EXOTHERMIC CONNECTIONS TO THE GROUND RODS SHALL START AT THE TOP & HAVE A VERTICAL SEPARATION OF 6" FOR EVERY ADDITIONAL CONNECTION.
7. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
8. ALL EXTERIOR GROUND CONDUCTORS SHALL BE #2 AWG TIN PLATED COPPER UNLESS OTHERWISE INDICATED.
9. GROUND RODS SHALL BE STAINLESS STEEL OR COPPER CLAD STEEL, 5/8"Ø 10-FT. LONG (OR NOTED OTHERWISE ON PLANS), AND SHALL BE DRIVEN VERTICALLY WITH THEIR TOPS 18" BELOW FINAL GRADE OR 6" BELOW FROST LINE FOR MAXIMUM DEPTH.
10. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
11. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
12. GROUND RING SHALL BE LOCATED A MINIMUM OF 24" BELOW GRADE OR 6" MINIMUM BELOW THE FROST LINE.
13. INSTALL GROUND CONDUCTORS AND GROUND ROD MINIMUM OF 1'-0" FROM EQUIPMENT CONCRETE PAD, SPREAD FOOTING, OR FENCE.
14. EXOTHERMIC WELD GROUND CONNECTION TO FENCE POST: TREAT WITH A COLD GALVANIZED SPRAY.
15. OBSERVE N.E.C. AND LOCAL UTILITY REQUIREMENTS FOR ELECTRICAL SERVICE GROUNDING
16. GROUNDING ATTACHMENT TO TOWER SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS OR AT GROUNDING POINTS PROVIDED (2 MINIMUM)
17. MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS.
18. CONTRACTOR TO VERIFY CURRENT GROUNDING STANDARDS PRIOR TO CONSTRUCTION.



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(219889-AWS)
6170 LATROBE ROAD
SHINGLE SPRINGS, CA 95682



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PROJECT MANAGER:	EJC
PREPARED BY:	EAT
APPROVED BY:	EJC
EAT 03-04-16	ISSUED FOR PRELIM PERMIT
EAT 01-26-16	ISSUED FOR PRELIM PERMIT

SHEET NAME
GENERAL NOTES

SHEET NUMBER
SP-1

PROJECT NUMBER
20141165381

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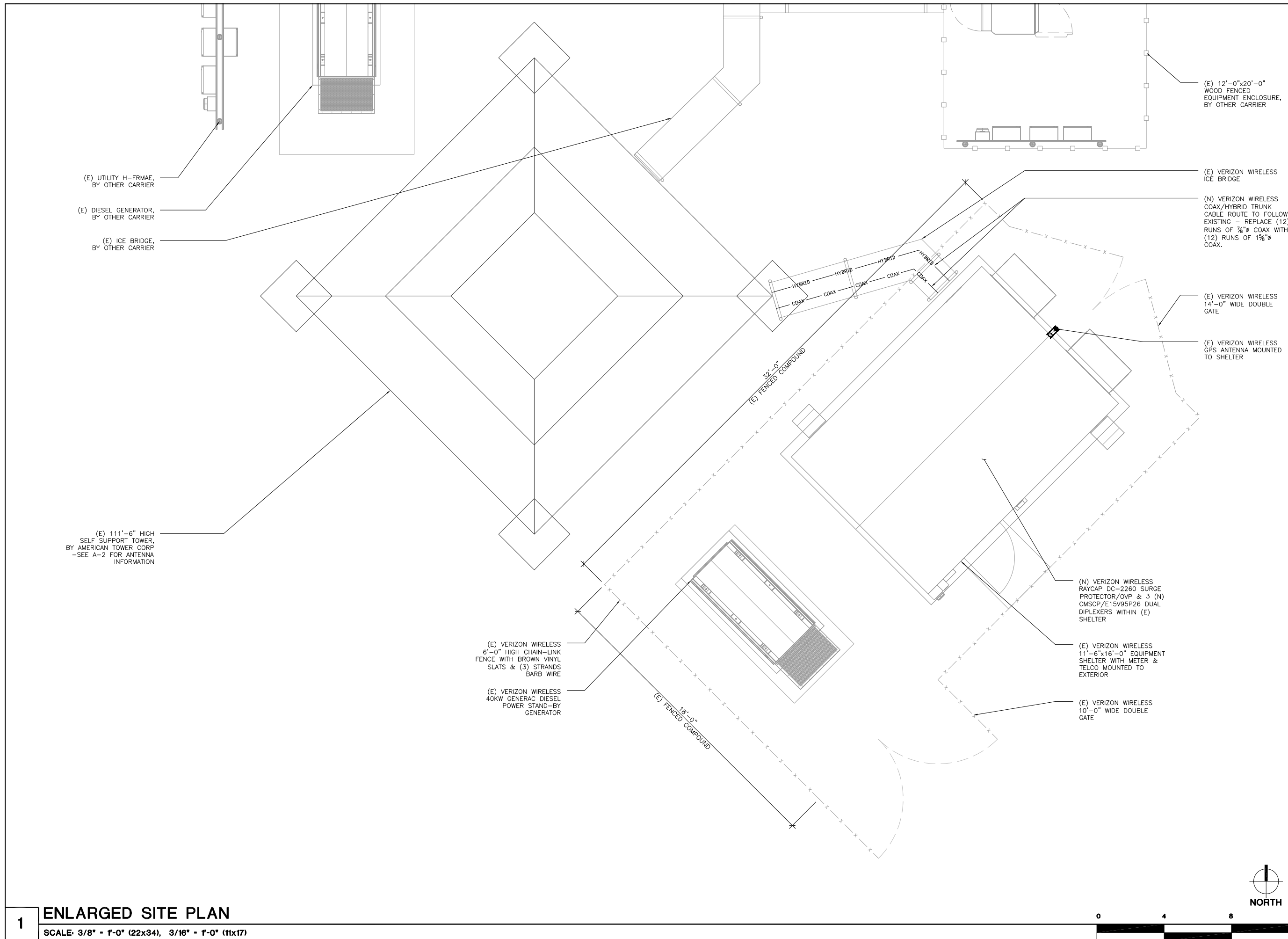
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SHEET NAME
ENLARGED SITE PLAN

SHEET NUMBER
A-1.1

PROJECT NUMBER
 20141165381



GENERAL NOTES

1. VERIFY EACH COAXIAL CABLE LENGTH, DIAMETER, ROUTING, AND ALL MOUNTING APPURTENANCES WITH OWNER PRIOR TO ORDER.
2. THE MAXIMUM COAXIAL CABLE LENGTH HAS BEEN ESTIMATED WITH CORRESPONDING CABLE DIAMETER ON THE TABLE ABOVE. THIS CABLE LENGTH IS APPROXIMATE AND IS TO BE USED FOR CONSTRUCTION. ACTUAL ANTENNA CABLE LENGTHS MAY VARY FROM ESTIMATED MAXIMUM LENGTH AND MUST BE VERIFIED.
3. TAG ALL MAIN CABLES AT TWO (2) LOCATIONS:
A - AT ANTENNAS
B - INSIDE EQUIPMENT SHELTER / CABINET NEAR THE WAVEGUIDE ENTRY PORT.
4. EACH COAX SHALL BE SUPPORTED WITH COLUMN GRIP (CHINESE FINGER GRIP) HUNG FROM A J-HOOK AT TOP OF TOWER.
5. EACH COAX SHALL BE GROUNDED AT (3) THREE LOCATIONS; ANTENNA PLATFORM, TOWER BASE AND BUILDING ENTRY PORT
6. RET CONTROL FROM AWS/RRU (EA) SECTOR AND DAISY CHAIN WITHIN SECTOR.

ANTENNA / COAX SCHEDULE

SECTOR	ANTENNA QUANTITY	ANTENNA RAD CENTER	ANTENNA SIZE	AZIMUTH	MECHANICAL DOWNTILT	NUMBER OF COAX RUNS	COAX SIZE	COAX LENGTH
ALPHA	1 NEW 850-700/AWS/AWS	102'-0"	6'-0"	45°	0°	2 NEW + NEW HYBRID	(4) 1/8" COAX + MAIN HYBRID TRUNK CABLE	±130'
ALPHA	1 NEW 700/PCS/PCS	102'-0"	6'-0"	45°	0°	2 NEW + SHARED		±130'
BETA	1 NEW 850-700/AWS/AWS	102'-0"	6'-0"	130°	0°	2 NEW + SHARED	(4) 1/8" COAX + SHARED HYBRID CABLE	±130'
BETA	1 NEW 700/PCS/PCS	102'-0"	6'-0"	130°	0°	2 NEW + SHARED		-
GAMMA	1 NEW 850-700/AWS/AWS	102'-0"	6'-0"	320°	0°	2 NEW + SHARED	(4) 1/8" COAX + SHARED HYBRID CABLE	±130'
GAMMA	1 NEW 700/PCS/PCS	102'-0"	6'-0"	320°	0°	2 NEW + SHARED		-

PROVIDE (1) RUN OF HYBRID TRUNK CABLE FROM VERIZON WIRELESS SHELTER TO ANTENNAS.
 PROVIDE (1) RAYCAP DC-3315 SURGE PROTECTOR/OVP AT ANTENNAS
 PROVIDE (1) RRUS-12 WITH A-2 BACK-PACK FOR EACH AWS ANTENNA, (3) TOTAL.
 PROVIDE (1) RAYCAP DC-2260 SURGE PROTECTOR/OVP AT EQUIPMENT LEVEL (INSIDE SHELTER)
 PROVIDE (3) CMSCP/E15V95P26 DUAL DIPLEXERS AT EQUIPMENT LEVEL (INSIDE SHELTER)
 REMOVE (12) EXISTING RUNS OF 7/8" COAX & REPLACE WITH (12) NEW RUNS OF 1 5/8" COAX, 4 PER SECTOR



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PROJECT MANAGER: EJC

PREPARED BY: EAT

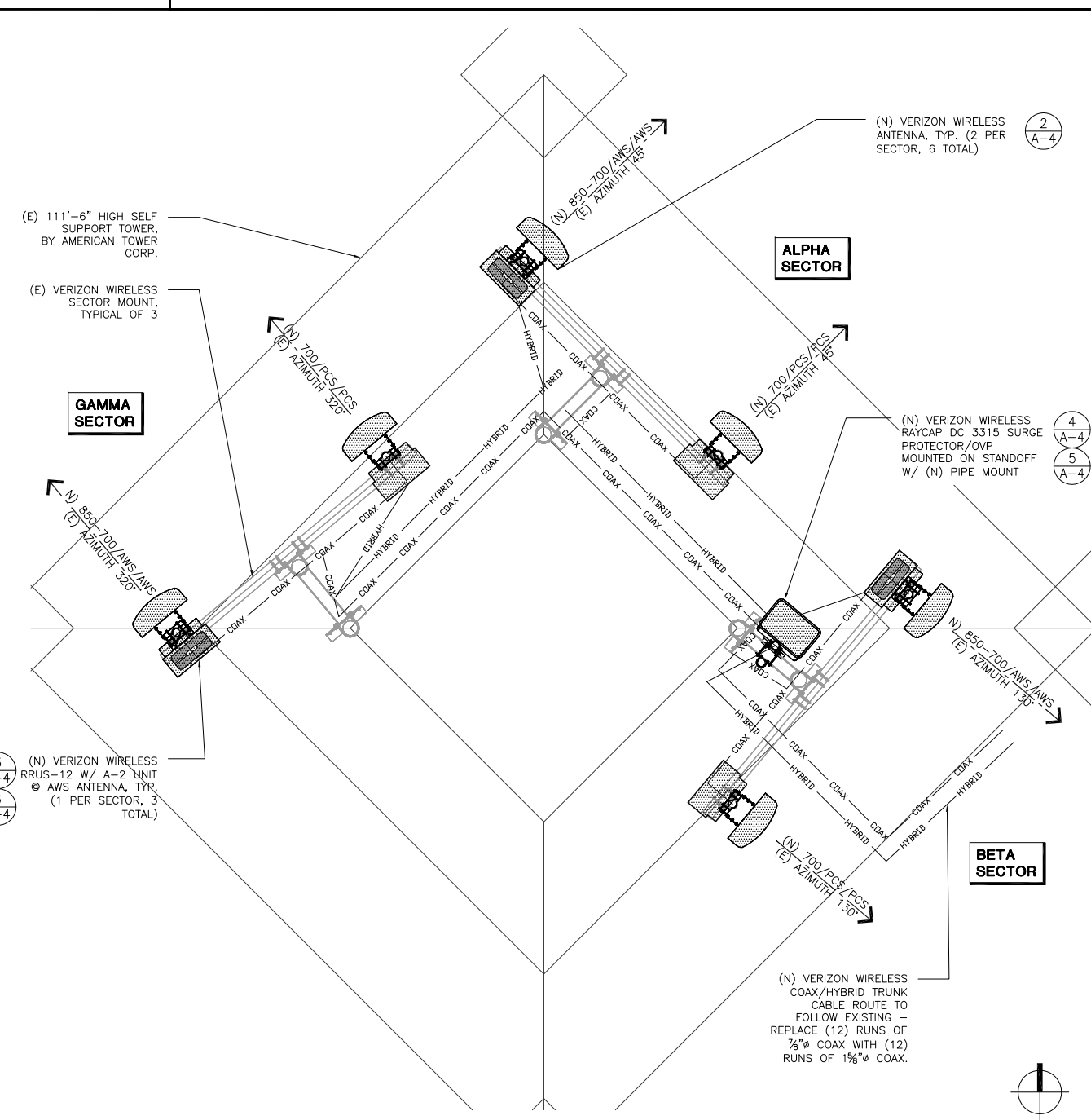
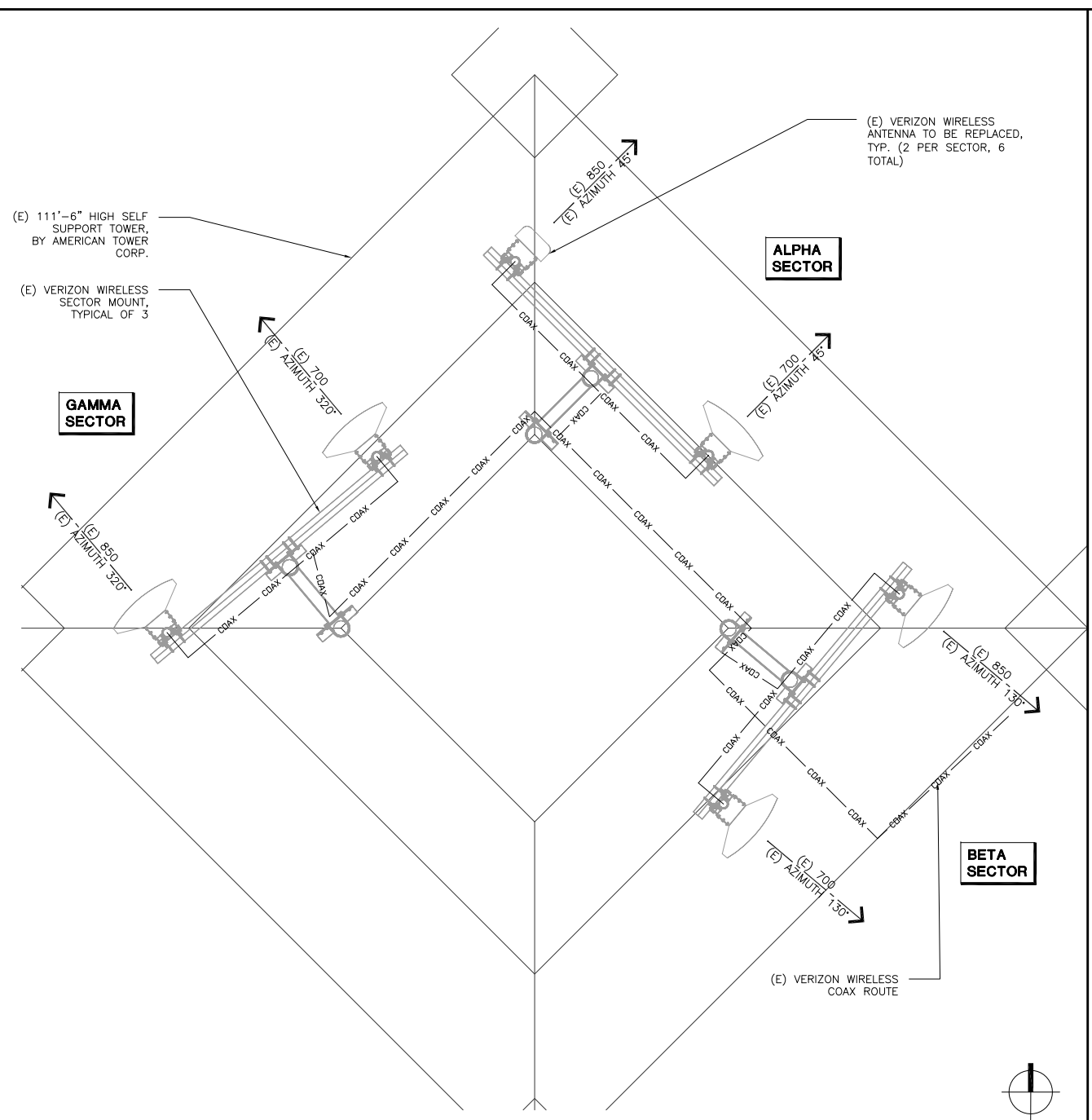
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SHEET NAME
ANTENNA PLANS

SHEET NUMBER
A-2

PROJECT NUMBER
 20141165381



1 EXISTING ANTENNA PLAN
 SCALE: 1/2" = 1'-0" (22x34), 1/4" = 1'-0" (11x17)

2 PROPOSED ANTENNA PLAN
 SCALE: 1/2" = 1'-0" (22x34), 1/4" = 1'-0" (11x17)



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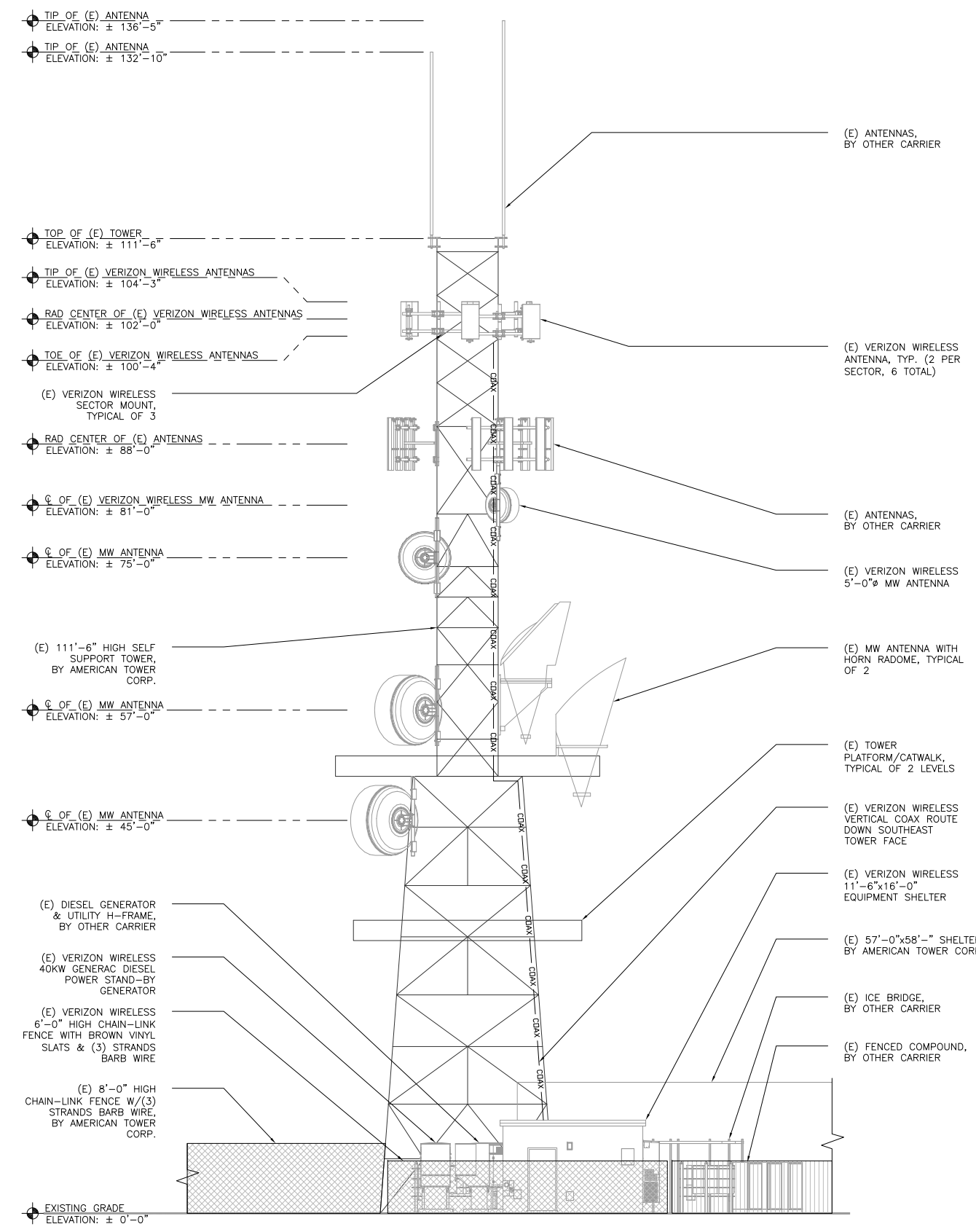
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SHEET NUMBER

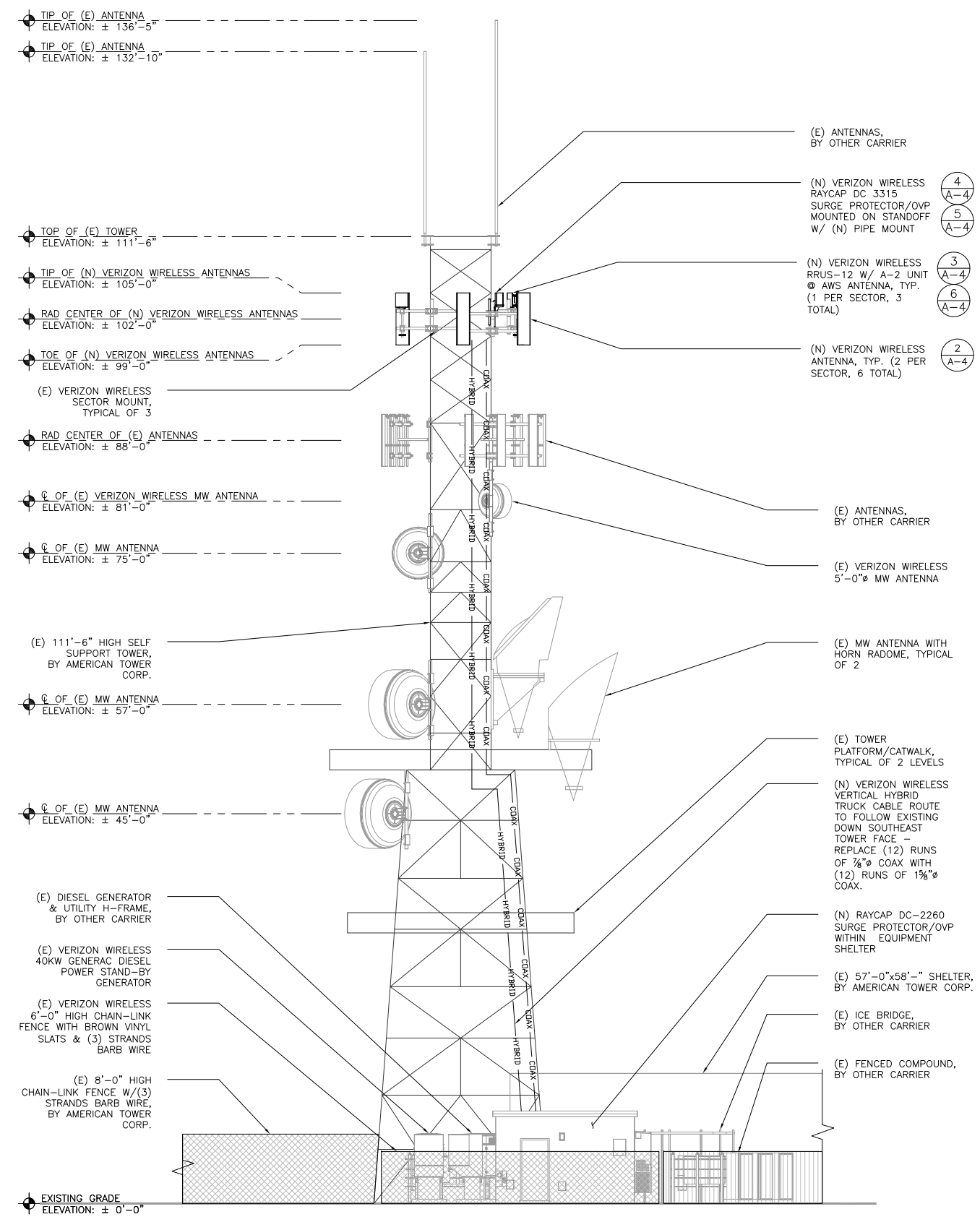
A-3

PROJECT NUMBER
 20141165381



1 EXISTING SOUTHEAST ELEVATION

SCALE: 1/8" = 1'-0" (22x34), 1/16" = 1'-0" (11x17)



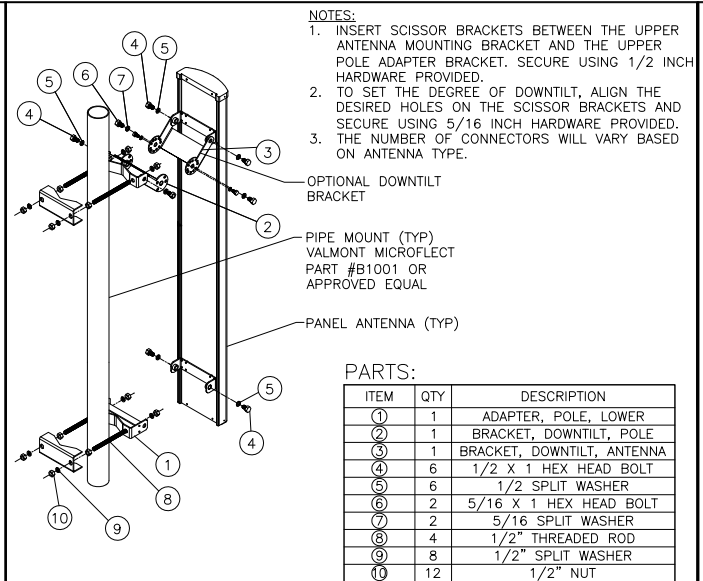
2 PROPOSED SOUTHEAST ELEVATION

SCALE: 1/8" = 1'-0" (22x34), 1/16" = 1'-0" (11x17)

GENERAL NOTES:

1. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND NATIONAL CODES, REGULATIONS AND SAFETY REGULATIONS, ALL OSHA REGULATIONS, ALL PUBLIC AND MUNICIPAL AUTHORITIES, AND ANY UTILITY COMPANIES' REGULATIONS AND DIRECTIVES.
2. THE DRAWINGS AND SPECIFICATIONS ARE A GENERAL DIRECTIVE FOR THE SCOPE OF WORK. EXACT DIMENSIONS AND LOCATIONS MAY CHANGE IN THE FIELD. THE CONTRACTOR IS TO VERIFY THE DIMENSIONS AND LOCATIONS AND REPORT ANY AND ALL DISCREPANCIES TO REPRESENTATIVE. ANY MINOR ERRORS AND OMISSIONS IN THE DRAWINGS AND SPECIFICATIONS DOES NOT EXCUSE THE CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. CONTRACTOR IS RESPONSIBLE FOR FIELD MEASUREMENTS TO CONFIRM LENGTHS OF CABLE TRAYS AND ELECTRICAL LINES AND ANTENNA MOUNTING.
4. VERIFICATION THAT EXISTING TOWER/POLE CAN SUPPORT THE PROPOSED ANTENNA, COAX & ADDITIONAL EQUIPMENT LOADING IS TO BE DONE BY OTHERS.
5. RET CONTROL FROM AWS/RRU (EA) SECTOR AND DAISY CHAIN WITHIN SECTOR.

1 GENERAL NOTES



PARTS:

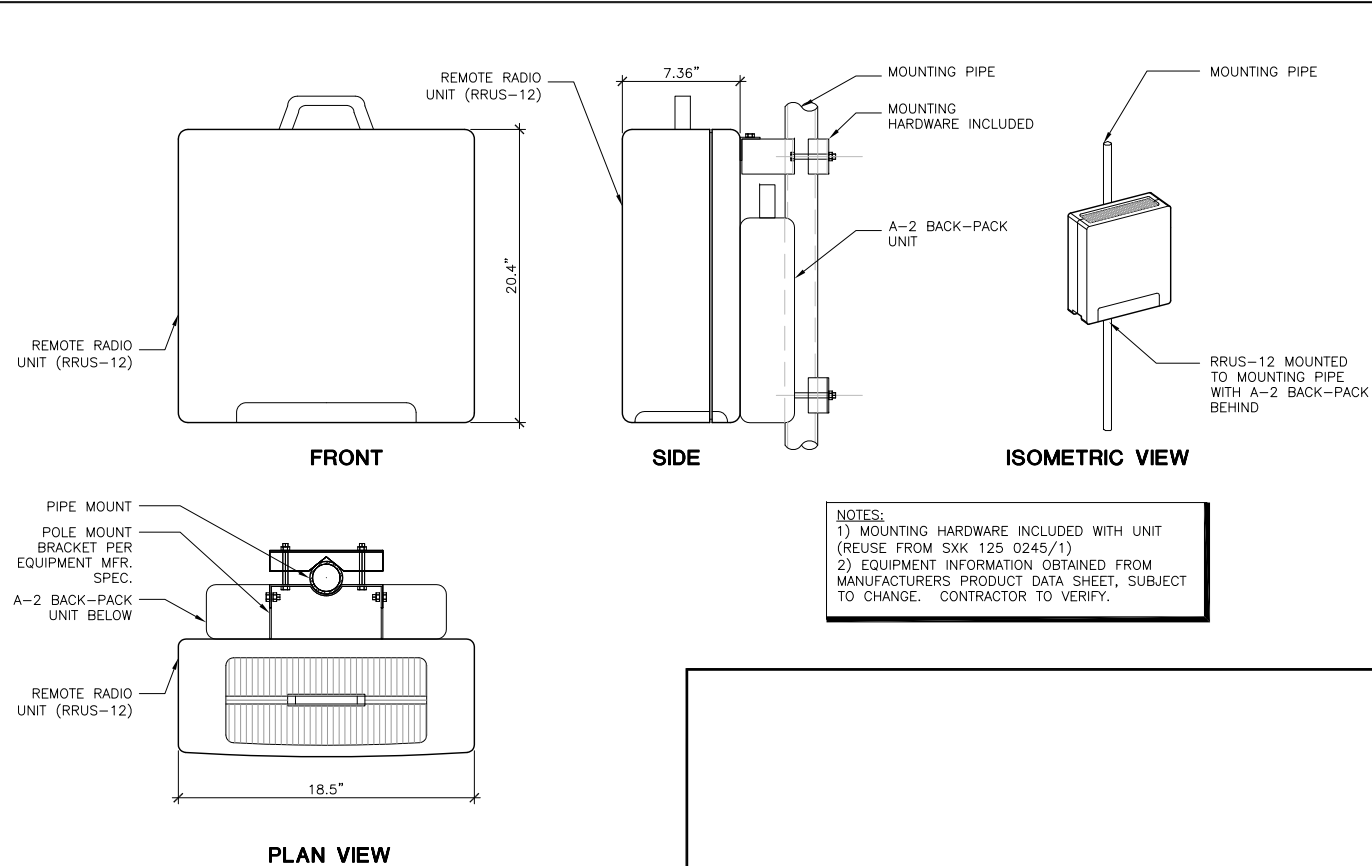
ITEM	QTY	DESCRIPTION
1	1	ADAPTER, POLE, LOWER
2	1	BRACKET, DOWNTILT, POLE
3	1	BRACKET, DOWNTILT, ANTENNA
4	6	1/2 X 1 HEX HEAD BOLT
5	6	1/2 SPLIT WASHER
6	2	5/16 X 1 HEX HEAD BOLT
7	2	5/16 SPLIT WASHER
8	4	1/2" THREADED ROD
9	8	1/2" SPLIT WASHER
10	12	1/2" NUT

2 ANTENNA MOUNTING HARDWARE NOT TO SCALE

PARTS LIST

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	SCX4	CROSSOVER PLATE	8-1/2 in	6.02	12.04
2	16	G12FW	1/2" HDG USS FLATWASHER		0.03	0.55
3	16	G12LW	1/2" HDG LOCKWASHER		0.01	0.22
4	16	G12NUT	1/2" HDG HEAVY 24 HEX NUT		0.07	1.15
5	4	G12R-8	1/2" x 8" THREADED ROD (HDG.)		0.35	1.41
6	4	X-LB1212	1/2" x 2-1/2 x 2" U-BOLT (HDG.)		0.63	2.50
					TOTAL WT. #	17.87

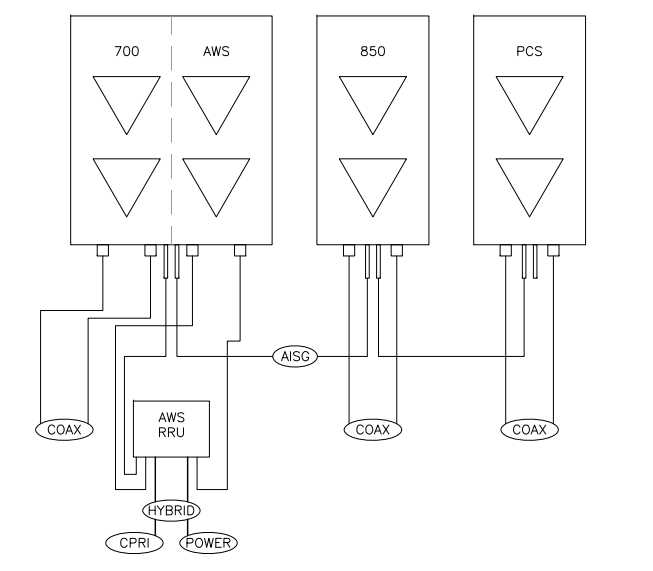
NOTE: EQUIPMENT INFORMATION OBTAINED FROM MANUFACTURERS PRODUCT DATA SHEET AND IS SUBJECT TO CHANGE. CONTRACTOR TO VERIFY BEFORE ORDERING ANY PARTS



NOTES:
1) MOUNTING HARDWARE INCLUDED WITH UNIT (REUSE FROM SKX 125 0245/1)
2) EQUIPMENT INFORMATION OBTAINED FROM MANUFACTURERS PRODUCT DATA SHEET, SUBJECT TO CHANGE. CONTRACTOR TO VERIFY.

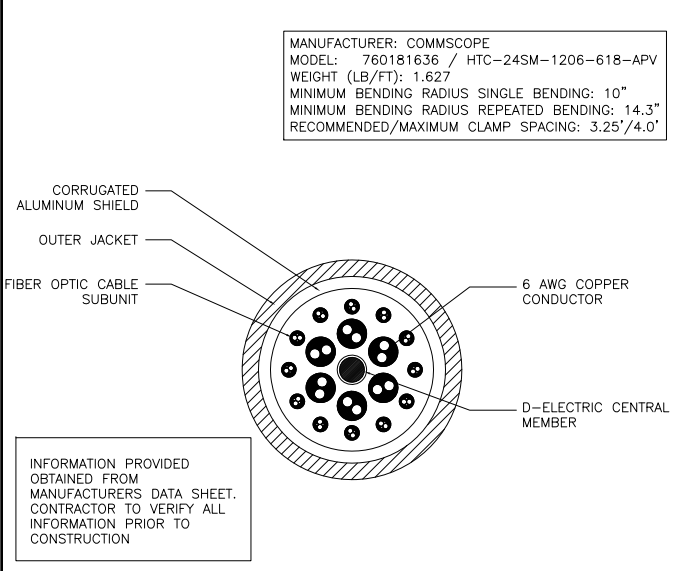
- RRUS NOTE:**
1. RRU MOUNTED NEAR ANTENNAS.
 2. CONTRACTOR TO VERIFY WITH MANUFACTURER SPEC'S FOR MOUNTING DETAILS.
 3. RRU DETAIL AS SHOWN AS A REFERENCE AND IS SUBJECT TO CHANGE.
 4. PLATFORM SHOWN AS TYPICAL. VERIFY ACTUAL CONDITIONS IN FIELD.

3 RRUS-12 WITH A-2 DIVERSITY RECEIVER MOUNTING DETAIL NOT TO SCALE

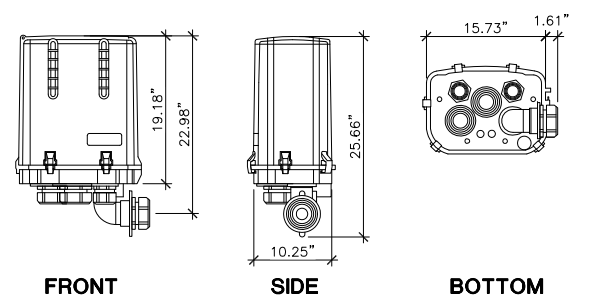
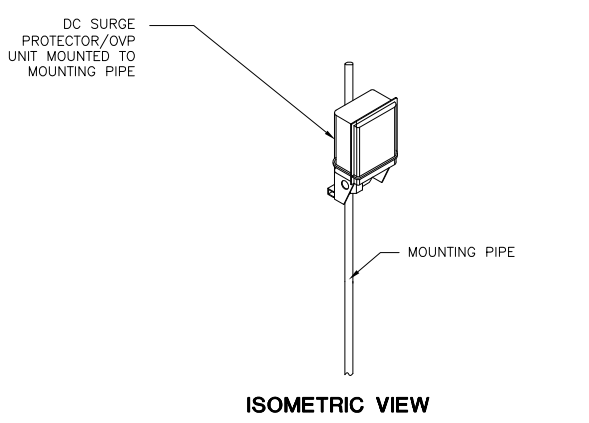


6 RET CONFIGURATION WITH RRU NOT TO SCALE

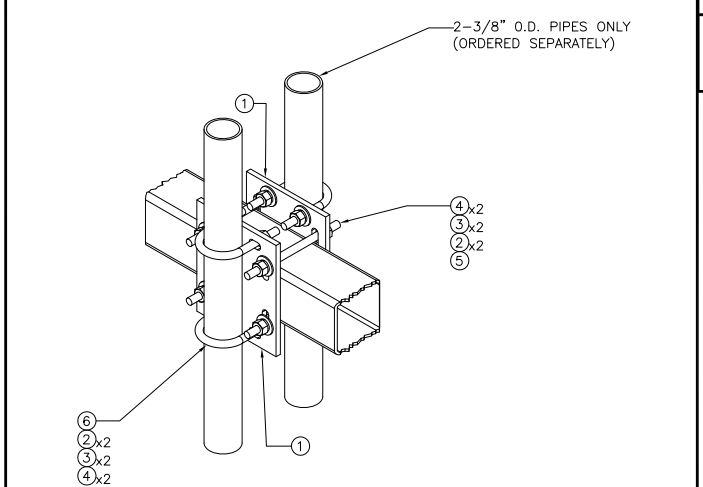
7 NOT USED NOT TO SCALE



8 HYBRID CABLE TRUNK SECTION NOT TO SCALE



4 RAYCAP DC-3315 SURGE PROTECTOR/OVP DETAILS NOT TO SCALE



5 SITE PRO BBPM-K1 DETAIL NOT TO SCALE



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SHEET NAME
ANTENNA DETAILS

SHEET NUMBER
A-4

PROJECT NUMBER
20141165381

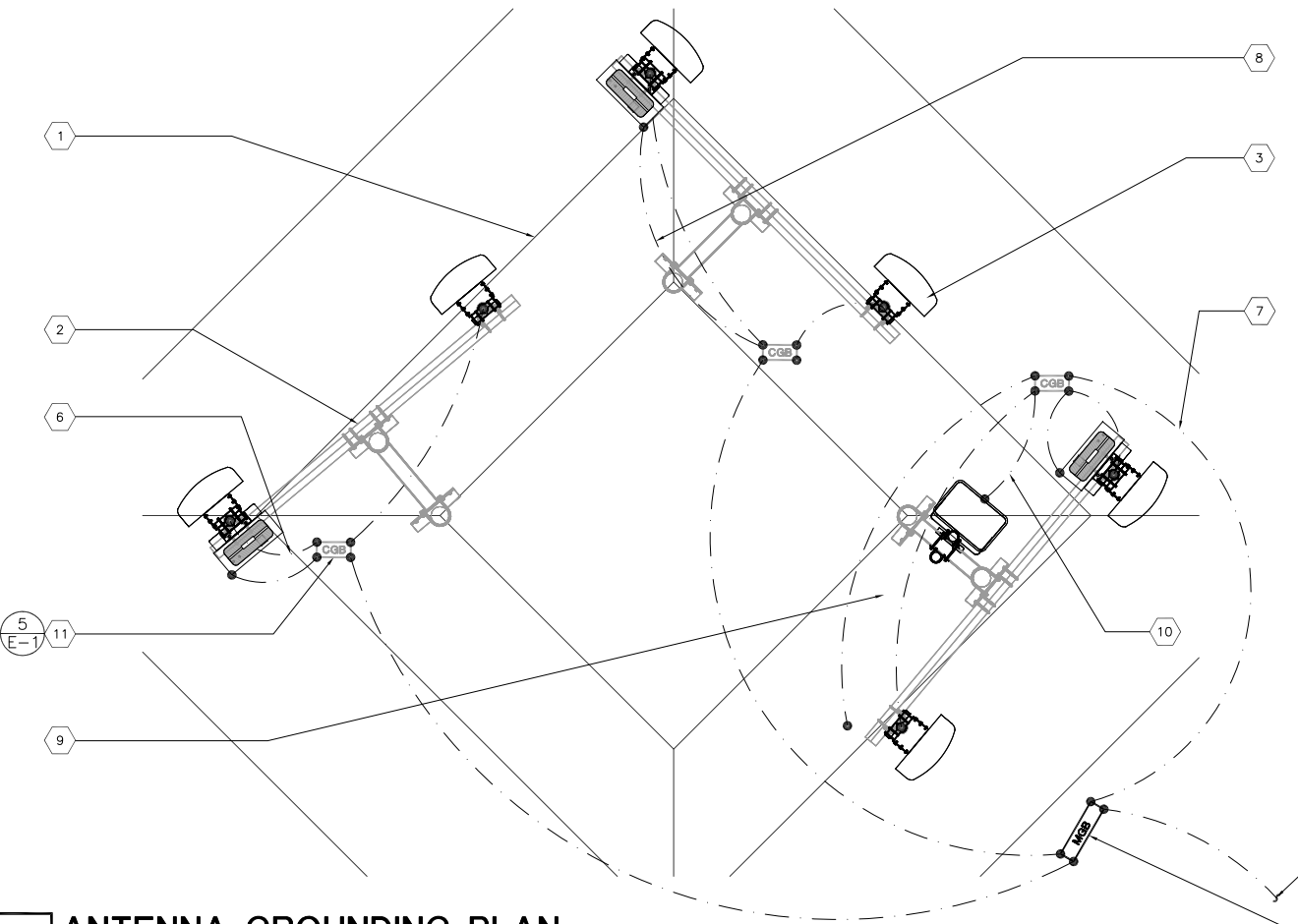
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE DESIGN AND CONSTRUCTION SPECIFICATIONS AND ALL APPLICABLE LOCAL CODES.
- ALL GROUNDING SHALL CONFORM TO THE CURRENT VERIZON WIRELESS STANDARDS.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
- THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
- PREFABRICATED SHELTER WILL BE PROVIDED WITH INTERNAL WIRING AND EQUIPMENT INSTALLED. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO DRAWINGS PROVIDED BY SHELTER MANUFACTURER.
- FOR INTERIOR EQUIPMENT LAYOUT AND LOCATION, SEE SHELTER MANUFACTURER'S DRAWINGS AND SPECIFICATION. IN CASE OF CONFLICT THE DRAWINGS GOVERN.
- ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING TWO (2) HIGH PRESS CRIMPS.
- ALL EXOTHERMIC CONNECTIONS TO THE GROUND RODS SHALL START AT THE TOP & HAVE A VERTICAL SEPARATION OF 6" FOR EVERY ADDITIONAL CONNECTION.
- ALL GROUNDING CONNECTORS TO BE CLEAN AND FREE OF PAINT AT THEIR MATING SURFACES AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
- ALL EXTERIOR GROUND CONDUCTORS SHALL BE #2 AWG TIN PLATED COPPER UNLESS OTHERWISE INDICATED.
- GROUND RODS SHALL BE STAINLESS STEEL OR COPPER CLAD STEEL, 3/4" x 10'-FT. LONG, AND SHALL BE DRIVEN VERTICALLY WITH THEIR TOPS 18" BELOW FINAL GRADE OR 6" BELOW FROST LINE FOR MAXIMUM DEPTH.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.

- USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
- GROUND RING SHALL BE LOCATED A MINIMUM OF 24" BELOW GRADE OR 6" MINIMUM BELOW THE FROST LINE.
- INSTALL GROUND CONDUCTORS AND GROUND ROD MINIMUM OF 1'-0" FROM EQUIPMENT CONCRETE PAD, SPREAD FOOTING, OR FENCE.
- EXOTHERMIC WELD GROUND CONNECTION TO FENCE POST: TREAT WITH A COLD GALVANIZED SPRAY.
- OBSERVE N.E.C. AND LOCAL UTILITY REQUIREMENTS FOR ELECTRICAL SERVICE GROUNDING
- GROUNDING ATTACHMENT TO TOWER SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS OR AT GROUNDING POINTS PROVIDED (2 MINIMUM)
- MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS.
- MINIMUM BENDING RADIUS FOR GROUNDING CONDUCTORS IS 8" WHEN BENDING IS NECESSARY. GROUND CONDUCTORS ARE TO BE AS STRAIGHT AS POSSIBLE.
- NO SPLICES PERMITTED IN GROUND CONDUCTORS.
- ENSURE ALL MECHANICAL CONNECTORS ARE TORQUED TO THE MANUFACTURER'S SPECIFIED VALUES.
- GROUND BARS SHALL NOT BE FIELD MODIFIED.
- ALL HORIZONTAL FENCE SECTIONS TO BE GROUNDING WITH 8" SINGLE BARREL GROUND STRAPS.
- USE PANI SCHEME FOR LOADING ON MGB AS DISCUSSED IN NSTD 119, 33 & 36.

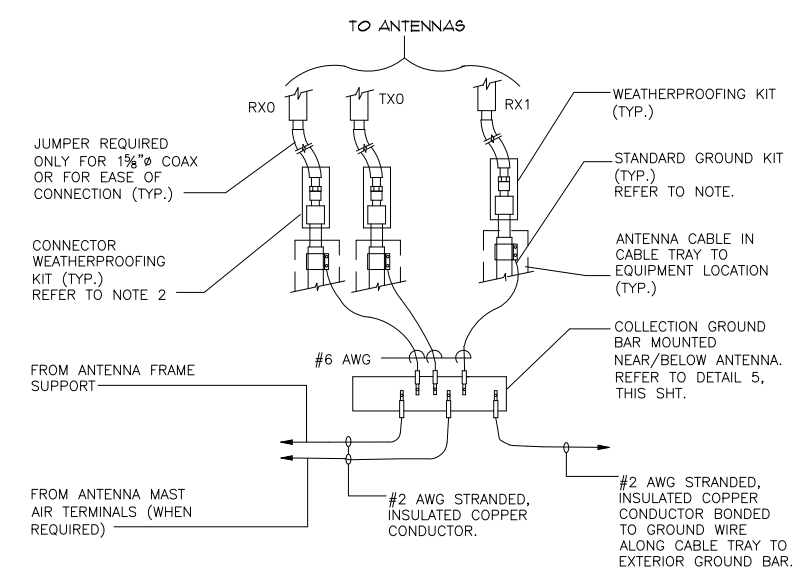
1 GENERAL NOTES

KEY NOTES:

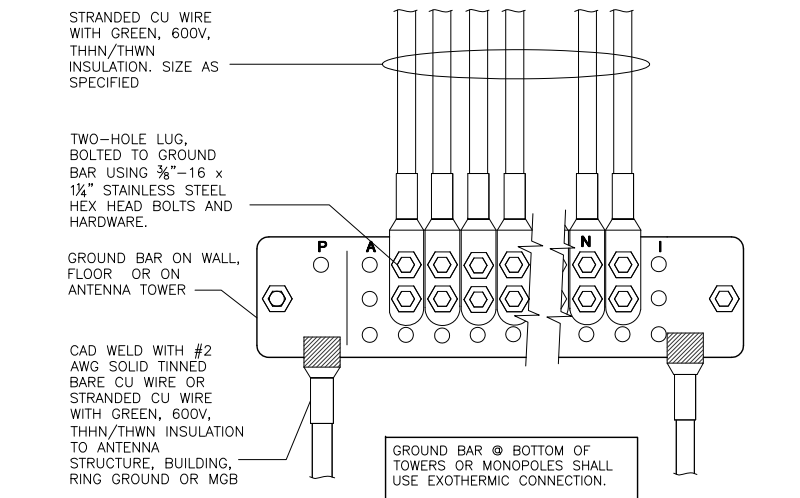
- | | | |
|--|---|---|
| 1 EXISTING 111'-6" HIGH SELF SUPPORT TOWER | 6 ANTENNA GROUNDING, #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR TO COLLECTION GROUND BAR AT ANTENNA LEVEL OF TOWER | 9 NOT USED |
| 2 EXISTING VERIZON WIRELESS SECTOR MOUNT, TYP. | 7 COLLECTION GROUND BAR FINAL GROUND LEAD, #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR TO MASTER GROUND BAR AT BASE OF TOWER | 10 SURGE PROTECTOR/OVP GROUNDING, #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR TO COLLECTION GROUND BAR AT ANTENNA LEVEL OF TOWER |
| 3 NEW VERIZON WIRELESS ANTENNA, TYP. | 8 RRU GROUNDING, #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR TO COLLECTION GROUND BAR AT ANTENNA LEVEL OF TOWER | 11 EXISTING/NEW COLLECTION GROUND BAR AT ANTENNA LEVEL |
| 4 EXISTING MASTER GROUND BAR AT BASE OF TOWER | | |
| 5 EXISTING MASTER GROUND BAR FINAL GROUND LEAD TO EXISTING TOWER GROUND RING | | |



3 ANTENNA GROUNDING PLAN
SCALE: 3/8" = 1'-0" (22x34), 3/16" = 1'-0" (11x17)



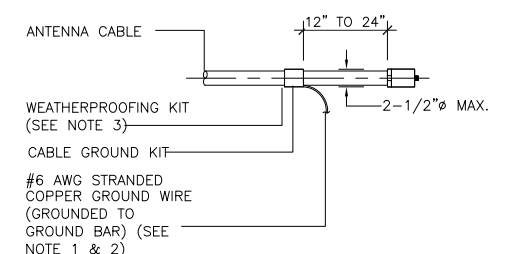
2 COAXIAL CABLE GROUND WIRE TO GROUND BAR CONNECTION
NOT TO SCALE



4 GROUND BAR CONNECTION DETAIL AND NOTES
NOT TO SCALE

GENERAL NOTES:

- ALL CADWELD CONNECTIONS ON GALVANIZED SURFACES SHALL BE CLEANED THOROUGHLY AND COVERED WITH TWO (2) COATS OF SHERWIN WILLIAMS GALVANITE PAINT B350W3 OR EQUAL.
- ALL ELECTRICAL CADWELD AND MECHANICAL GROUND CONNECTIONS WILL HAVE NON-OXIDATION COMPOUND APPLIED TO CONNECTION.
- ANY METAL OBJECTS WITHIN 6 FEET OF THE EXTERNAL GROUND RING SHALL BE GROUNDING.
- ALL GROUNDING MATERIALS AND CADWELD MOLDS, SHOTS, ETC., SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR, UNLESS OTHERWISE NOTED.
- THE ELECTRICAL CONTRACTOR SHALL FOLLOW GROUNDING SYSTEM INSTALLED AND TESTING PROCEDUR

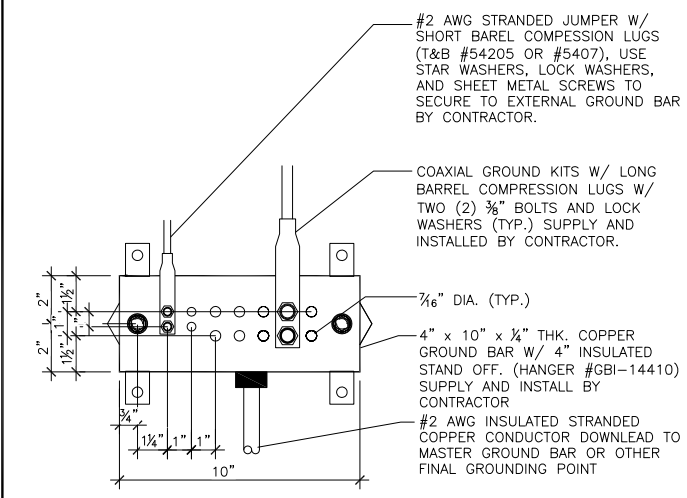


CONNECTION OF COAX CABLE GROUND KIT TO ANTENNA CABLE

- NOTES:**
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - GROUNDING KIT SHALL BE ANDREW SUREGROUND TYPE KIT WITH TWO-HOLE LUG.
 - WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

PANI SCHEME SPECIFICATIONS:

- PRODUCER (P)**
CONNECTS TO WIRELESS EQUIPMENT CABINETS, CABLE ENTRANCE GROUND BAR (CEGB), MAIN DISTRIBUTION FRAME GROUND BAR (MDFB), AND STANDBY ENGINE-GENERATOR SET FRAME AND OTHER NOISE PRODUCING EQUIPMENT
- ABSORBER (A)**
CONNECTS TO THE EARTH ELECTRODE SYSTEM INCLUDING CENTRAL OFFICE GROUND GRID, BUILDING STRUCTURAL GROUND, METALLIC WATER PIPE SYSTEM, ANTENNA SUPPORTING STRUCTURE GROUND SYSTEM, AND ELECTRICAL SERVICE ENTRANCE GROUND
- NON-ISOLATED (N)**
CONNECTS TO EQUIPMENT NOT IN AN ISOLATED GROUND ZONE (IGZ) SUCH AS CBN EQUIPMENT FRAME GROUNDS AND DC GROUND CONDUCTORS FOR DC POWER SYSTEMS THAT SERVE CBN OR BOTH CBN AND IBN EQUIPMENT
- ISOLATED (I)**
CONNECTS TO THE SINGLE POINT CONNECTION BAR (SPCB), FOR IBN EQUIPMENT



NOTE: REFER TO GROUND BAR CONNECTION DETAIL & NOTE, DETAIL 4 THIS SHEET.

5 COLLECTION GROUND BAR
NOT TO SCALE



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EAT 03-04-16 ISSUED FOR PRELIM PERMIT
EAT 01-26-16 ISSUED FOR PRELIM PERMIT

SHEET NAME
ANTENNA GROUNDING PLAN

SHEET NUMBER
E-1

PROJECT NUMBER
20141165381